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CHRONIC WASTING DISEASE

JOINT OVERSIGHT HEARING

BEFORE THE

SUBCOMMITTEE ON FORESTS AND FOREST HEALTH

JOINT WITH THE

SUBCOMMITTEE ON FISHERIES CONSERVATION, WILDLIFE AND OCEANS

OF THE

COMMITTEE ON RESOURCES
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OVERSIGHT HEARING ON CHRONIC WASTING DISEASE

Thursday, May 16, 2002
U.S. House of Representatives
Subcommittee on Forests and Forest Health, joint with the Subcommittee on Fisheries Conservation, Wildlife and Oceans
Committee on Resources
Washington, DC

The Subcommittees met, pursuant to notice, at 9:40 a.m., in room 1334, Longworth House Office Building, Hon. Scott McInnis [Chairman of the Subcommittee on Forests and Forest Health] presiding.

STATEMENT OF THE HON. SCOTT McINNIS, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF COLORADO

Mr. MCINNIS. Good morning. Sorry for the delay in opening the Committee. I just want to recommend to all of you, do not throw a 100-pound bag of peat moss on your shoulder unless you have got a back brace.

The Subcommittee on Forests and Forest Health comes to order. The Subcommittees are meeting today to hear testimony on Chronic Wasting Disease. We are deeply concerned about this situation.

I ask unanimous consent that Representatives Kind, Barrett, Baldwin, Lucas, and Allard have permission to sit on the dais and participate in the hearing, Mr. Green, as well. Hearing no objection, so ordered. Mr. Ryan, as well. Any Member who wants to, they can sit on the panel.

[Laughter.]

Mr. MCINNIS. Under Committee Rule 4G, the Chairman and Ranking Member can make opening statements. If any other members have statements, they can be included in the hearing record under unanimous consent.

At the outset, I want to thank my colleague and the Chairman of the Subcommittee on Fisheries Conservation, Wildlife and Oceans, Mr. Gilchrest, for joining with me in convening the hearing today.

I also want to thank our witnesses, who have come from far-flung parts of the country to be a part of this dialog. I want to give a special recognition to my longtime friend, Russell George, former

Speaker of the House, now head of the Division of Wildlife, and his son, Tom. I must say, I have not seen this many Coloradans and Wisconsins in the same place since the Broncos ran roughshod—

[Laughter.]

Mr. KIND. Point of order, Mr. Chairman. Point of order.

Mr. MCINNIS. The hearing is going to be pretty serious. I figured I would lighten it up here a little. But as a courtesy to our guests from Wisconsin, I promise that that will be my last reference to the Super Bowl. That was a little ad lib in there.

[Laughter.]

Mr. MCINNIS. Today, this joint Subcommittee hearing will explore an issue of immeasurable importance to the growing number of communities in wide-ranging parts of this country, the growing incidence of Chronic Wasting Disease in North America's wild and captive deer and elk populations. In a matter of just a few months, this once parochial concern has grown into something much larger and much more insidious than anyone could have imagined or predicted.

As each day passes, this problem grows in its size, scope, and consequence. One thing becomes clear. Chronic Wasting Disease is not a Colorado problem. It is a Wisconsin problem or a Nebraska or Wyoming problem. It is a national problem and anything short of a fully integrated, systematic national assault on this simply will not do, which is precisely why we brought our group together here today.

I am joined with my colleague, Mr. Gilchrest, in convening this hearing because I wanted to get the best and most knowledgeable minds in America on Chronic Wasting Disease into the same room, and I think we have accomplished that today to begin the process of developing an integrated and long-term vision focused on containing and ultimately eradicating this disease.

Let me be clear on one point at the outset that is very, very important. Just because this hearing is being held in Washington, D.C., before a subcommittee in the U.S. House of Representatives does not mean that I, or, I dare say, any of my colleagues are even remotely hinting at the outside possibility that the Federal Government interfere with the primacy of the States when it comes to managing the wildlife and this disease. We emphatically are not. The people that have their hands in the soil are at the State level, not at the Federal level. The States are and will continue to be the decisionmakers in chief when it comes to managing this disease. That is how it ought to be.

For my part, I cannot think of a better person than, for example, a Russell George to spearhead the attack on Chronic Wasting Disease in Colorado. Russ and other officials on our State panel are the world's preeminent authorities on Chronic Wasting Disease. Any attempt to take the reins of control out of their hands would be nothing short of foolhardy. On that point, I would venture to say everyone agrees.

But as this problem has evolved and expanded over the course of the last several months, another reality has become readily obvious. Our friends in the States will need help. Without question, the time has come for Congress, Federal agriculture and wildlife officials to begin meaningful resources to bear in support of the State-

led attack on Chronic Wasting Disease. Our role in day-to-day decisionmaking should not increase, but the measure of financial assistance and technical support must increase.

In particular, the Federal Government should immediately step up and expand Chronic Wasting Disease related research. The long-term solution to this problem is summed up in three words: Research, research, research. There are other important ways for the Federal Government to assist, but research needs to be our No. 1.

Before we start throwing money at this problem, though, the Federal Government needs to get its own house in order by developing a unified game plan between all of the many involved Federal agencies. It is abundantly clear that no such unified game plan now exists. To be fair to the multitude of involved Federal departments and agencies, this is a complex issue that exploded onto the national scene a few months ago, and so I am somewhat sympathetic to the fact that our Federal partners are not yet singing from the same song sheet.

But unfortunately, with the disease popping up in new places all the time and appropriations season just around the corner, we do not have the luxury of time. So my charge to involved Federal agencies is this. Before Memorial Day, get Congress a unified and integrated game plan that lays out in specific terms how the Federal Government intends to support the State decisionmakers, what the division of labor between Federal agencies should look like, and how much money each of these agencies will need to fulfill its assigned mission.

I do not want one proposal from the AG, one proposal from Interior, one proposal from APHIS, and one proposal from USGS. I do not want overlapping costs. I want an integrated, comprehensive proposal, and it can be done. So I want to put everyone on notice, it needs to be done soon.

Now, if we do not get a unified recommendation out of the agency within the next few days, I have got a bill drafted and ready to go and I know some of my colleagues do, as well. My preference would be that the agencies write the game plan. The agencies are the experts. They are the ones that know how to coordinate this. This responsibility should not fall on the U.S. Congress. However, if it does, we are willing to accept it, and if we do not get that unified proposal, we have got one here for you. I look forward to discussing this further with our Federal panel.

It is with this I thank all the members and witnesses for taking part in this critical decision today. I look forward to hearing each of your comments.

I would also mention to our guests here today that last night they delayed some voting until today, so I expect to be interrupted throughout the morning with votes. It is an unfortunate part of doing business in the Congress. This is one of the reasons we asked the hearing start at 9:30 and also, what we are going to do is combine the first and second panel in hopes that we can give everyone a fair lesson.

I also want to say to some of the experts out there, remember, you are experts talking to non-experts, so talk to us at tenth grade level. I mean, we really want to get an understanding of what this

is about. We all have read in the papers and have kind of a basic knowledge, but your education to us is very important today and I appreciate you traveling these long miles, taking time away from your very important duties back in your respective States to help us assist you.

[The prepared statement of Mr. McInnis follows:]

Statement of The Honorable Scott McInnis, Chairman, Subcommittee on Forests and Forest Health

At the outset, I want to thank my colleague and the Chairman of the Subcommittee on Fisheries and Wildlife, Mr. Gilchrest, for joining with me in convening this hearing today. I also want to thank our witnesses who have come from far-flung parts of the country to be part of this important dialogue. I must say—I haven't seen this many Coloradans and Wisconsins in the same place since the Broncos ranroughshod over the Packers in the Super Bowl a couple years back. But as a courtesy to our guests from Wisconsin, I promise that that will be both my first and last reference to a Super Bowl memory that I suspect many of our Wisconsin friends have tried to repress.

Today, this joint Subcommittee hearing will explore an issue of immeasurable importance to a growing number of communities in wide-ranging parts of this country—the growing incidence of Chronic Wasting Disease in North America's wild and captive deer and elk populations. In a matter of just a few months, this once parochial concern has grown into something much larger and more insidious than anyone could have ever imagined or predicted. As each day passes, and this problem grows in its size, scope and consequence, one thing becomes clear: Chronic Wasting Disease a Colorado problem, or a Wisconsin problem, or a Nebraska or Wyoming problem. This is a national problem. And anything short of a fully integrated, systematic national assault on this disease simply will not do.

Which is precisely why we are here. I joined with my Colleague Mr. Gilchrest in convening this hearing because I wanted to get all of the best and most knowledgeable minds in America on Chronic Wasting Disease into the same room to begin the process of developing an integrated and long-term vision focused on containing and, ultimately, eradicating this scourge.

Let me be clear on one point at the outset, however—just because this hearing is being held in Washington, DC before a Subcommittee in the U.S. House of Representatives doesn't mean that I—or I dare say any of my colleagues—are even remotely hinting at the outside possibility that the Federal Government interfere with the primacy of the States when it comes to managing the nation's wildlife and this disease. We emphatically are not. The States are and will continue to be the decision-makers-in-chief when it comes to managing this disease. That's the way it ought to be. For my part, I can't think of a better person than my good friend Russell George to spearhead the attack on Chronic Wasting Disease in Colorado. Russ and the other officials on our State panel are the world's preeminent authorities on Chronic Wasting Disease. Any attempt to take the reigns of control out of their hands would be nothing short of foolhardy. On that point, I would venture to say everyone agrees.

But as this problem has evolved and expanded over the course of the last several months, another reality has become readily obvious—our friends in the States need help. Without question, the time has come for Congress and Federal agricultural and wildlife officials to bring meaningful resources to bear in support of the state led attack on Chronic Wasting Disease. Our role in day-to-day decision-making should not increase, but the measure of our financial assistance and technical support must. In particular, the Federal Government should immediately step up and expand Chronic Wasting Disease related research. The long-term solution to this problem is summed up in three words—research, research, research. There are other important ways for the Federal Government to assist, but research should be our job one.

Before we start throwing money at this problem, though, the Federal Government needs to get its own house in order by developing a unified game plan between all of the many involved Federal agencies. It is abundantly clear that no such unified game plan now exists. To be fair to the multitude of involved Federal departments and agencies, this is a complex issue that exploded onto the national scene just months ago, and so I'm somewhat sympathetic to the fact that our Federal partners aren't yet singing from the same song sheet. But unfortunately, with the disease popping up in new places all the time, and appropriations season just around the corner, we don't have the luxury of time. So my charge to the involved Federal agen-

cies is this: before Memorial Day, get Congress a unified and integrated game plan that lays out in specific terms how the Federal Government intends to support state decision-makers, what the division of labor between the Federal agencies should look like, and how much money each of the agencies will need to fulfill its assigned mission. I don't want one proposal from AG, one proposal from Interior, one proposal from APHIS, and one proposal from USGS. I don't overlapping costs. I want one integrated, comprehensive proposal. So you've been put on notice.

Now, if we don't get a unified recommendation out of the agencies in the next 10 days, I've got a bill drafted and ready to go, and I know some of my Colleagues do as well. My preference would be for the agencies to write the game plan. You're the experts. But if we don't get a unified proposal out of the agencies and soon, I've got one here for you. I look forward to discussing this matter further with our Federal panel.

It is with this that I thank all of our Members and witnesses for taking part in this critical discussion today. I look forward to hearing each of your comments.

Mr. MCINNIS. With that, Mr. Kind is going to present the statement for the Minority. Mr. Kind, the floor is yours.

STATEMENT OF THE HON. RON KIND, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WISCONSIN

Mr. KIND. Thank you, Mr. Chairman. I want to thank you especially, as well as Chairman Gilchrest and Ranking Members Inslee and Underwood for moving forward on this very important hearing that we are about to have today. I want to thank each of our witnesses for your anticipated testimony and guidance in helping us try to develop an appropriate response to this.

I want to especially recognize our delegation from Wisconsin, Governor McCallum and DNR Secretary Darrell Bazzell, as well as Agriculture Secretary Jim Harsdorf for coming out here for this important hearing. Obviously, you have had your hands full back in the State of Wisconsin, which is one reason we have so many of my colleagues in the Wisconsin delegation on the dais today. It is either going to be a hearing on CWD or we are going to be talking about milk pricing or something if you have a concentration of Wisconsin representatives in the same place at the same time on Capitol Hill.

But this is a very important issue and, Mr. Chairman, I could not agree more with the remarks in your opening statement. This has to be about research, finding answers to the important questions that are out there right now and developing a comprehensive yet coordinated response to a very serious disease that no longer is isolated in a few Western States, but has now been detected east of the Mississippi, in the State of Wisconsin for the very first time, but also west of the Continental Divide.

So this is a disease that is spreading throughout the continent and it is going to require a national response as well as the efforts that are currently taking place in States like Wisconsin, Colorado, Nebraska, Wyoming, the interest they now have down in Texas and some of the neighboring States that have large white-tailed deer population and also elk.

This is a huge issue for us, Mr. Chairman, in the State of Wisconsin. I want to commend Governor McCallum and your staff and the various agencies for the rapid response that you have shown, given the early detection of CWD after the last deer hunting season. The problem that we have, though, is just a lack of information, good science in regards to what is the best response, how dan-

gerous is this disease. We cannot close the door, quite frankly, with the paucity of scientific research that is out there right now in regards to how the disease spreads, the exposure of other livestock herds—given the importance of our dairy industry in the State, that is a big issue—and also the human health effects.

That is why I think we are going to need to work together in a bipartisan fashion, Mr. Chairman, in order to work with the various agencies to come up with a comprehensive plan and approach, and perhaps in Wisconsin the problem is even more urgent given the intense density of our deer population. Whereas States out West, you have got maybe four to five deer per square mile, in the State of Wisconsin, you are talking about over 75, 75 to 100 deer per square mile, intensely concentrated deer population, but also given the economic effect.

Every year, we have roughly 700,000 hunters that go into the field to enjoy a very enjoyable activity, deer hunting, myself included. With that, it generates a tremendous amount of economic activity in the State. In fact, the last time DNR did a comprehensive State survey in Wisconsin, back in 1996, they calculated it was roughly a $2.6 billion economic impact, deer hunting season alone, in the State of Wisconsin.

It goes even more than just the effects on the deer herd, but it also affects our way of life, a very important tradition and quality of life that we enjoy in Wisconsin because now we are starting to hear some State officials saying that if we do not get ahead of this curve in the State of Wisconsin as rapidly as this disease has the potential of spreading, we may not have a white-tailed deer herd in Wisconsin in perhaps 20 to 25 years.

When I heard those comments, a chill went down my spine, Mr. Chairman, because I enjoy the sport. I hunt myself and I have two little boys who I want to pass this on to, and a lot of hunters that have contacted me are very concerned about that same thing. What is this going to mean in regards to the future of hunting and outdoor recreation generally in the State of Wisconsin?

That is why I have been leading an effort, with the cooperation of the other Wisconsin delegation members, to try to help the State in doing what they are trying to accomplish, and that is to eradicate the disease before it spins out of control. We put in a request to the appropriators to appropriate some money to develop a live test for this disease. Right now in Wisconsin, we have to kill the deer and then send the deer head to Ames, Iowa, because we do not have testing facilities in Wisconsin alone. But there is also concern about a proposed 15,000 deer kill-off in a much larger geographic area at ground zero in the detection of this disease and some are starting to question whether that is the most appropriate response in dealing with this, and that is why we need to develop a live test so we can better track the pathology of this disease.

We also submitted a request to USDA about six to 8 weeks ago requesting some emergency discretionary funds be released to the State of Wisconsin, $4 million, from CCC, an authorized program, discretionary funds that exist. Unfortunately, we were notified that USDA does not want to appropriate that money to the State of Wisconsin. They are interested in taking a national approach, which I find very alarming and very disappointing because this is

an authorized program. There are funds available. What it does, then, is force other members, including our Ranking Member on Appropriations, Dave Obey, to get a $10 million line item request in a supplemental bill because we are not getting, we feel, the cooperation from our own department in helping our State deal with the outbreak of this disease and the added expense that has been incurred.

In light of your remarks, Mr. Chairman, in regards to a comprehensive research approach to this, we need to be able to provide funding back to the States to deal with this, but I also believe we need to provide this focused, coordinated national effort at the Federal level to respond aggressively, and to that end, I introduced bipartisan legislation yesterday entitled "The Chronic Wasting Disease Research and Response Act," H.R. 4740, that would create a national program to address CWD in wildlife. The Department of Interior would be the responsible agency for coordinating with the other Federal agencies, with States and local agencies and private entities in establishing this program for CWD.

Very quickly, what the legislation calls for is a program to provide States with the technical assistance and funding that they are now requesting. It would design a national CWD monitoring and surveillance program, something that we currently lack today; conduct research on how CWD is transmitted and the risk to public health and other livestock herds and other animals; and develop a rapid, reliable, live animal diagnostic test for CWD to evaluate the ecological and environmental factors involved in the emergence and the spread of this disease; and develop safe methods for the disposal of potentially infected carcasses; and develop a public outreach and education strategy for the hunting community at large; and then assess the likelihood of transmission of CWD to non-Federal lands and develop management options.

I think that is the type of coordinated response that we are going to have to take with this, hoping to get the scientific answers to these very, very important questions.

So I am looking forward to today's testimony with the various panel members, the experts that have been called to testify. The stakes are very, very high and yet time is running short given the potential for the spread of this, not just in the State of Wisconsin. We recognize that this is affecting more and more States and is going to become a large national and continent-wide issue unless we can get together, working on the same page, with an effective response.

Thank you again, Mr. Chairman, for the hearing today and for allowing my participation and the participation of my other colleagues from Wisconsin. Thank you.

Mr. MCINNIS. Thank you for your comments, Mr. Kind.

I would like to insert in the record a statement from Mr. Gilchrest, Chairman of the Subcommittee on Fisheries Conservation, Wildlife, and Oceans.

[The prepared statement of Mr. Gilchrest follows:]

Statement by The Honorable Wayne T. Gilchrest, Chairman, Subcommittee on Fisheries Conservation, Wildlife and Oceans

I am pleased to join with my distinguished colleague, Scott McInnis in scheduling this timely oversight hearing on the emerging problem of Chronic Wasting Disease as it affects populations of deer and elk.

While Chronic Wasting Disease or CWD has thus far been limited to seven Western states and Wisconsin, it is essential that steps be taken to stop this fatal and contagious disease. This disease has impacted both captive and wild herds of deer and elk. It slowly progresses causing its victims to suffer a slow lingering death. This disease has the potential to devastate deer and elk herds across the nation. In fact, just two weeks ago, the Wisconsin Department of Natural Resources announced that 15,000 white-tailed deer would be killed to stop the spread of this disease.

Sadly, there is much we do not know about CWD. For instance, what are the modes of transmission? What is responsible for the conversion of normal proteins to prions? Are prions even the infective agent? And, can CWD infect humans that consume meat from infected animals?

I am anxious to work with my colleagues to develop a strategy for the Federal government to stop the spread of Chronic Wasting Disease. This role could include: money for testing, monitoring, research, education and proactive control measures. However, we can not sit idly by and allow CWD to infect deer and elk populations throughout the United States.

I look forward to hearing from our distinguished witnesses and I hope they can enlighten us as to the next necessary steps in the escalating battle against this poorly understood and infectious disease.

Mr. McINNIS. I would also like to include in the record a statement from Senator Russell Feingold of Wisconsin on Chronic Wasting Disease.

[The prepared statement of Senator Feingold follows:]

Statement of The Honorable Russell D. Feingold, a Senator from the State of Wisconsin

Thank you Mr. Chairman, I am pleased to have an opportunity to testify on this issue. I also deeply appreciate the care and effort you have taken to ensure that the view of states in which Chronic Wasting Disease is an emerging problem, like my home state of Wisconsin, are well represented at this hearing. I welcome Governor McCallum, and appreciate his willingness o share Wisconsin's timely experience in addressing this pressing concern.

As the Committee knows, and as I have learned, Chronic Wasting Disease belongs to the family of transmissible spongiform encephalopathies (TSEs) diseases. TSEs are a group of transmissible, slowly progressive, degenerative diseases of the central nervous systems of several species of animals. Animal TSEs include, in addition to Chronic Wasting Disease (CWD) in deer and elk, bovine spongiform encephalopathy in cattle, scrapie in sheep and goats, feline spongiform encephalopathy in cats, and mink spongiform encephalopathy in mink.

States like mine are now contemplating how and where their Department of Natural Resources will cull deer in an attempt to slow the spread of the disease, and it is a difficult choice. Wisconsin is contemplating a herd reduction of up to 15,000 animals in ten counties. With a disease that has no known mechanism of transmission, large scale herd reduction may not fully address the problem. Yet Wisconsin is in the difficult position of not being able to put off taking action to slow the epidemic until every scientific question has been answered in detail. Wisconsinites treasure the sight of deer in our woods and tourism and hunting are important to our state's economy, as well.

I know that Governor McCallum will review our state's experience and the actions we are contemplating in greater detail. I am repeating some of these facts, Mr. Chairman, because I feel strongly that Wisconsin's struggles to manage the disease should not also be complicated by struggles to interact with a variety of different Federal agencies each with differing and intersecting responsibilities on the issue of Chronic Wasting Disease.

In short, this oversight hearing is sorely needed and long overdue. In 1967, scientists in a northern Colorado wildlife research facility discovered CWD, a deadly illness in the lab's mule deer population. Thirty-five years later, the disease has spread to Kansas, Nebraska, Montana, Oklahoma, South Dakota, Wisconsin, and

Wyoming. Without a swift and coordinated Federal response, this disease will spread across the nation, and I look forward to hearing from both Department of Interior and Department of Agriculture agencies about their efforts to date, and the solutions they propose.

State wildlife and agriculture departments do not have the fiscal or scientific capacity to adequately confront the problem. Their resources are spread too thin as they attempt to prevent the disease from spreading, treat infected or exposed populations, and research for a cure. Help in the form of emergency funding, research grants, and scientific expertise is urgently needed. Federal and state cooperation will protect animal welfare, safeguard our valued livestock industry, provide relief to family elk ranchers, help guarantee America's food safety, and protect the public health.

We must act quickly to end this disease, and a strong Federal program directed toward total elimination of this disease must be implemented. This hearing will help answer the. questions surrounding Chronic Wasting Disease, and help us coordinate our efforts to protect our national deer and elk populations.

So, Mr. Chairman, I commend you for having this oversight hearing. I look forward to hearing from the government, Federal agency, and non-governmental organizations on this. challenging problem.

Mr. MCINNIS. Let me stress to the media that is in the room today that it is not our intent to create a panic as a result of this disease. We are just trying to figure out exactly what the threat assessment should be and we are going to rely very heavily on our witnesses today to guide us through that, because we want hunters coming to our States and so on. We need some guidance. If we are overstating the threat, let us know.

Generally, under the Committee Rules, we ask the witnesses to keep their comments under 5 minutes. That is so that we all have an opportunity to have a two-way conversation through questioning later on. I am going to make an exception with Dr. Miller, and Dr. Miller, I ask you to keep your comments within 10 minutes, the purpose being Dr. Miller is going to give us kind of a primer of what this disease is. He has condensed it, but 10 minutes is about as quick as he can do it.

I would ask the first panel to be seated. We have got Dr. Miller, Colorado Department of Natural Resources; the Honorable Scott McCallum, Governor of the State of Wisconsin; Russell George, Colorado Department of Natural Resources; Dr. Thorne from the Wyoming Game and Fish Department, and Bruce Morrison from the Nebraska Game and Parks Commission.

So if you would come up, Dr. Miller, we will start with you. For the panel's information, they are going to start our first vote at 10:00, so we will try and get through Dr. Miller's testimony first. Then we will go vote and return. You may proceed, Dr. Miller.

STATEMENT OF MICHAEL MILLER, D.V.M., WILDLIFE VETERINARIAN, WILDLIFE RESEARCH CENTER, DIVISION OF WILDLIFE, COLORADO DEPARTMENT OF NATURAL RESOURCES

Dr. MILLER. Good morning, Mr. Chairman and Committee members. I am Michael Miller, staff veterinarian for the Colorado Division of Wildlife and I really appreciate the opportunity and the invitation to be here and offer you some background on your discussions today. I am sure all of you are obviously familiar with this problem, at least to some extent, and so what I want to do briefly is give you some key features of the disease by way of review, talk

about its history and what we currently know about the distribution and occurrence of Chronic Wasting Disease in both free-ranging and farm deer and elk.

The information I am presenting is actually a synthesis of data and these data have been generated by a number of State and Federal and university scientists who have actually been collaboratively working on Chronic Wasting Disease research for over two decades. In particular, please recognize the contributions of Dr. Beth Williams, who is actually in the gallery today, from the University of Wyoming; Dr. Terry Spraker from Colorado State University; Dr. Katherine O'Rourke and colleagues from the USDA ARS laboratory in Pullman; Dr. Byron Caughey, Richard Race, and colleagues from the NIH Rocky Mountain Laboratory in Hamilton; and Dr. Tom Thorne and colleagues from the Wyoming Game and Fish Department. All of them have helped us considerably over the years in advancing our collective understanding of Chronic Wasting Disease.

Now, Chronic Wasting Disease, or CWD as we will probably refer to it most of the day, is one of a small but important group of diseases called transmissible spongiform encephalopathies, or TSEs, or prion diseases. These diseases are believed to be caused by strains of infectious, self-propagating protein. These prion diseases are relatively new to science and many aspects of their biology are poorly understood. Some of the known prion diseases affect domestic or wild animals and others occur naturally in humans.

There are three important prion diseases of food-producing animals. The most common and widespread of these is scrapie of domestic sheep and goats. It occurs in the United States and virtually worldwide and has been recognized as an animal health problem for over 200 years. Compared to scrapie, Chronic Wasting Disease is relatively rare and it affects native North American deer and elk in the cervid, or deer, family.

The third of these diseases is actually one that has focused public attention on all the prion diseases. I am sure that you have all heard of bovine spongiform encephalopathy, or maybe BSE, or at the very least, "mad cow disease," and are well aware of the impacts on agricultural economies in the United Kingdom and several European countries.

I am also sure that you are aware that in a relatively small but significant number of cases, BSE apparently was transmitted to humans and manifested itself as a variant of Creutzfeldt-Jakob disease. Although sporadic CJD occurs in human populations worldwide with an attack rate of about one to two cases per million, the occurrence of this much rarer variant CJD in British citizens sparked a public health crisis, perceived if not real, that has influenced public perceptions about animal prion diseases both overseas and here in the United States.

It is really important for you all to understand that Chronic Wasting Disease is not simply BSE in deer and elk. These are diseases in the same family, but we know that the strain of prion that causes wasting disease is quite different from the strain that causes BSE and also appears to be somewhat different from strains that cause scrapie.

The true origin of Chronic Wasting Disease remains unknown, despite what you may read on the web or see in the newspaper. Whether it began as scrapie or as a sporadic disease of deer or elk is, and probably always will be, a mystery.

The known natural host range of Chronic Wasting Disease is limited to three species, all from the deer family. These are mule deer, white-tailed deer, and elk. All three species show similar susceptibility and the disease does not appear to be naturally transmissible to domestic livestock or pets, to other wildlife species, or humans. Experimentally, Chronic Wasting Disease has been transmitted to several species using unnatural exposure routes, but in general, this experimental transmission is much less efficient than it is for scrapie, which does not appear to be a large problem outside the sheep and goats.

The hallmark signs for end-stage Chronic Wasting Disease are emaciation and abnormal behavior in deer and elk. Other health problems can confound the diagnosis of Chronic Wasting Disease and so laboratories are necessary to confirm infections in suspect animals. Chronic Wasting Disease is inevitably fatal in deer and elk. There are no vaccines or treatments available to protect or cure susceptible animals.

There are several important epidemiological features of Chronic Wasting Disease. The incubation period averages 20 to 30 months with natural infections, but may be somewhat shorter or considerably longer in individual cases. Susceptibility appears to be pretty uniform between sexes and across age classes. The wasting disease appears to be maintained naturally in both captive and free-ranging populations through direct or indirect animal-to-animal transmission, and although we do not know exactly how the disease is transmitted, the agent is probably shed in feces, saliva, and perhaps urine.

In addition, contaminated environments likely play a role in epidemics. In some cases, the wasting disease agent apparently persisted in heavily contaminated environments for years after all infected deer or elk had been removed, and this environmental persistence obviously represents a significant obstacle for eradicating Chronic Wasting Disease in places where it has already become well-established, either in captivity or in the wild.

Chronic Wasting Disease is not new. The clinical syndrome of chronic wasting was first recognized in captive mule deer in Colorado in the late 1960's, but it is likely that this disease arose in captive and/or free-ranging cervids even earlier. In 1978, Drs. Williams and Young recognized that this was, in fact, one of the TSEs. The disease was first detected in free-ranging deer and elk in northeastern Colorado in the early 1980's, but these almost certainly were not the first cases to occur in either State.

Similarly, the first diagnosis was in a farmed elk in Saskatchewan, but the source of infection appears to have been farmed elk imported from South Dakota in the late 1980's, if not earlier. In the last 2 years, wasting disease has been detected in free-ranging deer in several locations well outside the original endemic focus, and precisely how and when these new foci of infection came about is not entirely clear. There is some value in recognizing these dates as milestones in the history of wasting disease, but I think we need

to be careful about interpreting them as absolute time lines for the emergence of this disease.

Surveillance systems for Chronic Wasting Disease in free-ranging wildlife evolved in the absence of regulatory or economic pressure. To date, the motivations for reliably estimating the distribution and occurrence of wasting disease in native wildlife populations has actually been twofold. One is scientific curiosity and the other is a sense of responsibility for acquiring and conveying to the public accurate information about this disease and its occurrence in public resources. Similarly, the farmed elk industry recognized early on the value of detecting wasting disease in their herds as a basis for effective disease management.

Using various combinations of surveillance, we have developed a pretty good understanding of the basic status of wasting disease in North America. There seem to be two relatively distinct epidemics, one in free-ranging cervids in northeastern Colorado, southeastern Wyoming, and the southwestern corner of the Nebraska panhandle. The other is in a relatively small number of farmed elk herds scattered across the U.S. and Canada with some apparent and unfortunate spillover into populations of free-ranging deer in Saskatchewan, northwestern Nebraska, and South Dakota.

Let me give you some real quick highlights of the epidemic, the main epidemic in free-ranging deer and elk. Surveillance for clinical suspects has been going on since the 1980's and harvest surveys began in the 1990's. In all, about 15,000 deer and elk harvested or culled in Colorado, Wyoming, and Nebraska endemic area have been sampled to date. These surveys have revealed the contiguous endemic focus of wasting disease that primarily involves mule deer, but also includes white-tailed deer and elk where they occur in those areas.

This so-called endemic area spans over 19,000 square miles of mixed native habits. The most intensively infected area extends from the Laramie Mountains in Wyoming south into north central Colorado. In this area, average infection rates exceed 10 percent in sampled mule deer. Surveys have also been conducted over the last 5 years in other parts of Colorado and Wyoming, as well as in portions of a number of nearby and distant States by responsible wildlife management and animal health agencies. With few notable exceptions, none of these surveys have revealed other foci of wasting disease in free-ranging cervids.

In all, over 10,000 deer and elk from these other area have tested negative through the 2000-2001 sampling season and more data will be available for this last year fairly soon. At the very least, I think these data clearly demonstrate that, right now, wasting disease is not uniformly present across all of our native cervid populations here in the U.S.

I want to turn your attention briefly to the status of wasting disease in farmed elk, and you may hear more about this later from Dr. Zebarth, but since the first diagnosis was made in farmed elk in 1996, epidemiological investigations and surveillance have disclosed infections in 62 game farms in six western States and two Canadian provinces with a few other herds under investigation. South Korea also apparently received infected elk from Saskatchewan in 1997, representing the first known extension of Chronic

Wasting Disease beyond the North American continent. There are documented epidemiological connections among some, but not all, of the infected farm herds.

The elk industry, in conjunction with responsible State and Federal animal health agencies has been quite aggressive in dealing with Chronic Wasting Disease and trying to develop a national industry program Of the infected elk farms identified to date, only a few remain under some form of quarantine and negotiated disease management. The remaining herds either have been or are in the process of being depopulated, and unfortunately, in a few cases, it does appear that infected elk farms may have exposed local free-ranging deer populations to Chronic Wasting Disease before infections wee detected.

So although Chronic Wasting Disease is of understandable concern to a variety of interests, there is a considerable amount of information about it that can help us assess risk and guide your policy decisions. In the U.S., wasting disease is probably best viewed as two separate epidemics, one involving free-ranging cervids and the other involving captive elk. Neither of these epidemics are particularly new. Both epidemics are relatively well described, particularly in comparison to scrapie in the U.S. CWD is naturally maintained in both free-ranging and captive deer and elk populations and, thus, management will be challenging in both settings.

In the short term, Chronic Wasting Disease in captive elk is much more likely to be manageable than in free-ranging cervids, but I have no doubt that as new knowledge on wasting disease and other TSEs comes into play, that will help greatly in managing this situation in both captive and free-ranging populations.

There are perceptions that Chronic Wasting Disease may somehow threaten human or traditional domestic livestock health and these perceptions clearly factor into the motivations for managing Chronic Wasting Disease, even though data and experiences to date suggest that those threats appear vanishingly small. We know, however, that Chronic Wasting Disease represents a significant threat to the health and long-term stability of free-ranging deer and elk resources that are an important component of both the ecology and economy of virtually every State represented in this Congress.

According to published model forecasts of Chronic Wasting Disease epidemics in deer populations, unmanaged outbreaks will likely devastate infected herds over a period of several decades. In the interim, the public value of these herds may well be diminished simply by virtue of their status as CWD infected.

Mr. MCINNIS. Dr. Miller, I am sorry to interrupt you, but we have about eight-and-a-half minutes left, so we will have to adjourn temporarily and we will come back and let you finish your statement.

Dr. MILLER. Very good. I have one more sentence, but go ahead.

Mr. MCINNIS. Oh, no, one more sentence.

[Laughter.]

Mr. MCINNIS. But I will tell you, I also want to have you address this. There have been accusations that the most likely cause of the wasting disease in western Colorado was the Division of Wildlife itself through its testing facilities, so if that is going to take you

longer than a paragraph, we will come back. Otherwise, you can wrap up.

Dr. MILLER. That will take a few minutes, so certainly.

Mr. MCINNIS. OK. Why do you not finish your one sentence, we will come back and address that, and then we will go on to the Governor. And please be patient. We will be back here as quickly as we can.

I might also mention, Republican members, you have a conference. I would ask—I do not do this very often, but I would ask you to skip the conference and come back here because this is such a critical issue. We will continue this within about 15 minutes.

Go ahead and finish your sentence and we will go on and vote.

Dr. MILLER. The threat posed to our valuable wildlife resources seems more than sufficient to justify more aggressive actions, fostered by State and Federal cooperation to identify foci of infection, contain these, and, where possible, eliminate Chronic Wasting Disease from our nation's free-ranging deer and elk populations. Thank you for the opportunity to share this background.

Mr. MCINNIS. Thank you, Doctor.

[The prepared statement of Dr. Miller follows:]

Statement of Dr. Michael Miller, Wildlife Veterinarian, Wildlife Research Center. Division of Wildlife, Colorado Department of Natural Resources

Good morning, Mr. Chairman and committee members. I am Michael Miller, Staff Veterinarian for the Colorado Division of Wildlife. I sincerely appreciate the invitation to appear before your Subcommittees to provide some background information on Chronic Wasting Disease of deer and elk as a foundation for today's discussions. I'm sure that all of you, as members of the Resources Committee, are at least somewhat familiar with this disease, so much of this may well be review. In the next few minutes I plan to briefly review key features of Chronic Wasting Disease, its history, and what we currently know about its distribution and occurrence in both free-ranging and farmed deer and elk.

The information I'm presenting is a synthesis of data, much of it previously published in peer-reviewed scientific journals. These data have been generated by a number of talented state, Federal, and university scientists who have been collaboratively working on Chronic Wasting Disease for over two decades. In particular, please recognize the contributions that Dr. Beth Williams from the University of Wyoming, Dr. Terry Spraker from Colorado State University, Dr. Katherine O'Rourke and colleagues from the USDA ARS laboratory in Pullman, Washington, Dr. Byron Caughey and colleagues from the NIH Rocky Mountain Laboratory in Hamilton, Montana, and Dr. Tom Thorne from the Wyoming Game and Fish Department have made to our collective understanding of Chronic Wasting Disease in deer and elk.

The prion diseases

Chronic Wasting Disease, or CWD, is one of a relatively small but important group of diseases called transmissible spongiform encephalopathies (or TSEs, or prion diseases). These diseases are believed to be caused by a number of unique strains of infectious, self-propagating prion protein. The prion diseases are relatively new to science, and many aspects of their biology are poorly understood. Some of the known prion diseases affect domestic or wild animals, while others occur naturally in humans.

There are three important prion diseases of food-producing animals. The most common and widespread of these is scrapie of domestic sheep and goats, which occurs throughout the United States and virtually world-wide and has been recognized as an animal health problem for over 200 years. Chronic Wasting Disease is relatively rare, affecting native North American deer and elk species in the cervid (or deer) family—we'll spend most of our time today talking more about CWD. However, the third of these is the one that focused public attention on the prion diseases: I'm sure you've all heard of bovine spongiform encephalopathy, also called BSE or "mad cow disease", and are well aware of the impacts that this disease has had on agricultural economies in the United Kingdom and several European countries. I'm sure

you're also aware that, in a relatively small but still significant number of cases, BSE apparently was transmitted to humans and manifested itself as a variant of Creutzfeldt–Jakob disease (or vCJD). Although sporadic CJD occurs in human populations world-wide with an attack rate of 1–2 cases/million people, the occurrence of variant CJD in British citizens sparked a public health crisis, perceived if not real, that has influenced public perceptions about animal prion diseases both overseas and here in the US.

It's very important for all of you to understand that Chronic Wasting Disease is NOT simply BSE in deer and elk, as some might have you believe. Although these maladies are in the same disease family, we know that the strain of prion that appears to cause CWD is quite different from the strain that causes BSE, and also appears somewhat different from strains of scrapie that naturally infect domestic sheep and goats here in the U.S. and overseas. The true origin of CWD remains unknown (despite what you may read on the Web or in the newspaper)—whether it began as scrapie or as a sporadic disease of deer or elk is, and probably will always be, a mystery.

Chronic Wasting Disease

The known natural host range for CWD is limited to three species, all from the'deer" (or cervid) family: mule deer and white-tailed deer (both in the genus Odocoileus), and elk (in the genus Cervus). All three natural host species show similar susceptibility to CWD, but there appear to be some species- or genus-specific differences that may influence how the disease behaves in each species. Chronic Wasting Disease does not appear to be naturally transmissible to domestic livestock or pets, other wildlife species, or humans. Experimentally, Chronic Wasting Disease has been transmitted to several species using unnatural exposure routes. In general, experimental transmission of the CWD prion is much less efficient than experimental transmission of scrapie. After over two centuries of experience with scrapie, this more common animal prion disease has not been shown to transmit naturally to species other than sheep and goats; this offers considerable reassurance that the natural host range of CWD is likely to be limited only to select species in the deer family.

The hallmark clinical signs for end-stage CWD are emaciation and abnormal behavior. In practice, subtle changes in behavior, attentiveness, and locomotion can be seen in most infected animals some months before end-stage disease develops. Other health problems, particularly pneumonia and injury, can confound the diagnosis of CWD in deer and elk. Consequently, as with other animal TSEs, laboratory diagnosis is necessary to confirm infections in suspect animals.

There are several important epidemiological features of CWD. We know to expect a prolonged incubation period in exposed deer and elk that averages somewhere in the range of 20–30 months with natural infections, but may be somewhat shorter or considerably longer (perhaps 60 months or more) in individual cases. Susceptibility to CWD infection appears to be relatively uniform among species, between sexes, and across age classes; there does appear to be some genetic influence on susceptibility in elk but not deer. CWD appears to be maintained naturally in both captive and free-ranging cervid populations; epidemics persist in the absence of exposure to contaminated feeds or other likely outside sources of infection. Direct or indirect animal-to-animal transmission, not necessarily along maternal lines, drives CWD epidemics. Although we don't know precisely how CWD is transmitted among deer and elk, the agent is probably shed in feces, saliva, and perhaps urine. In addition, contaminated environments likely play a role in epidemics and the recurrence of disease in some situations—in some cases, the CWD agent apparently persisted in heavily contaminated environments for years after all infected deer or elk had been removed. This environmental persistence obviously represents a significant obstacle for eradicating CWD in places where it is already well-established, either in captivity or in the wild.

Chronic Wasting Disease is not a new prion disease. The clinical syndrome of "chronic wasting" was first recognized in captive mule deer in Colorado in the late 1960s, but tying the first recognition of a disease like this to its first occurrence seems like a substantial leap of faith. Based on what we now know about its distribution and occurrence, it is quite plausible that CWD actually arose in captive and/or free-ranging cervids 40 or more years ago. In 1977, Drs. Williams and Young recognized that CWD was, in fact, a TSE. Within a few years of finally having a clear-cut diagnostic criterion, CWD was first detected in free-ranging elk and deer in northeastern Colorado and southeastern Wyoming—however, these were almost certainly not the first cases to occur in the wild in either state. Similarly, the first diagnosis of CWD in a farmed elk was made in Saskatchewan in 1996—in retrospect, this most assuredly was not the first case to occur in the elk industry in ei-

ther Canada or the U.S. because Canadian investigations have shown that some infected elk were apparently imported into Canada from South Dakota in the late 1980s, if not earlier. In the last 2 years, CWD has now been detected in free-ranging deer in several locations well outside the original known endemic focus of southeastern Wyoming and northeastern Colorado. Precisely how and when these scattered foci of infection came about is not entirely clear. So, although there may be some value in recognizing these milestones in the history of CWD, it's important not to interpret these as absolute timelines for the emergence of this disease.

Approaches for assessing status

Before proceeding into what we know about the status of CWD in both free-ranging and farmed cervids, I want to provide a bit of context on how we've come to know what we know. To truly appreciate how much we know about CWD, it's important to compare approaches for detecting CWD with traditional approaches for detecting TSEs in other animal species. For both scrapie and BSE, there has tended to be a focus on clinical cases as the means of detecting new infections. This is clearly an effective approach, particularly when such diseases are reportable, but there are biases and limitations inherent in this strategy. Moreover, these surveillance programs are often conducted in an atmosphere where there may be substantial economic penalties for owners of infected animals or herds.

Please recognize that animals showing end-stage clinical disease represent the "tip of the iceberg" with respect to the overall rate of infection in the population of interest. Those of us working with CWD also recognized this some time ago, and modified our surveillance strategies accordingly. Initially, we used histopathology of brainstem samples as an adjunct to surveying populations for CWD, and gained a much better appreciation of the size and shape of the iceberg. Beginning in 1996, we adopted immunohistochemistry (IHC) of brainstem as our screening tool for surveillance, and again improved our appreciation of the iceberg's depth and magnitude. And, for the last 3 years, we've been able to use IHC of tonsillar tissues to gain an almost, but not quite complete, picture of the CWD iceberg. We know even these IHC-based estimates of CWD prevalence are still a little low, but they're much closer to truth than data generated otherwise.

Surveillance systems for CWD in free-ranging wildlife evolved in the absence of regulatory or economic pressure. To date, the motivations for reliably estimating the distribution and prevalence of CWD in native wildlife populations have been twofold: scientific curiosity, accompanied by a sense of responsibility for acquiring and conveying to the public accurate information about this disease and its occurrence in public resources. Similarly, the farmed elk industry recognized early on the value of detecting CWD in their herds as a basis for effective disease management. In this environment, three somewhat distinct approaches to CWD surveillance have evolved and are currently in use in varying combinations. An appreciation of the details and applications of each is important in interpreting data on CWD status.

The foregoing caveats notwithstanding, surveillance for clinical suspects remains an effective tool for detecting new foci of CWD infection in both captive and free-ranging settings. Under these systems, clinical suspects are sampled whenever available. Histopathology of brainstem is usually sufficient to diagnose cases, but IHC is a valuable adjunct in many cases. Data are clearly biased, and consequently are of little use in estimating prevalence. This approach is very similar to traditional scrapie surveillance in the US.

In some captive settings, CWD surveillance has been applied to all natural mortalities, and in some cases to all mortalities regardless of proximate cause. Several states have adopted this approach in rules that regulate their elk industries. Mortality-based surveillance is also an effective tool for detecting new foci of CWD infection, and has resulted in the disclosures of several infected elk farms over the last 3 years. Here again, histopathology of brainstem (a specific portion called the "obex") is usually sufficient to diagnose cases, but IHC is a valuable adjunct. Inherent biases in these data limit their use in estimating prevalence. This approach is considerably more aggressive than traditional scrapie surveillance in the US, and has facilitated CWD detection in the elk industry.

And finally, those of us investigating CWD in free-ranging populations over the last decade have developed efficient techniques for conducting geographically-targeted random sampling of harvested deer and elk to estimate prevalence and monitor trends. In these surveys, sections of obex and, more recently, tonsil are collected and examined via immunohistochemistry; infections can be staged further by histopathology. Data from these samples represent relatively unbiased point estimates of CWD prevalence. Unfortunately, comparable slaughter survey data for scrapie and BSE have not been reported formally, confounding comparisons of epi-

demic severity between CWD and, for example, scrapie in the US. This lack of comparable data has perhaps fostered misperceptions about CWD.

Current status in free-ranging and captive deer and elk

Using various combinations of these 3 surveillance approaches, we have developed a good basic understanding of CWD's status in North America. At present, there appear to be 2 relatively distinct CWD epidemics occurring in North American cervid populations. One epidemic focus is in free-ranging cervids in southeastern Wyoming, northeastern Colorado, and the southwestern corner of the Nebraska panhandle. The other epidemic is occurring in a relatively small number of farmed elk herds scattered across the U.S. and Canada, with apparent spill-over to local populations of free-ranging deer in Saskatchewan, northwestern Nebraska, and South Dakota. Although a common source for both epidemics has been speculated, and would certainly be the most parsimonious way to explain the origins of CWD, no common thread linking all of these has been demonstrated to date.

Alternatively, not knowing how or when CWD originated in the first place, it is conceivable that whatever event gave rise to CWD once could have occurred again in farmed elk, and that the two epidemics are not directly related. This also could perhaps explain the recent occurrences of CWD in Wisconsin and northwestern Colorado, where no known exposure source has been identified to date. Regardless of whether or not they have a common root origin, these epidemics, as we understand them today, appear to be essentially unrelated epidemiologically and are probably best considered independently.

I'll first give some highlights of the main CWD epidemic in free-ranging deer and elk.

Chronic Wasting Disease has been recognized in free-ranging deer and elk since the early 1980s. This epidemic is likely related in some way to cases originally reported in captive research animals, but which came first is truly a chicken-or-egg question that we're probably never going to answer. Initially, clinical cases were recognized in both free-ranging deer and elk in northeastern Colorado and southeastern Wyoming. Surveillance for clinical suspects has been ongoing in both states since these first cases were detected. Harvest-based surveys were conducted intermittently beginning in 1983, and annually in some areas beginning in 1990. Since 1996, we've been using immunohistochemistry to enhance detection of infected animals. In all, about 15,000 deer and elk harvested or culled in northeastern Colorado, southeastern Wyoming, and western Nebraska have been sampled to date. Ongoing random surveys have revealed a contiguous endemic focus of CWD that primarily involves mule deer, but also includes white-tailed deer and elk where they occur in that area. This so-called "endemic area" spans over 16,000 mi2 of mixed native habitats. The most intensively infected area extends from the Laramie Mountains in Wyoming south into the northern Front Range in Colorado—in this area, average infection rates exceed 10% in sampled mule deer. This high prevalence ridge is surrounded by areas of successively lower prevalence. On the fringes of the endemic area, prevalence is 1% or less in deer. Elk reside in the western half of this area; CWD prevalence in this species is <1% in all of the areas sampled. Where white-tailed deer ranges overlap with mule deer, CWD prevalence is similar in both deer species. The spatial pattern of relative disease prevalence strongly suggests that what we're seeing is actually an epidemic occurring in slow motion, extending geographically through natural animal movements. Computer models suggest that CWD has likely been present in some of the more heavily infected areas for 35 years or more. Surveys have been conducted over the last 5 years in other parts of Colorado and Wyoming, as well as in portions of a number of nearby and distant states and provinces by responsible wildlife management and animal health agencies. With a few notable exceptions that you'll hear more about later, none of these surveys have revealed other foci of CWD presently exist in free-ranging cervids. In all, over 10,000 deer and elk from these areas had tested negative through the 2000–2001 sampling season. At the very least, these data clearly demonstrate that CWD is not uniformly prevalent across all of our native cervid populations in the U.S. and Canada.

I now want to turn your attention briefly to the status of CWD in farmed elk.

As is the case with CWD in free-ranging cervids, this disease has likely been in the captive wildlife industry for some time. The first report of a farmed elk with CWD came from Saskatchewan in 1996—it was a routine submission of an animal with chronic pneumonia that was refractory to treatment. Nearly 2 years later, a similar case was submitted from a South Dakota elk farm. Subsequent epidemiological investigations, as well as submissions made voluntarily or in compliance with mandatory surveillance rules, have led to disclosure of CWD infections in 62 game farms in 6 western states and 2 Canadian provinces; a few others remain under in-

vestigation. South Korea also apparently received infected elk from Saskatchewan in 1997, representing the first known extension of CWD beyond the North American continent. To date, all of the CWD cases in privately-owned cervids have occurred in elk. However, very little surveillance has been conducted in privately-owned captive deer herds to date. The apparent intensity of infections in herds studied to date has varied widely, and probably reflects influences of husbandry, as well as the duration of infection in a particular herd. There are epidemiological connections, documented through animal movements, among some but not all of the infected herds. And, although there is geographic overlap between the location of some infected Colorado farms and the endemic focus in free-ranging deer, with one exception epidemiological investigations really don't support free-ranging deer as the most likely source of infection in these cases.

The elk industry, in conjunction with responsible state and Federal animal health agencies, has been quite aggressive in dealing with CWD. Of the infected elk farms identified to date, only a few remain under some form of quarantine and negotiated disease management—the remaining herds either have been or are in the process of being depopulated. Before Federal funds were available through a national CWD program for captive elk in the US, many of the herds were depopulated voluntarily or with the help of industry funding. Both Canada and the U.S. are in the process of developing national CWD programs. In the interim, several states have programs and regulations for CWD in farmed cervids in various stages of development and implementation.

Managing Chronic Wasting Disease

Although CWD is of understandable concern to a variety of interests, there is a considerable amount of information available to help assess risk and guide policy decisions. In the US, CWD is probably best viewed as 2 separate epidemics, one involving free-ranging cervids and the other involving captive elk. Neither of these epidemics is particularly new. Both epidemics are relatively well-described, particularly in comparison to scrapie in the US. CWD is naturally maintained in both free-ranging and captive cervid populations, and thus management will be challenging in both settings. In the short-term, CWD in captive elk is much more likely to be manageable than CWD in free-ranging cervids. I have no doubt, however, that new knowledge on CWD and other TSEs will factor into future plans for further understanding and managing both problems.

There are perceptions that CWD may somehow threaten human or traditional domestic livestock health. These perceptions clearly factor into motivations for managing CWD, even though data and experiences to date suggest those threats appear vanishingly small. We know, however, that CWD represents a significant threat to the health and long-term stability of free-ranging deer or elk resources that are an important component of both the ecology and economy of virtually every state represented in this Congress. According to published model forecasts of CWD epidemics in deer populations, unmanaged outbreaks will likely devastate infected herds over a period of several decades. In the interim, the public value of these infected herds may well be diminished, simply by virtue of their status as CWD-infected. At present, the threat posed to our valuable wildlife resources seems more than sufficient to justify more aggressive actions, fostered by state-Federal cooperation, to identify foci of infection, contain these and, where possible, eliminate Chronic Wasting Disease from our nation's free-ranging deer and elk populations.

Mr. MCINNIS. We will reconvene in a few minutes.

[Recess.]

Mr. GILCHREST. [Presiding.] The hearing will come to order. We appreciate your patience during the vote and we will go to Senator Allard for his opening statement, and then if there are any questions, we will discuss just for a few minutes with Senator Allard. I will take the Chair until Mr. McInnis gets back, and then we will proceed under regular order.

Mr. Allard, welcome.

STATEMENT OF HON. WAYNE ALLARD, A UNITED STATES SENATOR FROM THE STATE OF COLORADO

Senator ALLARD. Thank you, Mr. Chairman. It is always nice to have a Wayne testify in front of Wayne.

Mr. GILCHREST. Yes, sir, absolutely.

Senator ALLARD. Wayne Gilchrest.

Mr. GILCHREST. We have something in common, then.

Senator ALLARD. Yes, I guess we do.

Mr. Chairman, I want to thank you for the opportunity to speak before you this morning on Chronic Wasting Disease and for holding this very timely oversight hearing. My comments—I want to emphasize the fact that we have ignored the problem of Chronic Wasting Disease entirely too long and I think that we need to focus on improving our diagnostic capabilities and research, something that is more timely. We also need to increase capacity.

Mr. Chairman, I made some formal remarks and I would like to submit those for the record and then I will speak from an outline.

Mr. GILCHREST. Without objection.

Senator ALLARD. As a Senator, Chronic Wasting Disease presents a great animal health challenge. As a veterinarian, Chronic Wasting Disease presents an even greater challenge to the scientific communities of both the States and the Federal Government. This morning, you will hear from experts—you have already begun to hear from them—from across the country describing the diseases and some of the issues will be new to this committee. There is a lot of education that needs to go on in that regard. However, it is not new to the people of Colorado and Wyoming who have been dealing with this problem for over 20 years.

The experts will tell us that although we have learned a tremendous amount from Chronic Wasting Disease, or commonly referred to as CWD, there is much that we do not know and much that we must do to eradicate it. One thing we do know is that legislation without thoughtful deliberation is not the answer. As in all critical environmental issues, sound science is the answer.

The disease is quite simply a mystery. The origin and transmission of CWD is unknown. Unfortunately, the treatment of Chronic Wasting Disease is all too familiar. The only way to treat an animal or to contain the disease is to destroy the animal and cull the herd. This is not an unusual procedure in diseases that are important to the livestock industry. We find ourselves using the same procedure in eradication of such things as brucellosis and tuberculosis that affect animals.

Together, we must embark on an ambitious and sound scientific commitment for research and investigation to end Chronic Wasting Disease. The impact that CWD will have on wildlife and agriculture is undeniable and the economic and emotional toll of the disease cannot be overstated. But communities that are economically relying upon deer and elk-related enterprises will feel the impact of the disease as concern about the disease grows. But we can stop this and we must stop this.

We have an opportunity to restore cervid health, to contain the disease, and most importantly, to eradicate the disease. This is the challenge that I urge the experts here and in the States to accept, and to accept by taking decisive action by funding research to completely eradicate Chronic Wasting Disease.

It is clear that Federal resources are required to help the States keep CWD from spreading, to treat infected or exposed populations, and to greatly expand research for testing and possible cures. As-

sistance in the form of emergency funding and competitive research grants are vital components of the CWD offensive. Federal and State cooperation will protect animal welfare, safeguard our valued livestock industry, provide relief to family elk ranchers, help guarantee America's food safety, and protect the public health.

Chronic Wasting Disease presents a common problem to the States and the Federal Government, this is reflected in the fact that both State and Federal stakeholders are present here today. Federal agencies must work together to provide our nationwide system of universities with the research funding that is necessary to attack the disease. This Federal conduit role will allow universities to unravel the CWD mystery while Federal agencies cooperate within to provide vital insight through our CWD programs at the United States Department of Agriculture and the Department of Interior.

Specifically, I call for a nationwide increase in diagnostic capabilities. There are some facilities across the Nation that have already developed CWD programs and these must be expanded. Others must be created. I also suggest the creation of a cost share program that would establish a State-wide network of veterinarians who, because of their medical training, are perfectly situated to assist hunters and landowners who bring deer and elk to them for the CWD testing.

Undoubtedly, the spread of CWD and the increased awareness of the disease will cause the demand for testing to grow exponentially. We must be prepared to handle a large volume of cases efficiently and reliably. We must develop new testing methods to help us understand the disease as well as developing a live test. We must localize the disease. Ultimately, we must direct research for a cure.

The challenge we face is to achieve what we all recognize as a common objective, to understand CWD and to eradicate it. But we must act quickly or this disease will redefine the wildlife characteristics of our States.

I thank the Chairman for allowing me to make my comments at this proceeding.

Mr. MCINNIS. [Presiding.] Thank you, Senator, and again, I appreciate you taking the time to come over and do this. Sorry about the delay of the vote. Also, we look forward to working with you as you and I work together in the State. We look forward to working with our colleagues on the other side.

Senator ALLARD. Thank you, Mr. Chairman. I do look forward to working with you as we move forward to try and solve this very serious problem.

Mr. MCINNIS. Thank you.

Senator ALLARD. Thank you.

[The prepared statement of Senator Allard follows:]

Statement of The Honorable Wayne Allard, a U.S. Senator from the State of Colorado

Mr. Chairman, I thank you for the opportunity to speak before the hearing this morning on Chronic Wasting Disease, and for holding this timely oversight hearing. As a Senator, Chronic Wasting Disease presents a great animal health challenge. As a Veterinarian, Chronic Wasting Disease presents an even greater challenge to the scientific communities of both the states and the Federal Government.

This morning, you will hear experts from across the country describe a disease that may be new to many on this committee. However, it is not new to those of us in Colorado and Wyoming, who have been dealing with it for over twenty years. The experts will tell us that, although we have learned a tremendous amount about Chronic Wasting Disease, or CWD, there is much that we do not know and much that we must do to eradicate it. One thing we do know is that legislation without thoughtful deliberation is not the answer; as in all critical environmental issues, sound science is the answer.

The disease is quite simply a mystery—the origin and transmission of CWD is unknown. Unfortunately, the treatment for Chronic Wasting Disease is all too familiar. The only way to treat an animal or to contain the disease is to destroy the animal and cull the herd. Together, we must embark on an ambitious and sound scientific commitment for research and investigation to end Chronic Wasting Disease.

The impact CWD will have on wildlife and agriculture is undeniable, and the economic and emotional toll of the disease cannot be overstated. Communities that are economically reliant upon deer and elk related enterprises will feel the impact of the disease as concern about the disease grows. But we can stop this, and we must stop this. We have an opportunity to restore cervid health, to contain the disease, and, most importantly, to eradicate the disease. This is the challenge that I urge the experts here and in the states to accept, and to accept by taking decisive action by funding research directed toward the complete eradication Chronic Wasting Disease.

It is clear that Federal resources are required to help the states keep CWD from spreading, to treat infected or exposed populations, and to greatly expand research for testing and possible cures. Assistance in the form of emergency funding, cost share agreements, and competitive research grants are vital components of the CWD offensive. State and Federal cooperation will protect animal welfare, safeguard our valued livestock industry, provide relief to family elk ranchers, help guarantee America's food safety, and protect the public health.

Chronic Wasting Disease presents a common problem to the states and the Federal Government. This is reflected in the fact that both state and Federal stakeholders are present today. Federal agencies must work together to provide our nationwide system of universities with the research funding that is necessary to attack the disease. This Federal conduit role will allow universities to unravel the CWD mystery, while Federal agencies cooperate with them to provide vital insight through its own CWD programs within the United States Department of Agriculture and the Department of Interior.

Specifically, I call for a nationwide increase in diagnostic capabilities. There are some facilities across the nation that have already developed CWD programs, and these must be expanded. Others must be created. I also suggest the creation of a cost share program that would establish a statewide network of veterinarians who, because of their medical training, are perfectly situated to assist hunters and landowners who bring deer or elk to them for CWD testing. Undoubtedly, the spread of CWD and the increased awareness of the disease, will cause the demand for testing to grow exponentially—we must be prepared to handle a large volume of cases efficiently and reliably. We must develop new testing methods to help us understand the disease, as well as developing a live test. We must localize the disease. Ultimately, we must direct research for a cure.

The challenge we face is to achieve what we all recognize as a common objective—to understand CWD and to eradicate it. But, we must act quickly or this disease will redefine the wildlife characteristics of our states. I thank the Chairman for allowing my comments at this proceeding.

Mr. MCINNIS. We are going to move back to Dr. Miller. Let me just say as a caution to those of you who have not been in front of me before as guests of the Committee, shut the phones off. No pagers, no phones. If your phone rings, you will be asked to leave the room, so please do not do it and cause us an embarrassment.

Dr. Miller, you may proceed.

Dr. MILLER. Actually, I am at your service for questions. I am done with my formal comments.

Mr. MCINNIS. Just respond very briefly. I mean, we do not know how this disease started—

Dr. MILLER. We do not know how or when this disease started. There is lots of speculation, but the truth is that it has been around for quite some time. It has moved both with research animals and with privately owned animals. In all likelihood, it has also moved in the wild naturally. Quite honestly, what is done is done and I think we all need to look at ways to move forward from here, figure out where the disease is, and as Senator Allard indicated, try to get rid of it as best we can.

Mr. MCINNIS. Thank you very much.

Governor, thank you for making the effort to come down here. I really appreciate it. You have got a great State up there and we look forward to working with you from the Federal level. As I hope you noted in my earlier remarks, our role here is really to be assistance to your State, not to take over the ramrod of this thing. We depend very heavily on the resources that you have as far as expertise and so on.

So, Governor, welcome to the Committee. You may proceed.

STATEMENT OF HON. SCOTT McCALLUM, GOVERNOR OF THE STATE OF WISCONSIN

Governor MCCALLUM. Thank you, Mr. Chairman. I did note your earlier remarks and I am glad you did not repeat the Bronco-Packer portion, which is the only part I remember, Mr. Chairman.

[Laughter.]

Mr. MCINNIS. Keep in mind, I still control the Committee, so we may go back to that.

[Laughter.]

Governor MCCALLUM. Mr. Chairman, thank you and the members of the Subcommittee for holding the hearing on CWD, a disease that in Wisconsin, anyway, we believe is the most serious wildlife disease that we have ever faced, and is witnessed by the size of the Wisconsin delegation that is here. A majority of our Congressional delegation is here and I appreciate very much the support they have provided and the bipartisan fashion in which they are working to help us address this. If it were not for the time limit, I would say wonderful things individually about each of them, but I know there is a time limit, so I will move on.

I am joined, as well, today by Darrell Bazzell, who is our Wisconsin Secretary of the Department of Natural Resources, and Jim Harsdorf, Wisconsin's Secretary of the Department of Agriculture, Trade, and Consumer Protection. In Wisconsin, when we have discovered this disease, we said this is not going to be by department. It is not going to be partisan. So we immediately had our three agencies that will deal with this working together to set up a task force, a team to work with the public, the landowners, farmers, conservationists, hunters as to the approach we would take.

The concern about CWD from a national perspective did take a quantum leap when we learned on February 28 that it had been found in our State. It was a very sad day for us in Wisconsin. Although we are probably best known as America's Dairyland and producers of great cheeses and title town of the Green Bay Packers—I just added that on my own for you, Mr. Chairman—

[Laughter.]

Governor MCCALLUM. —we are also one of the top three deer States in the country. In the fall of 2000, hunters in our State harvested 619,000 deer. This is the highest annual harvest of white-tailed deer ever recorded by any State in the country.

In addition to our great wild deer herds, we have nearly 1,000 deer and elk farms in Wisconsin. We are among the nation's leading producers of farm-raised venison. Deer contribute, as was mentioned earlier, well over $1 billion to Wisconsin's economy.

I have set a State goal of eradicating CWD from Wisconsin, if possible, but we need Federal help if we are to do so.

Wisconsin is the easternmost State to find the disease in the wild and we have white-tailed deer that seem to be the most susceptible of the species to contract CWD. Perhaps the biggest concern is the scale of the issue that we are dealing with.

Over the last 10 years, our fall population of wild deer has averaged about 1.5 million animals. Our annual deer harvest is larger than the combined deer and elk harvest from Wyoming, Colorado, Nebraska, and South Dakota. Our 1,000 deer and elk farms are raising approximately 30,000 animals.

We have responded quickly as a State since February 28. In April, our Agriculture Department adopted new, stringent rules that prohibit the importing of captive cervids that have not been participating in the CWD monitoring program for 5 years. We are also requiring the testing of our deer and elk farms where animals leave the farm, dead or alive. We are recommending that the depopulation of the wild deer herd within a 300-square-mile eradication zone where we found CWD-positive deer. We estimate that prior to fawns being born this month, there are nearly 15,000 deer to be removed.

We can lower the deer herd to a point where CWD cannot sustain itself, and if we are going to do that, we may need to keep the deer herd at this level for three to 5 years. This is a tremendous sacrifice for local landowners and it will be a very costly project for the State.

We are also trying to lower the population in the 13 deer management units that surround the eradication zone by about 50 to 75 percent. This would require a deer harvest of nearly 100,000 additional deer.

Much like a major forest fire, CWD can overwhelm the disease-fighting resources of a single State. We need your financial assistance. In the roughly 80 days since we discovered CWD in Wisconsin, our State has spent $600,000 in responding, and literally hours ago, our legislature in a special session that I called passed a measure, bipartisan vote, to appropriate another $4 million. I say that in the context of what States are going through with very large State deficits, but that is how important it is in Wisconsin.

Nearly 2 months ago, I sent a letter to Secretary Ann Veneman asking for $18 million in Federal assistance over the next 4 years. I would like your assistance in any way that we can that the Federal Government will provide grants to State on the front lines trying to battle CWD.

The second area where we need immediate and comprehensive Federal assistance is in the diagnostic testing for CWD. Simply put, the total lab capacity in the country cannot match the testing

needs we have in Wisconsin alone. The CWD surveillance testing needs for Wisconsin over the next 12 months exceeds 60,000 animals.

The specter of "mad cow disease" in Britain and the recommendation from the World Health Organization that no one eat meat from a CWD-positive animal has caused concern among a large portion of the public. We have more than 700,000 deer hunters in Wisconsin, including myself and many of the members sitting on your panel. If just 15 percent of them, just 15 percent of them requested to have their deer tested for CWD, it would add more than 100,000 deer to the equation.

We are investing $900,000 in our Wisconsin Veterinary Diagnostic Lab to provide the capability to run the gold standard CWD test. We are also taking steps to prepare for the new rapid CWD tests when they are available. We need USDA assistance to provide training to our employees and to provide all the needed approvals to add our laboratory to seven existing labs within the existing CWD system.

We also have several private labs in Wisconsin poised to invest large sums of money and energy to meet the needs of Wisconsin hunters to have their deer tested. These private labs need a decision this month on whether USDA will allow CWD testing to be done by them, and if so, under what requirements. This is a fundamental question for our State. I urge USDA to find a way to constructively harness the energy of the private sector in the CWD war.

If we are to develop a national CWD strategy, we must realize that we cannot protect the deer and elk farms of our country without protecting the wild herds of deer and elk. To protect our wild herds, we must protect the captive herds. We need a comprehensive approach.

I will close by thanking you for holding this hearing and giving me the chance to represent Wisconsin's CWD needs. I also want to say thank you to APHIS for all the cooperation we have already received from both the Veterinary and Wildlife Service branches of their agency. The Wisconsin offices have done everything they can to help us combat CWD. Thank you.

Mr. McINNIS. Thank you, Governor.

[The prepared statement of Governor McCallum follows:]

Statement of The Honorable Scott McCallum, Governor, State of Wisconsin

Mr. Chairman, I want to thank you and members of this subcommittee for holding a hearing on Chronic Wasting Disease (CWD), a disease that I believe is the most serious wildlife disease we've ever faced. I am joined today by Darrell Bazzell, Wisconsin's Secretary of the Department of Natural Resources and Jim Harsdorf, Wisconsin's Secretary of the Department of Agriculture, Trade and Consumer Protection.

Now that Dr. Miller has done an excellent job laying out the basics of the disease, I and my colleagues from the great states of Colorado, Wyoming and Nebraska will attempt to describe how this disease is causing serious problems in our states. CWD presents the same very serious threat to all of us, but each state has it own unique challenges to deal with. I would like to share with you a Wisconsin perspective.

What's at risk?

The concern about CWD from a national perspective took a quantum leap when we learned on February 28th that it had been found in our state. It was a very sad day for us. To gain a full understanding of what I mean by that you need to learn a little about our state.

Although we are probably best known as America's Dairyland, a producer of great cheeses, and the home of the Green Bay Packers, we are also one of the top 3 deer states in the country. Wisconsinites cherish the scenic beauty of our state. The white-tailed deer is an integral part of that beauty. It is also our state wildlife animal. I'm not exaggerating when I say that for many in my state, the quality of their life is greatly affected by the health of the deer herd. In the fall of 2000, hunters in our state harvested 619,000 deer. This is the highest annual harvest of white-tailed deer ever recorded by any state in the country. In addition to our great wild deer herds, we have nearly 1,000 deer and elk farms in Wisconsin. We are among the nation's leading producers of farm-raised venison. Deer contribute over 1 billion dollars to Wisconsin's economy. We have a lot at risk and, quite simply, Chronic Wasting Disease is threatening our way of life in Wisconsin. Because of this, I have set a state goal of eradicating CWD from Wisconsin if at all possible. We need your help if we are to do so.

The Wisconsin Battleground

Wisconsin brings a whole new set of concerns to the CWD battleground. We are the easternmost state to find the disease in the wild and we have white-tailed deer that seem to be the most susceptible of the species known to contract CWD. Perhaps the biggest concern is the scale of the issues we are dealing with.

Wisconsin's wild and farmed deer herds, as with most states, have undergone great growth in the last 40 years. Over the last 10 years, our fall population of wild deer has averaged nearly 1.5 million animals. Our annual deer harvest is larger than the combined deer and elk harvest from Wyoming, Colorado, Nebraska and South Dakota. Our 1,000 deer and elk farms are raising approximately 30,000 animals. As you can see we have a very large at-risk population of animals in our state and left unchecked CWD seems certain to spread across our state.

We have responded quickly as a state since February 28th. In April, our Agriculture Department adopted new, stringent rules that prohibit the importing of captive cervids that haven't been participating in a CWD monitoring program for 5 years. We are also requiring testing for all our deer and elk farms where animals leave the farm, dead or alive. That same month, we collected more than 500 deer from the CWD-infected area to better determine the location and prevalence of the disease in southwest Wisconsin.

It is important that we all understand that CWD is the enemy here and to treat the disease, we must take drastic action. We are recommending the depopulation of the wild deer herd within a 300-square mile-eradication zone where we have identified CWD-positive deer. We estimate that prior to fawns being born this month, there are nearly 15,000 deer to be removed.

This week, Department of Natural Resource's staff began removing deer on state-owned land. Shortly, we will begin to issue deer removal permits to willing landowners to shoot deer to lower the population on private property. This fall, we will offer unprecedented, extended gun deer seasons and bag limits to allow hunters to take all the deer they can. Finally, we will offer state-assisted deer removal to landowners, if they desire.

We are working on a landscape that is nearly all privately owned. Without landowner and hunter cooperation in fighting CWD, our efforts will fail. Fortunately, the majority of landowners so far have indicated a willingness to help. This will be a long battle. If we can lower the deer herd to a point where CWD can't sustain itself, we may need to keep the deer herd at this level for 3–5 years. This is a tremendous sacrifice for local landowners and it will be a very costly project for the state.

We are also trying to lower the population in the 13 deer management units surrounding the eradication zone by 50–75%. This would require a deer harvest of nearly 100,000 additional deer.

How can the Federal Government help?

As I said earlier, we will need your help in fighting CWD. Much like a major forest fire, CWD can overwhelm the disease fighting resources of a single state. We do need your financial assistance. In the roughly 80 days since we discovered CWD in Wisconsin, our state has spent $600,000 in responding.

This week I called our state legislature into special session to approve $4 million dollars in emergency state funding and helpful statutory changes to fight the disease.

Nearly two months ago, I sent a letter to Agriculture Secretary Ann Veneman asking for $18 million in Federal assistance over the next four years. Today, I would like your assurance that the Federal government will provide grants to the states that are on the front lines fighting CWD. Wisconsin will do everything it can to help prevent CWD from spreading to other mid-western states.

The second area where we need immediate and comprehensive Federal assistance is the diagnostic testing for CWD. Simply put, the total lab capacity in the country cannot match the testing needs we have in Wisconsin alone. The CWD surveillance testing needs for Wisconsin over the next 12 months exceeds 60,000 animals. This figure, which is likely not achievable, includes testing deer from the eradication zone, the surrounding 13 deer management units, and surveying as much of the rest of the state as we can handle. If we add the testing desired for food safety reasons, the number increases dramatically.

Dr. Miller indicated that CWD is a disease of perception in terms of the human health risk. I couldn't agree more. It is comforting that CWD has not yet been documented to cause human illness and that the CWD prions have not been found in venison. However, the specter of Mad Cow disease in Britain, and the recommendation from the World Health Organization that no one eat meat from a CWD positive animal, causes concern in a large portion of the public. We have more than 700,000 deer hunters in Wisconsin. If just 15% of them request to have their deer tested for CWD, it will add more than 100,000 deer to the equation.

Currently, Wisconsin has no in-state testing capacity, but we are moving quickly to change that. We are investing $900,000 in our Wisconsin Veterinary Diagnostic Lab, to allow us to run the gold standard CWD test. We are also taking steps to prepare for the new rapid CWD tests when they are available. With luck, we may be running some tests by early summer. We need USDA APHIS assistance to provide training to our employees and to provide all the needed approvals to add our laboratory to the seven existing labs within the national CWD system.

We also have several private labs in Wisconsin poised to invest large sums of money and energy to meet the needs of Wisconsin's hunters who want their deer tested. Deer season starts September 14 and much work needs to be done in the next 120 days if they are to offer testing. These private labs need a decision this month on whether USDA will allow CWD testing to be done by them, and if so, under what requirements. This is a fundamental question for our state.

I urge USDA to find a way to constructively harness the energy of private enterprise in the war on CWD. If confidence in the safety of venison falls and causes deer hunters not to participate in the gun deer season, it will have many negative consequences. First and foremost, the growth of the herd will have negative impacts on agriculture, native vegetation and vehicle-deer collisions.

The Federal Government could also act as a clearinghouse or repository of critical CWD information for access by states and the general public. For example, the disposal of carcasses from CWD-infected areas has received a lot of discussion in Wisconsin. I suspect the Federal agencies have already addressed this issue and could save states a lot of time if they shared their analysis.

Finally, there are many key and basic research questions about CWD that we need help answering. How does the transmission of CWD occur? Is CWD contamination of the environment a key factor? Does CWD act the same in white-tailed deer as in mule deer or elk?

As we develop a national CWD strategy, we must realize that we can't protect the deer and elk farms of our country without protecting our wild herds of deer and elk. To protect our wild herds, we must protect the captive herds. We need a comprehensive approach.

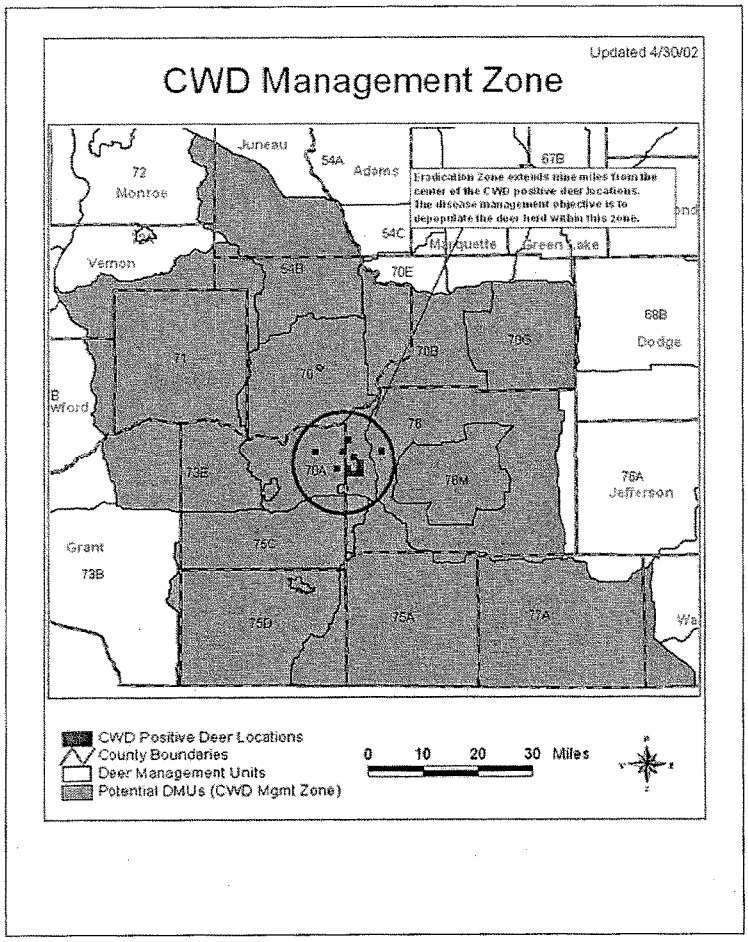
I will close by thanking you for holding this hearing and giving me the chance to represent Wisconsin's CWD needs. I also want to say thank you to APHIS for all the cooperation we have already received from both the Veterinary and Wildlife Services branches of your agency. Your Wisconsin offices have done everything they can to help us combat CWD.

ATTACHMENTS:

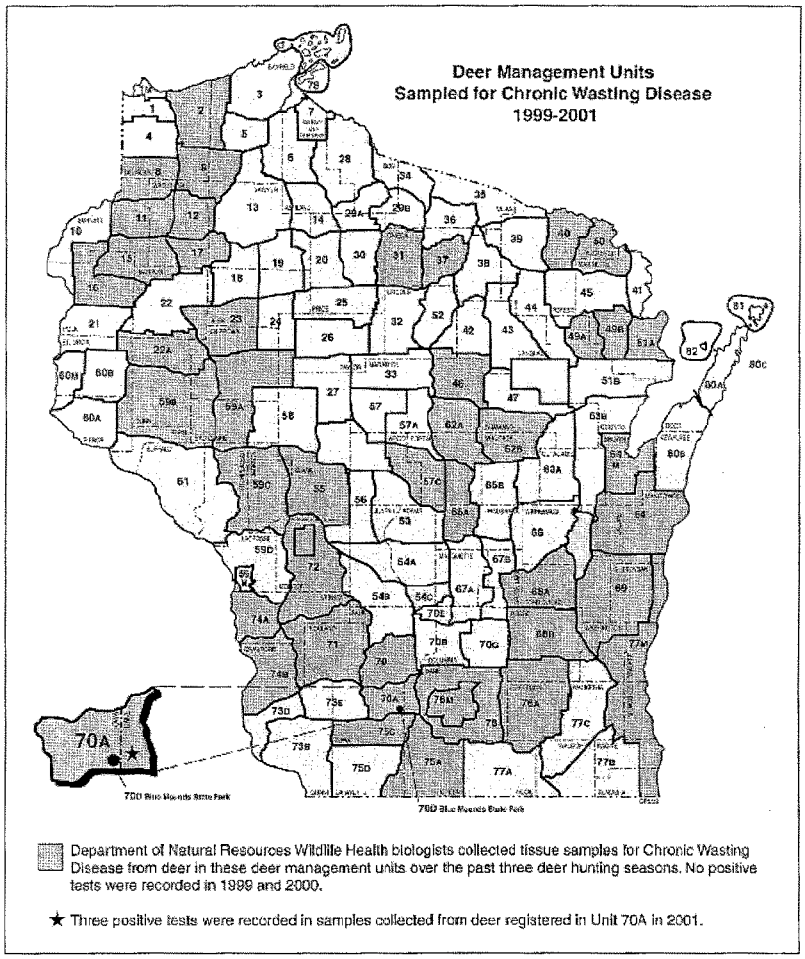
ADDITIONAL WISCONSIN CWD INFORMATIONAL DOCUMENTS

- Map of CWD eradication zone and surrounding CWD management zone.
- Map of where CWD testing has occurred in Wisconsin.
- Map of deer and elk farms in Wisconsin.
- Request to Secretary Veneman for financial assistance.
- CWD Research Priorities

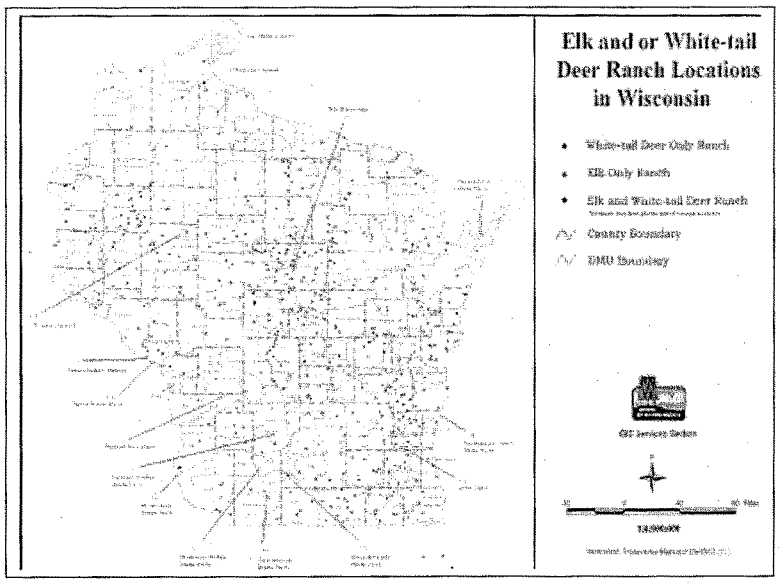
Attachment 1
Map of CWD eradication zone and surrounding CWD management zone



Attachment 2
Map of where CWD testing has occurred in Wisconsin



Attachment 3
Map of deer and elk farms in Wisconsin



SCOTT McCALLUM

Governor
State of Wisconsin

March 19, 2002

The Honorable Ann M. Veneman
Secretary of Agriculture
United States Department of Agriculture
Room 200A, Jamie L. Whitten Building
1400 Independence Avenue SW
Washington, DC 20250

Dear Secretary Veneman:

I am requesting your assistance in obtaining the immediate release of money from the appropriate emergency funds to enable the State of Wisconsin to respond effectively to Chronic Wasting Disease (CWD), which has been diagnosed in free-ranging white-tailed deer in southwestern Wisconsin.

The primary workload will fall upon the Wisconsin Departments of Agriculture, Trade and Consumer Protection (DATCP), Natural Resources (DNR) and Health and Family Services (DHFS). These agencies have responsibility to protect the health of domestic animals including captive elk and deer, to ensure that information regarding human risk is current and accurate, to maintain surveillance of Creutzfeldt-Jakob Disease (CJD) in humans, and to protect the health of the free-ranging wildlife.

The agencies are already directing substantial resources to identify the scope and magnitude of the problem. As I write this letter, efforts are underway to collect and process samples from 500 white-tailed deer in the area surrounding the town where the positives were harvested. DNR staff is working with USDA's Animal and Plant Health Inspection Service (APHIS) and local landowners, and DATCP staff is interviewing owners of captive deer and elk in the surveillance area and statewide. DATCP also is beginning the process of examining health records and enrolling the herds in a CWD monitoring program. DHFS staff is involved in responding to the concerns of hunters, meat processors, taxidermists and others.

While the initial response of the three agencies to the finding of CWD in wild deer has been emergency-based, we anticipate that this problem will be with us for a long time. CWD is not, as experience in the Western states has shown us, a short-term problem. We expect to be dealing with CWD and the collateral issues for years to come. The State of Wisconsin is hopeful that APHIS is in a position to assist us in dealing with this long-term challenge.

I have identified the needs we foresee both in the short term (next 12 months) and during the next three to five years for the three agencies:

P.O. Box 7863, Madison, Wisconsin 53707 . (608) 266-1212 . FAX (608) 267-8983 . e-mail: wisgov@gov.state.wi.us

Salary and Fringe Benefits for Project and Permanent Positions

FY02 – $1,070,037 **FY03 through FY06** – $1,588,900 per year

Supplies and Services

FY02 – $1,321,780 **FY03 through FY06** – $1,500,240 per year

Total Resource Needs for DATCP, DHFS and DNR

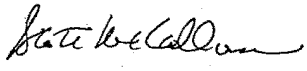
FY02 – $2,391,817 **FY03 through FY06** – $3,089,140 per year

I have attached the specific agency requests for funds to this document.

The State of Wisconsin has taken a proactive approach to monitoring and controlling CWD and it is through those efforts that the disease was detected in our white-tailed deer herd. We now need assistance in our efforts to manage this problem.

I look forward to hearing from you soon.

Sincerely,



Scott McCallum
Governor

ATTACHMENT 5

WISCONSIN'S THOUGHTS ON CWD RESEARCH NEEDS

Development of Alternative Diagnostic Tests: Current tests for CWD require killing the animal and removing the brain stem. Preparation and laboratory analysis then takes almost a week. In addition, laboratory capacity for CWD diagnosis is limited to a small number of labs around the country. Development of rapid diagnostic tests and the capacity to process many samples are needed to test the large volume of hunter-harvested deer and to quickly assure Wisconsin's hunters about the test status of their venison. In addition, development of an effective live animal test is needed for the deer and elk farmers. Better understanding of environmental contamination and the ability to reliably disinfect disease-impacted captive facilities are critical for effective regulation of Wisconsin's captive deer and elk industry.

Disease dynamics: Understanding disease dynamics in white-tailed deer is a critical, fundamental research need. There is no current research available on CWD dynamics in white-tailed deer populations—high density or otherwise. Available information on the rate at which animals become infected, the time required for infected individuals to become infectious and to develop clinical symptoms, and the time span before infected animals die must be inferred from a small body of research on other deer species (mule deer and elk). Anecdotal information suggests that progression of CWD in white-tailed deer may be quicker than in these other species. We need to understand the dynamics of CWD to understand the current risks and develop effective control strategies. Basic information is also needed on the current distribution and prevalence of CWD within Wisconsin.

Disease Transmission: Mechanics of transmission is essential knowledge needed to control the spread of CWD throughout Wisconsin's deer herd. Despite 20 years of research on western deer species, we do not have a complete understanding of transmission routes from one animal to another. Current research is addressing transmission in mule deer in Colorado and the transmission process may be similar between species of deer and elk. However, thorough understanding of the transmission process and the mechanism by which CWD spreads in Wisconsin's white-tailed deer is critical for development of effective management strategies to combat this outbreak and to prevent future outbreaks. Information is needed on the mechanism of transmission between wild and captive deer and elk. In addition, transmission of the disease from the environment (water, soil, etc.) to deer and persistence of the disease in the environment needs to be investigated to understand the long-term implications of the disease and to make informed decisions on responsible disposal of deer carcasses that hunter may not want to consume.

Population and Social Dynamics of White-tailed Deer: An understanding of the population and social dynamics of white-tailed deer in the CWD affected area is essential. The population consequences of CWD, the rate of spread, and the ability to manage the outbreak are all driven by the population and social dynamics of the host species. Available information on population consequences is limited to low-density mule deer in Northeastern Colorado and Southeastern Wyoming. The role of population density on the rate of spread of CWD needs to be known. Rates of reproduction, natural and human-caused mortality, and dispersal in eastern white-tailed deer populations are likely very different from those of Rocky Mountain mule deer. Knowledge of the movements of white-tailed deer is specific to the habitat occupied and may determine the likely rate of spread of CWD and how large an area surrounding the infected area should be included for special management. Increased understanding about the effect of CWD infection on reproductive success and on mortality from other sources (hunter-harvest, deer-vehicle accidents, predation) is needed to accurately assess the effects of CWD on white-tailed deer populations. Species-specific differences in behavior may affect the rate of transmission between individuals and the spread of the disease within and between populations. All these population dynamics data are needed to model likely impacts and spread of CWD and to develop effective strategies to combat the disease.

Social Consequences: The area of southwestern Wisconsin affected by CWD is a landscape of privately owned small farms. The effectiveness of disease management efforts will depend primarily on the cooperation and participation of local landowners and deer hunters. Stakeholder attitudes toward the seriousness of CWD, their personal long-term goals for the deer population in the area, their willingness to cooperate and participate in disease management actions, and their perception of health risk to humans associated with venison consumption need to be known. The willingness of meat processors and taxidermists to handle deer in the infected area should also be known. Research on the human dimensions of CWD management will be critical for developing effective management strategies.

Interspecific Transmission of the CWD: Additional research is critically needed to understand the potential for CWD transmission to humans, other wildlife, and livestock. Research is underway evaluating if cattle can be infected by using the same environment or sharing food sources with infected deer. Additional current research is looking at the potential for CWD spread to humans, using primate models. Creutzfeldt–Jakob Disease (CJD) is the human analog of CWD. It is known to occur worldwide, and occurs in the USA at a rate of about 1/1,000,000 population, affecting primarily persons over the age of 65. A new form of this disease called new variant CJD has never been found in the USA, but has occurred in Europe, primarily in England, where the disease was presumably contracted by eating beef from cattle infected with bovine spongiform encephalopathy. New variant CJD tends to occur in much younger individuals than classic CJD. The Bureau of Communicable Diseases (BCD) of the Division of Public Health (DPH), in cooperation with the CDC, currently maintains surveillance for CJD-like disease when it occurs in persons under the age of 56. This is an effort to detect the new variant form of the disease if it ever occurs in the USA. The DPH proposes to enhance these surveillance activities by expanding them to include both forms of CJD in all ages using the following means:

- The Bureau of Health Information would perform surveillance of death certificates. Since CJD is invariably fatal, examination of death certificates is a fairly sensitive method of detecting potential cases. Cases in which CJD is listed as a cause of death would then be marked for follow-up investigation.
- Fund a fellowship within the UW Department of Neurology to perform medical chart reviews for the Bureau of Communicable Disease on possible CJD cases identified through the death certificate surveillance. This expertise in clinical

neurology does not reside within the BCD. Additionally, the funded Fellow would conduct at least two seminars for interested physicians and infection control practitioners to increase awareness of the CJD surveillance system and of the disease itself.

Monitoring of the Disease Management Program: Wisconsin is planning an aggressive management program to combat CWD. Given uncertainty associated with many aspects of this disease it will be critically important to monitor changes in disease prevalence, deer populations, and human attitudes over time to assess the effectiveness of the management program and to adapt management strategies as additional knowledge is gained. Important issues include the efficiency of alternative deer population reduction strategies and the impact of deer population reductions on changes in the prevalence of the disease across time and space. It will be necessary to integrate the results of field research into computer modeling to assess the effectiveness of management actions.

Mr. MCINNIS. Mr. George?

STATEMENT OF RUSSELL GEORGE, DIRECTOR, DIVISION OF WILDLIFE, COLORADO DEPARTMENT OF NATURAL RESOURCES

Mr. GEORGE. Good morning, Mr. Chairman. I am Russell George, Director of the Colorado Division of Wildlife. Mr. Chairman, it is a matter of enormous personal pride that I join you here together this morning.

May I say, first of all, thank you to the Committee and the Chairman for convening this hearing. Already, much is in motion because of the hearing. By drawing attention to this issue from this level, all of us have stepped up our efforts in communication with one another and in anticipation and planning for this enlarged level of discussion.

Mr. Chairman, I would like to commend your staff. They have been enormously helpful to us in all of this, and I have to admire how little time they had to become as knowledgeable and competent in this complex area of science as they have become. We appreciate their support.

Mr. Chairman, I have submitted a formal statement and remarks. I would ask that that statement be entered into the record, and then in the few moments I have, I am going to try to imagine how we can get our arms around this discussion.

You are going to hear many of the important and salient points about this process repeated a number of times from several sources, and even though I think we would rather not repeat, the fact that we do is emphatic, then, on the importance of each of those points.

Listening to the Governor of Wisconsin reminds me that our situations are so similar and that our respective staffs have been working together for a long time. We admire and appreciate that relationship, and may I say, Governor, I suspect we are going to get to see a lot more of each other and our staffs will, as well, as time goes on.

The Colorado Governor and Wisconsin Governor both have the same view of Chronic Wasting Disease. We need to get on it, get after it, be aggressive about it, try to stop it in its tracks if you can, and I appreciate that effort and I think that is exactly right.

In many ways, I think we know far less about Chronic Wasting Disease than we know, and therein lies the challenge. For example,

we do not know where the disease comes from, as you have heard from Dr. Miller. We do not know altogether how it is transmitted. We do not know how it remains in the environment or how long it remains. We do not know how to treat it. There is no treatment. So we do not know how to prevent it. We do not know how to stop it.

When you are talking diseases, that is a pretty significant lack of knowledge, and that is the key, I think, for all of us being here, is to recognize that and then together decide how do we begin to fill that absence of knowledge.

Now, we do know some things about Chronic Wasting Disease and I think it is important to emphasize those. In the first instance, I think it is important to recognize that there is no evidence that Chronic Wasting Disease poses a threat to humans. In fact, what we do know suggests strongly that Chronic Wasting Disease is not a threat to humans. In Colorado, we have continued to coordinate and cooperate with the Colorado Department of Public Health and Environment and with the National Centers for Disease Control. We like to rely upon the experts in human health to talk to us about the relationship of Chronic Wasting Disease and human health, and we are working from the point of view that there is virtually no risk of Chronic Wasting Disease to human health. It is very important for us to focus on that.

Likewise, we may say that there is no science to support any concern that Chronic Wasting Disease is a risk to other livestock health. This is other than elk and deer. But there is no reason to believe Chronic Wasting Disease is a problem in domestic livestock health issues. But again, those are scientific inquiries. We need to always focus our attention and be sure that that is true.

Other things we know about the disease. We know it is infectious. We know it passes from animal to animal. We know it passes from the environment to animals. We also know that the disease knows no difference between wild deer and domestic deer. The disease knows no difference between wild elk and domestic elk. The disease knows no fences, and clearly, as we have talked today, the disease does not recognize State boundaries.

The other thing that we know is that once an animal is infected, that is a dead animal. It is that certain. Once infected, the animal is dead, and that is where we are at this point in time in science.

We also know that if we do nothing, the disease will not go away. Others will say to you that, well, Mother Nature provided it to us, Mother Nature will take care of it. That is not good wildlife management, I submit to you, and the modeling that we have done tells us that quite the opposite is true. Now, bear in mind, modeling is just that. It is a projection based upon whatever data you put into it. But our models tell us that if we leave it where we find it, in about 50 years, in all likelihood, it will wipe out the herds that it has infected.

Think of Colorado or Wisconsin or Wyoming or anywhere in the United States without healthy large herds of deer and elk. That is not where we want to be with this. So that is why it is critical that we have the hearing here today. It is critical why we work in every way we can on this.

The States have stepped up to the plate on this. I am satisfied we have done a great deal. The Governor has talked about Wisconsin's efforts. Colorado has a similar long list of things that we have done and will continue to do.

We have been working with Chronic Wasting Disease for about 20 years now. You heard earlier that it was first recognized as a separate, distinct disease in research facilities in Colorado, 20, 30 years ago. We have worked with it in the wild for those years in the northeast part of Colorado.

Before this latest incident in western Colorado, we had already stepped up our efforts considerably in the Colorado Division of Wildlife, recognizing the importance of getting ahead of this disease. Our policy in Colorado has been to locate the disease wherever we find it, get our arms completely around it, define its outer boundaries, and then move those boundaries inside and try to, if not eradicate, certainly lower the incidence of the disease until we think we have it at a level that is manageable so that there is less infection over time instead of more.

Then as this new incident occurred in western Colorado, it caught us by surprise because we had been testing and we were confident from all of these tests that we did not have it there. But it is there, we think in a small area and a small amount, but it just reminds us that Mother Nature is in charge here and there is not all that much we can do to manage it.

Mr. Chairman, I could go on, but that is my time. I appreciate your indulgence on it. I will be available for questions. But thank you very much for having us here.

Mr. MCINNIS. Thank you, Mr. George. That was very helpful.

[The prepared statement of Mr. George follows:]

Statement of Russell George, Director, Division of Wildlife, Colorado Department of Natural Resources

Good morning, Mr. Chairman. I am Russell George, Director of the Colorado Division of Wildlife. Thank you for the invitation to appear before you today to address the important topic of Chronic Wasting Disease, commonly referred to as CWD. As you know, the State of Colorado has been dealing with the challenges presented by this disease for more than 20 years. Despite our experience, research and control efforts, much about this disease remains unknown and today CWD commands more of our attention and resources than ever before.

The recent and unprecedented appearance of CWD in the western half of Colorado has forever changed our management approach. In situations where the disease appears poised to spread beyond its historic range in our state, as in the case of the West slope incident, we will aggressively attempt to eradicate it. Such an undertaking may require considerable money and manpower. In recognition of that fact, our Legislature, at the request of Governor Owens, recently approved a significant amendment to our budget. That amendment provides the Division of Wildlife with an additional $1.9 million in resources to combat this threat to our wild deer and elk.

I would like to emphasize that the appearance of CWD outside of its previous historic range in northeastern Colorado threatens more than just the elk and deer of our State. If allowed to persist unchecked, the disease has the potential to negatively impact rural economies that rely heavily upon tourism and hunting—activities that are directly dependent upon abundant and healthy wildlife. It is for these reasons that the Governor of Colorado requires an aggressive approach to controlling and eliminating CWD. Last month Governor Owens also appointed a special State task force of affected interests and experts to monitor our management progress and to recommend new actions to combat this threat. He has also joined with other Western Governors to exchange information and to facilitate a more coordinated regional management approach. Such sharing and coordinating of information will be a key to the successful management of CWD.

Chronic Wasting Disease was considered a western concern for quite some time because within the United States, CWD had been diagnosed only in farmed (captive) cervids in the states of Montana, South Dakota, Colorado, Nebraska, Oklahoma and Kansas. Furthermore, it had only been confirmed in wild (free-ranging) deer and/or elk in the states of Wyoming, Colorado, Nebraska and South Dakota. The recent outbreak of this disease in the State of Wisconsin underscores the fact that CWD is a truly a national concern, no longer one "safely" confined to the West. It is now more important than ever that cooperation and communication occur at both the state and Federal levels.

Please allow me to highlight some areas I consider ripe for state-Federal cooperation or partnership.

Monitoring and Surveillance

Many state wildlife agencies will increase efforts this fall to monitor the distribution and prevalence of CWD in wild populations of cervids, especially states with elk or deer game farms. Relying solely upon testing of symptomatic or "clinical" free-ranging animals will no longer suffice in many cases. States must also be prepared to cull wild deer and elk in situations where hunter-supplied samples are inadequate or nonexistent. Considerable staff time and equipment are required for such an undertaking. If existing equipment such as vehicles, trailers and ATV's are used replacement equipment may be required because of concerns about allowing potentially contaminated items outside of areas where known CWD positive animals exist. In some situations, aircraft may be required to position staff, cull animals and remove carcasses from inaccessible areas. The use of Federal employees, equipment and facilities could be helpful in many of these situations. Congress should give clear direction to appropriate agencies to help state efforts.

Testing

We are very concerned that state, regional and national testing labs will not be able to timely process the volume of samples anticipated this fall as a result of the discovery of CWD in Wisconsin and on the West slope of Colorado. In addition to the increased surveillance desired by wildlife managers and the public, hunters will want assurances that their wild game is safe to eat. These demands will contribute significantly to laboratory workloads around the country. Meeting this demand will require existing labs to gear up or otherwise convert their operations. Expanded or new facilities are likely to be required as well. We have had some preliminary discussions with Federal agencies for access to their lab facilities, but we need to be sure they can more quickly provide those resources. Additional lab facilities will be needed by September to meet hunter demands. The help of this committee and Congress will be crucial in helping us reach our goal.

Depopulation

Agricultural and wildlife agencies must be prepared to depopulate exposed or suspect captive herds. These agencies must also be able to destroy carcasses following testing. Thus far, carcasses have been chemically digested, incinerated or buried in landfills. Each approach requires additional funding and equipment not traditionally available. Federal help in sharing in those costs will be vital.

Proactive Approaches

In addition to managing CWD where it has been found, agencies need to consider aggressive means to limit the spread of the disease. Two efforts that will require additional funds are whole-herd buy-outs and double fencing of all existing captive-cervid facilities. We have undertaken both of these steps in Colorado, but we must be prepared to do more to prevent the spread of CWD to new areas.

Research and External Peer Review

An increase in research on TSEs in general and CWD in particular is needed. The management of CWD requires a thorough understanding of transmission, etiology, natural host range, and relationship to other TSEs, as well as the development of tools to diagnose, treat and prevent CWD. The Federal Government can facilitate collaboration and encourage wildlife-specific research by using such incentives as cost sharing or research grants to state wildlife, agriculture and public health agencies. Concerned publics will be more comfortable with management actions that are securely grounded in science. In some cases the science is not keeping pace with management demands. As a result, some segments of the public are questioning state agency strategies and plans. Federal government coordination of support for professional peer review of state and regional efforts will help address the public's concerns.

Communication and Education

Around the country, state agricultural, wildlife and public health agencies are working to independently develop communications strategies and capabilities. Public interest and concern regarding CWD is increasing exponentially. Popular literature, web pages and public presentations are in ever-greater demand. Again, agency staff and funding are severely strained as a result. Federal assistance to develop products to ensure timely and consistent information on this issue of national concern will be important.

National Role in Developing Uniform State Standards for the Captive Cervid Industry

Individual states have begun to adopt or consider a variety of regulations governing the testing, monitoring, identification, movement and record-keeping of captive deer and elk. It is becoming increasingly more difficult for the captive cervid industry and for state regulatory agencies themselves to track and comply with these varied rules. Thus there is a great need for states to cooperate in establishing uniform, science-based regulations that will protect both wild and captive herds from CWD. Existing Federal regulations that apply to captive cervids (e.g., U. S. Department of Agriculture's Interim Rules regarding CWD) should be reviewed to ensure that wild cervids are adequately protected and for consistency with these uniform state standards.

Before I conclude, I would like to make you aware of several activities the State of Colorado is engaged in regarding CWD. I have already mentioned the Governor's CWD Task Force. I would also like to note that the Colorado Division of Wildlife is co-hosting a national conference on CWD in Denver on August 6–7, 2002. In addition, we are participating in a multi-state effort to develop a more uniform and consistent state approach to managing CWD in wild deer and elk. We have also initiated external peer review of our management activities to date. I am proud to say that Dr. Mike Miller of our staff continues to conduct and collaborate on groundbreaking CWD research with others around the country.

In summary, I would like to emphasize that there are many opportunities for the Federal Government to assist States in CWD management and research. That assistance can be provided in such forms as expertise, personnel, equipment, facilities, regulations, policy and funding. For example, Colorado alone has identified a need for more than $5 million in research, control and testing needs beyond what we have been able to provide at the state level. I would urge you to consider the most streamlined and efficient mechanisms for making such funding available including direct block grants to the states, grants that pass through no more than one Federal agency, or simple cost-sharing.

This is also an appropriate time for me to state that I view state wildlife agencies as having the primary responsibility for managing wild cervids. State wildlife agencies have acted quickly in response to CWD outbreaks. While we do need additional tools, this should not cause a shift of primary jurisdiction over resident wildlife to Federal agencies.

Thank you for the opportunity to share my thoughts and concerns regarding Chronic Wasting Disease with you and your distinguished colleagues. I would be pleased to answer any questions you might have.

[The response to questions submitted for the record by Mr. George follows:]

June 28, 2002

The Honorable Scott McInnis
Chairman, Subcommittee on Forests and Forest Health
Committee on Resources
U.S. House of Representatives
Washington, DC 20515

Dear Members,

Before answering the questions you submitted on June 4, 2002, I would like to express my sincere gratitude to the members of the Subcommittees on Forests and Forest Health, and Fisheries, Conservation, Wildlife and Oceans for your joint efforts on this extremely important issue. You have provided the forum to increase the public's awareness and elevated the discussion to a point where real progress is within sight. I look forward to continuing our work together as we develop the cooperative state-Federal model that will give us the best chance to effectively man-

age Chronic Wasting Disease. The stakes could not be higher and I am grateful for your interest and cooperation in this matter.

If I or any member of my staff can be of further assistance to you, please do not hesitate to call on us.

Sincerely,

Russell George
Director

Attachment

QUESTIONS FROM THE MAJORITY:

What do you consider to be the appropriate role for the Federal and state governments to play in managing Chronic Wasting Disease (CWD) in free ranging wildlife?

The respective states have historically maintained plenary authority and responsibility for wildlife within their borders. CWD presents an unprecedented challenge to state agencies charged with the responsibility for managing wildlife. State governments, however, most appropriately address this challenge. Maintaining state autonomy will allow for streamlined management and allow states to develop management strategies specifically designed to address CWD within their borders. As an example, Wisconsin faces a different set of challenges than Colorado. Each state should have the ability to develop management schemes specific to their situation while working cooperatively with each other. Federal oversight would impede the ability of states to respond quickly and effectively to new developments within their state.

The Federal Government is not without a significant role in the battle to control and hopefully eliminate CWD. The recent availability of funds to buy out exposed elk ranches in Colorado will have a positive impact on our ability to manage this disease. Additional funds may be necessary for future buy outs and Federal participation will be critical. In addition, as Governor Scott McCallum testified to your committee, the Federal Government is uniquely able to act as a repository and clearinghouse for critical CWD information. The Federal Government will also play a critical role in the development of research. Block grants to the respective states to facilitate and expedite ongoing research will be critical. The Federal Government should take advantage of the opportunity to initiate additional research projects to fill in gaps of knowledge or to expand on existing research consistent with the parameters outlined in response to Question 2 from the minority, infra.

What are some of the differences in managing this disease in game animals compared to free ranging animals? Will applying the theories and practices behind management of CWD in game animals be effective and/or efficient in managing CWD in free ranging animals? Please explain.

In the U.S., CWD is best viewed as two separate epidemics. One involves free-ranging cervids and the other involves captive deer and elk. Neither of these epidemics is particularly new. Both epidemics are relatively well described, particularly in comparison to scrapie in the U.S. CWD is naturally maintained in both free-ranging and captive cervid populations, and thus management will be challenging in both settings. In the short term, CWD in captive deer and elk is much more likely to be manageable than CWD in free ranging cervids. New knowledge on CWD and other TSEs will factor into future plans for further understanding and managing both problems. There are many similarities between the strategies adopted to manage CWD in wild deer and elk and those used in the management of the disease in captive deer and elk. Much remains to be learned in both cases. What we learn as a result of management in either situation will be of some value in the other environment.

We know that CWD represents a significant threat to the health and long-term stability of free ranging deer or elk resources that are an important component of both the ecology and the economy of virtually every state in the U.S. According to published model forecasts of CWD epidemics in deer populations, unmanaged outbreaks will likely devastate infected herds over a period of several decades. In the interim, the public value of these infected herds may well be diminished, simply by virtue of their status as CWD-infected. At present, the threat posed to our valuable wildlife resources seems more than sufficient to justify more aggressive actions, fostered by state and Federal cooperation designed to identify and contain foci of infection and where possible, eliminate Chronic Wasting Disease from our nation's free-ranging deer and elk populations. The potential adverse impact to the captive indus-

try pales in comparison to the impact that would be felt by state and local economies throughout the country if CWD were allowed to expand unchecked in wild deer and elk populations.

Should the Federal Government support the management of wildlife for the sake of wildlife rather than as a potential source for infection for game herds? Why?

The intrinsic value of wildlife alone justifies management for its own sake. In addition to its intrinsic value, wildlife provides immeasurable contributions to the quality of life for the residents of Colorado and its visitors. Healthy deer and elk populations provide recreational opportunities for both hunters and those who come to Colorado for the chance to view these majestic animals in their natural environments. Local economies receive millions of dollars in revenue from hunting and wildlife related recreational activities. Public ownership of wildlife, and the concomitant obligation to protect this public resource, is a uniquely American concept. The support of the Federal Government, both fiscal and through additional research is consistent with the concept of public ownership of this important resource.

While the Colorado Division of Wildlife understands and supports efforts to control and eradicate CWD in captive facilities and game farms, the value of wildlife both intrinsically and for the economic benefits provided justify protection of wildlife as a distinct objective.

Mr. McInnis has introduced a bill to define the Federal role in managing CWD in deer and elk, and to define the authorities of the Federal agencies. An important element assures that Federal wildlife agencies partner with state wildlife agencies and that Federal agriculture agencies partner with state agricultural agencies. Could you comment on this bill?

The concept of Federal partnership with the corresponding state agencies appears to be entirely appropriate under the circumstances. The needs of agriculture and wildlife overlap in many areas but are entirely distinct in others. For instance, both agriculture and wildlife would benefit from research that would explain the method of transmission between animals. On other issues, the interests are more discreet and don't have direct overlap. For instance, U.S. Fish and Wildlife (and the other branches of the Department of Interior) would play an important role in supporting management of CWD in wild cervid populations. Both the U.S.D.A. and U.S. Fish and Wildlife Agency will play significant roles in helping control and manage CWD. Each agency would presumably act as a repository and clearing house for information and scientific data relative to CWD. U.S.D.A. would focus on agricultural impacts and data while U.S. Fish and Wildlife would most logically compile and disseminate data on impacts of CWD on wild cervid populations throughout the United States. In addition, the block grants and other forms of financial assistance would most efficiently flow through the Federal agency with the greatest area of concurrent jurisdiction, e.g. money for the depopulation of captive facilities through U.S.D.A and reimbursement for state wildlife agency culling effort expenditures through U.S. Fish and Wildlife.

QUESTIONS FROM THE MINORITY:

What is the most effective way to get the States monies for research? Does it make sense for the Federal government to cost share with the States?

The most efficient delivery system for facilitating research on CWD would most likely include a streamlined process for making block grants available with a minimum of billing and reporting requirements. Resources spent insuring compliance with Federal requirements will only reduce the available resources for researching and managing CWD. Open-ended grants that allow the grantee to select which objectives or projects are most in need of resources would provide optimum flexibility for the states and at the same time ensure that Federal funds were spent in an appropriate manner. For example, a CWD block grant might contain objectives such as the reduction/elimination of CWD positive deer/elk, reduction/elimination of CWD exposed captive deer/elk, research in transmission of CWD between species or within the same species. The state applicant would select the projects that are most important to their situation and propose funding levels for each project within a total state allocation.

Colorado supports cost sharing on the research and management of CWD. We support a relatively high percentage of Federal participation but think its important for the respective states to show a commitment to expanding the knowledge base relative to the management and research of CWD in both wild and captive cervids.

What type of research should the Congress fund to help us better understand how the disease is transmitted?

An increase in research on TSEs in general and CWD in particular is needed. The management of CWD requires a thorough understanding of transmission, etiology, environmental persistence, natural host range, relationships to other TSEs, as well as the development of tools to diagnose, treat and prevent CWD. Additional research on variations in genetic susceptibility of deer and elk is also needed. The Federal government can facilitate collaboration and encourage wildlife specific research by using such incentives as cost sharing or research grants to state wildlife, agriculture and public health agencies and universities. Concerned publics will be more comfortable with management actions that are securely grounded in science. In some cases the science is not keeping pace with management demands. As a result, some segments of the public are questioning state agency strategies and plans.

Mr. MCINNIS. Dr. Thorne?

STATEMENT OF E. TOM THORNE, D.V.M., CHIEF OF SERVICES, WYOMING GAME AND FISH DEPARTMENT

Dr. THORNE. Thank you, Mr. Chairman, for this opportunity to speak to the Subcommittee on Chronic Wasting Disease and on the critical needs that the State of Wyoming has for Federal funding in dealing with this disease in our free-ranging deer and elk.

Governor Jim Geringer has asked that I stress to you, along with the other Governors, how important Chronic Wasting Disease is regarded to be in the State of Wyoming. We commend you and the other Subcommittee members for recognizing the significance of CWD to affected States and for exploring how Congress and the Federal Government may help.

I have been working with wildlife diseases for approximately 30 years in a research and management and an administrative perspective. You can tell by my gray hair, I have been working on them a little bit longer than Dr. Miller has, and I think both Dr. Miller and I would agree, we have never seen this kind of national interest in a wildlife disease before and I think that is quite significant.

Mr. Chairman, I submitted a written statement for the record, and if you would accept that, I will summarize my comments here.

Wyoming has been addressing Chronic Wasting Disease since 1978 and we have done considerable work to outline the area that is involved. Like Colorado, we have it as an endemic disease. It occurs in about 11,000 square miles of southeast Wyoming and we have worked hard to retain it in that area.

We participated in a great deal of research on Chronic Wasting Disease. We are lucky in Wyoming in that we have some of the world's leading scientists on Chronic Wasting Disease. We have a long track record of cooperative and collaborative research with the folks in Colorado. Between us, we have some of the best facilities and some of the best scientists for working on research on Chronic Wasting Disease.

In the last couple of years, there have been literally thousands of farm deer and elk that have been killed to control the disease within the farm elk and deer industry and this has cost the Federal Government millions of dollars, primarily in the form of indemnity to pay for the losses of those animals. Similarly, in other States, and Wyoming is not one of them, where there have been new foci of infection, those States are responding by killing large

numbers of free-ranging deer and this is also costing them a huge amount of money, but it is being done with State license dollars by the wildlife management agencies.

Somehow, there is a widespread belief that because no individual owns this wildlife, there is no loss when they are destroyed to control a disease. But, in fact, we all own these wildlife, they are important to all of us, and there are huge losses when they are destroyed.

Surveillance for Chronic Wasting Disease was initiated in Wyoming in 1983, and since then we have been dealing with surveillance, management and research, and public outreach and public information. We believe that public outreach is a very important part of the Chronic Wasting Disease program. We feel it is important that the public knows what is going on with Chronic Wasting Disease. We feel it is extremely important that we keep our hunters informed about the disease. They need to know, as Mr. George said, that we see no evidence that this is a disease that is transmitted to humans or that it makes a public health threat, but they need to know that the disease does exist and that it is one of the members of the transmissible spongiform encephalopathies.

Wyoming would like to expand its Chronic Wasting Disease program. We are in the process of preparing a Chronic Wasting Disease Management Plan that would incorporate and expand the activities that we currently have in place and we would like to address newly emerging issues. In addition, we are working with Wyoming, Nebraska, and Colorado on a multi-State CWD plan which should go further to coordinate our management activities.

The States with CWD in free-ranging deer and elk communicate frequently and they cooperate where it is practical. Wyoming and Colorado have been collaborating in many CWD research projects, and in addition, we have worked with and we want to recognize some of the Federal labs that have worked on this disease, especially the ARS labs in Pullman, Washington, and Ames, and the National Institutes of Health lab in Hamilton, Montana. They have played a significant role.

Recently, Secretary of Agriculture Ann Veneman declared a CWD emergency in order to free up money to combat CWD in the game farm industry. But the economic importance of free-ranging deer and elk eclipses the economic value of game farms, and yet very little Federal money has been made available to the States to pay for the very expensive management, surveillance, and research that is necessary for them to address Chronic Wasting Disease.

In conclusion, Mr. Chairman, I would like to stress that CWD is clearly a national problem and deserves Congressional attention, especially through funding to the States for CWD activities. A model is present by which Congress appropriates money to Montana, Idaho, and Wyoming to address another national disease problem. That one is brucellosis in free-ranging elk and bison in the greater Yellowstone area. Under that model, Federal dollars are appropriated through USDA APHIS for grants to the three States to participate in activities as they relate directly to brucellosis in free-ranging wildlife. Perhaps Congress could use a similar approach to this to provide financial assistance to the States for addressing CWD in free-ranging deer and elk.

Mr. Chairman, we appreciate your opening remarks this morning and the commitment that you stressed in preserving the very vital role of the States and their primacy for managing free-ranging wildlife. This is of critical importance to the States and we hope that through this exercise, we do not lose some of that.

Mr. Chairman, thank you for the opportunity to share these comments with you and I would be happy to answer questions.

Mr. MCINNIS. Thank you, Dr. Thorne.

[The prepared statement of Dr. Thorne follows:]

Statement of E. Tom Thorne, DVM, Chief of Services, Wyoming Game and Fish Department

Thank you, Mr. Chairman and distinguished members of the subcommittees, for the opportunity to comment on Chronic Wasting Disease (CWD) in Wyoming and on associated critical needs for Federal funding to states with CWD in free-ranging deer and elk. Governor Jim Geringer has asked me to represent him and Wyoming and asked that I stress that CWD is regarded to be of critical importance to Wyoming.

In Wyoming the Game and Fish Department and University of Wyoming's State veterinary Laboratory are responsible for CWD management, diagnostics, surveillance, and public outreach. We commend you and other subcommittee members for recognizing the significance of CWD to affected states and for exploring how Congress and the Federal Government can help.

Dr. Mike Miller, Colorado Division of Wildlife, has provided an excellent review of the science of CWD. I will not repeat the technical background he presented, but I hope you were impressed that CWD, a transmissible spongiform encephalopathy (TSE), is a very unusual disease about which there seem to be more questions than answers and which is very difficult to control. As much as anything, it is a disease of negative perceptions.

In Wyoming CWD was first detected in a deer at the Department's Sybille Wildlife Research and Conservation Education Unit in 1978; it was detected in a free-ranging elk in 1986 and a free-ranging deer in 1990. It was undoubtedly present long before it was detected in the wild or at the research facility, and it is impossible to determine if it occurred first in free-ranging or captive, research cervids. As far as we can tell, CWD is restricted to approximately 11,000 square miles of southeast Wyoming where it now is considered endemic. The University of Wyoming and Game and Fish Department have collaborated since the early 1980s on CWD surveillance, diagnostics, and research. Wyoming is fortunate to have experienced, world-recognized CWD researchers and outstanding facilities for CWD research at the Sybille Wildlife Research Unit and the University's Wyoming State Veterinary Laboratory.

Chronic Wasting Disease in free-ranging and captive deer and elk in southeast Wyoming and northeast Colorado was little more than a curious disease, which attracted little attention and even less research money until the late 1980s when the bovine spongiform encephalopathy (BSE, "mad cow disease") epidemic began to ravage the cattle industry of the United Kingdom. Although there may be more differences than similarities between CWD and BSE, CWD began to attract attention, but not research dollars, simply because it was, and still is, the only animal TSE known to occur in free-ranging, uncontrolled non-domestic animals.

Interest in CWD increased considerably after new variant Cruetzfeldt–Jacob Disease (nvCJD) in humans in the U.K. was linked to BSE in 1996 and when CWD was diagnosed in captive, commercial farmed elk in Saskatchewan in 1996 and in South Dakota in 1997. The increased attention being focused on CWD still was not accompanied by funding for research, surveillance, management, or public outreach. Indeed, except for a small amount of money for surveillance from USDA–APHIS, state wildlife management agencies in Colorado and Wyoming diverted money from other wildlife management needs to fund CWD activities related to free-ranging wildlife.

In 2001, Secretary of Agriculture Veneman declared a CWD emergency in recognition that CWD was about to be, if not already, out of control in the commercial farmed elk industry. Since then many millions of Federal dollars have been spent by USDA–APHIS to combat CWD in the elk farm industry. This is commendable and appropriate because, among other things, it reduced opportunities for transmission of CWD to new foci of infection outside the endemic area of southeast Wyoming and northeast Colorado. However, new foci of infection, at least one of which

is associated with a game farm, have been identified in Nebraska, Colorado, South Dakota, and Wisconsin within the last year. There are now five states with CWD in free-ranging deer, which in conjunction with CWD continuing to spread in the game farm industry, has resulted in CWD being regarded as a National crisis. The five states with CWD in free-ranging deer are now expected to aggressively address CWD and are responding as best they can, but they are receiving little or no Federal funding and do not have the necessary resources for these activities.

It could be stated that there are three types of CWD outbreaks now occurring in the United States and Canada: 1) Until CWD was discovered in the game farm industry, the only known CWD was in free-ranging deer and elk of southeast Wyoming and contiguous northeast Colorado. The disease also occurs in research facilities operated by the Wyoming Game and Fish Department and the Colorado Division of Wildlife within the affected area. This is the endemic area and is the only place CWD is known to be established as a self-maintained disease. Prevalence of CWD within the endemic area varies from less than 1 percent to approximately 15 percent. The size of the endemic area is likely increasing as the disease spreads, but spread appears to be very slow. 2) The second CWD outbreak is occurring in commercial captive cervids as the game farm CWD outbreak. Once introduced into a game farm, CWD appears to readily become established, although it may be years before it is detected. Prevalence of CWD in farmed cervids is variable, and in at least one case prevalence exceeded 50 percent. Game farm to game farm spread appears to readily occur, sometimes over great distances, via intrastate and interstate transport of affected game farm cervids. In at least one location, and probably others, CWD has moved to from farmed cervids to free-ranging deer outside the affected premise. 3) This has contributed to the third type of outbreak—CWD hot spots or new foci of CWD outside the endemic area. New foci of infection are cause for considerable concern, because, if the disease becomes established, they will become endemic areas where control or eradication may not be possible. It is possible, especially where high densities of white-tailed deer are involved, these new endemic areas could spread to involve huge multi-state and provincial areas of North America.

The advent of CWD in game farms and new foci of infection has resulted in the current CWD crisis and this Congressional hearing. Thousands of farmed deer and elk have been killed in attempts to control or eradicate the disease at costs of many millions of Federal dollars, primarily for indemnity to owners. Similarly, in new foci of CWD, thousands of deer are being killed in order to determine the extent of infection and in hopes of eradicating it before it becomes endemic. The difference is that where new foci of CWD are being addressed, it is being done not with Federal dollars, but state wildlife management agency resources and no indemnity is paid for publicly-owned deer and elk.

In Wyoming, game farms are highly restricted and there is only one elk farm; it is well outside the endemic area and does not have CWD. The scarcity of game farms in Wyoming probably explains why we do not have game farm CWD and have not identified any new foci of CWD.

Surveillance for CWD in free-ranging deer and elk in Wyoming was initiated in 1983, and CWD-related activities have been ongoing and expanding since then. These activities have addressed management, or containment, efforts; research; and information and education activities. Management and containment activities include: targeted and hunter-killed surveillance of CWD within and outside the CWD endemic area; prohibited translocation of live deer and elk from the endemic area; no movement of live deer and elk from the Sybille Wildlife Research Unit; killing deer and elk with symptoms suggestive of CWD to decrease opportunities for transmission; an unsuccessful attempt in 1987 to eradicate CWD at the Sybille Wildlife Research Unit by depopulating all deer and elk present; participation in numerous interstate coordination and research meetings; strict regulations requiring 60-month CWD-free certification before a new elk can be imported to the state's single game farm; and extensive, TSE diagnostic services at the Wyoming State Veterinary Laboratory.

Wyoming has some of the world's leading authorities on CWD and outstanding facilities for CWD research. Therefore, Wyoming is an active participant in CWD research, including: research to determine if CWD will transmit from deer to cattle; the pathogenesis of CWD in elk and deer; evaluation of a variety of blood and tissue tests for CWD; evaluation of tonsilar biopsy for diagnosis of CWD; mechanisms of transmission of CWD; studies of the presence of CWD in reproductive tissues; pathology of CWD and evaluation of changes over time; strain typing of CWD agents by bioassay and biochemical means; studies of the susceptibility of humans and cattle by molecular techniques and transgenic mice; studies of geographic distribution and dynamics of CWD; and an elk infectious dose titration study.

Wyoming regards information and education efforts regarding CWD to be important. This is especially relevant given the complex and unique nature of CWD and the high volume of misinformation in circulation and associated misperceptions regarding CWD. Public outreach efforts in Wyoming have included: numerous press releases, responses to telephone inquiries, and interviews with reporters, writers, radio, and television; agency-developed television and radio stories; training presentations to agency personnel; informational letters to limited quota hunters, taxidermists, and meat processors in the endemic area; informative letters to hunters whose animal tested positive for CWD during hunter-killed surveillance; identification of CWD-affected hunt areas and information on CWD in hunter information booklets and hunting orders; pamphlets on CWD; and production of a training video on CWD.

Wyoming would like to expand its CWD program and is in the process of preparing a CWD Management Plan that will incorporate and expand activities currently in place and address newly emerging issues. In addition, Wyoming, Nebraska, and Colorado are working on developing a multi-state CWD plan, which should further coordinate the states' CWD management activities.

States with CWD in free-ranging deer and elk communicate frequently and cooperate where practical. Wyoming and Colorado have and are collaborating in many CWD research projects. In addition, the states recognize and very much appreciate diagnostic services and advice provided by USDA National Veterinary Services Laboratory and crucial research conducted by USDA Agricultural Research Services laboratories in Pullman, Washington, and Ames, Iowa. The National Institutes of Health laboratories, especially at Hamilton, Montana, also have conducted important research on CWD.

As previously mentioned, the Secretary of Agriculture recently declared a CWD emergency in order to free up money to combat CWD in the game farm industry. But the economic importance of free-ranging deer and elk eclipses the economic value of game farms; and, yet, very little Federal money is being made available to states to help pay for very expensive management, surveillance, outreach, and research necessary to address CWD in free-ranging deer and elk.

In Wyoming, as an example, it is estimated that in 2001 deer and elk hunters spent $182.7 Million and supported approximately 4,800 jobs. In addition, elk and deer are important to Wyoming's tourism industry, which in 2000 contributed almost $1.5 Billion and 27,000 jobs to its economy. Deer and elk are of equal, or greater importance, to many other states. If CWD is left uncontrolled and is allowed to become endemic in other areas, it could adversely affect deer populations and, through negative perceptions, have severe impacts upon hunting and hunting's contributions to the economies of many states.

Although Federal agencies have limited jurisdiction for management or health of free-ranging deer and elk, CWD is clearly a national problem and deserves Congressional attention, especially through funding to states for CWD. A model is present, although much smaller in scale, by which Congress appropriates money to Montana, Idaho, and Wyoming to address another national wildlife disease problem—brucellosis in the Greater Yellowstone Area. Under this model, Federal dollars are appropriated to USDA–APHIS for grants to the three states to participate in Greater Yellowstone Interagency Brucellosis Committee activities as they relate directly to brucellosis in free-ranging wildlife. Perhaps Congress could use an approach similar to this to provide the financial support states desperately need to address CWD in free-ranging deer and elk.

Mr. Chairman, thank you for the opportunity to share these thoughts with you today. I would be happy to answer any questions you may have.

Mr. McINNIS. Mr. Morrison?

STATEMENT OF BRUCE MORRISON, ASSISTANT ADMINISTRATOR, WILDLIFE DIVISION, NEBRASKA GAME AND PARKS COMMISSION

Mr. MORRISON. Thank you, Mr. Chairman. I am Bruce Morrison of the Nebraska Game and Parks Commission and I would like to thank you and this Committee for giving CWD the national and Congressional attention it needs to address it properly.

I have also prepared a written statement, and if you will accept that for the record, I will brief it here.

The Nebraska Game and Parks Commission began surveying for Chronic Wasting Disease in 1997 in its wild deer and elk population after it had been discovered in a captive situation in our State. We discovered it in the wild in 2000 and since then have made additional confirmations of positive animals in Nebraska.

Nebraska Game and Parks Commission, as the other States have mentioned, has expended a large amount of money since 1997, over $1 million directly related to CWD efforts. This is mainly in surveillance, monitoring, and control. We do not have a research facility similar to Wyoming or Colorado, so we have been working closely with them on research. We need additional funding for that.

I would like to emphasize a few points in my time here. One is, as Dr. Thorne mentioned, the States are working together. We are developing a regional plan. We meet two to three times a year, and in March when we met, the Governor of Wisconsin sent representatives from their DNR, Department of Natural Resources, to participate, and that was sincerely appreciated.

So everybody that has confirmed CWD is working together via USDA. The Agricultural Research Service and APHIS have been very helpful in Nebraska and other places. So that Federal-State cooperation is occurring. The funding to make sure it continues is what is needed and the mechanism to set it in concrete, so to speak, so that we have one program nationwide addressing the CWD issue is there with the funding necessary that the States can utilize.

The APHIS program in the brucellosis area, I was going to mention. One of the benefits of being last is everybody covers your points, so you have got to struggle for things to say at times, but the USDA APHIS Veterinary Services has the expertise in veterinary sciences. They have the experience in working with the States on various issues, whether it is livestock disease or wildlife disease, to be one of the natural avenues for sending some of the funding in.

I would also like to recommend that this Committee and others look seriously at the lab capacity available. As mentioned before, it is estimated that the States, not only the ones with CWD but those looking for it, will be submitting over 100,000 samples nationwide this year and the lab capacity to handle that is not available at this time.

The allowance of USDA to private labs to let them do the testing, the licensing, so to speak, of several other labs is needed and needed quickly before this fall hunting season comes on because they have to get the machine, they have to have the staff training to be able to do the testing.

Any fight against CWD will be a long-term commitment. It will not be a short timeframe. Coming from the management side, there will be some controversy involved, especially with the depopulation efforts as Nebraska, South Dakota, Colorado, and Wisconsin are attempting in wild deer populations. In Nebraska, we are also depopulating, which is the correct way of saying killing, several hundred wild deer in an attempt to control the focus of CWD in a small area. So we need the funding to do this, to do the testing, and to do the research, and to maintain lab facilities that can do the work we need done.

The Federal Government game plan that has been asked for is an excellent idea, but it must have State input because the State authority over wildlife, as you very aptly stated, has to be maintained, and that is very, very important to us. It is imperative that any actions taken by this Congress recognize that authority, and I think we can rest assured it will with your opening statement, Mr. Chairman.

In closing, I would just like to state the State of Nebraska is committed to continuing this fight against CWD as long as it takes, even if we have to do it alone. I am very heartened to see that we do not have to do it alone and I think we will achieve victory, but it will be a long-term victory and it will only be through Federal and State cooperation. Thank you, Mr. Chairman.

Mr. MCINNIS. Thank you, Mr. Morrison.

[The prepared statement of Mr. Morrison follows:]

Statement of Bruce Morrison, Assistant Administrator, Wildlife Division, Nebraska Game and Parks Commission

Good morning Mr. Chairman and distinguished members of the subcommittee. I am Bruce Morrison, Assistant Administrator of the Wildlife Division of the Nebraska Game and Parks Commission, a certified wildlife biologist and a wildlife disease specialist. Thank you for giving the ongoing fight against CWD the Congressional and national attention it needs. I am grateful for the opportunity to testify before you today and present the views of the State of Nebraska as concerns Chronic Wasting Disease (CWD). Nebraska is one of the unfortunate states that has confirmed the presence of this disease in our wild deer populations. Since November of 2000, a total of 14 animals in four counties have tested positive for CWD. Additionally, three captive wildlife facilities in the state have had Rocky Mountain Elk test positive. The wild occurrences of this disease have, so far, been restricted to the extreme western portion of our state and all counties where it is found border Colorado, Wyoming and/or South Dakota. The state has been working diligently with state and Federal agencies from throughout the United States and Canada in our attempts to identify endemic areas, conduct surveillance, reduce the chance for spread through population reductions, develop a regional management and research plan and, hopefully, eventually eradicate CWD in North America. I would like to stress that the cooperation between the various state wildlife agencies and USDA–APHIS and USDA–ARS has been excellent and that cooperation should continue. Additional concerns include the potential for the loss of revenue through hunting license sales and the demise of business opportunities associated with hunting and wildlife viewing by the citizens of Nebraska. The estimated income loss if we loose the opportunity to utilize the renewable natural resource of our cervid populations in over 500 million dollars annually.

As previous witnesses have testified, CWD is a fatal brain disease of cervid populations. There is currently no acceptable, easy administered live test nor known cure for the disease. Efforts by the Colorado Division of Wildlife, Wyoming Game and Fish Department, University of Wyoming, Colorado State University, USDA–APHIS and USDA–ARS have advanced our knowledge of the disease but they have been unable to conduct all the research needed due to lack of funding and proper staffing levels. The Nebraska Game and Parks Commission, South Dakota Department of Game, Fish and Parks and the Wisconsin Department of Natural Resources have recently joined in the effort since finding CWD amongst wild cervids in their state. However, even with the added partners, the funding and staffing levels present in the effort to combat CWD are woefully inadequate. In spite of the fact that deer hunting contributes millions of dollars annually to the economy of the United States, funding for CWD research and monitoring has not been forthcoming. Yet, this disease threatens to substantially reduce deer hunting in those areas where it occurs, and thus negatively impact the economy of those regions. Added to the mix is the remote possibility that CWD could, sometime in the future, jump the species barrier and infect cattle, where the potential economic impact would be catastrophic to the United States. Therefore, it is imperative that the states and Congress take action now to halt the spread of this disease and, through scientific research, find a method to eliminate it from North America. Such an effort will not be quick or

inexpensive. It will require a long term commitment by the professionals involved and by the citizens of America to fund the effort.

The fight against CWD in Nebraska, as elsewhere, has become a costly effort, taking much needed resources away from other wildlife management programs and efforts. The dedication of staff time to this battle has removed the ability of the Nebraska Game and Parks Commission to respond in a positive manner to other issues that impact the natural resources of our state. Additionally, with the increased public interest in this disease, the state's efforts will be increasing over the next few years, further diminishing our financial resources. Since this disease has the potential to impact the rural economy of numerous towns and villages as well as the agricultural community and since diseases do not respect political boundaries, it is proper that additional Federal resources be provided for the battle. Additionally, with the large increase in the number of states implementing disease monitoring actions this fall, the lab capacity of those accredited for CWD testing will be strained. Turn around time for tests could stretch into months if action is not taken to increase capacity, especially in those states with confirmed CWD in their wild cervid populations.

Current needs facing the State of Nebraska include;

1. Funding for research into testing methodologies, transmission methods and environmental contamination. Estimated need is $750,000.
2. Funding for providing double fencing at infected game farms and research facilities. Estimated need is $500,000.
3. Funding to maintain the Panhandle Veterinary Laboratory on a year-round basis for processing samples. Estimated need is $250,000.
4. Additional staff to collect and quickly process samples for infection rate determination. Estimated need is $150,000
5. Additional laboratory and disposal equipment to properly extract and prepare samples for testing and safely dispose of biological material. Estimated need is $75,000.
6. Funding for the testing of hunter and agency harvested animals for CWD. Estimated need is $50,000.

The total of these needs is $1,775,000 annually for the ongoing fight against CWD. It is only through the infusion of these sums of money that we will be able to continue and win this battle. This is only Nebraska's needs. The remaining states with confirmed CWD also need funding assistance. There is also a critical need for a national program for funding for testing for CWD in those states where CWD has not been confirmed. Such a program should be administered by USDA–APHIS through the state wildlife agency.

It is imperative that any action taken by this Congress or any Federal agency recognize the authority of the state wildlife agency to manage the wildlife populations within their borders. This authority must be maintained while working together in a cooperative manner to address a national issue.

The State of Nebraska is committed to continuing the fight against CWD and to working with all interested parties and agencies to achieve victory. It is only by working together and pooling all our resources can we make significant advances in this effort.

Thank you for the opportunity to present the views of the State of Nebraska on this important issue and I would be willing to answer any questions you may have.

Mr. MCINNIS. I will begin the questioning. I have two points of inquiry, both with Mr. George.

Mr. George, as Congress grapples with drawing the lines of responsibility in terms of which Federal agencies are going to partner with the States and in which areas, what is your preference as to which agency or department should spearhead the Federal support efforts when it comes to managing the wild part, the wild elk and deer herds?

Mr. GEORGE. Thank you, Mr. Chairman. I think it is important to remember that agriculture has a constituency that is somewhat different from Interior's constituency, just as we are in Colorado. The Colorado Department of Agriculture has a different mission than the Colorado Division of Wildlife. Now, there are many places

where these overlap, but there are many places where those responsibilities, constituency-driven demands, are different.

So I think the Federal model should be the same as we try to strive for in Colorado, and I am sure other States, is that you each focus on your own mission, but where you have the contacts and the overlaps, you work together, and that resources should be able to move freely back and forth over that common area. But it should not come from one direction only in any instance because of those different constituencies.

Mr. MCINNIS. So, in other words, at the Federal level, the Department of Agriculture with the captive herds, the Department of Interior would be best with the wild herds?

Mr. GEORGE. That would be my agreement, yes.

Mr. MCINNIS. Let me ask one other thing. If we do not eradicate—the reason you are eradicating is to prevent the spread, is that not correct? It is not to take the animal out of misery. It is to stop the spread of this.

Mr. GEORGE. It is the only way you can stop the spread, is to kill the infected animals, because there is no treatment.

Mr. MCINNIS. I am a little baffled, and I have not heard their side of the story, but it is my understanding that, for example, in the district that I represent, we have four national parks. The Rocky Mountain National Park, which has a prohibition against hunting, has also prohibited any depopulation in the national park. Have you visited with them about that? Can you give me that perspective?

And also, I would like a forecast. If they do not allow this depopulation in their park, if it is located in the park and they do not allow us to kill the animals, do we have to set up a border patrol to make sure those animals do not come across into our territory? Would you expound on that just briefly for me?

Mr. GEORGE. Mr. Chairman, I think the Rocky Mountain National Park has an enormous challenge because of the rules and regulations that they operate under. I think it is harder for them to use as a management tool the tools that we are using outside the park.

We believe the only way we can handle the infectivity levels that we see in northeast Colorado on the boundaries of Rocky Mountain National Park is to move in where we find infected animals and take them all out. We regard this as hot spots, and in some instances, we have seen percentages of infection rate as high as 20 percent, which is absolutely unacceptable.

None of us like doing that. It is not a pleasant task. But remember that deer and elk are a renewable resource and that if we are successful in reducing the incidence of the disease, the herds will repopulate themselves as healthy animals.

The issue is no different inside Rocky Mountain National Park. The disease management protocols have to be the same, but their challenge is the different set of rules. We have met. The Acting Superintendent of Rocky Mountain National Park was kind enough to come to my office to see me a couple of weeks ago. We have begun in earnest our next level of discussions about cooperation. In fact, I am hoping and expecting within the next couple weeks we will have a memorandum of understanding between the park and the

Division of Wildlife that coordinates both our elk management practices and our CWD disease management issues.

Mr. MCINNIS. Thank you, Mr. George.

Mr. Inslee?

Mr. INSLEE. Thank you, Mr. Chairman. I want to thank the Chair for holding this important hearing.

I wanted to focus my questions on the ability of States as a first responder to these outbreaks and how they relate to the commercial game farm industry and how that interplay has acted or not acted to try to stem this tide quickly. I wanted to ask Governor McCallum about the Wisconsin experience.

I have heard that the first time this was discovered in Wisconsin was February, but I am looking at some memos that have been provided to me that show on April 17, 1998, the Wisconsin State veterinarian had a memo from the Nebraska Department of Agriculture that said that an elk from an infected herd that had tested CWD-positive had been shipped to a farm near Bloomer, Wisconsin. In a memo dated May 27, 1998, to Bob Susan from the State of Colorado, indicating there had been a shipment but that Wisconsin had no current rules for CWD.

And then on September 15, 1998, a memo from a DNR biologist, Steve Miller, to Secretary George Meyer of Wisconsin in which he called for a moratorium on the import of all game farm animals, and he said, and I think this is really interesting, he said, "At present, it appears this would be the only way to help assure the disease is not spread into Wisconsin."

Now, I understand since that date, until March this year or last night, the State of Wisconsin had not imposed a moratorium on importation of game farm animals. It had not required random sampling of game farm animals. It had not required testing of dead or sick deer on these farms. It had not required a State registry of animals. It had not required tracing back of all diseased animals to the source.

And given, assuming these memos are accurate, and I would obviously like your comment, but given this information that these animals from infected herds were coming into Wisconsin, I am having a hard time figuring out how a State like Wisconsin, that is so dependent on the integrity of its food industry for its economy, would not have responded quicker in a more effective way to this infestation.

I am very interested in this because, obviously, the commercial game farm industry, to the extent it has political clout, if this is a problem nationwide, because that is how this disease may be being spread—you know, these animals can travel 1,000 miles, 1,500 miles in a couple of days with a truck, and if we are not having States respond to this when they have knowledge of it, that is of great concern.

So if you can help me understand why the Wisconsin administration did not react more rapidly to this information, I would appreciate knowing it.

Governor MCCALLUM. I can, and as you said, if your information is incorrect, I should let you know. Your information is incorrect.

Mr. INSLEE. Thank you.

Governor MCCALLUM. There have been no farm animals, game farm animals that have been found infected, and furthermore, we have had rules in place in the State of Wisconsin.

Mr. INSLEE. So I want to make sure I understand. As I understand what these memos said, is that on at least two occasions, from different States, the Administration was notified that an animal from a herd that had tested positive for CWD in other States had come into the State of Wisconsin. Maybe that particular animal had not been confirmed for CWD, but had come from an infected herd. Is that your understand as to what had happened?

Governor MCCALLUM. This press conference was held 2 days ago that you are referring to with the memos, and George Meyer, who you referred to, was the Secretary of the Department of Natural Resources and would have been the one responsible for it at the time. My understanding is, since then, he has suggested he should not have been at the press conference and he was not fully aware of the information that he was talking about.

Mr. INSLEE. So I want to make sure that I understand. This September 15 memo from a DNR biologist where he called for a moratorium on the import of all game farm animals and said, as I understand it, and tell me if this is inaccurate, it says, "At present, it appears this would be the only way to assure the disease is not spread into Wisconsin." Was there a memo like that from a State biologist?

Governor MCCALLUM. Well, if you are asking about a memo in 1998 that went to—I have got 65,000 employees. I do not keep track of all their memos. But I can tell you we have no one since. We have procedures in place in the State of Wisconsin to prevent the importation of animals. We have rules in place and we are doing everything we can to prevent the importation of these animals. We do not want—the game farm is very important to us, as the wild herds are important to us, and we are going to put steps in place in a bipartisan fashion, as we saw with the legislature last night. This is not a partisan issue. We are going to work together to move forward since February 28, when I became aware of the issue, and will continue to be very aggressive in the State of Wisconsin to address it.

Mr. INSLEE. Well, our concern is that States may be too interested politically in the game farm industry and, therefore, resulting in the infection of the public asset, which are the wild herds, which have tremendous economic value to Wisconsin and a lot of other States.

Now, my understanding is, until March this year, your State did not impose a regimen of testing for imported animals, nor did it impose a moratorium, nor did it impose mandatory testing of diseased and dead animals on game farms, is that correct?

Governor MCCALLUM. We have regulations in place, and I am going to just turn around and ask my Secretary of Agriculture how long they have been in place.

You are correct. We put the regulations in effect as soon as we found out, the 28th. Apparently, there were not the regulations in place prior to the 28th.

Mr. INSLEE. Now, there was a discussion—I am out of time, Mr. Chairman. I am sorry. I am out of time. Thank you, Governor.

Governor MCCALLUM. Thank you.

Mr. MCINNIS. Mr. Gilchrest?

Mr. GILCHREST. Thank you, Mr. Chairman. Can any of the vets or biologists tell me that if a coyote, eagle, bear eats an infected deer or elk, that the disease can transfer that way?

Dr. MILLER. To the best of our knowledge, no. Certainly, birds have not been described as being infected or playing any known role in any of the prion disease transmissions. Similarly, species in the dog family do not seem to be susceptible. Domestic and wild cats in the United Kingdom were infected with BSE and we are actually looking right now at the role that mountain lions might be playing in several aspects of Chronic Wasting Disease ecology. But as far as we know, there are not any roles that carnivores or predators are playing in—

Mr. GILCHREST. So a fox or a coyote or a bear in the wild may have some similar natural immunity as domestic livestock to this disease?

Dr. MILLER. It is not immunity per se, but there seems to be some resistance among species for these different strains of prion. So a strain that is adapted, as this one is, for deer and elk does not readily go into any other species, including humans, thankfully.

Mr. GILCHREST. I see. So it is likely—this disease is a bacteria?

Dr. MILLER. It is actually a protein.

Mr. GILCHREST. A protein.

Dr. MILLER. Yes. It is very—

Mr. GILCHREST. So it is not a bacteria. It is not a virus. It is not a parasite. It is some type of protein—

Dr. MILLER. Yes. It is—

Mr. GILCHREST. —that is unique to perhaps, at least we hope at this point, deer, elk, things like that?

Dr. MILLER. This particular strain appears to be unique and focused its attention on deer and elk. There is another strain, or maybe more than one strain of these, that occur in sheep and goats, but the two are somewhat different.

Mr. GILCHREST. There is a different type. So what would it be similar to for us for the layman to understand? It is a protein, so it is a genetic thing?

Dr. MILLER. No, it is kind of a cross between something very simple, like a virus, in terms of it being transmissible, but in other ways, it maybe acts more like a toxin. It accumulates in an animal's system by the conversion of normal protein within that animal to this abnormal form. So—

Mr. GILCHREST. So is it a very bizarre form of life that actually replicates itself and grows and evolves?

Dr. MILLER. It at least perpetuates itself and propagates itself. Whether it is alive or not, I guess is the subject of some debate, because it does not have—most of the other—all the other forms of life that we recognize in science have nucleic acid, have DNA or RNA as their base for coding and information and perpetuation and this does not.

Mr. GILCHREST. And this does not?

Dr. MILLER. This does not.

Mr. GILCHREST. This does not.

Dr. MILLER. It is a very new form of disease-causing agent to science. The theory, the prion theory has only been around for ten, 15 years. Stan Prusiner actually won a Nobel Prize just a few years ago for developing this theory, and so that is part of why the research maybe has not advanced as rapidly as it might have if this were a more conventional pathogen.

Mr. GILCHREST. So part of the best help that we can provide is funding for some understanding of the mechanism upon which this protein functions?

Dr. MILLER. I think at least one of the facets, and there is certainly funding that is available right now for scientists looking at the basics of prion biology here in the United States and also over in Europe, but certainly understanding the biology of these disease agents is going to help us in figuring out how to protect animals through vaccines, potentially, or through some therapeutic drug that might block the action of these things. I know the scientists up at the NIH lab in Hamilton have worked a little bit on some of these issues, as well as scientists over in Europe.

Mr. GILCHREST. I would just like to make another quick comment. It was mentioned that maybe USDA should deal with the farm-raised elk and Interior deal with the wild elk. But my question is about a rancher or a farmer out there that has to deal with the wild game. Is there any provision for that rancher to—I do not know, somebody used a politically correct term to killing these animals and I forget what that was, eliminate or whatever—depopulate. So can the rancher at a season see something that appears to be CWD and eliminate that particular—with the USDA program or State agriculture program?

Governor MCCALLUM. In Wisconsin, the legislation we just passed, we are now allowing—in the area that we are trying to eradicate them, we are allowing farmers who are driving tractors to shoot deer.

Mr. GILCHREST. Farmers to do what?

Governor MCCALLUM. Farmers who are driving tractors can shoot deer. We are just trying to depopulate the area.

Mr. GEORGE. Mr. Chairman, if I might also respond to that last point, in Colorado, our preference is for the instance that you describe, a rancher or any other citizen who believes there is an infected animal on his property, to call the local wildlife manager and allow us to come in and investigate the circumstance. There are other kinds of diseases that cause animals to appear as a CWD-infected animal appears from symptoms.

And the other part of it is, this is so serious to us that we want to know, is that animal actually infected? We will take out the animal, test it, and then make a determination. If we have an infected animal on private property, we will come back to the landowner, discuss thoroughly with that individual what we know, and we will ask permission then to immediately attempt to eradicate all other animals that might have been infected by that, or exposed to that other animal.

Mr. GILCHREST. Thank you, Mr. Chairman.

Mr. MCINNIS. Mr. Kind?

Mr. KIND. Thank you, Mr. Chairman. Thank you again to all of the witnesses for your testimony. We look forward to working with

all of you as we develop a comprehensive program to address this, not just resources, but some technical assistance and the research that really needs to be put in place.

We have to be careful in how we address this issue publicly, too, because we do not want to create a human health hysteria out there at the same time. I think it is important that we are clear that there is no known transmission to humans that has been detected or other livestock herds or other type of animals, for that matter.

But there are still questions lingering, the questions I am getting back in my district in regards to the safety of venison that has been taken. I was doing a program yesterday and I had a lot of hunters calling in and saying they are dumping the venison from their freezers. They are just not going to take the chance. And we have food pantries right now in Wisconsin that are rejecting the donated venison that is a big part of deer hunting season, where they are able to accept the donated venison from hunters across the State.

Mr. George, you raised this issue too and being very clear about it, but is there anyone on the panel now that knows of any public health expert that can, in fact, close the door for certain in regards to any exposure or risk to humans in regards to CWD, especially as it relates to the consumption of venison, of potentially infected deer? Mr. George, do you know of any human health expert that can, in fact, say, no, humans are absolutely safe from this?

Mr. GEORGE. Mr. Kind, I think quite the opposite is true. My experience in working with medical professionals is that they have an enormous respect for the unknown, an enormous respect for nature being in charge of much of what happens to us in life. And I do not have a problem with that hesitancy. I think that it is right for professionals to articulate only what we know.

But I think the right way to deal with Chronic Wasting Disease in this context, as managers of wildlife, and agriculture would say, as well, in domestic elk and deer, is that, first of all, we have an obligation to know everything we can know, and that is part of why we are here today, is to help bring all of our combined resources together to step up the pace so that we know more and more as time goes on.

But just as importantly, and I think all health professionals will agree with this, is that you must then be as eager to tell the public everything that you know. The key to all of this is to tell the public everything we know so that they can form their own educated opinion about how to act themselves, and that is super-critical in our example about hunting seasons coming up. If we are doing our job right and we keep all of this CWD discussion science-based, fact-based, data-based, and tell the truth at every point in all of our public utterances, then we can keep this from being a fear-driven or panic-driven, or ultimately an economic-driven problem.

Mr. KIND. I thank you and I could not agree with you more. It is really what is alarming when you get into this issue, really the paucity of research that is out there and the absolute need that we have to develop that science and start having some of these questions answered.

Governor McCallum, let me turn to you. We are just now studying the details in regards to the bill coming out of the State special session that you held and I commend you for drawing the other Representatives' attention to this, too, and calling them back in special session. A couple of questions, though, in regards to the whole herd kill-off, the proposed 15,000 kill-off, because what is being proposed is really in the epicenter of my new expanded Congressional district and I am starting to get some feedback in regards to safety concerns, because—

Governor MCCALLUM. It is the district you wanted, Congressman.

Mr. KIND. That is right.

[Laughter.]

Mr. KIND. Thank you very much for signing that into law. But I am starting to get some feedback in regards to some safety issues, and what is being proposed, I understand, is possible shooting from helicopters, also drive-by shooting on roads and streets and that, and there are a lot of kids in the area, obviously, playing in the fields or perhaps running around in the woods, too. I know one of our local State Reps down there raised this during the special session. So that is one question I have that hopefully you can address.

But the other one, too, is in regards to the staged type of plan, doing it in pieces, just from my experience as a hunter myself, I know that once the firing starts, the deer disperse, and unless we have a plan in place to establish a perimeter to try to contain and prevent the spread of these deer once the firing starts, I do not know if it is going to be in our best interest to do this in stages, going for maybe a 500-deer kill-off, and then a 1,000-deer kill-off at some later stage, because, especially in the spring or summer when it is going to be tough to pick them up anyway.

If they start spreading around the State of Wisconsin and in this enlarged area, are we asking for more trouble in regards to the spread of the disease unless we have some plan that can contain them in a relatively narrow geographic spot? If you could address those two issues.

Governor MCCALLUM. I will try to get at your question. I believe the question was pertaining to allowing the shooting from helicopters was the first portion. Of course, I will leave it up to the Department of Natural Resources, which, as you well know, has sought input from local officials, from public officials, from landowners, from hunters, conservationists, the farm community in the State of Wisconsin, and I will rely on them to put together the best plan possible.

As you well know, also, it is difficult to find deer and it is much easier to spot them from the air. If you want to be certain in trying to eradicate the animal from this area, you are going to have to be very aggressive at it. And again, it was passed, and if you have a concern, it was passed in a very wide, bipartisan margin. I will rely on their expertise.

The second question pertained to the phase—

Mr. KIND. The kind of phased-in program that is being proposed, killing off the deer in stages rather than trying to set up a perimeter and doing it at once.

Governor MCCALLUM. Rather than having a large—well, in some respects, they are contradictory because you have got to be able to use helicopters from the air to be as efficient as possible in this. I cannot answer the second question. I do not understand—

Mr. KIND. I guess the concern I have is once the shooting starts, the deer, they are going to run. They are going to go down. They are going to spread, and this entails the spreading of the disease to a much larger geographic area if this is a phased-in approach that we are going to be taking in the State.

Governor MCCALLUM. I do not understand what you are getting at. Are you asking if we should do this State-wide or what is—I do not understand the direction your question is taking.

Mr. KIND. Again, concerns have been raised—

Governor MCCALLUM. I apologize. I would like to answer the—

Mr. KIND. We will be in touch with the officials in charge of the program and see what response they have to it. Thank you.

Mr. MCINNIS. Mr. Tancredo?

Mr. TANCREDO. Thank you, Mr. Chairman. Thank you so much to the panel. This has been an amazingly elucidative panel, I think, and I certainly appreciate it.

Mr. Miller, your testimony, I find quite provocative in many ways. First of all, stating that Chronic Wasting Disease is not a new prion disease. The clinical syndrome of chronic wasting was first recognized in captive mule deer populations in Colorado in the late 1960's. But tying the first recognition of a disease like this to its first occurrence seems like a substantial leap of faith. That is a very interesting point, because if, in fact, we have recognized that we saw this manifest itself somehow 40-some years ago, at least, but, of course, it could have been 400 years ago, frankly, right?

Dr. MILLER. It could have been.

Mr. TANCREDO. Then I suppose I am wondering, since the time that we know that we could identify this particular strain and today, would that not be long enough for us to determine the actual progress of this disease? What I mean is, if you have got 40 years to look at it and it has not seemed to manifest itself in a way that is quite alarming until just now, I guess I am wondering, what does that mean for us? How should we interpret those data so that we know that we are not overreacting?

How do we know it has not been here 4,000 years and, in fact, the natural course of events takes care of it? It has not decimated the deer and elk herds up to this point in time, and even in the 40 years since we have known it, it has not done it. So I am wondering how to interpret those data.

Dr. MILLER. Part of the interpretation, I think, is to understand, Mr. Tancredo, that the disease was not even recognized as an infectious disease for the first ten or so years that it was recognized, but based on what we have seen in terms of the patterns of spread within northeastern Colorado, for example, and southeastern Wyoming, it appears that it is slowly working its way out and, quite honestly, it has been there for a while but probably has not been there for hundreds of years. Based on what we know about movements of deer and elk in those areas, if it had been there for hundreds of years, it should be more widespread than it is right now

within those areas, and infection rates, we would guess, might even be higher than what we are seeing today.

Mr. TANCREDO. Like many other diseases, over time, you have these sporadic infection rates that are high, and then all of a sudden, we really do not know—at least, certainly I do not know why—the disease is not eliminated, but it goes back to some smaller portion of the population. It is cyclical, is what I am trying to say. How do we know that that has not happened?

Dr. MILLER. We have certainly seen no evidence for that in the places—and we admittedly have not had the luxury of having decades and decades of experience with this disease—

Mr. TANCREDO. Four decades.

Dr. MILLER. —in terms of looking at it in the wild. Well, but again, understand that, really, over about the last 10 years, we have really had the tools and the understanding to begin looking at it in the wild and what we have seen within that relatively short time period, compared to the hundreds, if not thousands, of years that you are talking about is that there is not any up and down. It seems to hold at a steady rate or at least slightly increase.

If you look at the disease in confinement settings, which maybe is just a compression of some of these actions over time, and this has been repeated several places, several times over the last 20, 30 years, right now, in our captive mule deer herd in our research facility in Fort Collins, we cannot keep a deer alive for more than 5 years in that population. I would wager that if we went in and tested those deer, that every single deer in the pens where we have the disease perpetuating is infected with Chronic Wasting Disease.

I think on a local basis, with small populations and the way deer structure themselves, and elk, too, to some extent, it is actually a population whose aggregates are kind of small family units that come together, but within those small units, infection rates can be remarkably high. The folks in Nebraska have been looking at infection rates of somewhere in the range of 50 percent, I believe, Bruce. In the core of some of our endemic areas, we have had local populations, as Director George mentioned, of 20, 30 percent.

So I think if this was a widespread, long-term problem, we would have seen more cases around the country. You would see much more uniformity in distribution. The difference with these diseases between a disease like plague, for example, or some of the pastrolosis pneumonia type problems that we see, respiratory disease problems in wild sheep that I spent a number of years studying, is the host population can develop some level of resistance. The immune system actually comes into play in helping create that stalemate between the pathogen and the host.

To date, we have seen no suggestion that that system, or a similar system, comes into play with wasting disease in deer. We have not identified yet groups of deer, genetically or otherwise, that are resistant to the disease.

Mr. TANCREDO. Thank you. That is very helpful. You also mentioned that, in addition, contaminated environments likely—

Mr. MCINNIS. Mr. Tancredo—

Mr. TANCREDO. Oh, I am sorry. Are we out of time? I am looking at the green light. I am sorry.

Mr. MCINNIS. They only have one timer up here. Again, I apologize to the Committee members for interrupting, but I want—

Mr. TANCREDO. That is all right. No. I just—

Mr. MCINNIS. —all of you to have an opportunity to question. Ms. Baldwin?

Mr. TANCREDO. Could I say just one other thing to Russ George, and that is that, Russ, your comment that this knows no State boundary, I told the staff I knew there was an immigration point here.

[Laughter.]

Mr. GEORGE. That was done just for you, Congressman.

Mr. MCINNIS. Ms. Baldwin?

Ms. BALDWIN. Thank you, Mr. Chairman.

I really want to thank the panelists for their testimony because I think all of us can agree that this was an extremely informative presentation. We are all seeking answers to questions.

This is an issue that I am deeply concerned about and I will echo a number of the comments of my colleague with whom I work closely on this as well as share a border. We are at the epicenter in Wisconsin of the occurrence of Chronic Wasting Disease and, consequently, we get lots of questions from constituents. This disease has an enormous impact on the families, the economy of our region, the economy of our whole State.

I do not think constituents ask us questions because they view us as independent efforts in Chronic Wasting Disease or view us as having any particular expertise but because we have access to you and the information that people on the cutting edge of this are acquiring and disseminating.

I think it is evident from this panel that while we have been enlightened in many, many respects, there are also so many questions that remain unanswered. Because my district is ground zero in Wisconsin for this disease, I am still struggling with what sort of answers I should provide when I get these urgent questions.

It is clear from the testimony that there is much that remains to be done in terms of research, in terms of understanding, controlling, eradicating, and preventing this disease, and it is my hope that the Federal agencies and State agencies will continue to work very closely together, and it is imperative, of course, that we, as Members of Congress in affected areas, and, frankly, the Congress at large, be kept abreast of the latest information as it develops so that we can play the liaison and informational role that we have been elected to serve.

The Federal Government, in my opinion, must take an active role in providing assistance to those on the front line, and that is with financial resources, research and coordination with Federal agencies. I am proud to highlight an exceptional Federal resource that we have in the Second Congressional District and that is the USGS Wildlife Health Center, and I certainly want to make sure that we are doing an adequate and, in fact, more than adequate job of supporting them in their efforts to combat this disease.

Given the financial stress that this disease places on States like Wisconsin, which is dealing with financial stresses of its own, there is such a critical Federal role to play in providing assistance.

I want to inquire just a little bit further about the safety and health of my constituents. I can tell you that I was certainly heartened to hear the words of Mr. George earlier in his testimony when—I believe I scrawled them down correctly to say, "We believe that there is virtually no risk to human health. We believe there is virtually no risk to other species."

You are experts on wildlife health. You said you have been actively consulting with experts in human health. I am wondering two things. My grandmother always said to me, "Err on the side of caution." I do not know why I would advise my constituents anything else. But I am wondering the sort of scientific basis for the conclusions that venison presents virtually no risk to human health and what would you tell my constituents to do with the venison in their freezer?

Mr. GEORGE. Thank you. I am not going to try to answer the scientific part of your question. I will ask Dr. Miller and Dr. Thorne to do that. But we cross the line from science to sociology so quickly that as a manager, I want to share with you my views about that.

We start from the science of the issue. We must always be correct about that, be complete about it. But the real challenge, not only being right, is to communicate that in a way that people are entitled to believe it and do believe it. So we have spent a lot of time in recent years talking to the public about venison and elk for human consumption.

We put in the hands of every hunter that may be taking an animal in an area where we know there is Chronic Wasting Disease and we lay out a number of safety and sanitation, if you will, protocols. We say to them, here are ways that you can process your meat that might be more sanitary in any respect, but is also helpful with this disease. For example, we know that the prions have a tendency to accumulate in the nervous tissue, so we say, do not cut through the spinal column, do not invade the brain cavity. Stay away from all that. You can use gloves. Here is the proper way to care for your equipment.

All of these things are very important, but in the end, the message is, each individual needs to make his own informed judgment about it. And so it is our responsibility to have the facts and to make those facts known.

In your first comment, I think you hit on a very important subject that has not been really discussed a lot here today and it is the much broader communication and education piece of this. It is no less serious with Chronic Wasting Disease than maybe any other major issue we work on. If we are consistent in our message, if we are accurate, complete, and consistent across the country, people will be able to understand better than before and will be able to make their informed judgment, and that is all we can do about that. We do not have science far enough along to be able to say with certainty, but all you can do is say what you do know and lay it out so that people can make their decision about it.

Mr. MCINNIS. Your time is up.

Mr. Osborne?

Mr. OSBORNE. Thank you for being here this morning. Just a couple of questions, and I am going to start with Dr. Miller. You or someone mentioned that once infected animals had been elimi-

nated from a given area, there is still the disease apparently present environmentally. I guess that, more than any other statement that I have heard, concerned me the most because, obviously, we have a chance to eradicate animals, but do you have any idea how long the disease would continue to persist environmentally in an area?

Dr. MILLER. We do not have a good absolute measure on that because right now, we do not have the tools to even be able to identify the pathogen in the environment. Probably in some cases, it can be maintained on the order of years. That is why it is so important to get into these places early and fairly thoroughly.

The mental model that I use in thinking about this is that the agent accumulates over time in an area where you have infected animals. The more infected animals you have and the longer time those animals are contributing infection to the environment, the more of a mess you end up with at the end of the day. So by going in quickly, identifying areas as we have done in western Colorado and as the folks in Wisconsin have done, as they have been doing in Nebraska, identifying places where the disease seems to be localized and eliminating those animals relatively quickly, you are going to have the best chance of minimizing environmental contamination.

I also think that it is going to vary somewhat from place to place, and the areas where we have the most experience with wasting disease, we have much less water, for example, flowing through our systems than we do in the Midwest. We have a relatively arid on the front range of Colorado and in southern Wyoming where we deal with this disease. It may be that in places where there are higher volumes of water going through a system, there is more dilution that will help get rid of the infectivity, or at least spread it out to where animals are not going to become infected.

And then managing these populations in a way that you can eliminate groups of animals and then let repopulation occur slowly over time—one of the misconceptions is that when you kill a group of deer, that the rest of the deer are just going to pull right back into those vacant areas, and, in fact, that is really not the case. So there will be some time, some buffer of time that hopefully will allow the disease to work its way out of the system. It probably goes away over time, but minimizing the contamination early on is probably the best strategy.

Mr. OSBORNE. Thank you. I have one question for Mr. Morrison. Obviously, Nebraska is a little bit unique in that we border South Dakota and then, of course, Wyoming and Colorado, so we are kind of at a juncture of several States there. What barriers have you experienced or do you see State-to-State that have interfered with the process? Is there anything that you see that could be improved in terms of working together? You mentioned you want to have a cooperative effort, but are there barriers that you see that have prevented that right now?

Mr. MORRISON. Mr. Chairman, Congressman Osborne, no, sir. Right now, there is a very good effort going on between the States, including Wisconsin just recently joined us. The basic only barrier I see is State-driven agency budgets for travel to meetings and to conferences to learn about the disease, et cetera, which could be ad-

dressed through the Federal program at times. But as far as the entities working together, it is one of the best cooperative efforts I have seen in my 30 years of experience in wildlife management.

Mr. OSBORNE. One last question. We have talked about eradication and we have also talked about thinning and I am not real clear. Wherever the disease is found, is the only solution that you see just total eradication, or by thinning the population, do you tend to inhibit the disease or lessen its spread? I guess anybody who has expertise, I would invite an answer.

Mr. MORRISON. They are looking at me, so I guess I have to try. The effort in Nebraska, anyway, is—we say eradication. It is virtually impossible to eradicate a wild deer herd in my mind. Our plans are to continue thinning that deer herd down to a point where we do not find CWD in the testing anymore and leave it at that low level for a period of years, perhaps 5 years, and if we do not find CWD for that time, then let it buildup.

That is the only method we know of right now to remove CWD from the area, is remove the deer. There is no known treatment or anything else.

Mr. OSBORNE. Thank you.

Mr. MCINNIS. Mr. Barrett?

STATEMENT OF HON. TOM BARRETT, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WISCONSIN

Mr. BARRETT. Thank you, Mr. Chairman. First, I want to thank you for holding this hearing and for your forceful comments at the beginning of the hearing about the need to have the Federal agencies coordinate their efforts and respond to this very serious problem as quickly as possible.

In my 10 years in Congress, I cannot remember another hearing where a majority of the members of the Wisconsin delegation have attended the hearing, not to mention the Governor of the State of Wisconsin and two secretaries from Wisconsin. That will show you the importance of this issue to the State of Wisconsin, and the reason for that is quite simple.

Deer hunting is an integral part of the history, of the culture, of the economy of the State of Wisconsin and the threat to the deer population in the State is a threat to the State itself. Similarly, I think the fact that we have half of the delegation from Colorado here and a third of the delegation from Nebraska here shows that other States also consider this to be a very, very serious problem that demands a quick response.

What I am most concerned about today is the lack of response that we have gotten from the U.S. Department of Agriculture. On March 20, all nine members of the Wisconsin delegation wrote to the Secretary of Agriculture and asked her to immediately release $4 million of emergency funds to the State of Wisconsin so that we can respond to this crisis. It is now May 16. There is still no written response.

My understanding is that the Secretary's office contacted Congressman Kind's office last night about 5 to inform him that the money would not be forthcoming because the Department wants to take a national approach to this rather than, apparently, a State-by-State approach. I have to remind the Department of Agriculture

that Colorado, Wisconsin, Wyoming, Nebraska are all part of the United States, and to the extent that this is a problem in these States, this is a national problem.

The implication is somehow if we want the money to go to the States, that it is pork barrel spending and for that reason, the money will not be forthcoming. I can tell you at least what I will do and what I believe the other members of the delegation from the State of Wisconsin will do. We will continue to fight for this funding. If we cannot get it directly from the Department of Agriculture, we will try to get it through legislative channels.

Ironically, we will do this at a time when the White House is complaining about the add-ons that are coming from Congress, that somehow we should not, as Representatives to Congress, be adding on additional spending beyond what the White House is doing, and if we do so, that it is pork barrel spending.

In my mind, this is not a fight over pork. This is a fight over venison and we will do everything we can to make sure that we get the funds in the State of Wisconsin to have the testing, to have the assistance that is necessary for us to eradicate this disease.

It is an issue that I think the Governor takes very seriously, and I thank you for your leadership at the State level. I think that the State now clearly recognizes that there is a problem and has been acting quickly. I am troubled by the reports that Mr. Inslee referred to, but this is not the time for that discussion. The time now is for us to act together, to act on a bipartisan basis, which is being done in the State of Wisconsin, but equally important, the Federal Government has to recognize that it is a partner in this fight.

I want to quickly just read from a statement that was made by Scott Craven of the University of Wisconsin-Madison when he told USA Today, "If we do not seize this chance and CWD spreads in Wisconsin, decimates the deer herds, or spreads to adjoining States, I believe in five, ten, or 20 years, history will not judge us kindly."

The Federal Government must be a strong partner in Wisconsin's effort to combat Chronic Wasting Disease. That is why I thank you all for being here today. Again, I thank you, Mr. Chairman, for your leadership on this, but I want the Federal Government to be a partner in this and it has to happen quickly.

Thank you, Mr. Chairman. I yield back the balance of my time.

[The prepared statement of Mr. Barrett follows:]

Statement of Hon. Tom Barrett, a Representative in Congress from the State of Wisconsin

Thank you, Chairman Gilchrest and Chairman McInnis, Congressman Underwood and Congressman Inslee. I appreciate your having scheduled today's hearing, and I appreciate the opportunity to share with the Subcommittees the very grave concerns of Wisconsin hunters and conservationists.

I will not reiterate for you the chilling clinical dangers of Chronic Wasting Disease (CWD). You have invited gifted expert witnesses who can more than adequately address those important issues.

Instead, let me emphasize how important this issue is for the people of the State of Wisconsin.

As you know, CWD has been found for years in the deer herds of Colorado, Wyoming, and Nebraska. But because those states have relatively sparse herds, with typical population densities of 2 to 5 deer per square mile, the contagion posed a limited threat to the whole herd.

But as the U.S. Geological Survey has reported, it was the detection of CWD in the wild white-tailed deer herds of Wisconsin that brought concerns over the disease to a crisis level. This is because, unlike western states, Wisconsin's two-million-plus deer herd populates some parts of our state at densities conservatively estimated at over 75 animals per square mile. No one knows how rapidly CWD will spread among deer at these densities or what long term effect the disease will have on a herd that big.

Recent news reports have highlighted the very troublesome possibility that, though State of Wisconsin officials were aware of the danger posed by infected herds in Western states, they did nothing to restrict importation of potentially infected deer into Wisconsin or to limit the interaction of game farm animals and wild deer. This important concern certainly warrants investigation.

What is most important, however, is that Wisconsin officials are now taking this very serious threat very seriously. In an unprecedented step, the Wisconsin Department of Natural Resources has asked private landowners to hunt over 15,000 deer in a 287-square-mile eradication zone around the outbreak's epicenter, near Mount Horeb in southern Wisconsin. State wildlife officials are also planning to dramatically extend the fall deer hunting season. A hunt that traditionally runs nine days will run from October through January, in an effort to eliminate all deer in the area.

At the request of concerned state legislators, Governor McCallum has called a special legislative session on CWD. The legislature is considering an agreement that would direct $4 million in emergency state funding for the fight against the disease.

But the state desperately needs help from the Federal Government to meet the challenge. According to published estimates, Wisconsin officials will need at least $22.5 million over the next three years to finance the emergency plan.

Wisconsin's entire Congressional delegation joined together in March, asking Agriculture Secretary Ann Veneman to release $4 million in emergency Commodity Credit Corporation funding to help Wisconsin officials respond to the immediate crisis. Wisconsin's delegation has also spoken with one voice in support of the Bush Administration's request for $7.233 million in CWD funding for 2003. Since our initial request, I have learned that internal USDA estimates now suggest that 2003 funding of no less than $15 million will be required to respond to CWD.

We acted quickly and decisively because the stakes are tremendously high in Wisconsin, in both personal and economic terms. Deer hunting has always been a defining aspect of the state's culture and sporting heritage. It has been and remains a way for parents and children share a family tradition, and an estimated 700,000 hunters share that tradition in Wisconsin every year. And deer hunting is also critical to Wisconsin's economy. According to published reports, each year's hunt also brings an estimated $233 million in retail sales revenue to our state and, in total, contributes more than $1 billion to Wisconsin's economy.

I am very disappointed that Secretary Veneman has not yet responded to the united call of Wisconsin's Congressional delegation for Federal emergency assistance on this critical issue. I wrote to her yesterday, reiterating our request and asking that she consider taking several additional steps to bolster the Federal response to this crisis. I am hopeful that she will see that Wisconsin cannot afford further delay.

My colleagues, the threat in Wisconsin is very real and very pressing. As Scott Craven of the University of Wisconsin–Madison told USA Today, "If we don't seize this chance and CWD spreads in Wisconsin, decimates the deer herd or spreads to adjoining states, I believe in five, 10 or 20 years, history will not judge us kindly." The Federal Government must be a strong partner in Wisconsin's effort to combat Chronic Wasting Disease. I ask that the House Resources Committee act quickly to express its strong support for the funding requests submitted by Wisconsin's Congressional delegation.

Mr. MCINNIS. Thank you.

Mr. Green?

Mr. GREEN. Thank you, Mr. Chairman. I also thank you for holding the hearing today and for the legislation that you are putting together. I think it will make the Federal Government a partner, as my colleague, Mr. Barrett, just referred to. I think that is the critical part of the answer.

Obviously from the hearing today, we are dealing with a challenge that has so many facets to it. We have had academic discussions. We have had discussions about long-term research, and I

think those are all important. You could have a series of hearings on Chronic Wasting Disease and I think we would find something new each time.

But I think in terms of my constituents who we are going to be going out hunting, thousands of them this fall, they want to know something very simple. They want to know that the deer that they shoot, that the deer that they kill is safe. That is the question that they want answered.

I commend Governor McCallum. Governor, you have been Governor for just over a year and you have moved quickly on what is a difficult challenge. Could you reiterate for us, for me, how you plan on helping to meet that problem of the testing capacity, which I think for our constituents, yours and mine, will be the crucial question that they ask.

Governor MCCALLUM. Congressman, thank you for the question. You are correct, it is the crucial question, because those of us that are hunters, it is the first thing that comes to our mind. I think there is a tendency for us to think of it in terms of what we would do to personalize it.

That is why one of the requests I have had of the Federal Government is the certification for the fast test process. I would like to see in the State not only the State lab for testing, but I would like to see the private sector set up so that individual hunters can take their venison in for the quick test. And again, this quick test that we are looking for certification for is much like—I would use the analogy like the pregnancy testing. It is not as reliable. It is less expensive, much quicker. It is not within 24 hours that you need to get the brain and send it off for the testing and wait several weeks. It can be done much faster.

So having that certification take place would allow us to move more rapidly with the private sector and with that type of testing set up around the State. I would like to see that in place by hunting season.

Mr. GREEN. Governor, I am sure I speak for the whole delegation. Anything we can do to help you in that process of getting certification, we stand ready to do. Thank you, Governor.

A question for Mr. George. You talked about various aspects of the challenge and Colorado's response. Let me ask you about carcass disposal, because that is an issue that I am also concerned about. We hear lots of discussion about what the right approach is, whether it is landfill, whether it is incineration. I know there are some new technologies. What has Colorado's approach been and what have been the results? What has been the experience?

Mr. GEORGE. Thank you, Congressman. The preferred method of disposal for infected carcasses is either incineration or chemical digestion. I do not think anyone wants to bury infected carcasses anywhere in the ground.

Now, many landfills in Colorado are designed to meet the health requirements that would be sufficient for containing within the depository any infected animal, and so far, there are no regulations that prevent it. But we think that the better judgment is not to put infected carcasses into landfills.

But bear in mind, in all of these instances, we are talking—in the Western Slope incident, we had 99 out of 100 not infected ani-

mals, healthy animals killed. Of course, you have to kill the healthy along with the infected. There is no other way to do it. So the question for that local community was not whether they were concerned about putting 99 out of 100 healthy carcasses in their landfill, but they are designed to only take a few a day in order to cover it that night. So it was a matter of quantity, not necessarily health concerns.

But we intend to incinerate anything that is infected. We do not have such an incinerator. The Colorado Department of Agriculture recently acquired one. It is somewhat low volume, needs a hole to be dug for it. It is just unwieldy. But we intend to have available with the expenditure of resources sufficient incineration capability that that is how we recommend disposing of these animals.

Mr. GREEN. I see I am out of time, Mr. Chairman. Thank you.

Mr. MCINNIS. Thank you, Mr. Green.

Mr. Udall?

Mr. UDALL OF COLORADO. Thank you, Mr. Chairman. I wanted to thank you for holding this important hearing today. It has been very, very helpful to me, as I think it has been to my colleagues.

I wanted to direct a question initially to Dr. Miller. My colleague, Mr. Tancredo, talked a little bit about, in effect, natural genetic selection possibly being at play. You are going to hear some testimony later, I think, or at least it will be included in the record, from Dr. Southwick, who is a professor at the University of Colorado, suggesting that some of the herds west of Boulder, which is an area in my district, appear to have low transmission rates and that perhaps one of the dangers we face in eradicating whole herds is that we may be eliminating those deer who could be not susceptible to this transmission of this disease.

Could you just speak to that concern?

Dr. MILLER. Certainly, Congressman. To date, the work that has been done, both with live animals and also looking at genetic evidence of resistance in deer, in particular, has failed to demonstrate any resistance. Now, that is not to say that on occasion, an animal somehow makes it through a life in our research facilities, the research facilities in Wyoming, without becoming infected. But the number of animals that go that route are few and very far between.

Right now, in the absence of some way to assure that that process is going to occur and occur in a timely fashion, kind of waiting around for nature to help us out on this seems ill advised. Certainly, if we had a mechanism for identifying a genetic strain of deer that were resistant to wasting disease or some way of promoting resistance in deer, I can assure you, everybody sitting at this table would be happy to take advantage of that and apply that as part of their management strategies.

But right now, we are very limited with the tools that we have available, and in terms of trying to contain the disease, we are doing the best we can with the tools that we have. The fact that there have been relatively few cases in Boulder County may be less a function of those animals being resistant to disease. It is just the fact that the disease has not been there very long. Geographically, that is what it would suggest. So the fact that infection rates are really low—a few years ago, in our research facility, the infection

rates were very low, as well, and now they are in excess of 90 percent again.

Mr. UDALL OF COLORADO. Of course, people in Colorado think there are unusual people in Boulder County, so maybe there are unusual deer in Boulder County, as well.

[Laughter.]

Mr. UDALL OF COLORADO. It is really a pleasure to see my old colleague, Russ George, here. Those of you who do not know him should know that he served as the Speaker of our State House and with great distinction. It is great to see you here, Director George.

Mr. GEORGE. Thank you, Congressman.

Mr. UDALL OF COLORADO. I know we worked together on the Natural Resources and Livestock Committee. We spent a lot of time on the three Ws—weeds, whirling disease, and wasting disease, and we also spent a lot of time talking about the appropriate State and Federal and local roles when it came to governance.

I want to associate myself with Mr. Barrett's comments about the need for the Federal Government to step up quickly and go to work, but I also wanted to ask you, what should the Federal Government not do? Where would the Federal Government make this a greater problem or where would it get in the way of what the States are doing?

Mr. GEORGE. Thank you, Mr. Udall. We need to be equal partners and not have a question of Federal primacy arise in the discussion. The Federal Government should be involved whenever we have an issue of national concern, but there is not any reason in this instance for the Federal Government to be more than a partner providing resource coordination, guidance, assistance.

Wildlife are local. Wildlife are traditionally managed at the State level, and there is no reason to change that even though we have this new challenge. So I would ask that whatever we do at the Federal level, in the first instance, recognize the role of the States as the primary wildlife manager, and I think the same would be true for the domestic captive wildlife industry, as well. It is also localized, and State departments of agriculture ought to have the lead in all of that.

But we are all in this together, Mr. Udall, and I think that is the point of your question and the response I want to make. There is no reason for competition among any of us, whether it is Federal versus State or whether it is agency versus agency. In order to accomplish our necessary goals here, we all need to row together from the moment we start, and that is what I would hope will happen here.

Mr. UDALL OF COLORADO. Mr. Chairman, thank you again for holding the hearing and I look forward to working with you. This is a very important issue for the State of Colorado and all the other States that are involved. Thank you.

Mr. MCINNIS. Thank you, Mr. Udall. That concludes the questioning by the Committee. I want to thank all the members of the panel. This is very informative. I would also ask for the courtesy of you responding to any additional written questions or inquiry by Members of Congress or their staff. So thank you very much. We appreciate it.

Mr. GEORGE. Thank you, Mr. Chairman and Committee.

Mr. MCINNIS. The Committee is going to stand in recess just for 5 minutes to allow the second and third panels to take their seats. Those are the two panels that we will combine. So if Mr. Groat, Mr. Butler, Mr. Zebarth, Mr. Wolfe, and Mr. Pacelle would come forward.

[Recess.]

Mr. MCINNIS. The Committee will come back to order.

I welcome the second and third panel. Again, obviously, a couple of our panel members are members of Federal agencies. I would hope, and I am confident that the agencies have gotten the message, one, about the primacy, two, about the urgency of the matter, and I would hope that the panel members can take time to address that, as well as I am sure they heard my introductory remarks about the necessity of some type of plan of action be drawn as to what the coordination of the Federal agencies should look like.

So with that in mind, why do we not start with the Department of Interior. Mr. Groat, thank you for coming today. I appreciate your time. You may proceed.

STATEMENT OF CHARLES G. "CHIP" GROAT, DIRECTOR, U.S. GEOLOGICAL SURVEY, U.S. DEPARTMENT OF THE INTERIOR; ACCOMPANIED BY RANDY BOWMAN, SPECIAL ASSISTANT TO THE ASSISTANT SECRETARY, FISH, WILDLIFE, AND PARKS; AND RANDY JONES, DEPUTY DIRECTOR, NATIONAL PARK SERVICE

Mr. GROAT. Thank you, Mr. Chairman. My name is Chip Groat. I am Director of the U.S. Geological Survey and I am pleased to have the opportunity to present the views and opinions of the Department of the Interior on this important topic.

I think all of us heard your message very clearly and we heard several messages from members of the previous panel, first of all and foremost that the management of the populations affected by this disease are clearly a State responsibility, whether we are talking about farmed herds or free-ranging herds.

Second, the importance of research—as you said, research, research, research—in clearing up the lack of understanding that we have, and this was demonstrated in the answers to many of the questions that were posed. We manage best if we understand, and there are so many areas of this critical disease that we do not understand that research is certainly a key part of dealing with those uncertainties.

I think another part of the message that we heard that goes along with maximizing the research effort is the word very strongly that the Federal agencies who have different clienteles, in one sense, and in some sense different and overlapping capabilities coordinate very closely in making sure that our efforts are maximized and also that our ability to support the States in providing understandings and providing funding is put together very clearly.

I think the characterization that was pointed out by Mr. Russell, that the Department of Agriculture and the Department of Interior have complementary capabilities in some sense and complementary interests in certain aspects of the research, yet work with the States through different avenues, through departments of agriculture, and in the case of the Department of the Interior, through

the State fish and wildlife agencies, in cooperation with the International Association of Fish and Wildlife Agencies, just points out that we do have to make use of all of these avenues in a coordinated fashion in supporting the States' efforts.

Dr. Miller's point that many universities are involved in the research effort already, that there are some funding paths available for them, but that more funding is needed for both their work, and in our case and Agriculture's work, for our own in-house researchers to deal with this is a critical point, too.

So the coordination message, Mr. Chairman, is very clear from a Federal agency point of view and we would like to emulate the States and their abilities that they have demonstrated to work together.

The States' primary responsibility for management of this is an important place to start. The only aspect different from that that the Department of the Interior would bring is that the Department of Interior has responsibility for managing one of every five acres of country in the United States, and so we do have some in-house interest and responsibility in our parks, our wildlife refuges, for wildlife, free-ranging wildlife herds on those properties and that even there, that is not a uniquely Federal responsibility, that in many cases these responsibilities work in concert with States and State interests.

The fact that free-ranging wildlife do not recognize political boundaries includes State/Federal boundaries and, therefore, the need to coordinate closely with the States in this regard is extremely important.

In describing the research capabilities, the USGS Wildlife Health Center in Madison, Wisconsin, is the only Federal research facility specializing in wildlife disease and is uniquely positioned to work in the field with fish and wildlife agencies in dealing with that, as well as the Federal Land Management Agency. Through the USGS Madison Center, we have cooperative activities with the States and other Federal agencies in relation to other diseases, such as the West Nile virus, the Newcastle disease, avian cholera, botulism, and others.

We recognize the critical importance of understanding the causes, the pathways, the mechanisms of transmission of these diseases and we recognize that those pathways and transmissions in wildlife populations that are free-ranging may have different dynamics than those that are in wildlife populations that are farmed. Therefore, the critical importance of understanding both domains, and where we can contribute uniquely to the understanding of free-ranging populations and their behaviors in cooperation with our State partners, we are willing to work closely with Agriculture in their efforts to deal with their aspects of it.

We also recognize that information, as many members have pointed out in their questions, to the public and to each other is a critical part of dealing with this issue. Our understandings from a scientific point of view, from a management point of view, from the impacts on wildlife on domestic livestock and on people, and what we do and do not know must be understood, must be communicated effectively with the public and with our partners, both the State and the Federal level. So we are looking forward very much

to working with the Department of Agriculture and with our State partners in developing an integrated information system that allows us to understand the extent, the transmission, and what we do and do not know about this disease so we can inform each other and the public about this.

I think you will be pleased to know, and I am sure Dr. Butler will reinforce this, that we heard your message and we anticipated your message and that the Department of Agriculture and the Department of the Interior have already agreed to form a working group to coordinate this. In fact, the first meeting of that group will take place within the next few days. It is both at the highest level of management and it is at the highest level of science, so we are encouraged that we are not having any trouble at all getting together on this issue.

I want to point out that, so far, on the lands managed by the Federal Government, the only occurrences that have been demonstrated at this point is on one particular reserve of the National Park Service, which was mentioned before, and the fact that the Park Service has responded to this and—excuse me, the Rocky Mountain National Park is the only unit that has been affected and that the National Park Service is providing funding itself for three projects related to Chronic Wasting Disease and is taking an active role, both on its own lands and in supporting the research effort.

So far, there are no known cases of Chronic Wasting Disease on National Wildlife Refuges lands. Regardless of that, the Fish and Wildlife Service is critically interested in using its relationships with State wildlife agencies as manifested, in cooperation with the International Association of Fish and Wildlife Agencies, to be a conduit for trading and dealing with management information related to those herds, which they have understandings of and which the States are responsible for. So in that sense, that part of the Department of the Interior will play a critical role in assisting the States with information and capabilities as they have in the past.

Let me conclude by saying our stewardship and our cooperative relationship with the States dictate that we step forward to address this problem. We understand our responsibilities in terms of research and in terms of collaboration with the State managers of these wildlife populations and look forward to working as a Federal family, as well as with our States and universities, in dealing with this enormously important, critical disease. Thank you.

Mr. MCINNIS. Thank you, Mr. Groat. I would be interested in the question and answer portion what the Rocky Mountain National Park's response is going to be if, in fact, you find a wasting disease animal. Are they going to allow eradication?

Mr. GROAT. I have Mr. Randy Jones, Assistant Director of the National Park Service with us. If you want him to answer now or during the question period, I am sure he would be happy to do that.

Mr. MCINNIS. Yes, real quickly. I would be interested. Can you give me a response to that?

Mr. JONES. Yes, sir. For at least the last 6 years, at Rocky Mountain National Park we have had a standing policy that any animal that exhibits the symptoms of Chronic Wasting Disease, that animal is taken, it is turned over to Colorado State University for ne-

cropsy, and the State is informed. It has resulted in a handful of animals taken and we have been cooperating with the State and a variety of research programs going on in the park.

Mr. MCINNIS. Thank you. Thank you, Mr. Groat.

[The prepared statement of Mr. Groat follows:]

Statement of Charles G. Groat, Director, U.S. Geological Survey, Department of the Interior

Mr. Chairmen and Members of the Subcommittees, thank you for this opportunity to provide the Department of the Interior's (Department) views regarding the emerging issue of Chronic Wasting Disease (CWD) in deer and elk. The Department is very concerned about the potential effects this disease could have on captive and free-roaming deer and elk and on the economies of affected areas of our country. The Administration believes that meaningful cooperation and coordination with the states is vital to addressing this matter.

In addition, the Administration believes that it is critical for the Federal agencies involved to work in concert on this important issue. It is important that we work together to protect wildlife resources and maintain healthy wild populations of these animals. The Department has the skills and expertise to assist the states in the conduct of research to detect and characterize this unusual disease, to provide research and monitoring facilities, and to assist in other appropriate ways. Only through coordination, communication, and cooperation within the Federal family, with the states, and with stakeholders will we succeed in managing this issue.

CWD is a disease known to be found in mule deer, elk, and white-tailed deer. CWD is fatal to both deer and elk. The disease's cause, transmission route, and treatment methodologies are unknown, although associated with altered protein structures (called prions) in the lymphatic system and brain. The recent detection of CWD in wild white-tailed deer in Wisconsin, the first known occurrence east of the Mississippi, increases the urgency in investigating and controlling this disease. Chronic Wasting Disease is not known to occur in humans or domestic cattle or sheep.

The Department recognizes that states have primary responsibility for management of cervids and other resident species within their borders, including mule deer, elk, and white-tailed deer. With particular reference to hunting and harvesting, for instance, states set deer and elk hunting regulations—length of season, harvest methods, and limits—and have established wildlife management programs, generally housed within state fish and game or natural resource agencies.

The Department manages roughly one in every five acres of land in the United States and has stewardship responsibilities for natural resources on these lands. Through the National Park Service, Fish and Wildlife Service, Bureau of Land Management, and Bureau of Indian Affairs, the Department provides assistance to, cooperates with and, in some cases, co-manages with states to ensure healthy, viable wildlife populations. Free-roaming wildlife do not recognize jurisdictional boundaries. The Department shares thousands of miles of coterminous boundaries with state, private, and other Federal lands. To successfully combat this disease we must employ an approach in the wild and in captive herds that respects the varied roles of Federal and state agencies, as well as affected landowners, while also bringing the strengths of each respective entity to bear on the challenge we face.

Populations of deer and elk in a number of states and Canada have tested positive for CWD. Many states, like Colorado and Wisconsin, are in urgent need of basic information about CWD transmission and methods for control and prevention.

The U.S. Geological Survey (USGS) is the principal science and research agency for the Department. The USGS National Wildlife Health Center (the Madison Center) is the only Federal research facility specializing in wildlife disease research and is uniquely positioned to work with state fish and wildlife agencies, as well as Federal land management agencies. Since 1975, the Center has provided research, training, and technical assistance to states and other Federal agencies related to the diagnosis, prevention, and management of wildlife diseases in naturally occurring populations. Through the Madison Center, the USGS has coordinated activities with states and other Federal agencies on critical disease outbreaks such as West Nile Virus, Newcastle disease, avian cholera, botulism, and others.

The Department stands ready to assist with research, monitoring, information, and technical assistance roles in combating this disease in free-ranging deer and elk with our state partners. As more states detect CWD in their wild herds, they will need reliable information in a timely manner. As research reveals more clues about the disease, that information needs to be available rapidly to benefit state and

Federal efforts in controlling the disease. The Department can and does develop, utilize and share research knowledge and assist nationally in monitoring and surveillance programs to help ensure that the most appropriate response strategies are shared among wildlife managers in state and Federal agencies. The Department, through the National Wildlife Health Center, can establish a forum for technical information, including issues such as depopulating procedures, non-lethal testing procedures, disposal of infected carcasses, and worker safety.

The Department and the Department of Agriculture have agreed to form a Joint Federal CWD Working Group. The Working Group's mission will be to assist the states in a cooperative and coordinated manner. Leadership will be comprised of one person each from the Departments of Interior and Agriculture and key officials from each bureau or agency within those two Departments.

Currently, the Department is working with Colorado, Wisconsin, and other state fish and wildlife agencies in developing cooperative and synergistic research and control programs that are urgently needed for Chronic Wasting Disease. For instance, although a new diagnostic technique using tonsil tissue instead of brain tissue has been developed for live deer, this technique is not applicable to elk. Currently, this technique is best suited to captive animals. The Department proposes to participate with the state wildlife agencies to assist in a national program for the detection and management of CWD in wild herds of deer and elk.

The Department's land management bureaus can contribute to the application of science in the cooperative management of Federal lands under their control. The National Park Service, which manages more than 84 million acres contained in 385 park units, is extremely concerned about CWD and the potential impacts this disease could have upon the wildlife resources of the parks and adjacent lands and the ability of park visitors to view wildlife. To date, Rocky Mountain National Park is the only unit of the National Park System that is known to have elk and deer infected with the disease. However, Wind Cave National Park in South Dakota, and Agate Fossil Beds and Scotts Bluff National Monuments in Nebraska are at high risk of infection because the disease was recently detected in nearby wild deer and elk or in nearby facilities for captive rearing deer and elk.

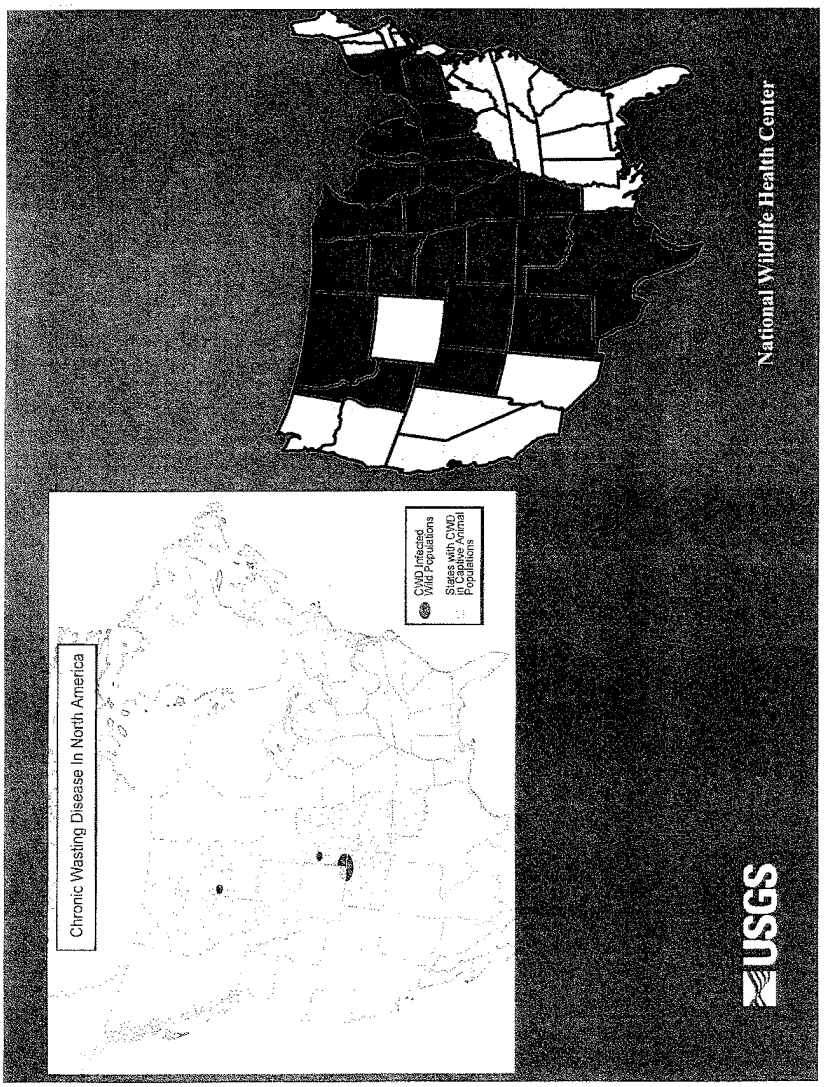
Chronic Wasting Disease, which is not endemic to Rocky Mountain National Park, was first discovered in the park in 1981. The prevalence of infection for deer, based on samples taken in the park is about 5–6%, the same for animals outside the park. The prevalence of the disease in elk, less than 1%, is believed to be the same for elk outside the park. For the past seven years, both the Colorado Division of Wildlife (CDOW) and the National Park Service have been collaborating on research projects, conducting surveillance of deer and elk movements, cooperating on capturing deer to obtain tonsillar biopsies for CWD testing, removing infected animals, and developing joint strategies for management of the disease. Recently the CDOW was asked to work with the park as a cooperator developing a Chronic Wasting Disease Management Plan and environmental impact statement for the Rocky Mountain National Park area. Federal and state funds will be used to support this effort.

This week, the National Park Service has approved for funding three projects related to CWD in two national parks. Two projects will be conducted in Rocky Mountain National Park. One of those projects will develop a management plan, and the other will implement interim management actions. In Wind Cave National Park, a study is planned to detect the occurrence and transmission of the disease in deer within and near the park. Animals will be monitored for movement patterns, including dispersal and migration, and other factors relevant to CWD.

To date, there are no known cases of CWD on National Wildlife Refuge lands. Regardless, the U.S. Fish and Wildlife Service and the CDOW recently agreed to jointly address CWD if, and when, it occurs on National Wildlife Refuge lands. This will include survey, testing, and active management, including any necessary efforts to depopulate infected herds.

The Department's stewardship role and cooperative relationship with states dictate that it step forward to help address this problem. Without coordination of information collected by Federal and state agencies, information provided by new research, and the means to rapidly disseminate that information to state agencies and Federal land managers, this disease could further impact wild deer and elk populations and have an impact on local economies.

Mr. Chairmen, this concludes my written statement and I will be pleased to respond to any questions you might have.



[The response to questions submitted for the record by the U.S. Geological Survey follows:]

U.S. GEOLOGICAL SURVEY ANSWERS TO SUPPLEMENTAL QUESTIONS FROM MAY 16 OVERSIGHT HEARING ON CHRONIC WASTING DISEASE

Questions from the Minority:

1. Some researchers speculate that CWD stems from deer used in a nutritional study at the Fort Collins research stations where CWD was first detected in 1967. Some believe they were fed sheep with scrapie or lived on scrapie-contaminated ground. What is your reaction to this theory? Is there any way to prove this?

Several hypotheses exist as to the origin of Chronic Wasting Disease (CWD), which include (1) spontaneous alteration of a protein (prion) and subsequent transmission to susceptible deer and elk; (2) a strain of scrapie that adapted to cervids;

or (3) disease from an unknown prion strain. There is little scientific evidence that supports any of these hypotheses. Links to scrapie involve potential exposure of experimental deer and elk to scrapie contaminated facilities. There is no documentation that suggests that deer and elk were fed diets containing sheep products, only suppositions. Other speculation includes the possibility that the animals were diseased when they arrived at the experimental facility; that the experimental animals had contact with free-ranging animals while at the facility; or that there was contact with other captive animals (both wild and domestic), possibly shipped from outside the immediate area, harboring the disease. Alternatively, models by the Colorado Division of Wildlife suggest that the epicenter of the outbreak is well north of Fort Collins and the research pens in question. The origin of CWD will likely never be determined. Research on transmission pathways may provide some evidence regarding the disease's origin and is also urgently needed to help us understand the potential risks.

2. Does it make sense for the Federal government to cost share with the States on research? What is an appropriate cost share?

An Interagency Task Force on CWD is preparing a plan to implement the actions described in the June 26, 2002, report titled "Plan for Assisting States, Federal Agencies, and Tribes in Managing Chronic Wasting Disease in Wild and Captive Cervids." The Implementation Plan will address possible cost-share options. A number of Federal agencies in the U.S. Department of the Interior (DOI) and the U.S. Department of Agriculture (USDA) have responsibilities for issues presented by CWD. In a few cases, these agencies have management or regulatory authority, such as in management of certain public lands or livestock disease control issues. However, since this is primarily a state responsibility, it is expected that the Federal role, working in cooperation with the States and Tribes, will be to conduct and support research, conduct surveillance where appropriate (e.g., on Federal lands), and provide technical assistance, communication, and education programs. Under these circumstances, a cost share arrangement may prove to be most effective, but the Task Force has not yet addressed this question.

3. Is the slaughter of animals or "depopulation" necessary? Is it a proven effective strategy?

There have been few well-studied efforts to control a disease of this magnitude in populations of free-ranging large mammals in the United States and, therefore, there is not a proven effective strategy for controlling disease in free-ranging deer and elk populations. Several management strategies for controlling CWD have been suggested (e.g., targeted removal, testing and culling, depopulation in focused areas, etc.), however, at the present time none of these methods have been scientifically evaluated in order to predict which management strategies are likely to be successful.

4. What progress is being made on urine or fecal tests for CWD? How soon will we have better capabilities for live tests?

At present, the focus of nearly all of the testing development for CWD is for animal tissues. There are several enzyme-linked immunosorbent assay (ELISA)-based plate assays under development of which none have been validated. There is a considerable effort, scheduled to begin this fall, that will attempt to validate at least some of these high throughput tests, but these efforts are dependent upon the availability of positive control tissues, which are in short supply. There is the report of a urine test, which has been developed overseas, for the detection of the causative agents for BSE (Mad Cow Disease) in humans and cattle. Other investigators are assessing the validity of this urine test in humans and cattle. However, no one knows if this test will work for CWD and this also would have to go through the same validation procedures as the ELISA-based tests.

There is currently too little known about this disease to develop a test that can be conducted "at the animal" with instant results for either live or dead animals. In concept, a live animal test is very attractive. In terms of practicality, the use and further development of live animal tests will likely have the greatest and most immediate advantage to testing in captive wildlife settings (game farms) or for specific management applications, such as National Parks, where large-scale depopulation is not an option. Under captive settings, animals can be captured and released into an enclosure where they cannot escape. These animals can be held for extended periods until test results are obtained, at which time positive animals can be more easily re-captured and killed. In most wild settings, the capturing and re-capturing of live animals is resource intensive and dangerous to both animals and personnel. Without a rapid field test, captured animals would have to be released, tagged or radio collared, and culled when test results confirm infection (cost estimates for this

process run between $400 and $600 per animal, depending on the method of capture used).

5. Some States, such as Nebraska, seek funding for double fencing at game farms. Is double fencing an effective tool in CWD management?

In theory, double fencing should be an effective way to prevent direct contact between wild and captive cervids, provided that the separation is complete and no other means of transmission across this barrier exists. However, because the transmission routes for CWD are not known, we cannot guarantee that this method will prevent transmission. Moreover, this method will not address the issue of translocation (intra or interstate) of CWD infected captive or wild cervids. The continued improvement of certification protocols and testing methods, including a ban or moratorium on the shipment of deer and elk across State boundaries would provide other effective tools in CWD management.

6. Are tonsillar biopsies as accurate as brainstem tests in detecting Chronic Wasting Disease infection? Can't biopsies detect infection even earlier than the brain pathology?

Biopsies or removal of lymphoid tissues (tonsils and some lymph nodes) are tested by the same test used on brain stem samples (obex). These tissues can be just as sensitive indicators of the disease as brain samples in deer (white-tailed and mule), but not in elk. This disease can be detected at earlier stages from lymphoid tissues (tonsil and some lymph nodes) than from brain in deer. Therefore, it is possible to have a positive tonsil test result with a negative brain test result early in the course of the disease. In captive deer, positive tonsillar biopsy was observed 2 to 20 months before CWD-related death and up to 14 months before onset of clinical signs of CWD.

7. What do we know about the incubation, perpetuation and transmission of the disease?

Most of what is known about the incubation, perpetuation, and transmission of CWD has come from studies on captive deer and elk, and much more remains to be determined. The incubation period for CWD in deer and elk is estimated to be 18 to 24 months and may be longer. As testing methods improve, younger animals (as young as 6 months old) have been shown to be incubating the disease. The period of infectivity, that is, when an animal is shedding infective material, is not known, but may occur over an extended period, even when the animal appears healthy. CWD is transmitted from animal to animal and likely from contaminated environments to animals. Transmission likely occurs via excretions, secretions, and from decomposition of infected carcasses. Anecdotal accounts suggest that contaminated environments may remain a threat for infection of deer and elk for extended periods, potentially years. The smallest amount of infective material that is required to produce disease is not known. The effects of animal density on disease transmission are not fully understood, but areas of very high animal density (e.g., at feeding or baiting stations) present an increased opportunity for spread of the disease.

Mr. McINNIS. Mr. Butler?

STATEMENT OF JAMES G. BUTLER, DEPUTY UNDER SECRETARY, MARKETING AND REGULATORY PROGRAMS, UNITED STATES DEPARTMENT OF AGRICULTURE; ACCOMPANIED BY RON DEHAVEN, D.V.M., DEPUTY ADMINISTRATOR FOR VETERINARY SERVICES, ANIMAL AND PLANT HEALTH INSPECTION SERVICE; CAIRD REXROAD, PH.D., ACTING ASSOCIATE ADMINISTRATOR, AGRICULTURAL RESEARCH SERVICE; AND PHIL SCHWAB, PH.D., LEGISLATIVE DIRECTOR, COOPERATIVE STATE RESEARCH EDUCATION AND EXTENSION SERVICE

Mr. BUTLER. Thank you, Mr. Chairman. I have been present throughout the discussion this morning and certainly listened and learned from the topics. We plan to cooperate in every effort.

I would like to submit my statement for the record and I will summarize comments from the Department of Agriculture.

There are three agencies within USDA currently involved in studying CWD: first, the Animal and Plant Health Inspection Service, which has the authority to deal with livestock diseases and to manage wildlife damage; second, the Agricultural Research Service, which is currently conducting CWD research; and finally, the Cooperative State Research Education and Extension Service, which provides grants to universities to conduct research in specific areas of CWD.

Surveillance for CWD has been a cooperative effort with State agriculture and wildlife agencies and USDA. Farmed cervid surveillance has been increasing since 1997 as an integral part of the USDA program to eliminate CWD from farmed elk, and to establish a certificate program for herds free of the disease. Since 1997, CWD has been diagnosed in 20 farmed elk herds in six States, Colorado, Kansas, Montana, Nebraska, Oklahoma, and South Dakota.

In September 2001, Secretary Veneman signed a declaration of emergency for CWD, which allowed APHIS to seek Commodity Credit Corporation funds. Since September, APHIS has received a total of $14.8 million in CCC funds, which have been used for CWD indemnity payments, testing, disposal, and surveillance.

The APHIS indemnity program is voluntary and producers who choose not to have an eligible herd depopulated are not required by APHIS to do so. Under this program, indemnity amounts are determined by an appraisal. USDA is paying up to 95 percent of the fair market value for these depopulated animals up to $3,000 of the appraised value of each animal. Additionally, in April of 2002, USDA agreed to buy out and depopulate exposed farmed elk herds in the area of Colorado where free-ranging animals have tested positive for the disease. Elk owners who agree to indemnity are allowed to restock their land only with non-cervid ruminants, like cattle and sheep. We will consider requests from other States based on availability of funding.

One thing that has been made clear by APHIS's work in the field, there is more need for research on this disease. ARS has been conducting numerous research projects regarding TSEs, among them, several important projects regarding Chronic Wasting Disease. CWD is more challenging than other BSE research because the disease affects mule deer, white-tailed deer, and elk with different pathogenic patterns. Diagnostic testing needs to be tailored for each of these species. Further control measures for captive farm-raised elk will optimally include a live animal test, while free-ranging deer would be tested by a deer-side screening of hunter-killed animals, which typically number in the tens of thousands over a short period in the fall.

With this in mind, ARS has several ongoing projects, including live animal tests for elk, techniques for detection of CWD agents in soil and water, and the development of a test that can be used at check stations during hunting seasons. ARS is also working on the identification of a gene possibly associated with resistance to CWD in elk. The gene is rare in the wild population and CWD prevalence in elk is low. Therefore, an oral challenge trial is being determined—the susceptibility is underway.

APHIS's National Wildlife Research Center in Fort Collins, Colorado, has been involved in research on CWD as well. NWRC is re-

searching ways to identify barriers, repellents, and other methods to keep deer and cattle separated. This research is conducted to control bovine tuberculosis, which may have much of the same information apply to CWD.

CSREES is also addressing CWD through its competitive research program. In Fiscal Year 2002, the national research initiative for animal and plant health specifically called for research on livestock-related wildlife interactions. Research proposals under this program are currently under peer review and awards will be made by late summer. In addition, CSREES is supporting a study through the critical issues program at the University of Wyoming, which is investigating the susceptibility of cattle to Chronic Wasting Disease. Finally, CSREES is administering a special grant program to Colorado State for the Center of Ecologically Important Infectious Animal Disease to study a variety of animal diseases, including CWD.

USDA is committed to fighting this serious health threat. The President's Fiscal Year 2003 budget reflects its commitment by including an increase in funding for APHIS, ARS, and CSREES. The budget requests an increase of $7.2 million for a nationwide CWD elimination and surveillance activities, which would be directed primarily toward captive cervids, $8.6 million for TSE research, $386,000 for targeted CWD, and $16.4 million for basic research in the emerging agriculture disease initiative of the national research initiative.

CWD is a disease that crosses State, county, and local boundaries and is present in both wild and farm populations. With this in mind, USDA has already met with our counterpart, as you have just heard, to coordinate a Federal response. The Department of Interior has agreed to form a joint CWD working group with USDA and the first meeting is scheduled for May 23. The purpose of this working group will be to assist the States in cooperation in a coordinated manner. ARS, CSREES, and U.S. Geological Survey are planning to sponsor a meeting in August to discuss CWD research priorities and to share information. ARS is also working with several universities, including Colorado State and the University of Washington, on CWD projects.

In addition, APHIS continues to work with its counterparts at the State level. USDA recognizes and respects the jurisdiction of States and acknowledges States' wildlife agencies as the lead in CWD. When CWD was found in free-ranging populations, APHIS has assisted and will continue to assist affected States by providing laboratory and diagnostic testing, and supporting and assistance in CWD surveillance activities.

APHIS has also provided support to Wisconsin and Colorado in harvesting deer and elk for further sampling after new finds in wildlife. APHIS's epidemiological team has worked with Wisconsin's State veterinarian to investigate the outbreak there.

Mr. MCINNIS. Mr. Butler, we are going to have to wrap it up because I want to give everybody an opportunity.

Mr. BUTLER. All right. Thank you.

Mr. MCINNIS. That was good.

[The prepared statement of Mr. Butler follows:]

Statement of Dr. Jim Butler, Deputy Under Secretary, Marketing and Regulatory Programs, U.S. Department of Agriculture

Mr. Chairman and Members of the Subcommittee, thank you for this opportunity to speak with you today about the U.S. Department of Agriculture's (USDA) efforts to research, monitor, and manage Chronic Wasting Disease (CWD) in deer and elk. CWD is a transmissible spongiform encephalopathy (TSE) found only in cervids (members of the deer family) in North America. First recognized as a clinical "wasting" syndrome in 1967 in mule deer in a wildlife research facility in northern Colorado, it was identified as a TSE in 1978. CWD is typified by chronic weight loss leading to death. While there is no known relationship between CWD and any other TSE of animals or people, the Administration believes that meaningful cooperation and coordination with industry, states, and other Federal agencies is vital in further addressing this issue.

There are three agencies within USDA currently involved in the study of CWD: first, the Animal and Plant Health Inspection Service (APHIS), which has the authority to deal with livestock diseases and to manage wildlife damage; second, the Agricultural Research Service (ARS), which is currently conducting CWD research; and finally, the Cooperative State Research, Education, and Extension Service (CSREES), which provides grants to universities to conduct research in areas such as CWD.

Surveillance for CWD has also been a cooperative effort involving State agriculture and wildlife agencies and USDA. Farmed cervid surveillance has been increasing each year since 1997 and will be an integral part of the USDA program to eliminate CWD from farmed elk and the establishment of a certification program for herds free of the disease. Since 1997, CWD has been diagnosed in 20 farmed elk herds in 6 States: Colorado, Kansas, Montana, Nebraska, Oklahoma, and South Dakota. In September of 2001, Secretary Veneman signed a declaration of emergency for CWD, which allowed APHIS to seek Commodity Credit Corporation (CCC) funds. Since September, APHIS has received a total of $14.8 million in CCC funds, which has been used for CWD indemnity payments and testing, disposal, and surveillance costs.

The APHIS indemnity program is voluntary, and producers who choose not to have an eligible herd depopulated are not required by APHIS to do so. Under the program, indemnity amounts are determined by appraisal. At present, USDA is paying up to 95 percent of the fair market value for depopulated animals up to $3,000 of the appraised value of each animal. Additionally, in April 2002, USDA agreed to buy out and depopulate exposed farmed elk herds in the area of Colorado where free-ranging animals have tested positive for the disease. Elk owners who agreed to the indemnity are allowed to restock their land with only non-cervid ruminants like cattle, swine, and sheep. We will consider requests from other States based on the availability of funding.

One thing has been made clear by APHIS' work in the field: there is a need for more research on this disease. ARS has been conducting numerous research projects regarding transmissible spongiform encephalopathies (TSE), among them several important projects regarding CWD. CWD is more challenging than other TSE research because the disease affects mule deer, white tailed deer, and elk with different pathogenic patterns. Diagnostic testing needs to be tailored for each species. Further, control measures for captive, farm-raised elk will optimally include a live animal test, while free-ranging deer would best be tested by "deer side" screening of hunter-killed animals, which typically number in the tens or hundreds of thousands over a period of a few weeks each fall.

With this in mind, ARS has several ongoing projects including a live animal test for elk, techniques for the detection of the CWD agent in soil and water, and the development of a test that can be used at check stations during hunting season. ARS is also working on the identification of a gene possibly associated with resistance to CWD in elk. The gene is rare in the wild population and CWD prevalence in elk is low. Therefore, an oral challenge trial to determine disease susceptibility is underway.

APHIS' National Wildlife Research Center (NWRC) has also been involved with research on CWD. NWRC is researching ways to identify barriers, repellents, and other methods to keep deer and cattle separated. This research is being conducted to control bovine tuberculosis, but much of the information will apply to CWD. NWRC is also planning construction on a wildlife disease building because of APHIS' increasing involvement in wildlife diseases.

CSREES is addressing CWD through its competitive research programs. The Fiscal Year 2002 National Research Initiative Animal Health program specifically called for research on diseases related to livestock-wildlife interactions. Research

proposed under this program is currently under peer-review and awards will be made by late summer. In addition CSREES is supporting a study through the Critical Issues program at the University of Wyoming, which is investigating the susceptibility of cattle to Chronic Wasting Disease. Finally, CSREES is administering a Special Research Grant to Colorado State University for the Center for Economically Important Infectious Animal Diseases to study a variety of animal diseases, including CWD.

USDA is committed to fighting this serious health threat. The President's Fiscal Year 2003 budget reflects this commitment by including increases in funding for APHIS, ARS, and CSREES. The budget request includes an increase of $7.2 million for nationwide CWD elimination and surveillance activities, which would be directed primarily toward captive cervids; $8.6 million for TSE research, of which $386,900 is specifically targeted for CWD; and an estimated $16.4 million for competitive basic research into the emerging agricultural disease initiative of the National Research Initiative, which would include grants to study CWD and other TSE diseases.

CWD is a disease that crosses State, County, and local boundaries and is present in both farmed and wild populations. Because of this, it is our view that combating CWD must be a coordinated and cooperative effort between USDA, the U.S. Departments of Interior and Health and Human Services, and State departments of agriculture and wildlife.

With that in mind, USDA has already met with its counterparts at Interior in an effort to coordinate the Federal response. USDA and The Department of Interior have agreed to form a Joint Federal CWD Working Group. The purpose of the working group will be to assist the states in a cooperative and coordinated manner. ARS, CSREES and the U.S. Geological Survey are planning to sponsor a meeting in August to discuss CWD research priorities and share information. ARS is also working with several universities, including Colorado State University and the University of Washington, on projects related to CWD. USDA is also talking with the Department of Health and Human Services because of the Department's jurisdictional responsibilities with deer and elk products as feed for animals or human food (including dietary supplements) and cosmetics.

In addition, APHIS continues to work with its counterparts at the State level. USDA recognizes and respects the jurisdiction of States and acknowledges the State wildlife agencies as the lead in CWD in wildlife. When CWD has been found in free-ranging populations, APHIS has assisted, and will continue to assist, the affected States by providing laboratory and diagnostic testing support and by assisting with CWD surveillance activities. APHIS has also provided support to Wisconsin and Colorado in harvesting deer and elk for further sampling after new finds in wildlife. An APHIS epidemiological team has worked with Wisconsin's State Veterinarian to investigate the outbreak there. A report on the team's work is currently being compiled.

In conjunction with the States and industry groups, APHIS is developing a nationwide program to eliminate CWD from farmed elk. The Agency will soon issue proposed regulations for this program, which, if finalized, would require that all captive cervids be enrolled prior to interstate movement.

We look forward to continuing our work on CWD with our Federal and State counterparts and are committed to decreasing the occurrence of this disease in free-ranging and farmed deer and elk populations. Thank you again for this opportunity. I will be happy to answer any questions you may have.

Mr. MCINNIS. Doctor, you may proceed.

STATEMENT OF GLEN ZEBARTH, D.V.M., NORTH AMERICAN ELK BREEDERS ASSOCIATION

Dr. ZEBARTH. Thank you, Mr. Chairman. I would like to thank the Committee for the opportunity to represent the North American Elk Breeders Association. My name is Glen Zebarth. I am a veterinary practitioner from Alexandria, Minnesota.

The North American Elk Breeders Association, NAEBA, has taken a role in a response to CWD eradication in the farmed elk industry, which are animals that are raised and propagated behind fence and is defined as such in the Animal Health Protection Act of the 2002 Farm Bill. The goal of NAEBA, the elk industry, from when it was first discovered in farmed elk in a cow in Saskatch-

ewan in 1996 and subsequently discovered in a farm situation in South Dakota in 1997, has been eradication. In opinion, there is nothing controversial about CWD. We do not want it and neither does anyone else, irregardless of where the animals are, and our goal has been toward eradication.

Our action to obtain this goal of eradication started with a symposium called in August 1998 and resulted in a model surveillance control program that was submitted to the United States Animal Health Association, Wildlife Diseases Committee, and the Alternative Agriculture Committee in 1998. That protocol has been resubmitted and worked on and adjusted each year since and was a template for the emergency interim rule which Dr. Butler spoke that was implemented in September of 2001.

That program basically contains the key points of a third-party verified inventory of all the animals in a herd; a verified record of animals that come in and leave the herd for a period of 5 years; a mandatory testing of the brain of every animal that dies, irregardless of the cause of death, that is in excess of 16 months of age in elk. It also contains a certification phase that after a producer has participated in this program in excess of 5 years, he is certified free.

As Dr. Miller reported, in elk, the incubation period typically is 16 to 30 months. That would also be supported by Canadian data from the CFIA that involved the depopulation of 9,000 animals on 42 facilities, and all of those animals, CFIA reports, have an epidemiological link back and a connection, not a sporadic occurrence, but an epidemiological link and connection and fall within that timeframe of incubation period.

In regard to matters of threats to human health or to livestock, the FDA's BSE Scientific Advisory Committee met on January 19 of 2001 and the Chairman, Dr. Paul Brown, is quoted and his conclusion was that, "To date, there is no identified instance of disease in human beings attributable to Chronic Wasting Disease, either through contact or through consumption."

The National Institutes of Health Rocky Mountain lab in Hamilton, Montana, in a published peer review journal in the year 2000 concluded that a barrier at the molecular level that should limit the susceptibility of non-cervid species to CWD exists.

Dr. Beth Williams, who is in the audience today, has been a leading expert in CWD and first described the syndrome, and she has been involved in a 10-year study involving 12 cattle that were orally fed CWD, exposed, and have not become infected in excess of 4 years of exposure.

Dr. Daniel Gould at Colorado State University did a follow study in Colorado of 262 adult-aged cows that went to slaughter from the endemic area in Colorado and those animals were all tested and found to be completely negative and no evidence of prion protein in any of those cattle that had lived their entire age life in the endemic area.

The elk industry would like to thank USDA-APHIS for their great support in implementing the program and the funding and would urge continuing funding for USDA-APHIS to help the elk industry and the farmed cervid industry eliminate and completely eradicate this disease from our farm populations. Thank you.

Mr. MCINNIS. Doctor, thank you very much.

[The prepared statement of Dr. Zebarth follows:]

Statement of Glen Zebarth, DVM, North American Elk Breeders Association

On behalf of the North American Elk Breeders Association (NAEBA), it is an honor to testify before the Subcommittee on Forests and Forest Health and the Subcommittee on Fisheries Conservation, Wildlife and Oceans. NAEBA developed the model CWD Eradication Program, which the USDA adopted, and has been actively involved in educating and encouraging its members to fully participate in the Chronic Wasting Disease program. NAEBA has also been providing science-based information about CWD to the public and has been actively supporting, through its affiliations with other elk industry groups, ongoing scientific research of Chronic Wasting Disease, including research aimed at developing a live animal test for the detection of CWD and a genetic challenge study conducted by the Elk Research Council and the USDA.

As the leading industry representative, NAEBA recommends that state and Federal agencies adopt an interagency, public-private partnership to eradicate CWD in both domestic and wild cervids.

No Threat to Humans or Livestock

On January 19, 2001, I was privileged to deliver testimony before the FDA TSE advisory committee, which is comprised of the leading scientific researchers in the government and private sector. Some of the individuals preset at this testimony were also present at those hearings, including Dr. Mike Miller. After reports and discussion on CWD, Committee Chairman Dr. Paul Brown concluded: "To date, there's no identified instance of disease in human beings attributable to Chronic Wasting Disease, either through contact (with sick animals) or through consumption".

While NAEBA supports additional scientific studies on the actual cause of CWD and to develop a live animal test, it is important to take a moment to summarize some of the key research on CWD to date. Several studies have been conducted to determine the transmissibility of CWD from infected cervids to other species. In one study, conducted at the NIH's Rocky Mountain Laboratories in Hamilton, Montana, researchers determined that there existed "a barrier at the molecular level that should limit the susceptibility of—non-cervid species to CWD" (Raymond, C.J. et al. "Evidence of a molecular barrier limiting susceptibility of humans, cattle, and sheep to chronic wasting disease." The EMBO Journal. 19.17 (2000):425–4430.

Real-life conditions support the presence of a species barrier. Beth Williams, DVM, Ph.D., of the Wyoming State Veterinary Laboratory and leading expert on CWD, said that researchers have found no evidence that CWD can be transmitted from deer and elk to cattle under natural conditions and provided an interim report on two studies supporting these findings. In a 10-year study involving 12 cattle that were orally fed CWD-infected deer brain one time in 1997, all of the cattle are healthy. In a contact study also begun in 1997, 24 cattle are being kept alongside CWD-infected deer, and all 24 are healthy.

In addition, a wide-ranging survey of cattle in contact with CWD-exposed free-ranging deer supported the species barrier. In 1998, Dr. Daniel H. Gould of Colorado State University conducted a geographically targeted survey of adult-age cattle (five years or older) on 22 ranches where cattle co-mingled with free-roaming deer. None of the 262 cattle brains analyzed had any indications of Chronic Wasting Disease, and no evidence of prion proteins was detected in any animal tissue.

In contrast, in a study where 12 cattle were injected intracranially with CWD-infected deer brain, three cattle became sick and were euthanized (Hamir, A.N., et al. "Preliminary Findings on the Experimental Transmission of Chronic Wasting Disease Agent of Mule Deer to Cattle." Vet. Diagn. Invest.13 (2001). This type of transmission, however, would never happen under natural ranching conditions or in the wild.

Proactive Measures to Eliminate CWD

While we believe that CWD poses no threat to humans or cattle, it does present a very real threat to our livestock, defined in the new farm bill as "any farm raised animal", which includes domestic deer and elk. CWD is not only a threat to our domestic elk and deer; it also endangers wild cervids. As an industry, we take the presence of CWD very seriously and we are committed to eliminating the disease from all cervids, both domestic and wild.

Additionally, NAEBA is concerned with the public perception of CWD as a threat to human health. We have undertaken educational initiatives to allay consumer con-

cerns about the transmissibility of CWD; however, more education and research needs to be conducted to ensure that the public has all the pertinent information about CWD, its origins, symptoms, and modes of transmission.

The North American Elk Breeders Association has taken the leading role in eradicating CWD from domestic elk. The goal of our program has been and continues to be the complete eradication of CWD in farmed elk. It is not just the containment of the disease. When the disease was first identified in farmed elk in Canada in 1996 and then in the United States in December of 1997, the control and eradication of the disease became a top priority.

In fact, when CWD was first discovered in 1997 at a farmed facility in South Dakota, the elk breeders of that state unanimously voted to support emergency legislation to address CWD aggressively. Ranchers of infected herds in South Dakota, out of respect of consumers' concerns, did not sell antler from CWD present herds and instead, voluntarily eradicated their herds. In January 1998, all elk farms were placed under mandatory surveillance and every farmed elk that died aged 16 months or older regardless of cause was tested for CWD. Since 1998, elk farms in South Dakota have been CWD free indicating that a CWD eradication program can successfully work to eliminate the disease in farmed elk. North Dakota, which was also placed under a similar program in 1998, has never had a single case of CWD.

Today, all but one elk ranch in Craig, Colorado that has had a case of CWD has been depopulated.

Both the United States Department of Agriculture (USDA) and the Canadian Food Inspection Agency (CFIA) have adopted aggressive programs for the control and eradication of CWD, based on the model program that was drafted by NAEBA in 1998. Protocols include:

1. Verified inventory records on herds and animals. Regulations include tattoo records, microchip implants, and sale and transfer records.
2. Required examination of the brains of all animals that die at over 16 months of age, regardless of their cause of death.
3. Certification of herds with CWD-negative status.
4. Depopulation of herds with one case of CWD. This is a standard disease eradication program necessitated by the absence of a reliable ante-mortem CWD test.
5. Payment of indemnity (of fair market value up to $3000 per animal) for all animals that are killed because of potential exposure to CWD.

In addition, Federal law prohibits feeding domestic elk with animal remains. This ensures that animal by-products are not passed through the food chain and eliminates feeding as a potential vector for CWD transmission.

One of the most important components of the CWD control program is the payment of indemnity to ranchers who are forced to depopulate their elk herds because of potential exposure to CWD. Indemnity payments have been part of the traditional role of government agencies in agricultural endeavors.

NAEBA supports the USDA's Uniformed Method and Rules, which requires herds to participate in the CWD program before they are permitted to ship elk interstate. Intrastate movement is a state right's issue. NAEBA encourages all ranchers to participate in the CWD program and also suggests that intrastate movement of elk be restricted to those ranchers who are participating in the program.

CWD in Colorado

CWD was first diagnosed as a clinical syndrome in captive elk in a Colorado Division of Wildlife research facility in Fort Collins in 1967. Since that time, the disease has been determined to be endemic in northeastern Colorado and southeastern Wyoming. In fact, the disease prevalence is as high as 14% of the mule deer population in specific game management areas (http://wildlife.state.co.us/hunt/HunterEducation/chronic.asp).

Let me be very clear about definitions. Captive elk or deer are cervids that were captured from the wild and placed behind fences as in the Colorado DOW research herd. Farmed or domestic elk are elk raised on farms, some of which came from more than 10 generations of domestic herds. Farmed elk, by definition established by the recently signed Farm Bill, is considered livestock. This is an important distinction.

In late September 2001, the appearance of CWD in Colorado elk ranches was the first real test of the national CWD program. Under the guidelines of the national CWD Eradication and Control program, Federal and state agencies, as well as affected elk ranchers, worked quickly to identify, depopulate, and test all exposed elk.

The program worked successfully in quickly identifying, depopulating, and testing all exposed elk. A total of 1,732 elk in Colorado were depopulated and tested, and only 44 of these animals tested positive for CWD. Of the 44 positive test results,

all but two either appeared at or could be traced back to the source herd. The other two positive cases were discovered on a ranch in Longmont.

More than 200 animals were shipped to 15 states from affected Colorado elk ranches. These animals were also quickly identified, depopulated, and tested for CWD. Only one of 200 elk tested positive for the disease. The lone positive case was in a Kansas herd of 16 elk: the remaining elk in the herd were tested and determined negative.

CWD in Nebraska

Unfortunately, CWD also recently appeared in Nebraska. On an elk and deer farm in northwestern Nebraska, state officials found the disease present in both deer and elk. The deer herd, which had been a wild herd that was fenced-in 1991, had an infection rate of 50%, while the elk herd had an infection rate of 10%. All the exposed animals were depopulated and tested for CWD in accordance with the USDA regulations.

Additionally, wild deer culled from the land surrounding the ranch tested positive for CWD. Wyoming management unit 16 is less than 30 miles from the affected ranch in Nebraska, and results from a study conducted in 2000 show the unit has a disease prevalence of 4.1% in free-ranging mule deer and 15.4% in free-ranging whitetail deer (Miller, M. W. et al, "Epizootiology of chronic wasting disease in free-ranging cervids in Colorado and Wyoming" Journal of Wildlife Diseases., Oct. 2000, 36:4, 676–690.).

CWD in Wisconsin

The occurrence of CWD in Wisconsin is significant because it marks the first time that the disease has appeared east of the Mississippi River.

While CWD has been detected in wild deer in Wisconsin, there has never been a case of the disease in domestic elk or deer in the state. Contrary to reports, there has never been a single documented case where CWD was transferred from an elk or deer ranch into the wild.

Because of the appearance of CWD, the Wisconsin Commercial Deer and Elk Farmers Association (WCDEFA) has agreed to a temporary moratorium of the shipment of deer and elk. WCDEFA also supports a mandatory CWD surveillance program, with phased-in importation requirements (as outlined earlier in this testimony) that would allow the transport of deer and elk only if they come from herds that have been CWD-free for five years. WCDEFA is cooperating with state agencies to help educate the public and alleviate concerns about CWD impacting human health.

NAEBA believes that the phased-in importation requirement plan, along with the CWD Eradication Program, is working to protect domestic as well as free-ranging cervids form CWD and to eliminate the disease. A permanent ban on the movement of cervids will only exacerbate fears, adversely impact hunting economies of affected states, and further erode markets for elk and deer products.

Public hysteria, fueled by sensationalist comments in print media by critics of the elk industry, if continued to be left unchecked, can do more harm to the hunting economies of affected states than the disease itself.

Establishing an Inter-agency Approach to CWD Eradication

We are glad to see that wildlife managers from states where CWD is present in wild populations are expressing their concerns about the disease; it is imperative that we work together to eradicate the disease entirely.

NAEBA is submitting recommendations that we feel will build an inter-agency public-private approach to CWD eradication.

1. Build regional coalitions to battle CWD. Individual states/provinces cannot effectively fight CWD alone, due to financial concerns and high disease prevalence in isolated geographic areas. NAEBA urges state and national wildlife managers and agricultural regulators to form cooperative agreements on a regional basis to research and disseminate important CWD information, and to search out and eliminate infected animals.
2. Establish a CWD Task Force. Any resolution of the CWD infection must involve all affected parties, including wildlife managers and agricultural regulators, as well as representatives of the domestic cervid industry, conservation and hunting groups, and other concerned stakeholders. State, provincial, or national governments should fully fund these task forces and charge them with developing a 10-year strategic plan for eliminating CWD from all cervids.
3. Initiate cooperation with Federal and national agencies. States and provinces should work with various Federal and national agencies, including USDA, US Department of the Interior, US Forest Service, CFIA, and National Parks Services to initiate more proactive CWD detection and eradication programs.

4. Move more decisively when CWD appears in wild cervid populations. States and provinces should aggressively control CWD in wild cervid populations by culling animals from known endemic areas, including Colorado, Wyoming, Nebraska, and Wisconsin. Additionally, states and provinces should make every possible effort to completely eliminate potentially exposed wild cervid populations in areas where contact is most likely between potentially infected cervids and humans, livestock, and agricultural production.
5. Pursue a live CWD test. States, provinces, and the domestic cervid industry should empanel the leading experts on CWD and fund extensive research and development to create a live CWD disease test that will focus on all disease pathogens or by-products, including prions.
6. Double-fence domestic herds in endemic areas. Using state, provincial and national funds, as well as donated industry and conservation forces, states and provinces should use double fencing on domestic cervid facilities to protect herds from infection in known endemic areas.
7. Restrict movement of hunted cervid carcasses from endemic areas to those tested negative for CWD. The movement of carcasses that have not been tested for CWD from endemic areas poses a threat to free-ranging and domestic cervids in other areas.

Recently, the USDA submitted a request $7.2 million as part of the President's budget to help combat CWD. NAEBA fully supports this request and is asking that additional funds be appropriated for testing of free-ranging cervids for CWD.

The North American Elk Breeders Foundation (referred to hereafter as "the Foundation"), a 501(c) 3 tax-exempt, non-profit educational organization, is requesting Federal funding in the amount of $600,000 to engage in a proactive, nationwide science-based educational campaign. The Foundation's educational campaign is designed to encourage elk ranchers to participate in the CWD program, to provide science-based information to the public, and to ensure that their concerns regarding CWD are addressed.

The Foundation is best positioned to educate elk ranchers and to continue its educational efforts to the public. Yet, due to the increasing attention on and prevalence of CWD, our limited resources are not sufficient to address these legitimate public concerns. We are asking Congress to assist us in this important effort to continually educate and inform the public about CWD.

While all research has focused on prions as the causative agent of CWD, prions might be the result and not the cause. Knowing the exact cause of the disease will only accelerate the development of a live-animal test as well as the formulation of a vaccine or other treatment. CWD may be caused by a virus, bacteria or bacteriaphage (a viral infected bacteria). It is important to know the cause of CWD in order to effectively pursue a cure.

In addition, it is critical to pursue a live animal test, further test decontamination methods, and to continue research on genetic resistance. NAEBA, the North American Elk Breeders Foundation and the Elk Research Council vigorously support the competitive proposal process for research funds and looks forward to participating in and supporting further research.

NAEBA Comments on USDA Interim Rule

The USDA specifically requested feedback on herd reintroduction after depopulation and decontamination methods. NAEBA submitted a response summarized below.

There are a number of factors to consider when determining when elk can be reintroduced and the risk of CWD re-infection minimized. These factors include:

1. The level of infectivity on the ranch.
2. The stage each of elk detected with CWD.
3. Whether CWD was transmitted to other elk on the premises or whether the CWD positive elk is a trace-forward animal (i.e. an elk shipped from an exposed herd).
4. If the CWD positive elk is a trace forward elk, how long was the elk on the trace forward herd.
5. Research on ranches where positive animals were depopulated and whose owners have reintroduced elk.
6. Any environmental factors unique to the ranch.

We believe that the herd plan, developed by the state veterinarian, a member of APHIS along with the rancher, should properly address the specific issue of elk reintroduction.

In addition, NAEBA sees decontamination as a major area for further research. The Elk Research Council is involved in a decontamination study that has been ongoing for the past 18 months. NAEBA recommends decontamination procedures for

ranches that have been exposed to CWD-positive animals. This will help remove the infectious agent from the premises and will allow breeders to utilize their property again. Decontamination procedures should include burning or deep burial of contaminated materials, removal of soil (up to four inches deep) and replacement with an impervious material such as stone dust, removal of all organic material, and disinfectant of equipment with a substance such as sodium hypochlorite or sodium hydroxide.

Value of Elk Ranching

Game farming has a rich history, dating back to Persian, Greek, and Roman societies. Elk ranching in particular is a value-added agricultural industry with annual sales of more than $50 million. It is a viable alternative for family ranching, and many ranchers have made significant financial investments in their operations. Elk ranching produces healthy, safe, beneficial products such as lean red meat and velvet antler dietary supplements for joint mobility and endurance.

Tapping into the recreational aspect of elk ranching by allowing hunting on appropriate private facilities has not only been successful, but as predicted has enhanced rural economies and added another profitable agricultural opportunity to the state. Elk ranching is one of the last bastions of family farming in this country, and our industry is willing to do whatever is necessary to protect our animals from CWD.

Those of us involved in elk ranching believe that by working together, trade organizations and state and Federal agencies can eradicate CWD from all cervids, both domestic and wild. By eliminating the disease, consumers can continue to enjoy the health benefits of elk products such as lean red meat and velvet antler, and ranchers throughout North America can continue to thrive in partnership with nature for many years to come.

[The response to questions submitted for the record by Mr. Zebarth follows:]

RESPONSE TO QUESTIONS SUBMITTED BY GLEN L. ZEBARTH, DVM

Your testimony advocates "phasing-in" new requirements for animal imports and monitoring B as opposed to immediate action. Given that no one wants the disease to spread, why don't you advocate immediate implementation?

I do advocate immediate action in eradicating CWD in all cervids. The North American Elk Breeder's Association initiated a model CWD surveillance control program in October 1998. We would at this time advocate a 100% mandatory monitoring program for all cervids, free-ranging and farmed. I would advocate an interstate movement requirement of 36 months CWD surveillance with that level ratcheting up to 60 months. The increase from 36 months to 60 months is the area to which I must have been referring in regard to the quote "phasing in". The accepted incubation period of CWD in elk is 15 to 35 months, so that an immediate requirement of 36 months surveillance exceeds the incubation period. The additional time span of going to 60 months is added insurance.

I would strongly encourage the Federal Government to support state veterinarians and their animal health departments to obtain adequate funding to implement these measures.

I would also advocate the same interstate movement requirements for whole carcasses. Especially those moving from know endemic areas. As a proven method of transmission is oral ingestion of infected CNS tissue.

I appreciate the opportunity to respond, if I can be of any further assistance please contact me.

Mr. MCINNIS. The next doctor, Dr. Wolfe. You may proceed.

STATEMENT OF GARY J. WOLFE, PH.D., CHRONIC WASTING DISEASE PROJECT LEADER, ROCKY MOUNTAIN ELK FOUNDATION, BOONE AND CROCKETT CLUB, MULE DEER FOUNDATION

Mr. WOLFE. Good afternoon, Mr. Chairman and other members of the Committee. My name is Gary Wolfe and I represent an alliance of three sportsmen's-based wildlife conservation organizations.

These are the Rocky Mountain Elk Foundation, the Mule Deer Foundation, and the Boone and Crockett Club. We really appreciate this opportunity to speak with you today about this very serious wildlife disease and we thank you for giving it the Congressional attention it deserves.

Mr. Chairman, if you will accept my written testimony for the record, I will just briefly summarize it here for the Committee this afternoon.

The Elk Foundation, the Boone and Crockett Club, and the Mule Deer Foundation are deeply concerned about the impact that Chronic Wasting Disease is having in certain localized areas, as we heard this morning, and we are also very concerned about its potential to spread throughout North America, possibly with devastating consequences to our wild deer and elk herds. So these three organizations have tried to do something about it. They have agreed to pool their resources, to share information, and collaborate on strategies and methods to positively assist with this Chronic Wasting Disease crisis.

Other sportsmen's-based conservation organizations have recently learned of this alliance. They have expressed an interest in joining us, and I believe we are going to have some more groups coming on board. We recognize we have no authority for wildlife management. We do not want any authority for wildlife management, but we want to be a good partner and be in a supportive role for our agency partners there.

So I would like to share with you for a moment some of the projects this coalition is going to be undertaking. We believe that one of the greatest needs is the timely and accurate dissemination of information to the public regarding Chronic Wasting Disease. That came up several times this morning. I think Russell George did an eloquent job of emphasizing the importance of that.

So to help accomplish that objective, we have several things in line. First and foremost, we are going to be cosponsoring, along with several agency partners, a National Chronic Wasting Disease Symposium that is scheduled in August of this year, and the intent is to bring together the very best minds that are working on Chronic Wasting Disease and the leading wildlife managers that are involved in this and summarize not only the state of the knowledge, but really to come up with very specific recommendations as to what can be done to manage the disease.

We also plan to participate in a number of regional forums around the country. For example, this past weekend, I was in Boise, disease, for a Chronic Wasting Disease Symposium that was sponsored, in part, by the Andrews Center for Public Policy, and that conference was attended by representatives from State and Federal agencies, sportsmen's organizations, game ranchers, and other concerned citizens, and I believe that really helped promote the knowledge and communication amongst the parties concerning the issue.

One project I am really excited about and I think is going to make a difference in this communication is a comprehensive website that our partners are developing. This is going to be a comprehensive Chronic Wasting Disease website to facilitate the public's access to timely and accurate information on the issue. Un-

fortunately, issues tend to get blown out of proportion at times. They can either be underplayed or overplayed. We want to assist the public with getting the facts and separate fact from myth in this regard. We are going to be providing links to other sites. Several of the State agencies have excellent sites already up. So we are going to link to some other good sources there.

Additionally, we are working with State and Federal agencies to develop policy recommendations, and as you see today, we intend to provide testimony and recommendations to key decisionmakers, such as State wildlife commissions, State legislatures, and the U.S. Congress.

In regards to specific recommendations concerning ways in which the Federal agencies and Congress can support the States' efforts, we would like to offer several suggestions. In actuality, this is just to reiterate a number of good suggestions that were brought forward this morning.

First and foremost, successful control and ultimate eradication of Chronic Wasting Disease is certainly going to depend upon a cooperative and well-coordinated effort between the various Federal agencies and the State agencies. We encourage you to rely heavily upon the recommendations from State wildlife agencies as it relates to managing wild populations.

I was heartened to hear your opening comments this morning, Mr. Chairman. I think that is right on track. We are certainly going to encourage you to either have somebody at this Chronic Wasting Disease Symposium, but maybe more importantly, request a report back to this Committee from the sponsors of the Chronic Wasting Disease Symposium with some very specific recommendations.

And fourth and last, because efforts to control Chronic Wasting Disease are costly and redirecting resources away from other State agencies' wildlife departments, we reiterate the need for some significant Federal funding being appropriated for several activities, briefly, to assist the State wildlife management agencies to conduct Chronic Wasting Disease surveillance with the wild populations, to assist them with their efforts to eradicate in it areas where it does exist in the wild, and also to help fund the much needed increased capacities of our State veterinary diagnostic laboratories.

I see I am out of time. In conclusion, I would just like to say, please recognize that there are hundreds of thousands of sportsmen's conservationists in America that are concerned about this issue. We are willing to help and we are looking forward to working with Congress and our agency partners on resolving this issue. Thank you, Mr. Chairman.

Mr. McINNIS. Thank you, Dr. Wolfe. I would point out that your testimony is very refreshing. There are private organizations out there that want to assist us and I think it is excellent. I think it is a great idea. Your four steps are very well taken.

I would ask, if you do not mind, we would like to have members of our staff probably, possibly members of the Committee, involved in the symposium, as well, and that extends to all our guests who are having meetings or things in regards to this. Our staff is devoting a lot of time to this issue.

So this kind of communication between our organizations is important, and I am impressed with the commitment of resources which your organizations have made to assist us with this. As you said in your comments, we are all in this together. So, Dr. Wolfe, thank you very much for your testimony.

Mr. WOLFE. Thank you, Mr. Chairman, and we will certainly keep your staff informed and involved in what is going on.

Mr. MCINNIS. That will be very, very helpful.

[The prepared statement of Mr. Wolfe follows:]

Statement of, Gary J. Wolfe, Ph.D., Chronic Wasting Disease Project Leader, Rocky Mountain Elk Foundation

Good morning Mr. Chairman and distinguished members of the Subcommittees. My name is Gary Wolfe, and I represent a coalition of three sportsmen's-based, non-profit wildlife conservation organizations'the Rocky Mountain Elk Foundation, Boone and Crockett Club, and Mule Deer Foundation. I, and the organizations I represent, sincerely appreciate the opportunity to share our concerns regarding Chronic Wasting Disease (CWD) with you today. Thank you for giving this serious wildlife disease the Congressional attention it deserves.

The Rocky Mountain Elk Foundation, Boone and Crockett Club, and Mule Deer Foundation are deeply concerned about the impact CWD is having, and may continue to have, on North America's wild deer and elk populations. We are concerned about the possible, but currently unknown, threats to other wild cervids, domestic livestock and humans. And, we are also concerned about the impact this disease may have upon millions of Americans' opportunity to hunt deer and elk each fall, and upon their confidence to put healthful wild venison on their families' tables.

In response to these concerns, these three conservation organizations have recently formed an alliance to address CWD. The organizations have agreed to pool resources, share information, and collaborate on strategies and methods to positively impact the CWD issue. Upon hearing of this partnership, other wildlife conservation organizations have expressed an interest in joining our CWD Alliance.

We believe that one of the greatest needs is the dissemination of timely and accurate information regarding CWD to our members, the general public, media and decision makers. It is important to separate fact from myth. Concerns about the seriousness of this disease should not be downplayed; but at the same time, unwarranted fears leading to hysteria and overreaction need to be quelled. To that end, the CWD Alliance is:

- Co-sponsoring, along with the National Wildlife Federation and several state wildlife agencies, a national CWD Symposium, scheduled for August 6 & 7, 2002 in Denver, CO. This conference will provide a common forum for concerned groups and regulatory agencies to discuss issues concerning CWD. The intent is to summarize the current information about the disease and present the status of management programs conducted by various agencies and organizations in an effort to control this disease. Most importantly, information and discussions presented at this conference will help shape recommendations for future management actions.
- Developing a comprehensive CWD website (www.cwd-info.org) to facilitate the public's access to breaking CWD news, scientific literature, ongoing research studies, recommendations from professional wildlife management agencies, links to other CWD information sources, and perhaps most importantly an easy to comprehend CWD overview including "Frequently asked Questions".
- Cooperating on the publication of timely and informative CWD articles in our respective organizations' member magazines.

Other activities of the CWD Alliance include:

- Consideration of grant requests for specific CWD research and management projects
- 1Working with state and Federal agencies to develop policy recommendations for the management and eradication of CWD
- Providing expert testimony to select decision makers such as state wildlife commissions, state legislatures, and the United States Congress.

We would like to offer the following recommendations regarding ways Federal agencies and Congress can support state wildlife management agencies and other involved state agencies in the control of Chronic Wasting Disease:

- First and foremost, successful control and eradication of CWD in both wild and captive populations of deer and elk will depend upon a cooperative approach

and a well-coordinated effort between Federal and state agencies. We encourage you to rely heavily on the recommendations of the state wildlife agencies when considering Federal regulations or congressional legislation regarding CWD. Any such actions should recognize and reinforce the principle that state wildlife agencies have the primary responsibility for managing wild cervid populations.

- Secondly, since CWD may be spread to new areas through commercial trade in captive cervids, thus placing wild populations of deer and elk at risk, the United States Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) should work closely with state wildlife agencies in the development of regulations affecting the interstate shipment of captive cervids.
- Third, request that the sponsors of the upcoming national CWD Symposium report back to these congressional subcommittees following the conference with specific recommendations for action.
- Fourth, because efforts to control CWD are costly and are taking critical limited resources away from the impacted states' other wildlife management programs, we would like to see significant Federal funding appropriated to:
  * Support additional research into the diagnosis, pathogenesis, and epidemiology of CWD.
  * Assist state wildlife agencies with the costs associated with the surveillance and testing of wild deer and elk populations for the presence of CWD.
  * Assist state wildlife agencies with the costs associated with efforts to eradicate CWD from areas where it already occurs, and programs to prevent its spread to new areas.
  * Assist state veterinary diagnostic laboratories with the costs associated with becoming properly staffed and equipped so they can quickly and effectively process the significantly increased number of samples being submitted for CWD testing.
  * Develop and implement, in coordination with state wildlife agencies, a national CWD public awareness campaign.

In conclusion, America's wild deer and elk populations are priceless treasures. They are a source of beauty, inspiration and recreation for millions of Americans; and, they infuse billions of dollars annually into our national economy. Their health and vitality must be protected! Please remember, there are literally hundreds of thousands of American sportsmen-conservationists that are concerned about this issue and willing to help in its resolution.

Once again, thank you for the opportunity to share our concerns and recommendations on this very important wildlife disease issue.

[The response to questions submitted for the record by Mr. Wolfe follows:]

SUPPLEMENTAL QUESTIONS FROM MAY 16 OVERSIGHT HEARING ON CHRONIC WASTING DISEASE

FOR

GARY J. WOLFE

Answers to these questions constitute my own professional and personal opinions, and may not necessarily reflect the views of the organizations I represented at the May 16, 2000 hearing.

QUESTIONS FROM THE MAJORITY:

1. What do you consider to be the appropriate role for the Federal and state governments to play in managing CWD in free-ranging wildlife?

I believe the Federal Government should fund research, serve as an information clearinghouse, facilitate national coordination, and assist the state agencies as a supportive partner. However, Federal assistance must not compromise the responsibility and authority of state wildlife management agencies for free-ranging wildlife.

State wildlife departments should be the agencies primarily responsible for CWD management and control efforts in free-ranging wildlife within their boundaries.

2. What are some of the differences in managing this disease in game (farm) animals compared to free ranging animals? Will applying the theories and practices behind management of CWD in game (farm) animals be effective and/or efficient in managing CWD in free ranging animals? Please explain.

A primary difference is the controlled environment of a game farm. Game farm animals are usually tame; easy to approach and handle; and their food, water and medications can be closely regulated. It is much easier to monitor game farm animals for the presence of disease, and much more practical to remove all sick animals from the population. Ingress and egress of game farm animals can also be controlled, whereas that is impossible in a free-ranging situation.

Managing disease in the wild is a much more challenging situation than in the controlled environment and restricted area of game farms. Once established in a wild population, diseases are extremely difficult, and sometimes impossible, to eradicate. Wild animals are dispersed over large areas of rugged terrain where it is virtually impossible to observe all animals, much less capture all of them for disease testing or treatment. Managing CWD in free-ranging deer and elk is extremely difficult because of the long incubation period, uncertainty about the mechanism of transmission, and the potential for persistence of the causative agent in the environment.

3. Should the Federal Government support the management of wildlife for the sake of wildlife rather than as a potential source for infection of game (farm) herds? Why?

Wildlife management policy should be focused on ensuring the health and sustainability of wild, free-ranging wildlife—not on the protection of privately owned game herds.

The American system of public wildlife 'ownership' is unique in the world and a treasure enjoyed by millions of Americans. This public wildlife resource generates billions of dollars annually for our nation's economy. In contrast, the benefits of game farms accrue to only a very few, and their overall contribution to the nation's economy is minuscule compared to public wildlife.

4. Mr. McInnis has introduced a bill to define the Federal role in managing CWD in deer and elk, and to define the authorities of the Federal agencies. An important element assures that Federal wildlife agencies partner with state wildlife agencies and that Federal agriculture agencies partner with state agriculture agencies. Could you comment on this bill?

Representative McInnis' bill (H.R. 4795) is a giant step in the right direction. It provides much-needed funding for additional Federal CWD research, provides for a national CWD Clearinghouse based in the USGS, upgrades veterinary diagnostic labs, supports state efforts to manage CWD via pass-through funding to state wildlife agencies, and reinforces the premise that the state's have primary authority for managing the public wildlife resource within their boundaries.

Movement of live animals (both captive and wild) is one of the greatest risk factors for the spread of CWD into new areas. This risk factor is exacerbated by human-aided transportation of live deer and elk. H.R. 4795 could provide additional protection for wild, free-ranging deer and elk if it included a moratorium on the interstate shipment of live cervids until more is known about the epidemiology of CWD.

QUESTION FROM THE MINORITY:

1. I understand there is field evidence of genetic resistance to CWD in some elk and mule deer. Are not eradication efforts counterproductive in that they kill healthy animals that can bring us out of this epidemic?

I am not aware of any scientific evidence that supports the theory that some mule deer and elk are genetically resistant to CWD. Nor am I aware of any scientific evidence that some deer and elk develop an acquired immunity to CWD.

Mr. MCINNIS. Mr. Pacelle, you may proceed.

STATEMENT OF WAYNE PACELLE, SENIOR VICE PRESIDENT FOR COMMUNICATIONS AND GOVERNMENT AFFAIRS, THE HUMANE SOCIETY OF THE UNITED STATES

Mr. PACELLE. Thank you, Mr. Chairman, Representative Kind. I am Wayne Pacelle. I am Senior Vice President for Communications

and Government Affairs for the Humane Society of the United States, the nation's largest animal protection organization, with seven million members and constituents in the U.S. I will try not to repeat comments that have been made prior about this issue and maybe draw out a couple of points.

First, I do want to say that there is no dispute that all interested parties, whether they are hunters, livestock interests, wildlife managers, animal advocates, support the rapid development of a live animal test as a means of more precisely gauging the scope of the problem and addressing the disease in individual animals. I think we are all in agreement and I hope that we can all proceed with that element of this campaign against CWD.

Second, and I want to spend a little time on this, is that before the test is developed, there is going to be great pressure to engage in mass slaughter of animals in areas where the disease has been identified. We want to urge policymakers to resist the temptation to support this draconian response. While mass slaughter may appear to demonstrate a swift and decisive political response to an obviously grave circumstance, it is not at all clear that mass slaughter would result in eradication of the disease.

In captive facilities, current management options are limited to quarantine or killing of CWD-affected herds. In the 1990's, two attempts to eradicate CWD from cervid research facilities failed. The causes of these failures were not determined, but environmental contamination remaining after the herd was killed was likely in both cases. Whether or not contaminated environments can be completely disinfected remains somewhat questionable, at least in the short run.

But at least in those captive settings, there is an argument for the depopulation arguments. I think it is a much more difficult task in free-ranging animal populations. Management programs established to date focus on containing CWD and reducing its prevalence in localized areas. Translocating cervids and maintaining feeding stations have been banned in some States in an attempt to limit range expansion and decrease transmission. The slaughter of cervid populations in an area of high CWD prevalence has been attempted in Colorado as a management experiment, but the effectiveness of this approach has really not been determined.

It is logical to think that lowered animal density should reduce both disease transmission and likelihood of emigration of affected animals to adjacent areas with no previous incidence of CWD. However, there are a bunch of complicating factors that I think we need to consider.

One, of course, is the environmental persistence of this prion. We do not know its longevity, so if you depopulate an area, if animals then move back into the area, you have a problem. We know from deer and our experiences across the country with deer, and to a lesser degree elk, that these are extremely reproductively capable animals. They are highly adaptable and they will recolonize a vacant area after a localized eradication has occurred.

I also think it is a dangerous slippery slope. We are talking about in Wisconsin killing 15,000 deer in this area where few animals have been identified. What happens if we have infected animals in northern Wisconsin, in northwest Wisconsin? Are we going

to kill 15,000 or 25,000 in that area because we have identified a few animals? What happens if it is in central, north central Wisconsin? Are we going to kill another 20,000 or 30,000 deer in that case? This is a very dangerous slippery slope, to think that we can apply almost an agricultural mentality here.

Agricultural producers and the agencies that regulate them have a zero tolerance policy for certain diseases, like brucellosis, and we can understand that. But those are captive populations where you have vaccines, where you have diagnostic methods to assess these populations. We have a whole different situation here and the idea of controlling free-ranging populations, or controlling the disease in free-ranging populations through eradication is quite dangerous.

I do want to refer all of you to the testimony of Dr. Charles Southwick of the University of Colorado. He believes that CWD may have been around for generations and he has really questioned from a population ecologist's viewpoint the idea of these eradication efforts.

But I want to focus some time in the short time that I have remaining, Mr. Chairman and Representative Kind, on the idea of prevention. We obviously have heard before that captive cervids have this disease in a number of States, Colorado, Kansas, Montana, Nebraska, Oklahoma, Saskatchewan, and South Dakota. It is documented that spillover of CWD into local free-ranging cervid populations has probably occurred in at least two occasions.

By transporting cervids from an endemic area, we are facilitating the spread of this disease. Several States, Colorado, Connecticut, Indiana, Nebraska, New York, Texas, Virginia, and Wisconsin, have adopted moratoria on the import of some or all cervids, and I think this is really one of the messages that I want to convey in the most forceful sense. No one has suggested it here today.

We need a ban on interstate shipment of captive cervids, of deer and elk. If Wisconsin had adopted this policy years ago as a State, it would not be dealing with the enormous expenses and the enormous problems, the threat to the hunting industry, the threat to the deer. We really need to look at this. This is an appropriate area for the Federal Government. It does not usurp States' rights. The Federal Government under the Commerce Clause can deal with the issue of interstate movement of animals, and this subject has really been omitted from the discussion today and I hope you will give it serious consideration.

I do want to take a moment to note that there are—

Mr. MCINNIS. You need to wrap it up.

Mr. PACELLE. There are bills that have been introduced by Sam Farr and Joe Biden to ban the interstate transport of exotic mammals for the purpose of being shot in so-called canned hunts. We really question the idea of game ranching of wild animals, making them agricultural animals, and they have been a primary agent in dispersing this dangerous prion across the country. Thank you very much.

Mr. MCINNIS. Thank you, Mr. Pacelle.

[The prepared statement of Mr. Pacelle follows:]

Statement of Wayne Pacelle, Senior Vice President for Communications and Government Affairs, The Humane Society of the United States

Introduction

On behalf of The Humane Society of the United States, the nation's largest animal protection organization with more than seven million members and constituents, I am pleased to offer testimony before the Subcommittees on Forests and Forest Health and Fisheries Conservation, Wildlife and Oceans. We appreciate the invitation to participate and we applaud the committee for conducting this hearing, and hope that you will take decisive yet careful action, in cooperation with the states, to combat the severe dangers posed to animals by Chronic Wasting Disease (CWD).

There is no dispute that all interested parties—the game farm industry, hunting groups, wildlife managers, livestock interests, and animal advocates—support the rapid development of a live animal test, as a means of more precisely gauging the scope of the problem and addressing the disease in individual animals. Before that test is developed, however, there will continue to be great pressure to engage in mass slaughter of animals in areas where the disease has been identified. We urge the committee to resist the temptation to support this draconian response. While mass slaughter may appear to demonstrate a swift and decisive political response to an obviously grave circumstance, it is not at all clear that mass slaughter would result in successful eradication of the disease. On the other hand, we do know that mass slaughter would cause enormous harm and suffering to thousands of perfectly healthy animals. It may even slow down the natural process of selection, whereby a population becomes resistant to CWD over time as individuals who are susceptible to CWD die, and those genetically resistant survive to successfully reproduce. In a broader sense, we urge this committee to focus considerable attention on one of the root causes of this problem: the game farm industry and its role in fostering the spread of this very dangerous disease. More specifically, we urge the committee to develop and advance legislation to ban the interstate and international shipment of deer or elk for use in the game farm industry. This action is not only well-justified in light of the current crisis, but also is well within the Federal Government's area of authority and responsibility. The HSUS also strongly urges the Committee to support efforts to urge that the control and monitoring of wildlife, farmed or free-ranging, and diseases such as CWD, be assumed under the jurisdiction of wildlife agency experts rather than state agriculture agencies.

Background on Chronic Wasting Disease

Chronic Wasting Disease is a transmissible spongiform encephalopathy (TSE) of cervids. Natural infections have occurred in mule deer, white-tailed deer, and Rocky Mountain elk; the disease has been present in mule deer populations for at least 30 years (Williams and Young 1980). Other subspecies of elk are probably also susceptible to CWD (Williams, 2002) as well as other native and exotic cervid species (e.g. moose, caribou, key deer, sika deer, and fallow deer; Raymond, et al., 2000).

The TSEs are grouped together because of similarity in symptoms, pathology, and presumed ancestral agent; the infectious agents are hypothesized to be prions (infectious proteins without associated nucleic acids; Williams, 2002). Scrapie of domestic sheep and goats, bovine spongiform encephalopathy (BSE) of cattle, and transmissible mink encephalopathy of farmed mink (Mustela vison) are TSEs of domestic animals. Scrapie, a TSE of domestic sheep, has been recognized in the United States since 1947, and it is possible that CWD derived from scrapie (Williams, 2002).

The overall duration of CWD infection (time from exposure to end-stage clinical disease) has been difficult to determine in natural cases but has been experimentally estimated to range between 12 and 34 months (Williams, 2002). The maximum disease course is not known, but can exceed 25 months in experimentally-infected deer and 34 months in elk.

Spread of CWD

The unusual biological features of CWD pose significant challenges for wildlife managers attempting to control or eradicate the disease. Because TSE agents are extremely resistant in the environment, transmission may be both direct (from animal to animal) and indirect (for example, from contaminated soil; Williams, 2002). Concentrating unnaturally large numbers of deer or elk in captivity or by supplemental feeding of wild cervids increases the likelihood of direct and indirect transmission of CWD between individuals as is the case for many other diseases. Contaminated pastures are thought to have served as sources of infection in some CWD epidemics (Miller et al. 1998; Williams, 2002); similar phenomena have been suspected in some outbreaks of sheep scrapie. The apparent persistence of the CWD agent in contaminated environments represents a significant obstacle to eradication

of CWD from either farmed or free-ranging cervid populations (Williams, 2002; Geist, 1995).

The incidence of CWD can be remarkably high in captive cervid populations. In one infected research facility, more than 90% of mule deer resident for >2 years died or were euthanized due to illness from CWD (Williams, 2002). Recently, a high CWD prevalence (about 50%) has been demonstrated in white-tailed deer confined at an infected Nebraska elk farm. Among captive elk, CWD was the primary cause of adult mortality (five of seven, 71%; four of 23, 17%) in two research herds and a high prevalence (59%) was detected in a group of 17 elk slaughtered from an infected game farm herd (Peters, et al. 2000).

The potential for density-dependent disease transmission is greater among animals in captivity than in free-ranging wildlife. Captive animals are often held at higher than natural densities and thus are more frequently in direct contact and are more consistently stressed. Their repeated exposure to the same (potentially contaminated) soil may exacerbate effects of density on captive cervids.

CWD may be transmitted between captive and wild cervid populations, in either direction (Coon, et al., 2002), and there is concern that transmission between cervids and cattle is possible, but this has only been demonstrated experimentally. (To date, cattle have rarely become infected when experimentally inoculated with CWD via intracerebral injection; Hamir et al. 2001.)

Detection

Current quarantine methods for detecting CWD in captive wild species are unreliable and regulations for disease testing have failed to prevent the transportation of diseased animals, even though animals were certified as disease-free. For example, many states require only a 30-day quarantine period before allowing animals to enter the state. The quarantine period is not sufficient in identifying animals infected with CWD due to the long incubation periods of the disease (a minimum of 12–34 months). A live-animal test using tonsil tissue has been developed and found to be effective for use in mule deer and may also prove to be effective in white-tailed deer (Williams, 2002).

Control

No treatment is available for animals affected with CWD. Once clinical signs develop, CWD is invariably fatal. Similarly, no vaccine is available to prevent CWD infection. In addition, long incubation periods, subtle early clinical signs, absence of reliable live-animal diagnostic tests, an extremely persistent infectious-like agent, possible environmental contamination, and an incomplete understanding of modes of transmission all constrain options for controlling or eradicating CWD.

In captive facilities, current management options are limited to quarantine or killing of CWD-affected herds. In the 1990's, two attempts to eradicate CWD from cervid research facilities failed; the causes of these failures were not determined, but environmental contamination remaining after the herd was killed was likely in both cases (Williams, 2002). Whether or not contaminated environments can ever be completely disinfected remains questionable.

Managing CWD in free-ranging animals presents enormous challenges as well. Management programs established to date focus on containing CWD and reducing its prevalence in localized areas. Translocating cervids and maintaining feeding stations have been banned in some states in an attempt to limit range expansion and decrease transmission. The slaughter of cervid populations in an area of high CWD prevalence has been attempted in Colorado as a management experiment, but the effectiveness of this approach remains to be determined. It may seem logical that lowered animal densities should reduce both disease transmission and likelihood of emigration of affected animals to adjacent areas with no previous incidence of CWD. However, historic migration patterns and social behaviors characteristic of some deer and elk populations (e.g. dispersal of yearling bucks and seasonal movements) may diminish the effectiveness of wholesale density reduction in controlling CWD (Williams, 2002). In addition, eliminating most or all of the deer in a given area may result in immigration of deer from adjacent habitat into an area with potentially contaminated soil.

The mass slaughter approach has a number of critics. Population ecologist Dr. Charles Southwick, of the University of Colorado, believes that CWD may have been around for generations, killing only those living in captivity or in other stressful conditions, such as drought or overcrowding. He advises capturing deer and taking biopsies of tonsil tissue, where evidence of infection may appear before symptoms develop, at least in mule deer. If this live-animal test were found to be effective for other cervid species, it would have the advantage of providing a means to avoid destroying healthy animals (Southwick, personal communication).

Southwick states that he favors killing animals that display symptoms of CWD, but he warns that the proposed hunt is likely to spread the disease by forcing infected deer into other areas and by creating a depopulated area, with an infective environment, into which healthy animals will move. Mr. Chairman, I would like to call your attention to the testimony of Dr. Charles Southwick that was submitted along with my testimony. In addition to submitting my own testimony, I am submitting Dr. Southwick's, and I hope the Committee will pay careful attention to his recommendations.

Managers from the USDA recently declared the current approach of "slaughter and test" to be ineffective and worthy of replacement with better diagnostic testing (Diez, 2002). It is critical that any management plan put into action by state wildlife departments actually accomplish the management goal. Killing 14,000 - 15,000 deer (as is suggested in Wisconsin), after finding only a handful of deer affected out of the 500 tested, is a drastic measure for which there is little convincing justification. A sound scientific rationale for this action is lacking.

Prevention

The HSUS strongly encourages this committee to focus on preventing the spread of CWD in the first place. Scientists have identified a number of "endemic foci" in Wyoming, Colorado and Nebraska. While these are considered the core endemic areas for CWD (Williams, 2002), it has also been found in captive cervids in Colorado, Kansas, Montana, Nebraska, Oklahoma, Saskatchewan, and South Dakota. It is documented that spillover of CWD into local free-ranging cervid populations has probably occurred in at least two locations (Williams, 2002). By transporting cervids from an endemic area, one is likely to establish more endemic foci, thereby facilitating the spread of the disease into new areas (Coon et al., 2002; Williams, 2002). Moratoria on the import of some or all cervids have been enacted by Colorado, Connecticut, Indiana, Nebraska, New York, Texas, Virginia and Wisconsin; and eight states have limited importation by banning canned hunts—one of the primary reasons for translocation of cervids—completely. We submit that the interstate transport of cervids and other exotic animals kept at game farm facilities should be prohibited nation-wide, at least until effective control measures, such as reliable antemortem diagnostic tests and effective vaccination programs, can be developed. In our view, USDA's Proposed National Program for Captive Elk is wholly inadequate. USDA appears to be operating with the inflexible assumption that the business of deer and elk ranching must continue and, given that assumption, the department describes a herd certification program that is doomed to fail in containing the spread of CWD. We suggest that USDA start over in developing a CWD control program, and that the department seek input from a variety of experts, including disinterested scientists. The current industry document reads like a playbook from the game farming industry, which obviously had inordinate influence in this document.

The HSUS also urges better monitoring of the international and interstate trade in wildlife. Ranched cervids include both native and exotic species and scientists believe it is very likely that many species of the cervid family are susceptible to CWD (Williams, 2002). Unfortunately, the oversight of exotic mammals falls outside of the traditional regulatory jurisdiction of state agriculture departments and state fish and game agencies. In short, these animals often fall into regulatory limbo at the state level. It is important to monitor the transport of all species and subspecies of animals that are potential hosts of the disease—whether they are native or exotic.

I want to take a moment to note that the House and Senate have pending legislation—H.R. 3464 by Rep. Sam Farr and S. 1655 by Senator Joe Biden—to ban the transport of captive exotics for the purpose of being shot in a canned hunting setting—an ethically repugnant and unsportsmanlike means of killing animals in guaranteed, "no kill, no pay" hunts. Concerns about the humane treatment of animals and the ethic of fair chase provide ample rationale for enacting this long overdue legislation. The disease threats posed by CWD makes the case even more compelling and urgent.

Economics and Ethics

Game ranching has grown dramatically during the last decade, principally as an alternative animal husbandry industry. Several states, such as Michigan, Minnesota, Pennsylvania, and Wisconsin, have hundreds of game farms, where revenue is generated through the sale of animal parts, such as velvet or meat, and, in many states, through canned hunting arrangements.

Scientists, such as Dr. Valerius Geist of the University of Calgary, have warned for years about the threats posed to wildlife by game farms (e.g., Geist, 1995). Dr. Geist has decried that game farms represent unbridled commercialization of wildlife, which runs against the norms that have dominated wildlife policy in the United

States developed in the early part of the 20th century; that these operations pose disease threats posed to wildlife and the livestock industry; and that they contribute to the abuse of animals (Geist, 2002). The HSUS warned about the excesses of this industry for the past two decades, and these concerns have proved prophetic. This industry does far more harm than good in our society. Neither this Congress nor the states should subsidize its operations, nor should it support of its perpetuation or expansion.

Taxpayers are footing the bill for crisis management of a problem to which the game farm industry has meaningfully and tangibly contributed. The Federal Government has also spent millions of taxpayer dollars to buy out and bail out these private owners. Their business is a risky one, and everybody who invested in it knew the risks. The Federal Government and the states have no obligation to rescue them now that they have helped spread a major wildlife disease throughout the country.

The people of Montana—mainly hunters—witnessed the state fail to address this emerging problem, and took the matter into their own hands by qualifying and passing a statewide ballot initiative in November 2000 to ban canned hunts and to halt the establishment of any new game farming operations. A number of other states, such as Wyoming, have courageously and persistently resisted the efforts of the industry to gain a foothold. The Federal Government should take this cue from the people and from foresighted policy makers. It is time to put an end to the interstate movement of animals for use in this industry.

The industry claims it generates millions in economic activity. That may be true, but its operations have spawned disease threats that have cost millions to address. The costs will climb far higher, as we just begin to come to grips with the scope of the problem. Further, the spread of CWD threatens industries that generate revenues that dwarf the monies produced by game ranches, notably the wildlife watching and hunting industries. A columnist with the Denver Post noted, "Colorado's 160 domestic elk and deer ranches are, at most, a $44 million a year industry. So to coddle a $44 million specialty business, legislators potentially jeopardized two economic engines worth more than $5 billion to Colorado. What business book did these guys read?"

The Congress will have support for strong action to combat game farms from an unusual coalition of animal advocates and rank-in-file hunters. Most responsible hunters deplore these canned hunts, which one outdoor writer from Colorado recently labeled a "fish-in-a-barrel practice by which pseudo-hunters pay tens of thousands of dollars to execute a "trophy" animal for the mantle." Animal advocates, conservationists, and hunters are now mounting a major effort in Oregon to outlaw game farms, and I am quite certain that similar interests will coalesce in other states.

Authority

A national trend is emerging whereby authority to manage or license captive hunting operations is being wrested from state wildlife agencies and turned over to state departments of agriculture (for a good example of this in Vermont, see Buck, In press). The stated rationale has been that cervids represent alternative livestock opportunities for farmers and therefore should be managed by departments of agriculture. Advocates of the industry are driving this transfer of authority because they recognize that state wildlife agencies are carefully examining the disease transmission issues so central to this public policy discussion. (Coons et al., 2002). Agriculture departments are less sensitive to wildlife disease and humane issues than wildlife departments. Thus far, 21 states have handed over management of captive cervids to their agriculture departments. It is a "confusing state of management affairs" given that one can find ten different game farm management approaches by surveying ten different states (Buck, 2002). This does not make sense biologically, economically, or logistically. CWD and wild cervid populations do not recognize state boundaries and, as long as some states continue to allow the importation of cervids, their neighboring states remain at risk. That fact buttresses the case for Federal action in halting interstate transport of cervids.

Conclusion

The Humane Society of the United States urges this Committee to take action to prevent further spread of CWD. When risks are identified, they should be avoided. With this in mind, we urge a nation-wide moratorium on inter-state translocations of cervids, at least until more is known about CWD and effective means of its control.

We believe that it is unreasonable to advance a massive kill of wild cervid populations in the absence of compelling scientific justification for the effectiveness of

this type of action. In addition to the questionable efficacy, we are concerned that the majority of does killed at this time of the year will be nursing fawns that are hidden away some distance from the doe. When nursing mothers are killed, these fawns will die from starvation, and their carcasses will rot. If the fawns are also infected, this will be an additional major contamination factor in the environment, as well as causing enormous suffering for the fawns.

We also suggest severe restrictions on supplemental feeding and baiting of cervids as part of an overall effort to reduce direct transmission of CWD within wild populations. Finally, we ask that the Committee ensure that the management of free-ranging and captive cervids return to the jurisdiction of state wildlife agencies, whose personnel have the knowledge and expertise to address the movements and diseases of wildlife.

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[The response to questions submitted for the record by Mr. Pacelle follows:]

RESPONSE TO QUESTIONS SUBMITTED BY WAYNE PACELLE

1) Why do you emphasize the need for a moratorium on game farms and "canned hunts" in your testimony?

The HSUS urges a ban on the interstate movement of deer and elk to and from game farms and "canned hunt" facilities. It is well documented that the incidence of Chronic Wasting Disease (CWD) has been prevalent in a number of game farms in the United States and Canada. In some captive cervid populations on game farms in North America, infection rates have exceeded 50 percent; these are extraordinarily high infection rates, and they suggest that the environmental conditions on game farms are highly conducive to the onset and spread of the infection. Several prominent scientists reason that unusually high densities of animals on game farms make the animals particularly susceptible to infection. Once the disease infects an

individual in a captive population, other animals in the setting are likely to be infected, given the high densities and confinement.

Recognizing that CWD has spread to at least nine states and that game farms appear to be infection hot spots, a growing number of states—including, most recently, Mississippi, North Carolina, Texas and Virginia—have adopted policies to ban shipments of deer and elk into their states. These states fear that infected animals will be introduced and threaten their populations of free-ranging and captive cervids. The risks posed by the introduction of CWD through imports greatly exceed the benefits provided to a state by importing a small number of deer and elk. A nation-wide moratorium on the interstate transport of deer and elk is an urgently needed component of a larger plan to prevent further spread of CWD.

While exotic game ranches have not yet had major problems with CWD infections, as compared to deer and elk farms, researchers have demonstrated that the infective prion has a low species barrier and is likely to infect exotic cervids as well as cervids native to North America. Exotic deer and elk are transported among states to supply exotic game ranches, and these interstate shipments may spread CWD.

Animal advocates and responsible hunters are highly critical of exotic game ranches because of the unsporting and unfair nature of the commercial killing and the threats posed to native wildlife by the spread of a number of wildlife diseases and by escapes of exotics. Voters in Montana approved a November 2000 ballot initiative, instigated by hunters, that banned canned hunts and outlawed the establishment of any new game farms.

The Federal Government is spending millions of dollars to control and to contain the spread of non-indigenous species. The exotic hunting industry has a history of allowing the incidental release of exotics and thereby threatening native wildlife, and the industry may also play a role in spreading CWD. Let's anticipate and prevent the problem, instead of reacting to the problem once it occurs.

Representative Sam Farr has introduced bipartisan legislation in the House to combat half of the problem'the interstate transport of exotic mammals, and the CWD threat adds a compelling argument to an already overwhelming case for enactment of this measure.

2) Is depopulation necessary? Has it proven an effective strategy?

If a deer or elk contracts CWD, the animal will die. Because of the degenerative effect of the disease, infected animals will suffer before they perish. The HSUS, which seeks to prevent animal suffering, wants to stem any further spread of CWD.

That said, we are very skeptical that depopulation strategies focused on free-ranging populations can work. On a game farm, it is possible to kill all of the animals in a confined setting. But in a free-ranging population, with no artificial or natural barriers to block emigration or immigration into an area where infected animals live or have lived, it will be virtually impossible to conduct an extermination program.

Deer can be elusive animals. It would take a massive investment of human labor to identify and shoot all of the deer in a particular area. In an area covering hundreds of square miles, an extermination plan is almost doomed to fail. What's more, any extermination plan would have to be conducted over months, perhaps years, and during that time, deer from adjacent areas would immigrate into the newly vacant habitat because of the food availability and the lack of competition among conspecifics. The degree of difficulty in conducting an extermination program is even greater in ecotypes with thick vegetative cover. Conducting an extermination program in an arid environment in the West is far easier than in one in the East or Midwest that is heavily forested and provides abundant deer cover.

If CWD is identified in a number of regions within a state, the task becomes even more logically impossible, with enormous capital and labor costs. There will also be other social costs associated with the human disruption caused by the number of people required to shoot so many animals.

Extermination is often used in an agricultural environment when disease outbreaks occur. In that setting, such plans may be well justified in certain circumstances. To apply this same strategy to free-ranging wild populations is dangerous and likely to fail.

Wisconsin is just now launching an intended extermination program, and it is too early to make a judgment about its effectiveness. There is considerable skepticism among residents of the state that such a program will work. Colorado has also launched a regional extermination program, and it is too early to make judgments about its effectiveness. While these efforts may satisfy the urge to take action in response to a very real crisis, we suggest more thought needs to go into ensuring that management efforts taken are wise and effective.

Mr. MCINNIS. I will begin the questioning. First of all, Mr. Pacelle, I am not so sure that you have not confused the agendas, your opposition to domestic farming and this particular disease. Let me tell you, I do not know anybody that takes comfort in going out and wiping out or eradicating the deer population. I certainly see no comfort in doing that.

But prior to the condemnation, using words "draconian" and "political response," pal, you had better come up with an alternative. You cannot ignore the cancer, and in my opinion, that is exactly what it is. Now, the fact that it existed for hundreds of years, cancer existed for hundreds of years. But the fact that it was out there for hundreds of years, we did not take the philosophy, well, instead of going in and doing surgery and physically removing the cancer, we ought to let it—you know, it has been here 100 years. That is a pretty draconian effort. So I just want to point that out.

Mr. PACELLE. Well, I would like—

Mr. MCINNIS. Just a second.

Mr. PACELLE. Sure.

Mr. MCINNIS. The live test is absolutely a priority for us. I mean, everybody wants a live test. We do not like ratios of killing a couple hundred deer and finding one, if we even find one. I do not know anyone that does not do that. That is a big priority, so I agree with you on that point.

But let me tell you, in the long run—in the short run, we have to sacrifice. We have to eradicate. The only reason we are doing that is not for a hunter jamboree. The reason we are doing that is that in the long term, we have established, healthy—and I stress the word healthy—herds out there.

Now, the issue of whether or not elk farming should be and so on is an issue for another day. Our focus today here is as you have heard it.

Now, very quickly—

Mr. PACELLE. Mr. Chairman, may I respond briefly?

Mr. MCINNIS. In a minute, I will let you.

In regards to the agencies here, I know you are having a meeting in 7 days or so, but I do not want to task force this thing and let time go by. I think we have heard agreement across the board, not only on the Committee, but with our witnesses out there, about, one, State primacy, two, the need for funds, and I am interested in the Department of Agriculture responses as testified by the committee up here because I understand the Department of Agriculture has put money out for purchasing of animals and things like that. But this coordinated effort is an absolute most and it needs to move very quickly.

Now, I also have another concern out there that is shared by Mr. Kind and the Governor of his State, and that is the economies of these States and the economies of these ranching communities. I have got ranchers out there that are barely able—what takes them over the top year to year is the fact that they have got hunting. And frankly, in my area, because it is such a popular area, the minute they lose the ranches, it goes to 35-acre condominium projects. So I have got some interest, my own self-motivated interest, in getting a cure.

Again, I bring to the attention of our agencies, we want this a high priority, and I am not trying to hold my bill over your head, but the fact is, that is how we got our fire council put together finally between the agencies. So I hope we get rapid response on that.

Dr. Zebarth, your testimony was appreciated. Obviously, it has devastated your industry in those particular States. It is not a particularly lucrative industry anyway, and I can tell you that with the elk breeders in Colorado, we have received nothing but cooperation. Obviously, they are concerned. We have disputes as to what the animals are worth and things like that, but overall, we all agree we have all got the same focus in mind and that is very helpful.

Mr. Pacelle, I will give you a couple seconds here and then I will move on.

Mr. PACELLE. Thank you very much. Mr. Chairman, we all agree that eradication, killing many animals, especially healthy animals, is not a favorable course of action. We all agree on that point. My question is not to the idea that we want to get at this problem but whether that is a worthy response and whether it will be effective. So I would urge you to look at my testimony, which lays it out a little more carefully.

But also, I do think the issue of elk and deer ranching is a very salient issue. This is the way that—how did this get into Wisconsin? These animals are being transported across the country. Game farms have been identified as the main areas where CWD has been present, and many population ecologists, biologists, and the hunting community have castigated the game farm industry. Montana hunters led a ballot initiative which the Rocky Mountain Elk Foundation supported to ban the establishment of new game farms for the very reason—

Mr. MCINNIS. Mr. Pacelle, I said a minute and you are taking advantage of the time.

Mr. PACELLE. OK. Thank you.

Mr. MCINNIS. Mr. Zebarth, let me respond very quickly. I should point out, Mr. Pacelle, that earlier in your testimony, you referred to Dr. Miller's testimony about the fact it has been around for hundreds or years, or possibly could be around. Elk breeders have not been around for that period of time, to the best of my knowledge, commercial elk farming.

Mr. PACELLE. Right.

Mr. MCINNIS. So it did not necessarily bring that in. But I think, in fairness, Mr. Zebarth, you should respond to that. But again, I want to run the time because I want Mr. Kind to have an opportunity to raise questions.

Dr. ZEBARTH. In the case of Wisconsin, in the area where the wild white-tailed deer were found, there is one farm facility. That facility has never had CWD, has not received animals from a CWD-positive herd. In the sampling course that was done in a ten-mile radius circle around there, there was an emphasis of depopulating free-ranging white-tailed deer in the neighborhood of that facility. All the white-tailed deer that were depopulated close to that farm facility were negative. The deer that were positive were in the northern half of that depopulation zone. There is not any scientific

evidence that the case in Wisconsin came from that farm facility or from any farm facility.

In regard to the question or comment that was made earlier about the animals that had come from infected herds into Wisconsin, the program that is in place, USDA-APHIS's program, follows trace outs. Those animals were followed, depopulated, and were negative. Thank you.

Mr. MCINNIS. Again, let me stress to our guests today and to the Committee, of course, we want live testing, and to me, that is one of the highest priorities we can do, is get into that live testing. That will give us all a great deal of comfort if we can just figure it out.

Mr. Kind?

Mr. KIND. Thank you, Mr. Chairman. I want to thank the witnesses again for your patience and your testimony here today.

Let me just reiterate what Mr. Zebarth has testified to. Yes, there is no known case of an imported infected elk infecting the herds in Wisconsin, but it is still deeply troubling to hear reports that the State over the last few years was still importing live elk from out West in known infected herds. That is troubling, that the State of Wisconsin was still allowing that to occur when warning bells were being signaled and that.

I understand now the State has passed a new law that prohibits the importation of either live elk or deer from abroad unless they meet a 5-year certification requirement as far as the surveillance and the monitoring, and I think that is a positive step forward.

Dr. Butler, I was hoping you could shed a little bit of light on information we received from Chris Smith, who is Congressional Liaison, USDA, in response to a request the Wisconsin delegation made to USDA about 2 months ago, and that was for some assistance in the emergency discretionary fund under CCC to deal with the urgency that exists in the State and the rising expenses that we are dealing with the State, as well.

I do not know if you have been informed, but we received a message from Mr. Smith last night that USDA would be denying our request, which is very disappointing and very troubling in the fact that we already have an authorized and appropriated program set up ostensibly for this purpose, and yet the USDA is denying our request, forcing, I think, individual members to have to go through the appropriation bills through line items at a time when the Administration is chastising Congress to hold the lid on line items and add-ons with these bills. If you have some information, I would be happy to be enlightened about that decision.

Mr. BUTLER. Thank you, Mr. Kind. I do have minimal information and will certainly take back the comments from the Committee this morning of all the dialog and increase the intensity of our discussions within the Department and try to work with you in any way that we can. This is a serious issue not only for your State but for all the States represented here.

Mr. KIND. I appreciate that and we will follow up, obviously, because it has just been a phone conversation, no written word yet, so we will have to do that.

Mr. Groat, I appreciate your attendance and testimony, too, and I commend your agency for the work that you have done in this

area already, the expertise that you are building up. In fact, I am familiar with some of the things going on with USGS's lab, the Wildlife Health Center located in Madison, in development of a live diagnostic test. I wonder if you could inform the Committee today in regards to where we are in developing a live test for CWD and how much longer we are going to have to wait before we have something reliable.

Mr. GROAT. Well, I think the live test you refer to is the tonsil test, which does allow sampling of an animal and returning it to a healthy state while we wait for the period to determine whether or not the animal is infected. The problem with that test is that it takes a number of days and a period of time to determine whether it is or not, and then if it is, if you have not got some way of finding it, you have got a problem.

So the real emphasis on finding a live test that is both quick and efficient, as the Chairman pointed out, is extremely critical in all of this from a management point of view and from a health point of view.

I wish I could report to you that there are large leaps of progress being made in developing new live tests. I know, as others have pointed out, that there is a lot of interest in this and efforts going on, and perhaps the symposia that have been discussed here where the workers get together and can share their knowledge and look in the most fruitful directions to go will give us some early indications of where that needs to go. But it is clearly an extremely high priority for us in the free-ranging populations as well as those that are concerned about farm populations.

Mr. KIND. Thank you, and we will look forward to working with you and obviously with the USDA, too, as we try to develop a comprehensive approach to this issue. I think it is going to be very important that we mesh some of the things that are being done right now, but on a much more comprehensive and collaborative scale.

Mr. Butler, back to you again. Do we know right now where all the farm-captive herds are from State to State, the exact location of all those captive herds? Do we have that information?

Mr. BUTLER. I do not think we do, but we can request that information through the State departments, and I do think different States have different tracking mechanisms, but I am not certain we do at the Department.

Mr. KIND. OK. I think that, too, may be an important step, just to get some baseline data here in the location of it, what States have already set up, because I have a feeling as we get into this, there is kind of a hodge-podge of laws being created from State to State right now and we need to find out what works and what makes sense, but without preempting what States are attempting to do.

I am scared like everyone else is in regards to some of the reports in Wisconsin, the potential of this disease and the whole herd kill-offs that are being proposed, Mr. Pacelle, but I think Mr. McInnis raises a very salient question. If not this, then what? This is a very serious issue and I think there is a lot of science here that we are just scratching the surface on in regards to the spread of this disease, how it is contracted, how it is transmitted, the environmental contamination that Mr. Osborne raised today, too, and

whether or not just slaughtering tens of thousands of deer is really the best approach and the safest and most practical way of doing it. But until we have some plausible alternatives, some suggestions, I think that is going to be, by and large, the response we are going to see.

Mr. PACELLE. I wonder if it could even be done successfully, in the sense that you can eradicate a population.

Mr. KIND. That is what I was really trying to get to with my Governor, is when the shooting starts, I know that the deer run and they spread and whether this is going to compound the problem rather than alleviate it, because we are not talking about captive herds. We are talking wildlife animals that are out in the free already.

Thank you again, Mr. Chairman, for your indulgence and for holding this hearing today. I appreciate it.

Mr. MCINNIS. Thank you, Mr. Kind. I also thank the members of your State, your Congressional delegation. They have been very helpful in regards to this.

Mr. Tancredo?

Mr. TANCREDO. Thank you, Mr. Chairman. I apologize for not being able to be here during the live testimony.

My questions would be really centered in one particular area, and so perhaps the gentleman from the Park Service could respond. Are you Mr. Jones?

Mr. JONES. Yes, sir.

Mr. TANCREDO. Mr. Jones, I understand that in testimony earlier, when the question was raised of how, in fact, these infected animals are treated and how the parks treat this issue, that someone stated that animals were killed when they exhibited symptoms. But, of course, this does not—I mean, in light of all the testimony we have had today and the fact that it seems to us, or at least it is becoming apparent that the only way to handle this is with an aggressive treatment, which means depopulation, how does this fit? How does this concept of only dealing with an animal when it has exhibited symptoms fit with the idea that we have to depopulate the herd from which it came?

Mr. JONES. I am not sure the full answer is depopulation. I am certainly not a biologist or a veterinarian. But I think the generic question you ask is a very valid one. What we need to do, though, is a comprehensive Chronic Wasting Disease in deer and elk management plan for lands including Rocky Mountain National Park. We have talked to the State of Colorado about that and that this plan would be developed in full partnership with them.

Certainly, the history of the National Park Service, because of the body of laws that are unique to the National Park System for the preservation of wildlife, unfortunately comes with that a bigger burden for both planning, bureaucracy, and compliance issues, because we also have attracted over the years a long history of lawsuits related to wildlife management in national parks.

So our approach in this case, in asking to do a comprehensive plan in cooperation with the State, is to take a few months, be deliberative, and, therefore, also hope not being in court for several years.

Mr. TANCREDO. I have no doubt that you will be roundly condemned for whichever decision you make.

Mr. JONES. That is a fair assessment, sir.

[Laughter.]

Mr. TANCREDO. But you should be used to that by now, so we have to go ahead and make what we believe to be the right decision and let the devil take the highmost.

The Park Service classification of exotic disease, if that fits, I mean, can you use that description and would that give you greater latitude if, in fact, you—

Mr. JONES. Yes, sir, in the case of Chronic Wasting Disease, just as we do in the case of rabies, we do consider this an exotic disease and, therefore, are pursuing our management policies under that concept.

Mr. TANCREDO. So that fits with the policy to just destroy the animal with the symptom.

Mr. JONES. Actually, it also fits with expanding to do a more comprehensive plan that addresses trying to eradicate the disease in the park.

Mr. TANCREDO. It allows it or does it require it? If you classify something as an exotic disease, are you required to take certain measures beyond—

Mr. JONES. I think the case certainly could be made that it would require us to do that, yes, sir.

Mr. TANCREDO. I guess I am confused. You have classified Chronic Wasting Disease as an exotic disease or you have not?

Mr. JONES. Absent any other information to the contrary, from a management perspective, we consider it an exotic disease, not a natural disease. Therefore, we are committed—we share the concern, especially in a disease like this that has implications far beyond national park boundaries and, therefore, we do take it seriously. For example, and Mr. Chairman, I really commend you for holding this hearing because the attention you brought to the issue has, shall we say, facilitated the decisionmaking process on funding issues. So, for example, the National Park Service has committed an additional $1.2 million to expand the research and to help develop a management plan to address these issues.

Mr. TANCREDO. Thank you very much.

Mr. MCINNIS. Thank you, Mr. Tancredo.

I want to thank the panel. I think today's hearing—let me explain for those of you that are new to Congressional hearings. Unfortunately, because of the compression of time, we have numerous conflicts. The fact that we had the attendance that we did this morning was really a pretty good showing for a committee hearing. That is not the standard attendance.

However, what is critical here is not just the fact that the Committee members are present to hear you and have these discussions. Getting these things onto the record is very important and it is also well covered by the press, who I have found the majority of times have been very responsible in regards to that.

So I do not want you to be frustrated by the fact that just Mr. Tancredo and I are left up here on the panel. The message is clear, I hope from our direction to you, and the information and knowl-

edge that you have given from your direction to us has been most helpful this morning.

So I thank the panel. I thank all the participants who appeared today and the Committee now stands in adjournment.

[Whereupon, at 1 p.m., the Subcommittees were adjourned.]

The following information was submitted for the record:

- Bastian, Frank Owen, M.D., Tulane University Health Science Center, Statement submitted for the record
- Hart, Jerry, Arvada, Colorado, Letter submitted for the record
- Krut, Steve, Executive Director, American Association of Meat Processors, Letter submitted for the record
- Lundquist, Ronald, President, Colorado Sportsmen's Coalition, Letter submitted for the record
- Map of Chronic Wasting Disease in North America submitted for the record
- Southwick, Charles H., M.S., Ph.D., Professor Emeritus, Environmental., Population and Organismic Biology, University of Colorado, Statement submitted for the record
- Schad, Mark P., President, Ohio Association of Meat Processors, Director at Large, American Association of Meat Processors, Letter submitted for the record
- Steele, Dick, DVM, President, Colorado Sportsmen's Wildlife Fund, and President, Western Colorado Sportsmen's Council, Letter submitted for the record
- Young, John, DVM, President, Colorado Veterinary Medical Association, Letter submitted for the record

[A statement submitted for the record by Mr. Bastian follows:]

Statement of Frank Owen Bastian, M.D., Tulane University Health Science Center

INTRODUCTION:

I appreciate the opportunity to participate in this hearing of the Subcommittee on Forests and Forest Health: House Committee on Resources regarding the need for funding for Research, Surveillance and finding a cure for Chronic Wasting Disease (CWD). I am a Neuropathologist and have spent most of my professional career (over 25 years) searching for the cause of Creutzfeldt–Jakob Disease (CJD) and the other Transmissible Spongiform Encephalopathies (TSE), of which CWD is the manifestation of the same disease in deer and elk. I have outlined the need for a more diversified research effort and for additional governmental funding in a number of TSE symposia, in a monograph entitled "Creutzfeldt–Jakob Disease and Other Transmissible Spongiform Encephalopathes" published in 1991 (Mosby/YearBook), and in Testimony given before the house committee on Government Reform and Oversight (January 1997). I currently am funded by the NINDS to continue my studies that have linked a bacterium, Spiroplasma mirum, to CJD and the other TSE's. In this testimony I will deal with the problems associated with CWD, and my evidence for the presence of Spiroplasma in TSE-infected cases, which could lead to other strategies for handling the CWD problem

BACKGROUND:

The TSE's are infectious diseases of animals and humans, wherein the infectious filterable agent causes the brains to turn into a spongy state associated with rapid clinical neurological deterioration. Patients afflicted with CJD (the human form of TSE) die within a few months of onset of clinical signs. TSE is uniformly fatal in both human and animal infections. TSE in animal populations are represented by scrapie (in sheep and goats), transmissible mink encephalopathy, bovine spongiform encephalopathy (BSE or 'Mad Cow Disease'), and CWD in deer and elk. We have had scattered flocks of sheep afflicted with scrapie in this country, but BSE has not been reported. CJD occurs sporadically throughout the United States with usually 3 to 4 cases per year in a city the size of Mobile, Alabama. I suspect that the true

incidence of CJD is more like 1 per 100,000 rather than the 1 per million incidences adhered to by the CDC. This discrepancy in CJD numbers is due to more awareness of these diseases among clinicians and pathologists.

The emergence of new variant of CJD disease in the UK in 1996 raised a new set of issues. Teenagers were dying of CJD, which is unusual since sporadic cases of CJD usually occur in older people- 40 to 80 years of age. Furthermore, the neuropathology of this so-called new variant CJD (nvCJD) indicated evidence of a more virulent form of the TSE agent, in that it produced a "florid" amyloid plaque. Serial passage of Sporadic CJD tissue in experimental animals produces this identical plaque along with a shortened incubation. This more virulent form of TSE agent probably evolved in the UK from the practice of feeding cattle feed contaminated with TSE-infected animal parts. This adaptation or mutation of the agent implies that the TSE agent possesses nucleic acid as its replicative machinery. CWD is particularly worrisome because the neuropathology in the infected deer shows the presence of the same "florid" amyloid plaque, which implies that CWD is akin to a more virulent form of the TSE agent. It is particularly disturbing that CWD is currently rapidly spreading through the Western States and presents a serious threat to the wild deer population throughout the United States.

HANDLING THE CWD PROBLEM:

The goal of the committee in dealing with CWD is admirable in establishing a surveillance system and finding a cure. However, there are major impediments to those goals. Firstly, the identity of the agent has not been established. As a result, there is no pre-clinical diagnostic test. Therefore, we know very little about the epidemiology of CWD. We have no idea how the disease is transmitted or what the distribution of the CWD agent is in nature. We don't even know what tissues or secretions from the infected deer are infectious. Since the prion theory was proposed in 1982, there have been few studies of TSE animal models. I will deal with the goals proposed by the committee in this section.

1. NEED FOR RESEARCH:

The problem in dealing with CWD is that we know very little about the pathogenesis of this disease. The identity of the agent has not been resolved even though there has been extensive search. We do know, from experiments with scrapie, that the agent is uniquely resistant to fixatives, heat and radiation unlike known pathogens of disease. This has led to a bizarre theory that the agent is a replicating protein. A small molecular weight protein, referred to as the prion, accumulates in the TSE tissues and is protease resistant. However, there is evidence that this protein is likely a reaction product since it does not correlate with levels of infectivity. In some instances (5 to 15% of CJD cases) the prion does not accumulate. Purified preparations of the prion are not infective. Careful review of the data has indicated that most of the TSE agent is killed by boiling and fixatives. Only a tiny population of the agent survives suggesting alternative explanations such as alternate forms of bacteria.

My research has uncovered evidence of the association of a bacterium, Spiroplasma mirum, with the TSE's. In 1976, I found by electron microscopy an inclusion within the brain of a patient with CJD that closely resembled a newly described bacterium seen primarily in insects and associated with plant diseases. I subsequently studied the neuropathology of experimental Spiroplasma infection in rats and showed that Spiroplasma induced a spongiform alteration of the rat brain identical to the spongiform change seen in CJD and the other TSE's. In 1981, a unique fibril protein was found in protease-treated scrapie-infected brains, referred to as scrapie-associated fibrils (SAF). SAF is seen only in association with TSE infection and are different from the "prion". SAF appears to correlate directly with scrapie-infectivity. If you treat Spiroplasma broth cultures with proteases, you will find within the bacterium a core of fibrils identical to SAF. These Spiroplasma fibrils are seen only in this microbe and not within any other bacteria. Based upon this evidence, I obtained antiserum specific to scrapie and showed by Western Blot, that Spiroplasma proteins cross-react with scrapie antiserum. More recently, I have shown the presence of Spiroplasma DNA in CJD-infected human brains and in scrapie-infected sheep brain, but not in controls. These data represent direct evidence for the association of Spiroplasma with the TSE's.

I propose that Spiroplasma is likely the causal agent and that the prion is simply a reaction product, possibly serving as a mechanism for hiding from the immune system. If so, more research is needed to study the role of Spiroplasma in the pathogenesis of CWD. We should be able, through study of the DNA findings, to characterize the different strains of the agent. The relatedness between the agent of CWD

to the other TSE's should easily be determined and may give some clue as to the source of the infection.

Unfortunately, most research monies have been dedicated to prion research, with funding essentially controlled by prion advocates and limited to 5 or 6 laboratories in the United States. More money is needed to fund a more diversified approach. Currently, only $ 20 million is dedicated to TSE research in this country and the bulk of that ($ 14 million) goes to one laboratory. As I stated in my prior testimony, it is essential to encourage more unbiased researchers into the field, and that goal can only be accomplished by providing more funding opportunities. Therefore, we have to remove the control of government funding exercised by the prion advocates. A year ago, Senator Hatch's office proposed a commission to oversee research efforts for TSE's. Governmental officials in charge of TSE in this country quickly stated that they had everything under control and that there was no need for a commission. Obviously they were wrong and there is a need for new direction in dealing with this potentially dangerous situation.

2. THE NEED FOR SURVEILLANCE:

The second goal of the committee is dependent upon the development of a preclinical diagnostic test, which currently is not available. Again, the problem is that the agent has not been conclusively identified and, therefore, it has been impossible to study the epidemiology of CWD. It is becoming apparent that many more animals are infected than clinically evident. There are reports of sheep flocks developing clinical scrapie in one animal, but when all the flock is killed and examined, several other animals carry the disease by examination of tissues. This experience has been noted in examination of CWD-infected deer and elk populations. Recent experiments that have shown that hay mites contain the scrapie agent, suggesting that a vector may be involved. Indeed, when a deer penned with other animals comes down with CWD, all the animals in the pen develop the disease, suggesting the work of a vector or exposure to secretions or excrement. Older experiments done in the 1960's have shown evidence of lateral transmission of scrapie in rodents, which supports this concept.

Even though the identification of the transmissible agent is not solved, all governmental funding for development of a test has been limited to studies involving prion detection. The rationale for that approach is flawed since 1) the prion appears to be a late manifestation in the disease process; 2) there is evidence that the prion is not the agent; and 3) the prion is not present in a significant number of TSE cases. Furthermore, most detection methods for the prion are complex and not practical for use as a screening method. I propose that detection methods for Spiroplasma in the TSE's would involve a strategy, which could lead to practical low cost methodology. Methods would involve both a sensitive DNA test of peripheral blood and a screening of antibodies in blood or spinal fluid using ELISA methodology. Using the bacterial probe should allow resolving some of the questions regarding the distribution of the punitive bacterium in nature. We could determine whether there is a link between CWD and the recent deaths of young people in Colorado from CJD.

3. FINDING A CURE:

The recent reports of response of experimental scrapie infection to tetracyclines raises the question whether an antibiotic treatment is feasible for CWD. Our experience with experimental Spiroplasma infection in vitro is that the bacterium is resistant to all antibiotics except tetracycline. Perhaps a bactericidal antibiotic could be developed for attacking this CWD agent. Another approach would be to follow-up on the immune cross-reactivity of Spiroplasma proteins with scrapie and develop a vaccine that would be effective in preventing TSE infection.

CONCLUSION:

As in my prior testimony on TSE's in 1997, I have recommended more funding for investigation of CWD. The CWD problem is at a critical point and requires a broad research approach looking for alternative agents. The current actions of the USDA of depopulation will not work in the long run and we need a more defined plan of action. Hopefully, the committee will consider setting up a commission of scientists and informed lay people to oversee the attempt to stop this deadly scourge.

[A letter submitted for the record by Mr. Hart follows:]

May 10, 2002

THE HONORABLE SCOTT McINNIS
THE UNITED STATES HOUSE OF REPRESENTATIVES
215 CANNON HOUSE OFFICE BLDG.
WASHINGTON, D.C. 20515

DEAR REPRESENTATIVE McINNIS,

I HAVE BEEN ADVISED THAT YOU WILL BE CONDUCTING A HEARING ON CHRONIC WASTING DISEASE ON MAY 16 AND THE WRITTEN COMMENTS WILL BE ACCEPTED. I WOULD LIKE TO SUBMIT THE FOLLOWING COMMENTS FOR CONSIDERATION.

GOVERNOR OWENS HAS INITIATED AN AGGRESSIVE PROGRAM TO PREVENT THE SPREAD OF CWD IN WESTERN COLORADO AND COMMITTED TO AN AGGRESSIVE MANAGEMENT PROGRAM IN THE ENDEMIC AREA.

ALTHOUGH COLORADO IS THE EPICENTER OF THE ENDEMIC AREA FOR CHRONIC WASTING DISEASE, MANAGEMENT OF CWD CAN NO LONGER BE A "STATE ISSUE". CWD HAS BEEN IDENTIFIED IN MULTIPLE STATES, CANADA AND OTHER COUNTRIES. IT WILL NOW REQUIRE PARTICIPATION AND COORDINATION AT THE FEDERAL LEVEL BY DEPARTMENT OF AGRICULTURE, THE FOOD AND DRUG ADMINISTRATION, THE CENTER FOR DISEASE CONTROL AND THE US FISH AND WILDLIFE SERVICE.

THEREFORE I AM REQUESTING THAT AN ADVISORY BOARD CONSISTING OF REPRESENTATIVES FROM THOSE AGENCIES BE ESTABLISHED TO COORDINATE EFFORTS IN RESEARCH, MONITORING AND MANAGEMENT OF CWD. THIS COMMITTEE WOULD PROVIDE INPUT TO CONGRESS ON THE NEEDS FOR FUNDING AND LEGISLATION REQUIRED TO CONTROL THE SPREAD OF CWD AND TO ENSURE THAT THE POTENTIAL FOR SPECIES CROSSOVER IS MINIMIZED.

I AM AWARE THAT THE DEPT. OF AGRICULTURE PRESENTLY MAINTAINS THE RECORDS ON THE MOVEMENT OF ALTERNATIVE LIVESTOCK (CAPTIVE WILDLIFE), AND THAT THEY ALSO HAVE OVERSIGHT ON ANIMAL PROCESSING PLANTS. PROCESSING PLANTS PRESENT A SIGNIFICANT POTENTIAL SITE FOR SPECIES CROSSOVER OF CWD TO HUMANS AND OTHER LIVESTOCK.

IT IS ABSOLUTELY ESSENTIAL THAT CWD AND OTHER TRANSMISSIBLE ENCEPHALOPATHIES AND THE FACTORS RESTRICTING SPECIES CROSSOVER BE CONDUCTED IN A COORDINATED PROCESS. I AM NOT SUGGESTING THAT RESEARCH BE RESTRICTED, BUT THAT THE INFORMATION ON RESEARCH THAT IS BEING CONDUCTED AND THE INFORMATION FROM THAT RESEARCH BE DIRECTED TO A CENTRAL REPOSITORY.

BEFORE RESEARCH ON CWD, TSE's AND PRIONS CAN EVEN BE PUBLISHED; NEW INFORMATION IS EMERGING. THE RAPIDLY CHANGING INFORMATION CLEARLY INDICATES THAT WE CAN NO LONGER RELY ON THE OLD SAW "THERE IS NO EVIDENCE THAT" TO DEFINE THE RISKS ASSOCIATED WITH TSE's. AS WAS BEST STATED IN ONE PAPER I SAW, "ABSENCE OF PROOF IS NOT PROOF OF ABSENCE".

ACCEPTABLE RISK LEVELS FOR ENDEMIC AREAS, TSE's AND PRIONS MUST BE ESTABLISHED BASED ON THE MOST CURRENT AND BEST SCIENTIFIC INFORMATION THAT CAN BE OBTAINED. RISK LEVELS MUST BE ESTABLISHED FOR PUBLIC PROCESSING PLANTS THAT ACCEPT DEER AND ELK FROM THE WILD OR FROM CAPTIVE WILDLIFE SOURCES. IF AN INDIVIDUAL MAKES A WELL INFORMED CHOICE TO CONSUME DEER OR ELK FROM HUNTING OR FROM CAPTIVE WILDLIFE SOURCES THAT IS A CHOICE. ALLOWING ANY POTENTIALLY INFECTED ANIMALS TO BE PROCESSED IN A PUBLIC PROCESSING PLANT WHERE INDIVIDUALS UTILIZE THOSE FACILITIES FROM OTHER SOURCES DOES NOT ALLOW THAT CHOICE. THAT RISK MUST BE EVALUATED AND REASONABLE RESTRICTIONS CONSIDERED.

FEDERAL FUNDING AND LEGISLATION WILL BE ESSENTIAL TO THE DEVELOPMENT OF ADEQUATE PROGRAMS TO ENSURE THAT PUBLIC HEALTH AND LIVESTOCK PROTECTION WILL NOT BE JEOPARDIZED BY TSE's IN ANY FORM. THAT MAY REQUIRE FUNDING FOR RESEARCH AND DEPOPULATION OF CAPTIVE OR WILD ANIMALS.

CWD IS NOW A NATIONAL AND AN INTERNATIONAL ISSUE AND CANNOT BE ADDRESSED BY INDIVIDUAL STATES. THE POTENTIAL THREAT TO HUMAN HEALTH AND DEER AND ELK CANNOT BE ALLOWED TO BECOME AN INIMBYY. IT'S NOT IN MY BACK YARD YET!

THANK YOU FOR THE OPPORTUNITY TO PROVIDE COMMENTS ON THIS ISSUE.

SINCERELY,

JERRY HART
7336 BEECH COURT
ARVADA, CO. 80005
303–420–5517
jerrhart@attbi.com

[A letter submitted for the record by Mr. Krut follows:]

May 10, 2002

Mr. Josh Penry
Majority Staff Director
Subcommittee on Forests & Forest Health
1337 Longworth House Office Building
Washington, D.C. 20515

Dear Mr. Penry:

In light of the Subcommittee's May 16 hearing on Chronic Wasting Disease and efforts to deal with it, the American Association of Meat Processors (AAMP) wishes to make several points concerning the issue. AAMP represents approximately 1,700 meat processing firms and their suppliers throughout the United States and Canada. The majority of these businesses are small and very dependent on the processing of deer and elk for their continued existence.

AAMP estimates that big game processing is a critical part of the business in at least 50% of the 7,500 facilities operating under USDA inspection or jurisdiction and nearly all of the 2,500 firms operating under state meat inspection programs.

It is significant that many of these small meat processing operations are also sustained in the non-hunting months by the custom processing of cattle, swine, sheep, buffalo and ratites for the owners of those animals, namely farmers and ranchers, for their own use. Large packing houses do not accept these privately owned animals that are slaughtered and processed as "not for sale." Should these small processing houses be closed, it could have a devastating impact on small family farms and animal agriculture in general.

It is clear that these firms conduct game processing activities from late August into the spring months, when sausage and other specialty products are produced from elk or deer meat. If these seasons were totally curtailed, they would be unable to keep employees, pay on equipment, facilities and other overhead items. For most, their facility is their retirement.

Funding for research into ways to prevent or eliminate the spread of CWD is vital. Most plant operators realize that if unfounded and unscientific scares about CWD being transmitted to humans become rampant in the media, it could destroy their customer base. Even states without positive CWD animals could suffer the consequences in a media-generated panic.

Compounding the problem is the fact that many sportsmen go to other states to hunt deer and elk and bring them back to their own states for processing. Thus, a firm in a non–CWD state could also be hurt by this disease.

A high percentage of hunters want specialty products, such as sausage, snack sticks, bolognas, or jerky items made from their elk or deer meat. Often the meat from several animals must be ground at the same time, in a "batching" of raw materials. Otherwise, it would be necessary to stop and do a complete cleanup of facilities and equipment for every animal brought in, which would render the processing too costly for consumers. Likewise, a large percentage of hunters are unable to handle the cooling, processing and wrapping of their meats in a safe manner, either through lack of skills or unavailability of necessary facilities, including hot water, seasoning controls, unawareness of other animal diseases, blast freezing chambers, proper packaging and wraps, and lack of understanding about proper cooking and curing temperatures and durations.

Offal disposal, including bones, trimmings, heads, spinal column materials, is a nightmare for individuals. It is also a key problem for small processors when an increasing number of rendering firms refuse to collect this material, either through fear of CWD in the material or the economics of picking up in rural locations.

Small game processing facilities are unable to obtain insurance to cover "loss of business" for a disease like CWD, public fears of CWD, or eradication efforts that

eliminate wild or farmed deer and elk herds. Carriers designate this as an "act of God" any either deny or do not offer coverage.

AAMP members and those non-members who conduct game processing operations do not have testing facilities. Few have excessive storage capacity for game animals, meaning that they may not be able to hold animals for hunters until test results for CWD are made known. In some instances, they may not want to accept any animal without knowing where it was taken or that it tested negative for CWD.

They are very concerned about hunters who drop off their animals and refuse to pick them up without paying for processing costs, materials, labor, seasonings, equipment use and wrapping. If one animal arriving at a processing plant tests positive for CWD, they are fearful that all animals brought to that plant could be abandoned by the hunters. They are hoping for some indemnification for this loss if it is caused by CWD scares.

These plant owners want to do the right thing and to cooperate with scientific and government agencies. But they may need financial help if the demands of preventive or eradication efforts put them in a plant closing mode. They may not know how long a restoration to normalcy will take, or if things will every return to normal.

There are thousands of what our industry calls "shade tree" butchers who work out of garages, corn cribs, or in the open environment. They often lack basic sanitation training, hot water, adequate cooling and storage facilities, and curing know-how.

They often undercut legitimate processors in price since they have no overhead, pay no taxes, and are not inspected. As a seasonal enterprise, they often operate unknown to the authorities. If actions to deal with CWD are too onerous for established processors and they are forced to close, there will be little left except for these black market operations. From a food safety standpoint, that is a option that neither the Subcommittee nor other official agencies should exercise.

AAMP and its member deer and elk processors stand willing to meet with the Subcommittee or other government agencies to further explain their concerns and work toward positive and effective solutions. If additional hearings are scheduled, we hope you would find time to hear the personal concerns of those in this important part of our hunting infrastructure.

Thank you for your consideration and best wishes in your deliberations.

Steve Krut
Executive Director

[A letter submitted for the record by Mr. Lundquist follows:]

May 13, 2002

Josh Penry
Majority Staff Director
Subcommittee on Forests and Forest Health
House Committee on Resources
1337 LHOB
Washington, DC 20515

Reference: Federal Government Involvement in Chronic Wasting Disease

Dear Mr. Penry:

We believe that the key to controlling and eventually eliminating Chronic Wasting Disease is to stop transmission of the disease. We understand that the disease is transmitted through animal-to-animal contact and ingesting CWD contaminated food, etc. The expansion of CWD outside of the endemic area in Colorado and Wyoming appear to have resulted from infected captive animals transmitting the disease to the wild animals.

Based on this understanding, we recommend that the containment and elimination of CWD will require concerted efforts on these fronts:

•Stopping the 35-year expansion of the epidemic area in Colorado and Wyoming;
•Stopping expansion of recently infected areas in Wisconsin, and Craig, Colorado
•Stopping infection of wild herds of deer and elk resulting from infected captive animals and contaminated lands.

The only method to eliminate the disease we know of, is to aggressively eliminate all infected animals along with large numbers of healthy animals.

To stop the spread of the disease, government agencies have to seriously look into containment. In Colorado, we believe that game ranches that have been infected and abandoned need to be double-fenced and the fences need to be maintained for the foreseeable future. The west side of Rocky Mountains National Park needs to be

double-fenced this summer with the balance of the park double-fenced as soon as possible (based on the assumptions that the National Parks will not aggressively eliminate the deer and elk herds in the Rocky Mountain National Park). Finally, so far all CWD infected wild animals are north of I–70. Highway I–70 forms an effective barrier to migration of deer and elk in some parts of the state. We believe that with additional fencing, I–70 can become an effective barrier, stopping migration in all parts of the State.

Recently in Colorado efforts have been directed towards opening up migration corridors. We feel that these efforts in Colorado and other states may be counter-productive with respect to the control of CWD. The best defense to CWD is a herd isolated from other herds which may become infected. To stop the spread of CWD, herds need to be separated and isolated where practical.

In addition to the foregoing, we have specified recommendations for Federal Government involvement as listed below:

•Develop and implement containment policies as addressed above and provide funding.

•Establish a protocol for dealing with Chronic Wasting Disease, i.e. Wyoming is doing nothing, Colorado is removing 25% of the herd in 5 years, and Wisconsin is aggressively eliminating 15,000 deer.

•Develop policies for national parks, including containment and elimination. In Colorado, the west borders of Rocky Mountain National Park need to be fenced as soon as possible before the Summer migration.

•Coordinate and fund research.

•Provide funding for game elimination and containment in the form of grants to the States affected.

•Provide assistance to increase testing laboratory capacity and the development of field tests for hunters.

•Game farms and shooting ranches need to be regulated on an intrastate basis. Colorado's controls established by the Department of Agriculture appear good. However, risk is so high that game farms may need to be eliminated or required to maintain large bonds of $10 million or more.

•Centralize and coordinate all Federal resources within one agency.

We would appreciate your consideration of these recommendations, and wish that we could have made this presentation in person.

Sincerely,

COLORADO SPORTSMEN S COALITION

Ronald Lundquist
President

[A statement submitted for the record by Mr. Southwick follows:]

May 16, 2002

TESTIMONY TO THE U.S. HOUSE OF REPRESENTATIVES
COMMITTEE ON RESOURCES

From: Charles H. Southwick, M.S., Ph.D.
Professor Emeritus, Environmental, Population and Organismic Biology
University of Colorado
Former Professor of Pathobiology
Johns Hopkins University, Baltimore, MD

ELEVEN PRIMARY CONSIDERATIONS FOR CHRONIC WASTING DISEASE MANAGEMENT:

1. Present and recent control strategies of mass culling do not seem to be working. The disease has spread despite extensive slaughter of both captive and wild deer and elk.

2. In several cases, the spread of the disease has been associated with increased culling. Large-scale killing may contribute to spread by: (a) increasing movements and dispersal of deer and elk, (b) massive destruction of healthy stock (often 99% of those killed), some of which probably hold the key to genetic resistance that can lead us up and out of this costly and dangerous epizootic.

3. Current culling methods have employed open transportation of heads and carcasses which can spread contamination, and disposal in landfills which can contaminate soil for at least three years. High temperature incineration must be employed, and more care in collection and transportation.

4. Better methods of detection and surveillance must be developed. It is greatly preferable to employ live testing such as tonsillar biopsies, even though this is more expensive and requires more diligent personnel. Other live tests, such as urinalysis, should be urgently developed.

5. In our own study area of mule deer just west of Boulder, Colorado, the Colorado Division of Wildlife tested a dead deer 6 years ago which was CWD +. (They did not inform us until March of 2002). Nonetheless, this deer population has thrived in the six years since then. Fawn production has been very good, fawn survival and winter survival have been excellent. This indicates either very low transmission in natural habitats (as opposed to captivity), or else it indicates individuals or herds with natural genetic resistance.

6. There are acute shortages of research on such basic topics as transmission and infectivity rates in natural populations, genetic resistance in individuals in the PrP gene locus, and in cross-species infectivity.

7. Captive herds and Game farms have been the major sources of CWD. It is essential that they be controlled more carefully, all animals tested, all interstate shipments stopped, and all captive stock subject to intense surveillance. Unless CWD can be eradicated from game ranches, this industry should be closed down.

8. Eradication of CWD is not a feasible goal in wild populations. As in the cases of Lyme disease, Hanta virus, rabies, and virtually all other zoonotic infections, we cannot eradicate the infectious agent in natural populations. The best we can achieve is control. The goal for CWD control in natural cervid populations is a prevalence or incidence of less than 1 percent.

9. CWD must be treated as a national and international problem of great urgency. Nationwide monitoring, control, and research programs must be instituted immediately. International cooperation is necessary.

10. An international conference combining experts in wildlife ecology, prion disease specialists, and public health scientists should be convened as soon as possible to determine the best courses of action.

11. Expenditures now on research, increased surveillance by live testing, and a national/international conference of appropriate scientists can save potential losses of billions of dollars in future years.

Follow up address:

Dr. Charles Southwick
Department of Environmental, Population and Organismic (EPO) Biology
CU Box 334
University of Colorado
Boulder, CO 80309
Phone: 303-492-5468

[A letter submitted for the record by Mr. Schad follows:]

Attention: Sub-committee on Forests and Forest Health

RE: Written Congressional Hearing Testimony: Chronic Wasting Disease (CWD)

Hearing date 5/16/2002

Dear Sirs and Madams:

As President of the Ohio Association of Meat Processors and Director at Large for the American Association of Meat Processors, I provide the following for your consideration:

If CWD strikes, this would have a potentially devastating effect on processing plants in Ohio and nationwide.

In Ohio, more than 50 % of our plants could be effected.

In Ohio, some plants are dependent on game season with some 30+% of annual income coming from game processing.

Some plants may well not survive if a high incidence of CWD were to be found in Ohio.

Over the past three months, I have attended State Meat Processors Conventions in Illinois, Missouri, Wisconsin, Ohio and Nebraska. As CWD information has emerged, meat processors becoming aware of it—the best attended education/informational sessions (standing room only) were those sessions that were addressing CWD. I cannot state strongly enough, the devastating impact CWD could have, IF

Misinformation is out there, the media reports it causing over reaction and public hysteria

Game population are infected due to slow identification of infected population Testing time (per head) is not minimized, so the plant and hunter will be aware in a timely manner

Disposal of infected head (offal and bones) is not such that processors can be fiscally and environmentally responsible. It is my understanding that currently the only means of disposal is in registered landfills.

It is my understanding that Ohio will begin testing this year; I hope it is soon enough. However, the Ohio Association of Meat Processors (OAMP) will work with the Ohio Department of Agriculture (ODA) to try to insure that if incidents are found, they are reported accurately, taken within the context of the total testing and that a plan is in place to minimize the impact. In addition, we are currently working with Dr. Glauer of Animal Industries, ODA, to support alternative ways of infected carcass disposal. OAMP is committed to working with ODA to look for ways that both satisfy governmental and industry needs. Your committee, also, needs to work with and support State Agencies.

I encourage your committee to consider representation from the industry, specifically, the American Association of Meat Processors (AAMP represents small to mid size plants and state associations are their affiliates.)

In addition, please consider that identification is only part of the problem. Funding for research is essential—identification, solution proposals made and both strategic and tactical plans need to be developed and implemented. Our industry needs to be included as a vital part of wildlife management—both our survivals depend on it.

Respectfully submitted,

MARK P. SCHAD
President, Ohio Association of Meat Processors
Director at Large, American Association of Meat Processors

[A letter submitted for the record by Mr. Steele follows:]

May 14, 2002

The Honorable Scott McInnis
The United States House of Representatives
215 Cannon House Office Bldg.
Washington, D.C. 20515

Dear Representative McInnis,

Please enter the following comments into the record for the congressional hearing on funding for Chronic Wasting Disease.

Much of wildlife management for all species in the United States has been funded by deer license sales. The same sportsmen who purchased these licenses have supported local economies in many rural areas.

Now Chronic Wasting Disease threatens all this. Modeling studies by the Colorado Division of Wildlife and Colorado State University indicate that if CWD is not controlled our deer herds will no longer exist 100 years from now. In the near future CWD threatens license sales ergo wildlife management funding. Hunters will not buy licenses if they perceive the meat is not safe to consume. Would you feed venison to your children or grandchildren from the endemic area of Colorado or Wyoming even if it tested negative for CWD?

First and foremost eradication of CWD must be the objective of any funding or research. Control efforts in Colorado over the last 35 years have failed miserably. Failures on a nationwide level will leave us with no deer in the United States.

The chances of CWD moving from a maximum of 3000 infected deer and 300 infected elk harvested over the last 35 years is infinitesimal compared to the current one case of nvCJD in humans per 500,000 exposed to BSE (mad cow disease). If CWD does jump the species barrier as BSE did it will have much more dire consequences. BSE was transmitted cow to cow by feeding infected meat and bone meal. NvCJD could be transmitted person to person only by contaminated surgical instruments, blood transfusions and theoretically by cannibalism. CWD is spread deer to deer through saliva, urine, and fecal matter. If CWD does jump the species barrier it could then transmit by the same routes just as the common cold or salmonella among humans. In test tube studies the species barrier to humans is no stronger for CWD than BSE.

Research on a disease that develops this slowly will take years. In the meantime containment and control will be critical. Funding to Wildlife Services to aid states in eradication efforts is needed. Funding for double fencing of infected game farms

is being born by sportsmen currently. We are not responsible for the mess they created and should not have to clean it up. Federal dollars would be more appropriate for environmental control of CWD on these farms. Double fencing will be required for 5 to 50 years depending on research into environmental persistence. Double fencing is necessary to prevent wild deer from entering and leaving contaminated premises through holes in fencing, over snowdrifts, and over fallen trees.

The second objective for funding needs to be research on CWD. This would best be approached on all levels from state wildlife agencies, state universities, to Federal laboratories.

Areas of critical importance are:

1. How CWD is transmitted.
2. How long CWD persists in the environment.
3. Treatments for CWD.
4. The potential for crossing the species barrier.

Sportsmen have generated tax revenues for scores of years and asked for little in return. Tax revenues on sporting goods, ATV's, trucks, and recreational vehicles total many millions. Now we are asking for your assistance in dealing with Chronic Wasting Disease.

Dick Steele DVM
President, Colorado Sportsmen's Wildlife Fund
President, Western Colorado Sportsmen's Council
687 2300 Drive
Delta, CO 81416
(970)234–8041

[A letter submitted for the record by Mr. Young follows:]

Colorado Veterinary
Medical Association

May 7, 2002

Congressman Scott McInnis
320 Cannon House Office Building
Washington, DC 20515
Fax 202.226.0622

2 pages via fax

Dear Representative McInnis:

The Colorado Veterinary Medical Association (CVMA) wishes to thank you for the leadership you are demonstrating on the issue of chronic wasting disease (CWD). As a western Coloradoan, you understand the significant impact this disease is having upon deer and elk herds in our state. As an elected official, you appreciate the potentially devastating effect CWD can have upon the economic vitality of Colorado communities when hunters decide not to harvest deer or elk due to concerns about the disease.

While no data demonstrate a link between CWD in deer and elk to disease in humans, hunters are nonetheless seeking reassurance that harvested meat can be consumed with confidence. Veterinarians are in a unique position to help provide peace of mind to hunters.

Veterinarians have the professional training required to obtain from a harvested animal the sample of brain tissue needed for testing. Veterinarians have the experience needed to ship the sample, which for proper immunohistochemical testing must be immersed in a formalin solution, to the Veterinary Diagnostic Laboratory (VDL) at Colorado State University for testing. And veterinarians are members of communities throughout Colorado, making them – and therefore access to time-sensitive tissue collection – readily available to hunters.

We want to be helpful, and have envisioned a system where hunters could be informed about a sampling protocol through which they can gain the peace of mind to consume the meat of animals that test negative for CWD. But forming the resource network of veterinarians, providing training materials and tissue collection advice, compiling and distributing informational material (to hunters, outfitters, taxidermists and the media), and coordinating with Colorado agencies such as the Division of Wildlife and the Department of Agriculture will take financial resources beyond our means.

Providing peace of mind is the primary goal of this system, but there are additional benefits:

- This system, based upon the voluntary cooperation of hunters, could vastly expand the data about CWD incidence to animal and public health officials and researchers because it would reach beyond the limited geographic areas where mandatory testing is being proposed.

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Congressman Scott McInnis
May 7, 2002
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- It would leverage existing private sector resources already in place, providing a significant supplement to the limited human resources available through the Division of Wildlife.

- And by raising public confidence about the safety of harvested game, it would protect the economic viability of rural Colorado communities.

The limiting factor in the number of hunters that can be served is the volume of tests that can be performed each day. Test volume is a factor of the personnel, equipment and physical space available at the Veterinary Diagnostic Laboratory. While the quality of personnel, level of commitment, and quality of service provided by the VDL are unparalleled, they function in an outdated and inadequate facility.

To process the anticipated volume of tests for hunters, the VDL may have to rent additional space and obtain more testing equipment. While this may suffice in the near term, an effective long term solution demands that plans for a new VDL building – which are currently stalled in the state's funding process due to economic contraction – must be approved and placed on a fast track for construction.

You are well aware of complexities such as these that complicate the ability to efficiently respond to a crisis. With your support, however, and the allocation of some federal resources, these obstacles can be overcome. Some of the monies being secured to address the CWD crises should be allocated to the statewide "peace of mind" testing system we propose. An additional amount should initiate construction of the sorely needed facility for the Veterinary Diagnostic Laboratory in Fort Collins.

With hunting season rapidly approaching, time is of the essence if we are to have any hope of instituting the testing system. We believe that immediate collaboration and action is required. We're willing to do our part, and to foster an effective partnership to serve the public interest.

We are available to answer any questions you might have. Thank you for considering our recommendations and for favoring us with a prompt reply.

Sincerely,

John K. Young D.V.M.

John Young DVM
President