

## **REPORT OF THE COMMITTEE ON CAPTIVE WILDLIFE AND ALTERNATIVE LIVESTOCK**

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Vice Chair: Julie Napier, NE

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The Committee met on October 18, 2016 at the Sheraton Greensboro Hotel in Greensboro, North Carolina from 8:00 a.m. to 1:00 p.m. There were 41 members and 12 guests present. The mission of statement of the committee was read.

### **Presentations and Reports**

#### **Management of Endemic CWD in Farmed Elk Using Antemortem Rectal Biopsy Testing**

Nicholas J. Haley, Department of Microbiology and Immunology, Midwestern University

Chronic wasting disease (CWD) is a transmissible spongiform encephalopathy (TSE) affecting members of the cervid family which has been reported in 24 states and two Canadian provinces, as well as the Republic of South Korea and most recently Norway. The disease has been found with increasing frequency in both farmed and free ranging cervids – transmitting freely and frequently within both groups. Management has historically involved depopulation in the case of farmed animals and herd reduction in the case of wild deer and elk, the latter with limited success. In CWD endemic areas, where prevalence rates in farmed deer and elk mirror those found in wild cervids, the appropriateness of alternative management strategies for farmed animals has not been examined. We sought to evaluate the practicality and sustainability of managing CWD in a closed elk herd, where CWD prevalence rates approach 20%, using a test and cull strategy relying on rectal biopsies and conventional and experimental diagnostic approaches. We have correlated our findings with genetic background, pregnancy status and progesterone levels, sex, and age to further our understanding of the epidemiology of CWD. We will continue to monitor these correlations over the length of the study to identify the effects of our strategy on CWD prevalence, herd genetics, and reproductive success. This project represents a unique opportunity to collect valuable information on CWD diagnostics, epidemiology, and resistance.

#### **CWD Ante-Mortem Testing**

Tracy A Nichols, USDA-APHIS,  
Wildlife Services National Wildlife Research Center

Dr. Nichols reviewed the pro's and cons of the current information on some ante-mortem CWD testing options and implementation of live animal tests.

## **Overview of Advocacy and Public Policy at the AVMA**

Gail Golab, American Veterinary Medical Association (AVMA)

Dr. Golab presented an Overview of Advocacy and Public Policy at the AVMA. Addressed were on what, to whom, and how the AVMA advocates on behalf of veterinarians and their patients. Advocacy at the federal, state, and international levels, and with for-profit and not-for-profit businesses was discussed, as well as the roles of AVMA volunteer leadership, members, and staff. A case study on compounding was used to demonstrate how AVMA is working at the federal and state levels to effectively resolve related challenges faced by the profession, its patients, and its clients. Mention was made of the recent retooling of the AVMA in an effort to better serve its members, including a planned 2017 effort to develop an advocacy and public policy agenda.

## **Annual Update from the Cervid Health Team, Fiscal Year (FY) 2016 Voluntary Chronic Wasting Disease (CWD) Herd Certification Program**

Alecia Naugel and Randy Pritchard, USDA-APHIS-VS

The APHIS National CWD Herd Certification Program (HCP) was implemented in 2014. It is a voluntary Federal-State-industry cooperative program administered by APHIS and implemented by participating States. The program provides uniform national herd certification standards that minimize the risk of spreading CWD in farmed cervid populations. Participating States and herd owners must comply with requirements for animal identification, fencing, recordkeeping, inspections/inventories, as well as animal mortality testing and response to any CWD-exposed, suspect, and positive herds. APHIS monitors the Approved State HCPs to ensure consistency with Federal standards through annual reporting by the States.

With each year of successful surveillance, herds participating in the HCP will advance in status until reaching five years with no evidence of CWD, at which time herds are certified as being low risk for CWD. Only captive cervids from enrolled herds certified as low risk for CWD may move interstate. Currently, 29 States participate in the voluntary CWD Herd Certification Program and have Approved HCPs. FY 2016 marks the fourth year that Approved States have submitted their CWD HCP annual reports to APHIS. In FY 2016 there were 2,704 enrolled cervidae herds: 2,129 deer, 447 elk and 128 mixed species herds. Of those, there were 2,331 certified cervidae herds: 1789 deer, 421 elk and 121 mixed species herds.

### **VS PCEP Evaluation**

Veterinary Services (VS) conducted an internal evaluation of its Cervid Health Program in 2016 at the request of VS leaders. The evaluation used VS' Program Continuous Evaluation Process (PCEP), a standardized process designed to help VS leaders improve programs and services by examining (1) the program goals with respect to alignment with VS goals, stakeholder needs, program status and allocated resources; (2) the program strategies with respect to suitability for achieving program goals effectively and efficiently; and (3) the program value to stakeholders. A total of 49 stakeholders, including 40 stakeholders external to VS, were asked to provide input to the PCEP evaluation. Seven VS veterinary medical officers and one Wildlife Services veterinary medical officer met from May through June 2016 to complete the evaluation and to provide recommendations for the program. Recommendations and stakeholder input regarding the CWD Herd Certification Program (HCP) from the review were provided to the CWD Program Standards Working Group.

### **CWD in Farmed and Wild Cervids**

**Summary of CWD detections.** As of September 30, 2016, CWD has been confirmed in wild deer and elk in 22 U.S. States, and in farmed cervids in 16 States. In total, 24 States have identified CWD in wild and/or farmed cervids. CWD has been reported in 77 farmed cervid herds in the United States. Confirmation of the disease in free-ranging elk and white-tailed deer in Arkansas in 2016 marked the first reports of CWD in the wild cervid population in this State.

**FY 2016 CWD Detections in Farmed Cervids.** Seven new positive captive cervid herds were identified in FY 2016 (5 white-tailed deer and 2 elk). None of the seven positive herds were certified herds in the Herd Certification Program.

- **Texas: Two new herds**

In February 2016, NVSL confirmed CWD in a 3½-year-old, natural addition whitetail buck that was hunter-harvested from a release site on a ranch in Medina and Uvalde counties. The deer originated from a breeding facility on the ranch. Based on the possible

exposures, both the breeder pen and the release site were considered positive premises. The buck was genotype GG at codon 96 and tested positive on both lymph node and obex. Two more positive deer have been identified out of 349 animals in the herd that have been tested since February using post-mortem and/or ante-mortem samples. The breeding facility and the associated hunting facility tested at least 130 white-tailed deer for CWD as part of routine post-mortem surveillance within the five years prior to the first positive case. The positive herd was within 50 miles of another known positive farmed cervid herd at the time of diagnosis. The herd currently has approximately 780 whitetail deer under State quarantine.

In April 2016, NVSL confirmed CWD in a 3 ½-year-old, natural addition white-tailed doe in Medina County. The doe was genotype GG at codon 96 and tested positive on both lymph node and obex. Subsequently, an additional 13 positive deer were identified by post-mortem and ante-mortem testing, including five 96GG, six 96GS, and two 96SS genotypes. The herd tested a total of 181 deer for CWD as part of routine post-mortem surveillance in the five years prior to the positive diagnosis. This positive herd is within ten miles of the positive herd identified in Medina/Uvalde Counties in February 2016. Approximately 1,000 white-tailed deer currently reside on the premises that remains under State quarantine. Federal indemnity was used to remove and test select animals to inform the epidemiological investigation and evaluate the performance of ante-mortem tests.

- **Wisconsin: Three new herds**

NVSL confirmed CWD in a 3-year-old, natural addition buck on a white-tailed deer breeding/hunting facility in Three Lakes, Wisconsin in November 2015. The facility is located in Oneida County. The buck was positive on both obex and lymph node, but was not tested for genotype. One additional positive hunter-harvested 5-year-old buck was positive on both lymph node and obex (untested genotype). No CWD positive cervids have been found in wild or farmed cervids within 50 miles of the positive premises. The herd tested at least 129 deer for CWD as part of routine post-mortem surveillance were reported within the five years prior to the positive diagnosis. The herd consists of approximately 450 white-tailed deer and is under State quarantine. Federal indemnity was not provided for this herd.

In January 2016, NVSL confirmed CWD in a 2½-year-old, natural addition white-tailed buck in Iowa County, Wisconsin. The farm had been under quarantine since 2002 because it is located within five miles of CWD-detection in wildlife. Only a few deer are kept on the farm for exhibition. The buck was positive on both obex and lymph node, with an untested genotype. The herd was enrolled in an HCP program in 2002, but was not compliant at the time of diagnosis. Twelve valid CWD test results had been reported in the five years prior to the positive animal diagnosis. The herd currently has an inventory of less than ten CWD-susceptible species. Federal indemnity was not provided for this herd.

NVSL confirmed CWD in a white-tailed deer in Oconto County, Wisconsin in September 2016. The deer was a female, one-year-old natural addition that was found dead. The lymph node was CWD-positive but prion was not detected in the obex sample tested. The facility includes a separate breeding farm at the same location, with approximately 850 deer in the breeding farm and an estimated 1500 deer in the hunting preserve. This preserve is not on a Herd Certification Program. There have been 1,078 deer tested from this preserve since 2010. A quarantine was issued. It will require 100% testing of all deer that die or are killed and are 12 months of age, in both operations. There are no plans to depopulate this farm at this time.

- **Iowa: One new herd**

NVSL confirmed CWD in an elk from a hunting preserve in Pottawattamie County, Iowa, in January 2016. An adjacent breeding facility owned by the same producer was depopulated for CWD in 2012. The breeding facility received exposed deer from another positive herd in Iowa. The hunting preserve tested seven animals for CWD in 2012 (no other testing known). The hunt facility currently consists of white-tailed deer and elk and the plan is to hunt out the remaining animals. Federal indemnity was not provided for this herd.

- **Colorado: One new herd**

In June 2016, NVSL confirmed CWD in an elk from a facility in Eagle County, Colorado. The 9-year-old cow elk was born on another premises in Colorado, but had been at this

Eagle County facility for the past eight years. This facility consisted of a small herd used for personal meat production. Communication with state animal health officials indicated that only one other elk resided on the premises at the time of CWD detection. That animal was euthanized and tested “not detected” for CWD. The herd owner has no plans to raise elk in the future.

### **Retrospective Epidemiology of CWD in Farmed and Wild Cervids**

VS initiated a retrospective CWD epidemiology assessment in partnership with State animal health and wildlife agencies in 2015, but the evaluation was postponed due to VS' highly pathogenic avian influenza response. As part of the Herd Certification Program annual reporting process, VS asked States to complete an epidemiology summary for all previously identified CWD-infected herds. Nine States responded to the request for data and completed positive herd summaries for a total of 25 herds.

### **Emergency Preparedness Concepts for Captive Wildlife and Alternative Livestock**

Jimmy Tickel, North Carolina Department of Agriculture and Consumer Affairs

The captive wildlife and alternative livestock industry is a vast array of different types of facilities and business models. This presentation introduces the Secure Zoo Strategy to this committee. Secure Zoo is designed to be a platform for the captive wildlife/zoological/alternative livestock community. It is designed to mirror the Secure platforms for agricultural species, which focus on business continuity in the face of Foreign Animal Disease (FAD).

Secure Zoo assists this industry to align with critical mission areas as outlined by the Federal Emergency Management Agency (FEMA), which include Prevention Protection, Mitigation, Response, and Recovery, as they apply to Foot-and Mouth Disease (FMD).

Speaking as the Operations Section Chief in the North Carolina Department of Agriculture, this sector needs to know that decisions in the face of an outbreak of FMD will be made *very* quickly. The members of this committee should recognize that planning with their State Animal Health Officials (SAHOs), *pre-event*, is extremely important. If there is a chance to avoid depopulation during a disease outbreak, a State Animal Health Official must be confident that a given facility does not pose undue risk to a much larger agricultural sector. The Secure Zoo toolbox will have planning guidance for developing site-specific plans with regulatory partners, which *may* result in preservation of valuable animals.

I propose to the Committee:

- Members of this sector should learn more about State and national FMD planning. Each individual facility should have a basic understanding of FMD response strategies, and how it affects their ability to do business.
- There are Key Components guidance in Secure Zoo, including Biosecurity, Surveillance, Animal Movement, Preservation, and Visitation. Not all guidance is appropriate for every facility. You must tailor your plan, along with your State Animal Health Official based upon your business model.
- This sector should be encouraged to participate in FAD exercises in their States. Gaps in planning and overall sector management can be explored in a ‘no risk no fault’ environment.

### **Committee Business:**

The Committee accepted the report from the Farmed Cervid Subcommittee and discussed and passed four resolutions, three of which were brought forward from the Farmed Cervid Subcommittee and one from the Committee on Infectious Diseases of Horses.

## **REPORT OF THE SUBCOMMITTEE ON FARMED CERVIDAE**

Co-chairs: Charly Seale, Exotic Wildlife Association  
Bret Marsh, Indiana Board of Animal Health  
Paul Anderson, Minnesota Board of Animal Health

The Subcommittee on Farmed Cervidae met on October 17, 2016 at the Sheraton Greensboro Hotel in Greensboro, North Carolina. The following committee members were present: Charly Seale (TX), Bret Marsh (IN), Shawn Schafer (ND), Eric Mohlman (NE), Patrick Carlton (TX), David Hunter (MT), Collin Gillin (OR) and Robert Meyer (WY). Paul Anderson, (MN), John Fischer (GA) and Glen Zebarth (MN) were not able to attend. There were a total of 98 people in attendance at the meeting.

### **Reports**

Dr. Nicholas Haley presented on the epidemiology and management of endemic CWD in farmed elk. He presented on his research projects regarding ante-mortem testing for CWD, live animal CWD testing effectiveness, vaccine development and nontraditional methods for management of CWD infected herds. He also discussed genetic resistance characteristics in elk. His research supports that live animal testing in CWD infected herds can be an effective tool in the management of infected herds.

Dr. Davin Henderson presented on recent work with sensitivity and specificity studies using the RTQuick and protein misfolding cyclic amplification (PMCA) CWD assays as compared to testing using conventional immunohistochemistry (IHC). He said that these tests perform far better than IHC and that testing of fecal samples for CWD using these tests shows promise.

Dr. Tracy A Nichols, Animal Health Inspection Service (APHIS), Wildlife Services National Wildlife Research Center, presented on her research on ante-mortem CWD testing options and implementation of live animal tests.

Dr. Randy Pritchard, USDA-APHIS-Veterinary Services, presented on recent cases of CWD in the United States and the current status of the CWD Herd Certification Program in the United States.

Dr. Nancy Hannaway, USDA-APHIS-Veterinary Services, presented on pilot projects on use of live animal tests in CWD Herd Certification approved states. She reported that there are currently 29 CWD Herd Certification Program (HCP) approved states. She also reported on the DPP tuberculosis test in cervidae. There were 1,750 cervidae tested by DPP in 2016. Five animals were classified as reactors, euthanized and necropsied. None of these five reactor animals were found to be infected with tuberculosis.

Dr. Alecia Naugle, USDA-APHIS-Veterinary Services (VS), discussed revision of the CWD Program Standards, movement of wild cervidae and ante-mortem CWD testing. She handed out a document summarizing USDA recommendations for changes to the CWD Program Standards. Comments on these recommendations will be considered.

Three resolutions were drafted, discussed, voted upon and passed out of the Subcommittee on Farmed Cervidae for subsequent consideration and possible action by the full USAHA Committee on Captive Wildlife and Alternative Livestock. These resolutions are as follows:

- 1) National Cervid TB Herd Accreditation Program
- 2) Live animal testing for CWD.
- 3) CWD testing protocol for wild cervidae