

**HOUSE COMMITTEE ON NATURAL RESOURCES
SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS**

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Introduction

Thank you Mr. Chairman and members of this Committee. I appreciate the chance to come before you today to share a few observations from a state perspective surrounding the management of chronic wasting disease (CWD), a serious and far reaching wildlife based issue that has become front and center for our agency since the disease's unwelcome discovery in far west Texas in 2012. With the emergence of CWD has come considerable impacts, not only from the increased cost of containing the disease's spread, but just as importantly, from the implications of how best to attenuate its impacts on social, cultural, recreational, and economic values that Texas and Texans hold dear.

We have learned from other states that in the absence of a targeted, proactive, and comprehensive disease management approach, CWD has the potential to directly and indirectly impact the management of Texas' bountiful deer herds and other wildlife; the recreational pursuits of sportsmen and women; the livelihoods of people and businesses in rural communities; the economic value of farm, ranch, and timberland properties; and the sale of hunting licenses, which have long been a primary driver of funding to support conservation of all species, not just game animals. Moreover, the ramifications of CWD for Texas and its multi-billion-dollar ranching, hunting, real estate, and wildlife management affiliated economies are expected to be significant, unless the disease can be successfully contained and controlled.

In short, with so much at stake for so many, complacency with this disease is not an option.

Deer and Deer Hunting in Texas

By way of background, Texas boasts a white-tailed and mule deer population in excess of 4.5 million deer. Each fall, approximately 840,000 deer hunters, including tens of thousands of non-residents, take to the woods in pursuit of their favorite quarry and in fulfillment of time honored outdoor passions and heritage. These activities have a significant bearing on our state's rural economies and communities, many of whom are dependent upon a seasonal influx of deer hunters who infuse in excess of \$2 billion in direct expenditures on travel, goods, supplies, equipment, and other purchases that support their hunting-related activities.

The vast majority of hunting in Texas occurs on private land. In fact, approximately 95 percent of lands are privately owned, where they are held in a patchwork of over 250,000 individual farms, ranches, timber and forest land, and other interests. For decades, the Real Estate Center at Texas A & M University has tracked rural land trends across the state, including land values (Figure 1) and motivations for owning and enjoying rural land. Since the mid-1990s, the primary motivations for people buying rural land in Texas have been an interest in hunting, wildlife enjoyment, and family recreation in the outdoors, a trend that continues today.

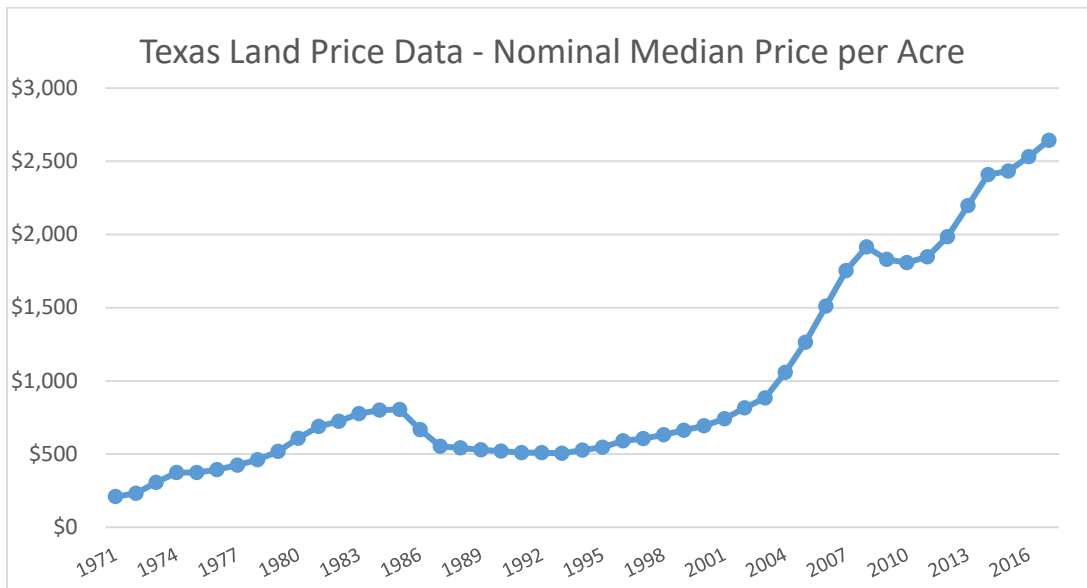


Figure 1. Trend in Texas land values, 1971-2016.

For the majority of Texas landowners, the wildlife species of greatest interest is deer, an emphasis that is reflected in voluntary wildlife management plans that Texas Parks and Wildlife Department (TPWD) holds with landowners across tens of millions of acres of privately managed properties.

Ensuring the health and vitality of our state's deer populations on those lands, both free-range and captive, and the public's confidence in the health and management of those deer herds, is foundational to the future of our state's rural land values, our real estate markets, the voluntary cooperation of landowners in managing wildlife on private lands, and the local communities who depend upon the value of those lands for their tax base.

Management of Chronic Wasting Disease in Texas

State Authority

State fish and wildlife agencies are charged with managing and conserving public trust resources for the enjoyment and use of the states' citizens, present and future. Given this important responsibility, these agencies are on the front lines in confronting the real and insidious threats associated with CWD. In Texas, TPWD has jurisdiction over native cervid species, i.e., white-tailed deer and mule deer, including approximately 1,000 captive deer breeding facilities containing around 75,000 deer.

Other cervids susceptible to CWD including elk, red deer, and sika deer are considered exotic livestock and fall under the jurisdiction of our sister agency, the Texas Animal Health Commission (TAHC), which administers the voluntary Herd Certification Program for interstate movement of captive cervids. Because of the important interface in Texas between free-range and captive native and exotic cervids, TPWD and TAHC work very closely in our efforts to combat further spread of CWD in Texas.

Landowner Cooperation

Any successful and sustainable CWD management strategy in Texas must be initiated and implemented with the trust and cooperation of private landowners. Because of the state's

predominant make-up as a private lands dominated state, any effective wildlife and conservation related measure carried out at any kind of scale must be done through collaborative partnerships with landowners.

These landowners, in many cases, derive a significant amount of income from hunting leases, or simply enjoy having and observing deer on their property. This is particularly relevant given the adverse impacts this disease can have on white-tailed deer (Edmunds et al. 2016, Foley et al. 2016), mule deer (Miller et al. 2008, DeVivo 2015, and elk populations (Monello et al. 2014), as well as the adverse impacts this disease can have on hunters' behavior (Needham et al. 2007, Vaske 2009, Zimmer 2012, Haus et al. 2017). For example, human dimensions research indicates that hunters will avoid hunting in areas of high CWD prevalence (Haus et al. 2017).

Aside from this information, it stands to reason that if CWD is allowed to become established, increase through time, and ultimately result in deer population declines, the simple absence of sufficient numbers of deer would also negatively impact deer hunting participation. Such factors would have very detrimental impacts on landowner interest, participation, and support of deer, deer management, deer hunting, and other affiliated activities and economies.

Actively engaging landowners about the gravity of CWD and sharing options available to them to help with the arrest of the disease's spread and prevalence are therefore essential in obtaining and maintaining their support and confidence in agency disease management efforts. Some of the adaptive management strategies for CWD control involving targeted removal of animals and/or substantially limiting concentration of animals in free range settings on private land are not as easily instituted in Texas as they may be in states that have larger areas of public land.

That being said, many Texas landowners fully expect, and in fact demand, TPWD take appropriate action to control the disease and are supportive of measures that help minimize further risk of spread, particularly from areas that are high risk and/or are already known to possess the disease. To that end, TPWD has enjoyed strong support in its CWD management efforts from the state's largest landowner organizations including the Texas and Southwestern Cattle Raiser's Association and the Texas Wildlife Association.

Factors Further Compounding and Influencing the Management of CWD

In attempting to arrest the further spread of CWD, Texas faces the same significant obstacles faced by other states, including the lack of a known treatment and effective prevention measures, disease persistence in the environment, inconspicuous progression of the disease, lack of proven management methods, the lack of funds (along with other limitations) to conduct sound research, and the always-fatal nature of the disease.

Data generated from other states has validated that CWD is an additional mortality factor in deer populations, and data indicate that mortality rates can surpass fawn recruitment in local populations with high CWD prevalence. Several research projects in Colorado (Miller et al. 2008, Monello et al. 2014), Wyoming (DeVivo 2015, Edmunds et al. 2016), and South Texas (Foley et al. 2016) have demonstrated that this additive mortality can have population-level impacts including a shift in age structure (to younger-aged animals) and a declining population.

CWD does not have the immediate short-term impacts to deer populations that we see with some other diseases such as anthrax or epizootic hemorrhagic disease (EHD); however, insidious, persistent diseases that increase in prevalence in early years with no noticeable impacts, such as CWD, may be more likely to influence long-term population dynamics. CWD prevalence is much higher and has increased more rapidly in some populations than what is often proclaimed. In a publication describing the lessons learned from CWD management attempts during the first five decades of its known existence, Miller and Fischer (2016) concluded that heavily-infected cervid populations will not thrive.

Once CWD becomes established in a free-ranging deer population, it is unlikely that it can be eradicated, and containment and control at the local scale will depend on numerous variables that include deer densities and deer movement barriers. However, CWD can be contained in a specific area (i.e., not moved to other areas) or within a captive deer breeding facility by ceasing the movement of live deer, as well as the transport of those carcass parts that are likely to contain the prions from these infected populations. Efficacious sampling must occur to determine if a population or populations are infected with CWD. Early detection is critical for disease containment, but effective sampling can and has put a severe strain on already lean state budgets.

History and Distribution of CWD in Texas

In Texas, CWD was first discovered in 2012 in free-ranging mule deer in the Hueco Mountains near the Texas–New Mexico border. It has since been detected in free-ranging elk, mule deer, and white-tailed deer in the northwest Panhandle, and in five (5) captive white-tailed deer breeding facilities in central and south-central Texas (Figure 2). To date, three (3) of those facilities have been depopulated and closed, leaving only two (2) CWD-positive deer breeding facilities operating under the guidance of a TAHC CWD Herd and Facilities Management Plan.

CWD has also been diagnosed in several free-ranging white-tailed deer harvested on ranches in close proximity to the remaining CWD positive breeding facilities within Medina County in central Texas. Genetic tests performed on those hunter-harvested deer found that the genetic composition of the subject animals were more closely related to deer in nearby captive facilities, as opposed to those in the surrounding free-range population. These findings highlight the important disease nexus between captive and free-ranging cervids and underscore the criticality of comprehensive CWD management strategies that address all CWD risk on the landscape. As of June 20, 2019, there have been 144 CWD-positives detected in Texas (Table 1).

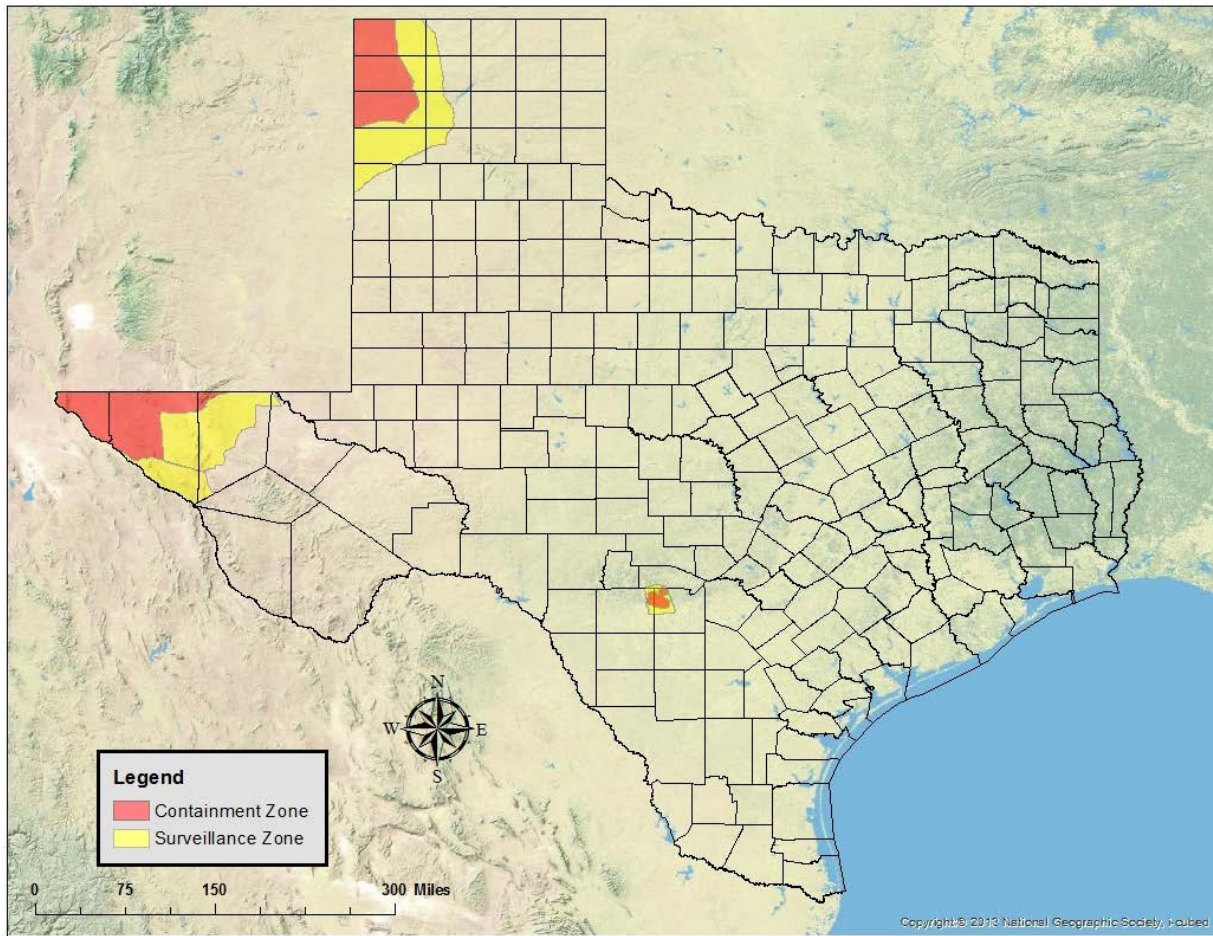


Figure 2. CWD Zones in Texas.

CWD Zone	Species	Total
Trans Pecos	Mule Deer - Free Range	19
	Mule Deer - Free Range	7
Panhandle	Elk - Free Range	1
	White-tailed Deer - Free Range	4
	White-tailed Deer - Free Range	3
South-Central Texas	White-tailed Deer - Breeder Pen	94
	White-tailed Deer - Breeder Release Site	14
	Elk - Breeder Release Site	2
Grand Total		144

Table 1. Number of CWD-positive deer or elk in Texas by geographic region, as of June 20, 2019.

Texas CWD Management Plan Implementation

Keeping CWD contained within the three existing geographic nodes where it currently is known to exist is a high priority for both TPWD and TAHC, as well as sportsmen, landowners, wildlife managers, and others concerned about its further spread. To that end, precautionary and proactive disease management principles of early detection and rapid containment have been guiding tenets of the state's philosophy and response in combating the disease.

Consistent with our state's culture and circumstances, Texas has implemented what we believe are the most tenable, balanced, and prudent measures available to manage CWD. The three primary goals of our CWD management plan are:

- Minimize CWD risks to free-ranging and captive white-tailed deer, mule deer, and other susceptible species in Texas;
- Establish and maintain support for prudent CWD management with hunters, landowners, and other stakeholders; and
- Minimize direct and indirect impacts of CWD to hunting, hunting related economies, and conservation in Texas.

The principle strategy of early detection includes adequate surveillance, as well as enhanced testing requirements for individuals permitted to move live deer, all designed to increase the probability of detecting CWD where it exists and before it is moved. With the initial detection of CWD in 2012 in far west Texas, the Texas Parks and Wildlife (TPW) Commission, the governing board for TPWD, adopted regulations for this area of the state designed to increase CWD testing efforts through mandatory hunter harvest testing and restrictions on live deer movement. When CWD was detected in a captive deer breeding facility in Medina County in the summer of 2015 TPWD enacted measures statewide in an effort to arrest the spread of this disease.

To further understand the geographic extent and prevalence of the disease, TPWD intensified surveillance efforts beginning with the 2015-16 hunting season. As a point of reference, TPWD collected CWD samples from an average of just over 2,100 free-ranging deer per year between 2002-2015. Surveillance efforts increased in the fall of 2015 resulting in approximately 10,000 samples per year being collected from hunter-harvested deer and road kills during each of the last 4 years.

In response to the 2015 discovery in a captive breeding facility, TPWD also adopted a comprehensive CWD management rules package to include the establishment of additional CWD Containment Zones and Surveillance Zones, CWD testing requirements for deer harvested within those zones, a suite of enhanced testing options for captive deer breeders to include ante-mortem (“live”) testing options, and restrictions on movement of live deer and specific carcass parts from regions or facilities of relatively high risk for CWD. Table 2 provides a summary of CWD tests collected from various sources over the last 16 years.

Fiscal Year	TPWD Tests	Deer Breeder (Post mortem)	Deer Breeder (Ante mortem)	TTT ¹	TTP ²	Release Site Tests	Totals	
FY 2003	810	++	N/A	4,351	Not Required	Not Required	810	
FY 2004	2,920	++					2,920	
FY 2005	2,782	++					2,782	
FY 2006	2,594	517					3,111	
FY 2007	2,393	886					3,279	
FY 2008	2,026	978					3,004	
FY 2009	2,218	1,148					3,366	
FY 2010	1,973	1,279					3,252	
FY 2011	2,571	2,034					4,605	
FY 2012	2,069	1,821					329	4,219
FY 2013	2,079	2,153					757	4,989
FY 2014	1,921	2,378					569	4,868
FY 2015	1,847	3,787					561	6,195
FY 2016	10,726	5,314	8,841	548	340	3,798	29,567	
FY 2017	9,820	5,058	16,065	287	199	2,996	34,425	
FY 2018	9,634	2,183	1,900	309	0	1,302	15,328	
Grand	58,383	29,536	26,806	7,711	539	8,096	131,071	

Table 2. "Not Detected" CWD Test Results in Texas, FY 2003-2018.

1. Translocation permits

2. Trap and process permits

* Subtotals for FY 2003 - FY 2011 do not include TTT test results.

* This table presents only Not Detected results (for all FYs), and excludes all inconclusive, location, and positive results from all categories displayed. Breeder deer values include only eligible aged deer, 16 months of age or older.

The increased testing that resulted from these programmatic and regulatory changes, as well as implementation of TAHC CWD Herd and Facilities Management Plans resulted in the detection of CWD in areas of the state and in facilities where it may not have otherwise been discovered for some time. TAHC CWD Herd and Facilities Management Plan sampling resulted in the detection of two (2) additional captive facilities after the initial discovery in 2015. Ante-mortem testing detected the disease in another captive deer facility, and increased testing of hunter-harvested deer by TPWD staff discovered the presence of CWD in the western Panhandle region. All of these new detections triggered additional TPW Commission approved regulatory changes to prevent the further spread of this disease.

TPWD has had to divert significant financial and personnel resources from other important conservation efforts to support our battle against CWD. Table 3 shows CWD expenditures since 2014, and depicts the seven-fold increase in annual expenditures. Expenditures towards CWD research are expected to increase in coming years so that we can better understand factors that enhance the spread of the disease or strategies that control its spread, but all of these costs pale in comparison to the potential economic ramifications that could occur if CWD gets a more expansive foothold in Texas.

CWD Expenditures	FY 14	FY 15	FY 16	FY 17	FY 18
Salary & Fringe	\$133,001.15	\$236,406.51	\$1,040,054.87	\$948,705.84	\$917,463.86
Operating Expenditures	\$75,784.16	\$30,147.16	\$512,269.57	\$624,636.10	\$531,514.59
	\$208,785.31	\$266,553.67	\$1,552,324.44	\$1,573,341.94	\$1,448,978.45

Table 3. TPWD expenditures for CWD Surveillance by Fiscal Year.

More Must Be Done

CWD is a very unique, challenging, and trans-boundary disease that requires thoughtful, targeted, and coordinated investments in surveillance, research and education. And while states must continue to serve as leaders in enacting disease management measures appropriate to their site specific circumstances, the disease must also be addressed more holistically across the nation. To that end, it is imperative that federal and state agencies invest the necessary attention and targeted resources to enhance our understanding of this disease and to develop effective

management strategies to arrest its spread and prevalence. Key areas where additional emphasis and support in the management of CWD are needed include:

Research – The scientific community must work more collaboratively to set priorities and to design research projects which ensure investigations are well-designed and translate into effective, practical, and applied solutions. Currently, CWD research is deficient in understanding transmission routes through direct and indirect sources, measuring effective adaptive management strategies, improving diagnostic testing options, specifically for live animal (ante-mortem) testing, and human dimensions work that better assesses stakeholder perspectives about the disease and elements of its risk, threat, and management.

Education – Heightened and coordinated outreach/education strategies are needed to provide the necessary level of awareness to ensure all stakeholders understand the seriousness of this disease and its potential impacts to the public's big game resources. Information based on science and facts, not fear mongering, that resonates with key audiences is essential. Although messages may need to be tailored for unique CWD management situations facing specific states, developing consistent messages across the nation is necessary.

Testing Methodologies and Lab Capacity – Developing more sensitive and rapid diagnostic tests and/or investing in additional diagnostic facilities to process hunters' samples more expeditiously is very important to gain hunters' support for CWD surveillance and management. Receiving test results after hunters have consumed their venison, or after having incurred additional expenses to keep unprocessed venison in edible condition while awaiting test results for extended periods of time are factors leading to hunter frustration and apathy. Such slow processing of samples can leave hunters with the impression that the disease must not be a serious threat.

Detection and Surveillance Capacity – Understanding that early detection is critical for successful CWD containment strategies, additional resources are necessary to conduct adequate CWD surveillance to provide sufficient confidence that the disease would be detected when a small proportion of the population is infected. This requires increased staffing as well as operating funds to cover costs associated with sampling and diagnostic testing.

Conclusion

In Texas, as in other states across the nation, our proud outdoor and hunting heritage, robust outdoor based economies, wildlife conservation funding, private and public lands conservation, rural land values, and the vitality of our rural communities are of immense importance to our citizens. The continued spread of CWD is a sober and compelling reminder of what is at stake if we fail to take the requisite measures and actions necessary to protect those important values. That responsibility, while best carried out primarily by the states at local levels, would undoubtedly benefit from a more comprehensive focus, as well as certain targeted federal investments in research, education/outreach, and fiscal support to the states.

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