James G. Teer Conservation Leadership Institute
Early Career Professional Program

Final Report
Support for Deer Conservation in Texas

Abstract. The James G. Teer Conservation Leadership Institute of the Texas Chapter of The Wildlife Society (TCTWS) provides early-career professionals with training and experiences that both encourage professional development and contribute to wildlife conservation. Our group was tasked with providing support to TCTWS on the issue of identification of breeder deer. This issue affects deer management in Texas, as well as human health, livelihoods, and hunter culture. After researching the history and status of breeder deer identification, we chose to develop a position statement for TCTWS. This position statement was approved by 97% of the membership and now serves as a foundation for future work on deer conservation in Texas.

Background

The early notions of a Texas deer breeding industry began in the early 1900s with the creation of propagation permits, which allowed the capture of wild animals for breeding purposes. At that time, it was illegal to buy and sell or attempt to buy and sell animals that had been captured under the propagation permit. In 1933, a regulation change allowed for the possession and sale of wild deer under the Game Breeder License. Under the rules of this new license, the license holder could hold game animals in captivity for the purpose of propagation and to be sold or purchased. These licenses were available through the Game, Fish and Oyster Commission and at the time of purchase, the person or entity that purchased the license was issued a serial number. That serial number was the first attempt at tagging and regulating deer movement in Texas. The law pertaining to these numbers specified that "A suitable metal tag, bearing the serial number of the game breeder holding same, shall be attached to and remain attached to an ear of each antelope or deer held or sold by a game breeder."

The practice of breeding wild-caught animals continued until the 43rd Legislature – Regular Session in 1985, when the Scientific Breeder's Permit was adopted into the Texas Parks and Wildlife Code. The change removed deer from the Game Breeder Permit, thus making it illegal for take, trap, or capture deer from the wild, or attempt to do so. Under the new permit, there were no additional tagging requirements for permit holders to follow. The law stated, "The scientific breeder shall place a suitable permanent metal tag bearing his serial number on the ear of each white-tailed deer held in captivity or sold by scientific breeder."

Not until 2007, during the 80th Legislature – Regular Session, were several changes next made in the Texas Parks and Wildlife Code regarding deer breeding. First, the permit needed to keep

deer in captivity once again received a new name, “Deer Breeder’s Permit,” which it has retained to current date. Additional tagging requirements were also passed and have remained unchanged. Texas Parks and Wildlife Department (TPWD) now assigns a unique four-digit alphanumeric code to every deer born in captivity; this number must be attached to the deer using a durable identification tag and should be reasonably visible. Along with an identification tag, a permanent and legible tattoo must be placed in the ear of any animal that leaves the facility in which it was born. The goal of this requirement is to allow TPWD to regulate deer movement and track each individual breeder deer from the day of birth until the day of death. The current section in the Texas Parks and Wildlife Code addressing the identification of breeder deer reads as follows:

> “Sec. 43.3561. IDENTIFICATION OF BREEDER DEER. (a) Not later than March 31 of the year following the year in which the breeder deer is born, a breeder deer held in a permitted deer breeding facility must be identified by placing on each breeder deer possessed by the deer breeder a single, reasonably visible, durable identification tag bearing an alphanumeric number of not more than four characters assigned by the department to the breeding facility in which the breeder deer was born and unique to that breeder deer. A deer breeder is not required to remove the tag for any purpose but may remove the tag and replace the tag immediately to meet the requirements of this section. (b) A person may not remove or knowingly permit the removal of a breeder deer held in a facility by a permittee under this subchapter unless the breeder deer has been permanently and legibly tattooed in one ear with the unique identification number assigned to the breeder in lawful possession of the breeder deer and specific to the breeding facility in which the breeder deer was born or initially introduced if from an out-of-state source. (c) A person may not knowingly accept or permit the acceptance of a breeder deer into a facility regulated under this subchapter unless the breeder deer has been permanently and legibly tattooed in one ear with the unique identification number assigned to the breeder in lawful possession of the breeder deer and specific to the facility in which the breeder deer was born or initially introduced if from an out-of-state source.”

Unfortunately, there are many issues with the current identification system, especially the lack of standardization for tagging and tattooing. The current law does not specify where the unique code should be located on the identification tag. A recent video produced by Texas Deer Breeders Association explains the organization’s interpretation of how to properly tag a breeder deer. They recommend that the unique identification code should be handwritten on the back of a dangle ear tag. Often, however, this will not allow the code to be “reasonably visible.” Placement of the ear tag, position of the animal when approaching the pen, and poor

penmanship can all make the code difficult or impossible to read. Furthermore, ear tag types, sizes, colors, and even whether to retain the tag upon release of an animal are all left to the discretion of the breeder. Ear tattoos are also an issue. In addition to problems associated with poor penmanship, improper tattooing practices can cause the mark to fade and become illegible.

The number of deer breeder permits issued in the state peaked in 2015, with close to 1,400 permits issued (Figure 1). At the end of 2018, that number had dropped to 1116. Within the care of those permit holders, there are 84,885 deer in breeding facilities. Compared to the number of free-ranging deer in Texas – an estimated 3.6-4 million – the number of breeder deer may seem fairly insignificant. However, unlike free-ranging deer, these breeder deer can be loaded onto trailers and shipped anywhere in the state, posing serious risks related to the spread of diseases.

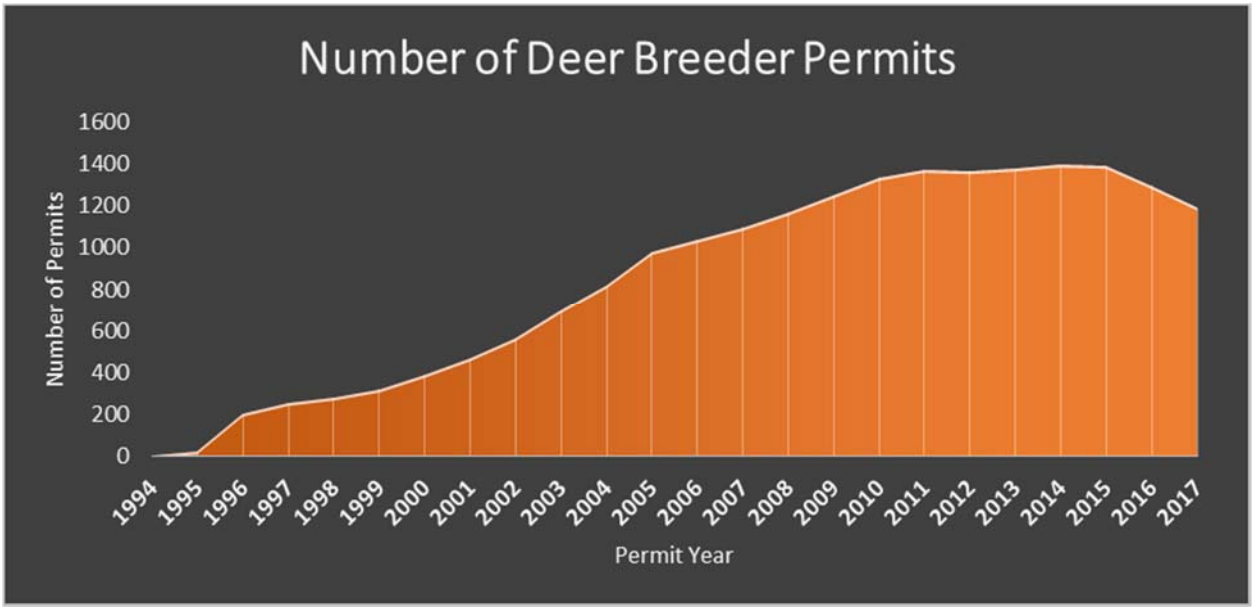

Figure 1. Number of deer breeder permits issued in Texas, 1994-2017.

In 2015, chronic wasting disease (CWD) was detected in a two-year-old breeder buck in a facility in Medina County, thrusting Texas deer management into uncharted territory. Although CWD had first been detected in Texas three years prior, all previous cases were free-ranging mule deer in counties adjacent to New Mexico, where CWD was already known to occur. In response to the 2015 detection, all deer movement was temporarily halted to allow time for TPWD and Texas Animal Health Commission to identify all deer that moved in and out of the "index facility." The state agencies identified 177 facilities and/or ranches that had a direct link to the index herd. These "trace ins and trace outs" were evaluated to identify which facilities posed the highest risk to further disease transmission. Proper book keeping allowed officials to

identify a breeder facility located in Lavaca County with four other bucks that came from the same pen as the original CWD-positive animal. These breeder deer also tested positive for CWD (Figure 2).

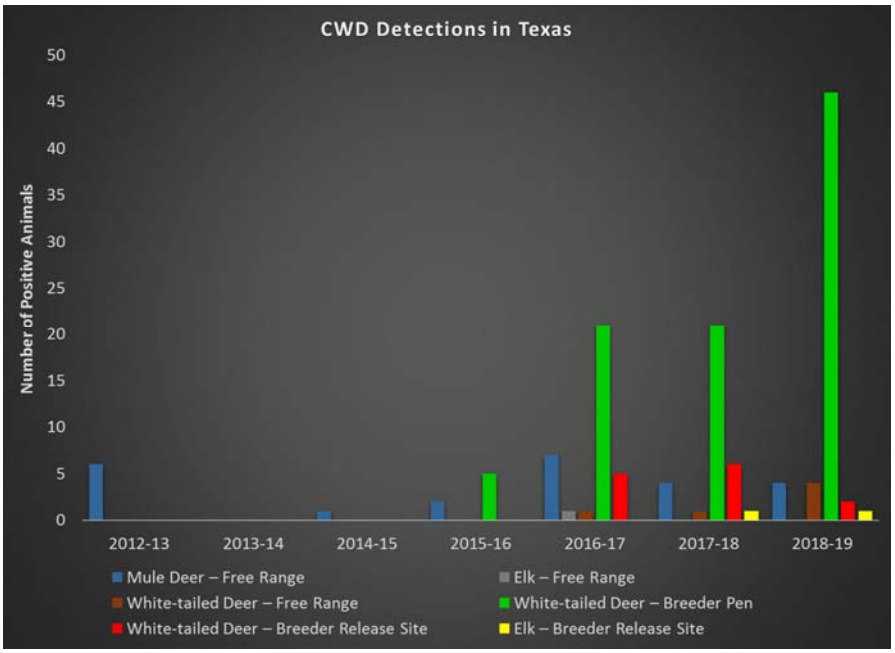

Figure 2. Number of CWD cases reported in all cervids in Texas.

Since 2015, TPWD increased their disease monitoring of both free-ranging and breeder deer, as well as other CWD-susceptible species. To date, 139 animals have tested positive for CWD, with 108 of those (77%) found in or associated with a breeder facility.

Disease management is just one reason that standardized tagging of breeder deer is important not only in breeder pens but also outside the pens and at release sites. Another reason is that hunters should be able to readily distinguish whether the animal they are hunting was born in captivity or in the wild. While some hunters may not care about this distinction, many do, especially with the recent increase in hunters who seek to obtain an organic, free-range source of protein. Hunters have a right to know whether someone has handled that animal or if it is truly wild and free from human contact. A third reason that a standardized tag is needed for breeder deer is the need to identify whether the animal has been given pharmaceuticals, and if so, which ones. There are very few pharmaceuticals that are labeled for use on deer, which means that data are lacking for most vaccinations and medicines given to breeder deer. Residue levels of pharmaceuticals in meat, the duration of the drugs in a deer's body, and long-term effects are largely unknown. This poses a risk to hunters who unknowingly harvest a deer that was released or escaped from a breeder facility. To protect both human and animal health, the type and quantity of pharmaceuticals given to a breeder deer need to be documented and linked to the identification of each deer.

Another concern related to identification of breeder deer is the issue of escaped animals. Recently, an open record request was made to TPWD regarding the number of breeder deer that escape or are missing from breeder facilities annually. “Missing” includes animals that died, escaped, or were released or moved without being reported. The results of this request raise a serious cause for concern. Over the past 14 years, there have been 2,679 reported escapes from a breeding facility (Table 1). Over the past 12 years, there have been 7,672 breeder deer determined to be missing from a breeder facility.

 # Escaped Breeder Deer Reported by Permit Holder

Calendar Year	# Deer	# Facilities
2004	11	6
2005	33	13
2006	125	31
2007	169	34
2008	315	54
2009	335	61
2010	245	61
2011	354	73
2012	259	60
2013	114	43
2014	127	30
2015	152	37
2016	159	40
2017	281	23
Grand Total	**2679**	**566**

 # Breeder Deer Determined to be Missing from Registered Facilities

Calendar Year	# Deer	# Facilities
2006	3	1
2008	1	1
2009	7	1
2010	339	8
2011	1199	65
2012	1354	39
2013	1783	51
2014	1098	44
2015	1011	43
2016	541	21
2017	336	11
Grand Total	**7672**	**285**

Table 1. Data collected by Texas Parks and Wildlife Department on the number of escaped (2004-2017) and missing (2006-2017) breeder deer in the state, and the number of facilities associated with these numbers.

Despite the many benefits to human and animal health of a standard identification system for breeder deer, the current requirements fall far short of standardization, thus putting native wildlife at risk. To fulfill the vision of Texas Chapter of the Wildlife Society (TCTWS) – to assure a sustained diversity of wildlife and their habitats in Texas – we undertook a project that would help protect our state’s white-tailed deer populations and preserve human health, livelihoods, and the hunting culture.

Project Approach

The James G. Teer Conservation Leadership Institute (JGTCLI) Early Career Professional Training provides an opportunity to learn about leadership and develop professional skills while completing a project that benefits wildlife conservation. Our group was tasked with developing products and performing actions that would help the TCTWS Executive Director prepare for legislation related to the deer identification issues in the deer breeding industry. An efficient and effective system for the identification of breeder deer is critical to the broader picture of wildlife conservation in Texas.

Our first exercise was a strategic planning method that allowed us to develop a project plan with a vision statement, overall project goal, and project objectives (Figures 3, 4). The models that we developed not only outlined our project and all associated components, but also provided us a way to plan, set goals, attain objectives, and critically evaluate our progress and achievements.

Our vision for this project was to support the long-term management of native free-ranging white-tailed deer in the state of Texas in order to conserve healthy deer populations and preserve hunting culture and livelihoods. As a group, we outlined an overall goal of no new properties exposed to CWD, due to the implementation of a standardized method of breeder deer identification. To achieve this goal and support the vision for our project, we outlined four objectives that we treated as steps and milestones to measure our progress toward completing our project and "moving the needle" in a positive direction for conservation. Our outlined objectives were:

1) gather information on the incidence and prevalence of CWD in Texas and other states throughout the country, and information on the current regulatory guidelines and status of ungulate breeding facilities on a state/province basis across the United States and Canada,

2) compile the aforementioned information and provide it to the TCTWS Conservation Affairs Committee,

3) draft a TCTWS position statement on the issue of a standardized tagging method for captive bred deer in the state of Texas to be sent to TCTWS members for a vote, and

4) summarize and present findings of project data, success, and future directions to TCTWS leadership and other members.

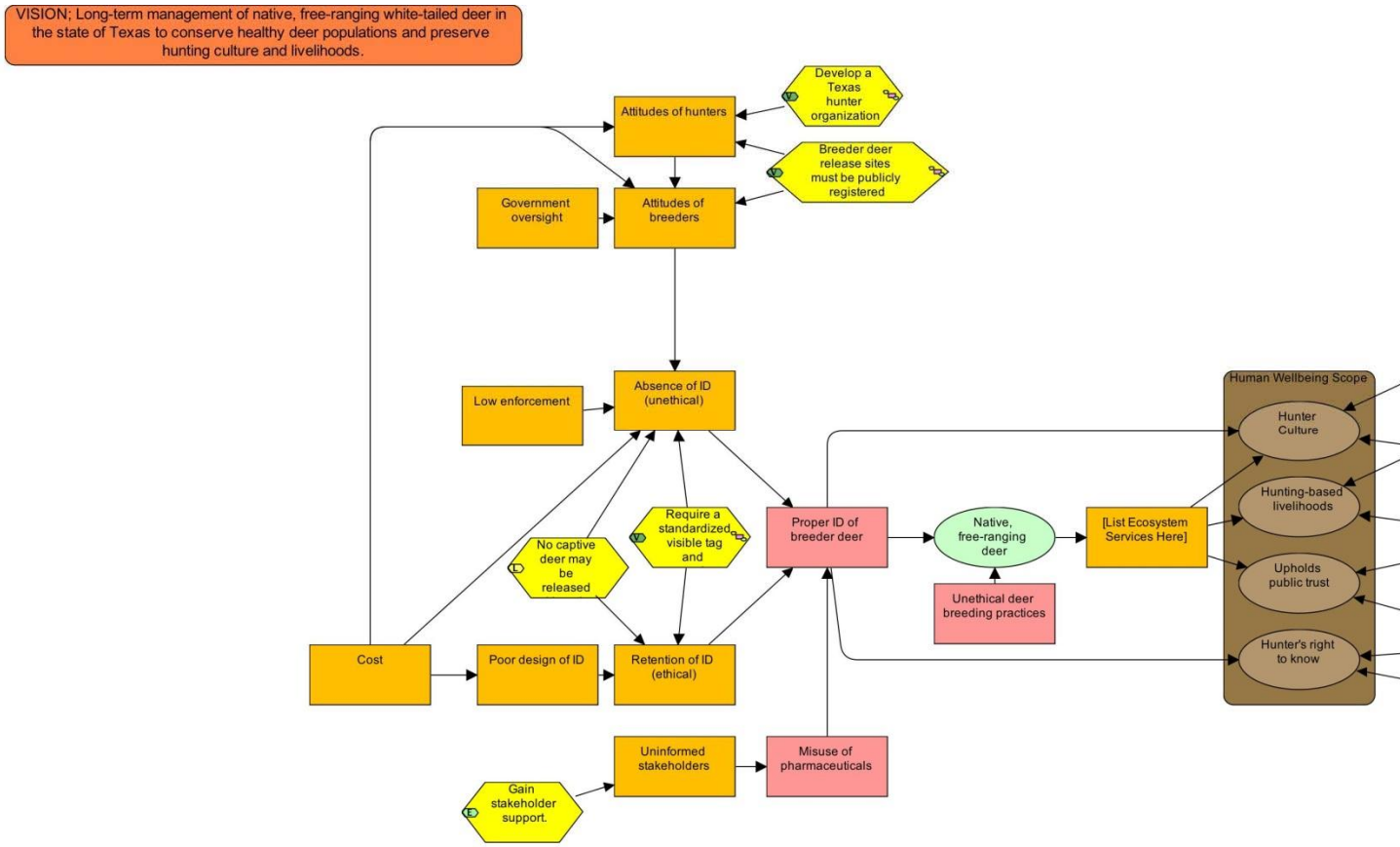

Figure 3. Overall project model for JGTCLI deer identification project.

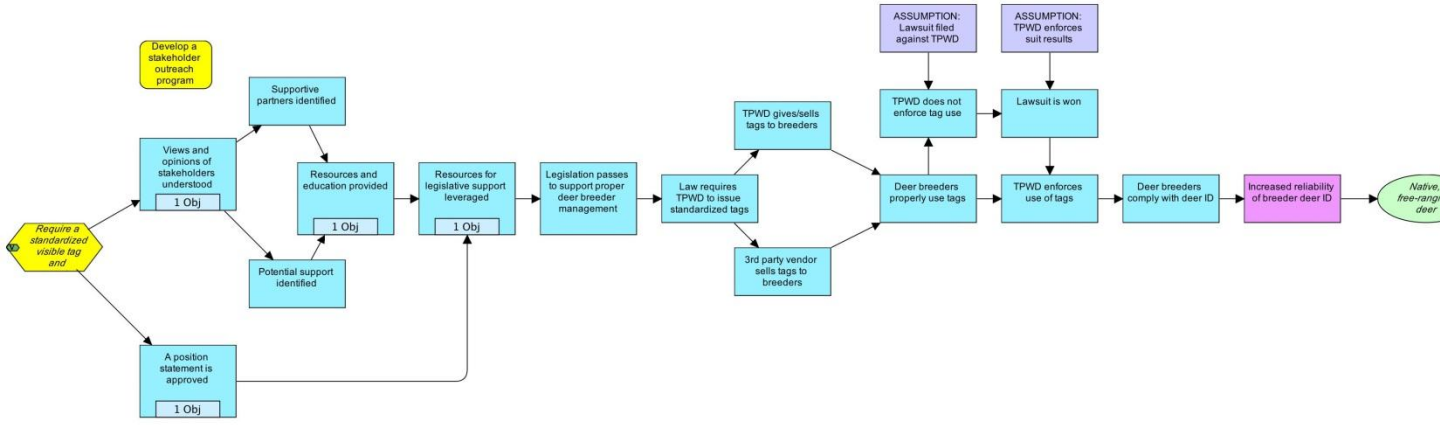

Figure 4. Full anticipated results chain for JGTCLI deer identification project.

Position Statement

Tackling the question of "where do we begin?" was perhaps the biggest challenge in approaching this large, complex conservation issue. After discussing the project as a group and receiving initial input from our content experts, we knew that we needed to start by collecting information about the issue before proceeding to the development of any goals or tasks. Over several months, we collected information about breeder deer identification from several publications, stakeholders, and content experts.

One of our proposed deliverables for this project was a TCTWS position statement. This document would provide information to our members about the importance of breeder deer identification, while creating a platform for the TCTWS Executive Director and others to communicate the society's recommendations on this issue to key legislators and other stakeholders.

We used existing TCTWS position statements to help build an outline and confirm that our work was on the right track before developing language. During the initial writing process, we had to make numerous revisions to the language to ensure that no part of the statement could be misinterpreted. After revising our first draft, the position statement was passed along to the CAC for review. During the review process, a few minor recommendations were suggested and, due to the sensitivity of this issue, a sub-committee was created to review and revise the position statement. After several minor edits, the position statement was approved by the CAC and recommended to the TCTWS Executive Board for review. The board approved our work and in December 2018 the position statement was sent to TCTWS members for a vote. The Position Statement: Support for Improvement of Captive-bred Deer Identification System passed overwhelmingly, 97% to 3%.

As breeder deer identification continues to be a controversial issue in the Texas legislature, the TCTWS position statement can serve as a platform for our members to provide legislators with recommendations and guidance. The 86th Legislature – Regular Session is now underway. We hope that the position statement will provide lawmakers with critical information as they consider legislation related to deer management in Texas, ultimately supporting management of Texas deer that conserves healthy deer populations while preserving hunting culture and human health and livelihoods.

Future work

The TCTWS position statement we created serves as a foundation for future work on the issue of breeder deer identification. One goal of our work was to support TCTWS in work with the Texas Legislature, but the position statement can support other members of the chapter as well. The process of introducing legislation, educating the public on an issue, and garnering support requires the involvement of many people. Wildlife professionals who work in deer

management are the most directly affected by the issue of breeder deer identification, and may be able to contribute expertise related to legislation on deer identification. Other aspects of the story are also important, however, including impacts of the health of Texas' deer herds on broader biodiversity and on hunters, landowners, and rural communities. Successful legislation will be supported by scientific data, economic impact statements, and the testimonies of those who work and recreate in Texas' wild places. Future work on this issue needs to integrate the data generated by wildlife professionals with the broader story of deer conservation.

Not all wildlife professionals have the skills or passion for working on the legislative aspects of this issue, and some may be restricted due to their employer (e.g., state agency). However, our group would like to suggest that all members of TCTWS can make use of the information we have gathered in some way so as to benefit deer conservation. We have gathered peer-reviewed publications, white papers, reports, data, and other resources that wildlife professionals can use to educate themselves and others about CWD and options for deer management. Future work by individuals should include educating stakeholders and reaching out to potential partners regarding this issue.

Even if legislation does pass to require standardized visible identification of breeder deer, subsequent efforts are needed to ensure that deer conservation is achieved. Any laws passed must be implemented and enforced. Future work should therefore support proper use of identifying marks on breeder deer and encourage consistent enforcement of rules. Continued monitoring of CWD presence and prevalence should occur and management recommendations be adapted as needed. Finally, outreach efforts should communicate the importance of deer conservation, and its impacts on broader ecosystem health, to hunters, landowners, land managers, recreationists, and all who care about Texas wildlife.