ECONOMIC VALUES OF WHITE-TAILED DEER IN TEXAS

2022 SURVEY: PART I



TEXAS A&M UNIVERSITY Rangeland, Wildlife & Fisheries Management



MAY 2023

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SUGGESTED CITATION:

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> ECONOMIC VALUES OF WHITE-TAILED DEER IN TEXAS 2022 Survey: Part I

OVERVIEW

Texas is one of the top destinations for hunting in the U.S., greatly due to the abundance of white-tailed deer (*Odocoileus virginianus*) throughout the state. The latest U.S. Fish and Wildlife Service recreation survey ranked Texas among the highest for the annual number of hunters in addition to days spent deer hunting. Money spent by hunters and landowners alike in relation to whitetailed deer activities is substantial, contributing to jobs, sales of hunting and land management equipment, travel amenities, and much more.

The contributions of hunting are important to the state's economy. Recent emergence of chronic wasting disease (CWD) may threaten the health and sustainability of white-tailed deer populations and impact important sectors of our state's economy. According to Texas Parks and Wildlife Department (TPWD) data, CWD has been detected in wild deer in 7 counties in Texas and 16 captive breeding facilities, with an additional 94 counties exposed, since 2012 (Figures 1 and 2).²⁻⁴ Numerous studies in Texas and other states have indicated that unmitigated spread of CWD may lead to measurable population declines and subsequent loss of hunter participation over time.^{5,6}

This report is part of a series to evaluate the economic values of white-tailed deer from surveyed hunters and landowners.

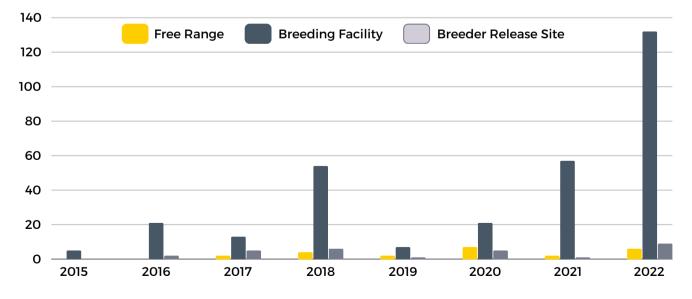
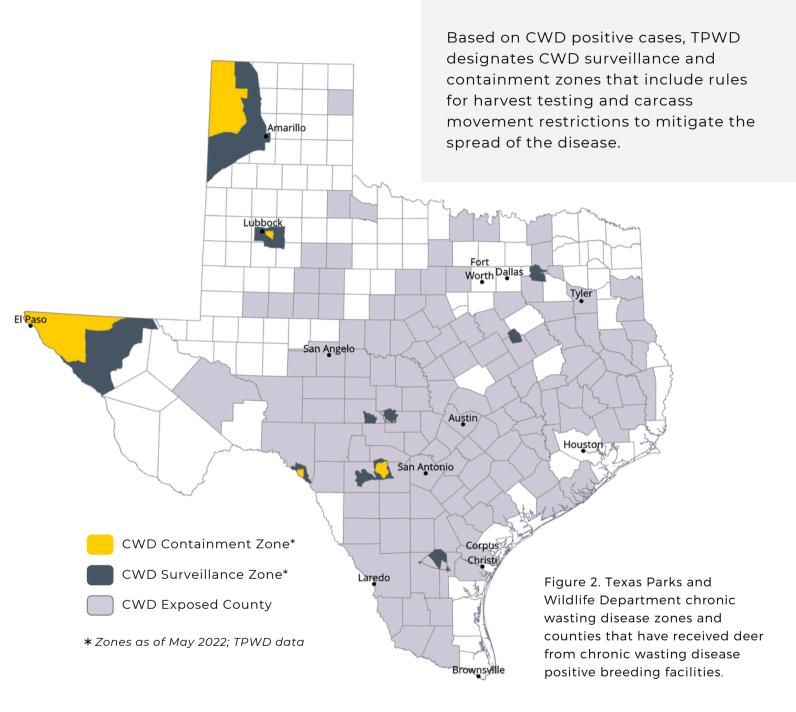


Figure 1. Number of confirmed chronic wasting disease cases by year and origination category in white-tailed deer in Texas (TPWD data).

CHRONIC WASTING DISEASE



Containment Zone: A geographic area in Texas that <u>CWD has been detected</u> or the TPWD and TAHC have determined, using the best available science and data, CWD detection is probable.

Surveillance Zone: A geographic area in Texas that is in <u>close proximity to a known CWD area</u>, and where TPWD and TAHC have determined, using the best available science and data, that the presence of CWD could reasonably be expected.

Exposed County: A county where deer have been liberated to the wild from a CWD positive breeding facility.

T E X A S WHITE-TAILED DEER HUNTER SURVEY

Understanding the economic opportunity costs and impacts to deer hunting is important to better inform state decisions regarding CWD management and control. For that reason, with support from TPWD staff, we conducted a webbased survey of a random sample of 100,000 Texas hunting license holders for the 2022-23 hunting season.

By including a filtering question (*Do you own hunting land in Texas?*), we were able to direct participants to separate questionnaires, one hunter-focused and the other landowner-focused (Appendix A).

We received a 9% response rate with a total of 9,079 unique responses. The following sections provide an overview of survey responses between hunters and landowners.



H U N T E R S U R V E Y R E S U L T S

6.3K

HUNTER RESPONSES

Of the total 9,079 responses, 6,275 (70%) identified as hunters who do not own land.

\$3.3K

AVERAGE HUNTER EXPENDITURES

Based on respondents (99%) who reported expenses related to white-tailed deer hunting in Texas during the 2022-23 season, the average hunter expenditures totaled \$3,348.

HUNTER SURVEY RESULTS

White-tailed deer in Texas are the most hunted species and largest revenue generator in the state (Figure 3). Rural economies across Texas are dependent on healthy deer populations that attract hunters to their communities and generate revenue for small businesses as well as the landowners who provide access to their land for hunting. White-tailed deer hunting supports local feed stores, gas stations, lodging, restaurants, meat processors, taxidermists and more.

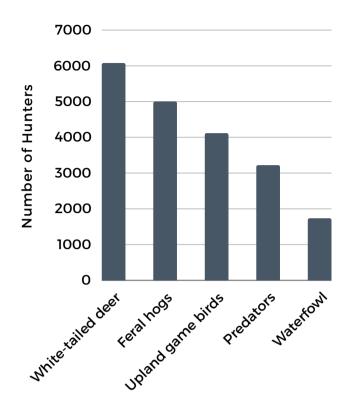
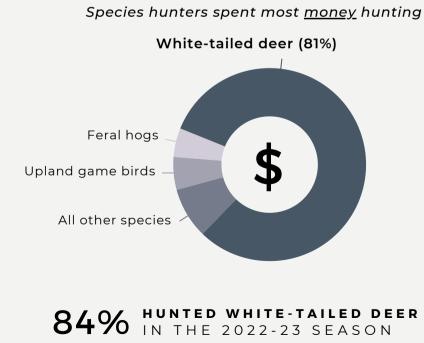


Figure 3. Top five species hunted in Texas from surveyed non-land-owning hunters, 2022-23 season.

HUNTER PROFILE



PRIN 52% 41% 5% -2% -

PRIMARILY HUNT ON: 52% - Family/friend land 41% - Leased land 5% - Public land 2% - Outfitters

1-10 DAYS HUNTING

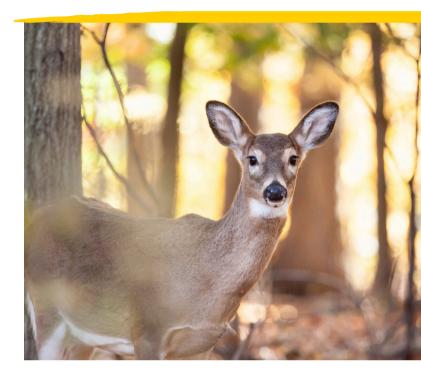
The majority of hunters (~50%) reported hunting white-tailed deer for 1-10 days in the 2022-23 season.

HUNTER SURVEY RESULTS

TOP 5 MOST <u>COMMON</u> EXPENDITURES

>50% OF THOSE SURVEYED REPORTED THESE TOP EXPENSES:





TOP 5 <u>LARGEST</u> ANNUAL EXPENDITURES

REPORTED ESTIMATES FOR THESE ITEMS AVERAGED OVER \$1K:

1	Outfitter or guide fees
2	Lease fees
3	Lodging
4	Land management activities
5	Feed and/or feeders

L A N D O W N E R S U R V E Y R E S U L T S

2.8K

LANDOWNER RESPONSES

Of the total 9,079 responses, 2,804 (30%) identified as hunters who own hunting land.

\$18.8K

AVERAGE LANDOWNER EXPENDITURES*

Based on respondents (95%) who reported expenses related to white-tailed deer hunting and habitat management during the 2022-23 season, the average landowner expenditures totaled \$18,812.

\$20.7K

AVERAGE LANDOWNER REVENUE*

Based on respondents (15%) who reported expenses related to land management during the 2022-23 season, the average landowner revenue totaled \$20,658.

* Landowner income and expenditures reported here are independent of each other due to differences in response rates (15% for income and 95% for expenditure), hence, cannot be used for deriving profit margins.

LANDOWNER SURVEY RESULTS

A recent landowner survey concluded that the top 3 reasons landowners own land is wildlife, family and hunting.⁷ White-tailed deer are a keystone species and an income-generator for landowners via their hunting enterprises, likely driving the majority of land management decisions on many private ranches across Texas. These properties range in size and location but all contribute to the state's economy through revenue generated from property taxes, equipment, land management activities and more.

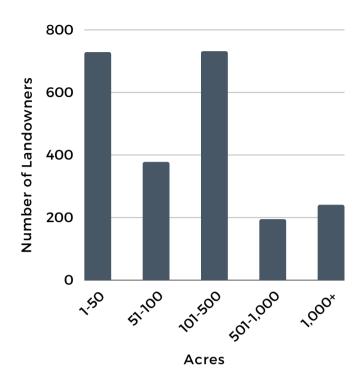
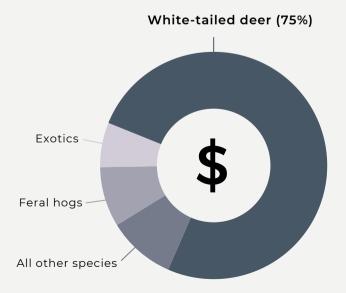


Figure 4. Distribution of surveyed landowners by operation size who hunt and/or provide access for white-tailed deer hunting, 2022–23 season.

OPERATION PROFILE



Species that bring the most annual income



33% OF LANDOWNERS reported employing either full time or part time/seasonal help on their property.

HUNTER ACCESS

67% of landowners allowed access to their property for white-tailed deer hunters other than themselves.

LANDOWNER SURVEY RESULTS

TOP 5 MOST <u>COMMON</u> EXPENDITURES

>40% OF THOSE SURVEYED REPORTED THESE TOP EXPENSES:

1	Supplemental Feed
2	Property Taxes
3	Land Management
4	Equipment Maintenance

Capital Improvements



TOP 5 <u>LARGEST</u> ANNUAL EXPENDITURES

REPORTED ESTIMATES FOR THESE ITEMS AVERAGED OVER \$2.9K:

1	Payroll
2	Land Management
3	Supplemental Feed
4	Hospitality
5	Property Taxes

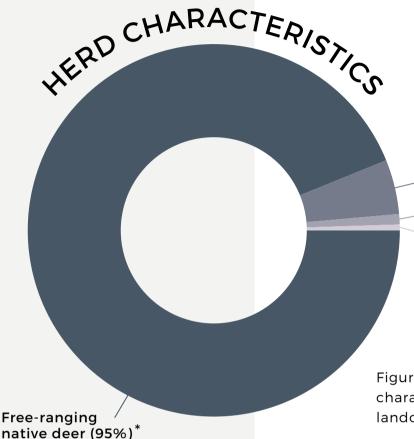
\$3,593 AVERAGE SUPPLEMENTAL

DID YOU KNOW,

FEED EXPENDITURE

Over 1.7K landowners reported supplemental feed as a significant white-tailed deer management expense.

LANDOWNER SURVEY RESULTS



Introduced supplemental deer Participate in Deer Management Permit

Deer breeder

Figure 5. White-tailed deer herd characteristics reported by surveyed landowners, 2022-23 season.

95% FREE-RANGING NATIVE DEER

The majority of landowners described their deer herds as 100% free-ranging native deer, having never received supplemental deer. While most white-tailed deer reside on private lands in Texas, all wildlife in the state are considered public trust resources and are regulated and managed by the Texas Parks and Wildlife Department on behalf of all Texans. There are approximately 5.3 million wild deer in Texas, and an additional ~103K deer in breeding facilities permitted by the Department.^{4, 8} While captive deer may be used to supplement wild populations, from survey responses, a small percentage of hunting operations relied on supplemental stockings (Figure 5).

* Free-range refers to deer not handled by humans, regardless of fence status.

SURVEY DISCUSSION

Annual Expenditures

Based on survey estimates, we extrapolated total statewide financial impact of both whitetailed deer hunters and supporting landowners.

554.9K

WHITE-TAILED DEER HUNTERS

\$1.9B HUNTER EXPENDITURES

198.5K

WHITE-TAILED DEER LANDOWNERS*

\$2.5B LANDOWNER EXPENDITURES

\$4.3B

TOTAL ANNUAL EXPENDITURES

*For purposes of this report, landowners have been separated from total number of whitetailed deer hunters identified by TPWD.

S U R V E Y D I S C U S S I O N

The health and sustainable harvest of white-tailed deer in Texas is important to the state's economy and management of natural resources. As the prevalence and distribution of CWD continues to increase and potentially impact white-tailed deer across Texas landscapes, strategies that guide the conservation and management of the species will be important. This survey report describes whitetailed deer hunter and landowner financial contributions and highlights potential implications if hunter participation declines due to increased prevalence of CWD across the state. The following outlines key take-aways from this assessment:

Based on survey data, we estimate white-tailed deer hunters and landowners spend \$4.3B annually in Texas.

- Access to hunting opportunities via land leases account for important economic contributions from hunters. Forty-one percent of respondents utilize leased lands, and the average reported lease price was \$2.9K annually.
- White-tailed deer are the primary income-generating species for landowners surveyed (75%) resulting in leasing opportunities and local full-time and part-time employment (nearly 1/3 of landowners reported hiring support staff).
- The majority of landowners surveyed (95%) do not supplement their deer herd.
- The spread of CWD across the state is likely to increase in the coming years with the continued transport of white-tailed deer (Figure 2).

LITERATURE CITED

- United States Department of the Interior, United States Fish and Wildlife Service, United States Department of Commerce, and United States Census Bureau. 2018. 2016 National survey of fishing, hunting, and wildlife associated recreation. FHW/16-NAT. Washington, D.C.
- 2 Texas Parks and Wildlife Department. 2023. CWD Positives in Texas Retrieved May 1, 2023. https://tpwd.texas.gov/huntwild/wild/diseases/cwd/tracking/
- 3 Texas Parks and Wildlife Department. 2023. Containment and surveillance zones. Retrieved May 1, 2023. https://tpwd.texas.gov/huntwild/wild/diseases/cwd/#checkMap
- 4 Texas Parks and Wildlife Department. 2023. Texas Wildlife Information Management Services (TWIMS). Austin, TX.
- 5 DeVivo MT, Edmunds DR, Kauffman MJ, Schumaker BA, Binfet J, Kreeger TJ, et al. (2017) Endemic chronic wasting disease causes mule deer population decline in Wyoming. PLoS ONE 12(10): e0186512. https://doi.org/10.1371/journal.pone.0186512
- 6 Foley AM, Hewitt DG, DeYoung CA, DeYoung RW, Schnupp MJ (2016) Modeled Impacts of Chronic Wasting Disease on White- Tailed Deer in a Semi-Arid Environment. PLoS ONE 11(10): e0163592. doi:10.1371/journal.pone.0163592
- 7 Lopez, A, D Barrientos, RR Lopez, KL Skow, MA Crawford, J Dreibelbis, KB Hays, and BN Wegner. 2023. Texas Landowner Survey. Texas A&M Natural Resources Institute. College Station, TX.
- 8 Texas Parks and Wildlife Department. 2023. White-tailed Deer Management. Retrieved May 1, 2023. https://tpwd.texas.gov/huntwild/wild/game_management/deer/

M E T H O D S & A S S U M P T I O N S

SURVEY QUESTIONNAIRE:

- The 2022 Texas White-tailed Deer Hunter Survey recipients (100,000 total) were selected from those who purchased either a Resident Super Combo, Senior Super Combo or Resident Texas hunting license for the 2022–2023 hunting season and were at least 20 years of age at the time of the survey.
- Survey questions were developed in collaboration with TPWD staff and included a filtering question that directed respondents to either a hunter-focused questionnaire or a landowner-focused questionnaire (Appendix A).
- The survey was administered online through Qualtrics on February 8, 2023, and was left open for 3 weeks.

SURVEY RESULTS:

- Data from the survey were analyzed separately by questionnaire type (i.e., hunter or landowner) and only responses that were complete or near complete were retained.
- The response rate per individual question was considered when calculating summary statistics.
- For all revenue and expenditure questions, only values >0 were used to calculate averages.
- For hunter data, observations with no expenditures were removed to calculate a weighted average of expenditures and extrapolated to 99% (based on survey response rate) estimate a statewide hunter value.
- For landowner data, observations with no expenditures were removed to calculate a weighted average of expenditures and extrapolated to 95% (based on survey response rate) to estimate a statewide landowner value.
- The number of white-tailed deer hunters in Texas (554,944) was determined using TPWD's 2022-23 Big Game Harvest Estimate of white-tailed deer hunters (753,418), excluding landowners who own white-tailed deer hunting properties (198,474).
- The number of landowners (198,474) was determined by excluding small acreage operations (i.e., <10-acre parcels; 27,889) from the total Texas rural landowner base (248,416 per Texas Land Trends) and multiplying by 90% (percent of landowners who manage their properties for white-tailed deer per Lopez et al., 2023).

Appendix A. 2022 Texas White-tailed Deer Hunter Survey

Contact: Jacob Dykes, Assistant Professor and Extension Wildlife Specialist Department of Rangeland, Wildlife and Fisheries Management | Texas A&M University

Why am I being asked to take this survey?

You are invited to participate in this survey because you purchased a Texas hunting license. We are working to estimate the economic impact of white-tailed deer hunting and how the spread of chronic wasting disease (CWD) might affect the Texas economy.

How long will it take?

10 minutes

What happens to the information?

All personally identifiable information will be kept on a password-protected computer and is only accessible by the research team. Compliance offices at Texas A&M may be given access to the study files upon request. Your information will be kept confidential to the extent allowed by law. If identifiers are removed, survey data can be used for future research studies without your consent.

Who can I talk to?

You may contact me at 361-265-9201 or jacob.dykes@ag.tamu.edu. You may also contact the Human Research Protection Program at Texas A&M University by phone at 1-979-458-4067, toll free at 1-855-795-8636, or by email at irb@tamu.edu for:

- help with any questions
- voicing concerns or complaints
- concerns as a research participant
- if researchers can't be reached
- talk to non-research staff

You must be 18 years of age or older to participate.

1. Do you Agree to take the survey?

- I Agree
- I Do Not Agree
- 2. Are you a Texas resident?
 - \circ Yes
 - No
- 3. In which Texas county do you live?

4. What is the zip code at your permanent residence?

5. Do you own hunting land in Texas? Please only answer yes if the property is listed in your name.

- Yes
- o No

If yes, survey will skip to Question 27.

6. Which species do you hunt in Texas? Do not include special characters or punctuation (e.g., & or ,) in Other box. *Please select all that apply.*

- White-tailed deer
- Mule deer
- Coyotes/predators
- Upland game birds (quail, dove, turkey)
- Small game (squirrel, rabbits)
- Waterfowl
- Feral hogs
- Exotics
- Other (Please specify below)

7. Which species did you spend the most money hunting during this hunting season (2022–2023)? Do not include special characters or punctuation (e.g., & or ,) in Other box. Please select only one.

- White-tailed deer
- Mule deer
- Coyotes/predators
- Upland game birds (quail, dove, turkey)
- Small game (squirrel, rabbits)
- Waterfowl
- Feral hogs
- Exotics
- Other (Please specify below)
- 8. Did you hunt white-tailed deer in Texas during this hunting season (2022-2023)?
 - Yes
 - No

If no, survey will skip to Question 26

- 9. Where do you primarily hunt white-tailed deer?
 - Public land
 - Family land
 - Friend's land
 - Land you lease
 - Buy hunts through an outfitter

10. In which county(ies) is your primary hunting property(ies) located?

11. How many days did you hunt white-tailed deer in Texas during the 2022-2023 hunting season?

- 1 to 5
- 6 to 10
- 11 to 15
- 16-20
- o 21+

12. What size (acres) was the primary property where you hunted white-tailed deer in the 2022-2023 hunting season?

- 1 to 50 acres
- 51 to 100 acres
- 101 to 150 acres
- 151 to 200 acres
- 201 to 250 acres
- 251 to 500 acres
- 501 to 1,000 acres
- 1,001 to 1,500 acres
- 1,501 to 2,000 acres
- 2,001 to 3,000 acres
- 3,001 to 5,000 acres
- 5,001 to 10,000 acres
- 10,001 to 15,000 acres
- More than 15,000 acres (Please specify)

13. What were your total white-tailed deer hunting expenses for the 2022-2023 season?

Only provide estimates for expenses you incurred, not those of people hunting with you.

- None
- Less than \$1,000
- \$1,001 to \$2,500
- \$2,501 to \$5,000
- \$5,001 to \$10,000
- \$10,001 to \$20,000
- \$20,001 to \$30,000
- \$30,001 to \$40,000
- \$40,001 to \$50,000
- \$50,001 to \$60,000
- \$60,001 to \$70,000
- \$70,001 to \$80,000
- \$80,001 to \$90,000
- \$90,001 to \$100,000
- Greater than \$100,000 (Please specify)

14. How much money did you spend in each category for white-tailed deer hunting during the 2022-2023 hunting season? Use numerical values only (e.g., use 0 instead of zero) without commas or decimals.

- Transportation (fuel, rentals, flights)
- Lodging (hotels, campgrounds)
- Lease Fees
- Outfitter/Guide Fees
- Licenses (permits, tags)
- Firearms, ammunition, and archery equipment
- Optics (scopes, range finders, binoculars)
- Clothing and gear
- Technology and subscriptions (mapping apps, game cameras, etc.)
- ATV/UTV/Tractors
- Meat Processing
- Taxidermy
- Hunting blinds or stands
- $\circ~$ Feed and/or Feeders
- Land management activities (food plots, brush management, prescribed fire, water distribution, etc.).
- Other (please specify)

15. How do you get your wildlife and hunting information? Please select up to 2. Please don't include special characters or punctuation (e.g., & or ,) in Other box.

- Social media (Facebook, Instagram, etc.)
- Newspapers, magazines
- \circ Television
- Podcasts
- YouTube
- Other (Please specify)

16. In this section, you will be asked about your personal experiences with Chronic Wasting Disease (CWD). This information will aid in developing educational programming for both hunters and landowners. CWD is a highly infectious, always-fatal neurological disease in deer, elk, moose, and other members of the deer family, known as "cervids". The disease is spread most commonly by direct contact with diseased animals or from contaminated environments (soil, plants, etc.). First discovered in Texas in 2012, CWD has now been documented in approximately 17 Texas counties.

17. Prior to reading the CWD information above, were you familiar with Chronic Wasting Disease in white-tailed deer?

- Yes
- No

18. If yes, how did you come to know about CWD? Please select all that apply.

- Family/friend/neighbor
- Internet/social media
- TPWD (biologist, game warden)
- News Outlets (Television, Radio, Local Newspaper)
- Texas A&M Agrilife Extension, County Extension Agent
- Hunting/Conservation Organizations (Boone & Crockett Club, Texas Wildlife Association, Safari Club, etc.)
- Trade Organizations (Texas Deer Association, Deer Breeders Coop., Exotic Wildlife Association, etc.)
- Outdoor and Hunting Television
- Other (Please specify)

19. When it comes to information about wildlife diseases like CWD, which sources do you turn to most often? Please don't include special characters or punctuation (e.g., & or ,) in Other box. Please select up to 3.

- Family/friend/neighbor
- Internet/social media
- TPWD (biologist, game warden)
- News Outlets (Television, Radio, Local Newspaper)
- Texas A&M Agrilife Extension, County Extension Agent
- Hunting/Conservation Organizations (Boone & Crockett Club, Texas Wildlife Association, Safari Club, etc.)
- Trade Organizations (Texas Deer Association, Deer Breeders Coop., Exotic Wildlife Association, etc.)
- Outdoor and Hunting Television
- Other (Please specify)

20. Do you hunt in a CWD zone?

- Yes
- No
- ∘ I don't know

21. Has CWD significantly impacted your hunting?

- o Yes
- No
- 22. If yes, in what way has it impacted your hunting of white-tailed deer?
 - Still hunt as usual
 - I went to another county to hunt
 - I went out of state to hunt
 - I am cautious about eating venison
 - I no longer eat venison
 - I no longer hunt white-tailed deer

23. If CWD is discovered in the county(ies) you hunt, is it likely to impact your whitetailed deer hunting? *Select all that apply.*

- I will still hunt as usual, no impact
- I will go to another county to hunt
- I will go out of state to hunt
- I will be cautious about eating venison
- I will not eat venison
- I will not hunt at all
- I will harvest fewer deer
- 24. Which statement best describes you in regards to CWD testing?
 - I plan to test every harvested animal for CWD
 - I will only test if mandatory
 - I will only test if CWD is found near where I hunt (even if it's not mandatory)
 - I will not test any deer for CWD

25. What year were you born?

26. Thank you for carrying on the hunting tradition and contributing to the Texas economy. We appreciate your help. If you would like to enter the raffle for the Yeti Hopper Flip 18 Soft Cooler, please enter your email below. Leave blank if you are not interested in the raffle. Your email will not be shared for any other purposes.

Beginning of landowner survey questions.

27. In which county(ies) is your hunting property(ies) located?

28. Which species are hunted on your property? Do not include special characters or punctuation (e.g., & or) in Other box. Please select all that apply.

- White-tailed deer
- Mule deer
- Coyotes/predators
- Upland game birds (quail, dove, turkey)
- Small game (squirrel, rabbits)
- Waterfowl
- Feral hogs
- Exotics
- Other (Please specify below)

29. Which species did you spend the most money on as a landowner (i.e., management activities, hunting operation, etc.)? Do not include special characters or punctuation (e.g., & or ,) in Other box. Please select only one.

- White-tailed deer
- Mule deer
- Coyotes/predators
- Upland game birds (quail, dove, turkey)
- Small game (squirrel, rabbits)
- Waterfowl
- Feral hogs
- Exotics
- Other (Please specify below)

30. Which species brings you the most annual income? Do not include special characters or punctuation (e.g., & or ,) in Other box. Please select only one.

- White-tailed deer
- Mule deer
- Coyotes/predators
- Upland game birds (quail, dove, turkey)
- Small game (squirrel, rabbits)
- Waterfowl
- Feral hogs
- Exotics
- Other (Please specify below)

31. How many acres did you own, lease out and/or allow access to for white-tailed deer hunting in 2022-2023?

- 1 to 50 acres
- 51 to 100 acres
- 101 to 150 acres
- 151 to 200 acres
- 201 to 250 acres
- 251 to 500 acres
- 501 to 1,000 acres
- 1,001 to 1,500 acres
- 1,501 to 2,000 acres
- 2,001 to 3,000 acres
- 3,001 to 5,000 acres
- 5,001 to 10,000 acres
- 10,001 to 15,000 acres
- More than 15,000 acres (please specify)

32. How many white-tailed deer hunters, other than yourself, did you provide access to during the 2022-2023 hunting season?

- None
- 1 to 10
- 11 to 20
- 21 to 30
- 31 to 50
- More than 50

33. Describe your white-tailed deer herd. Check all that apply.

- 100% native (have never brought in supplemental deer)
- Brought in supplemental deer more than 10 years ago
- Brought in supplemental deer 5-10 years ago
- Brought in supplemental deer within the last 5 years
- Participate in Deer Management Permit (DMP) on your property (wild does put in pens with a wild or breeder buck)
- Own or operate a deer breeding facility in conjunction with your hunting land

34. What is your average annual income from white-tailed deer hunting? Use numerical values only (e.g., use 0 instead of zero) without commas or decimals.

35. How much money did you spend in 2022 on each category to support your whitetailed deer management/hunting enterprise? Use numerical values only (e.g., use 0 instead of zero) without commas or decimals.

- Supplemental feed/food plots/feeders
- Capital improvements/maintenance (fencing, roads, etc.)
- Advertising
- ATV/UTV/Tractor/Truck purchase
- Vehicle and equipment maintenance
- Land management activities (brush control, water distribution, prescribed fire, etc.)
- Wildlife surveys
- DMP compliance costs
- Payroll (seasonal and full-time employees, guides)
- Hospitality costs (food, beverage, housekeeping)
- Property taxes (include improvements)
- Stocker bucks (if applicable)
- Bred does (if applicable)
- Other

36. How many people do you employ to support your white-tailed deer hunting operation (e.g., hunting guides, cooks, housekeepers, interns, etc.)? Include yourself and family members contributing to the operation.

- Full time
- Part time or seasonal

37. How do you get your wildlife and hunting information? Do not include special characters or punctuation (e.g., & or ,) in Other box. Please select up to 2.

- Social media (Facebook, Instagram, etc.)
- Newspapers, magazines
- Television
- Podcasts
- YouTube
- Other (Please specify)

38. In this section, you will be asked about your personal experiences with Chronic Wasting Disease (CWD). This information will aid in developing educational programming for both hunters and landowners. CWD is a highly infectious, always-fatal neurological disease in deer, elk, moose, and other members of the deer family, known as "cervids". This disease is spread most commonly by direct contact with diseased animals or from contaminated environments (soil, plants, etc.). First discovered in Texas in 2012, CWD has now been documented in approximately 17 of Texas counties.

39. Prior to reading the CWD information above, were you familiar with Chronic Wasting Disease in white-tailed deer?

- Yes
- No

40. If yes, **how did you come to know about CWD**? Please don't include special characters or punctuation (e.g., & or ,) in Other box.

- Family/friend/neighbor
- Internet/social media
- TPWD (biologist, game warden)
- News Outlets (Television, Radio, Local Newspaper)
- Texas A&M Agrilife Extension, County Extension Agent
- Hunting/Conservation Organizations (Boone & Crockett Club, Texas Wildlife Association, Safari Club, etc.)
- Trade Organizations (Texas Deer Association, Deer Breeders Coop., Exotic Wildlife Association, etc.)
- Outdoor and Hunting Television
- Other (Please specify)

41. When it comes to information about wildlife diseases like CWD, which sources do you turn to most often? Please don't include special characters or punctuation (e.g., & or ,) in Other box. Please select up to 3.

- Family/friend/neighbor
- Internet/social media
- TPWD (biologist, game warden)
- News Outlets (Television, Radio, Local Newspaper)
- Texas A&M Agrilife Extension, County Extension Agent
- Hunting/Conservation Organizations (Boone & Crockett Club, Texas Wildlife Association, Safari Club, etc.)
- Trade Organizations (Texas Deer Association, Deer Breeders Coop., Exotic Wildlife Association, etc.)
- Outdoor and Hunting Television
- Other (Please specify)
- 42. Has CWD significantly impacted your hunting operation?
 - Yes
 - No
- 43. How worried are you about CWD impacting your hunting operation?
 - Extremely worried
 - Moderately worried
 - Slightly worried
 - Not at all worried

- 44. What is your primary concern with CWD?
 - CWD will impact the deer population
 - CWD regulations will be too burdensome
- 45. Which statement best describes you in regards to CWD testing?
 - I plan to test every harvested animal for CWD
 - I will only test if mandatory
 - I will only test if CWD is found near where I hunt (even if it's not mandatory)
 - I will not test any deer for CWD
- 46. What year were you born?

47. Thank you for carrying on the hunting tradition and contributing to the Texas economy. We appreciate your help. If you would like to enter the raffle for the Yeti Hopper Flip 18 Soft Cooler, please enter your email below. Leave blank if you are not interested in the raffle. Your email will not be shared for any other purposes.