

ECONOMIC VALUES OF WHITE-TAILED DEER IN TEXAS

2022 SURVEY: PART II



TEXAS A&M UNIVERSITY
Rangeland, Wildlife
& Fisheries Management



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REPORT CONTRIBUTORS:

Shraddha Hegde, Alison Lund, Jacob Dykes, Tammi Johnson, and Angelica Lopez, Roel Lopez and Kevin Skow

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REPORT CONTACT:

Roel Lopez; roel.lopez@ag.tamu.edu

REPORT HIGHLIGHTS

The direct spending made by white-tailed deer (*Odocoileus virginianus*; WTD) hunters and landowners generates economic contributions that cause a ripple effect, reaching beyond local economies. The primary goal of this report was to determine an annual measure of economic activity generated by WTD hunting in Texas. Using direct spending reported by stakeholder groups in our 2022 survey (Appendix A), we estimated the indirect and induced economic contributions, and defined five types of economic activity for each: number of jobs, labor income, value added (gross domestic product [GDP]), tax revenues and total economic output. Understanding the size of economic contribution WTD hunting plays in Texas is an important step in better defining management and policies that protect ecological and economic benefits garnered from this important resource.

HUNTERS

Each year, WTD hunters generate an estimated \$4.6 billion in total economic output, contributing \$2.3 billion to the state's GDP. These activities support 24 thousand jobs, provide \$1.3 billion in labor income and generate \$446 million in tax revenues, annually. The majority of hunters travel from urban centers to rural locations to hunt, distributing the economic benefits throughout the state, especially rural areas that don't often have robust financial inputs from other industries.

LANDOWNERS

Landowners supporting WTD hunting generate an estimated \$5 billion in total economic output, contributing \$3.8 billion to the state's GDP annually. These properties support employment of 35 thousand people, provide \$707 million in labor income and generate over \$90 million in tax revenues, each year. Revenue derived from deer hunting often offsets other habitat and land management activities on private lands, leading to benefits much larger than WTD.



O V E R V I E W

Regarded as a beloved pastime for millions of people each year, hunting has a major impact on local, state and national economies. The money spent managing land, buying necessary field equipment, securing lodging, obtaining permits and traveling to get to a hunting site has a *multiplier effect* that amplifies dollars spent. Through direct purchases, the money spent goes through rounds of indirect and induced effects, multiplying the original economic contribution, benefiting many industries, local governments and individuals. Similarly, if an economic contributor (such as hunting) is removed from the economy, the economic loss is greater than the original input at the sale because the multiplier effect cannot occur without the initial spending.

In Texas, white-tailed deer (*Odocoileus virginianus*; WTD) are the most abundant and hunted game species. The money generated from the harvest of WTD and land management to support their habitat is substantial and causes monetary ripple effects through counties across the state. Hunting WTD not only supports jobs, retail sales and a

variety of supportive businesses, but also contributes substantial revenue to conservation efforts through excise taxes that benefit a wide range of species.

The catalyst of this three-part report series is the recent emergence of chronic wasting disease (CWD) in Texas WTD populations. Potential implications of the disease, both ecologically and economically, are yet to be fully realized but threaten our state's biological and economic well-being. Understanding the economic opportunity costs and impacts to deer hunting is important to better inform state decisions regarding WTD management, especially in light of serious disease outbreaks.

This report is the second of the series, delving into a comprehensive economic analysis that defines contributions of both WTD hunters and supporting landowners. Discrepancies from the first report are due to the differences in data used (i.e., question from survey) and a more extensive methodology to conduct this economic assessment. Further details on this assessment can be found in the *Methods and Assumptions* section.

*Economic terms are defined in the *Terms and Definitions* section.

WTD hunting is enjoyed by a wide variety of people with backgrounds ranging from rural to urban and a spectrum of participation levels when it comes to days hunted annually. In Texas, an average of 1.7M hunting and combo licenses are sold each year, with a reported 753 thousand WTD hunters contributing to the big game harvest estimates in 2022-2023 season.

Framing the true economic contribution of WTD hunting is essential in understanding the big picture of how changes to WTD populations and subsequent hunting could impact Texas. We estimate each hunter on average has an economic impact of \$6 thousand per year.

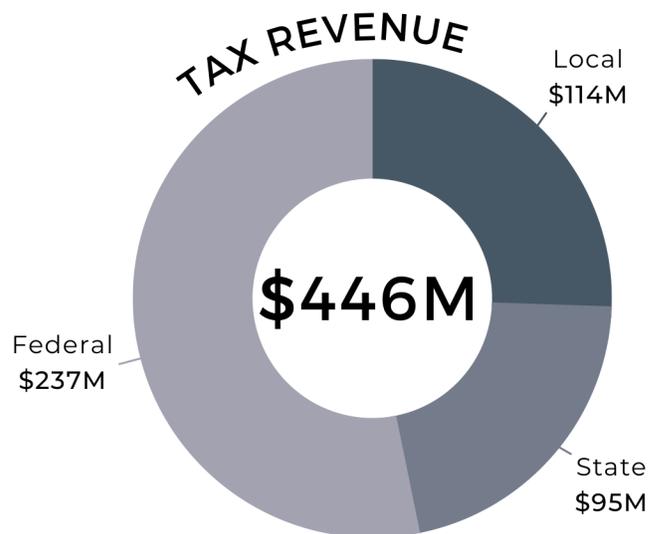
Indirect effects are generated due to hunters' spending in different industries related to hunting activities. Some of the top industries that support hunting in Texas are real estate (e.g., grazing land rental and lease), wholesale dealers of motor vehicles and motor vehicle parts, durable goods merchant wholesalers, animal food manufacturers, retail gasoline stores and restaurants.

DIRECT EXPENDITURES

\$2,688,243,076



- 33% - External Services
- 32% - Equipment
- 17% - Travel
- 16% - Land Management
- 2% - Other



23,726 JOBS

WTD hunting supports jobs resulting in approximately **\$1.3B in labor income.**

Indirect: \$3,694,240,001

+

Induced: \$921,176,889

TOTAL ECONOMIC OUTPUT
\$4.6 BILLION

HUNTER ECONOMICS

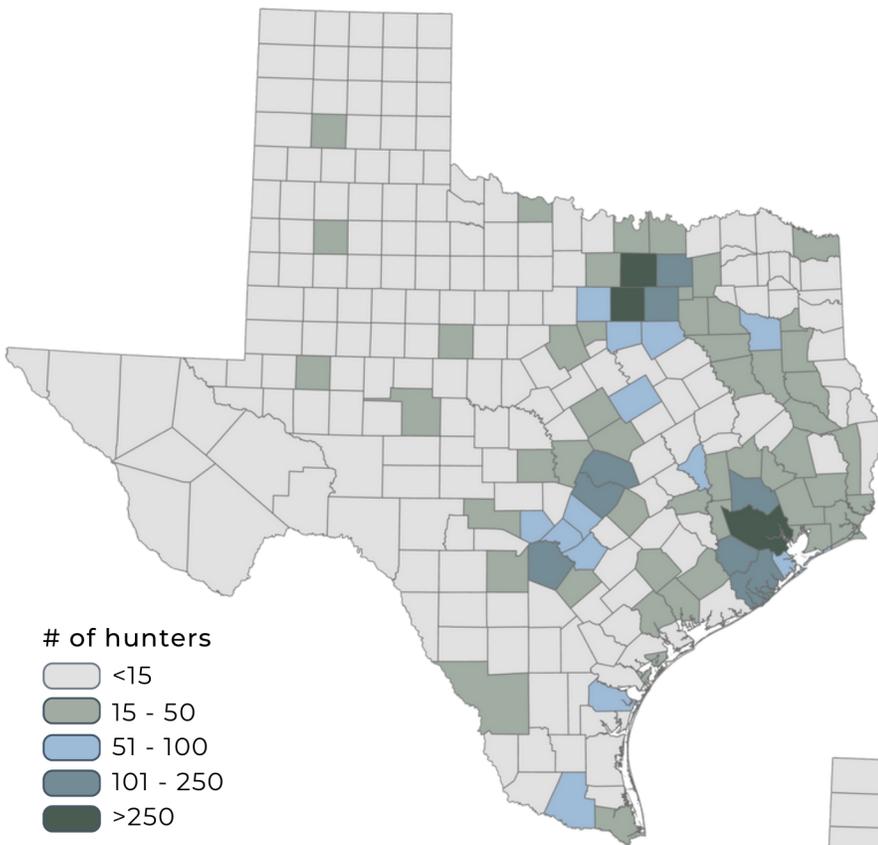


Figure 1. Where surveyed hunters reside by county.

Survey results indicate the majority of hunters reside in the state's four largest metropolitan areas—San Antonio, Austin, Dallas-Fort Worth and Houston—whereas the majority of hunting occurs in rural, central counties. With nearly \$462 million spent on travel alone, rural areas benefit from the revenue brought by WTD hunters (Figures 1 and 2).

Travel expenses (meals, lodging, and transportation) were among the most common expenditures reported by hunters. Figures 3-6 show the extent to which surveyed hunters travel to participate in WTD hunting.

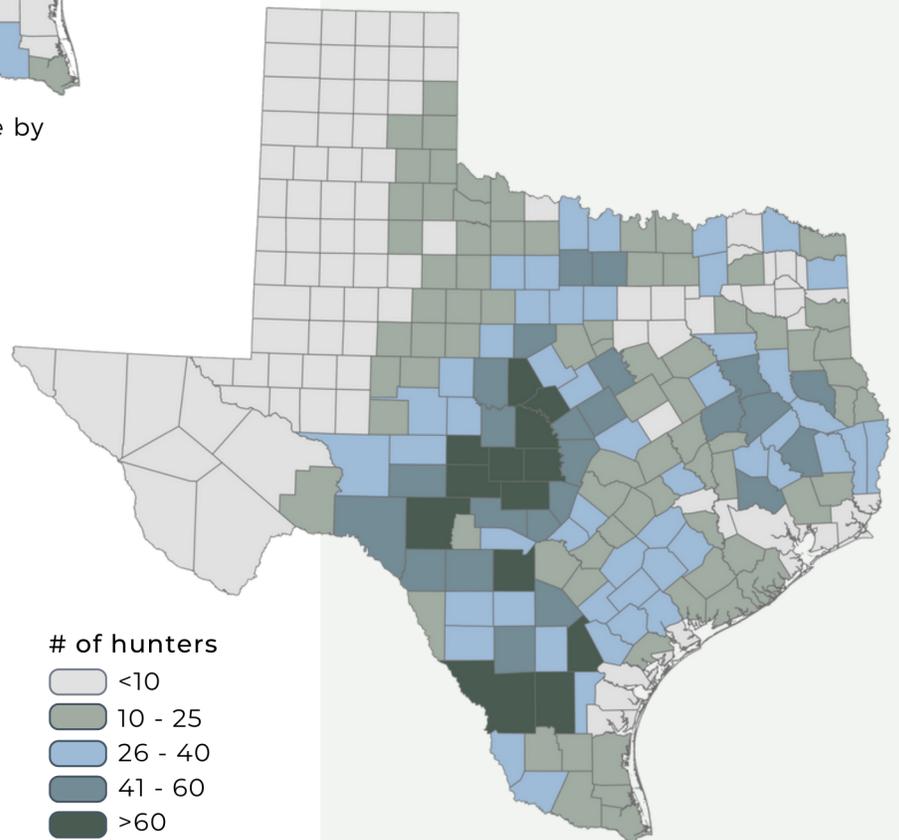


Figure 2. Where surveyed hunters primarily hunt by county.

HUNTER ECONOMICS

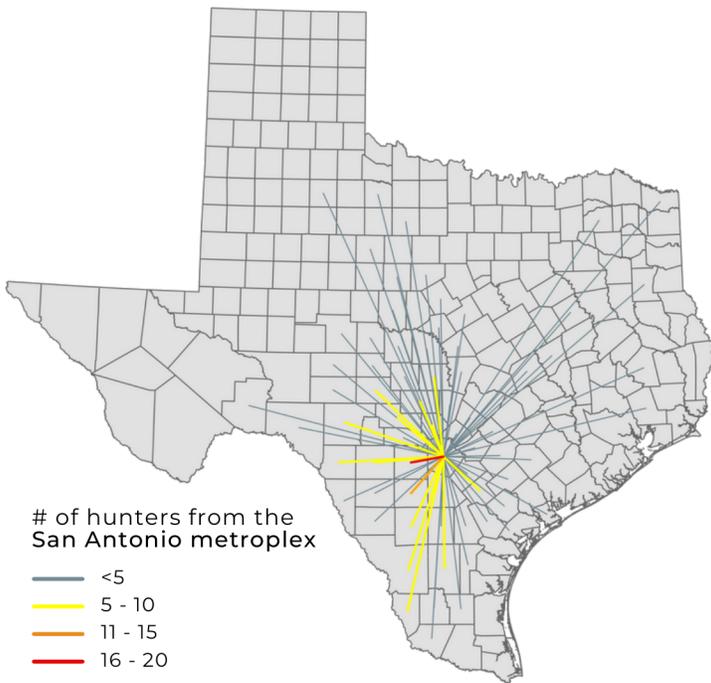


Figure 3. Primary county(ies) hunted by surveyed hunters residing in the San Antonio metroplex.

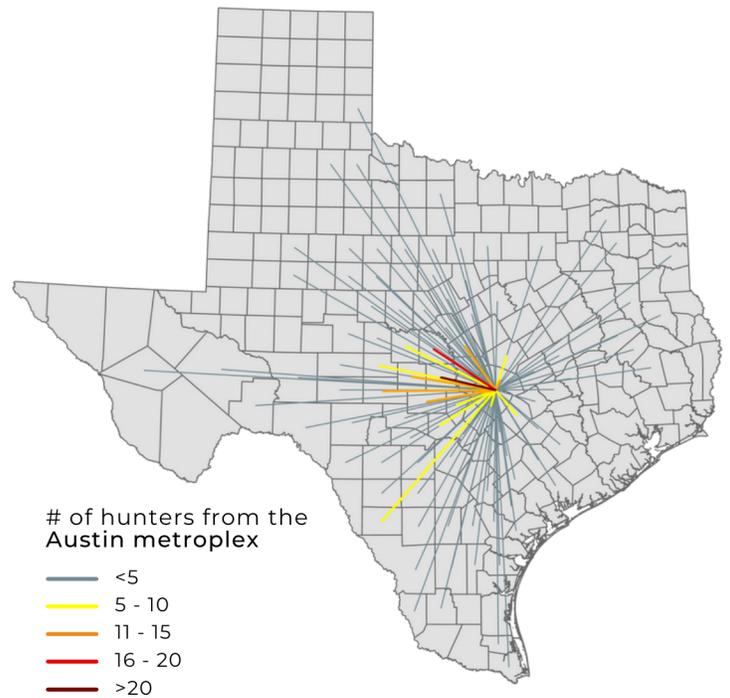


Figure 4. Primary county(ies) hunted by surveyed hunters residing in the Austin metroplex.

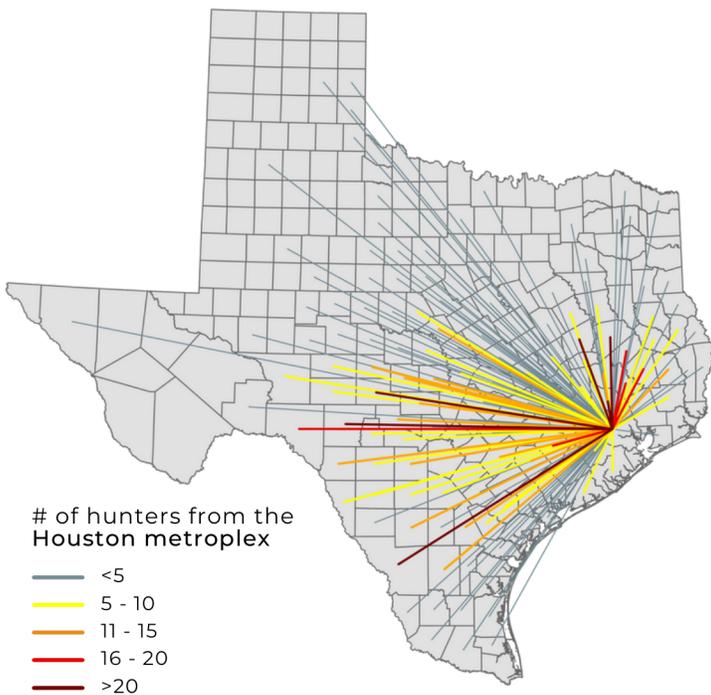


Figure 5. Primary county(ies) hunted by surveyed hunters residing in the Houston metroplex.

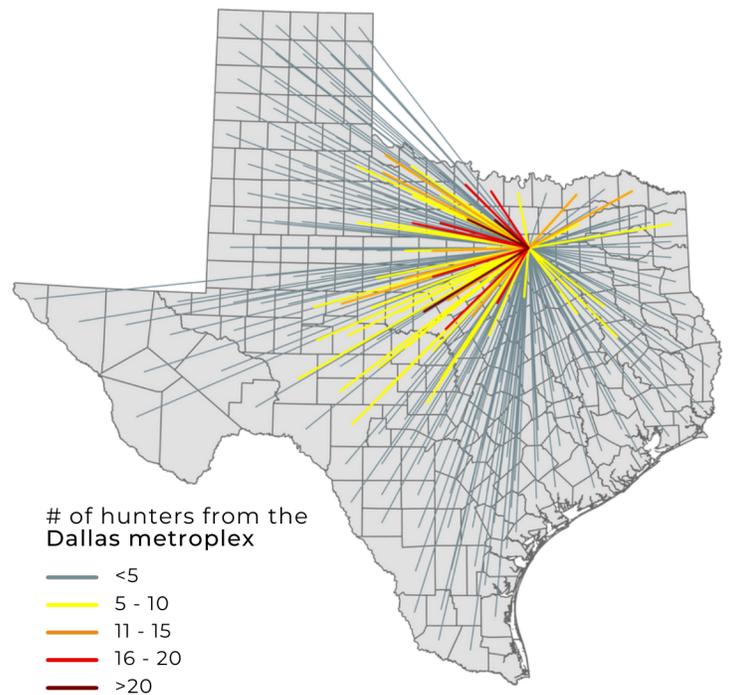


Figure 6. Primary county(ies) hunted by surveyed hunters residing in the Dallas metroplex.

LANDOWNER ECONOMICS

Our survey indicates 70% of WTD hunters do not own land, and of those hunters nearly 45% either lease land or hire outfitters to gain access to hunting opportunities. From a landowner perspective, managing their land for WTD can be ecologically and financially beneficial. Many property maintenance and enhancement costs needed to support a WTD enterprise are necessary to run any rural property. By monetizing property access, a landowner can cover or supplement typical operational costs. We estimate the average income generated from WTD hunting activities on a given property to be \$20,700 annually.

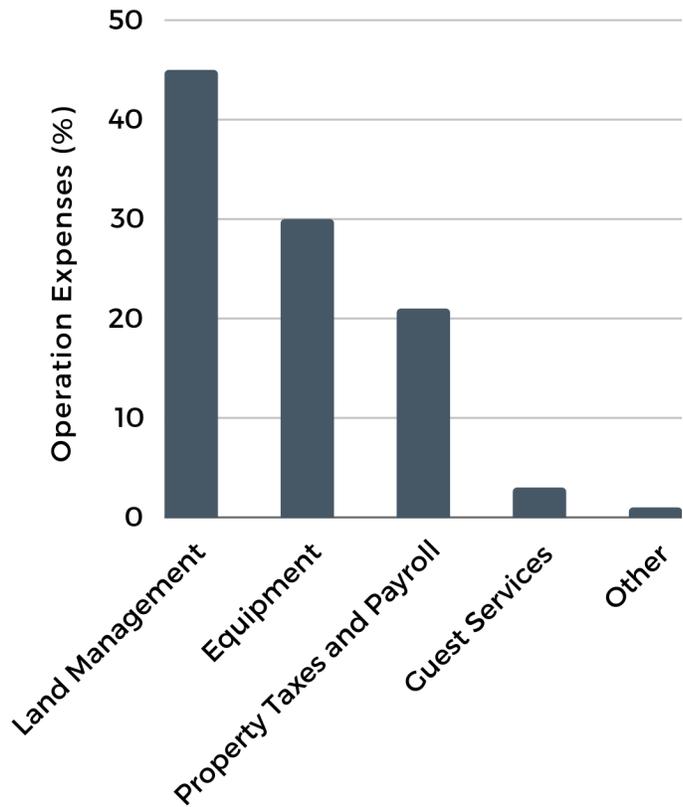
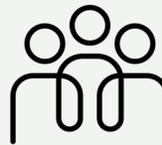
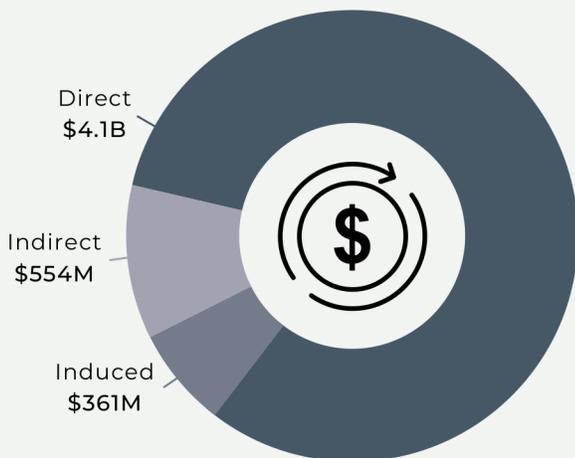


Figure 7. Distribution of operation expenses reported by surveyed landowners.

TOTAL ECONOMIC OUTPUT \$5 BILLION



34,528 PEOPLE EMPLOYED

WTD operations support jobs resulting in approximately \$707M in labor income.

\$90 MILLION IN TAXES

Landowner dollars generate about \$60 million federal taxes and \$31 million in state and local taxes.

LANDOWNER ECONOMICS

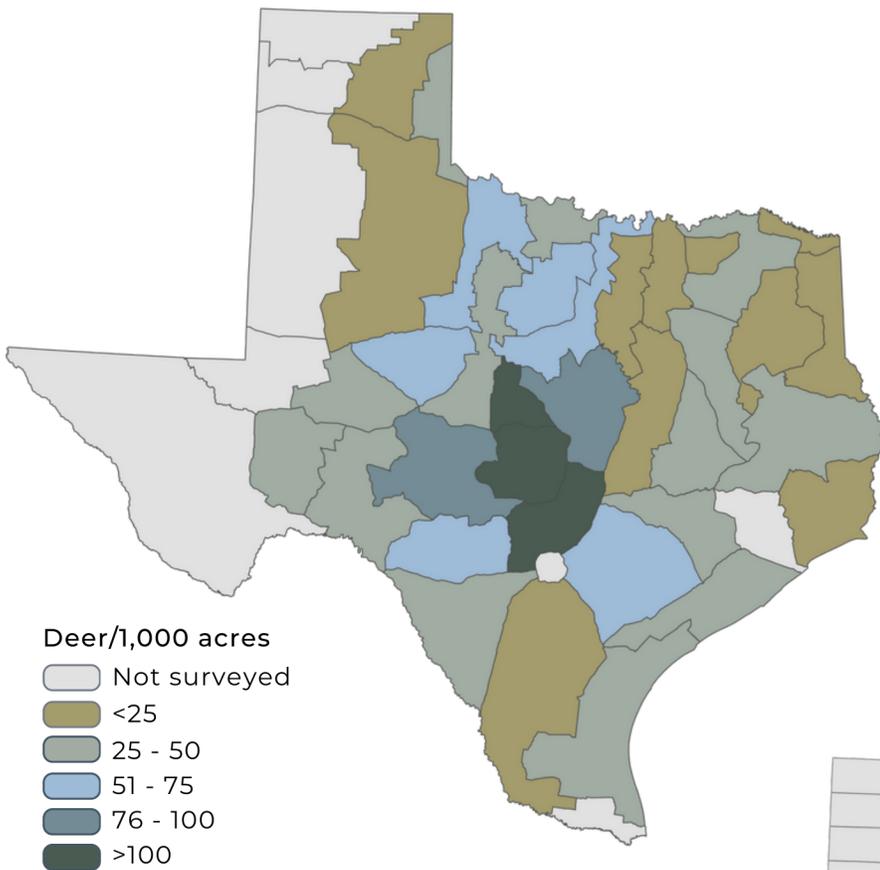


Figure 8. Average deer population size per 1,000 acres by Texas Parks and Wildlife Department's Deer Management Unit.

Although WTD hunting occurs across the state, deer populations are higher in central counties (Figure 8). Properties that support WTD hunting generally follow deer distribution trends, indicating what areas are most likely to be impacted if deer populations decrease (Figure 9).

Supplemental feed, capital improvements (e.g., fencing and roads) and land management (e.g., brush control, water distribution) were assessed as the top expenses for landowners, accounting for over 60% of costs related to WTD activities.

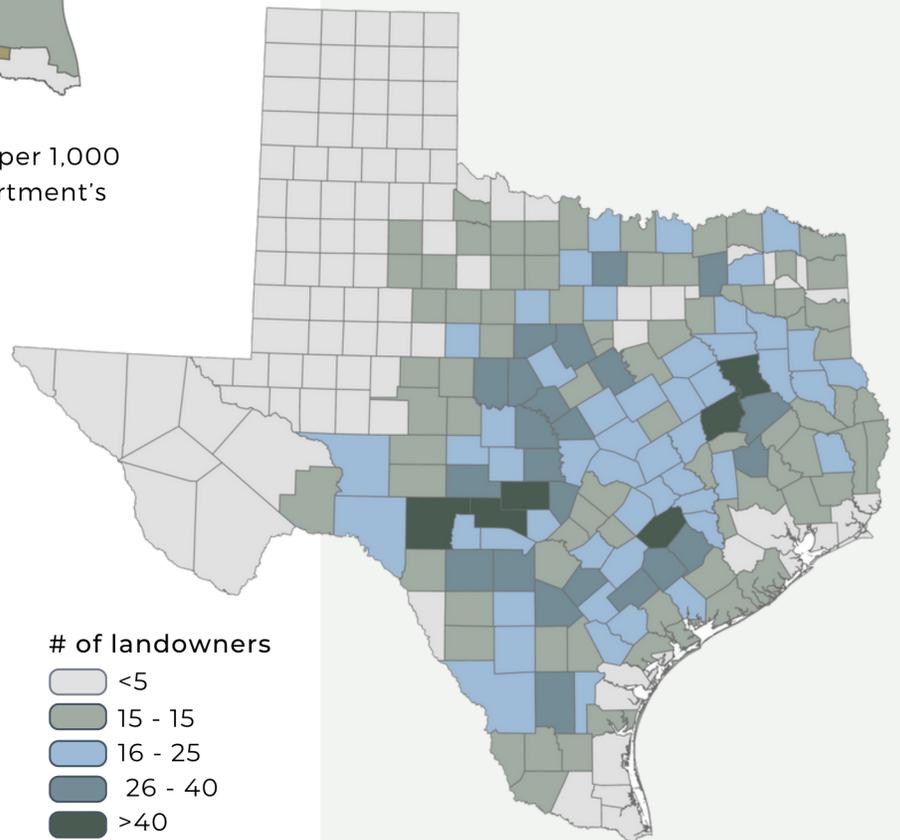


Figure 9. Where surveyed landowners reported owning land by county.

Annual Contributions

WTD hunting in Texas is an important economic driver that serves to distribute dollars from hunters, primarily from urban centers, into rural counties. Informed management decisions can serve to support and protect this important ecological and economic resource in future years.



554.9K

WHITE-TAILED DEER
HUNTERS

\$4.6B

HUNTER
ECONOMIC OUTPUT

198.5K

WHITE-TAILED DEER
LANDOWNERS *

\$5B

LANDOWNER
ECONOMIC OUTPUT

\$9.6B

TOTAL ANNUAL
ECONOMIC
CONTRIBUTION

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

T E R M S & D E F I N I T I O N S

Employment—the total jobs (both full- and part-time) in all sectors of the economy as a result of the examined activity. These include employees of industries impacted by the direct, indirect and induced effects.

Direct contribution—economic contribution of the initial purchase made by the consumer (the original retail sale).

Indirect contribution—secondary effects generated from a direct contribution, such as the retailer buying additional inventory, and the wholesaler and manufacturers buying additional materials such as fuel, transportation and logistics services. Indirect contributions affect not only the industry being examined, but also the industries that supply input to the first industry.

Induced contribution—results from the salaries and wages paid by the directly and indirectly affected industries. The employees of these industries spend their income on various goods and services. These expenditures are induced contributions.

Labor income—total salaries and wages paid in all sectors of the regional economy as a result of the examined activity. This includes portions of the paychecks of all employees affected by the direct, indirect and induced effects.

Output—the volume of economic activity within the local economy that is related to the activity being measured.

Value added (or gross domestic product; GDP)—the difference between gross output (sales and other income) and intermediate inputs (goods and services imported or purchased from other industries). It represents the contribution to GDP in a given industry for production related to the activity examined.

METHODS & ASSUMPTIONS

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.

HUNTERS' IMPACT METHODOLOGY :

1. Expenditure on WTD hunting was collected using Question 14 of the 2022 *Texas White-tailed Deer Hunter Survey*.
2. Total expenditure on WTD hunting in Texas was extrapolated using the weighted average of expenses collected from survey on each item such as transportation, lodging etc.
3. IMPLAN cloud platform (database and software) for 2021 was used to conduct economic impact analysis.
4. Spending pattern analysis was used within IMPLAN to segregate white-tailed deer hunting industry from the overall hunting and trapping industry (IMPLAN sector code 18) within the IMPLAN since all types of hunting are captured under sector 18 in IMPLAN database.

*Only the data on hunting expenditures was used for this analysis because hunters do not directly generate any type of revenue/output and employment since it is a recreational activity and not a good or service producing entity.

LANDOWNERS' IMPACT METHODOLOGY:

1. Revenue generated by landowners as well as their expenditure on various inputs, collected through survey (Question 35), were used to estimate economic contribution of landowners to white-tailed deer hunting industry in Texas in 2021 using Analysis-by-parts technique in IMPLAN.
2. Landowner revenue was used as a base to calculate spending pattern coefficients used in IMPLAN.
3. Steps 1-4 in hunter analysis are repeated here.

*Land value for owned land was not included in IMPLAN calculations due to difficulty in estimating the value of land attributed to WTD alone in a rangeland.

REPORT 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.
- Analyzed expenditures related to white-tailed deer hunters were derived from Question 14 of the *2022 Texas White-tailed Deer Hunter Survey*. Report one of this series utilized expenditures reported on Question 13 of the same survey.
- 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).
- Hunter travel-related expenditures, and values reported here, may be conservative due to the *2022 Texas White-tailed Deer Hunter Survey* only being administered to resident hunters, thus not capturing potentially more costly expenditures from out-of-state travel.
- 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).
- Direct expenditures for hunters are reported using the following groupings:
 - External services – Lease fees, Outfitter/guide fees, meat processing, and taxidermy
 - Equipment – ATV/UTV/Tractor, firearms/ammos/archery equipment, hunting blinds/stands, optics (scopes, range finders, binoculars), clothing/gear, and technology/subscriptions (mapping apps, game cameras, etc.)
 - Travel – Transportation (fuel, rentals, flights), meals, and lodging (hotels, campgrounds)

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R E P O R T R E S U L T S C O N T I N U E D :

- Land management – Feed/feeders and land management activities (food plots, brush management, prescribed fire, water distribution, etc.)
- Other – Licenses (permits, tags) and other expenses (not included in other categories)
- Figures 3-6 were created using the following county groupings for resident areas:
 - San Antonio area – Bexar County
 - Austin area – Travis and Williamson Counties
 - Houston area – Harris, Montgomery, Fort Bend Counties
 - Dallas area – Denton, Tarrant, Dallas, Collin Counties
- Figure 8 uses averages derived from the most recent three years of monitoring for each Deer Management Unit.
- Operation (direct) expenditures for landowners only represent expense reported to management related to WTD activities, and are reported using the following groupings:
 - Land management – supplemental feed/food plots/feeders, land management activities (brush control, prescribed fire, water distribution, etc.), wildlife surveys, stocker bucks, bred does, DMP compliance
 - Equipment – ATV/UTV/Tractor, vehicle and equipment maintenance, and capital improvements (fencing/roads etc.)
 - Property Taxes and Payroll – property taxes and payroll
 - Guest Services – Hospitality (food/beverage/housekeeping) and advertising
 - Other – other expenses (not included in other categories)
- The expenditures reported here differ from those reported by USFWS's 2022 *National Survey of Fishing, Hunting and Wildlife-Associated Recreation*. Our analysis utilized reported expenditures from the Texas A&M University's 2022 *Texas White-tailed Deer Hunter Survey*.

A P P E N D I X A . T E X A S W H I T E - T A I L E D D E E R H U N T E R S U R V E Y

In 2022, with support from Texas Parks and Wildlife Department staff, we conducted a web-based 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 respondents to separate questionnaires, one hunter-focused and the other landowner-focused. We received a 9% response rate with a total of 9,079 unique responses.



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?

- 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
- 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
- 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
- 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
- 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?

- 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 white-tailed 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 white-tailed 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.