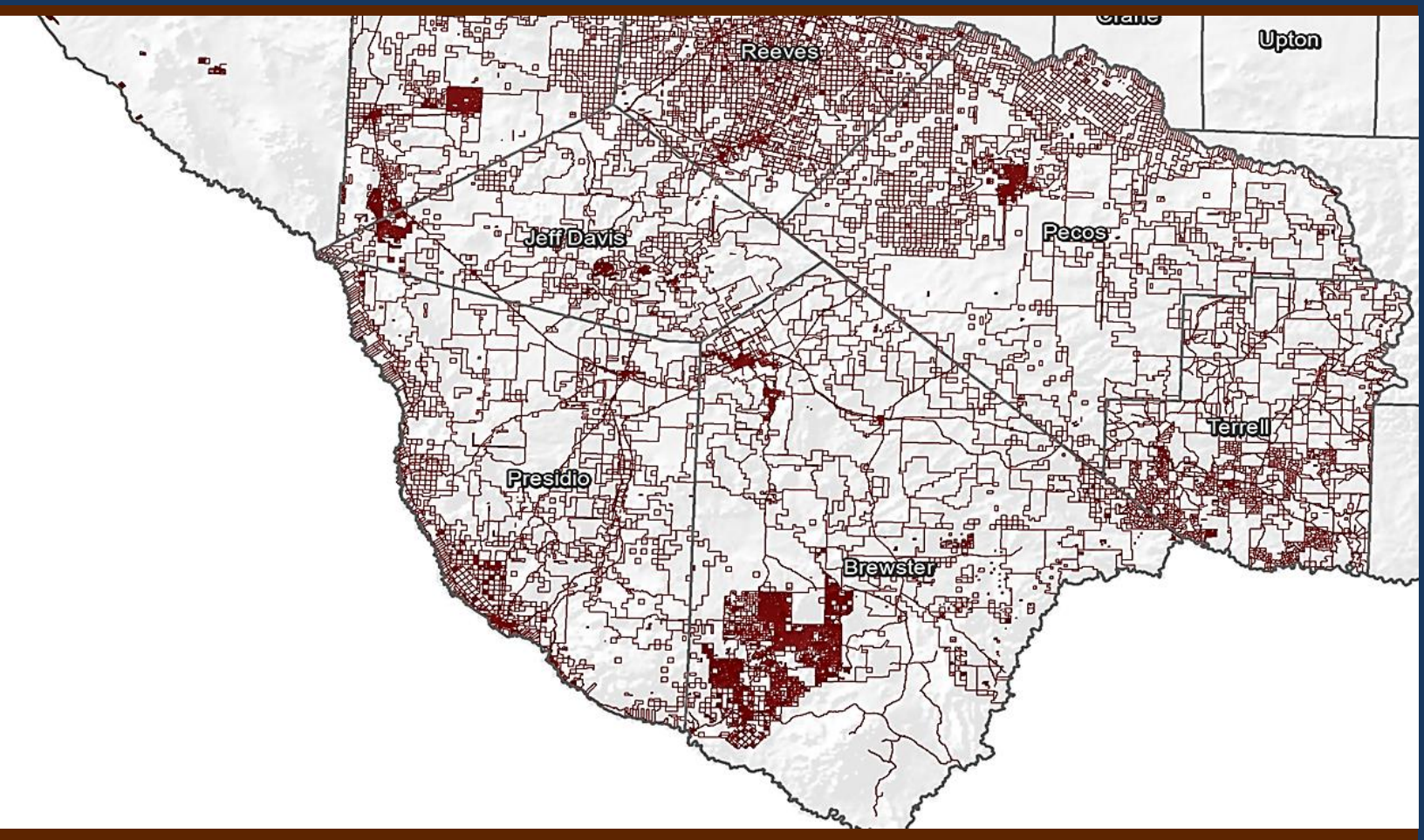
# West Texas Landowner Report

## *Energy and Growth Trends*




TEXAS A&M NRI
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# West Texas Landowner Report: Energy and Growth Trends

## INTRODUCTION

Texas is comprised of 141 million acres of private farms, ranches, and forestlands, leading the nation in land area devoted to privately-owned *working lands*. We define *working lands* as privately-owned farms, ranches, or forest lands, which provide food and fiber, support rural economies, and provide recreational opportunities, among other products and services. These privately-owned acres are stewarded by nearly 250,000 landowners, each with their own objectives in managing their property. West Texas has remained primarily rural and less impacted by urban development as other regions across the state. The Brewster, Jeff Davis, and Presidio County region is experiencing land-use changes due to more recent urban development pressure largely driven by energy development activity. In response, several organizations, agencies and industry are working collaboratively to promote a balance between a strong state economy and a rural, wild landscape that characterizes the far western region of the state. The purpose of this report is to compile information that can serve to better inform key partners and organizations working to conserve and shape the future of West Texas. This report is divided into two sections: (1) changes in land trends related to energy development specific to West Texas (geospatial information for 16 county region, Figure 1), and (2) landowner perspectives via a questionnaire administered within the region. A brief background on the questionnaire and how information was collected and compared is provided.

In Fall 2016, the Texas A&M Natural Resources Institute (NRI) in partnership with Texas Parks and Wildlife (TPWD) conducted a statewide, rural working lands questionnaire (hereafter *Texas Landowner Survey*) to better understand private landowner needs, preferences and concerns regarding the management of their operations and natural resources. The questionnaire was divided into 4 topic areas (land management, landowner concerns, land loss/fragmentation, and landowner demographics) and was comprised of 34 questions in multiple choice, yes/no, open-ended, and Likert format. The web-based questionnaire was disseminated primarily via email and landowner group listserves. We received 3,103 responses (98% completion rate; near all questions answered) from all but 36 counties (86% of Texas counties represented). During Summer 2019, the *Texas Landowner Survey* was repeated in West Texas to better characterize landowners in counties with low response rates. Counties targeted included Brewster, Crane, Culberson, El Paso, Ector, Hudspeth, Jeff Davis, Loving, Midland, Pecos, Presidio, Reeves, Terrell, Upton, Ward, and Winkler. We received a total of 121 responses in approximately 2 months (100% completion rate, near all question answered); however, 33 responses were from West Texas counties, in addition to 70 responses collected via the original survey. The majority of the questions from the *Texas Landowner Survey* were identical between sampling periods, resulting in a total of 103 responses for the West Texas landowner.

# SECTION I:
# West Texas Maps

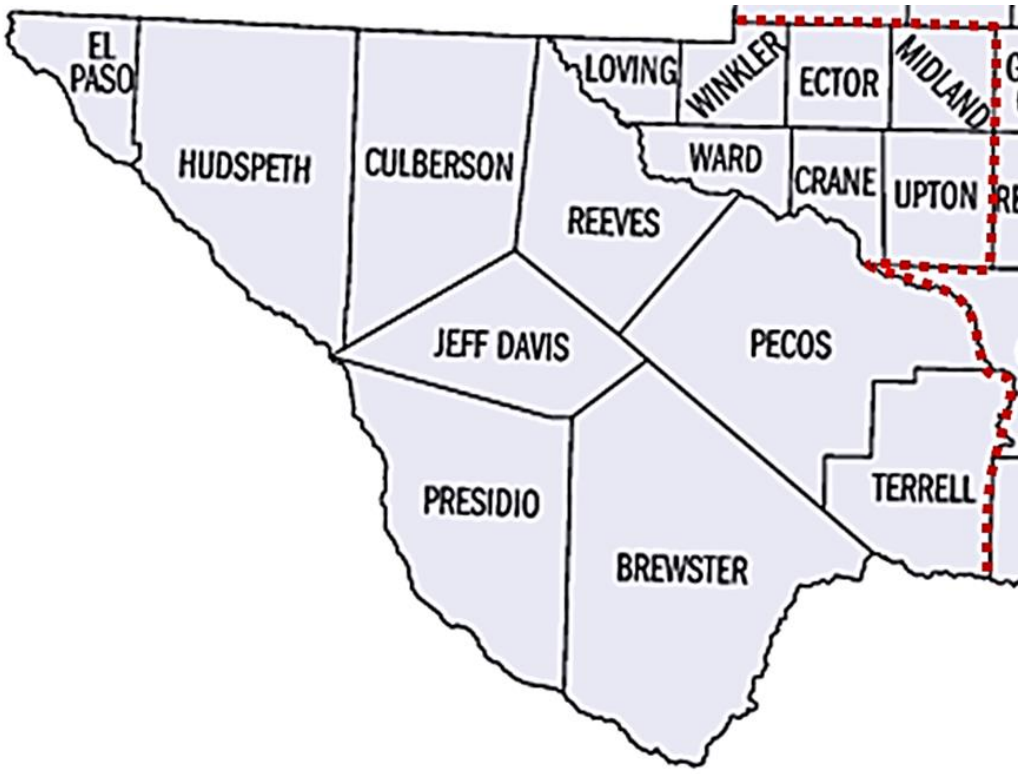



Figure 1. West Texas counties in the Upper Rio Grande region surveyed included Brewster, Crane, Culberson, El Paso, Ector, Hudspeth, Jeff Davis, Loving, Midland, Pecos, Presidio, Reeves, Terrell, Upton, Ward, and Winkler counties (taken from: sherrifs.tx.org).

Maps (Figures 2 through 11) were compiled for the West Texas region and illustrate current as well as changes in land use cover driven by both development and energy activity. One map illustrates land cover over the region. Nighttime illumination maps illustrate development progression in the region. In general terms, the brighter the color, the increased rate of development. Impervious surface is associated with development type. An impervious surface is less permeable, for example, with decreased water filtration capabilities and is often associated with increases in urban development. The included general ownership parcel map provides a "bird's-eye view" of development and private lands in the region. Public lands and protected lands were mapped as key anchor points for land conservation. Finally, potential energy development maps depict solar energy, wind energy and associated traffic projections.

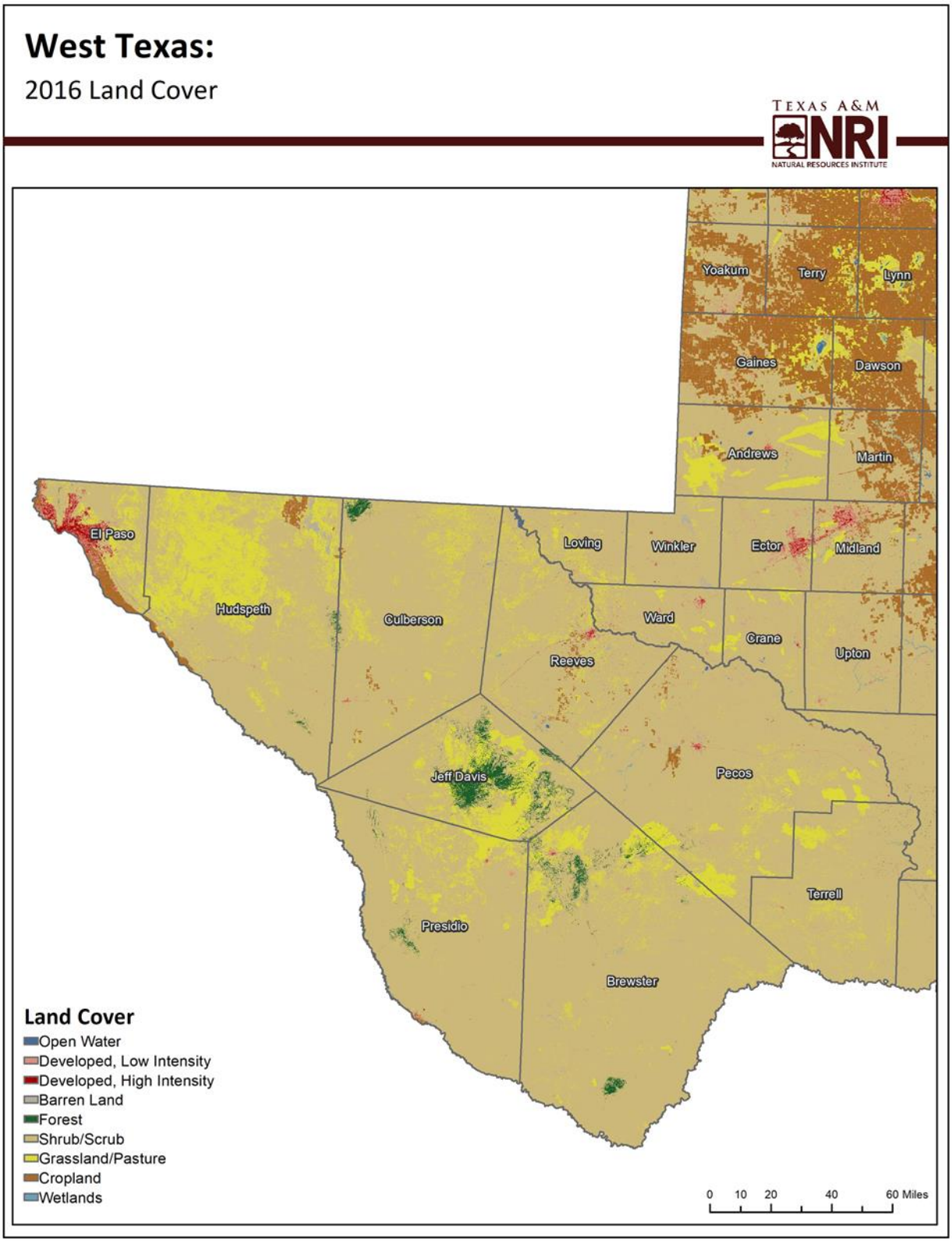



Figure 2. West Texas land cover by type map (2016).

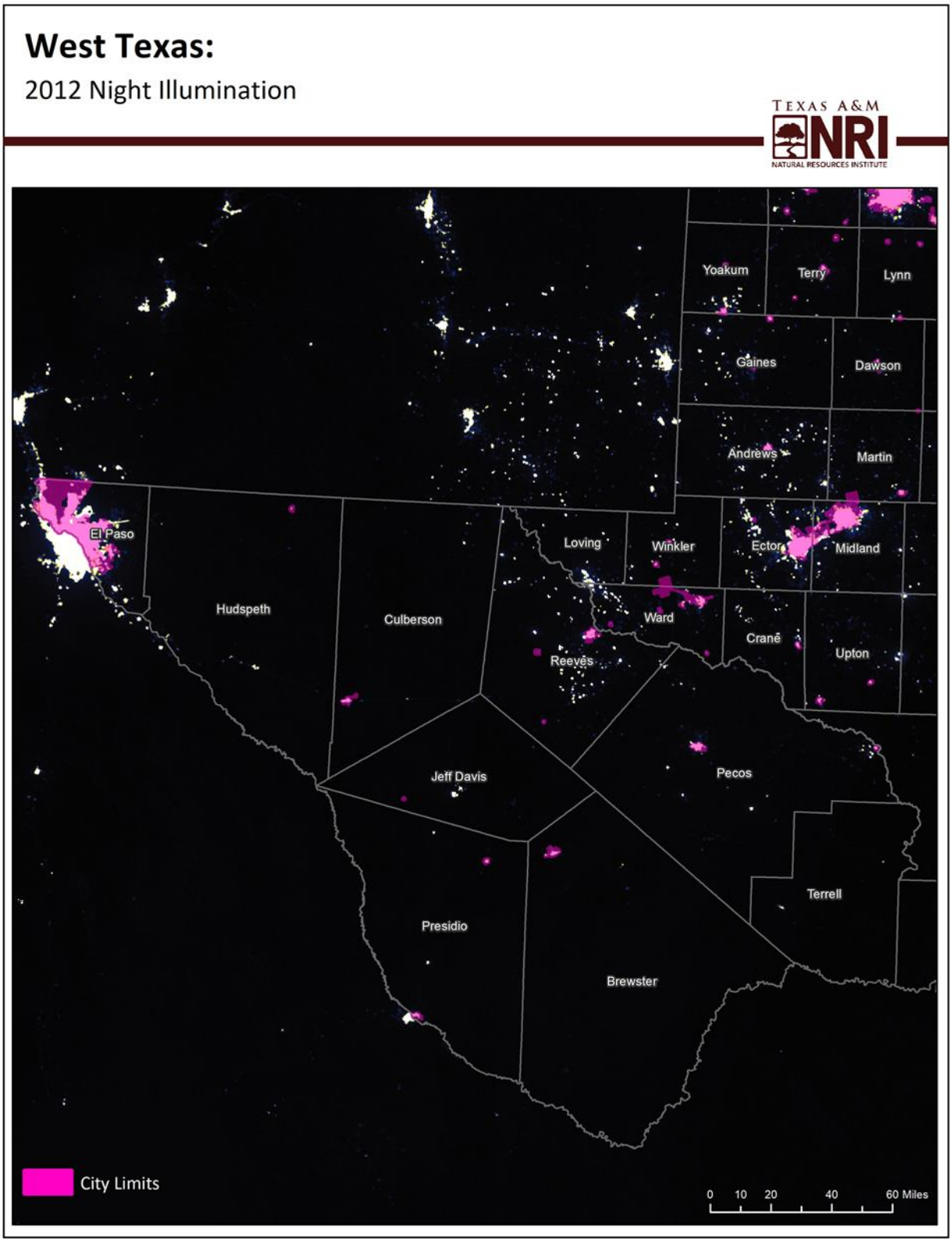



Figure 3a. Night illumination map (2012).

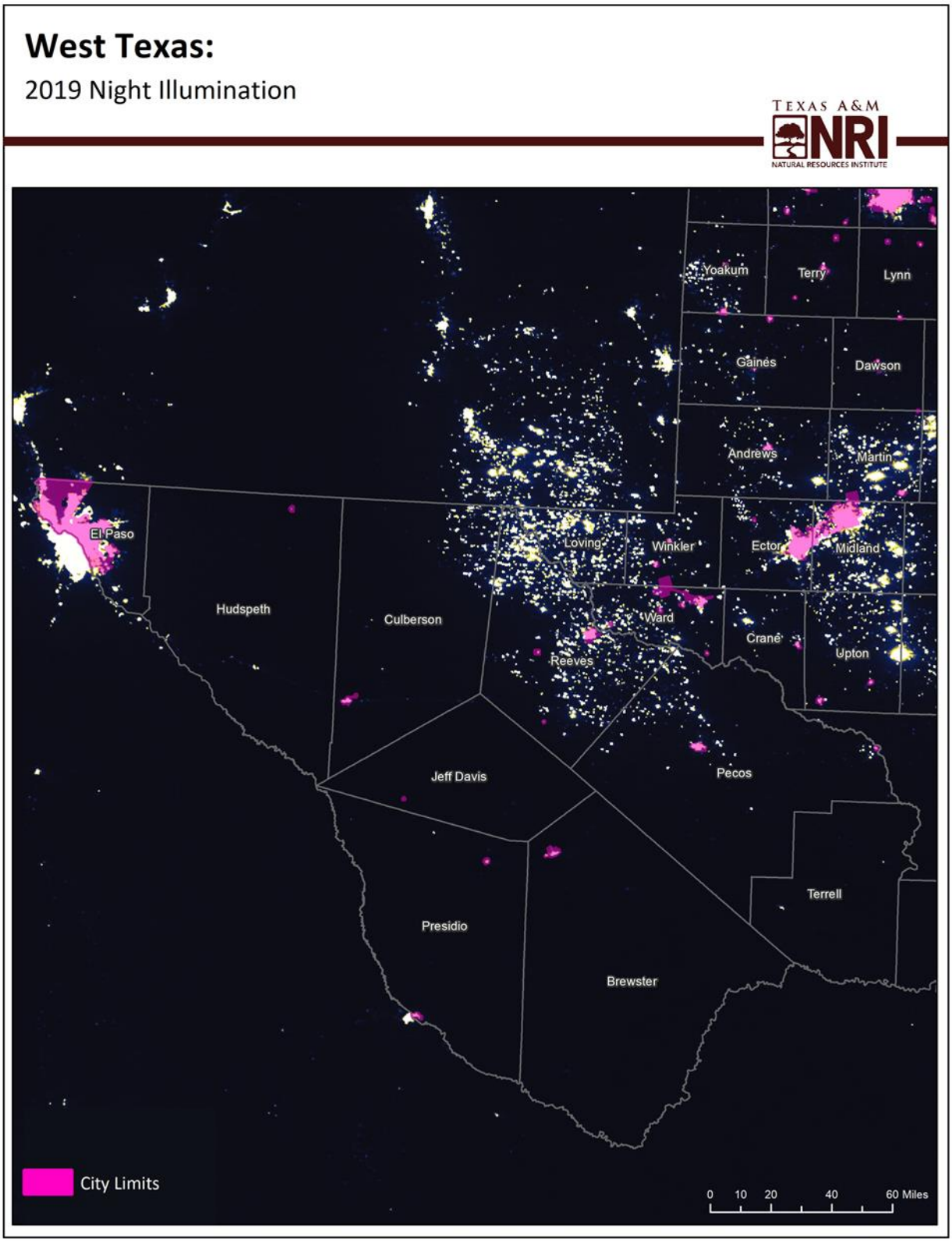



Figure 3b. Night illumination map (2019).

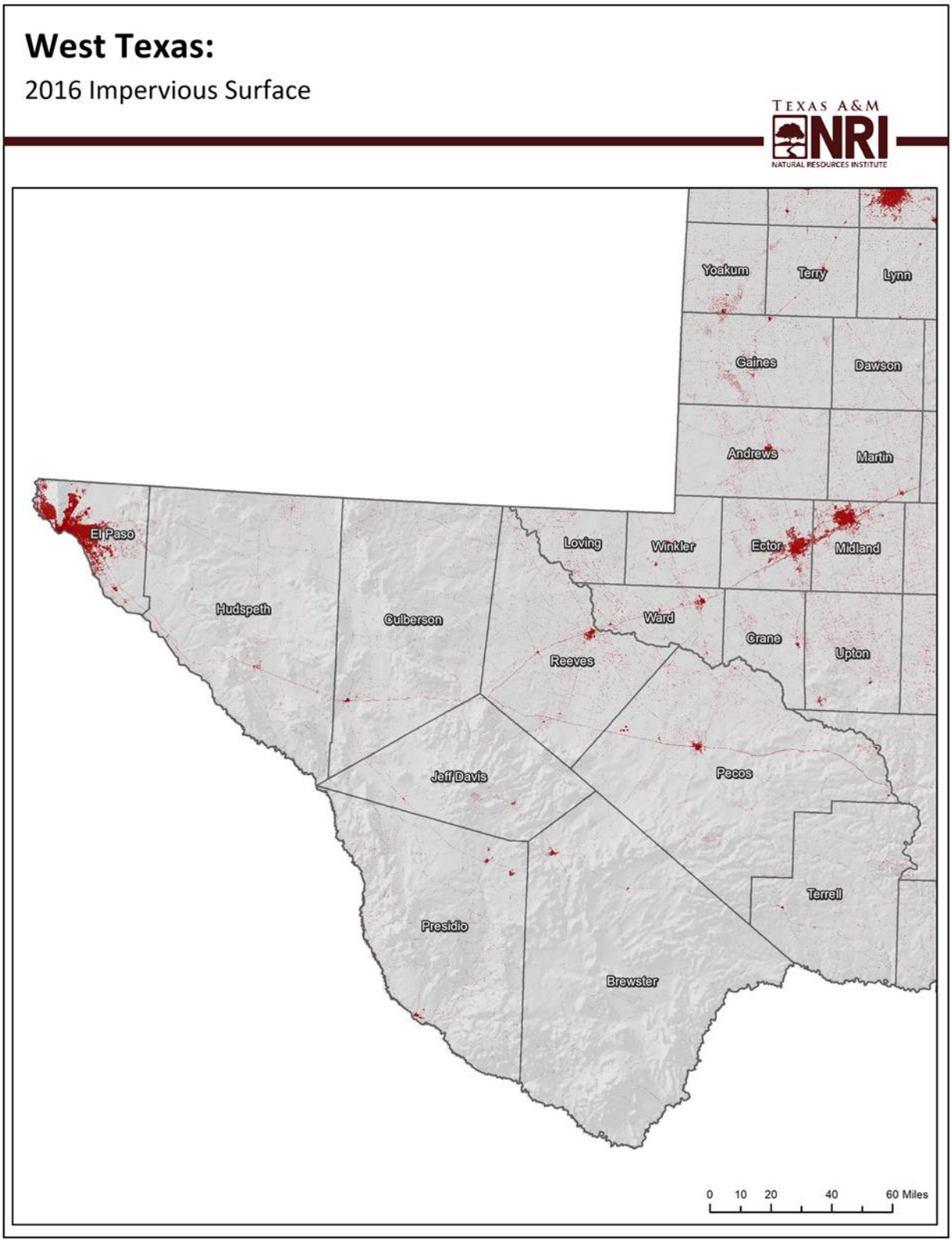



Figure 4. Impervious surface map (2016).

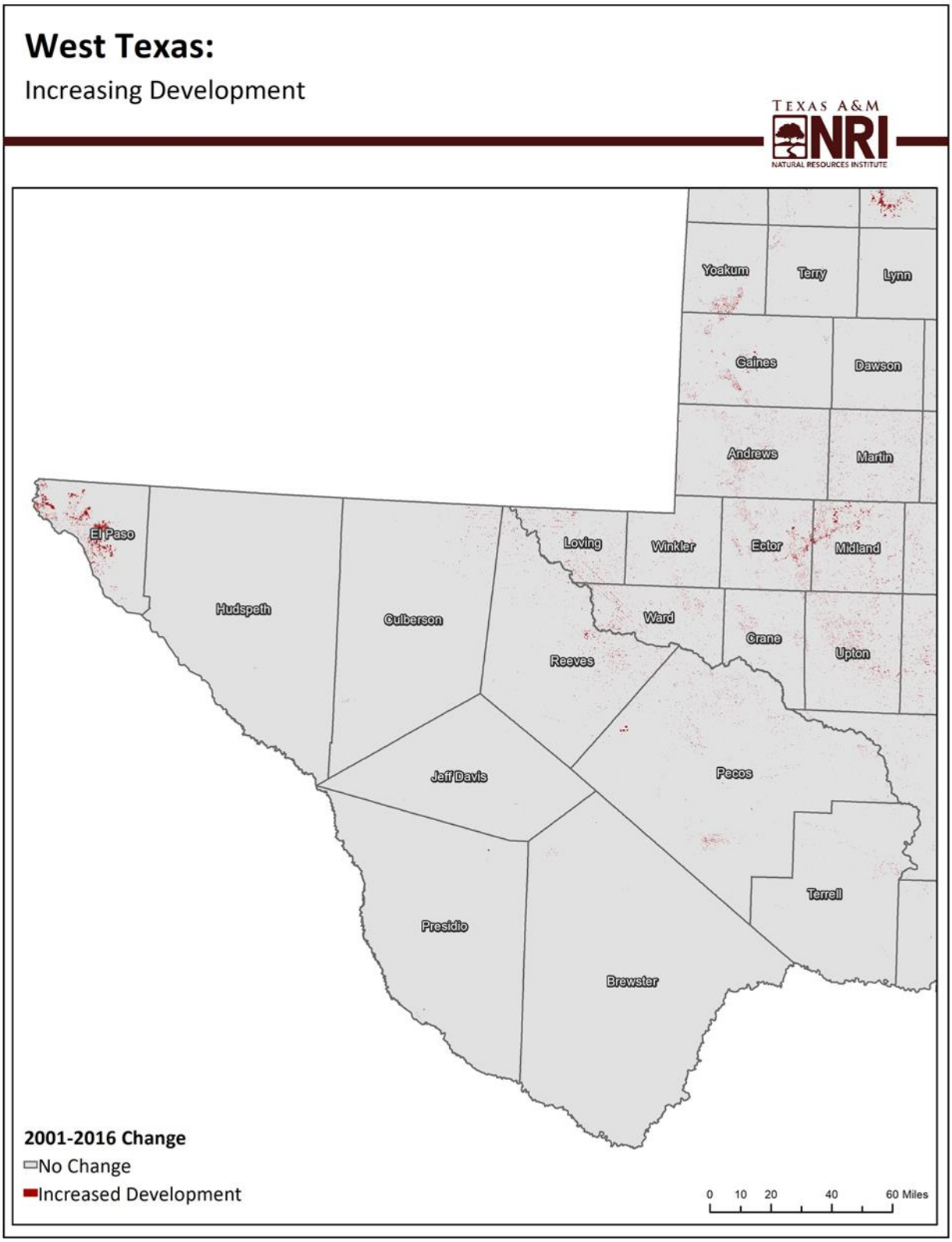



Figure 5. Increasing development map (2001-2006).

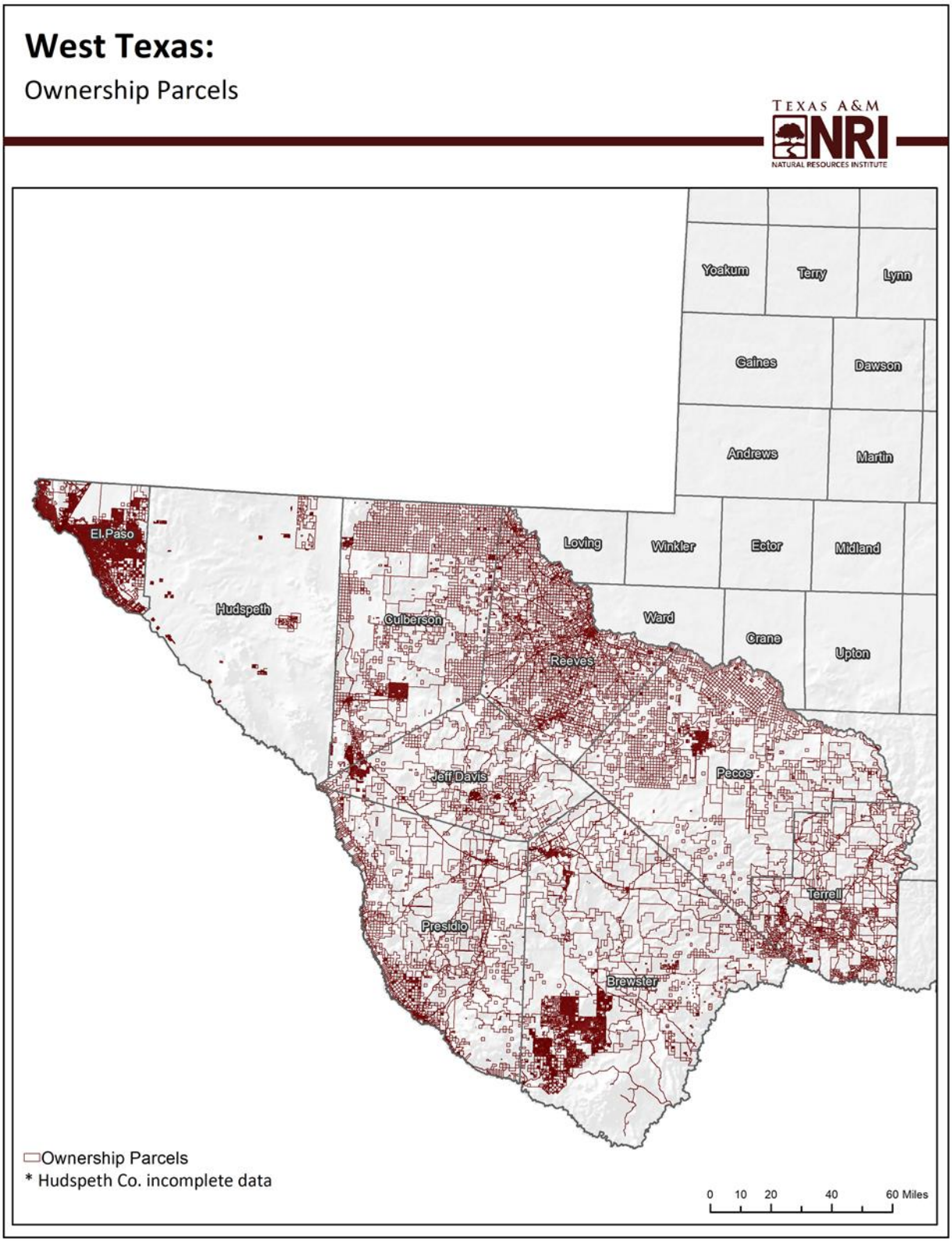



Figure 6. Ownership parcels map.

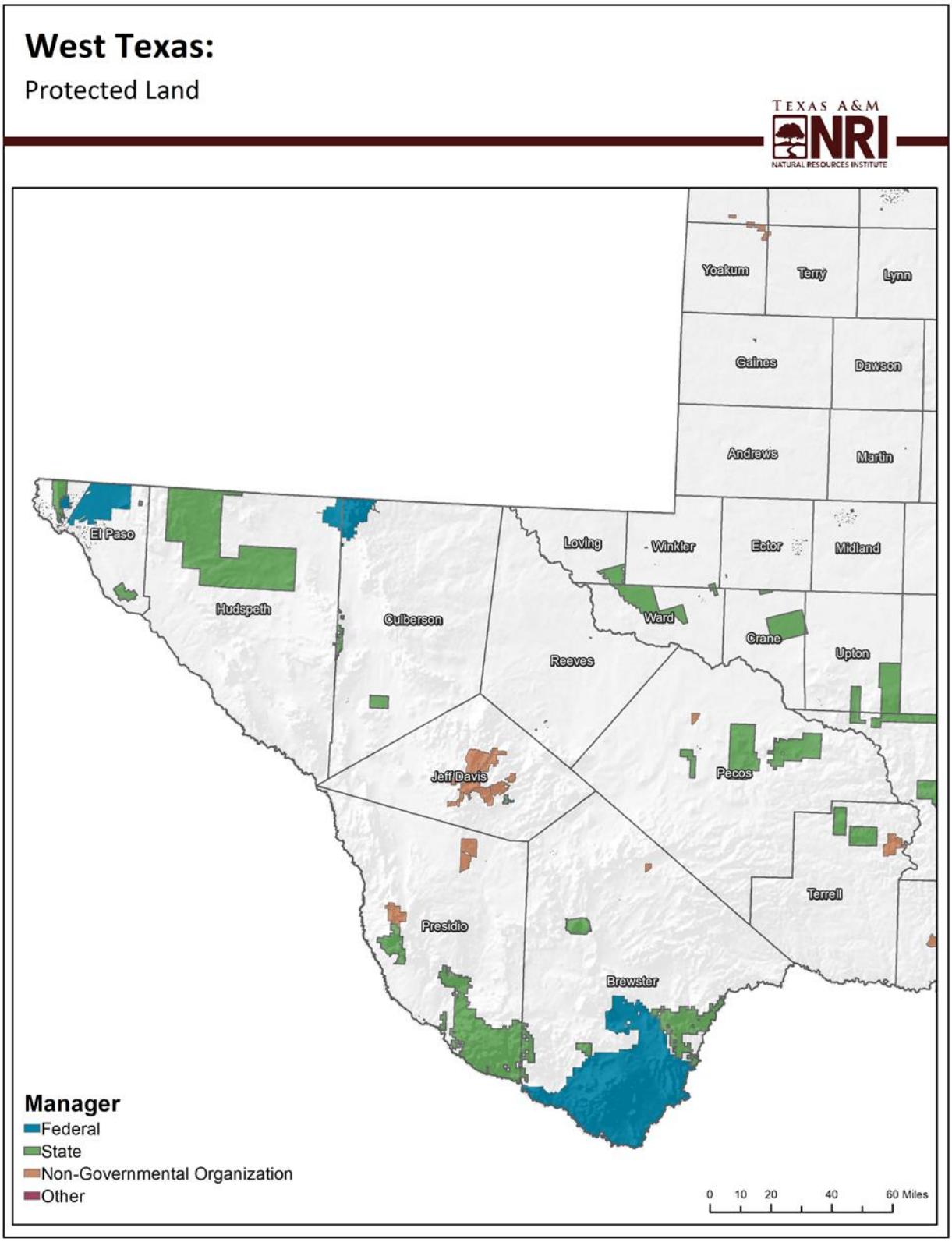



Figure 7. Protected lands map.

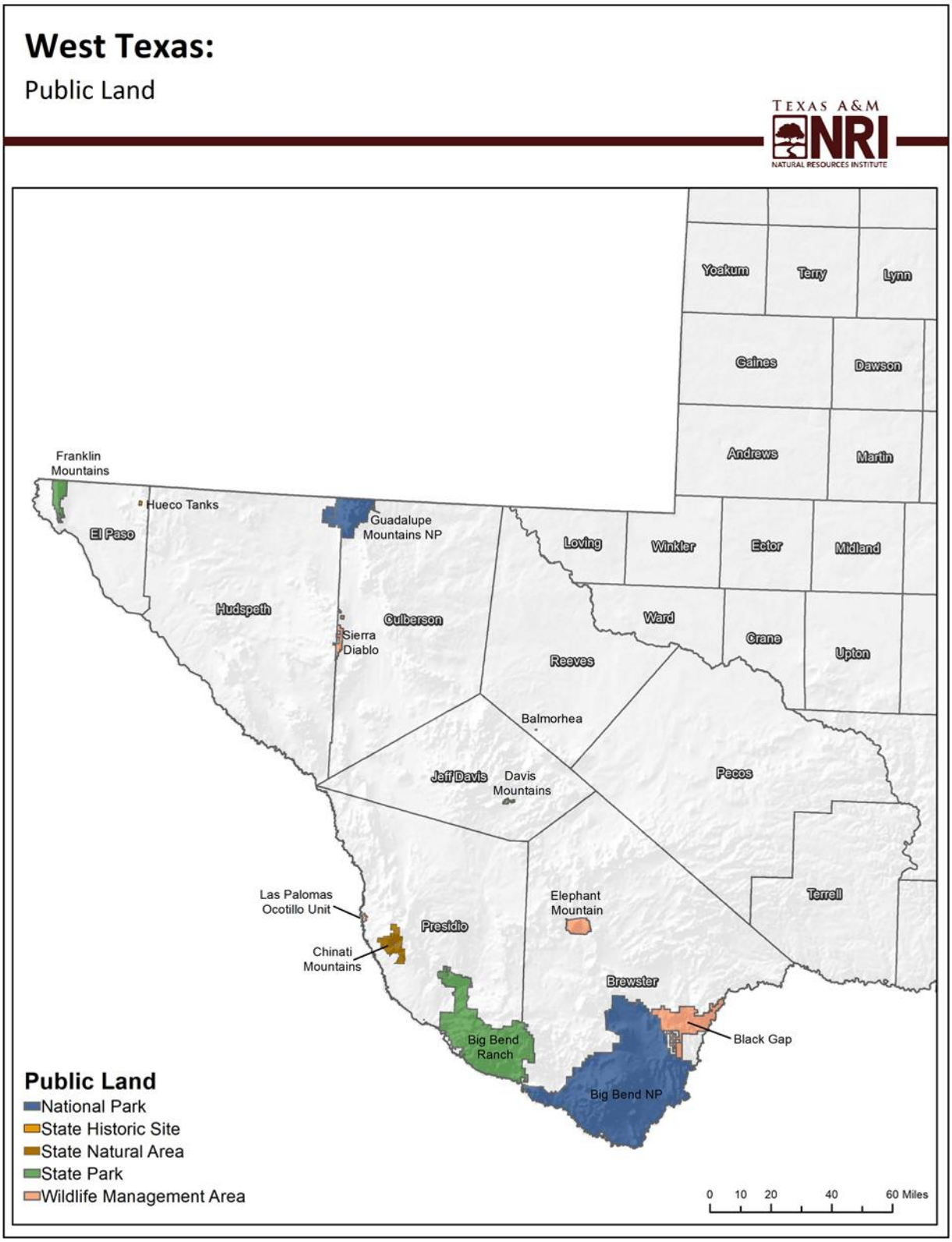



Figure 8. Public lands map.

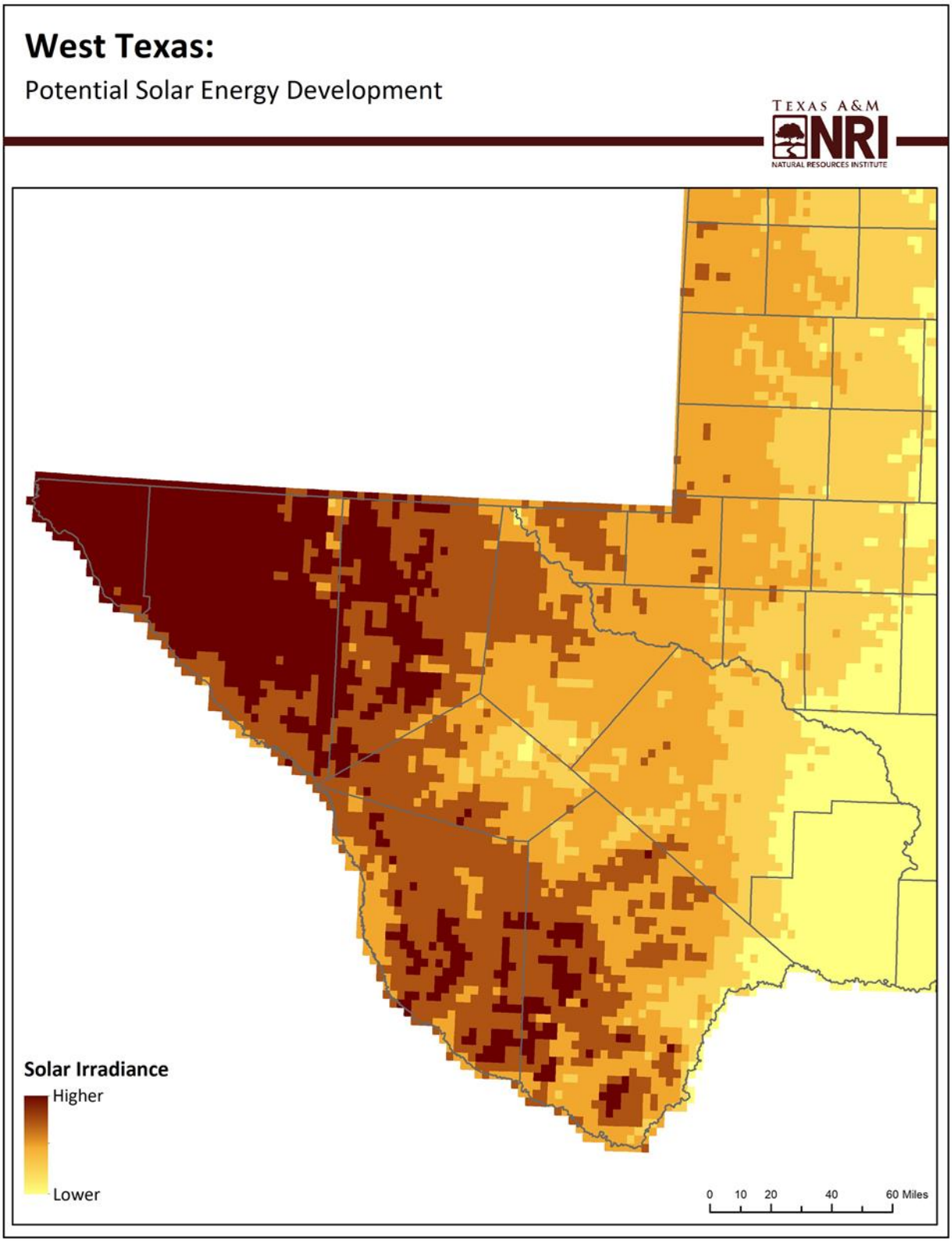



Figure 9. Potential solar energy development map.

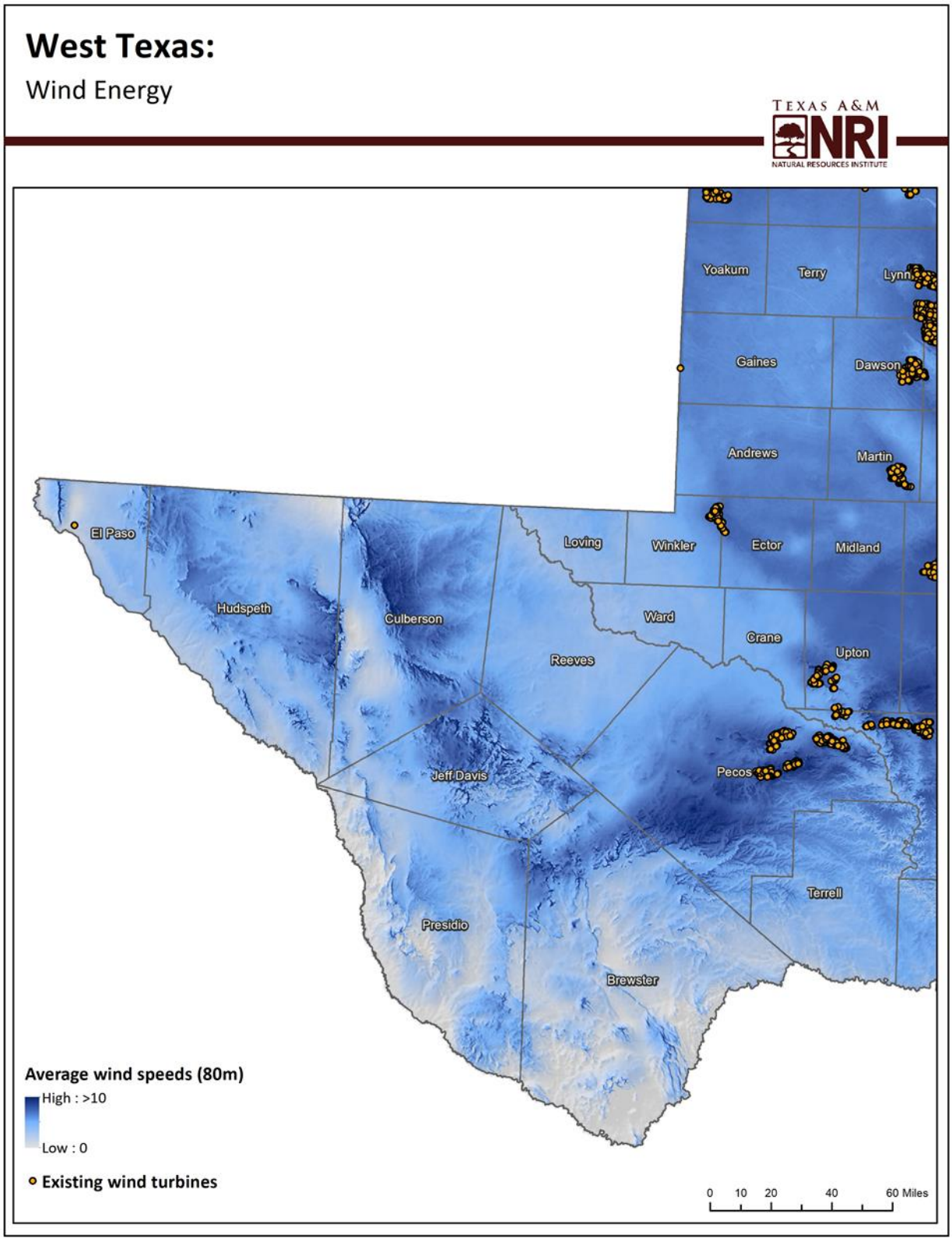



Figure 10. Potential wind energy development map.

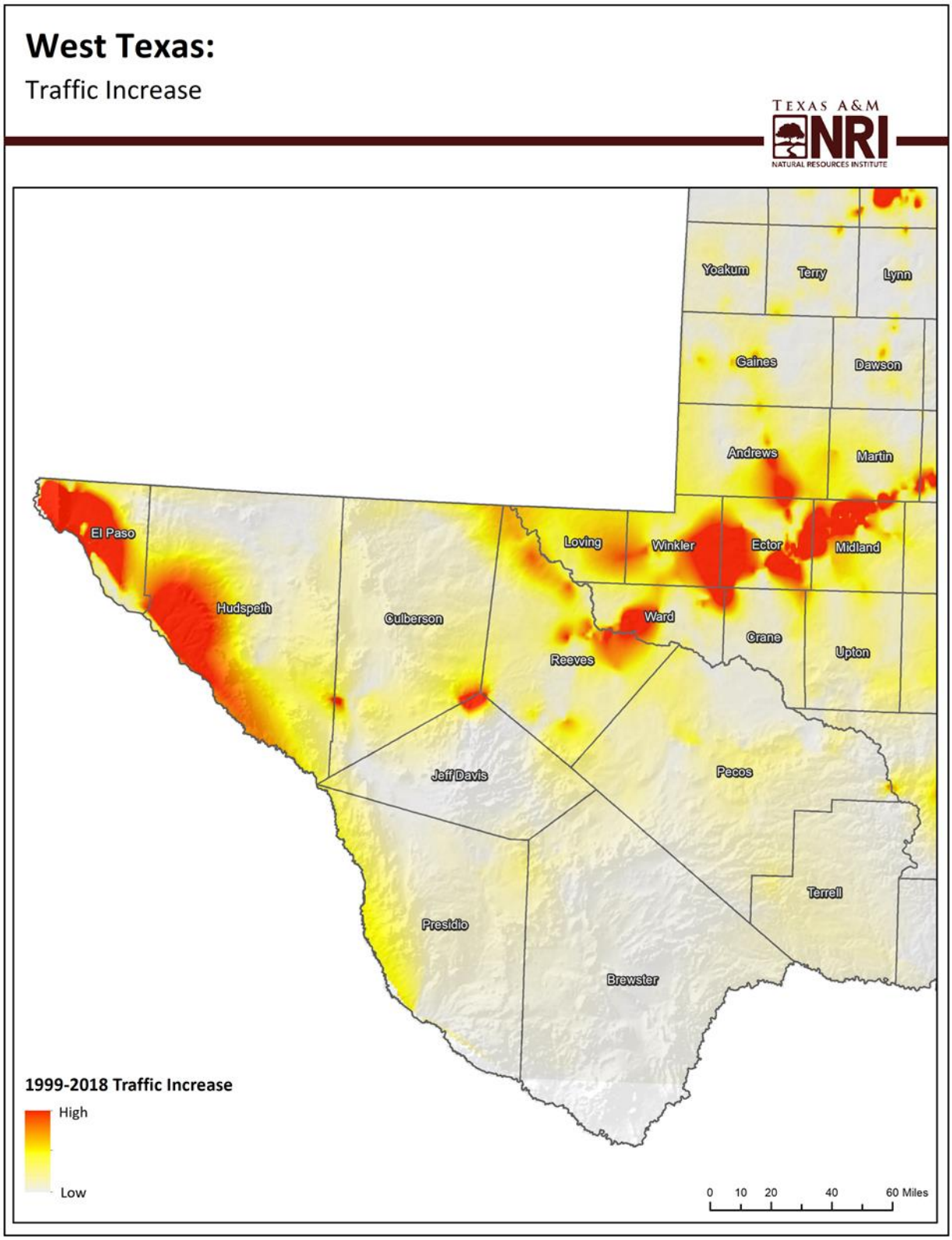



Figure 11. Traffic increase map (1999-2018).

Changes in land use have influenced the 16 county region over the last 20 years (Table 1). Between 1997 and 2017, approximately 1,963,952 working lands acres in this region experienced some form of land use change, namely the fragmentation or conversion of approximately 11% of working lands to other non-agricultural uses. Based on percent change, Midland, Crane and El Paso counties experienced the greatest working lands loss or conversion, with -61%, -50%, and -43% change, respectively. Based on acreage difference, however, Midland, Terrell, and Brewster counties experienced the greatest loss. Over the same 20 year time period, approximately 6,134 operation acres experienced changes in use, a gain of 6% in operation acres. This may be associated with consolidation. Based on percent change, El Paso (-54%) and Midland (-50%) counties experienced the greatest operation size acreage loss or conversion, while Culberson County (53%) experienced the greatest operation size acreage gain over the same time period. Based on acreage differences, Brewster and Terrell counties each experienced the greatest acreage loss while Culberson County gained 7, 829 acres. Many factors influence general land use changes over time. These may include population growth or decline, increasing or decreasing land market values, and operation productivity and profitability, to name a few.

Table 1. Changes in working lands and average operation size, in acres, over a 20 year period (1997-2017).

| | | Working Lands (acres) | | | | Average Operation Size (acres) | | | |
|---|---|---|---|---|---|---|---|---|---|
| **County** | **Total Acres** | **1997** | **2017** | **Acre Difference** | **% Change** | **1997** | **2017** | **Acre Difference** | **% Change** |
| **Brewster** | 3,976,925 | 2,398,423 | 2,017,864 | -380,559 | -16% | 16,316 | 11,597 | -4,719 | -29% |
| **Crane** | 503,771 | 489,381 | 243,883 | -245,498 | -50% | 8,023 | 8,129 | 106 | 1% |
| **Culberson** | 2,454,842 | 1,578,993 | 1,499,836 | -79,157 | -5% | 14,896 | 22,725 | 7,829 | 53% |
| **Ector** | 578,233 | 467,035 | 556,446 | 89,411 | 19% | 1,705 | 2,023 | 318 | 19% |
| **El Paso** | 656,442 | 247,431 | 141701 | -105,730 | -43% | 467 | 216 | -251 | -54% |
| **Hudspeth** | 2,950,489 | 2,505,531 | 2275734 | -229,797 | -9% | 15,562 | 16,983 | 1,421 | 9% |
| **Jeff Davis** | 1,456,930 | 1,485,092 | 1376338 | -108,754 | -7% | 15,470 | 17,875 | 2,405 | 16% |
| **Loving*** | 434,858 | - | 468140 | - | - | - | 58,518 | - | - |
| **Midland** | 577,981 | 876,726 | 344,075 | -532,651 | -61% | 1,673 | 839 | -834 | -50% |
| **Pecos** | 3,056,709 | 2,952,123 | 2,867,712 | -84,411 | -3% | 9,225 | 9,281 | 56 | 1% |
| **Presidio** | 2,481,716 | 1,702,399 | 1,840,888 | 138,489 | 8% | 10,775 | 12,964 | 2,189 | 20% |
| **Reeves** | 1,697,882 | 1,029,002 | 1,063,618 | 34,616 | 3% | 4,947 | 4,748 | -199 | -4% |
| **Terrell** | 1,511,063 | 1,302,480 | 834,419 | -468061 | -36% | 13,568 | 9,817 | -3,751 | -28% |
| **Upton** | 795,799 | 755,763 | 724,045 | -31718 | -4% | 6,809 | 7,388 | 579 | 9% |
| **Ward** | 536,468 | 365,566 | 403,981 | 38,415 | 1% | 3,656 | 3,961 | 305 | 8% |
| **Winkler** | 539,923 | 487,273 | 488,726 | 1,453 | 0% | 9,944 | 10,624 | 680 | 7% |
| **Total** | **23,775,173** | **18,643,218** | **16,679,266** | **-1,963,952** | **-11%** | **133,036** | **139,170** | **6,134** | **5%** |

*Loving County is excluded from *Totals*, *Acre Difference*, and *% Change* calculations because 1997 Working Lands and Average Operation Size acre data is not available for year 1997.

Special thanks to the Land Trends Team comprised of Addie Smith, Alison Lund and co-authors Matthew Crawford and Kevin Skow, and the assistance of Dr. James Cathey, for their collective efforts in providing the Land Trends data in Table 1, input towards its interpretation, and clarifications regarding the private working lands data in this report.

About the Data

The USDA NASS Census of Agriculture ownership data reports working lands as the number of farms and acres of farms by size class each census year (1997, 2002, 2007, 2012, and 2017) for every county in Texas. The Ag Census defines farms/ranches as any property from which $1,000 or more of agricultural products were produced, sold, or normally would have been sold, during the census year and is ultimately a voluntary census aiming to provide valuable information on land use and ownership, operator characteristics, production practices, income, and expenditures of American farms and ranches. NASS conducts capture-recapture methodology to account for undercoverage, nonresponse, and misclassification. The Texas Comptroller of Public Accounts (Texas Property Tax Assistance Division) produces an annual compilation of land use and land value data from all ISDs. This dataset represents all private lands designated as 1-D and 1-D-1 appraisal status for all Texas ISDs.

A 1-D agricultural use (Assessments of Lands Designated for Agricultural Use) status refers to lands devoted to full time agricultural operations where the owner's primary occupation and source of income is derived from agricultural enterprises. In contrast, a 1-D-1 open space status (Taxation of Certain Open Space Land) designates lands based solely on the primary use of the land with no consideration for the landowner's income or occupation. In this report, the Land Trends group quantified changes in working lands (private lands under 1-D and 1-D-1 appraisal status) over time. Due to its voluntary nature and statistical adjustments thereafter, the Ag Census dataset does not exactly align with land use data reported by the Texas Comptroller. Total acres of farms reported by the Ag Census (126M acres) are historically lower than total reported acres of working lands by the Comptroller (141M acres). Texas Land Trends uses the Ag Census to further define and illustrate ownership patterns and landowner demographics across the state (Ownership Size section), and uses the total acreages reported by the Comptroller to define working lands and land uses in Texas (Working Lands section). In this report, however, the Ag Census was used to define working lands.

# SECTION II:

# Texas Landowner Questionnaire

## Overview

West Texas is comprised of the largest land mass counties in the state. Home to national historic sites, a national park and several state parks, the region hosts many wildlife species and offers many outdoor recreation opportunities and tourist attractions, most centered on the expectation of wide open spaces, of canyons divided by a flowing Rio Grande river, and of vistas and faraway sunsets along this last Texas frontier. The picturesque landscape in the Upper Rio Grande region of West Texas remains somewhat open yet demographic projections highlight population shifts, which may potentially influence growth and industry in the region (Table 1). Ultimately, private landowners determine the direction of land management on their property and collectively may influence a region at a landscape level. The purpose of this section is to present a snapshot of land management practices and landowner preferences along the West Texas region. The goal is to assist natural resource agencies with outreach tangibles that will ultimately help landowners succeed in pursuit of collaborative conservation actions, such as the *Respect Big Bend Coalition* (https://respectbigbend.org/).

Table 1. Population projections, West Texas counties, 2010-2050 (Texas State Demographer, 2017).

| | Total Population | | | | |
|---|---|---|---|---|---|
| **Area Name** | **2010** | **2020** | **2030** | **2040** | **2050** |
| **Texas** | 25,145,561 | 29,677,668 | 34,894,452 | 40,686,496 | 47,342,105 |
| **Brewster** | 9,232 | 9,133 | 8,730 | 8,291 | 7,816 |
| **Crane** | 4,375 | 6,209 | 8,809 | 12,667 | 18,425 |
| **Culberson** | 2,398 | 2,245 | 2,067 | 1,840 | 1,594 |
| **Ector** | 137,130 | 184,841 | 255,418 | 357,013 | 494,892 |
| **El Paso** | 800,647 | 876,120 | 936,697 | 984,173 | 1,046,847 |
| **Hudspeth** | 3,476 | 3,400 | 3,271 | 2,822 | 2,399 |
| **Jeff Davis** | 2,342 | 2,113 | 1,893 | 1,663 | 1,458 |
| **Loving** | 82 | 92 | 90 | 88 | 77 |
| **Midland** | 136,872 | 187,364 | 268,123 | 391,055 | 573,981 |
| **Pecos** | 15,507 | 16,533 | 16,983 | 17,162 | 17,112 |
| **Presidio** | 7,818 | 5,906 | 4,466 | 3,367 | 2,662 |
| **Reeves** | 13,783 | 15,707 | 17,896 | 20,001 | 22,013 |
| **Terrell** | 984 | 1,054 | 1,067 | 1,061 | 1,017 |
| **Upton** | 3,355 | 3,983 | 4,726 | 5,551 | 6,559 |
| **Ward** | 10,658 | 13,592 | 18,162 | 24,636 | 33,350 |
| **Winkler** | 7,110 | 9,295 | 12,460 | 17,111 | 23,364 |

## Survey Description

A survey was developed to better understand Texas' rural working lands landowners, their needs, challenges, concerns, and land management preferences. A statewide survey considering this population group and range of topics was previously not available. The survey was divided into four topic areas (Land Management, Landowner Concerns, Land Loss/Fragmentation, and Landowners) and consisted of 35 questions in yes/no, fill-in-the-blank, and multiple-choice format. The rationale behind each topic area is described below:

1. *Land management* topics determined landowner management preferences and provided a picture of what landowners were doing on the ground at that moment in time and what they were planning to do 10 years into the future. Topics included reasons for owning land, land practices, recreational activities, and management plans, among others. In this section, landowners share their specific land management direction and goals. This information is useful for natural resource outreach and for organizations developing educational programs.

2. *Landowner concern* topics considered both current and emerging potential challenges and concerns. Here, landowners were asked their opinion regarding each item. Topics discussed included disease, development, technical guidance, invasive species, and eminent domain, among others. This information is useful for natural resource organizations developing educational outreach programming. Understanding landowner concerns is useful to developing effective and strategic educational programming.

3. *Land loss/fragmentation* topics considered landowner perspectives on potential drivers influencing rural population shifts. Topics include property tax rates, city expansion, estate/death tax, and parcel division, among others. This information is useful for education outreach in planning for future intergenerational land transfers.

4. *Landowner information* topics included demographic variables and parcel information, such as main activity contributing income to land, among others. This information is useful to natural resource organizations for outreach and in developing educational programs for specific groups, such as farmers vs. ranchers. This information describes who our landowners are and how we can better serve them.

## Survey Methodology

In Fall 2016, the Texas A&M Natural Resources Institute, in partnership with Texas Parks and Wildlife, conducted a statewide rural working lands questionnaire to better understand private landowner needs, preferences and concerns regarding the management of their operations and natural resources. The web-based questionnaire was disseminated primarily via email and landowner group listserves; we received 3,103 responses (98% completion rate; nearly all questions answered) from all but 36 counties (86% of Texas counties represented). Only 70 responses were from West Texas counties. Responses that did not list a county under largest property were omitted from the analysis (n=371). The remaining 2,662 responses were from Non-West Texas counties.

During Summer 2019, with assistance from the Borderlands Research Institute and Texas A&M Agrilife Extension, the Texas A&M Natural Resources Institute re-opened the online survey and invited Texas private farm, ranch, open space and other large and small working lands landowners to participate in a voluntary online survey. As mentioned, the purpose of the survey was to determine landowner natural resource and land management needs, and with the information derived from the survey, the goal was to develop Extension programs, services, and materials to better serve landowners and to help them meet their goals. Thus, the *Texas Landowner Survey* was repeated in West Texas to better characterize landowners in counties with low response rates. Counties targeted included Brewster, Crane, Culberson, El Paso, Ector, Hudspeth, Jeff Davis, Loving, Midland, Pecos, Presidio, Reeves, Terrell, Upton, Ward, and Winkler. For purposes of this report, these counties were grouped together and referred to as West Texas Counties or West Texas. Counties outside of this group were collectively referred to as Non-West Texas Counties or Statewide. The Summer 2019 survey yielded 121 responses in approximately 2 months (100% completion rate, nearly all questions answered): 33 responses from West Texas counties, 56 responses from statewide counties, and 32 responses from unspecified counties (omitted from analysis).

Both the Fall 2016 survey data and the Summer 2019 survey data were combined as follows: West Texas County responses for Fall 2016 were combined with Summer 2019 responses (n=70 and n=33, respectively). Non-West Texas County responses for Fall 2016 were combined with Summer 2019 responses (n=2,662 and n=56, respectively) and descriptive statistics were primarily used.

*Survey Modifications*: The Summer 2019 survey was modified from the original Fall 2016 survey to include energy topics (oil and gas energy, mineral rights, solar energy, and wind energy) for a few questions. Overall, the survey questions between the two sampling periods were identical. Discrepancies between the 2016 and 2019 survey were resolved as follows: *largest property size* (summed tallies of smaller categories in 2019 survey to match larger 2016 categories); *years own/lease to/lease from/manage property* (total does not include "not applicable" category); *age* (individual age in years was grouped into categories of ten years); *ethnicity* (ethnicity data not presented because the majority of landowners in the region were non-Latino White); *percent income from largest property* (none = none, 10% or less and 11-20% = less than 25%, 21-30% = 25-34%, 31-40% = 35-44%, 41-50% = 45-54%, 51-60% = 55-64%, 61-70% and 71% or more = 65-74%, 75% or more = 75% or more); and *percent income from wildlife enterprises* (none = none, 10% or less and 11-20% = less than 25%, 21-30% = 25-34%, 31-40% = 35-44%, 41-50% = 45-54%, 51-60% = 55-64%, 61-70% and 71% or more = 65-74%, 75% or more = 75% or more).

Findings for this study are presented in three sections. The first section (Questionnaire Findings – West Texas) describes findings that were generally similar among the two population groups (West Texas and Statewide). In some instances, the graphs for both groups were almost identical. The second section (Questionnaire Findings – West Texas and Statewide) describes findings where differences were more apparent among the two population groups. The final section (Appendix) provides the remaining Statewide companion graphs to the West Texas graphs. **Notes: Statewide graphs only represent non-West Texas Counties, as opposed to a full statewide summary. With few exceptions, the y-axis on the graphs represents the tally count.**

# Questionnaire Findings – West Texas

West Texas findings mirroring Statewide results follow in four categories: Landowners, Land Management, Landowner Concerns, and Land Loss/Fragmentation. See *Survey Description* for category information.

# Landowners

Similar to Statewide findings, West Texas private landowners who responded to the survey were primarily male. Landowners indicated that ranching, no income, and hunting, were the three primary sources of income derived from their land, followed by oil and gas and farming. For many landowners, however, their land income contributed less than 25% of their total household's annual take-in, with a negligible wildlife enterprise contribution (most respondents indicated none and less than 25%). Approximately a third of respondents indicated their land contributed over 25% of their household's annual income. This is different from the Statewide finding where approximately 20% of respondents derived over 25% of their average household income from their land (See Appendix).

In their communication preferences, West Texas respondents were slightly more traditional, opting for more print materials and were more likely to seek out professionals directly when needing assistance than their statewide counterparts, which speaks to the resiliency, survival and strength people associate with the West. Figure 5 personifies the general perception of the West Texas landowner – a no-nonsense landowner who will seek out information from professionals, when needed, so that they can run their businesses. Some resources appear to be more accessible in the region: game wardens, followed by the Natural Resources Conservation Service (NRCS), Texas A&M Agrilife Extension, and University or Academic Institutes. West Texas landowners access these resources most often, which may also be an indication of level of trust, quality of interaction, or length of time engaging with individuals, all of which are important in communicating with stakeholders. In terms of ownership, a little over 30% of lands have been in the family for over 20 years, approximately 15% each have been in the family for less than 5 years, 6-10 years and 11-15 years, and approximately 10% of lands have been in the family for 16-20 years, meaning approximately 30% of landowners are new to the land (10 years or less). Considering the income sources and percent income derived from the land, particularly the no income category, and the information access, there is an opportunity to develop more targeted programs and strategies to help West Texas private landowners achieve their goals.

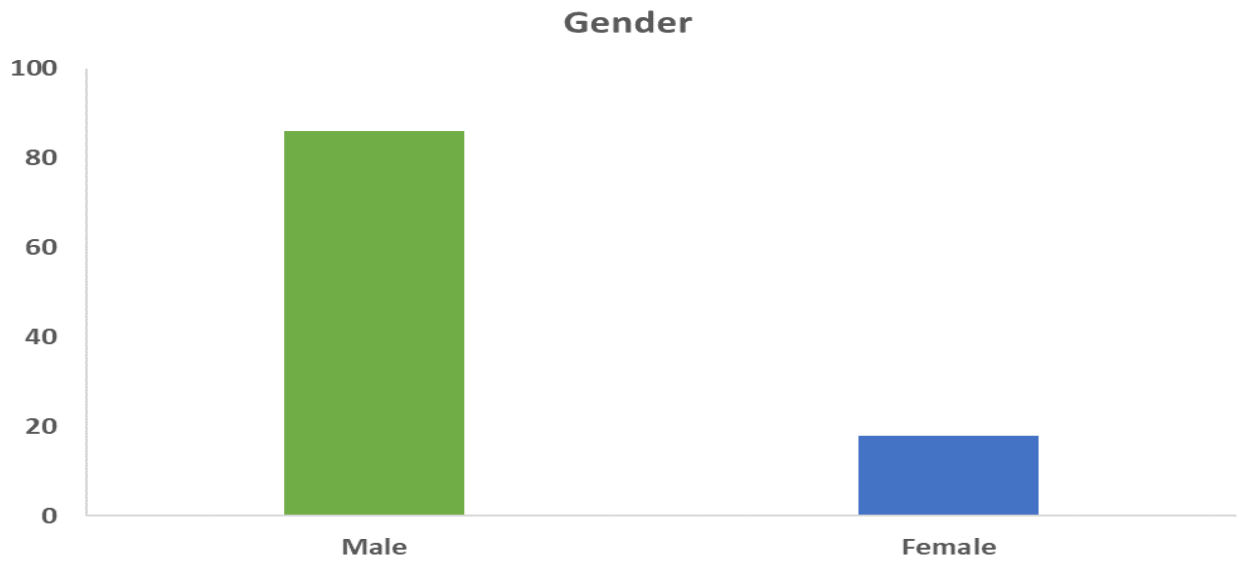



*Figure 1. West Texas, gender (frequency).*

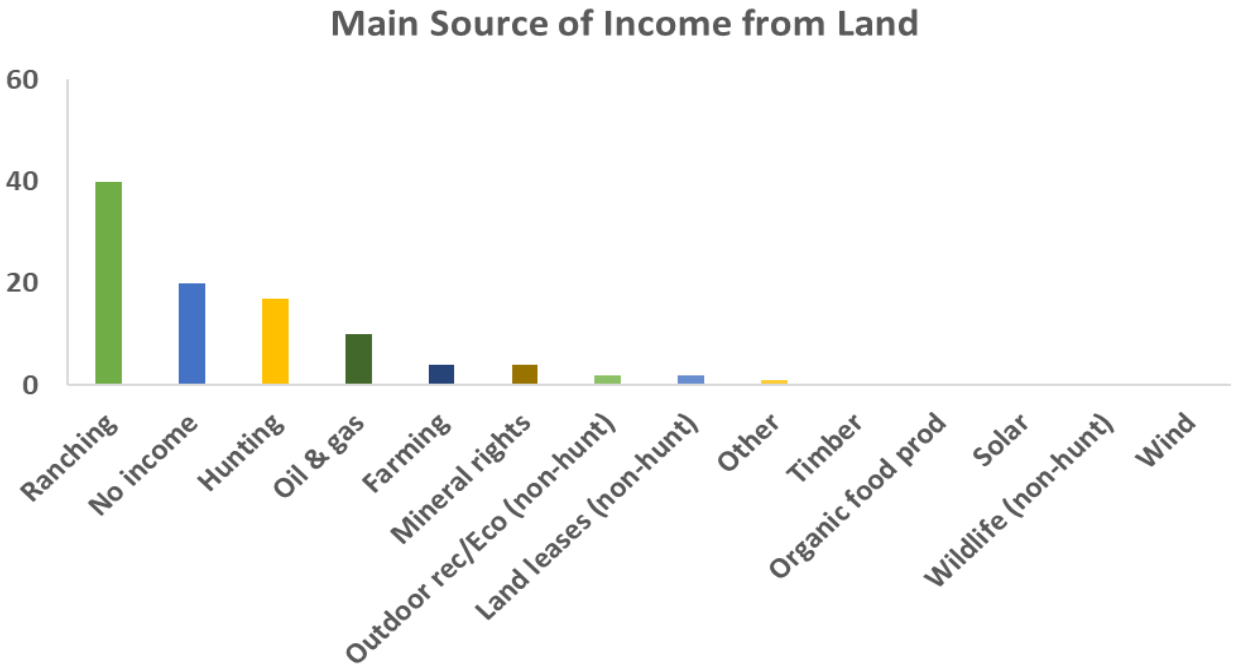



*Figure 2. West Texas, main source of income (frequency).**

*Because mineral rights, solar energy, and wind energy topics were new topics introduced in the Summer 2019 survey (n=121), and not present in the 2016 survey (n=3,103), this may have contributed to the low response rate for these categories.

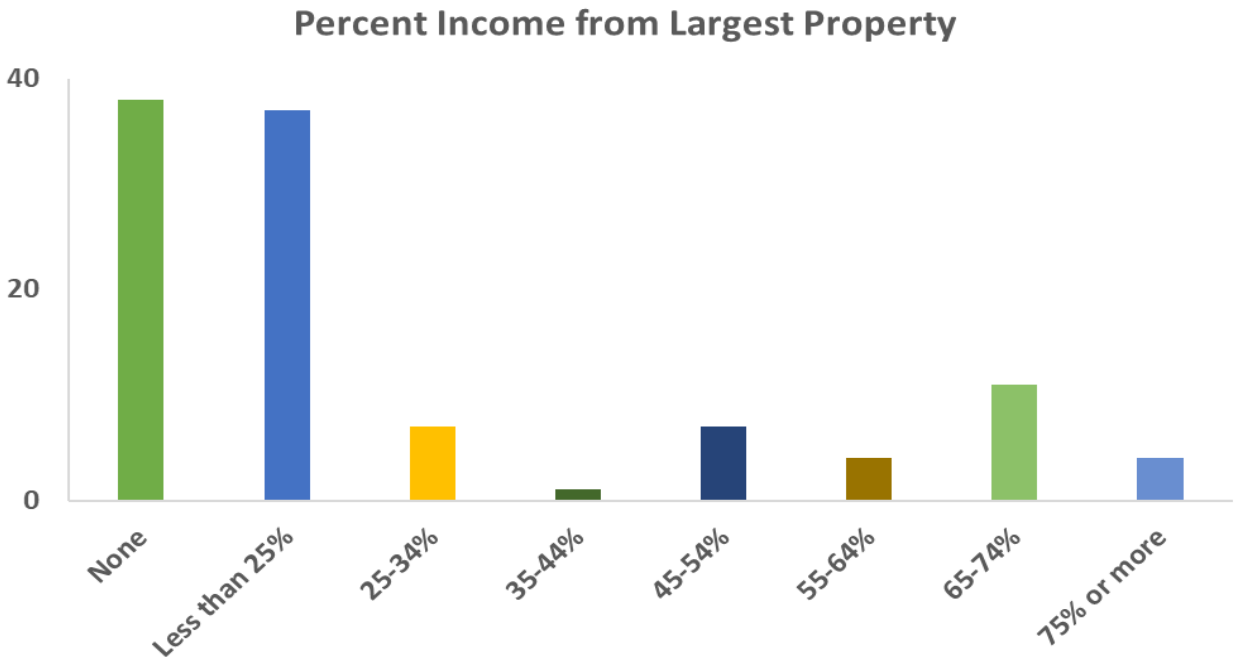



*Figure 3. West Texas, percent income from largest property (frequency).*

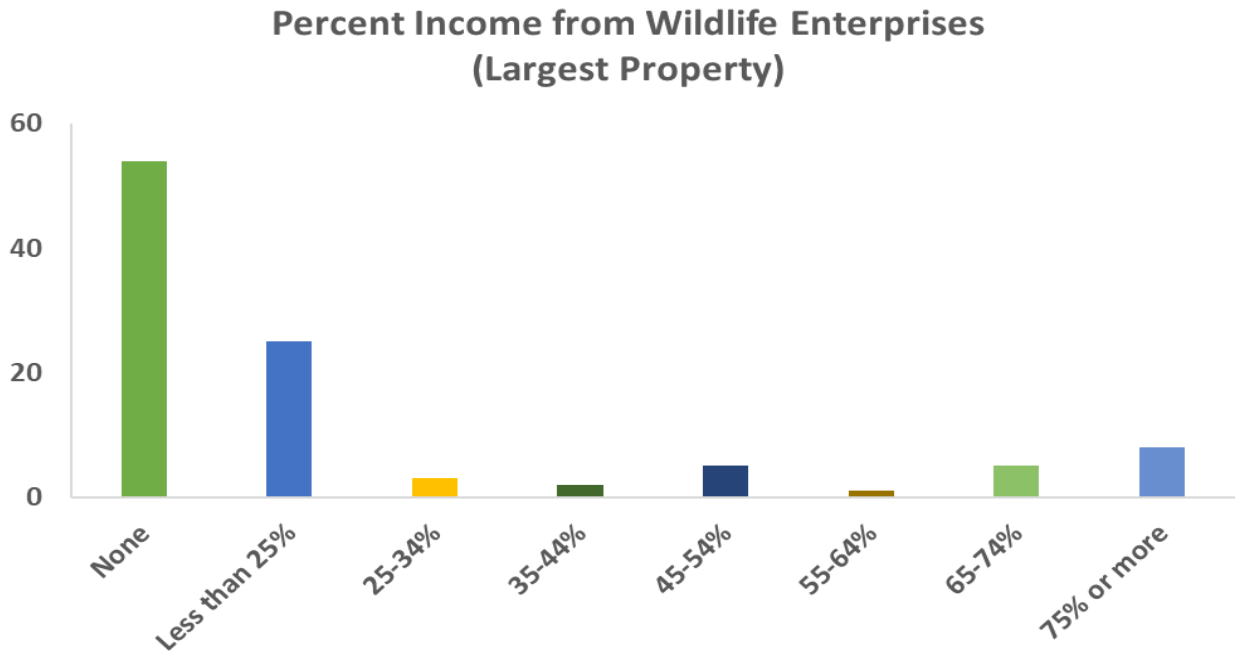



*Figure 4. West Texas, percent income from wildlife enterprises (largest property, frequency).*

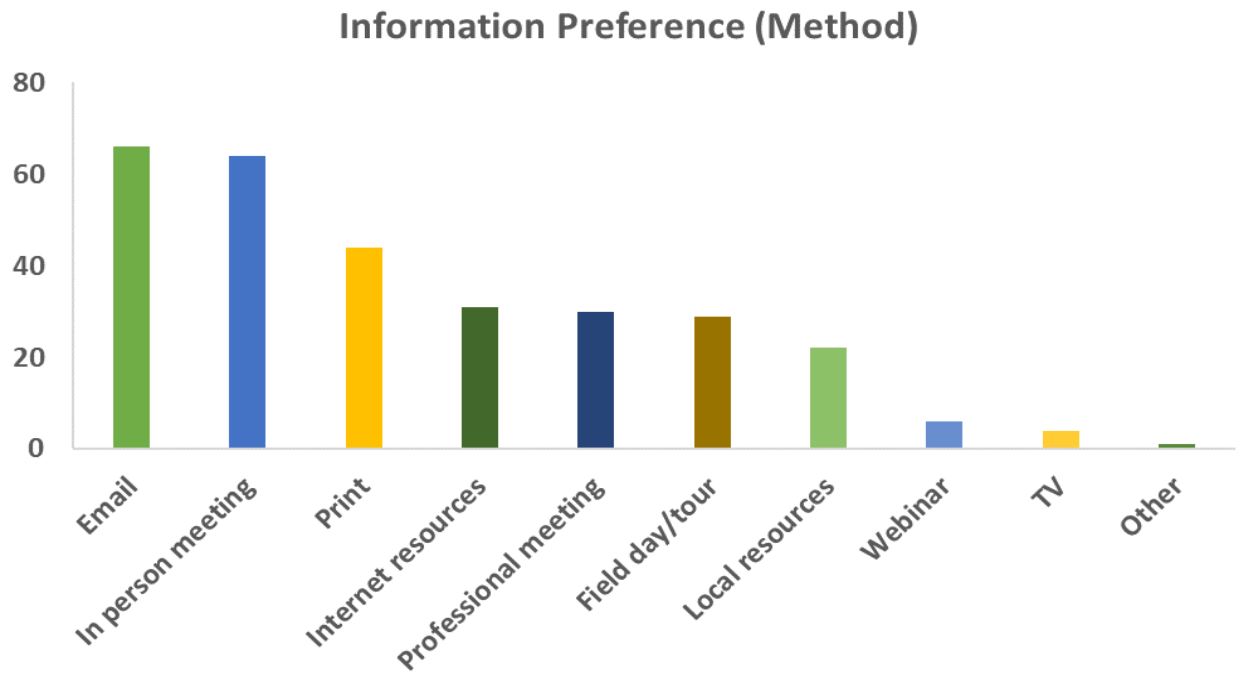



*Figure 5. West Texas, information preference (method, frequency).*

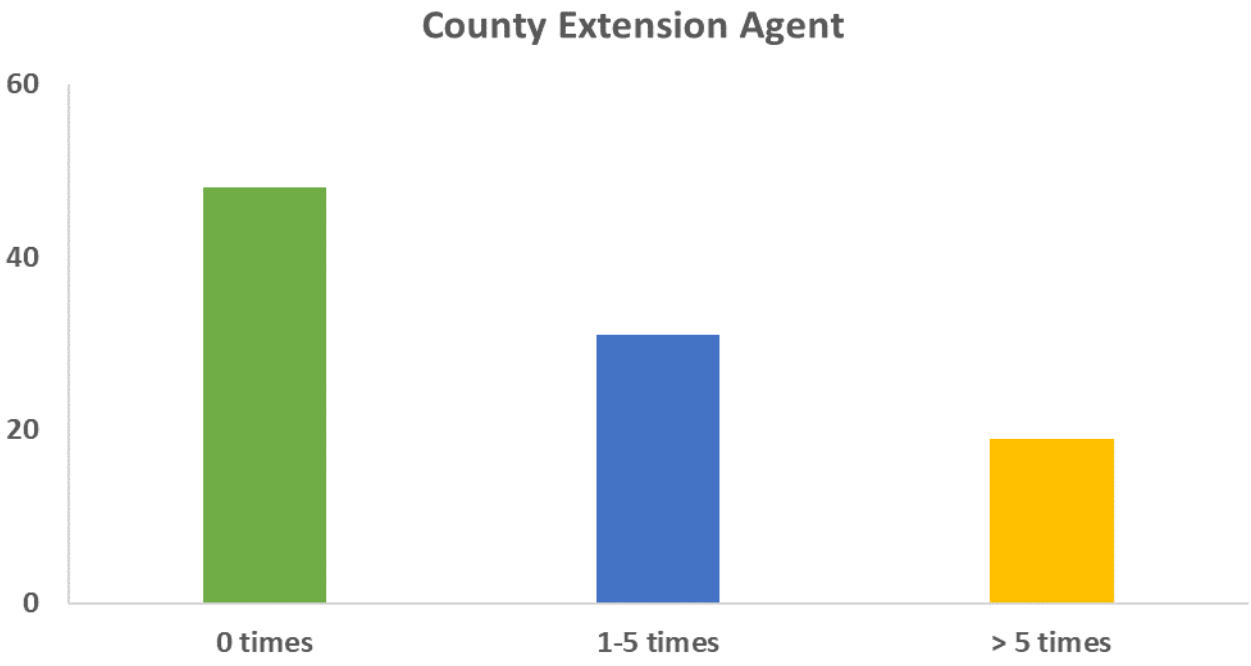



*Figure 6. West Texas, frequency of interaction with a County Extension Agent in the last 5 years (frequency).*

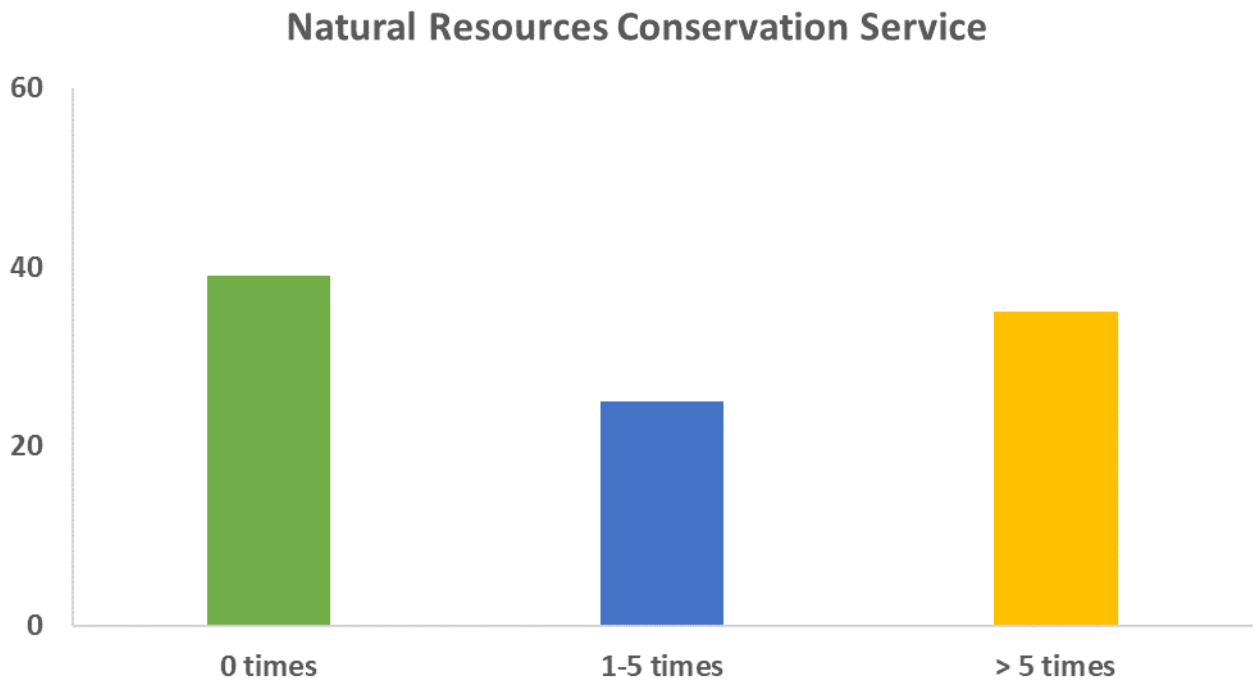



*Figure 7. West Texas, frequency of interaction with the Natural Resources Conservation Service in the last 5 years (frequency).*

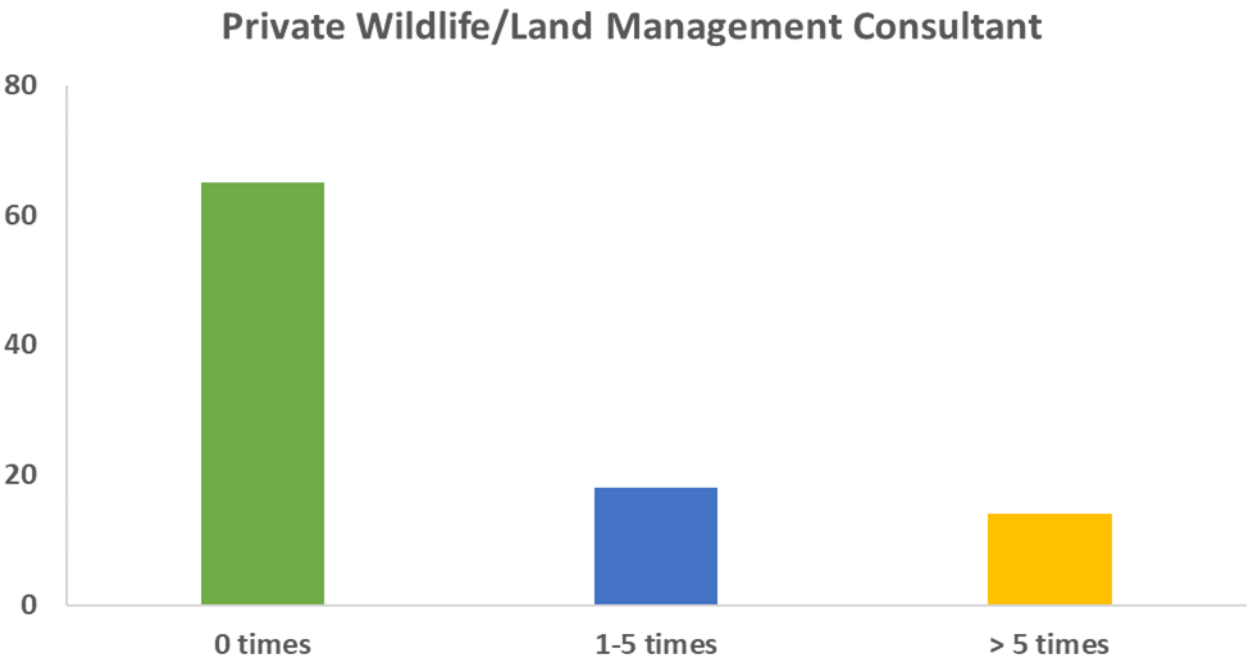



*Figure 8. West Texas, frequency of interaction with a private wildlife/land management consultant in the last 5 years (frequency).*

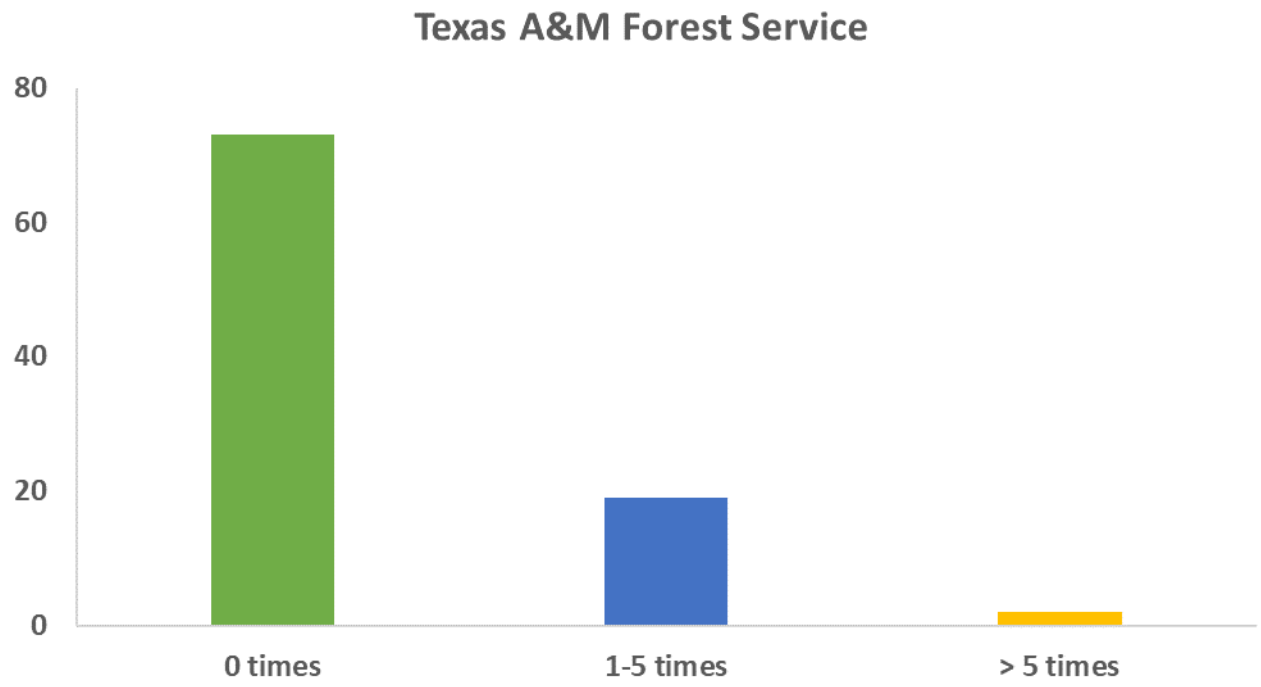



*Figure 9. West Texas, frequency of interaction with the Texas A&M Forest Service in the last 5 years (frequency).*

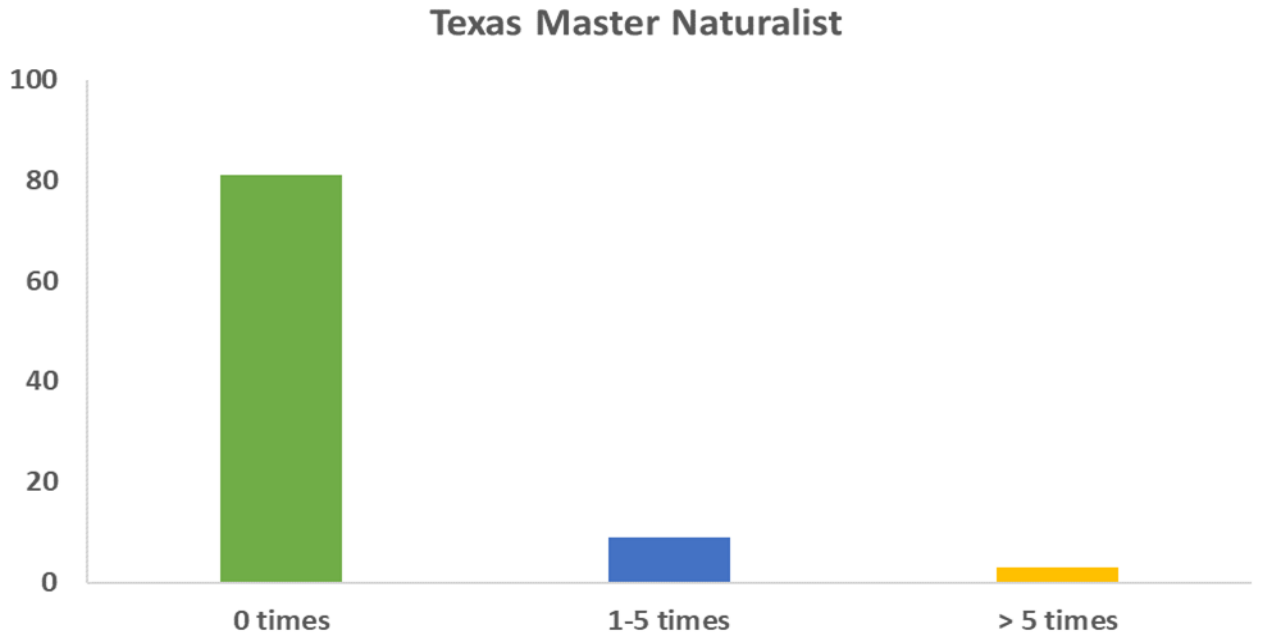



*Figure 10. West Texas, frequency of interaction with a Texas Master Naturalist in the last 5 years (frequency).*

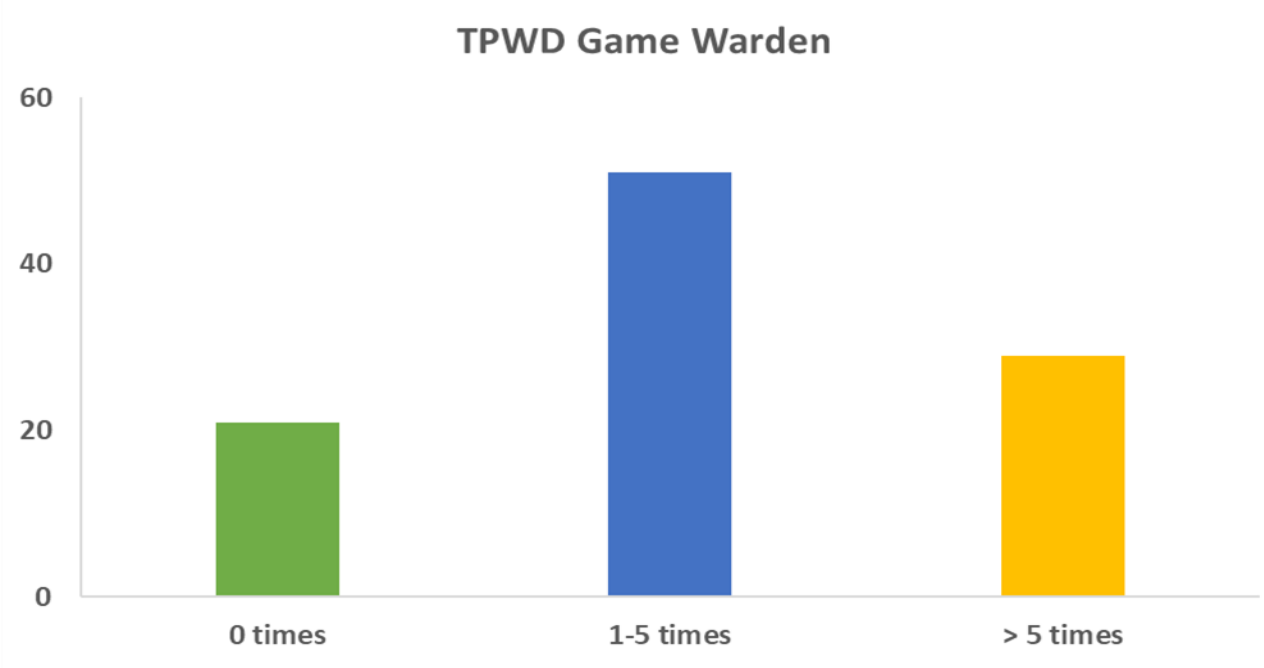



*Figure 11. West Texas, frequency of interaction with a Texas Parks and Wildlife Department (TPWD) Game Warden (frequency).*

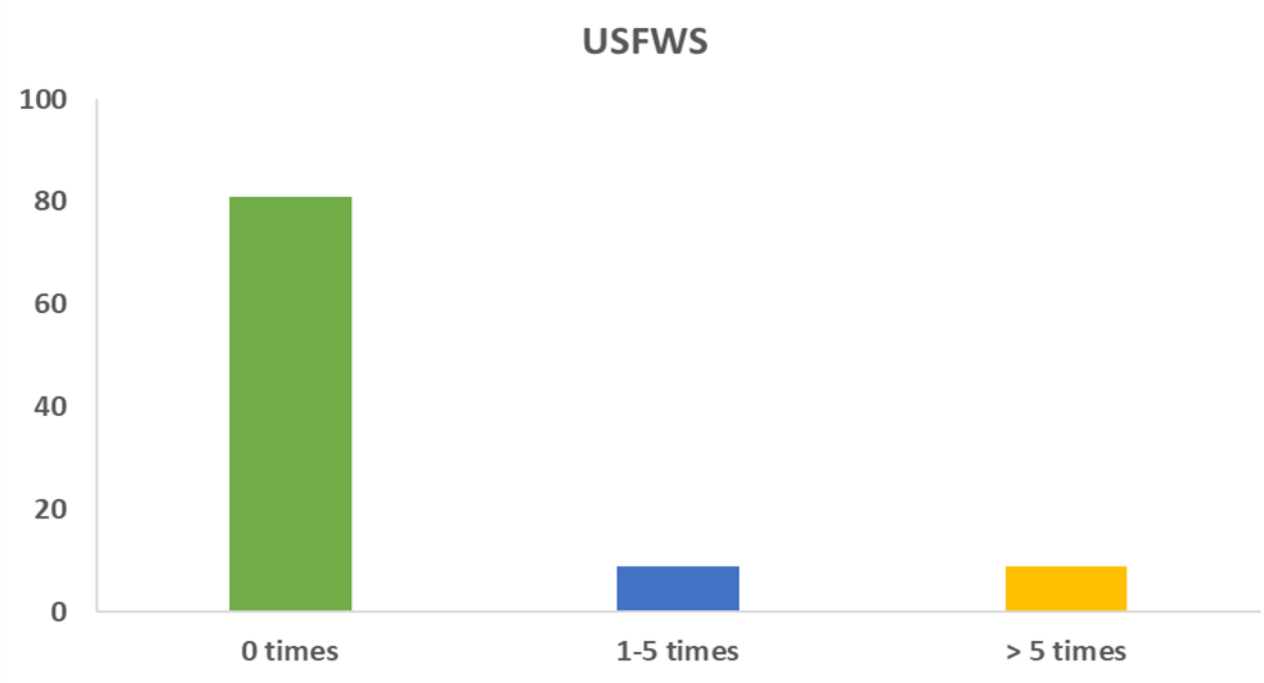



*Figure 12. West Texas, frequency of interaction with the United States Fish and Wildlife Service (USFWS) in the last 5 years (frequency).*

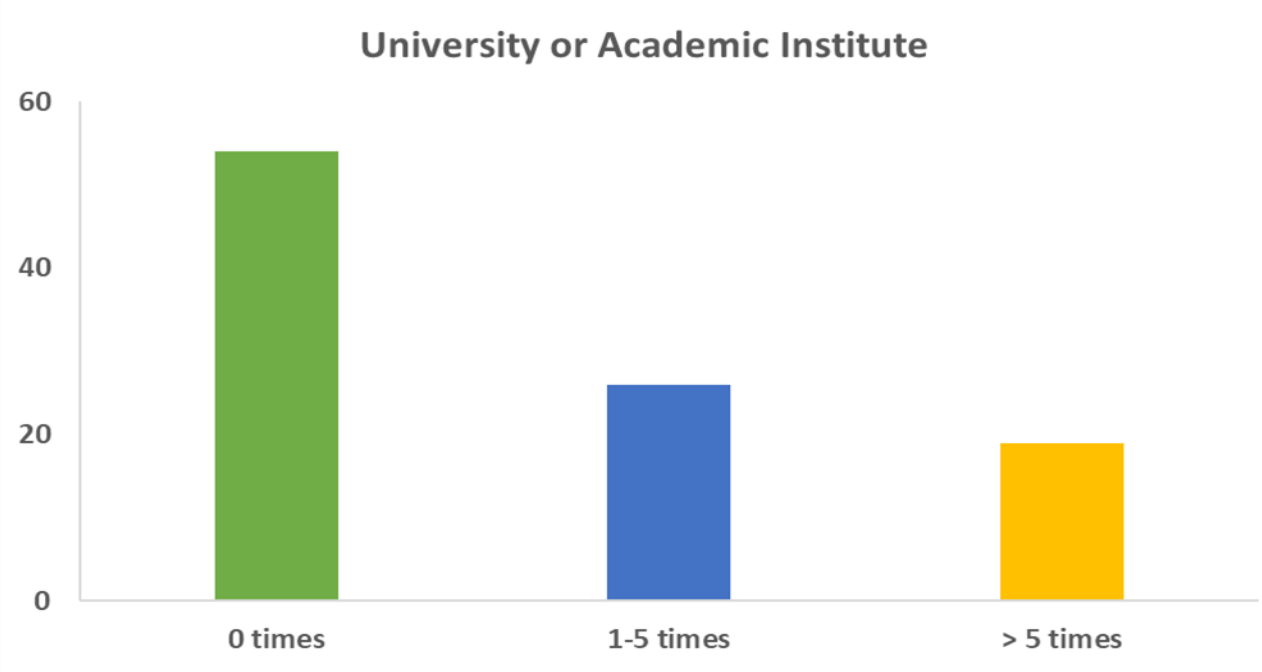



*Figure 13. West Texas, frequency of interaction with a university or academic institute in the last 5 years (frequency).*

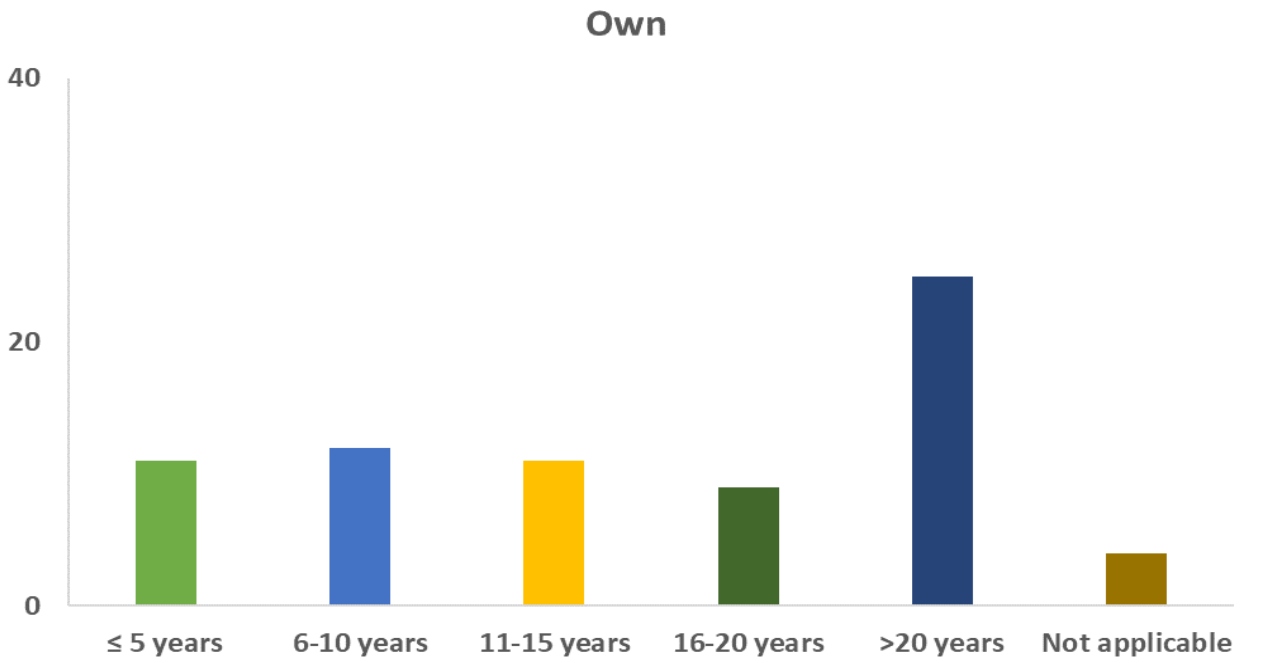



*Figure 14. West Texas, land ownership (length of time in years, frequency).*

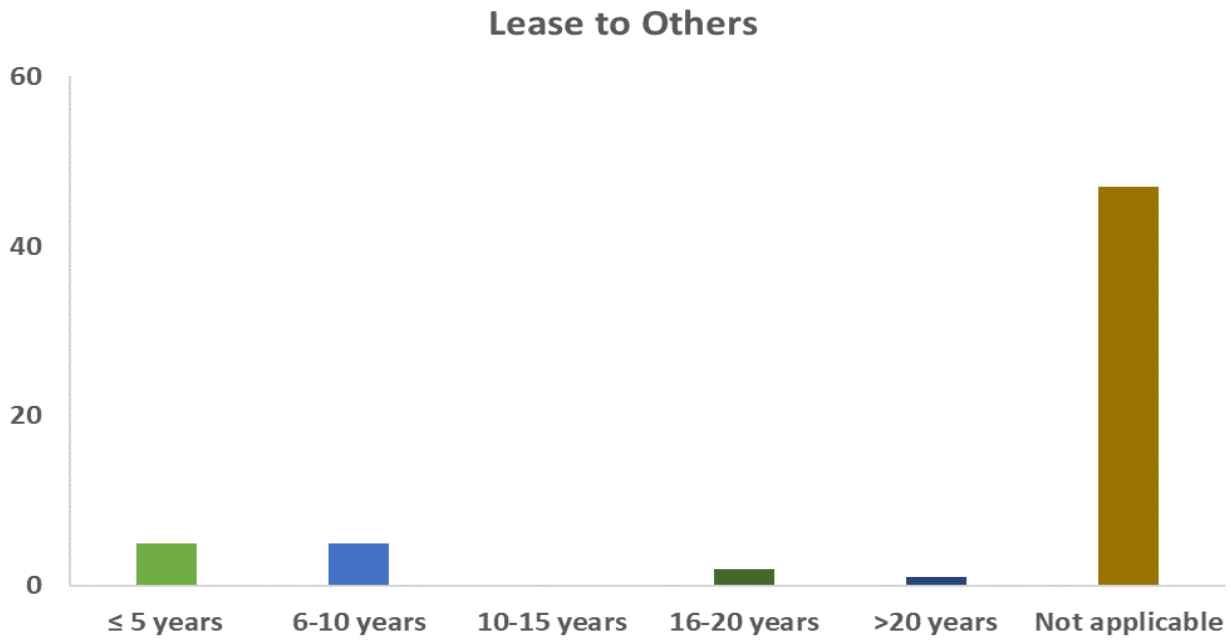



*Figure 15. West Texas, lease land to others (length of time in years, frequency).*


*Figure 16. West Texas, lease land from others (length of time in years, frequency).*

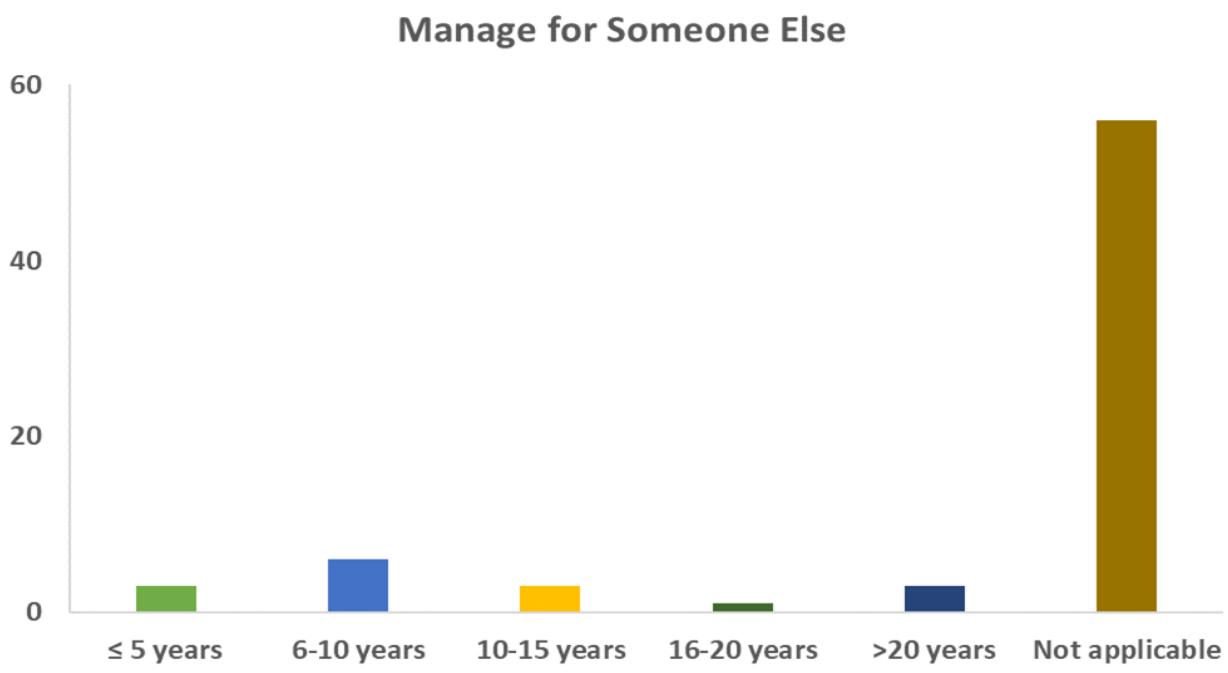



*Figure 17. West Texas, manage land for someone else (length of time in years, frequency).*

# Land Management

Land management involves three areas, the actions landowners are engaged in now, may be open to engaging in over the next 10 years, and may be possibly willing to participate in, without a given time frame. For current land management strategies, West Texas counties were similar to Statewide responses with some exceptions. For example, both groups agreed brush management was their primary land practice and continuing statewide support in this area makes sense; however, the magnitude or order of their preference varied. West Texas respondents focused their land practices on grazing management, hunting, habitat restoration, predator control, livestock production, feral animal control and water development, whereas Statewide respondents indicated their preferences for hunting, feral animal control, predator control, grazing management, livestock production, habitat restoration and water development. Although similar, the magnitude and order of preference may help guide program implementation.

The most common organization for whom landowners prepared written management plans was the Texas Parks and Wildlife Department, followed by having a management plan for oneself, the Natural Resources Conservation Service, and lastly, not having a management plan. Wildlife for which landowners managed their land included big game animals, upland game birds, migratory game birds, non-game birds, exotic game, and non-game animals. Looking 10 years into the future, there are two approaches to interpreting the graphs. The first approach is to stop after considering landowner responses towards their willingness to donate land for charitable purposes, implement a conservation easement, lease their land, pay someone else to manage their land, sell part of their land, and designate all or part of their land for oil/gas energy, where most landowners leaned towards not at all likely in their responses. Despite this lean, however, there were a few landowners who were open to exploring these options. In the case of donating lands for charitable purposes and implementing conservation easements, because West Texas landholdings may tend to be larger, this is a promising opportunity. For individuals wanting to lease land, some opportunities may also exist. For land management companies, there may be some future work prospects, and for those looking to purchase land or set aside land for oil/gas energy, some options also may be available. Although it appears that most respondents would transfer their land to a significant other, given the many push and pull factors of land ownership, consideration should be given to creating programs that help landowners plan for both immediate and longer-term needs and for landowner success. Landowners would likely want to see some measure of success and they are open to participating in programs that they feel will help them achieve their goals. These include cost-share programs, landowner cooperatives, and those involving market-based incentives, tax valuations, and technical assistance. Permanent land protection programs should not be ruled out as options given that landowners appeared to have more of an interest than disinterest.

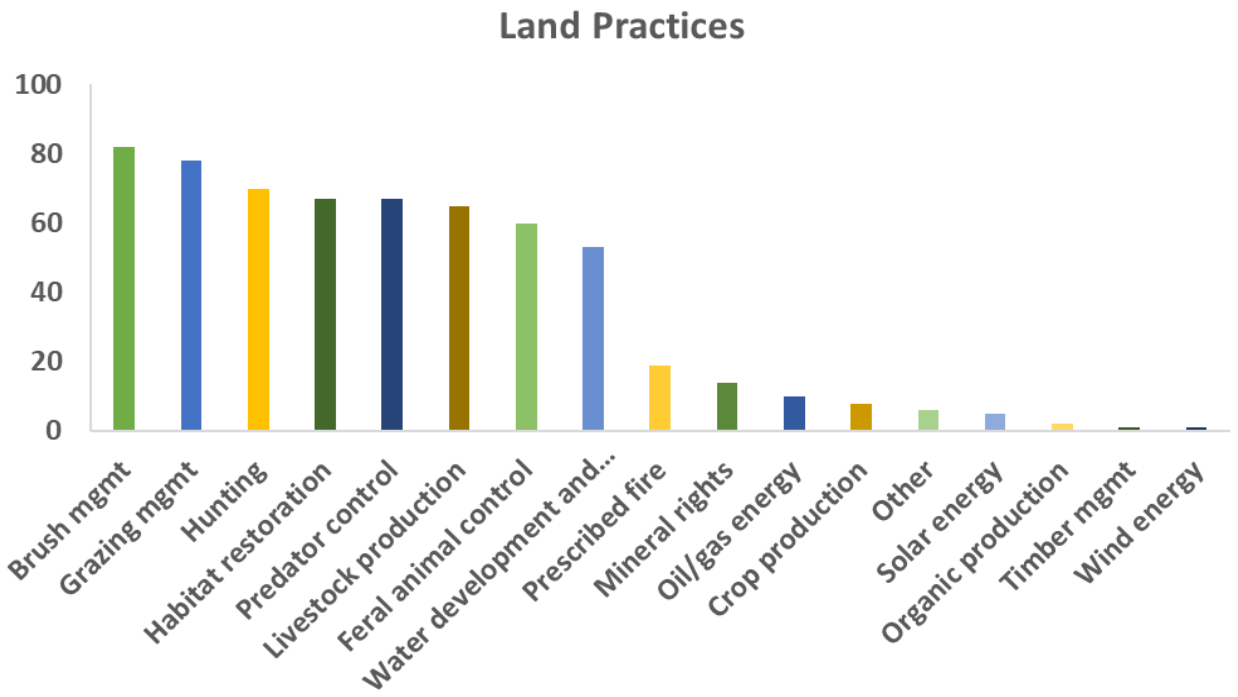



*Figure 18. West Texas, land practices (frequency).**


*Figure 19. West Texas, written management plan (frequency).*

*Because oil/gas energy, mineral rights, solar energy, and wind energy topics were new topics introduced in the Summer 2019 survey (n=121), and not present in the 2016 survey (n=3,103), this may have contributed to the low response rate for these categories.

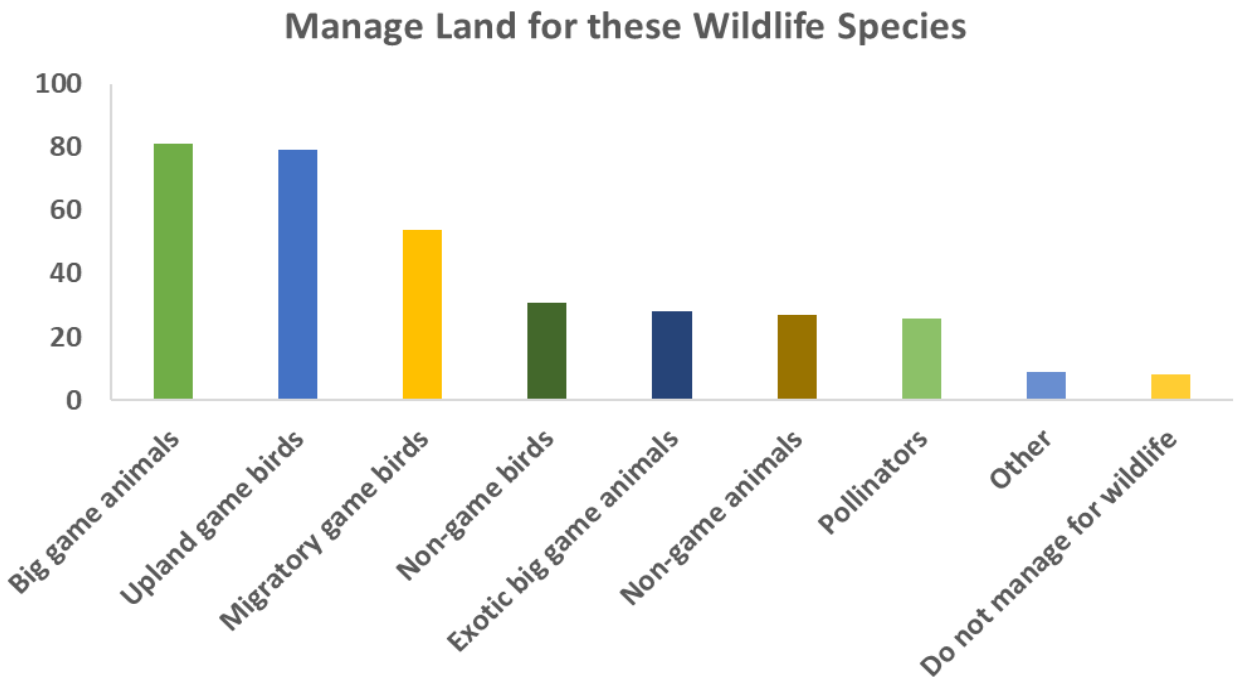



*Figure 20. West Texas, manage land for specific wildlife species (frequency).*

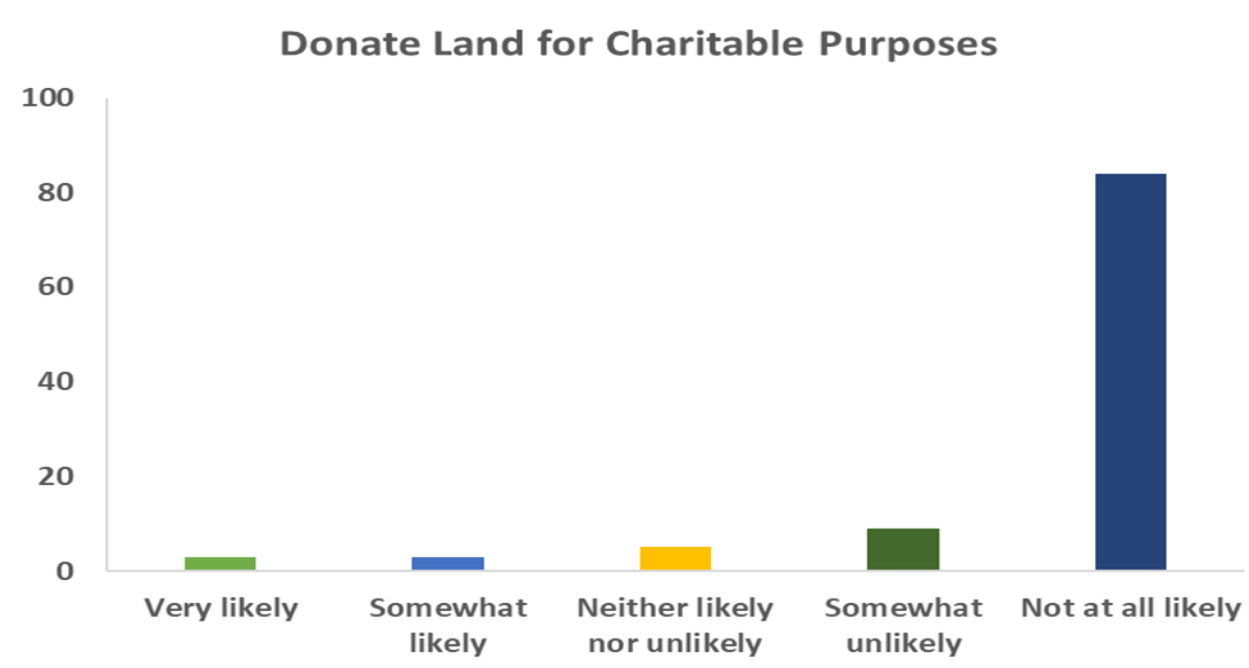



*Figure 21. West Texas, donate land for charitable purposes in the next 10 years (frequency).*

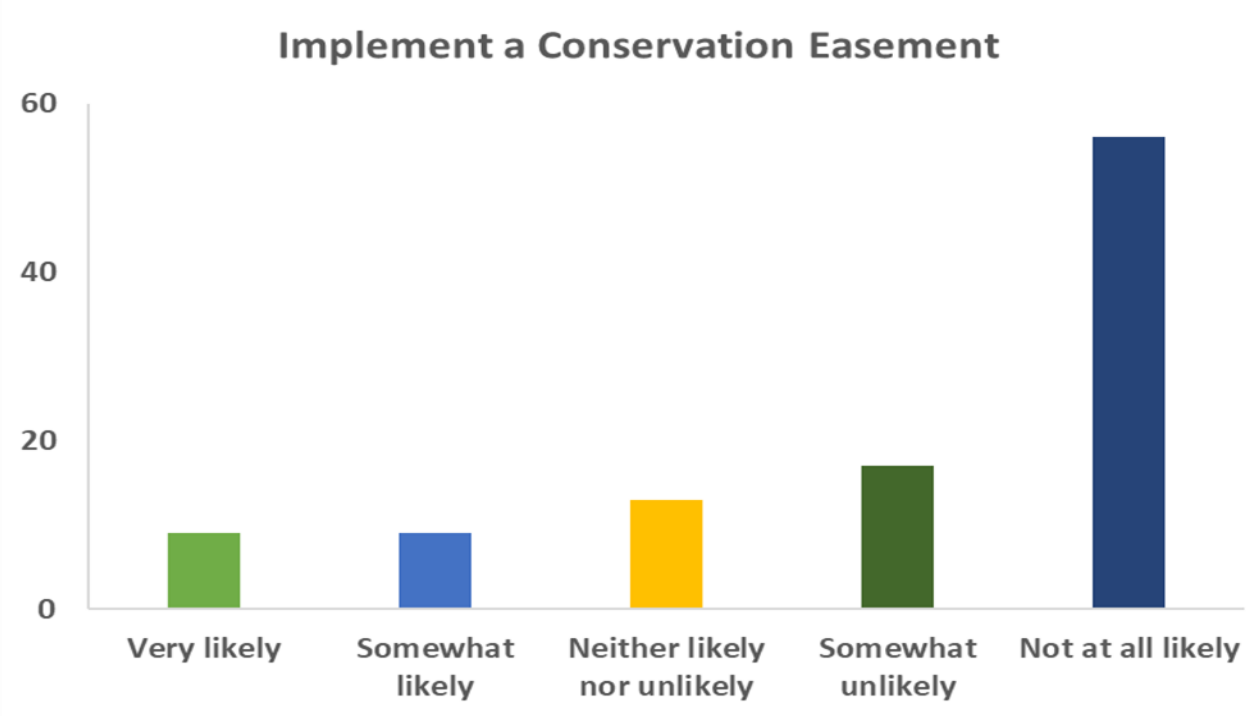



*Figure 22. West Texas, implement a conservation easement in the next 10 years (frequency).*

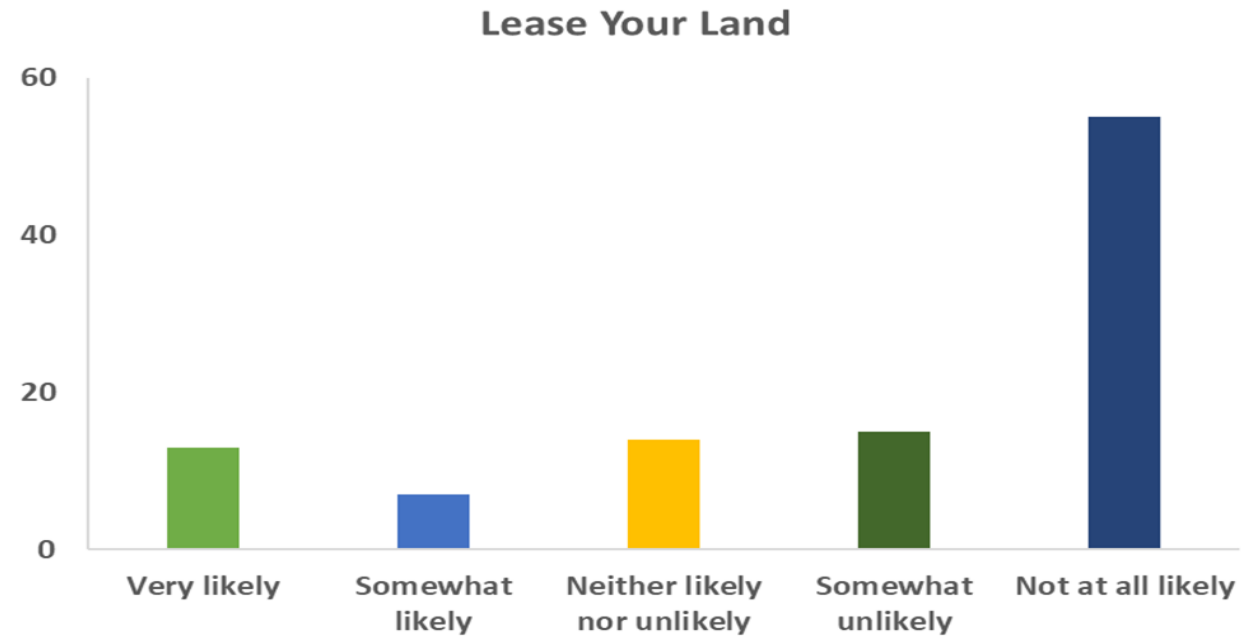



*Figure 23. West Texas, lease your land in the next 10 years (frequency).*

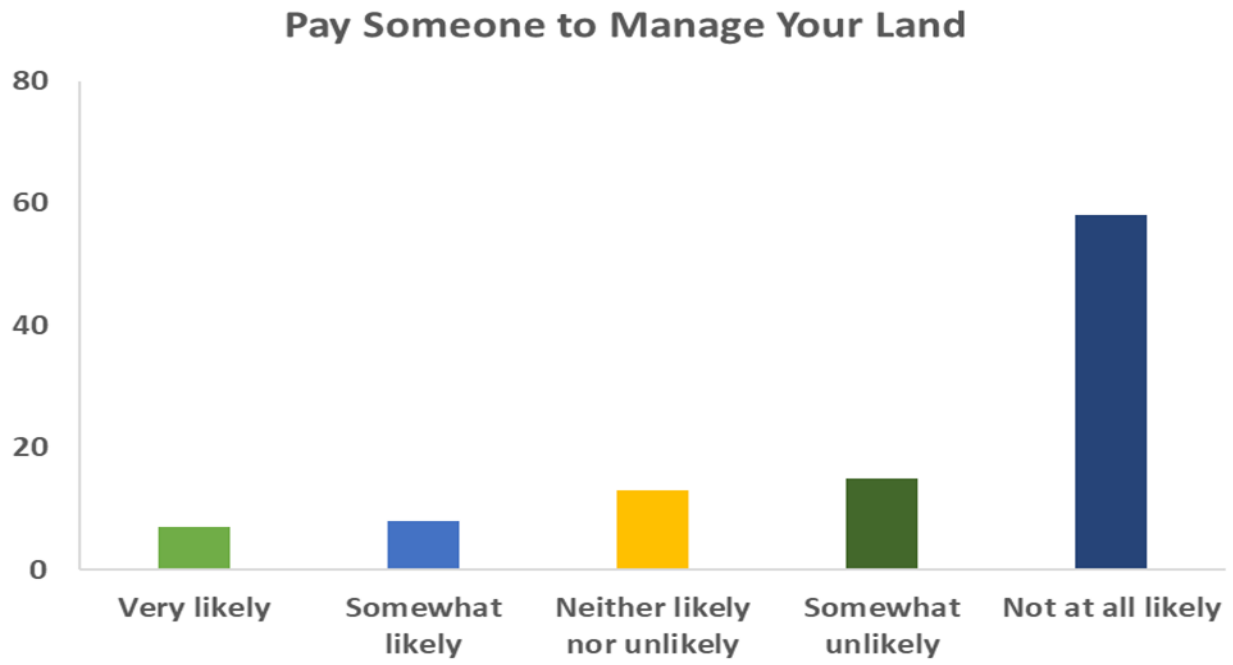



*Figure 24. West Texas, pay someone to manage your land in the next 10 years (frequency).*

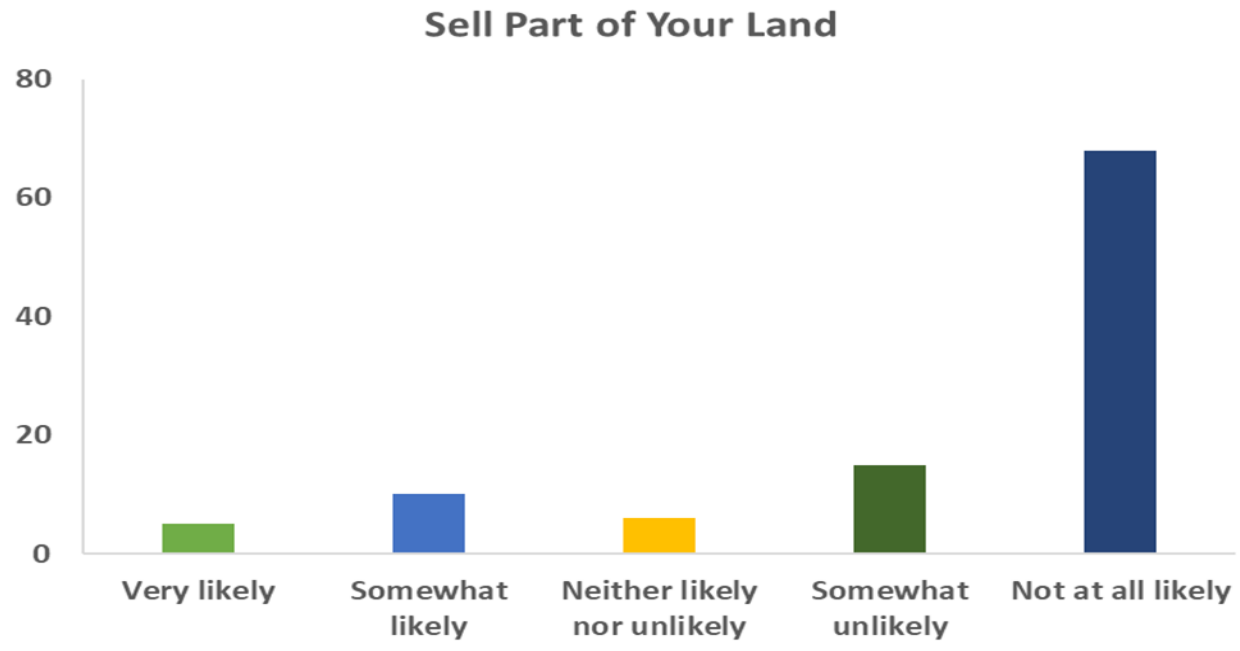



*Figure 25. West Texas, sell part of your land in the next 10 years (frequency).*

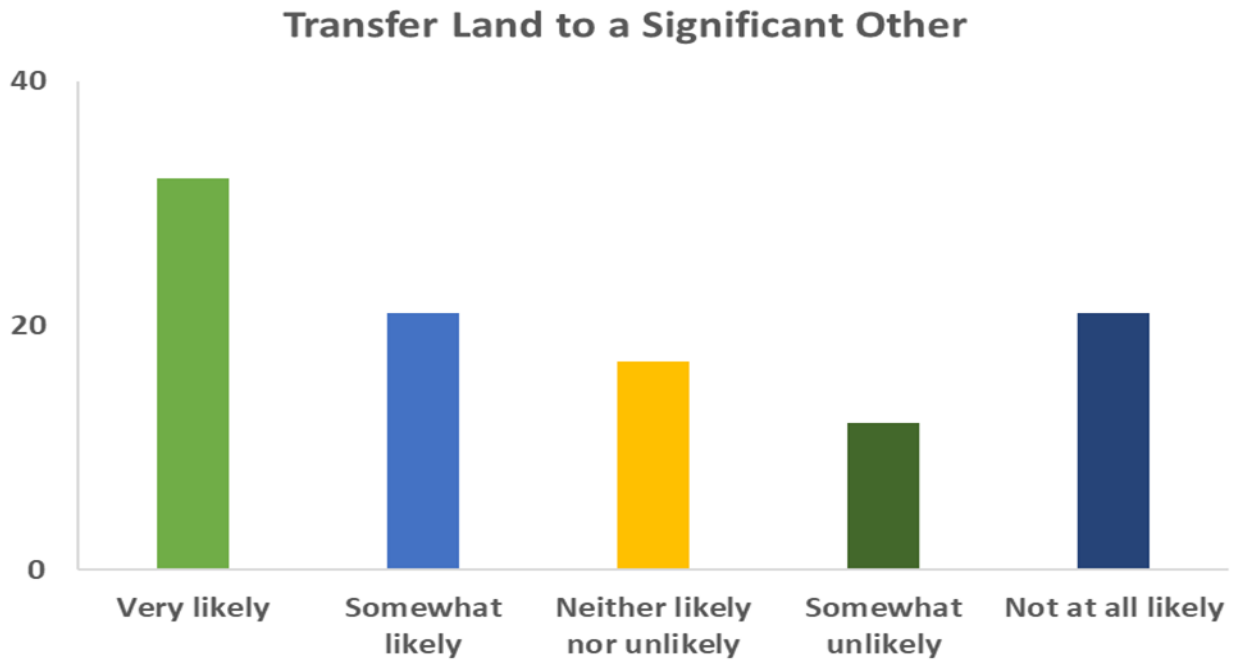



*Figure 26. West Texas, transfer land to a significant other in the next 10 years (frequency).*

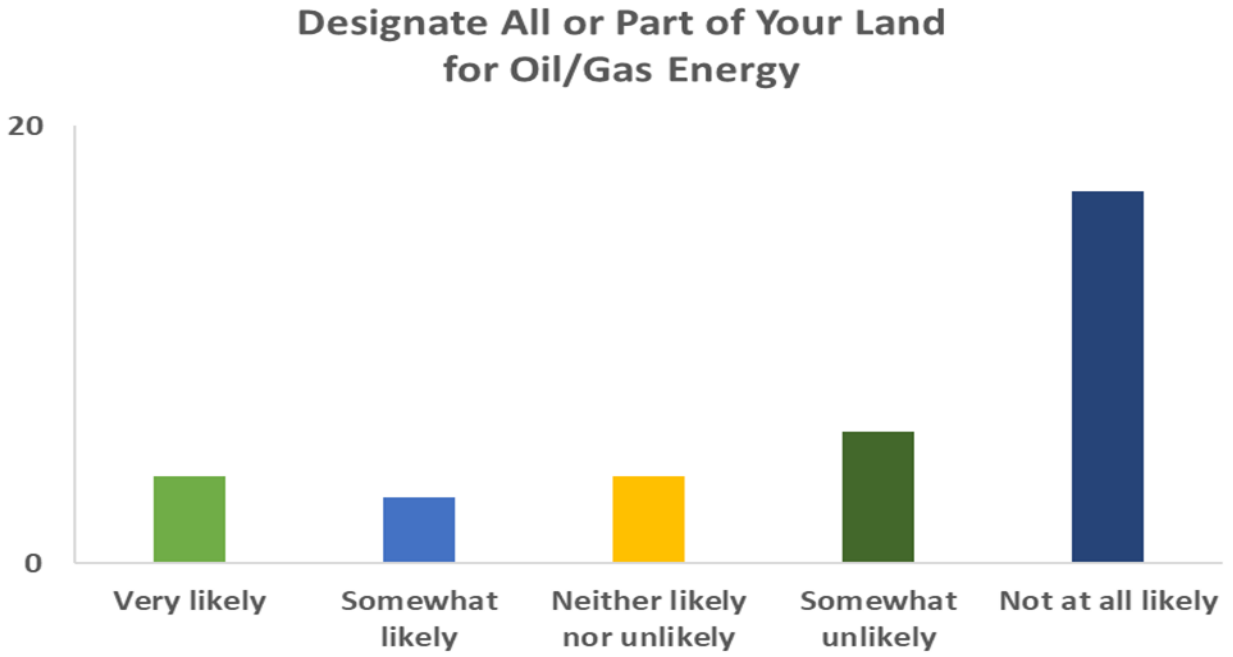



*Figure 27. West Texas, designate land for oil/gas energy in the next 10 years (frequency).**

*Because this was a new question administered in the Summer 2019 survey, the low sample size reflects the low response rate (n=121) compared to the 2016 survey (n=3,103); however, the sample allowed for a general statewide vs. West Texas comparison.

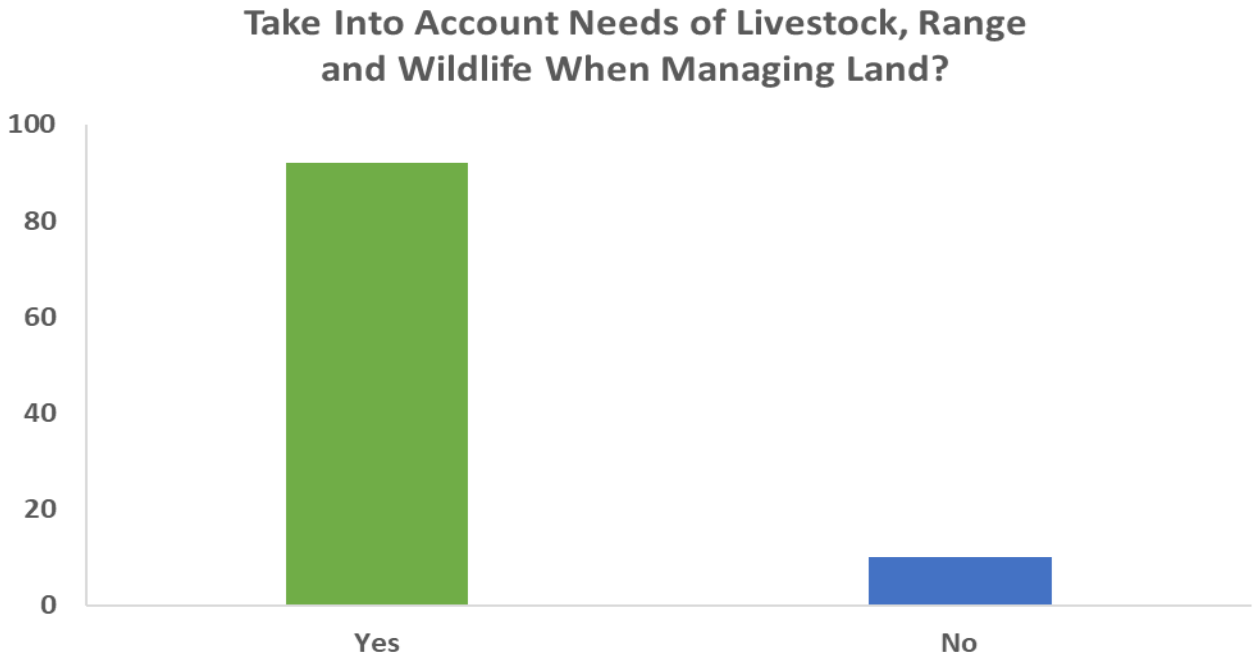



*Figure 28. West Texas, take into account needs of livestock, range and wildlife when managing land (frequency).*


*Figure 29. West Texas, received free assistance with management plan in the past (frequency).*

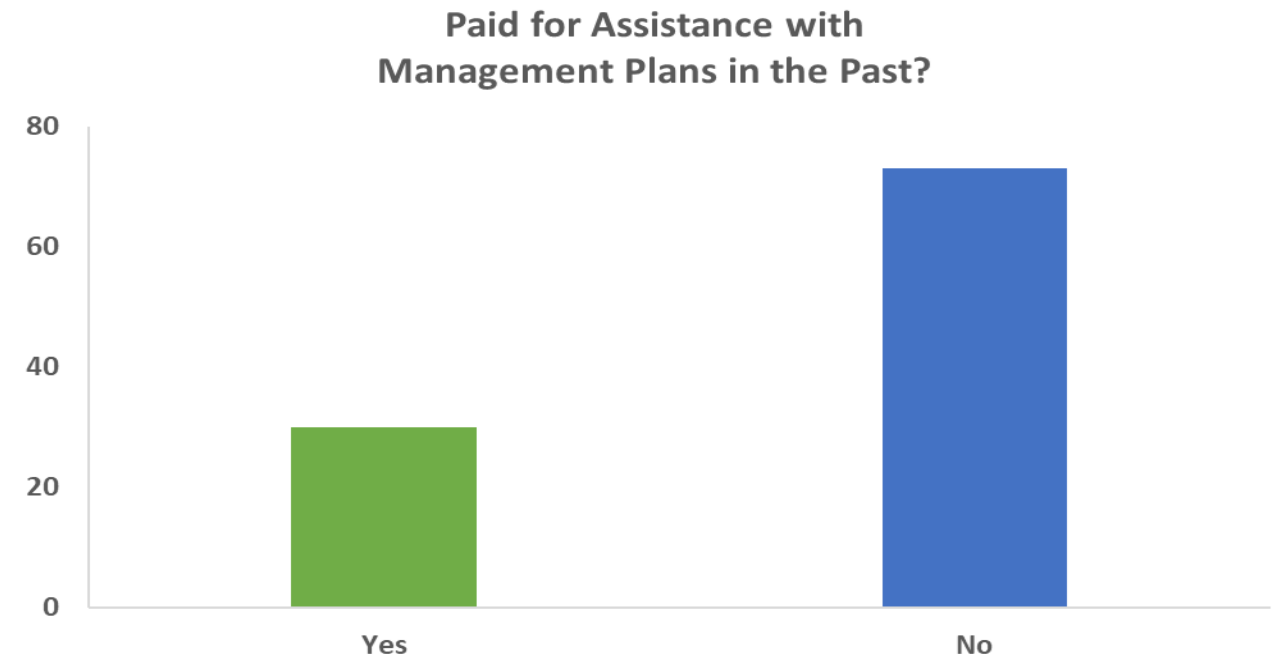



*Figure 30. West Texas, paid for assistance with management plans in the past (frequency).*

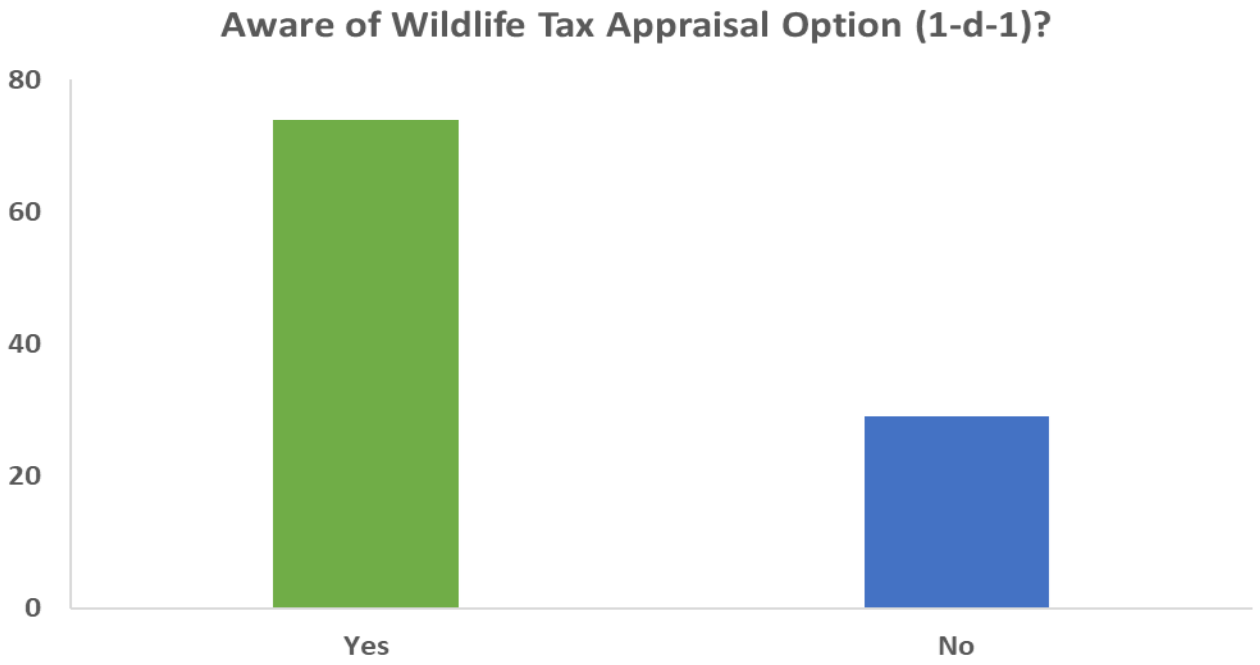



*Figure 31. West Texas, aware of wildlife tax appraisal option (1-d-1, frequency).*

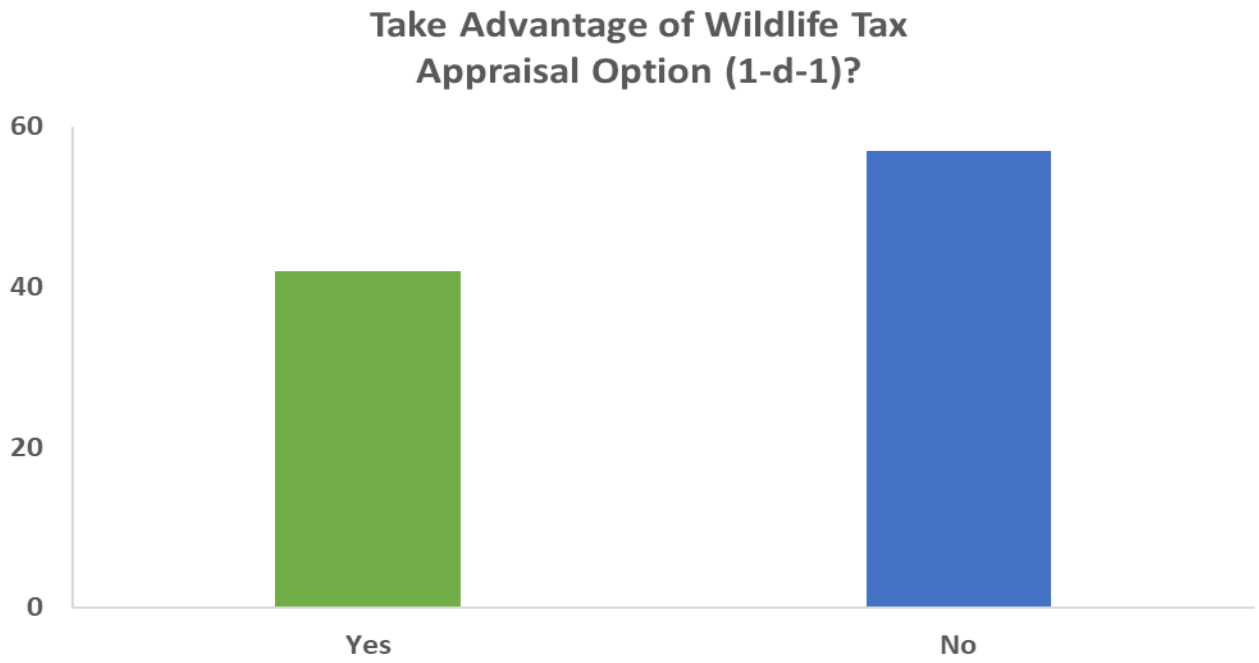



*Figure 32. West Texas, take advantage of wildlife tax appraisal option (1-d-1, frequency).*

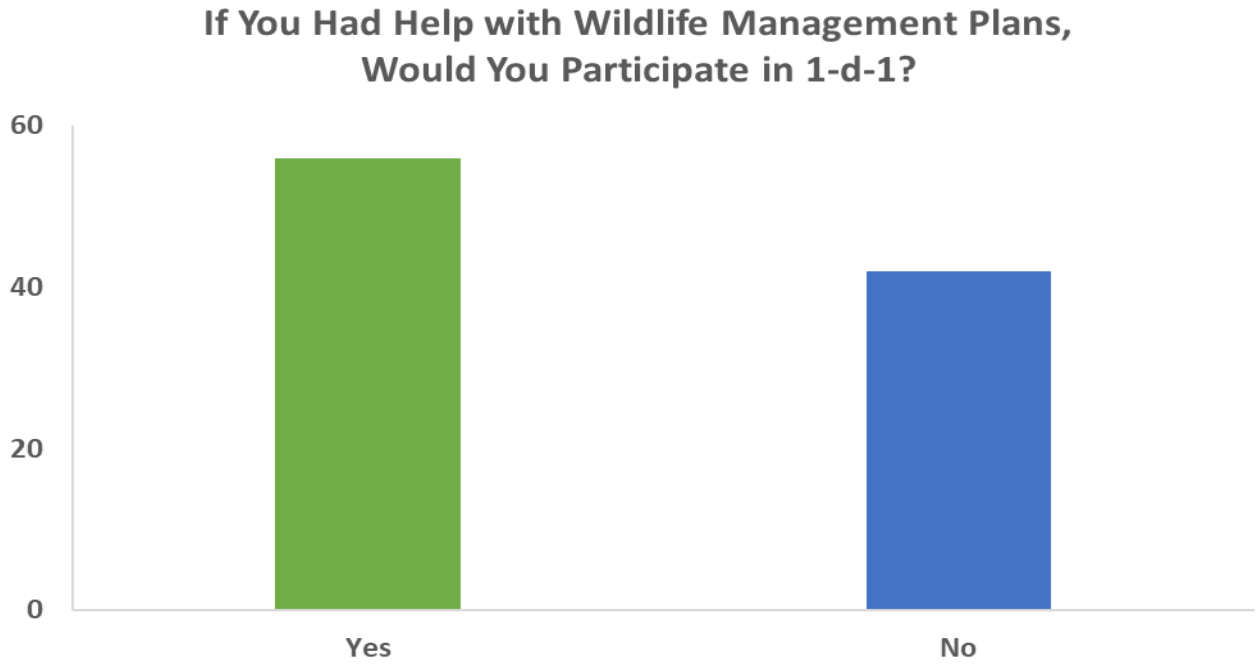



*Figure 33. West Texas, if receive assistance with wildlife management plans, would this increase participation in 1-d-1 (frequency).*

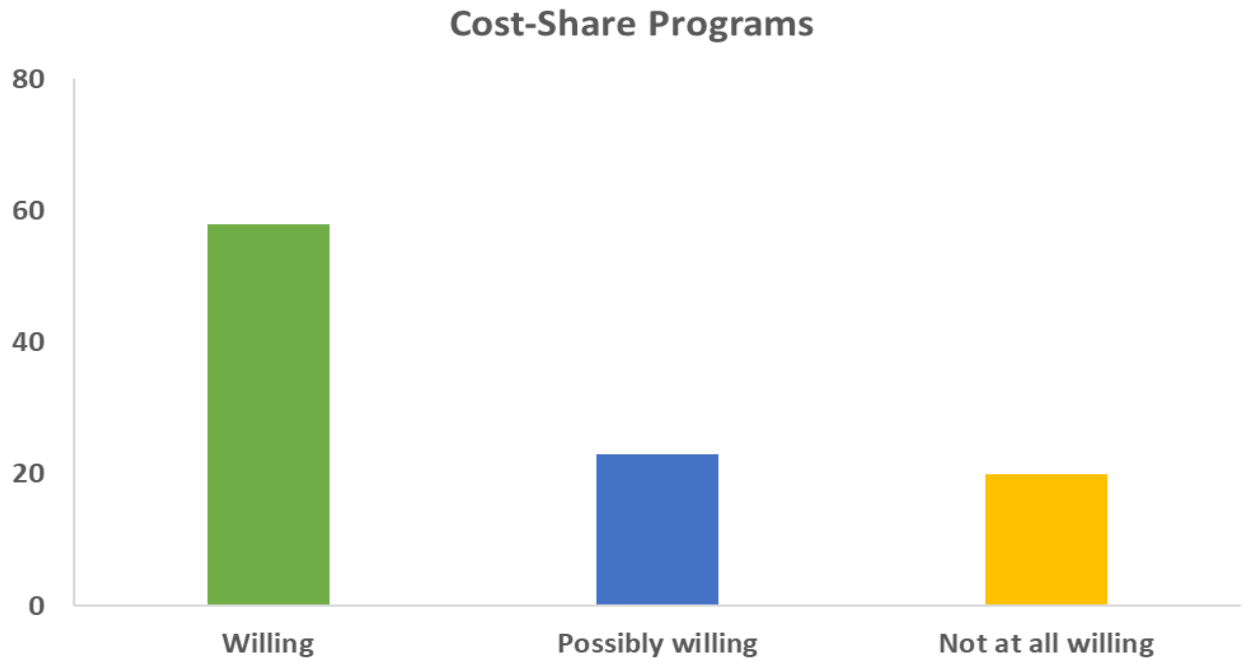



*Figure 34. West Texas, willingness to participate in cost-share programs (frequency).*

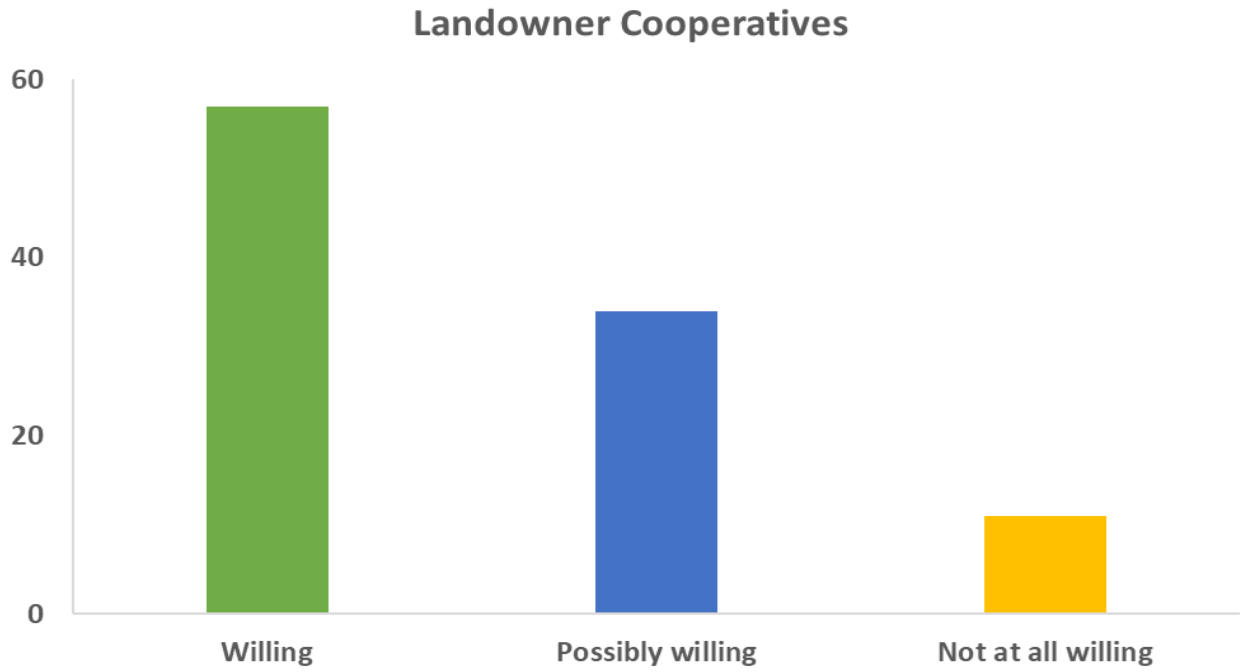



*Figure 35. West Texas, willingness to participate in landowner cooperatives (frequency).*

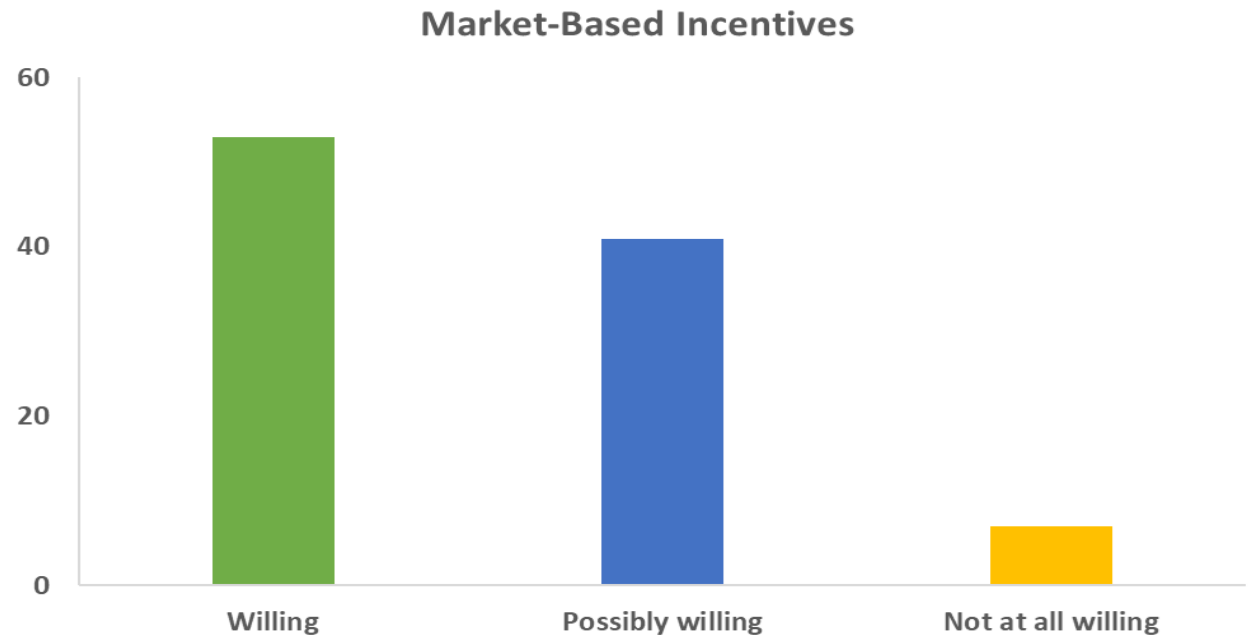



*Figure 36. West Texas, willingness to participate in market-based incentives (frequency).*

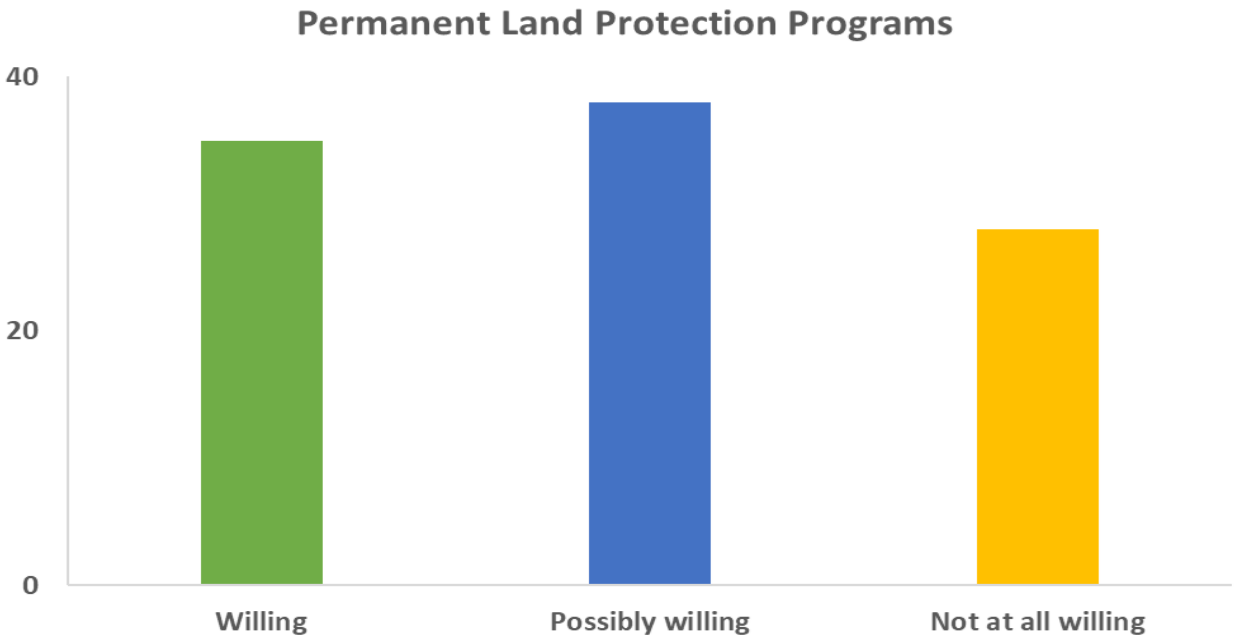



*Figure 37. West Texas, willingness to participate in permanent land protection programs (frequency).*

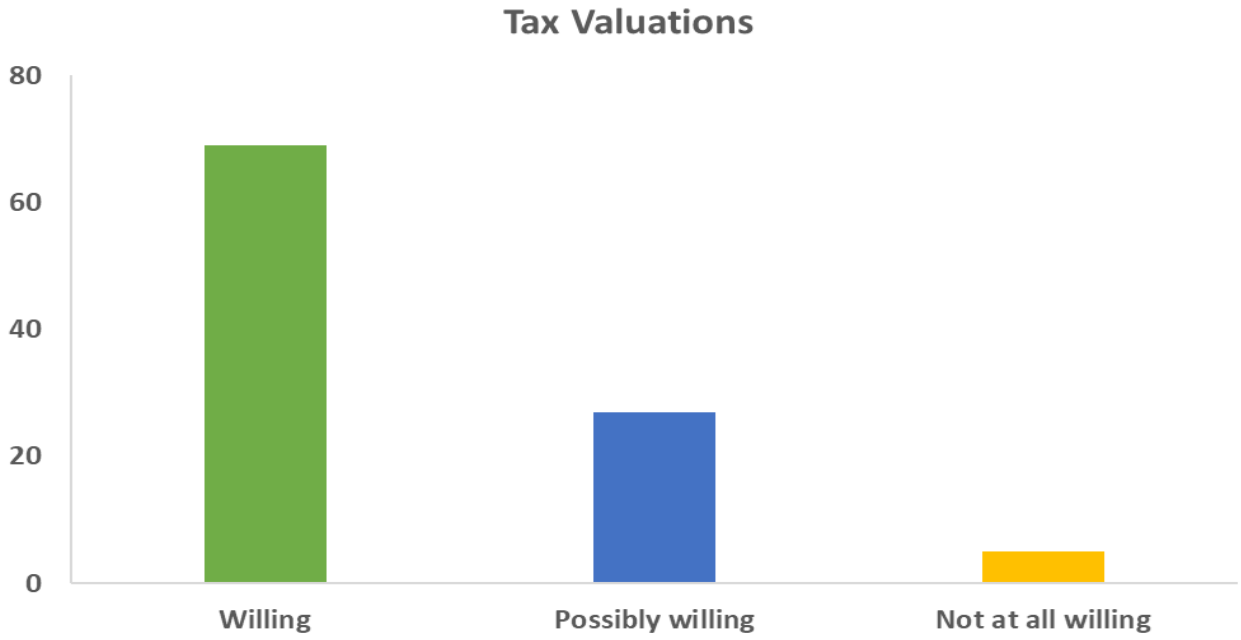



*Figure 38. West Texas, willingness to participate in tax valuations (frequency).*

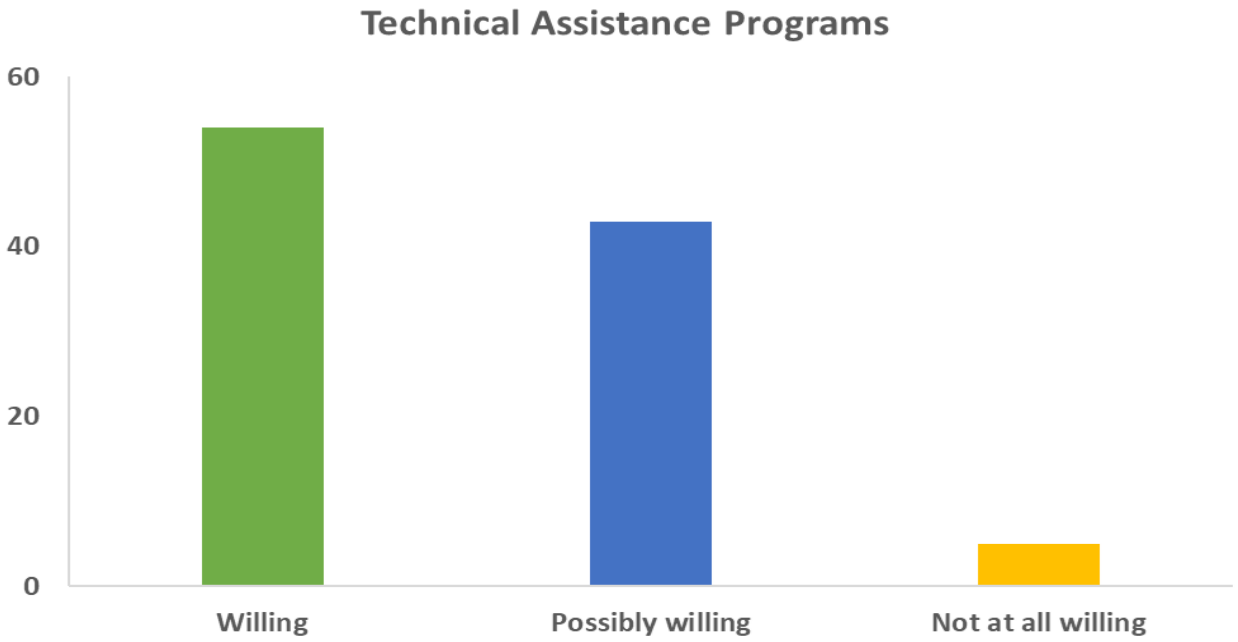



*Figure 39. West Texas, willingness to participate in technical assistance programs (frequency).*

# Landowner Concerns

Landowners were asked about their concerns and challenges regarding a variety of topics. In this report, concern refers to a deep worry or preoccupation that may be based on a landowner lived experience or awareness, and challenge refers to a problem that may be more concrete in nature and may be based on a landowner lived experience or awareness. At face value, landowners did not appear to be concerned about climate change and were moderately concerned about endangered species and obtaining technical guidance. They were more concerned with solar energy development and mineral rights, and extremely concerned about the breakup of private lands, declining wildlife populations, groundwater ownership, landowner liability, private property rights, property taxes, soil health, water demand and wildlife/livestock diseases. Moving from concerns to challenges, landowners did not find access to technical guidance at all challenging. Conversely, they did feel that increasing human population, invasive species, trespassing and poaching, and water conservation were extremely challenging issues. Other issues that leaned towards being more challenging included commercial/residential development, declining wildlife populations (non-endangered), wind energy, solar energy and mineral rights. More moderate challenges included agricultural and natural resource literacy, disease and endangered species. These were only a few of the topics the survey covered.

Landowners were also given an opportunity to express their specific concerns and challenges via open-ended questions (*their own words*). Their responses are divided into three broad areas: financial, regulatory and management. Financial challenges for West Texas respondents included a request for better public funding allocation towards conservation and access to those funds. The challenge was that there was not an adequate amount of public funding designated towards conservation. Statewide challenges included tailoring conservation easement programs to make them more financially plausible for a variety of non-traditional properties and property tax code adjustments for elderly landowners. Landowners expressed regulatory challenges involving eminent domain and pipelines, particularly regarding oversight and compliance enforcement by the Texas Railroad Commission and the Texas Commission on Environmental Quality towards pipeline entities and investors because landowners were directly impacted by these industries (e.g., safety, health, proximity, property damage, etc.). Water, in general, was a perceived challenge, along with water rights and ownership both in terms of competing needs between city residents and landowners. Landowners also were concerned with balanced government participation, particularly the federal government, where landowners desired enough accessible assistance when needed and not too much when not needed. From a management perspective, landowners faced challenges with damage caused by drilling, trespassing on their properties, and road damage caused when properties were being subdivided. Landowners were impacted by long turnaround times when obtaining help or information from organizations and were concerned about non-agricultural individuals making agricultural decisions. There was a perception that organizations designed to help landowners focused on the needs of a few landowners as opposed to the needs of the majority of landowners, thus, losing credibility in the process. Disagreement with the alignment of the updated Managed Lands Deer Program to the region's game management was expressed. Landowners also requested assistance with attracting more wildlife onto their properties, while also educating landowners about trapping, predators, predator control, and fencing-related wildlife deaths. Requests for assistance with brush control and water management general challenges were expressed. Becoming familiar with the concerns and challenges landowners feel are important to

them, natural resource organizations may find opportunities to develop programs and strategies that better target landowner needs.

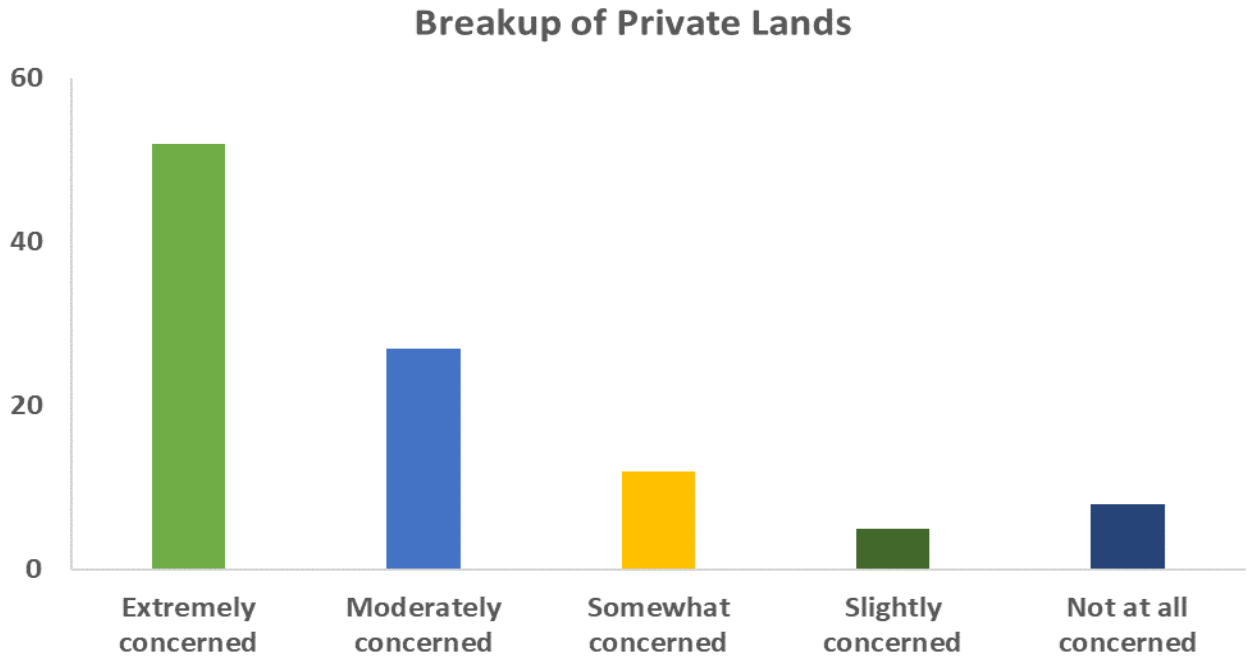



*Figure 40. West Texas, level of concern regarding breakup of private lands (frequency).*

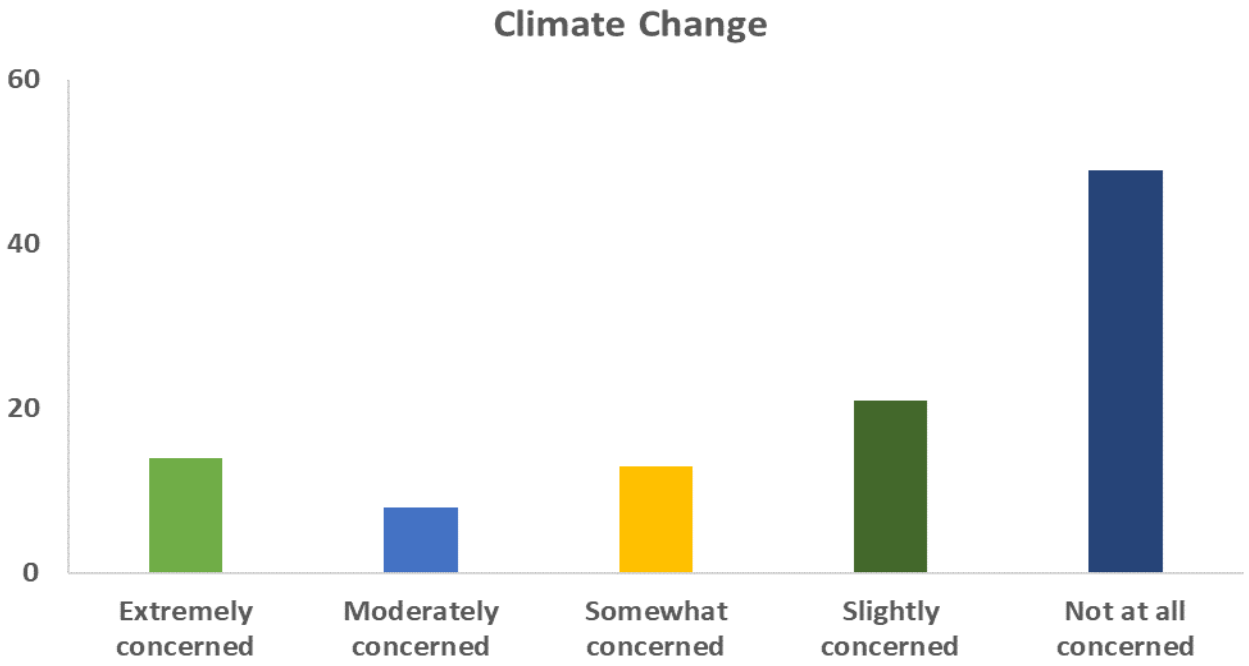



*Figure 41. West Texas, level of concern regarding climate change (frequency).*

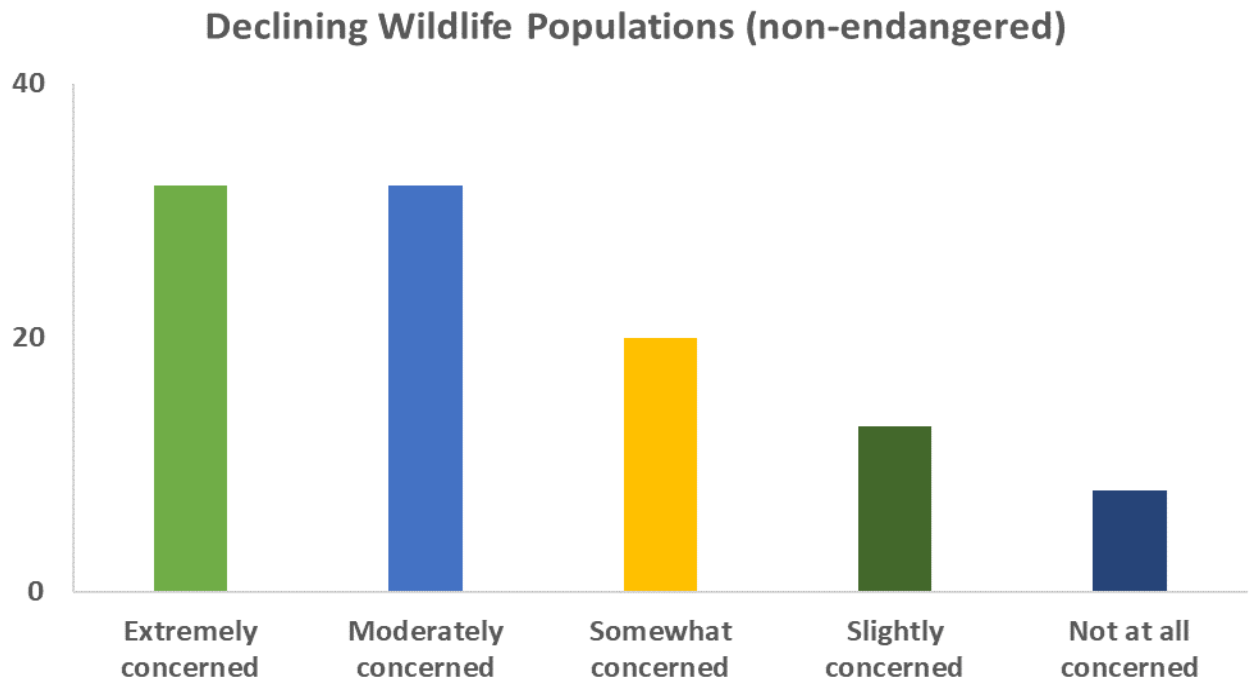



*Figure 42. West Texas, level of concern regarding declining wildlife populations (non-endangered, frequency).*

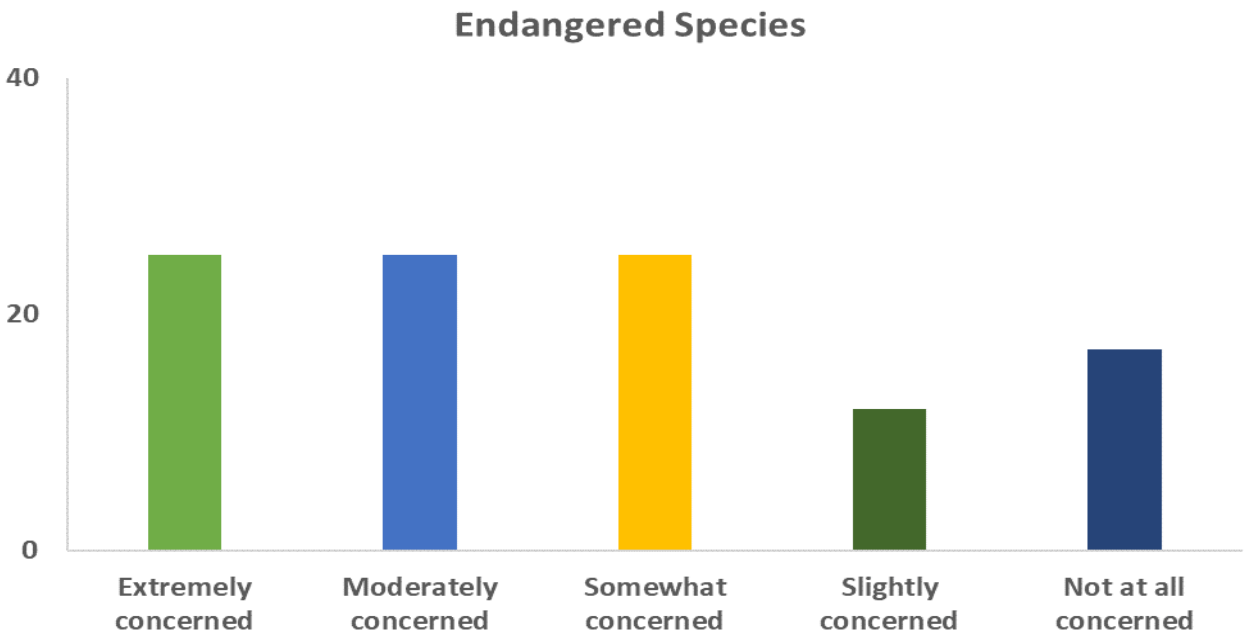



*Figure 43. West Texas, level of concern regarding endangered species (frequency).*

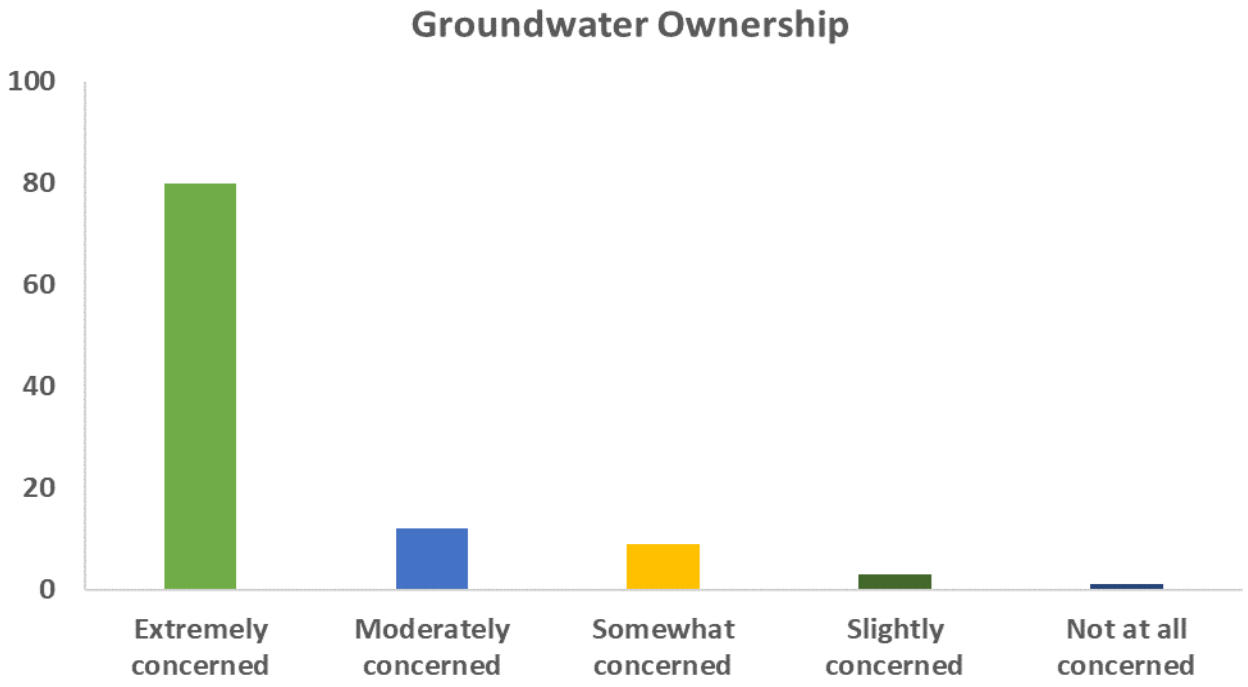



*Figure 44. West Texas, level of concern regarding groundwater ownership (frequency).*

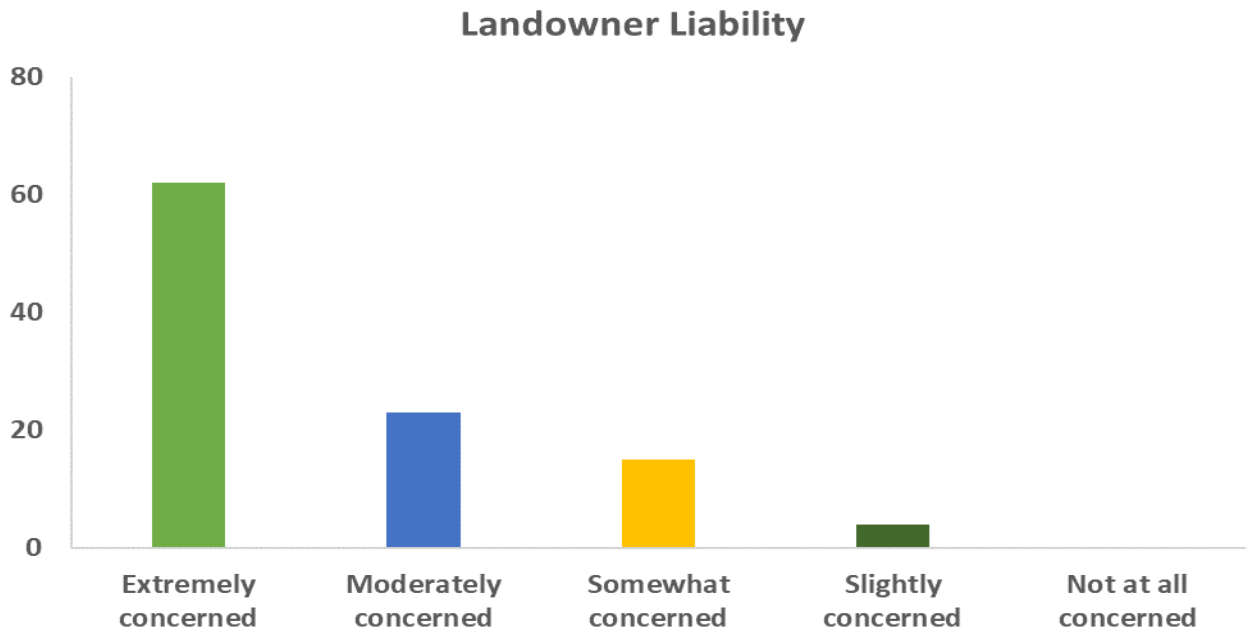



*Figure 45. West Texas, level of concern regarding landowner liability (frequency).*

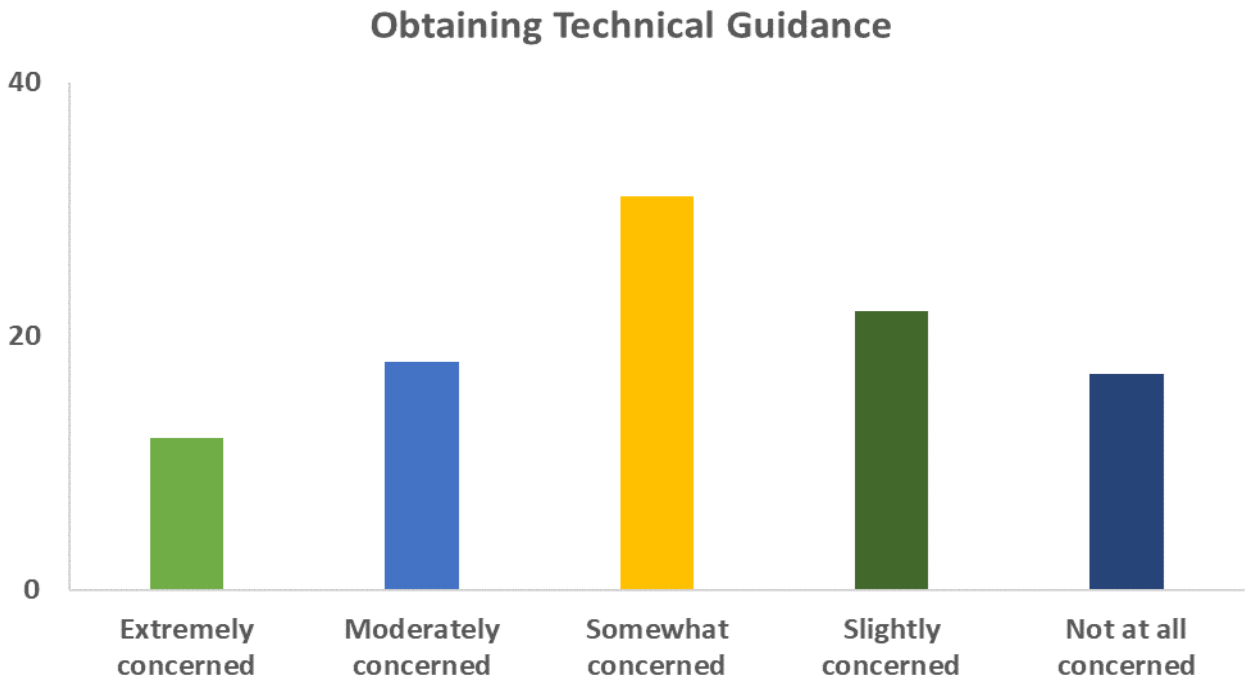



*Figure 46. West Texas, level of concern regarding obtaining technical guidance (frequency).*

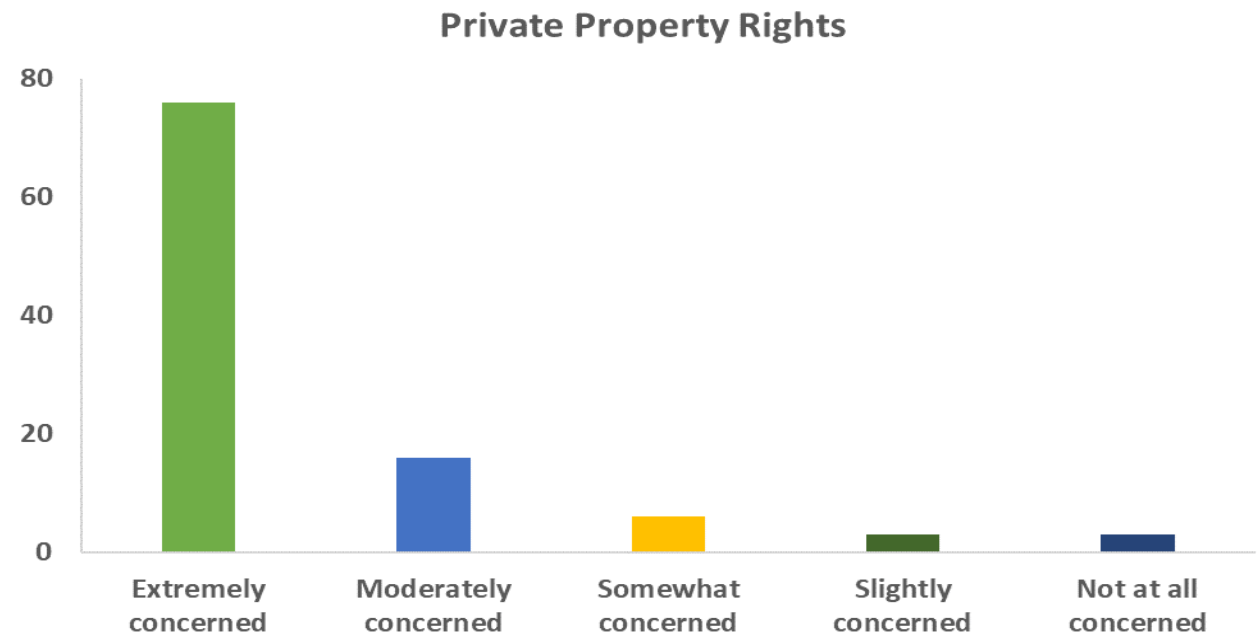



*Figure 47. West Texas, level of concern regarding private property rights (frequency).*

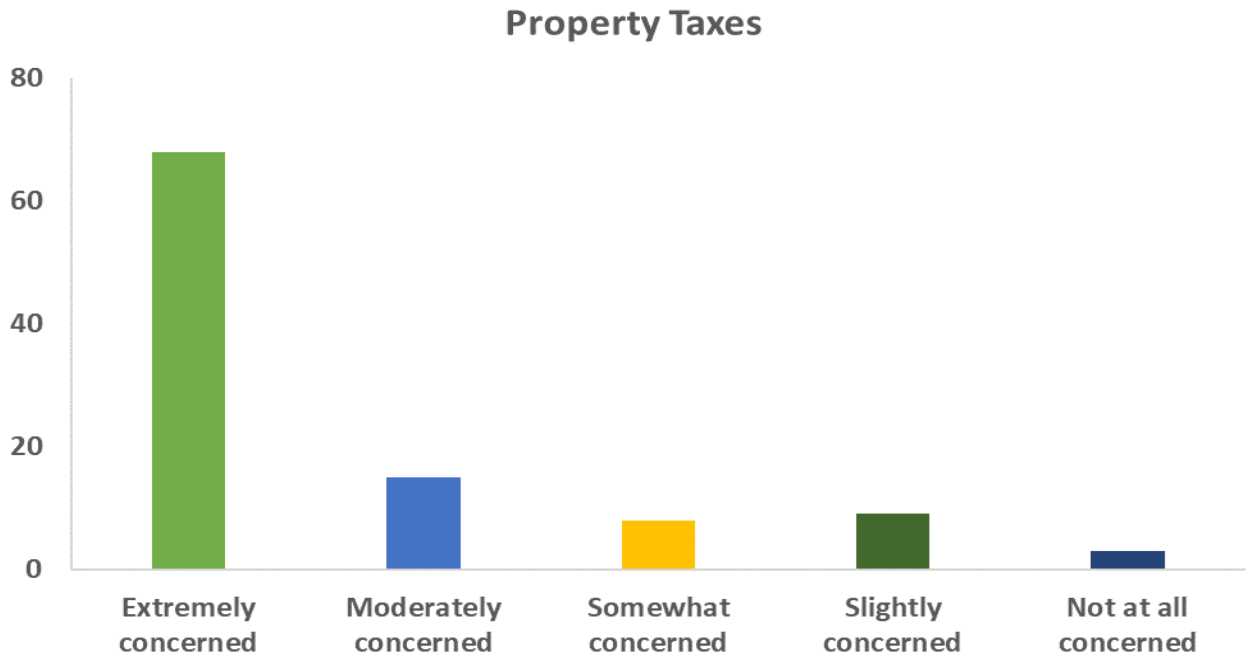



*Figure 48. West Texas, level of concern regarding property taxes (frequency).*

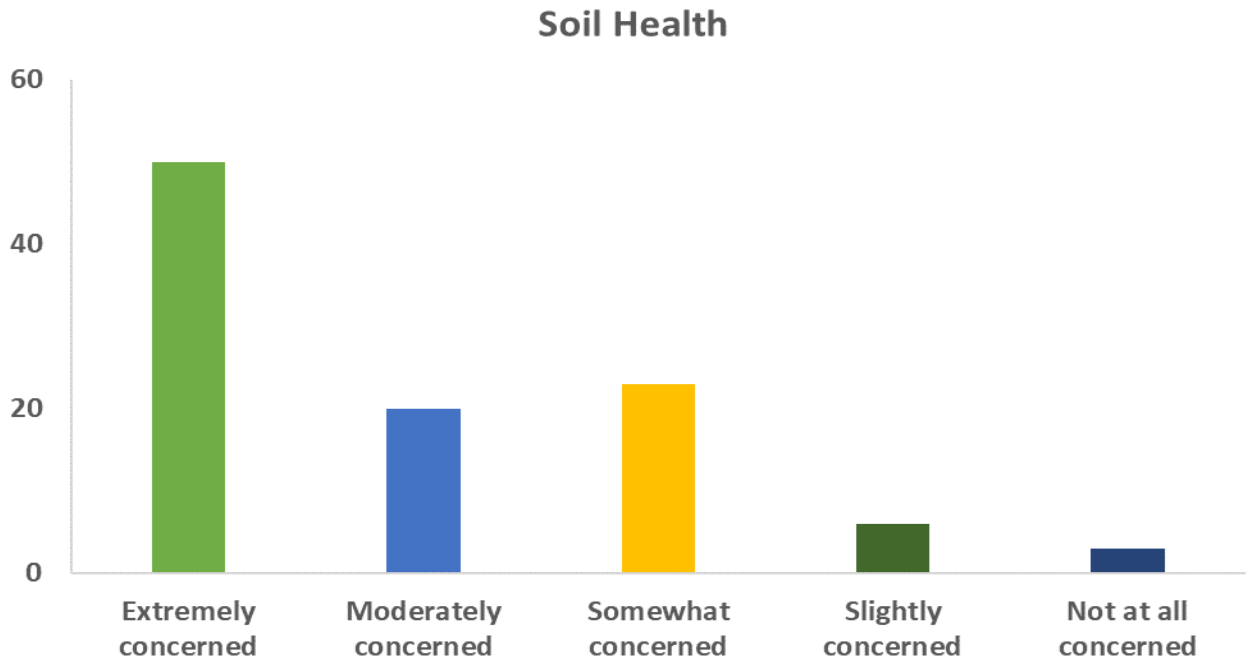



*Figure 49. West Texas, level of concern regarding soil health (frequency).*

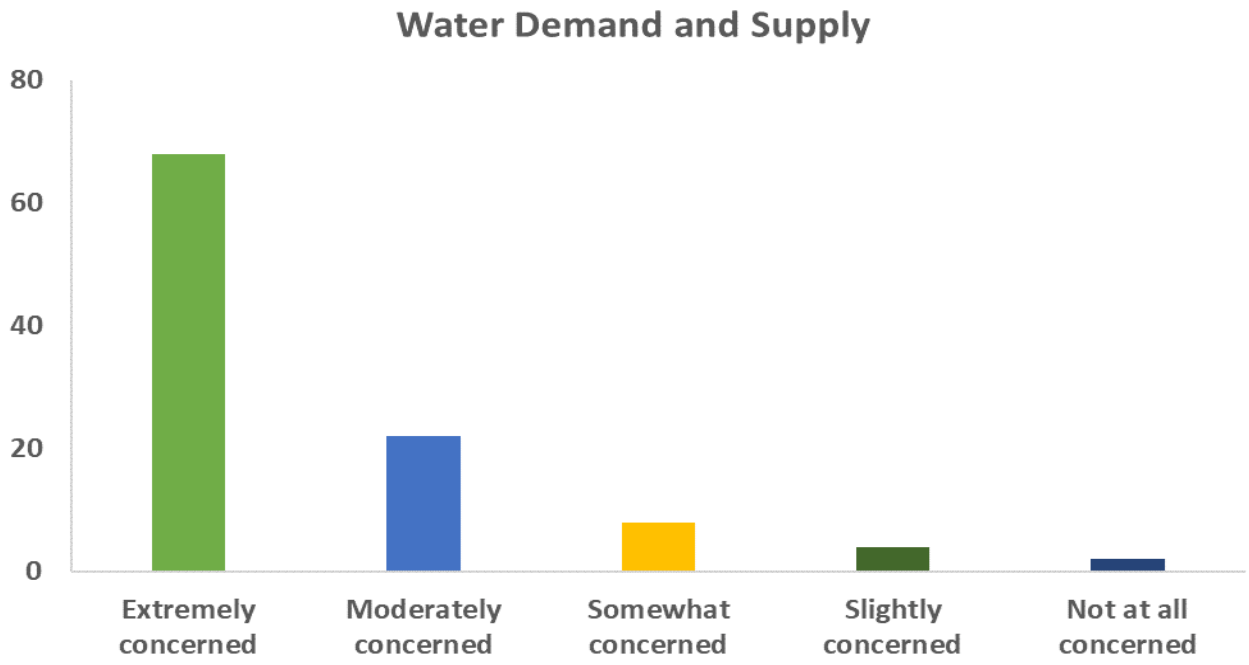



*Figure 50. West Texas, level of concern regarding water demand and supply (frequency).*

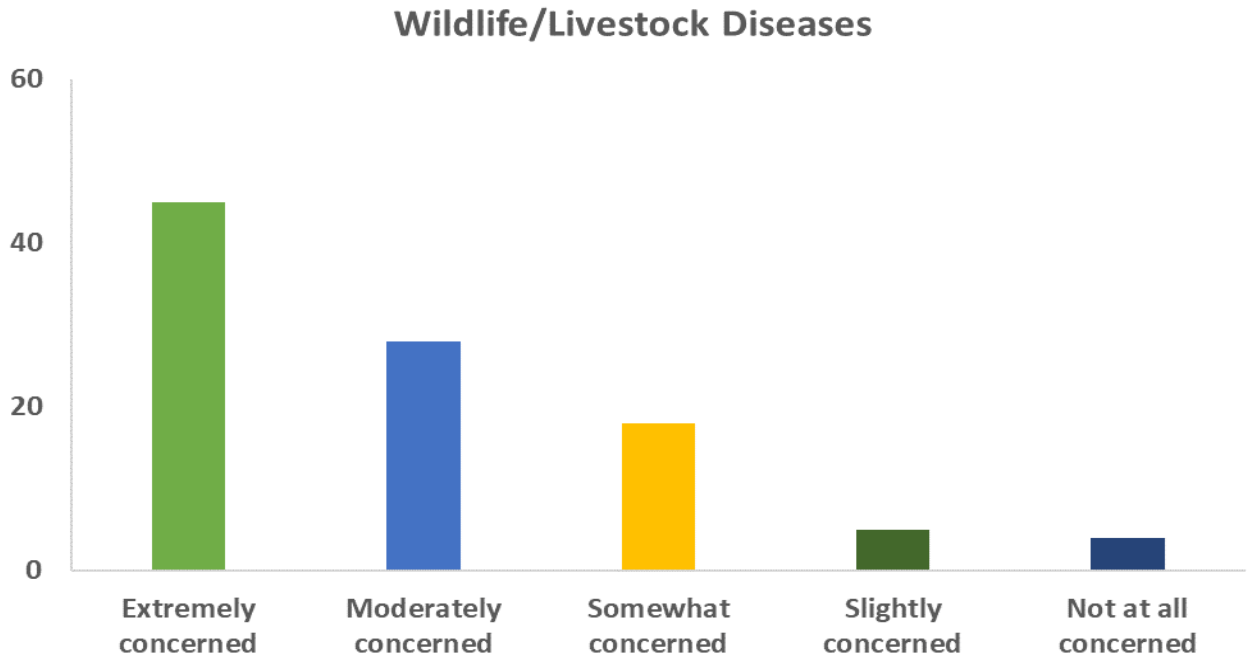



*Figure 51. West Texas, level of concern regarding wildlife/livestock diseases (frequency).*

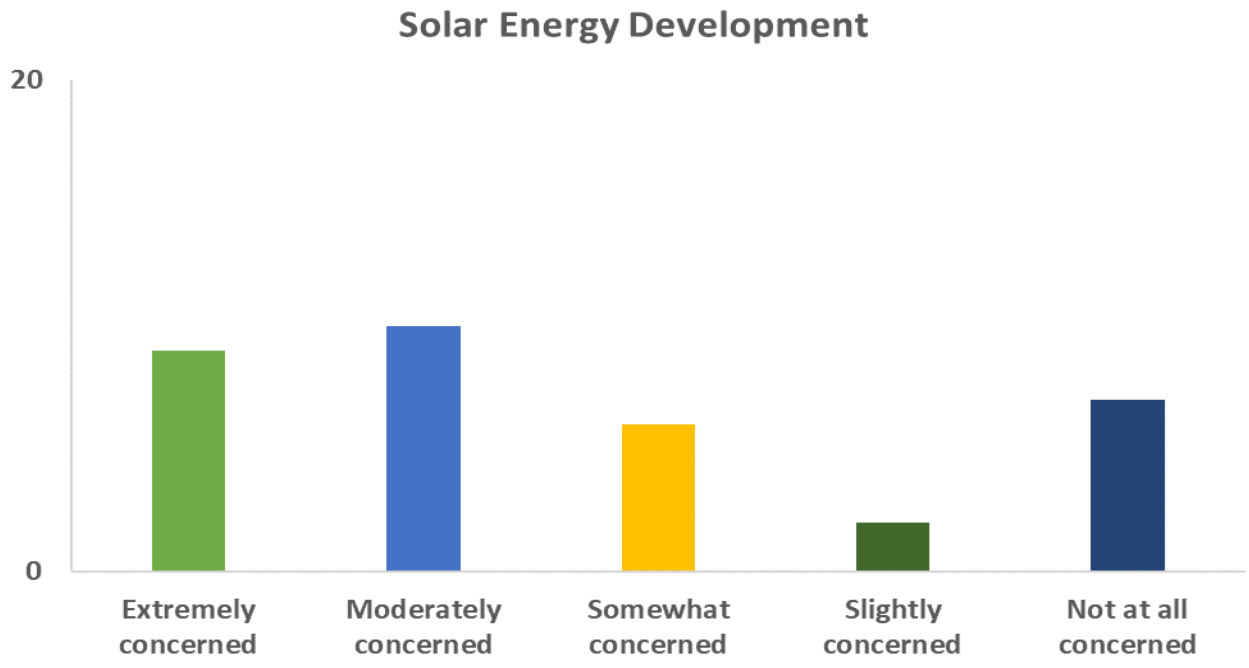



*Figure 52. West Texas, level of concern regarding solar energy development (frequency).**

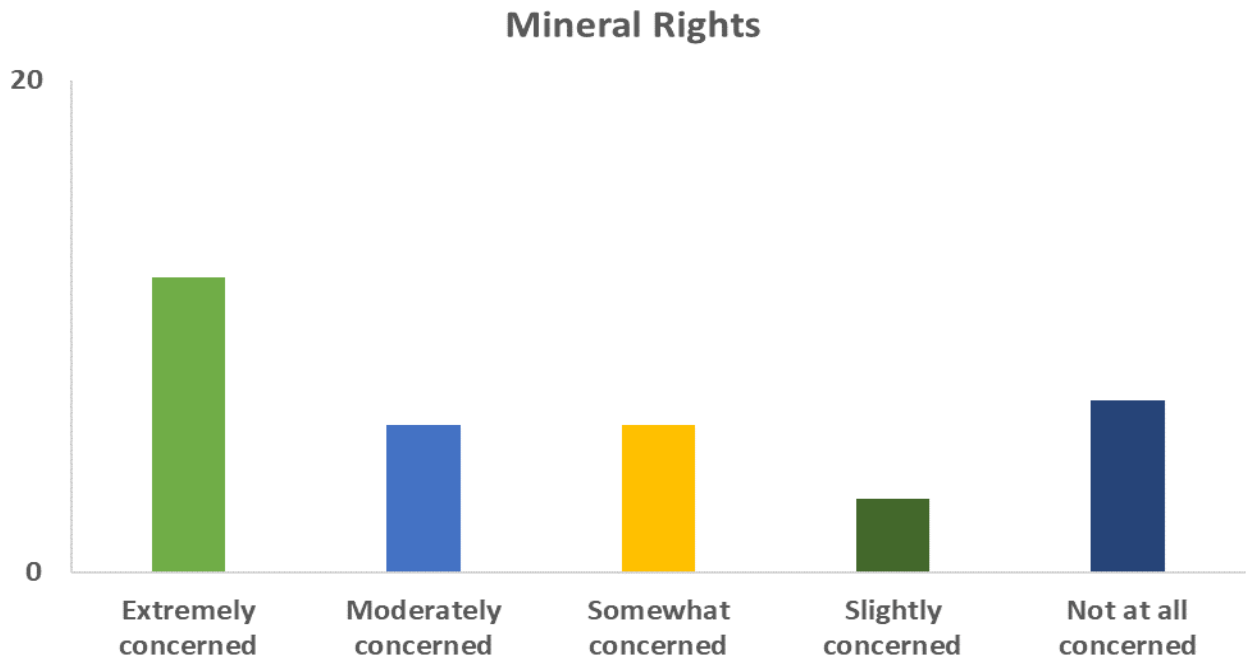



*Figure 53. West Texas, level of concern regarding mineral rights (frequency).**

*Because this was a new question administered in the Summer 2019 survey, the low sample size reflects the low response rate (n=121) compared to the 2016 survey (n=3,103); however, the sample allowed for a general statewide vs. West Texas comparison.

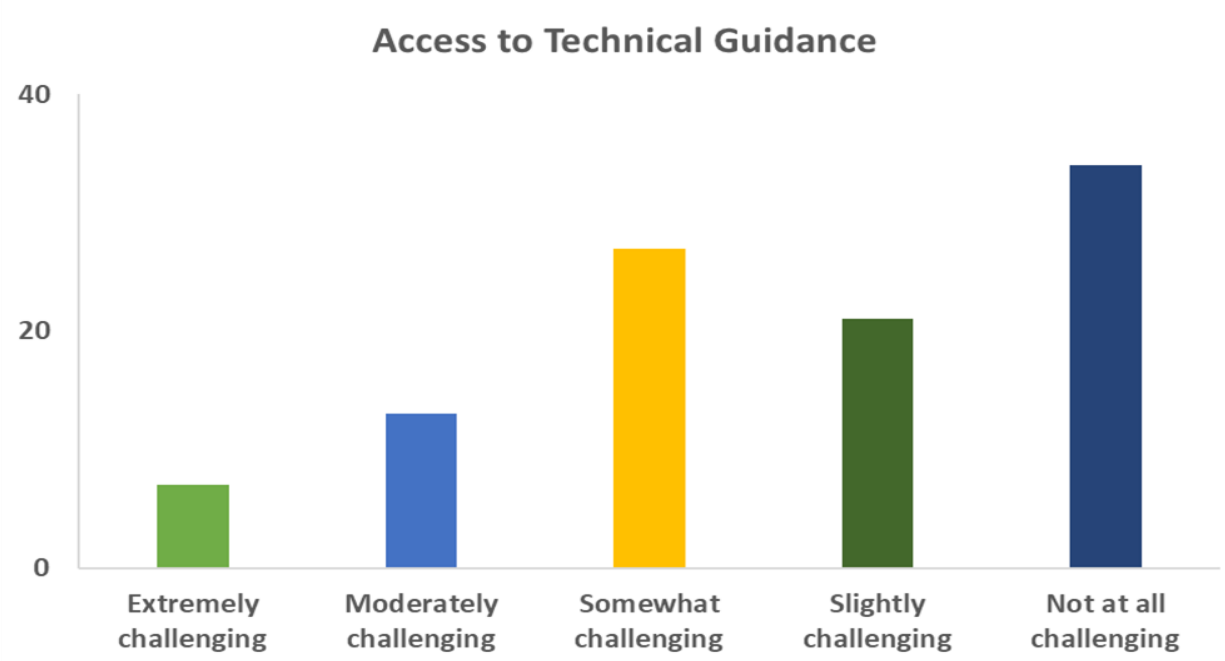



*Figure 54. West Texas, how challenging is access to technical guidance (frequency).*

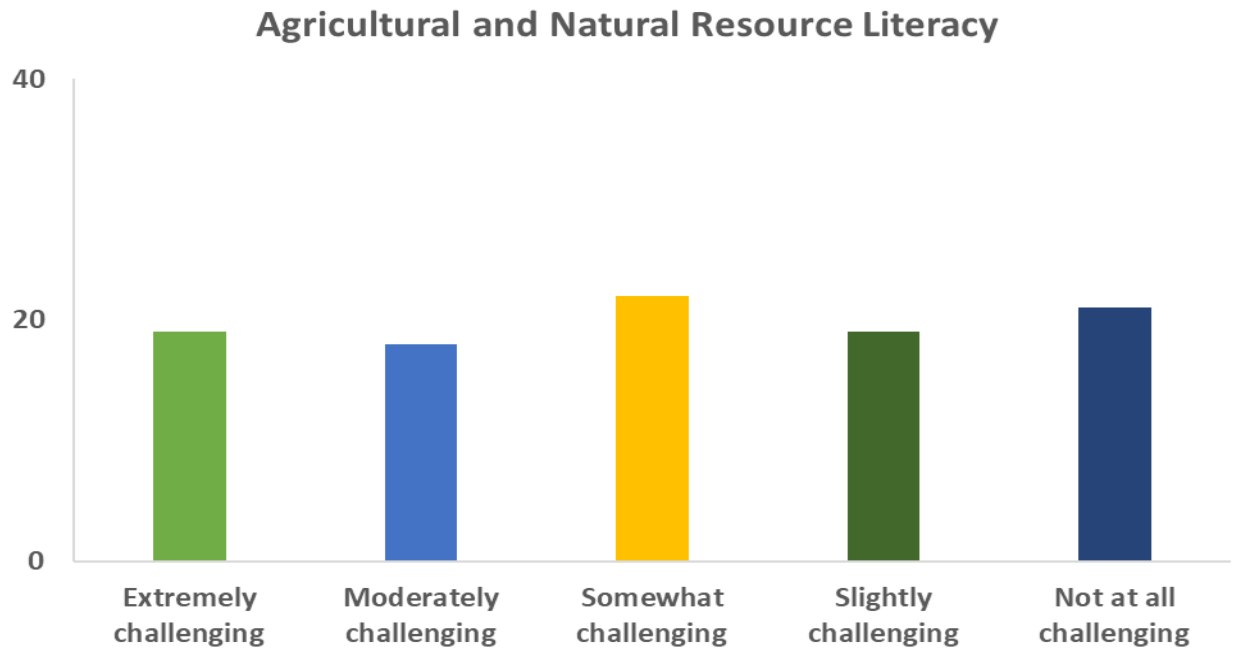



*Figure 55. West Texas, how challenging is agricultural and natural resource literacy (frequency).*

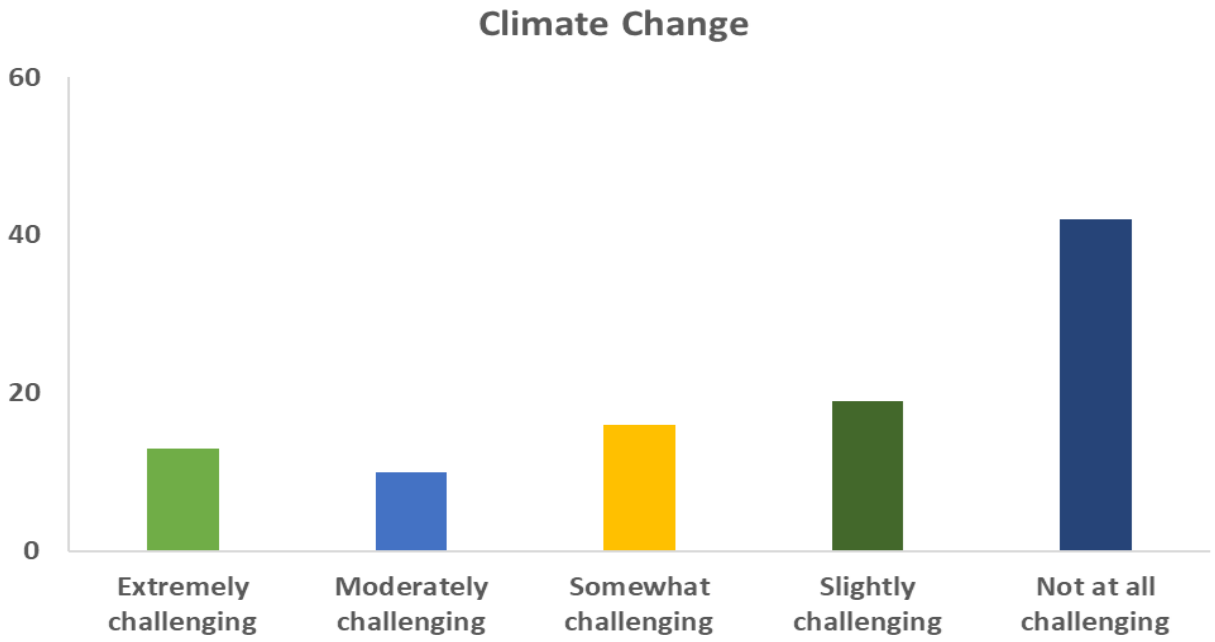



*Figure 56. West Texas, how challenging is climate change (frequency).*

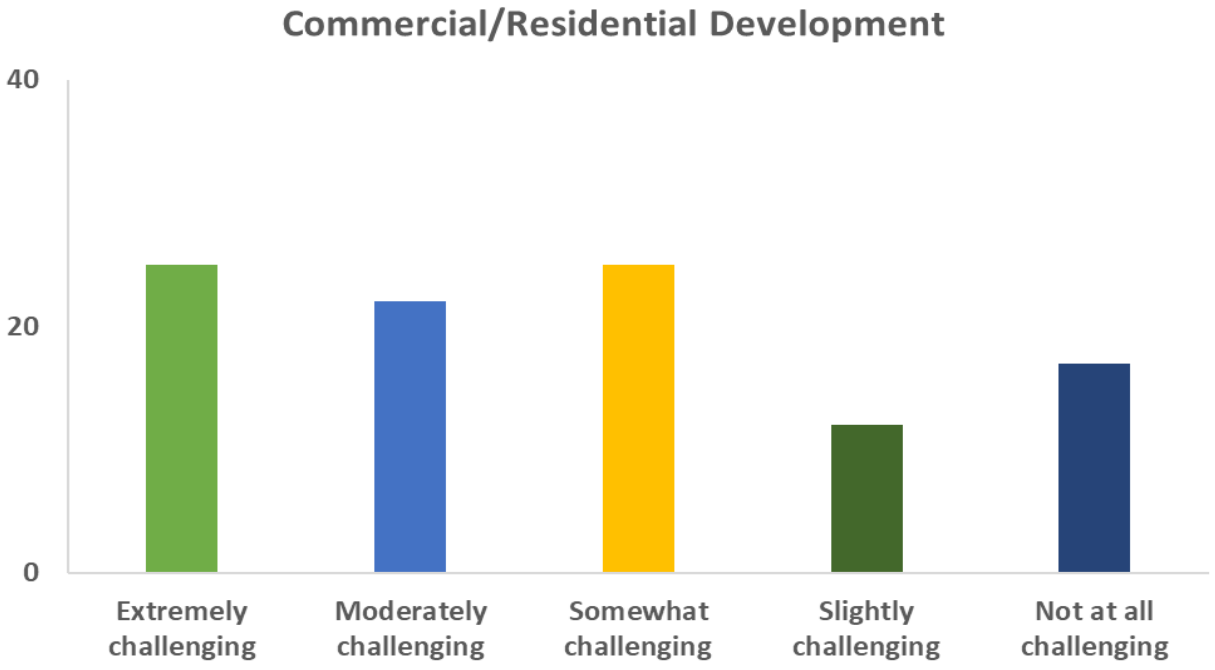



*Figure 57. West Texas, how challenging is commercial/residential development (frequency).*

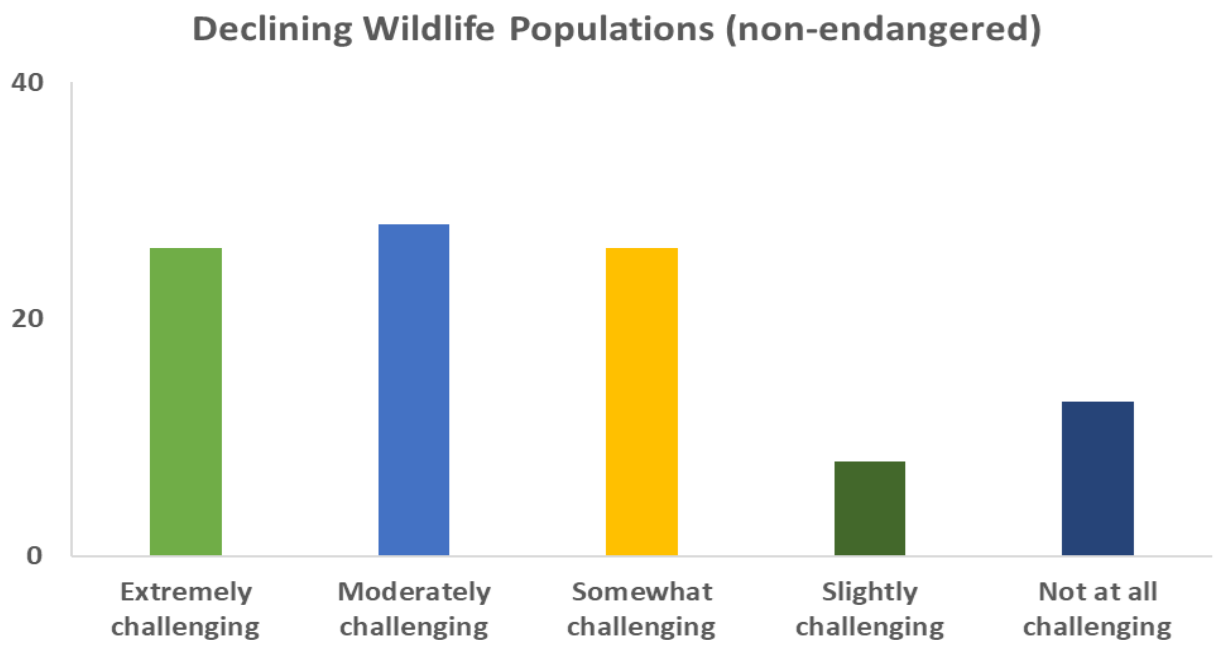



*Figure 58. West Texas, how challenging are declining wildlife populations (non-endangered, frequency).*

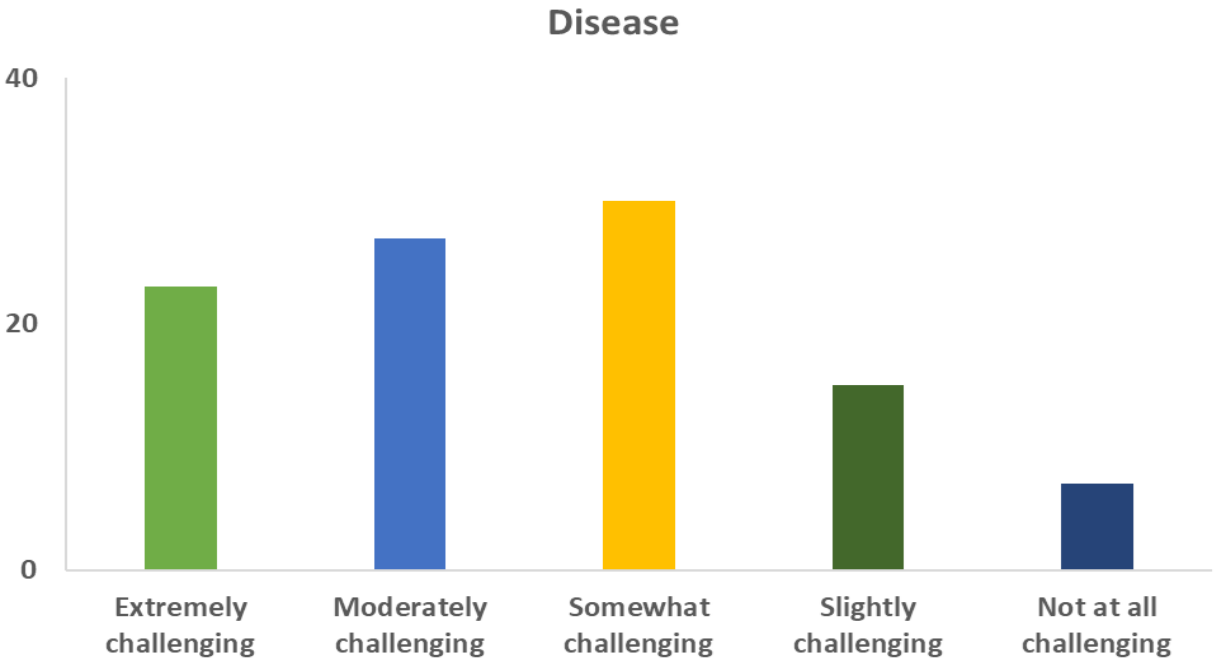



*Figure 59. West Texas, how challenging is disease (frequency).*

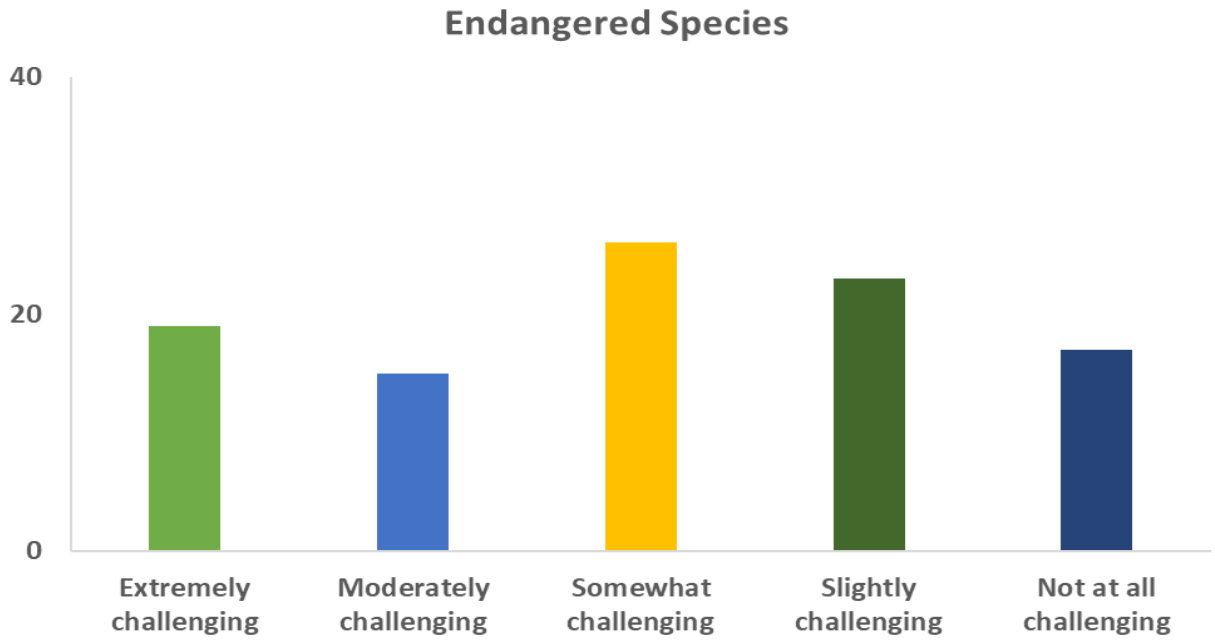



*Figure 60. West Texas, how challenging are endangered species (frequency).*

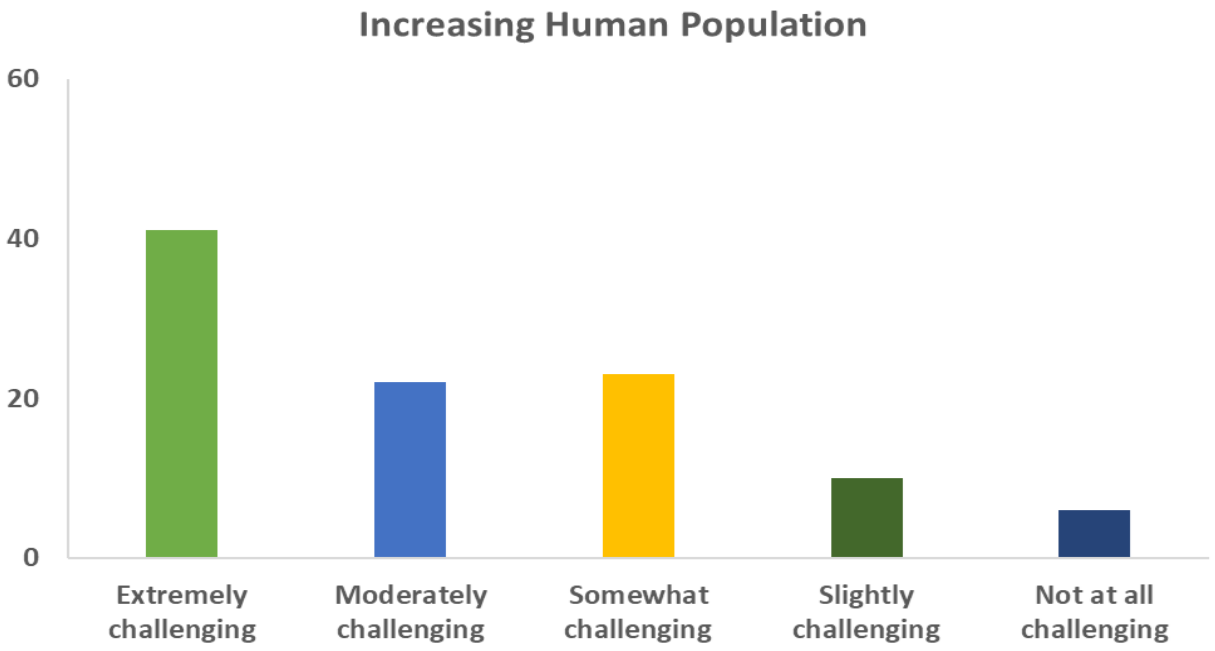



*Figure 61. West Texas, how challenging is the increasing human population (frequency).*

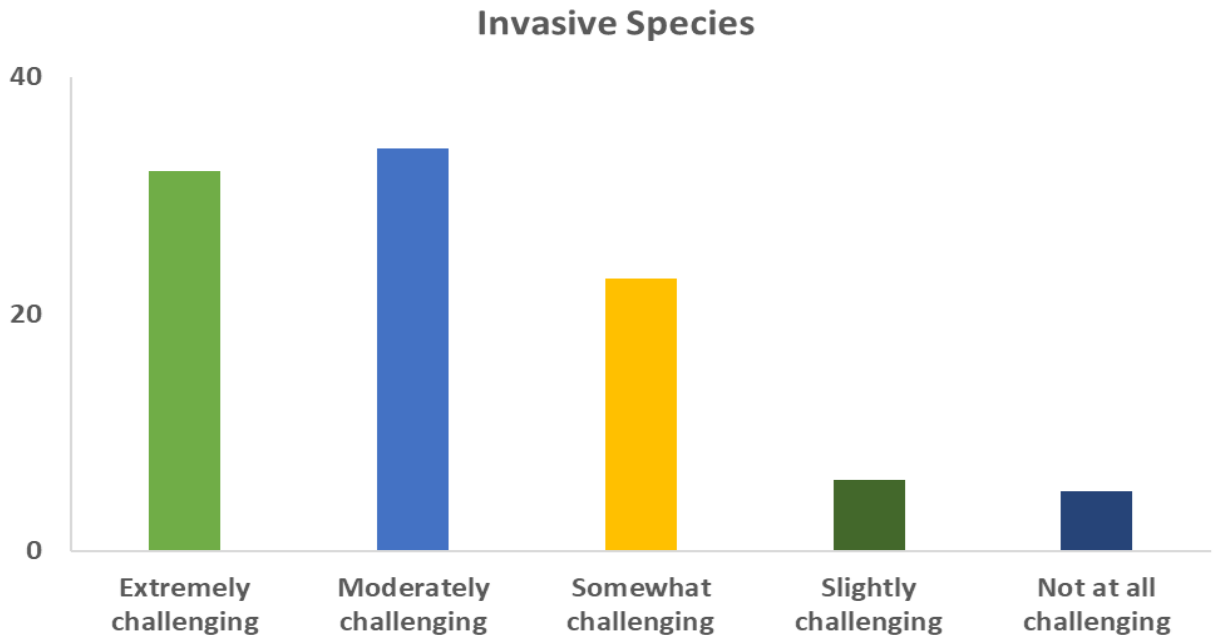



*Figure 62. West Texas, how challenging are invasive species (frequency).*

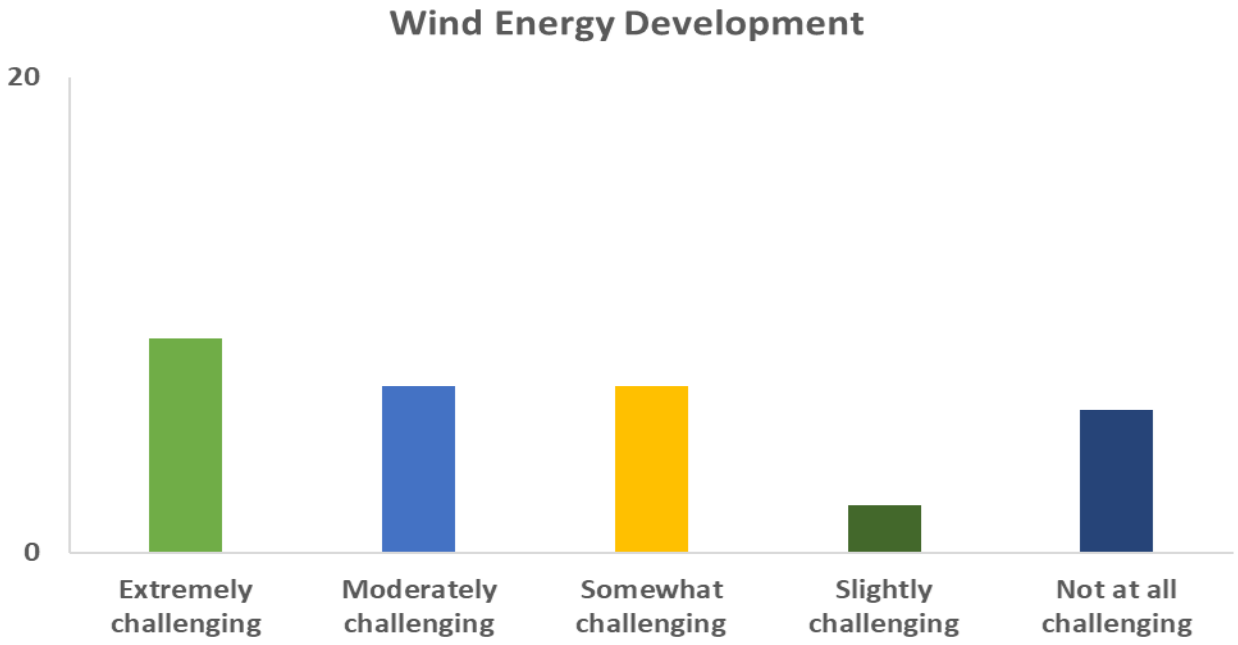



*Figure 63. West Texas, how challenging is wind energy development (frequency).**

*Because this was a new question administered in the Summer 2019 survey, the low sample size reflects the low response rate (n=121) compared to the 2016 survey (n=3,103); however, the sample allowed for a general statewide vs. West Texas comparison.

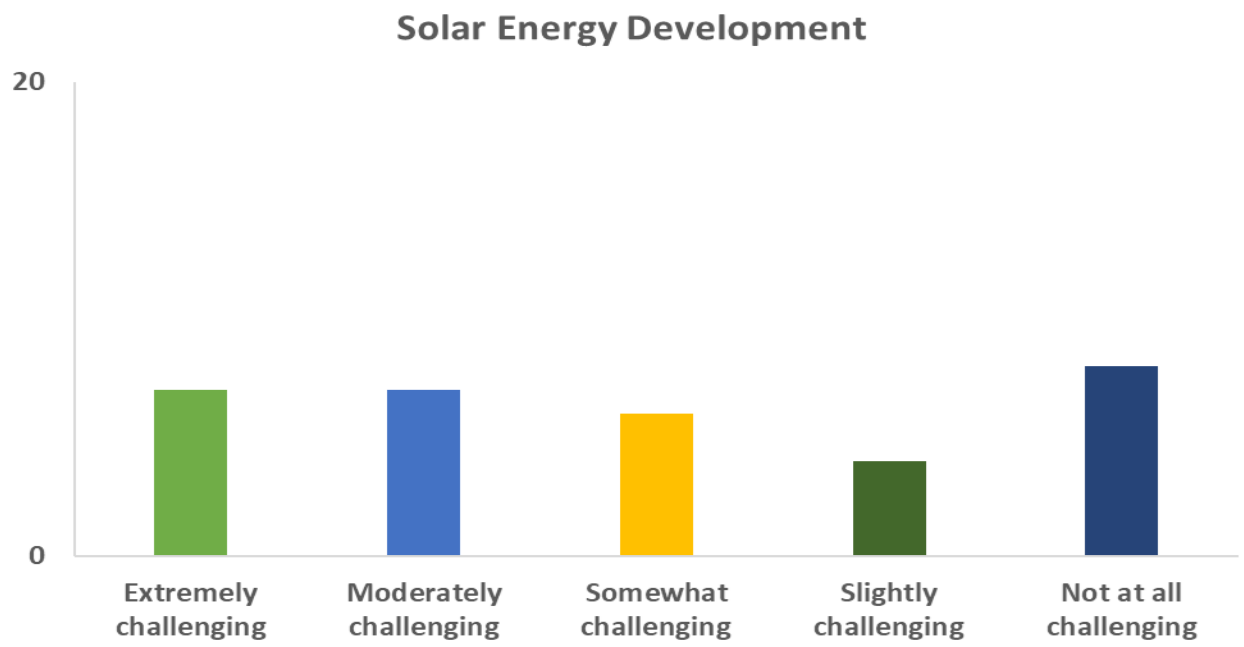



*Figure 64. West Texas, how challenging is solar energy development (frequency).**

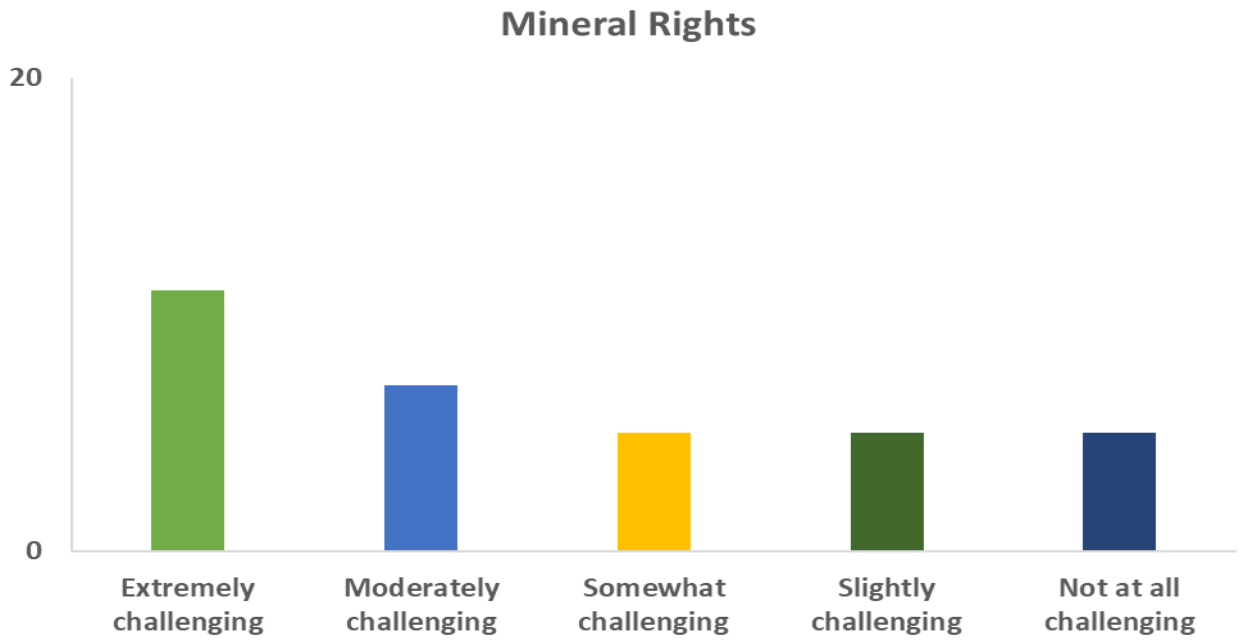



*Figure 65. West Texas, how challenging are mineral rights (frequency).**

*Because this was a new question administered in the Summer 2019 survey, the low sample size reflects the low response rate (n=121) compared to the 2016 survey (n=3,103); however, the sample allowed for a general statewide vs. West Texas comparison.

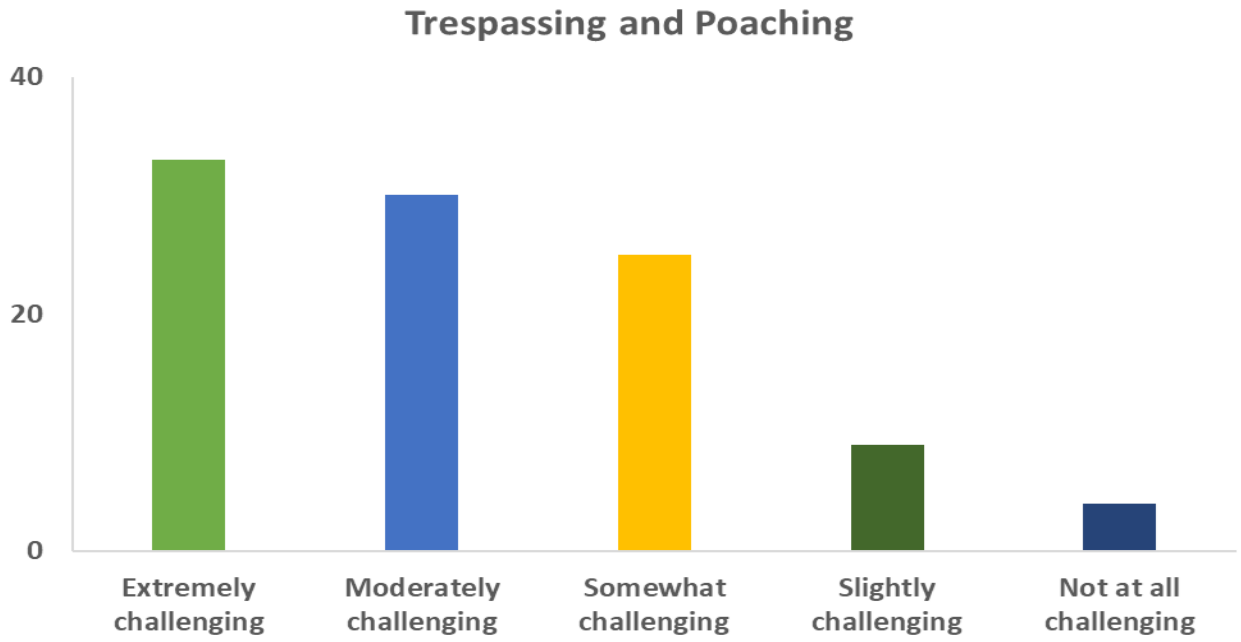



*Figure 66. West Texas, how challenging is trespassing and poaching (frequency).*

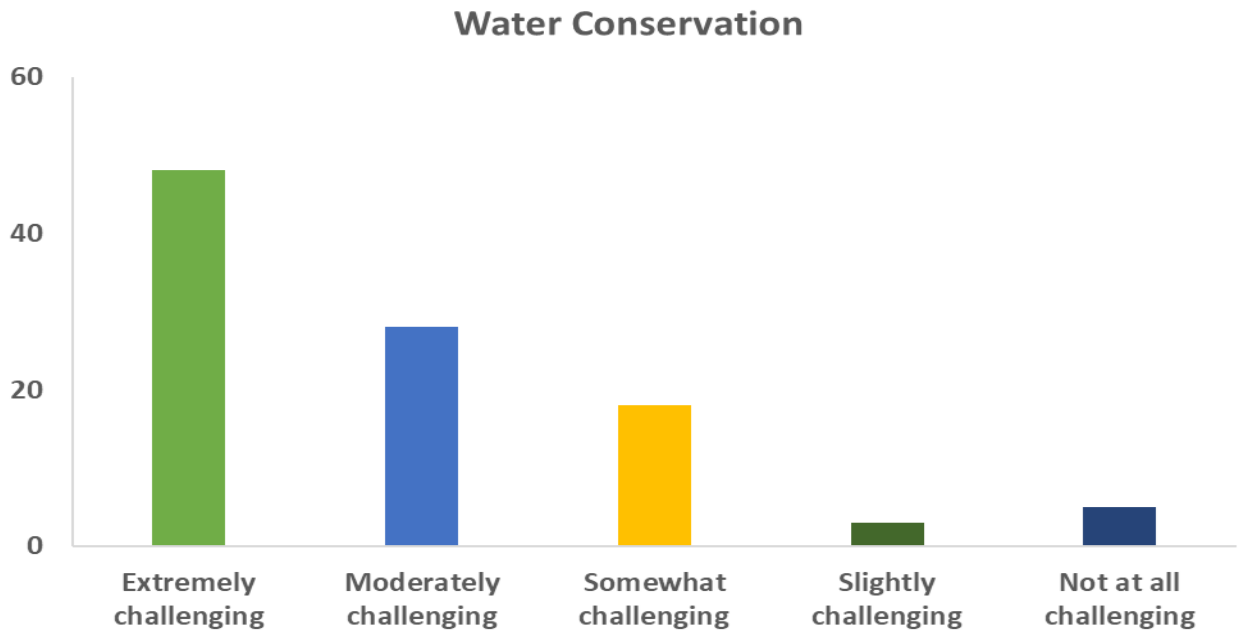



*Figure 67. West Texas, how challenging is water conservation (frequency).*

# Land Loss/Fragmentation

Land loss/fragmentation considers landowner perspectives regarding drivers for land use changes and whether landowners feel this is a concern in the area where they live and where they own property. Generally, landowners did perceive land loss/fragmentation was a concern in the county where they resided and in the county where they owned property, but the responses were nearly split in half. Drivers that were perceived not to influence land use changes were city expansion, wind energy and solar energy. Drivers that were perceived to moderately influence land use changes were land/housing development, oil/gas energy development and mineral rights. Drivers that were perceived to highly influence land use changes were death of primary land caretaker, estate/death tax rates, high property tax rates, increasing human population, increasing market value versus land production capabilities, parcel division within families, and sale of lands to non-family members. As population and economic drivers shift and balance across the state, naturally some impacts are felt, and we are within time to assist landowners by developing targeted intergenerational land transfer programs and other educational programs that will help landowners not only meet their land management needs but also help them succeed within their landholding size.

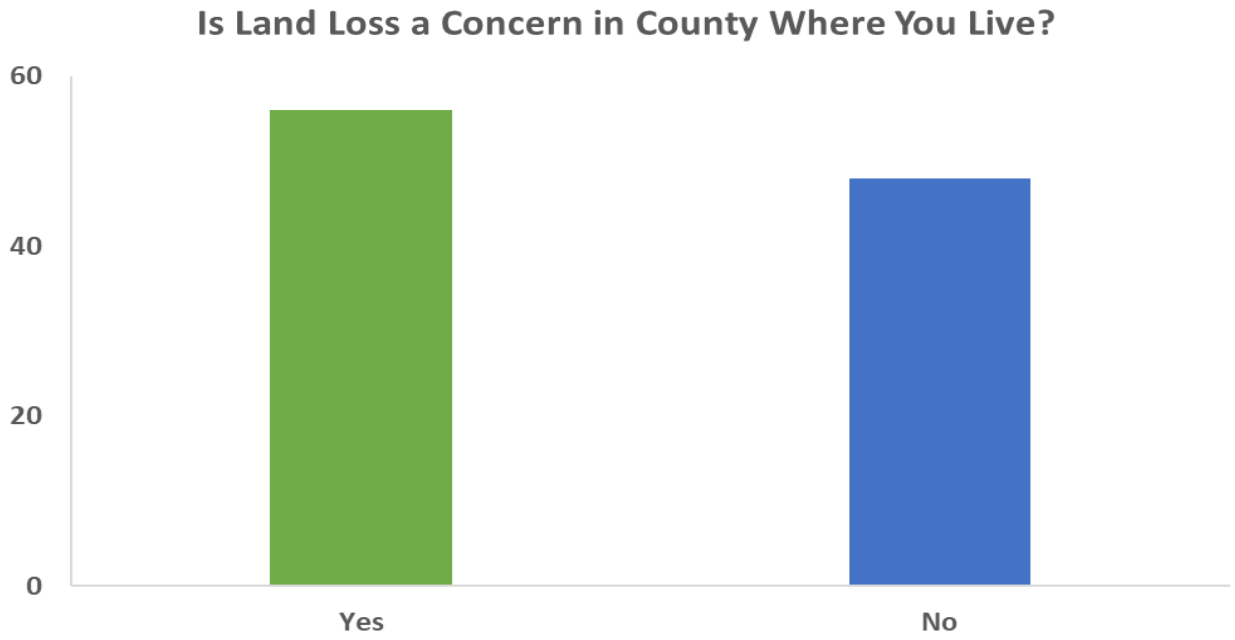



*Figure 68. West Texas, land loss concern in county where live (frequency).*

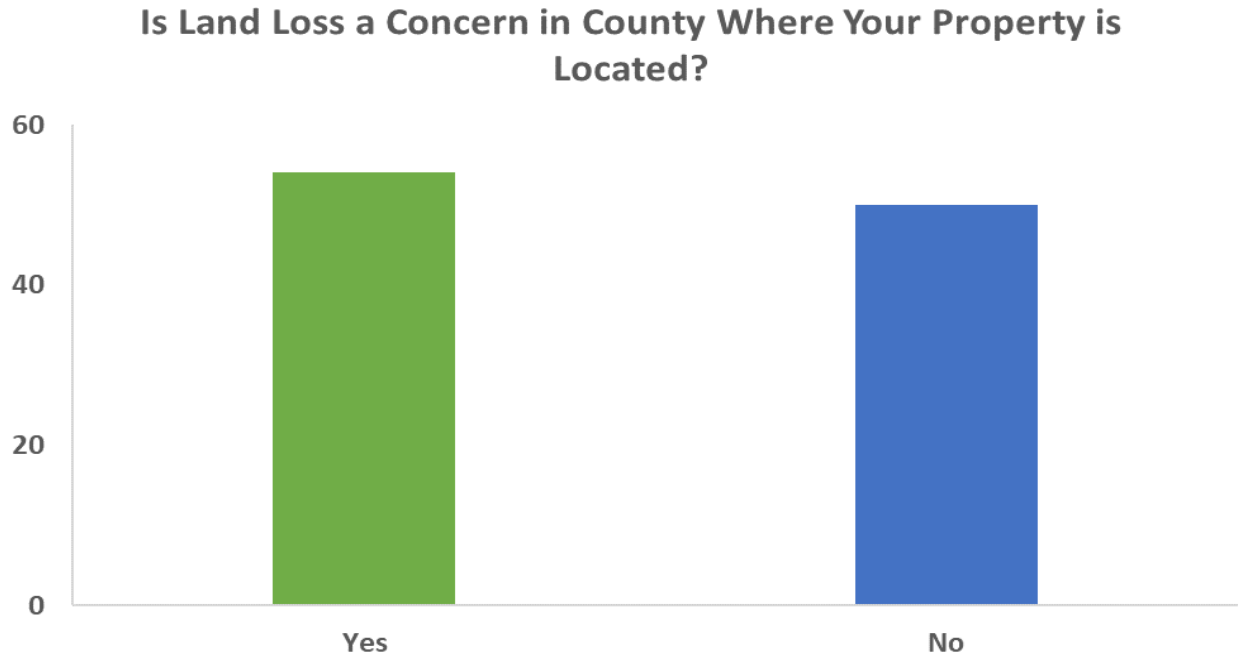



*Figure 69. West Texas, land loss concern in county where property located (frequency).*

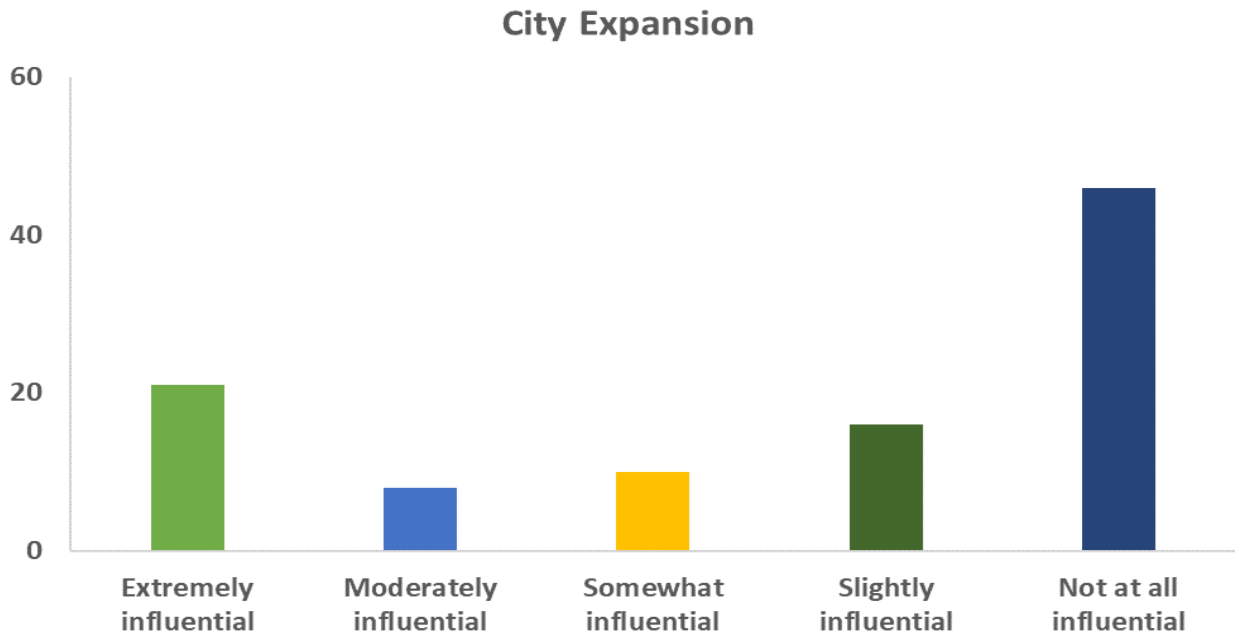



*Figure 70. West Texas, influence of city expansion on land loss or fragmentation where farm or ranch (frequency).*

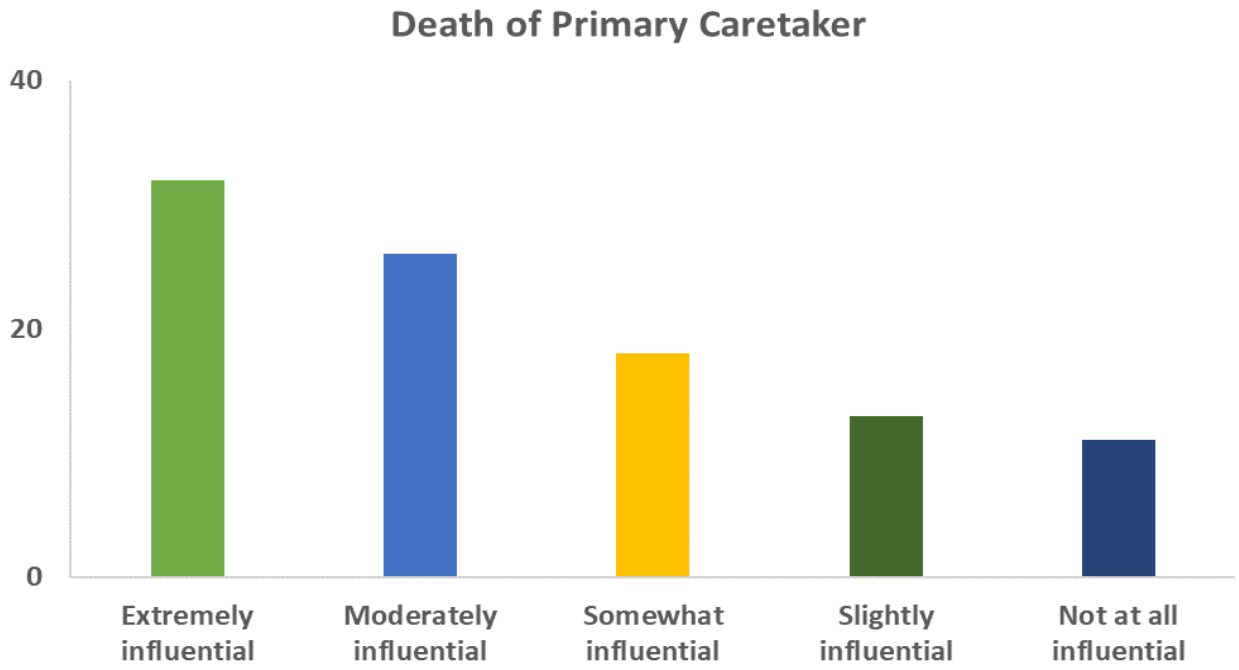



*Figure 71. West Texas, influence of death of a primary caretaker on land loss or fragmentation where farm or ranch (frequency).*

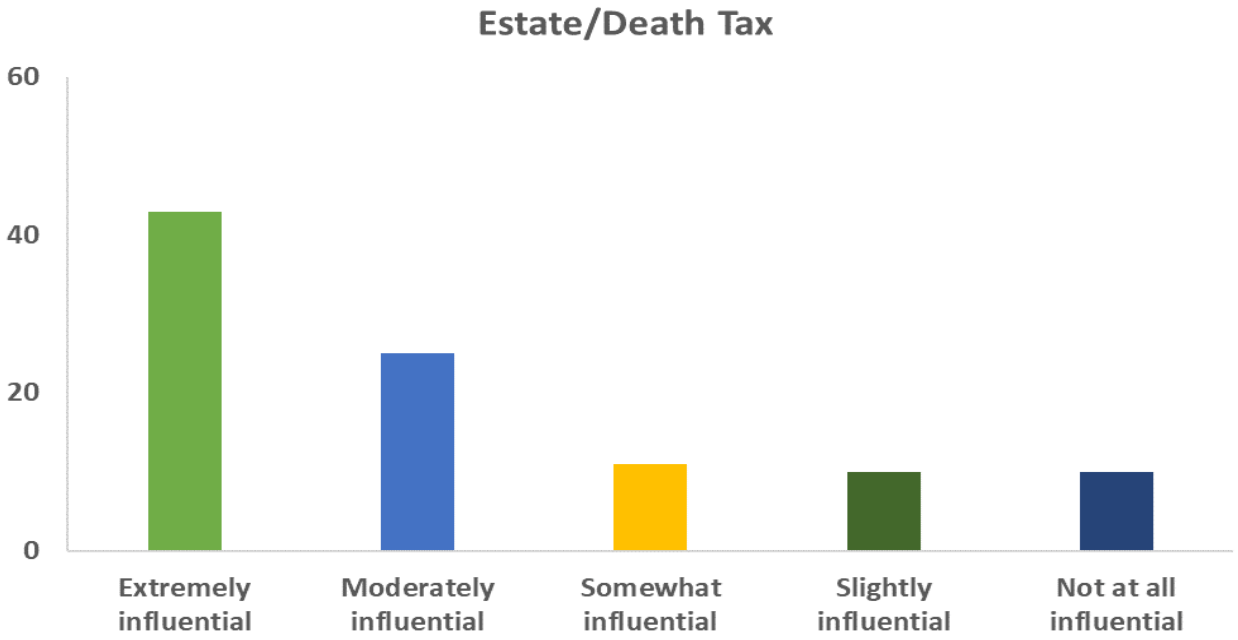



*Figure 72. West Texas, influence of estate/death tax on land loss or fragmentation where farm or ranch (frequency).*

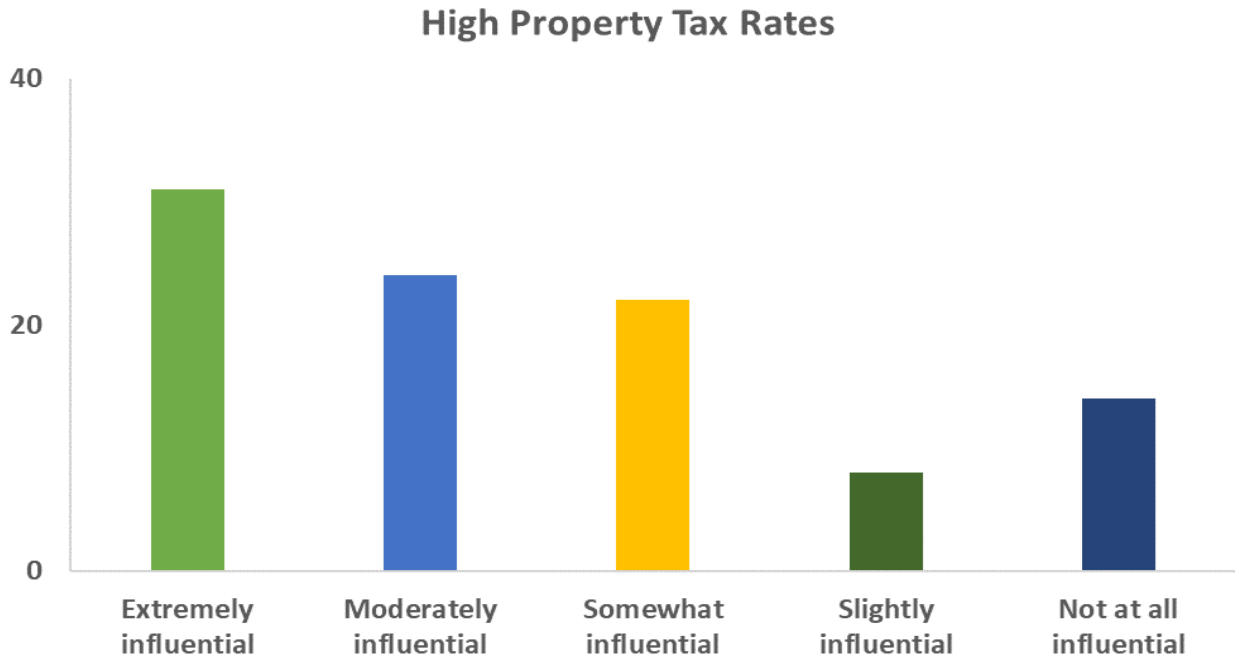



*Figure 73. West Texas, influence of high property tax rates on land loss or fragmentation where farm or ranch (frequency).*

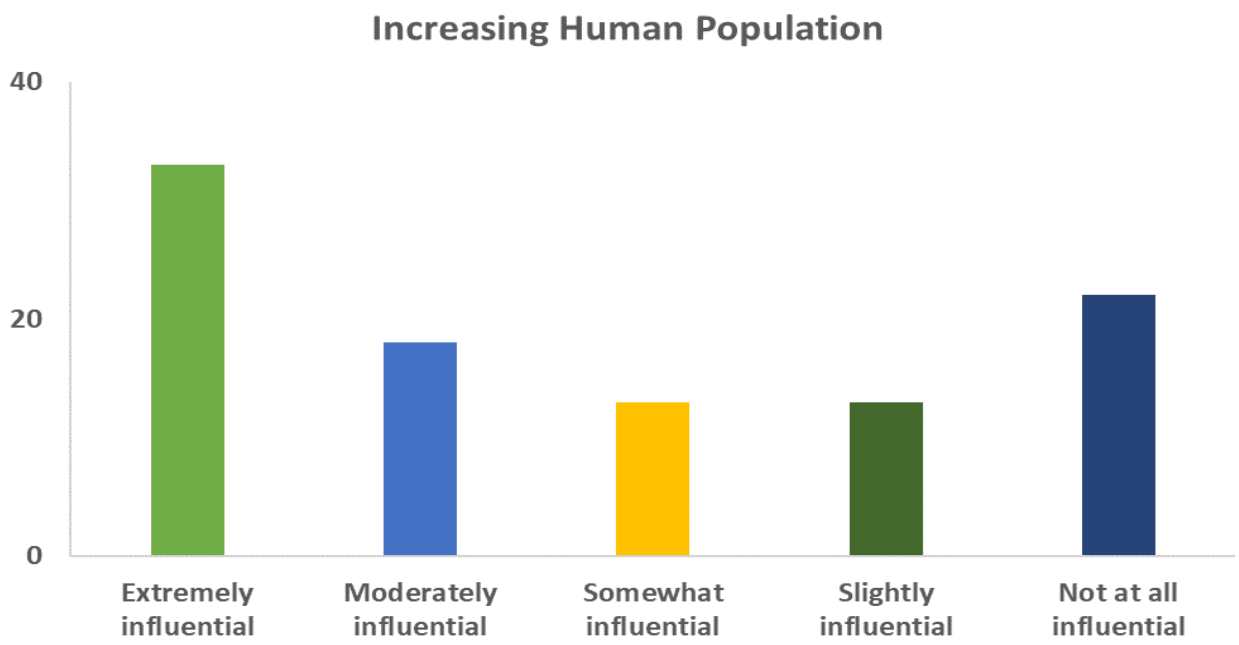



*Figure 74. West Texas, influence of increasing human population on land loss or fragmentation where farm or ranch (frequency).*

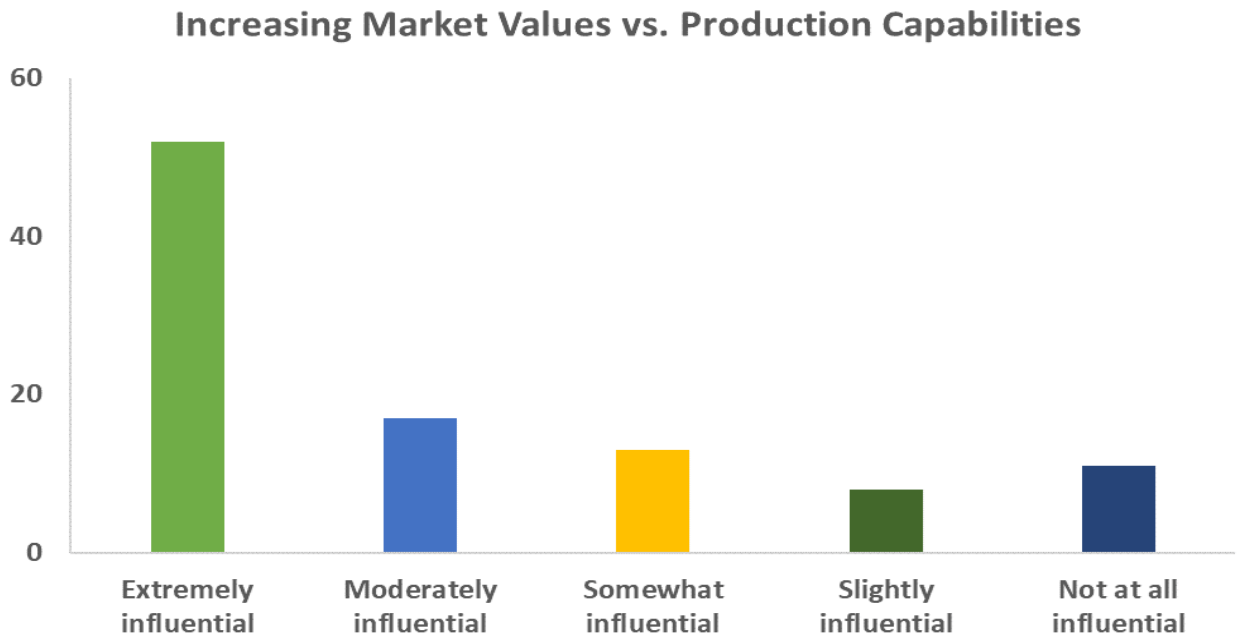



*Figure 75. West Texas, influence of increasing market values vs. production capabilities on land loss or fragmentation where farm or ranch (frequency).*

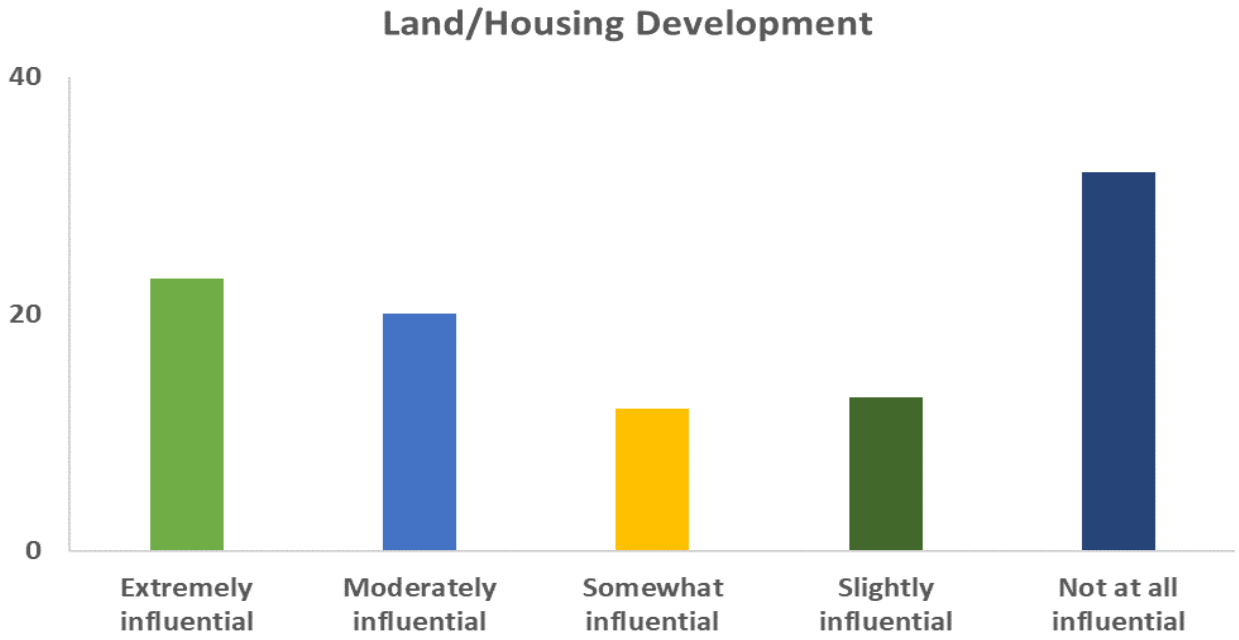



*Figure 76. West Texas, influence of land/housing development on land loss or fragmentation where farm or ranch (frequency).*

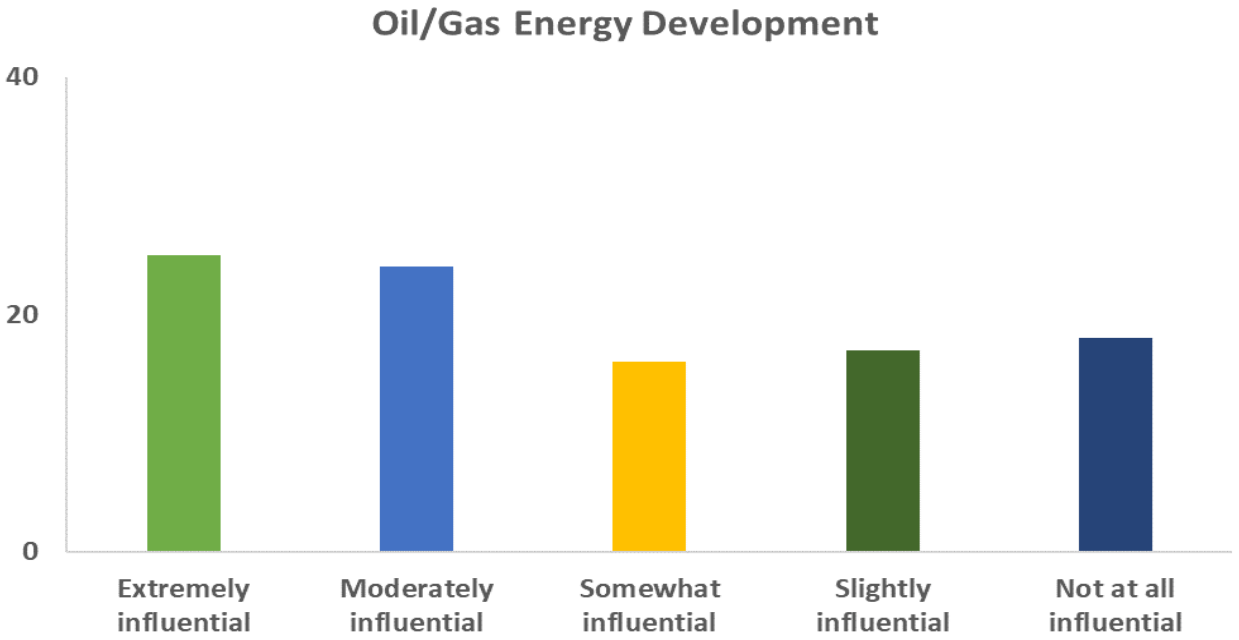



*Figure 77. West Texas, influence of oil/gas energy development on land loss or fragmentation where farm or ranch (frequency).*

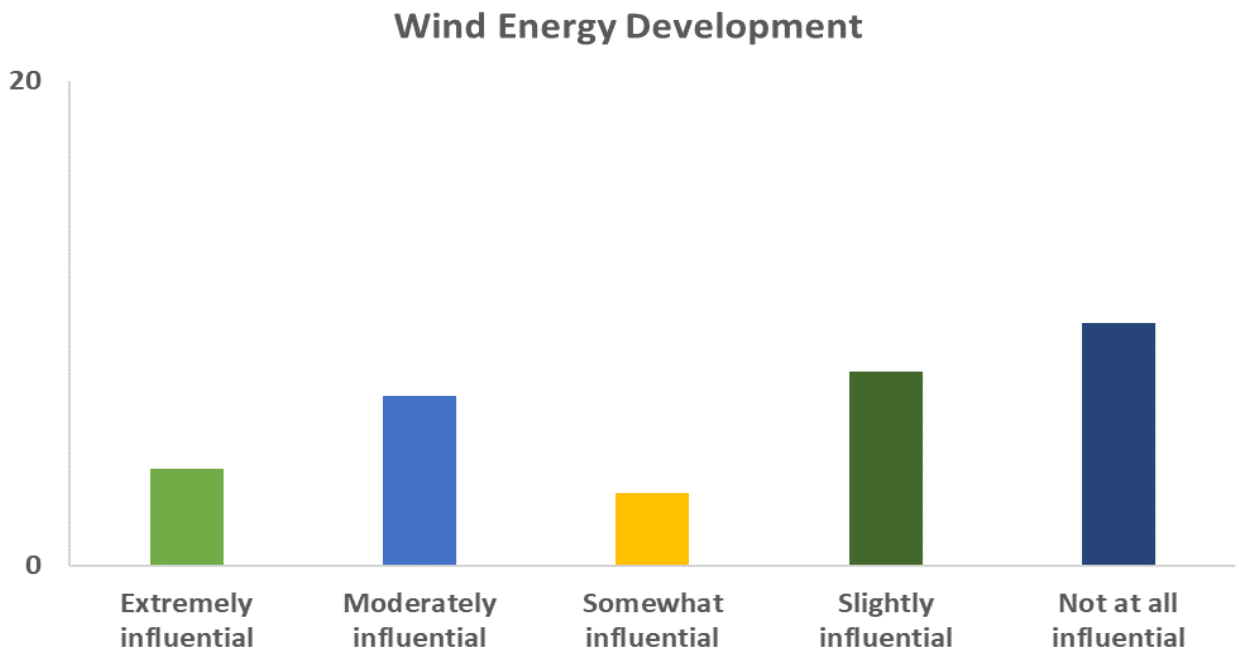



*Figure 78. West Texas, influence of wind energy development on land loss or fragmentation where farm or ranch (frequency).**

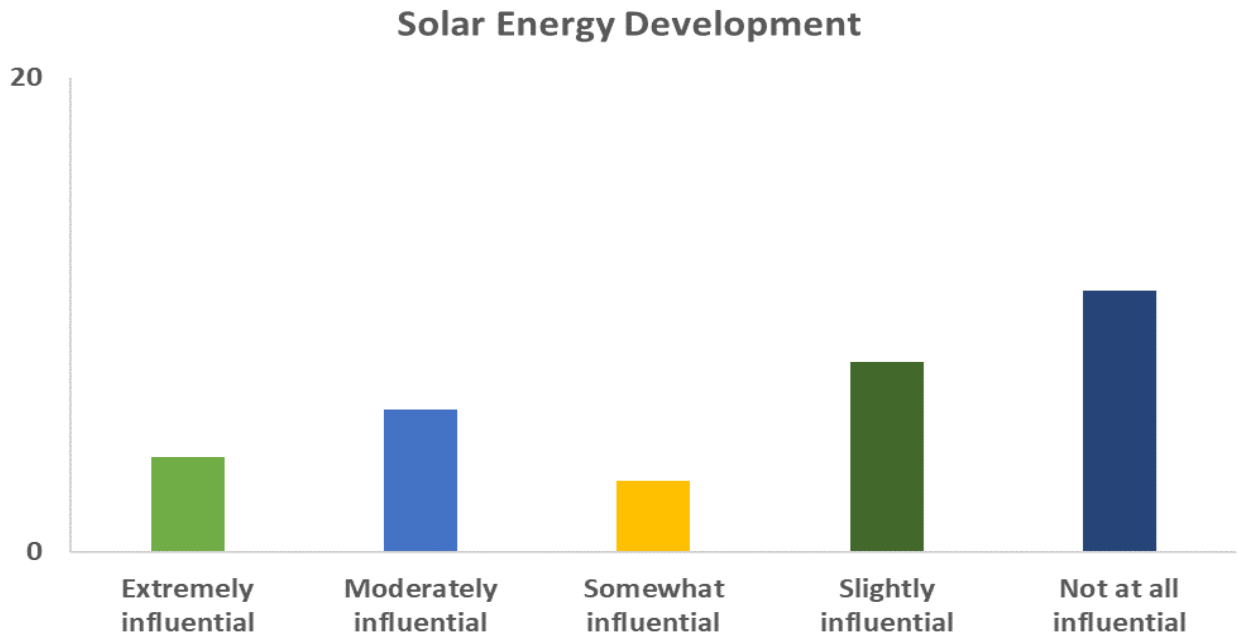



*Figure 79. West Texas, influence of solar energy development on land loss or fragmentation where farm or ranch (frequency).**

*Because this was a new question administered in the Summer 2019 survey, the low sample size reflects the low response rate (n=121) compared to the 2016 survey (n=3,103); however, the sample allowed for a general statewide vs. West Texas comparison.

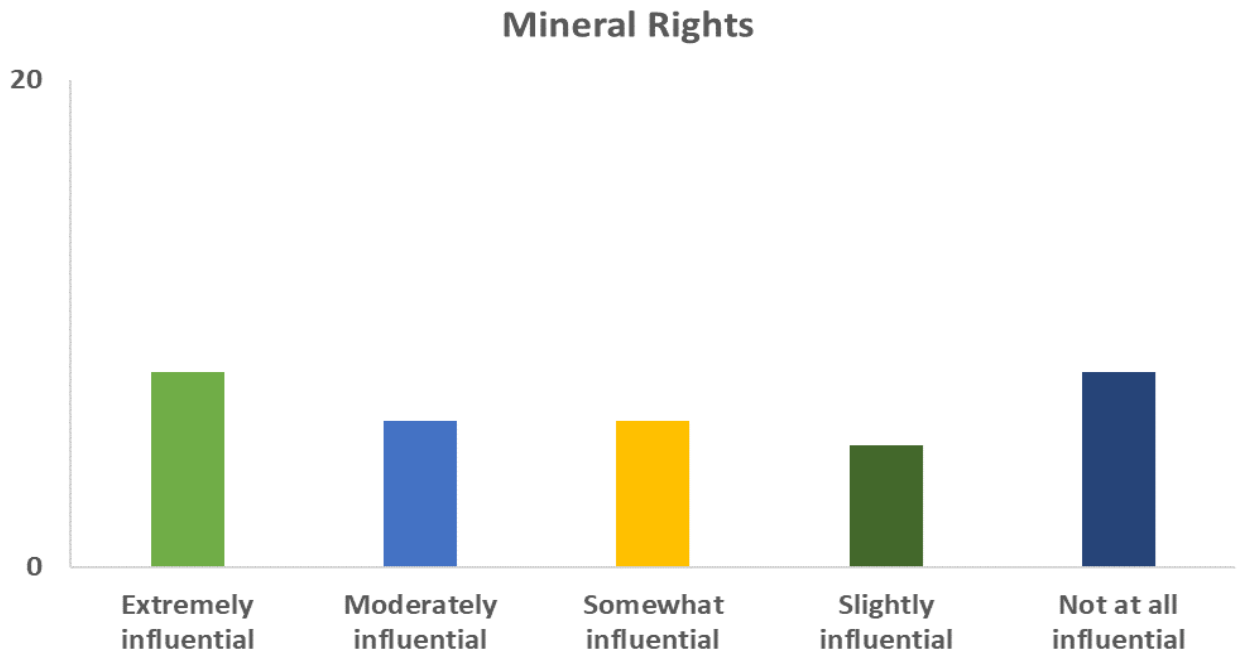



*Figure 80. West Texas, influence of mineral rights on land loss or fragmentation where farm or ranch (frequency).**

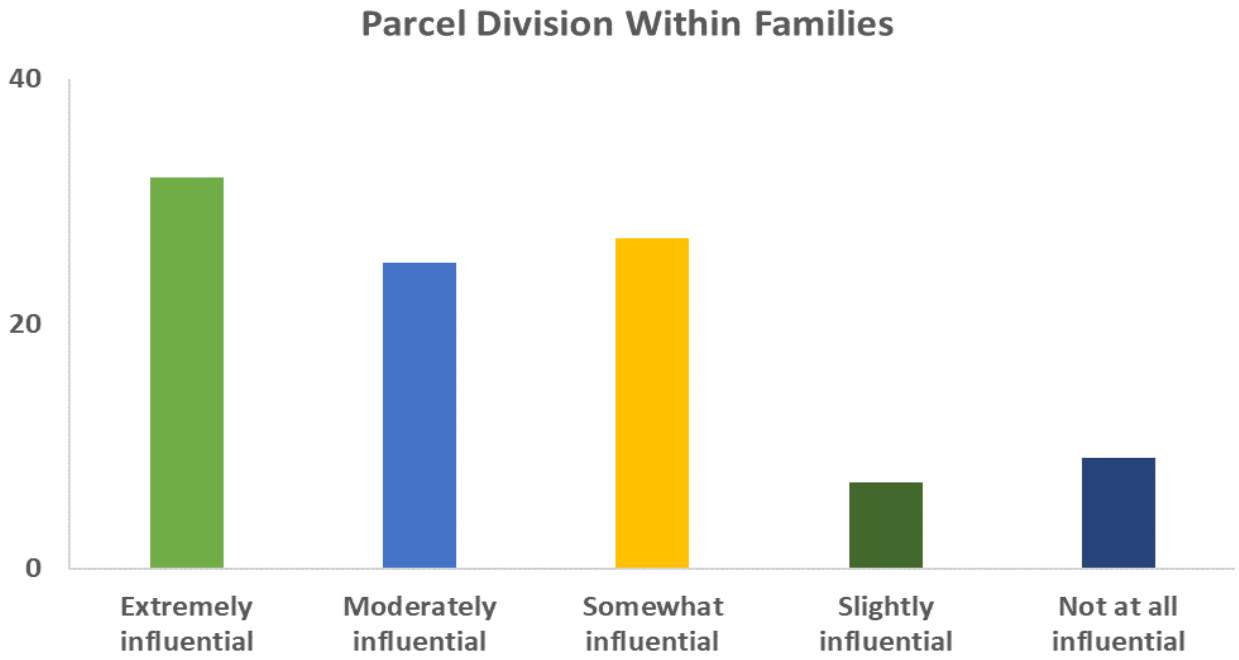



*Figure 81. West Texas, influence of parcel division within families on land loss or fragmentation where farm or ranch (frequency).*

*Because this was a new question administered in the Summer 2019 survey, the low sample size reflects the low response rate (n=121) compared to the 2016 survey (n=3,103); however, the sample allowed for a general statewide vs. West Texas comparison.

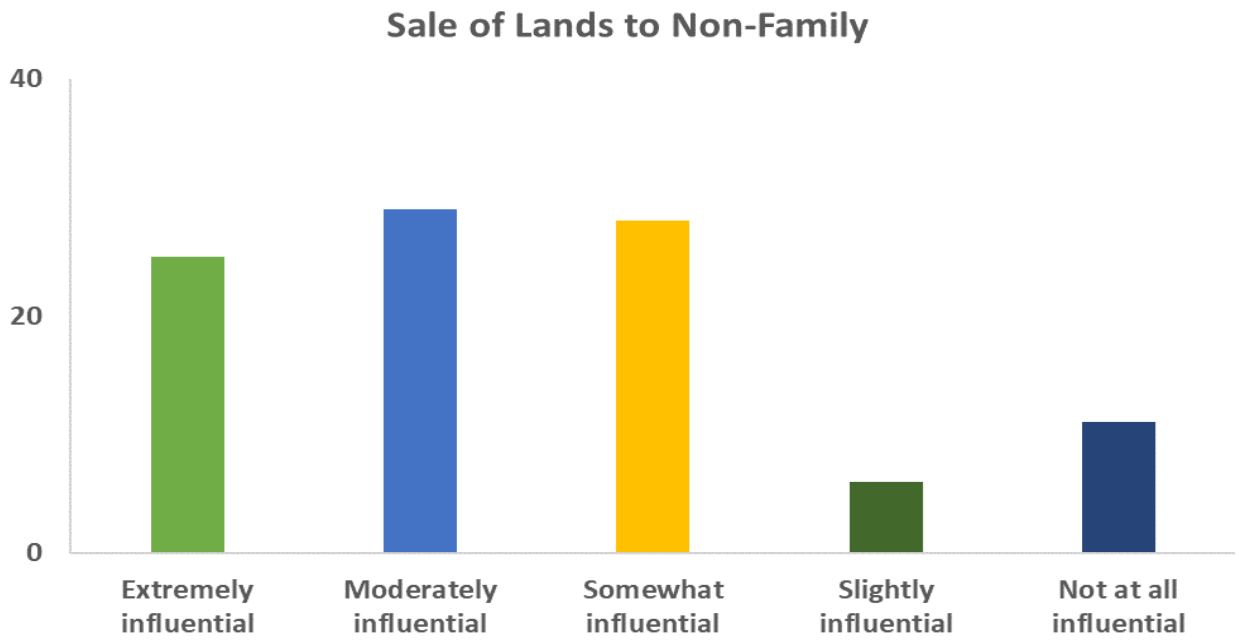



*Figure 82. West Texas, influence of sale of lands to non-family members on land loss or fragmentation where farm or ranch (frequency).*

# Questionnaire Findings – West Texas and Statewide Comparison

A comparison of West Texas and Statewide findings follow in three categories: Landowners, Land Management and Landowner Concerns. See *Survey Description* for category information.

# Landowners

Slight variations were noted between West Texas and Statewide landowner responses. These are described in terms of information sources, age, and property ownership. The first variation among both population groups pertains to where landowners obtained their information – who do they trust? Trust in sources of information is important to building and maintaining relationships. West Texas landowners most trusted the following information sources, in this order: Texas Parks and Wildlife Department, Internet resources, Texas A&M Agrilife Extension, the United States Department of Agriculture, local resources, professional meetings, universities, private consultants, and traditional outlets, such as television and radio. Accessibility and other factors may influence trust. Statewide respondents preferred similar information sources, with the exception of a preference for local sources over the United States Department of Agriculture, followed by professional meetings, private consultants, traditional media outlets, and universities. Understanding regional differences could help natural resource organizations better plan information campaigns to reach landowners. Participation in organizations is an extension of trust, sometimes based on necessity and many other factors. West Texas landowners participated in slightly different organizations than their Statewide counterparts.

Characterizing West Texas and Statewide landowners based on age is challenging, and although age differences among both groups were minimal, there are two age groups that appear to need support across the state: an aging landowner group and a growing new landowner group between the ages of 20-49 years. Developing well-rounded, management-oriented programs (i.e., intergenerational land transfer, financial, regulatory, and pragmatic programs) would help the state and region in both the immediate and long-term. Finally, West Texas landowners were more likely to own more than one rural property, and although property sizes in the region tended to be larger, consideration should also be given to smaller landholdings. Considering the larger property sizes, organization membership and the information sources most trusted and accessed, it is not surprising that West Texas landowners appear to be slightly more land management, technical information driven than their Statewide counterparts. Because this group potentially owns more than one property, developing assistance programs that help them not only manage their lands but also reach their goals is important to helping them maintain their lands.

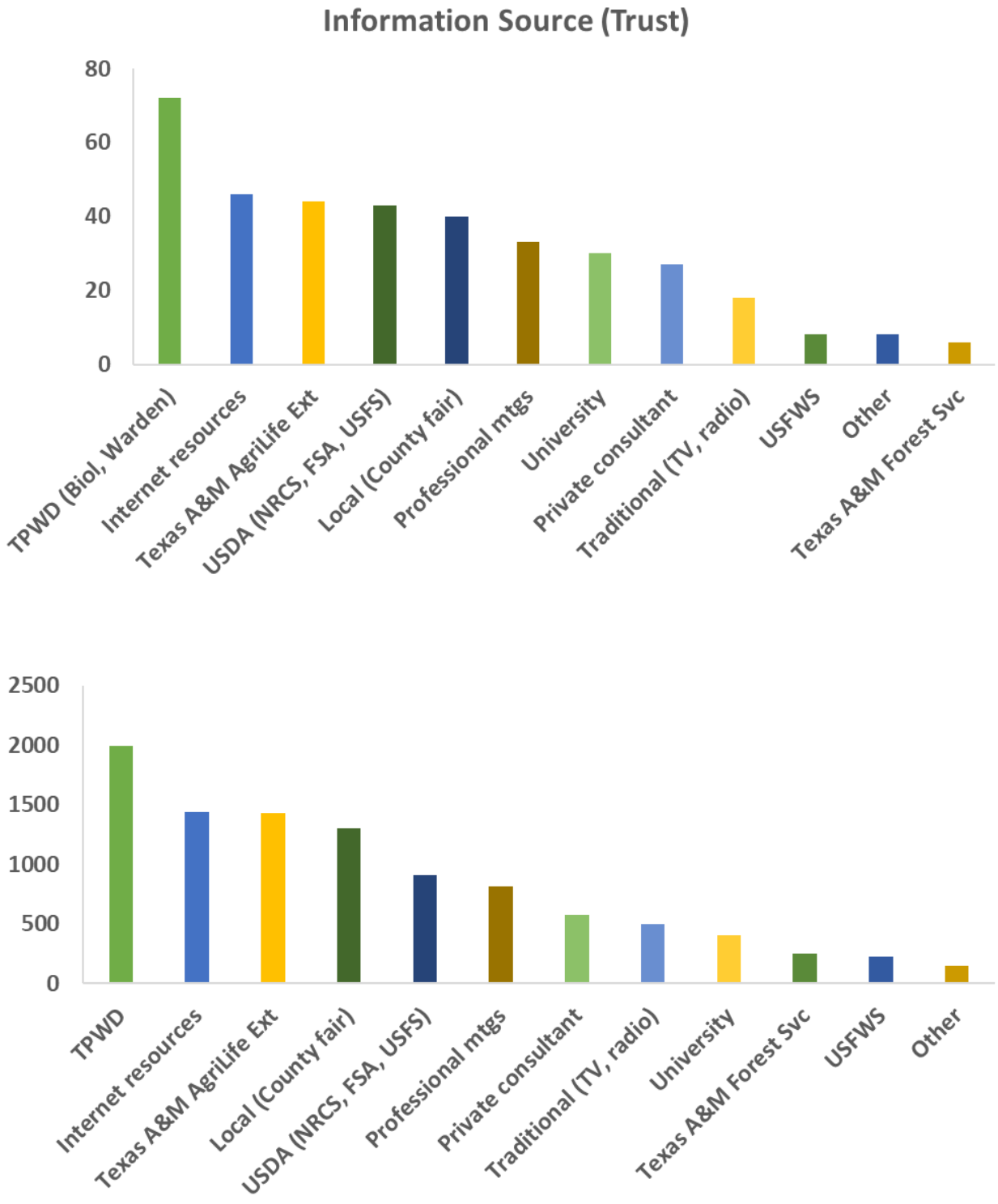



*Figure 83. West Texas and statewide comparison, information source (trust, frequency).*

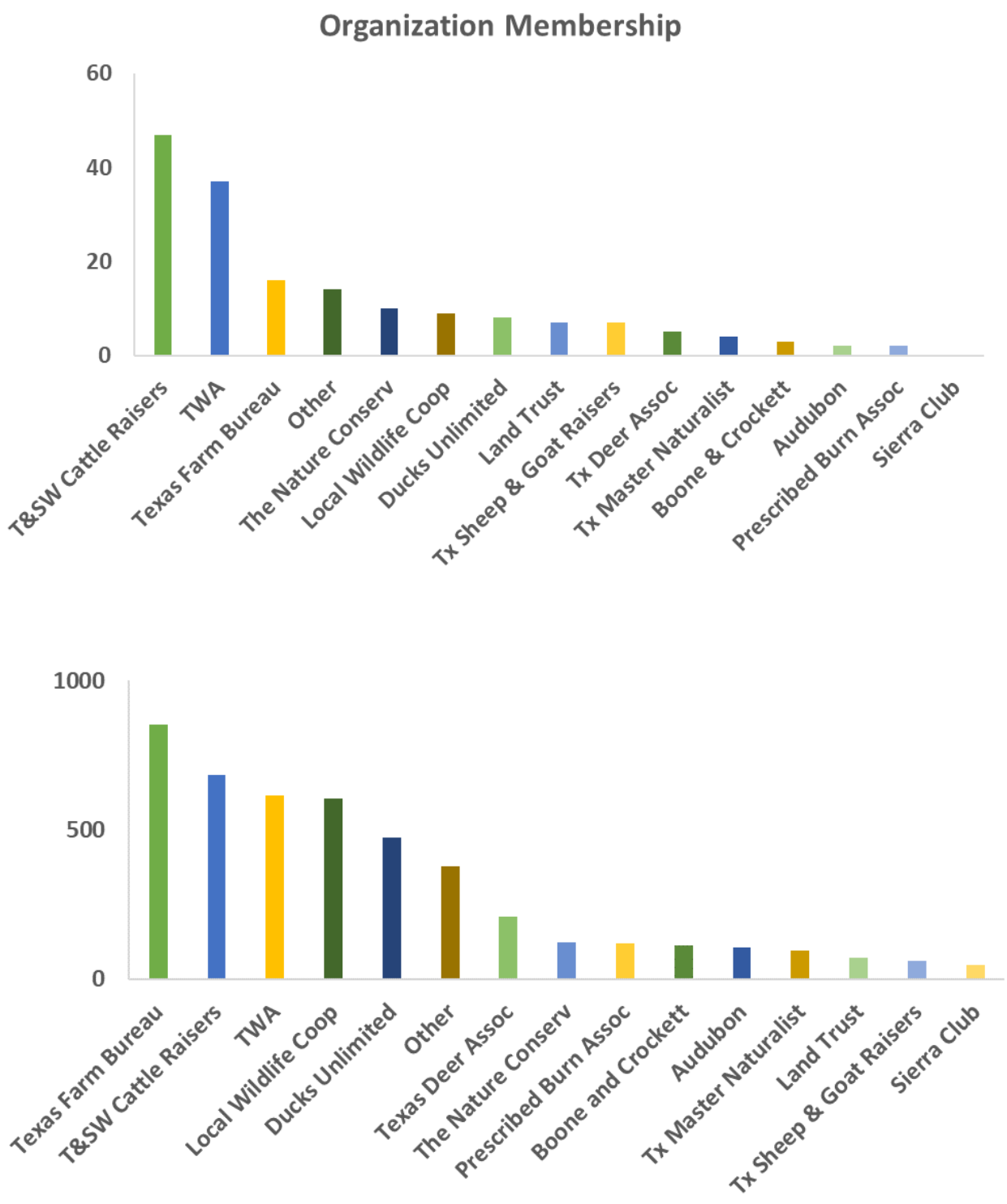



*Figure 84. West Texas and statewide comparison, organization membership (frequency).*

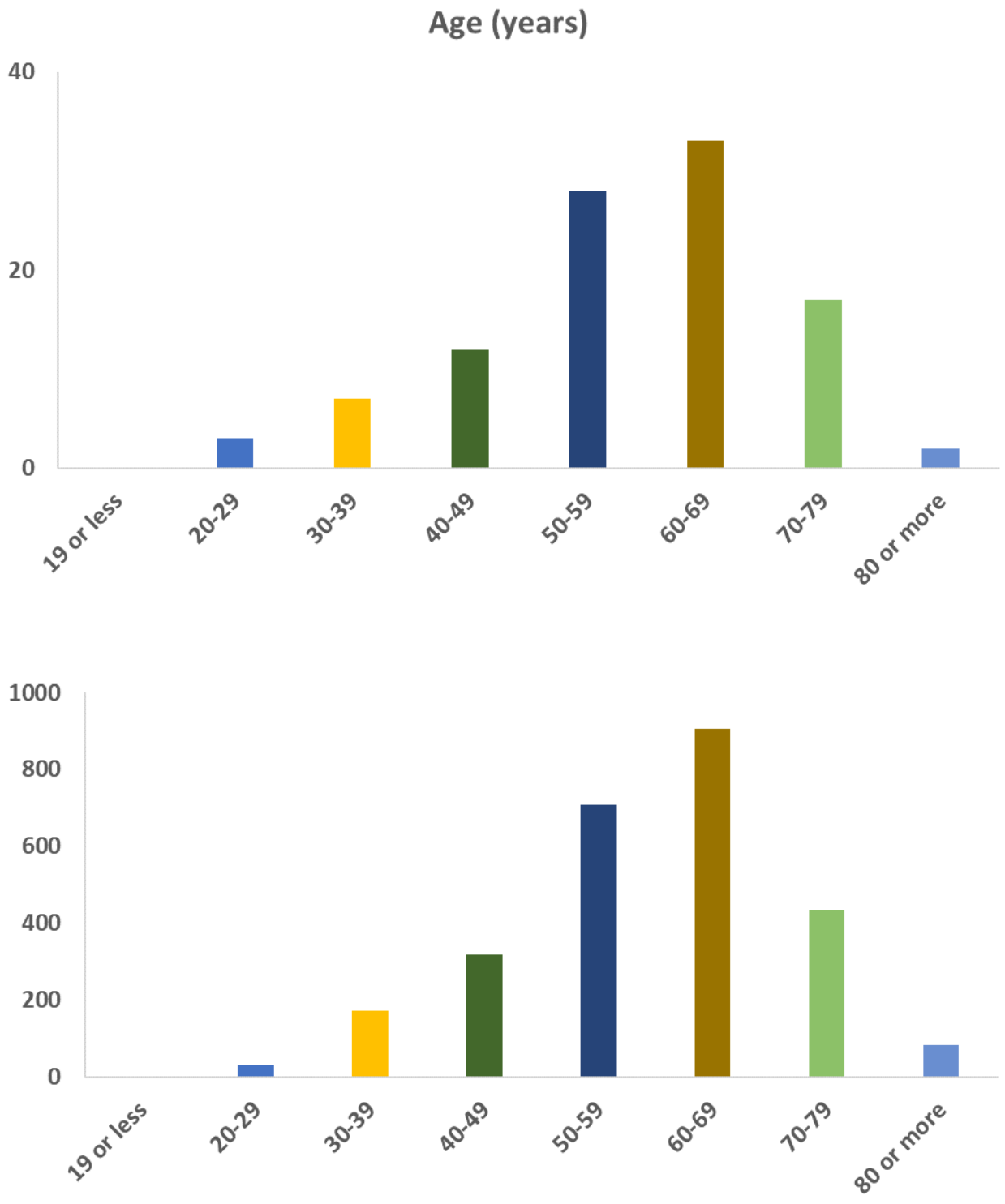



*Figure 85. West Texas and statewide comparison, age (years, frequency).*

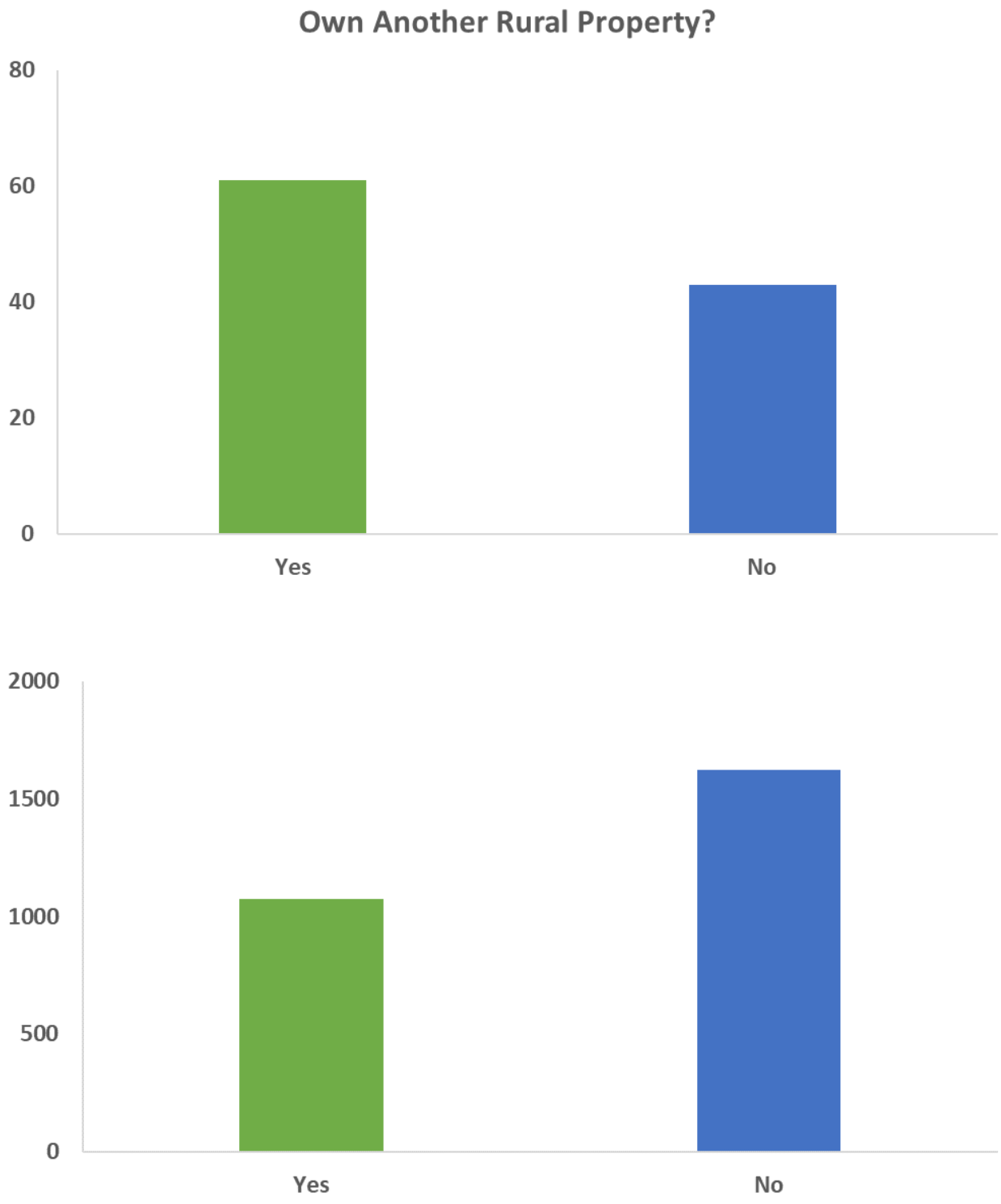



*Figure 86. West Texas and statewide comparison, own another rural property (frequency).*

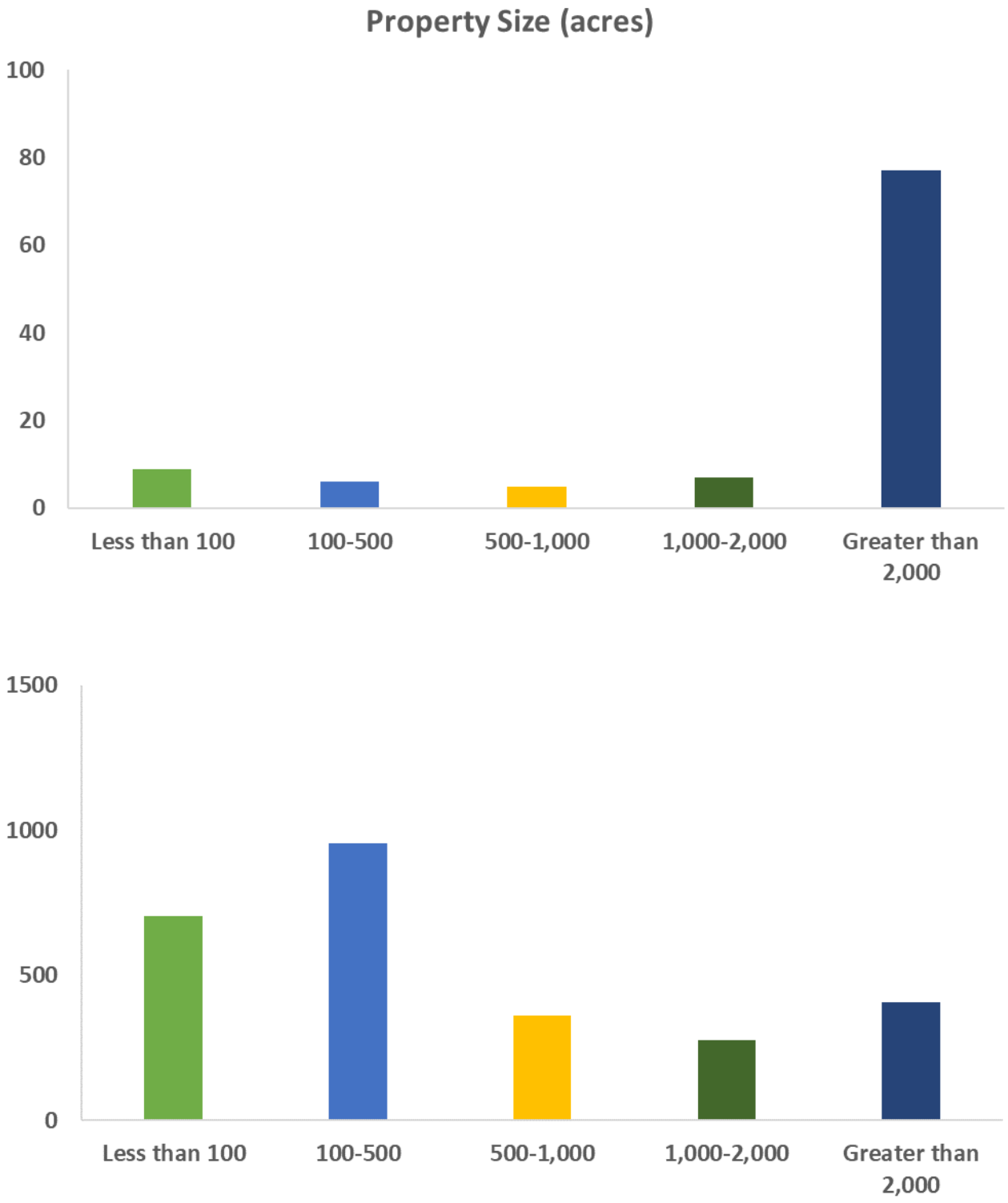



*Figure 87. West Texas and statewide comparison, property size (acres, frequency).*

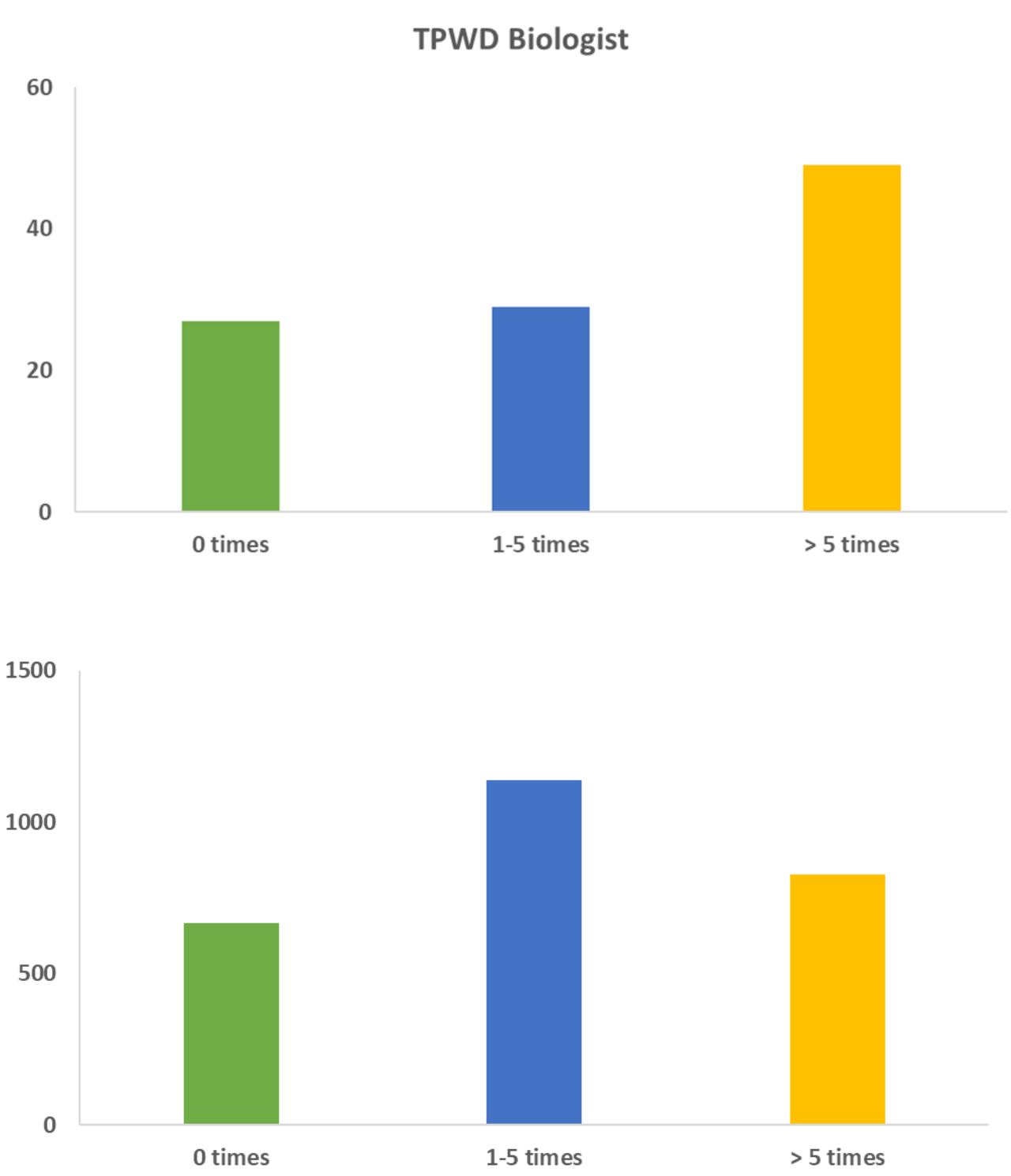



*Figure 88. West Texas and statewide comparison, frequency of interaction with a Texas Parks and Wildlife Department (TPWD) Biologist in the last 5 years (frequency).*

# Land Management

West Texas landowners differed slightly from their Statewide counterparts in how they preferred to manage their lands. Differences were also apparent in income, energy and wildlife categories. Landowners were asked to select their reasons for owning land. In order of preference, West Texas landowners listed hunting, ranching, and wildlife near equally as reasons for owning land, while Statewide respondents listed wildlife, family, and hunting. Family and recreation were fourth and fifth on the list for West Texas respondents versus recreation and ranching for Statewide landowners. Both groups favored hunting and wildlife watching as their primary recreational activities, with slight variations in preferences for ranching, experiencing nature, target practice, photography, and hiking for West Texas landowners and fishing, target practice and ATVs for Statewide respondents. Activities contributing income derived from the land for West Texas landowners included (in order) ranching, hunting, mineral rights, oil/gas, and no income. For Statewide landowners (in order), ranching, no income, hunting, farming, and land leases (non-hunting) were the main sources of income derived from the land. It's important to note many landowners indicated they earned either no income or less than 25% of their annual household income from their land. These activities offer a snapshot of land-based income sources for landowners.

Landowners were also asked about their energy land management preferences. West Texas landowners were similar to Statewide landowners. Both owned minerals and leased to others, with West Texas landowners appearing more likely to manage minerals for someone else. West Texas landowners leaned towards *not at all likely* to designate all or part of their land for wind and solar energy. Given the larger land holdings of this landowner group and that some landowners may own more than one rural property, it is important to consider that a few respondents appear to be open to the idea of designating all or a portion of their lands for energy development. Developing targeted outreach programs to assist landowners with meeting their land management goals, achieving a level of success, and obtaining a source of income, if that is part of their land management goals, is important, because many landowners do not currently derive income from their lands and there are many push and pull factors influencing land use changes over time. Selling all or a portion of one's mineral rights was strongly not at all likely an option for most landowners.

Finally, with respect to wildlife and land management, West Texas landowners differed from Statewide landowners. Both groups primarily do not lease their land for hunting, although proportionally, West Texas landowners do so more often than their Statewide counterparts. West Texas landowners have a preference for hunting (in order) quail, coyotes, dove, mule deer, feral hogs, and white-tailed deer, whereas Statewide landowners prefer to hunt (in order) white-tailed deer, feral hogs, coyotes, dove, turkey, and ducks. The primary hunted species for West Texas was mule deer, followed by white-tailed deer and quail. Statewide landowners preferred to hunt white-tailed deer, followed by "do not hunt", and feral hogs. There is a contrast between both groups with respect to hunting preferences and willingness to hunt. Finally, both groups appear to manage their lands to benefit wildlife, such as big game and quail, among others. Understanding West Texas landowners' management needs will help natural resource professionals develop targeted and relevant programs that will help landowners succeed.

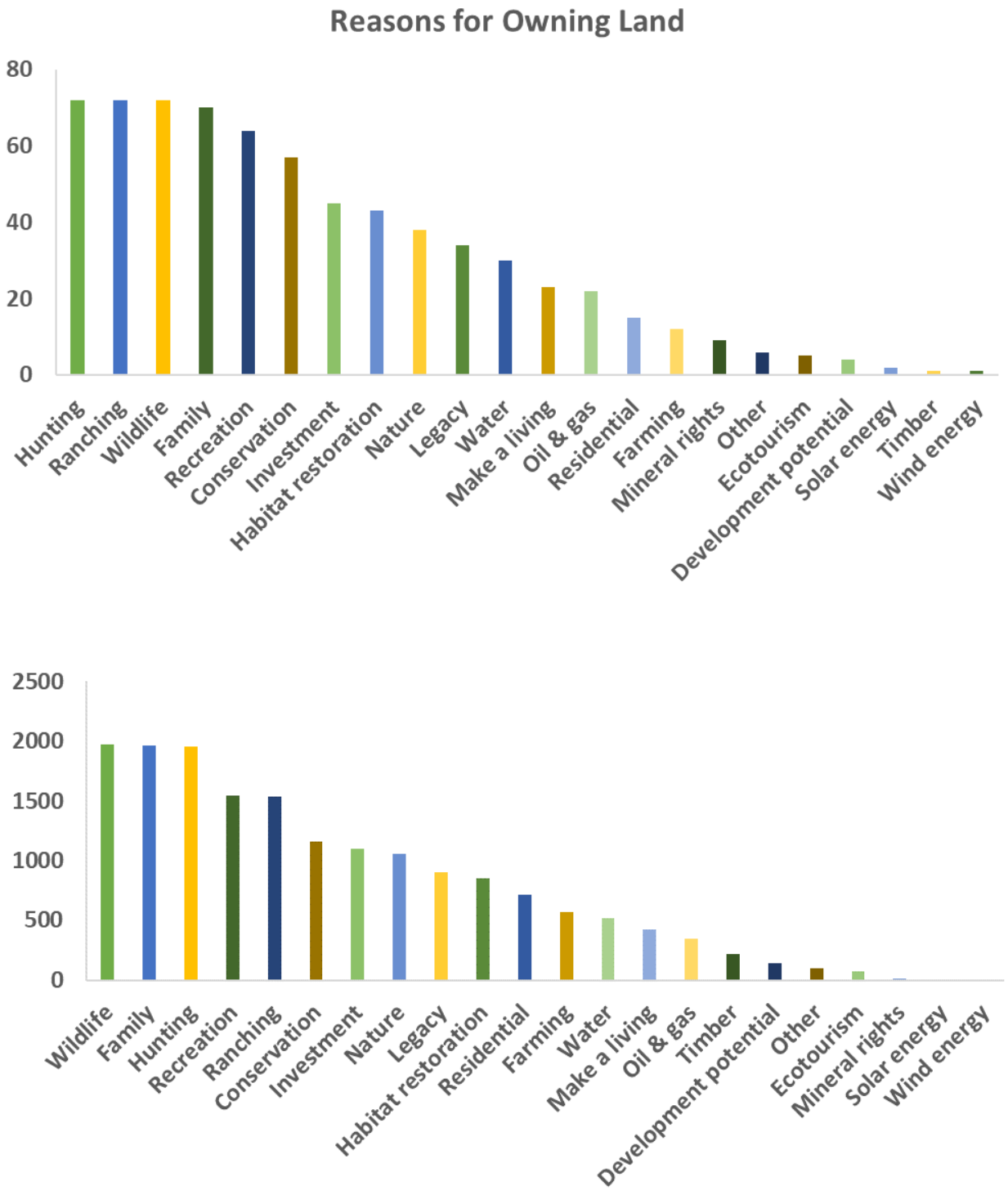



*Figure 89. West Texas and statewide comparison, reasons for owning land (frequency).**

*Because mineral rights, solar energy, and wind energy topics were new topics introduced in the Summer 2019 survey (n=121), and not present in the 2016 survey (n=3,103), this may have contributed to the low response rate for these categories.

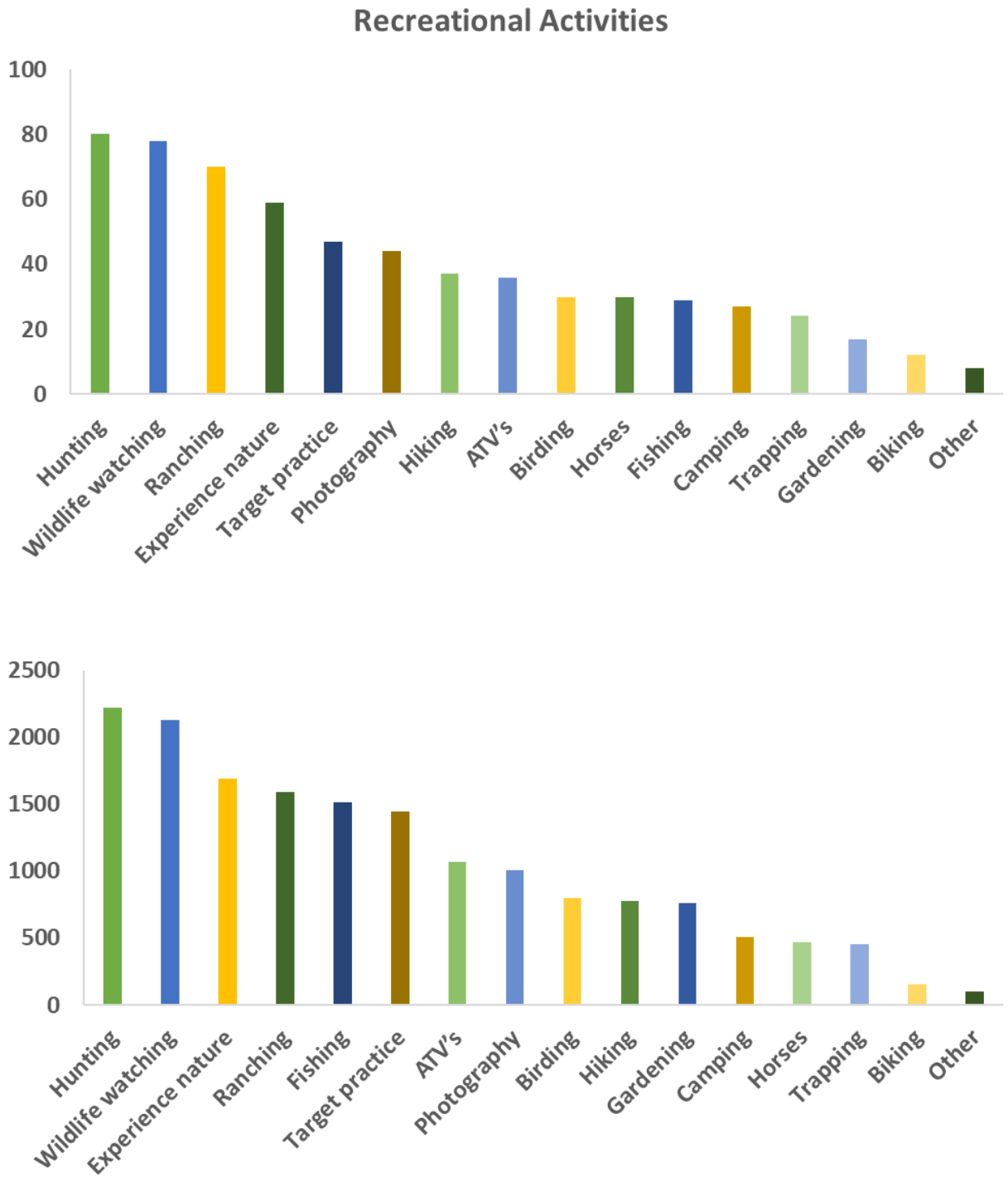



*Figure 90. West Texas and statewide comparison, recreational activities (frequency).*

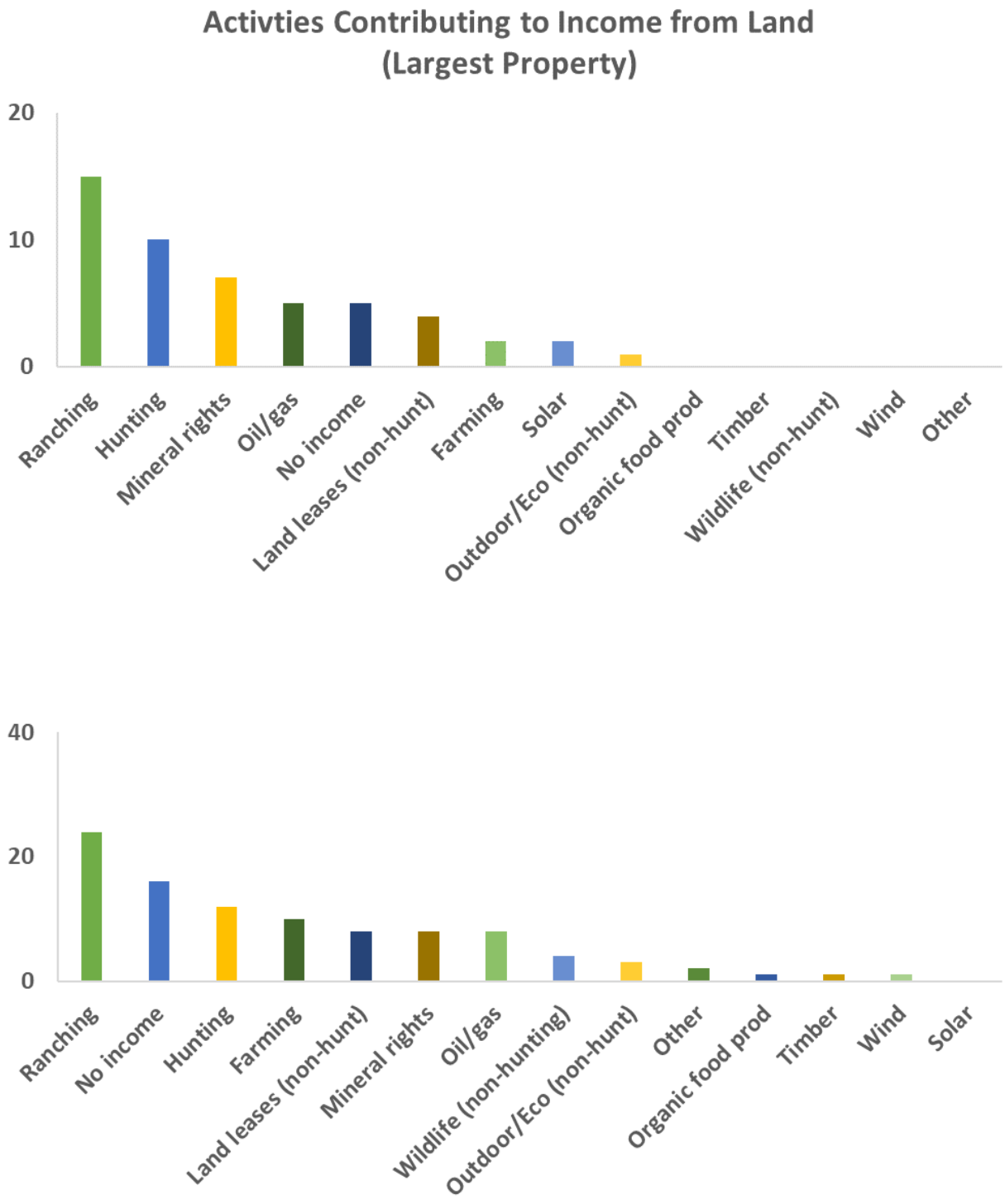



*Figure 91. West Texas and statewide comparison, activities contributing to income from land (largest property, frequency).**

*Because this was a new question administered in the Summer 2019 survey, the low sample size reflects the low response rate (n=121) compared to the 2016 survey (n=3,103); however, the sample allowed for a general statewide vs. West Texas comparison.

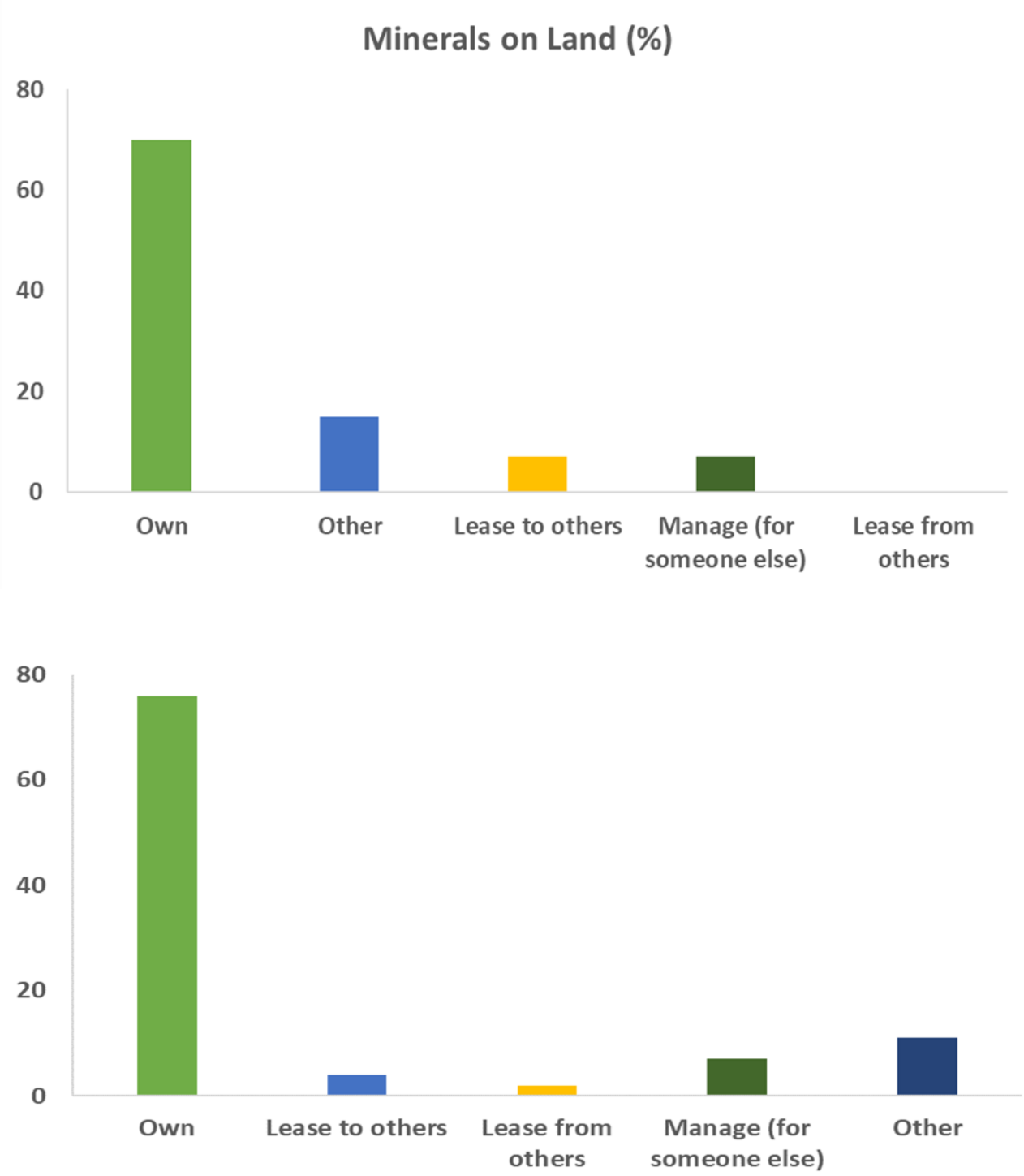



*Figure 92. West Texas and statewide comparison, minerals on land.**

*Because this was a new question administered in the Summer 2019 survey, the low sample size reflects the low response rate (n=121) compared to the 2016 survey (n=3,103); however, the sample allowed for a general statewide vs. West Texas comparison.

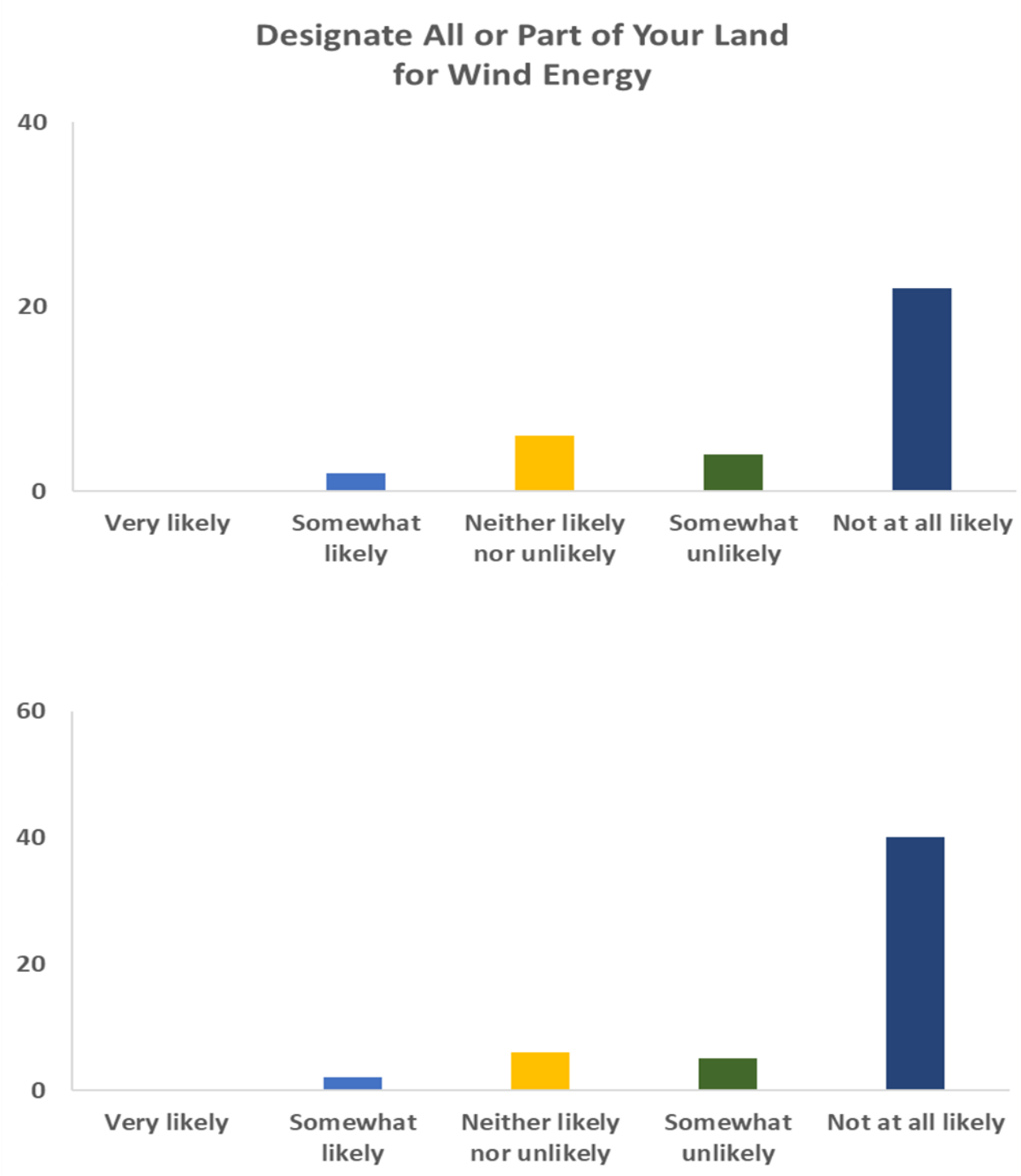



*Figure 93. West Texas and statewide comparison, likelihood of designating land for wind energy in the next 10 years (frequency).**

*Because this was a new question administered in the Summer 2019 survey, the low sample size reflects the low response rate (n=121) compared to the 2016 survey (n=3,103); however, the sample allowed for a general statewide vs. West Texas comparison

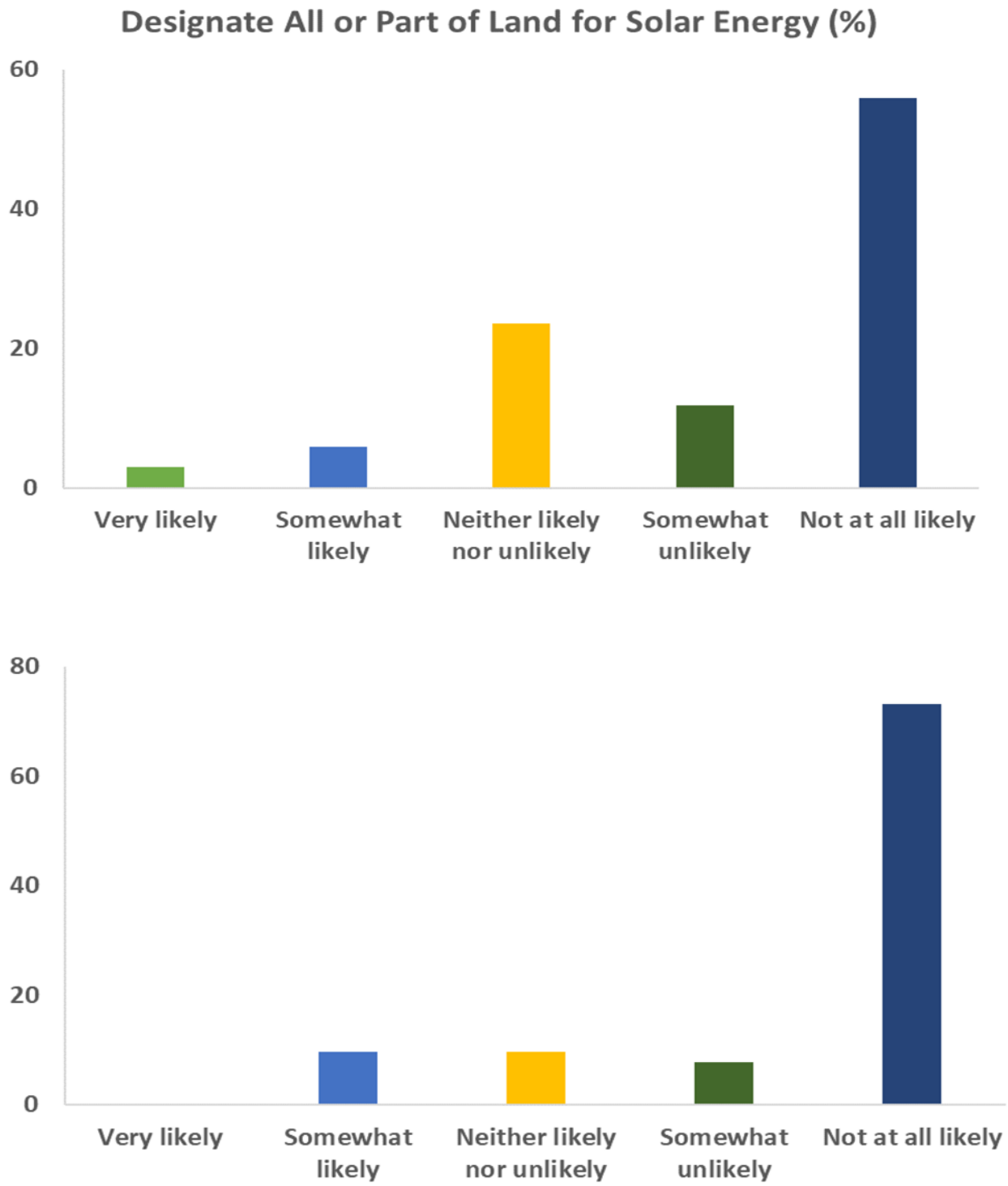



*Figure 94. West Texas and statewide comparison, likelihood of designating land for solar energy in the next 10 years.**

*Because this was a new question administered in the Summer 2019 survey, the low sample size reflects the low response rate (n=121) compared to the 2016 survey (n=3,103); however, the sample allowed for a general statewide vs. West Texas comparison.

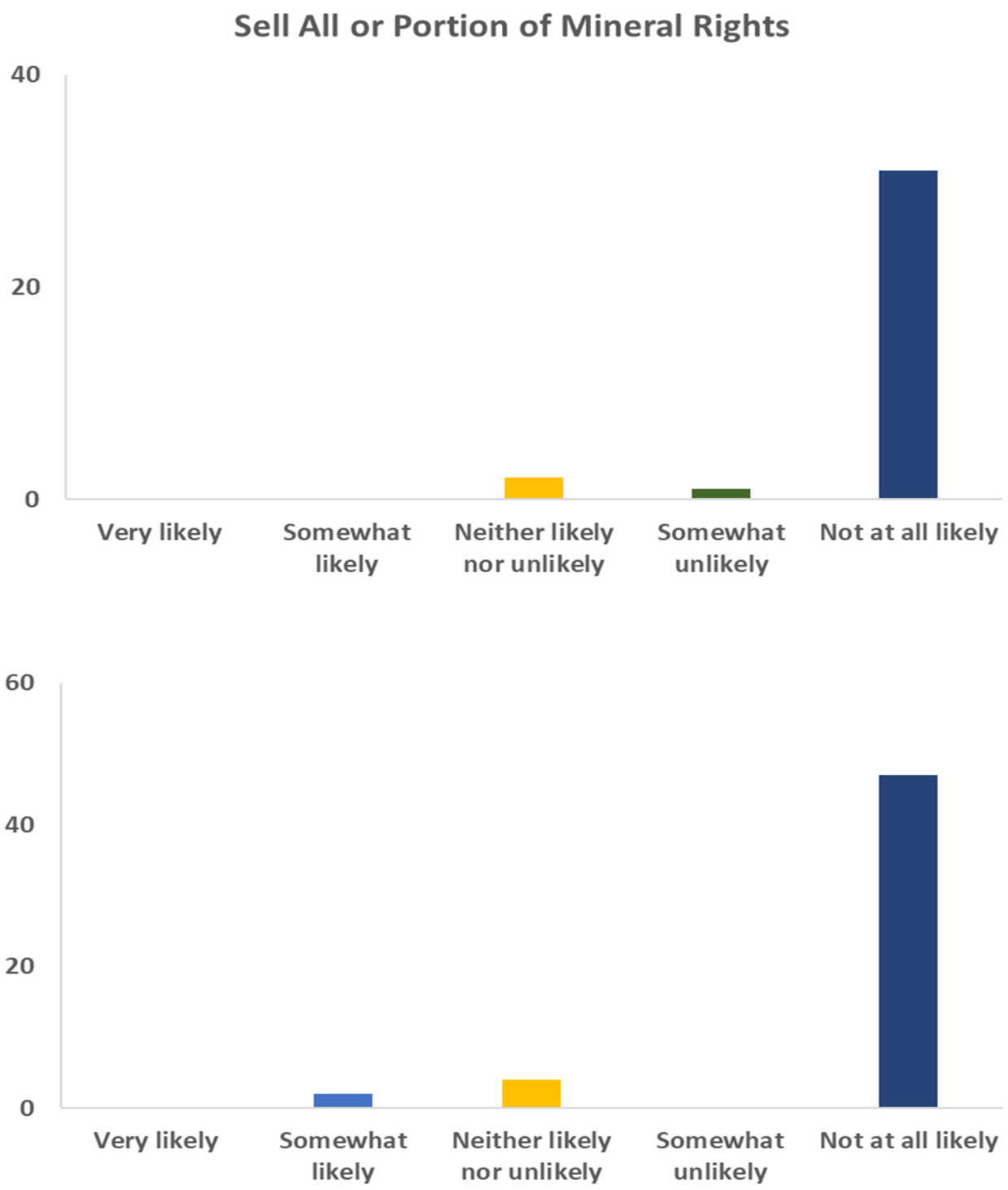



*Figure 95. West Texas and statewide comparison, likelihood of selling all or a portion of mineral rights in the next 10 years (frequency).**

*Because this was a new question administered in the Summer 2019 survey, the low sample size reflects the low response rate (n=121) compared to the 2016 survey (n=3,103); however, the sample allowed for a general statewide vs. West Texas comparison.

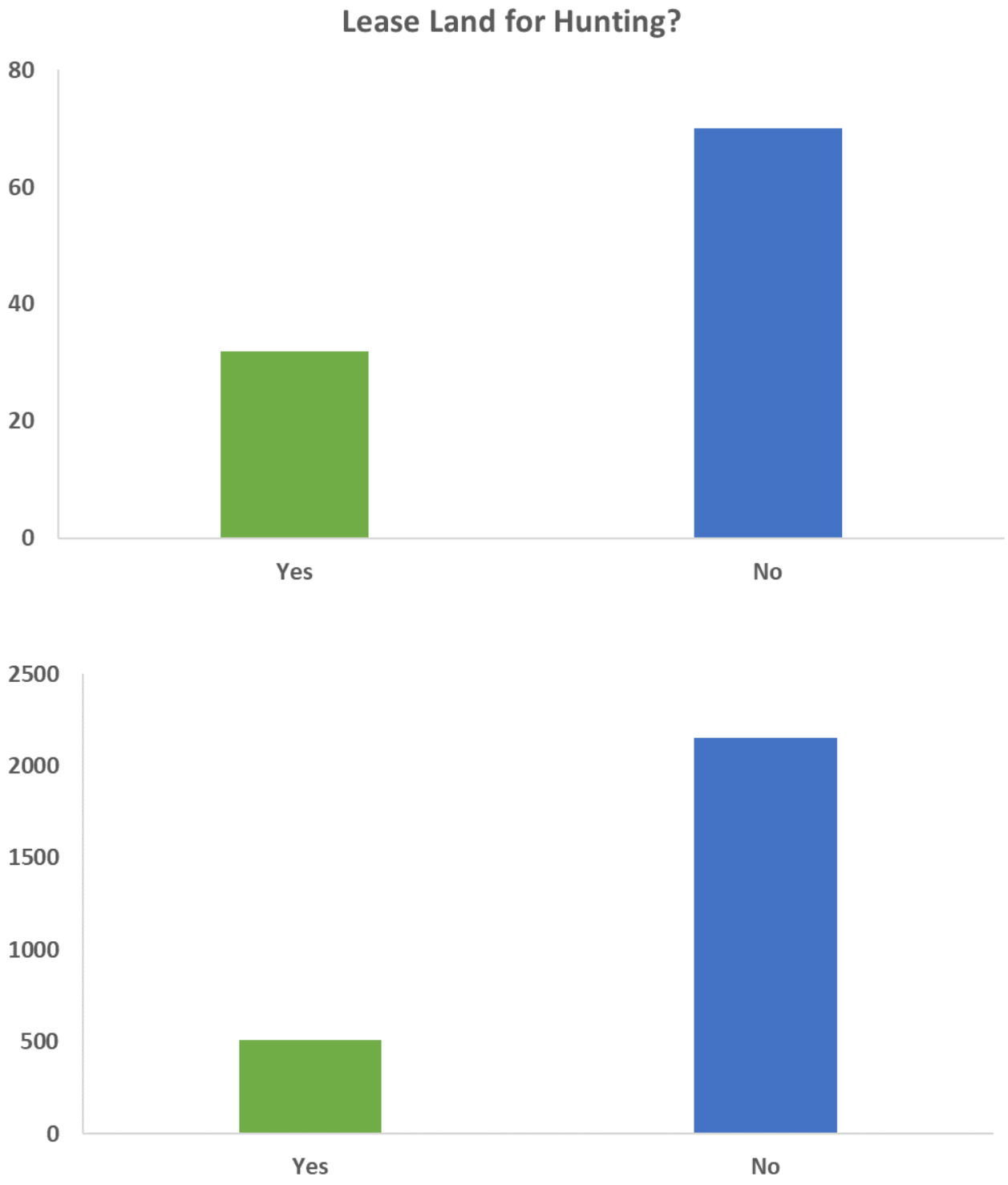



*Figure 96. West Texas and statewide comparison, lease land for hunting (frequency).*

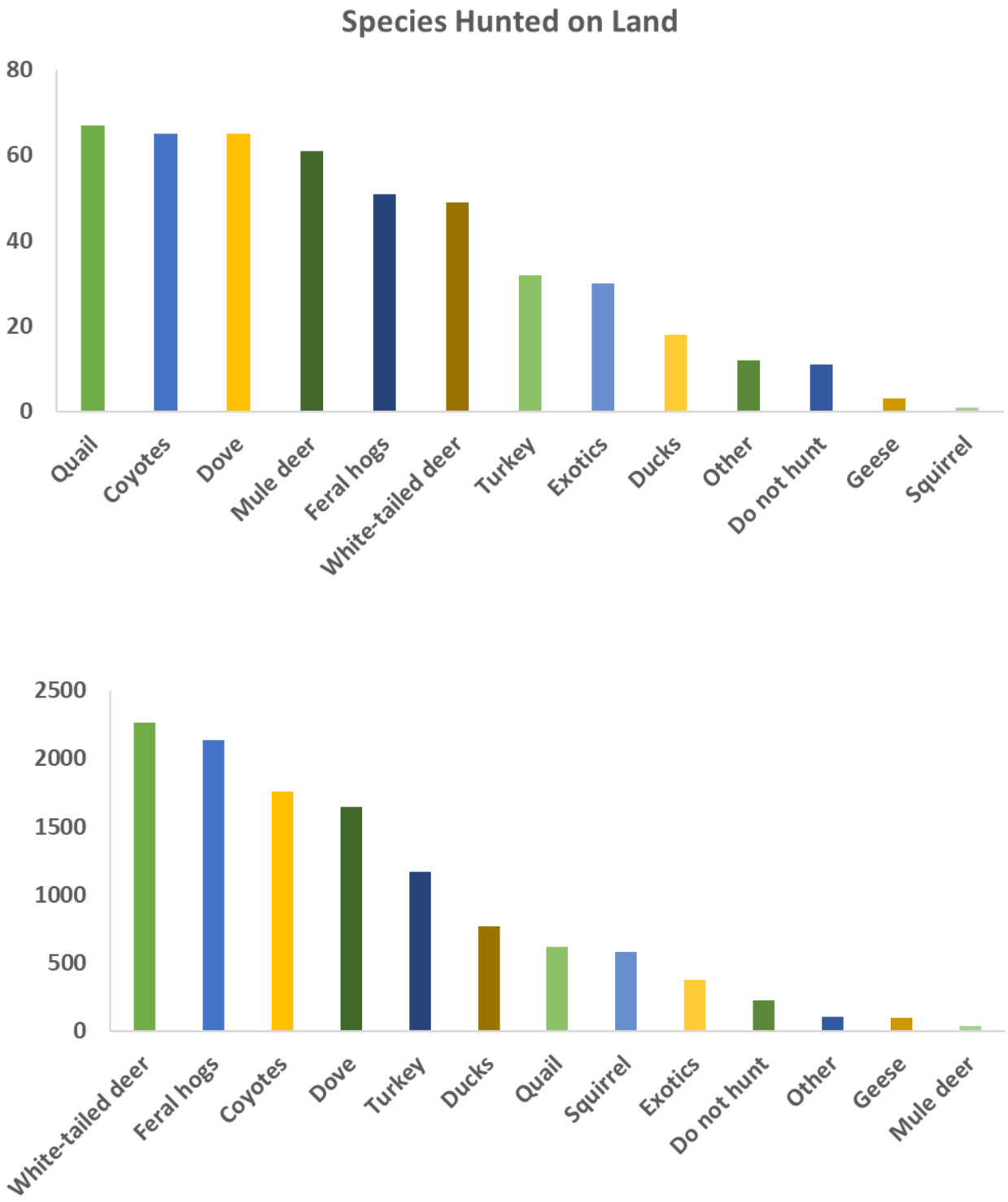



*Figure 97. West Texas and statewide comparison, species hunted on land (frequency).*

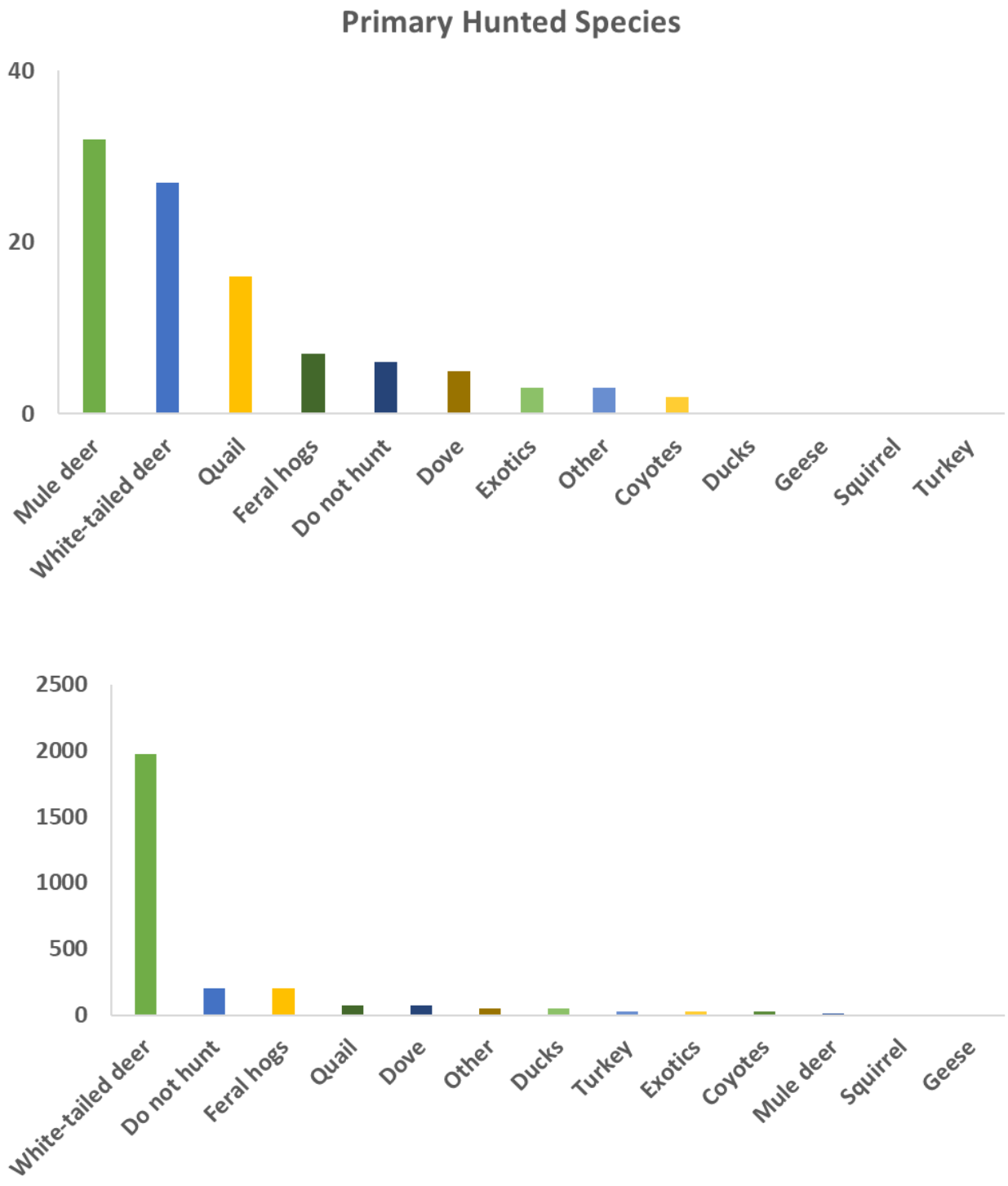



*Figure 98. West Texas and statewide comparison, primary hunted species (frequency).*

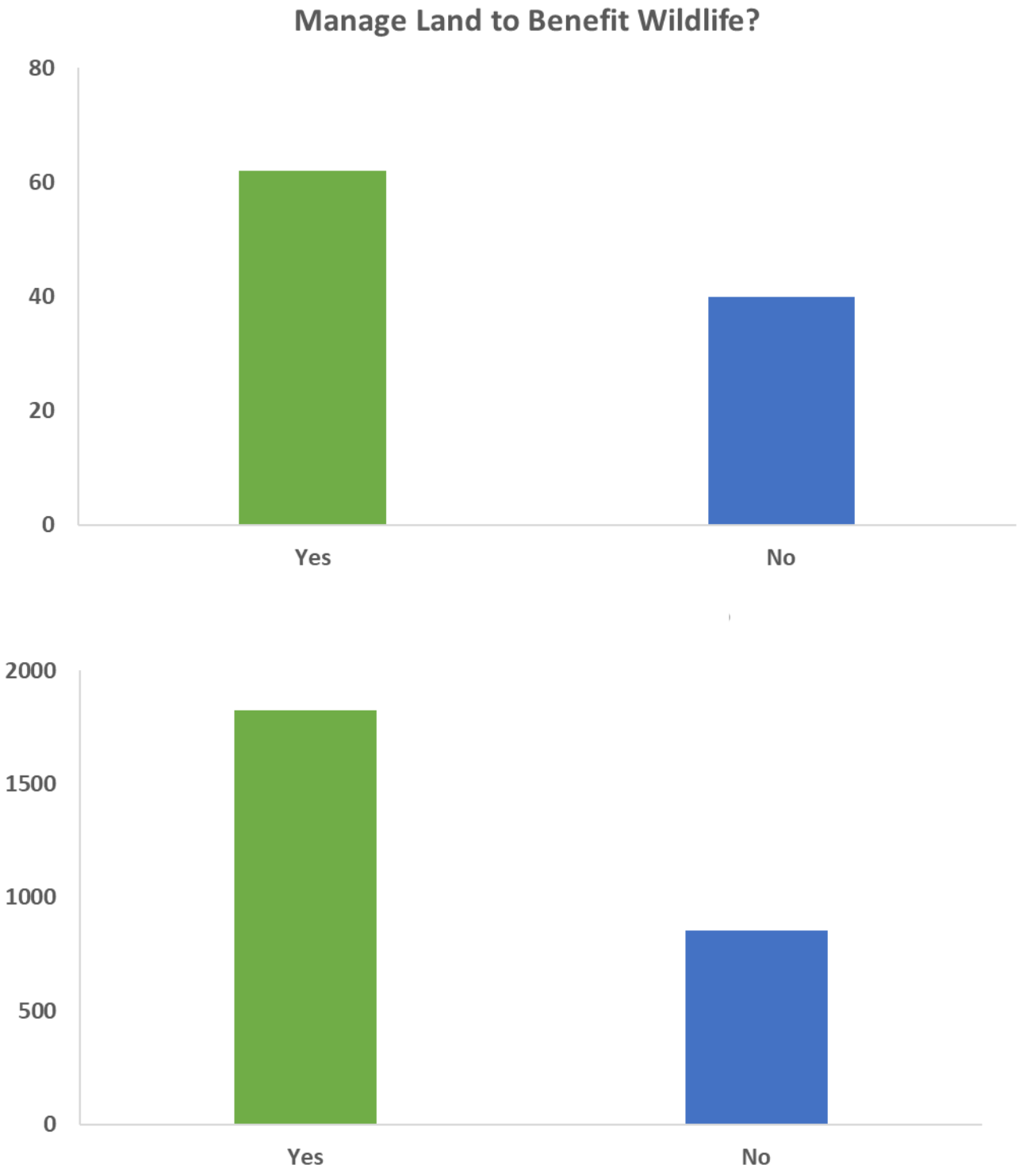



*Figure 99. West Texas and statewide comparison, manage land to benefit wildlife (frequency).*

# Landowner Concerns

West Texas and Statewide landowners expressed concerns regarding regulatory, energy, land use changes, and water ownership. Both groups were extremely concerned with eminent domain and estate taxes. In terms of oil and gas energy development, West Texas landowners were considerably more concerned (extremely and moderately) than their Statewide counterparts. West Texas landowners also moved from concern to finding aspects of oil and gas energy development extremely and moderately challenging. They also felt extremely and moderately concerned regarding wind energy development. Finally, West Texas landowners also expressed that land use changes and water ownership were extremely, moderately and somewhat challenging. Helping landowners better manage their land and prepare for current and future concerns and challenges will create more informed land managers and skilled land stewards across the state.

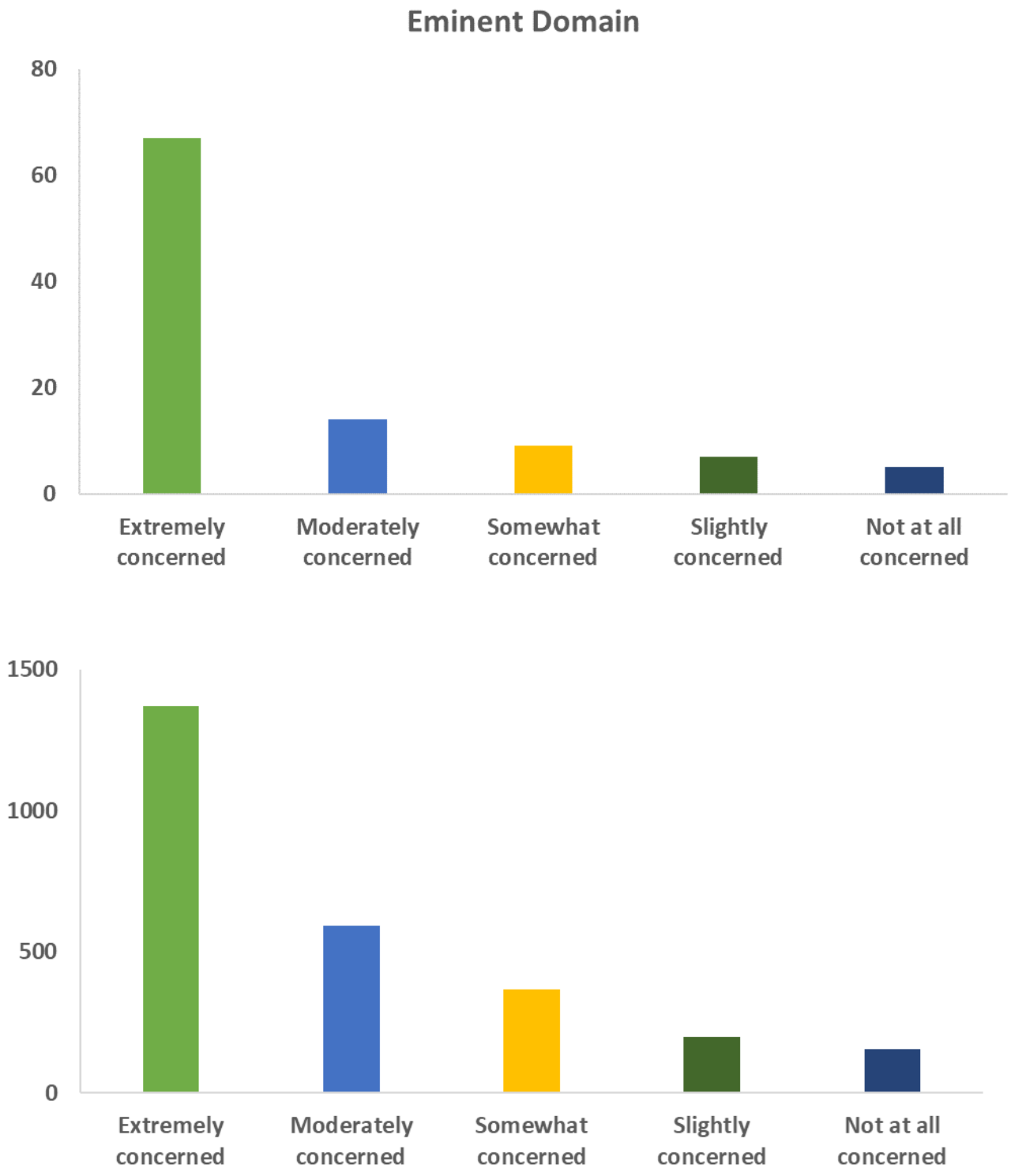



*Figure 100. West Texas and statewide comparison, level of concern regarding eminent domain (frequency).*

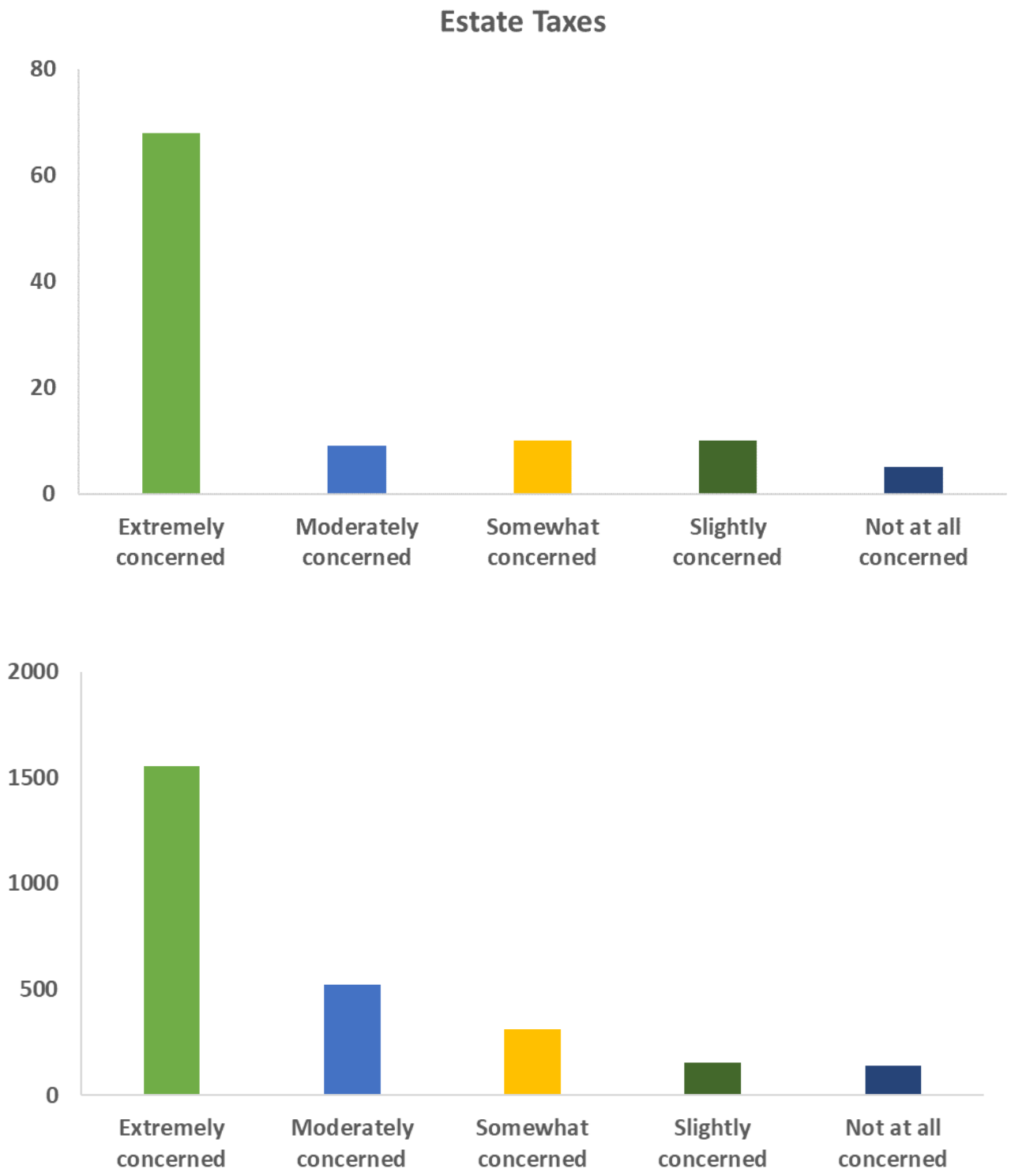



*Figure 101. West Texas and statewide comparison, level of concern regarding estate taxes (frequency).*

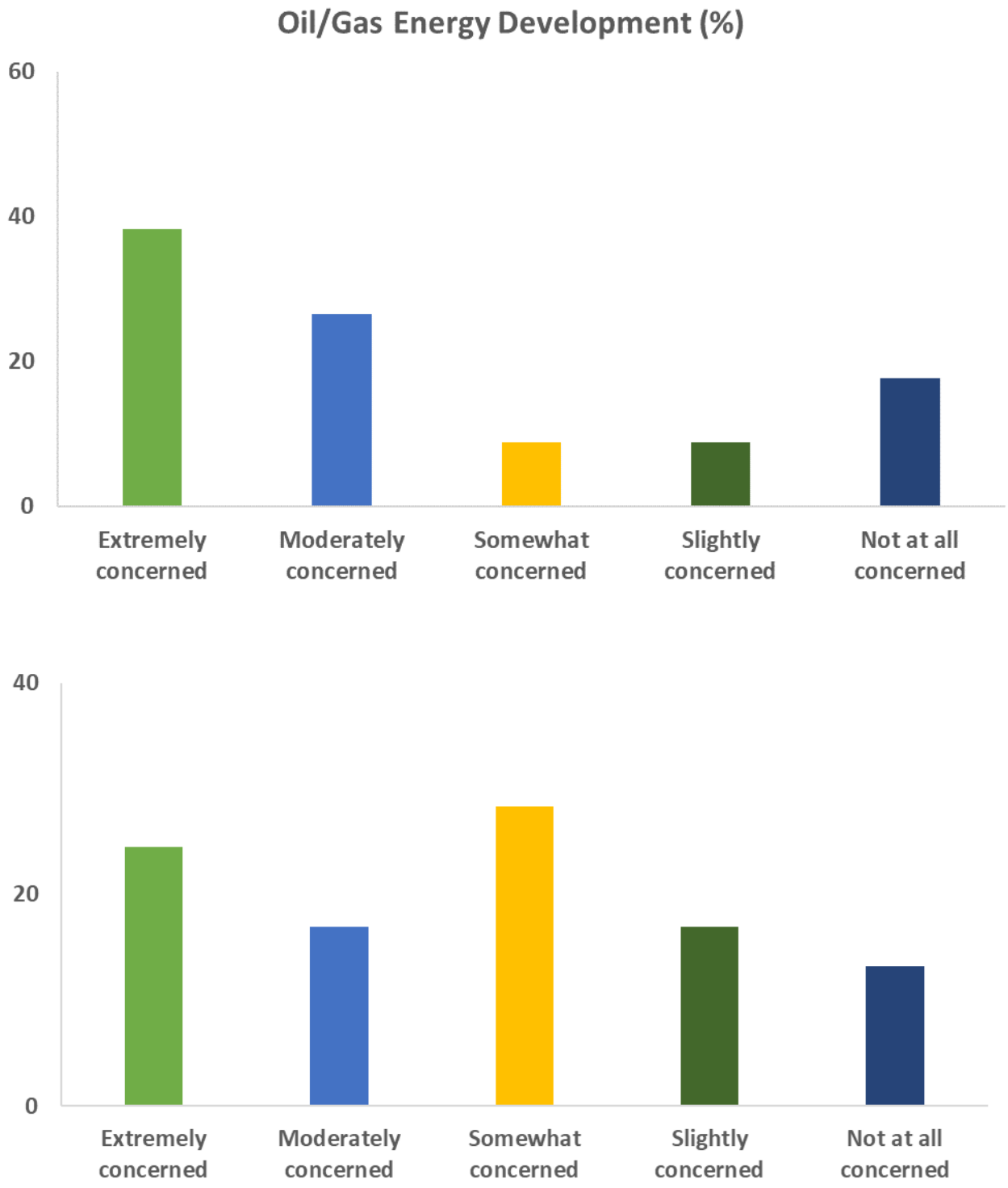



*Figure 102. West Texas and statewide comparison, level of concern regarding oil/gas energy development.**

*Because this was a new question administered in the Summer 2019 survey, the low sample size reflects the low response rate (n=121) compared to the 2016 survey (n=3,103); however, the sample allowed for a general statewide vs. West Texas comparison.

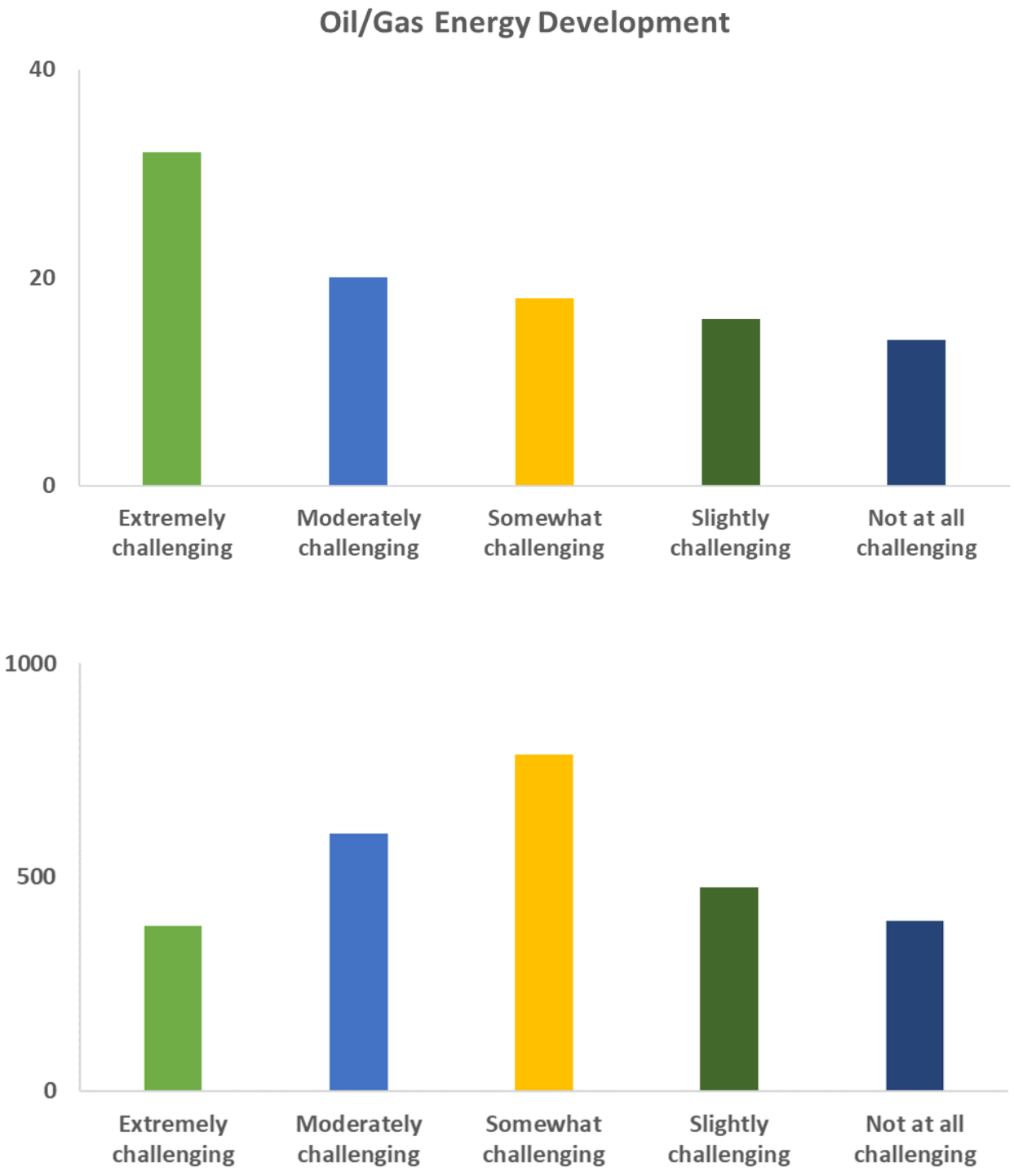



*Figure 103. West Texas and statewide comparison, how challenging is oil/gas energy development (frequency).*

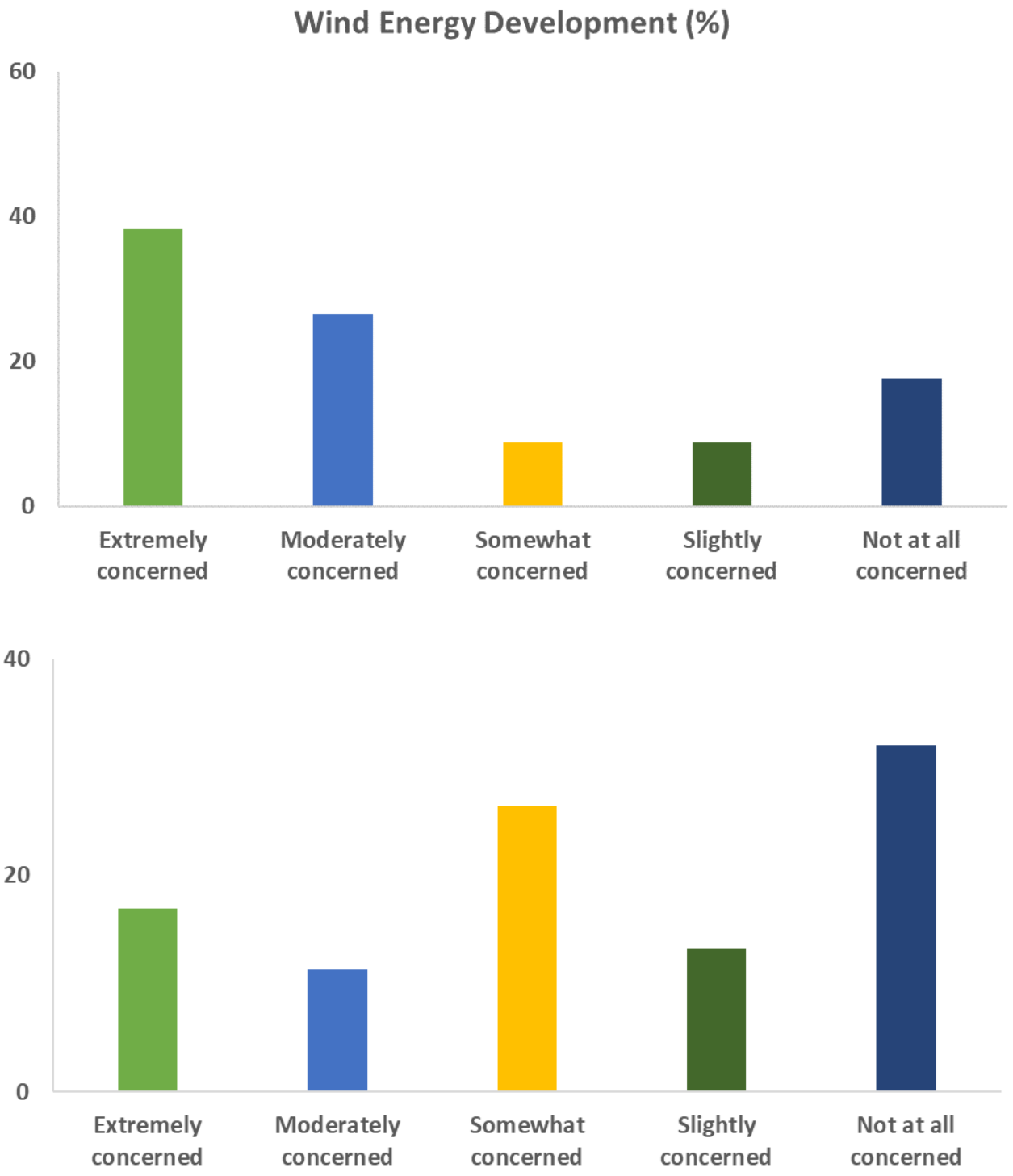



*Figure 104. West Texas and statewide comparison, level of concern regarding wind energy development.**

*Because this was a new question administered in the Summer 2019 survey, the low sample size reflects the low response rate (n=121) compared to the 2016 survey (n=3,103); however, the sample allowed for a general statewide vs. West Texas comparison.

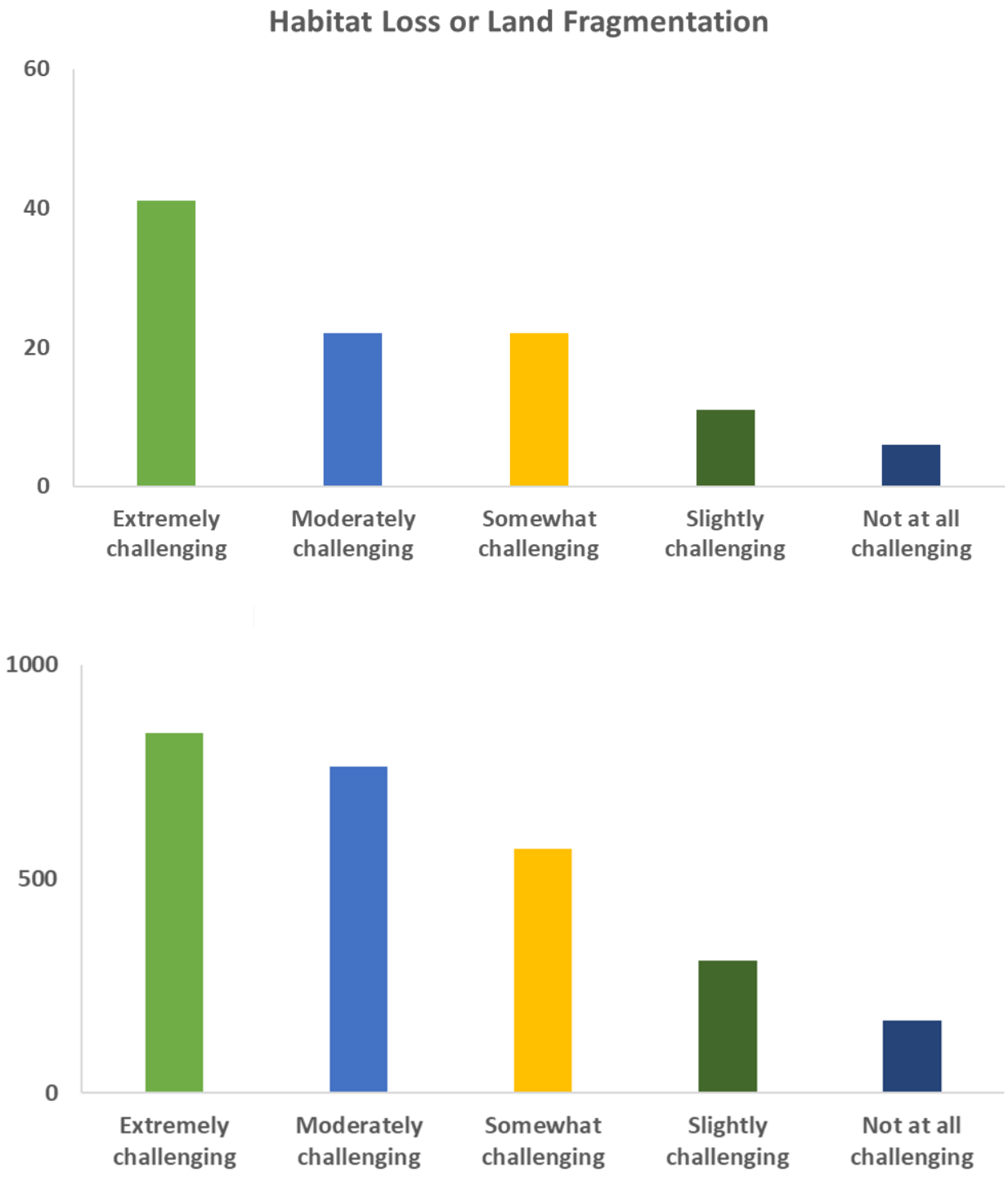



*Figure 105. West Texas and statewide comparison, how challenging is habitat loss or fragmentation (frequency).*

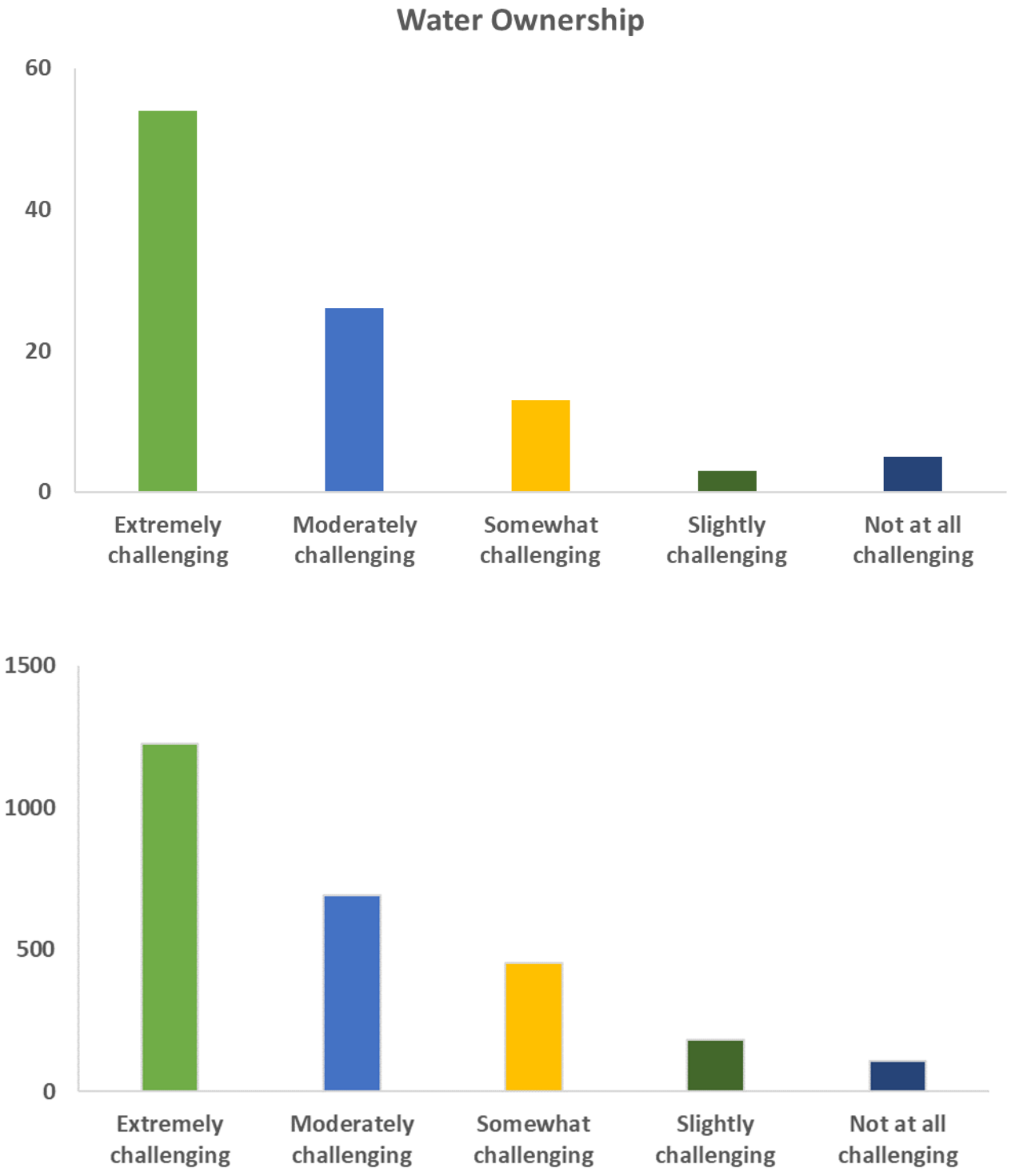
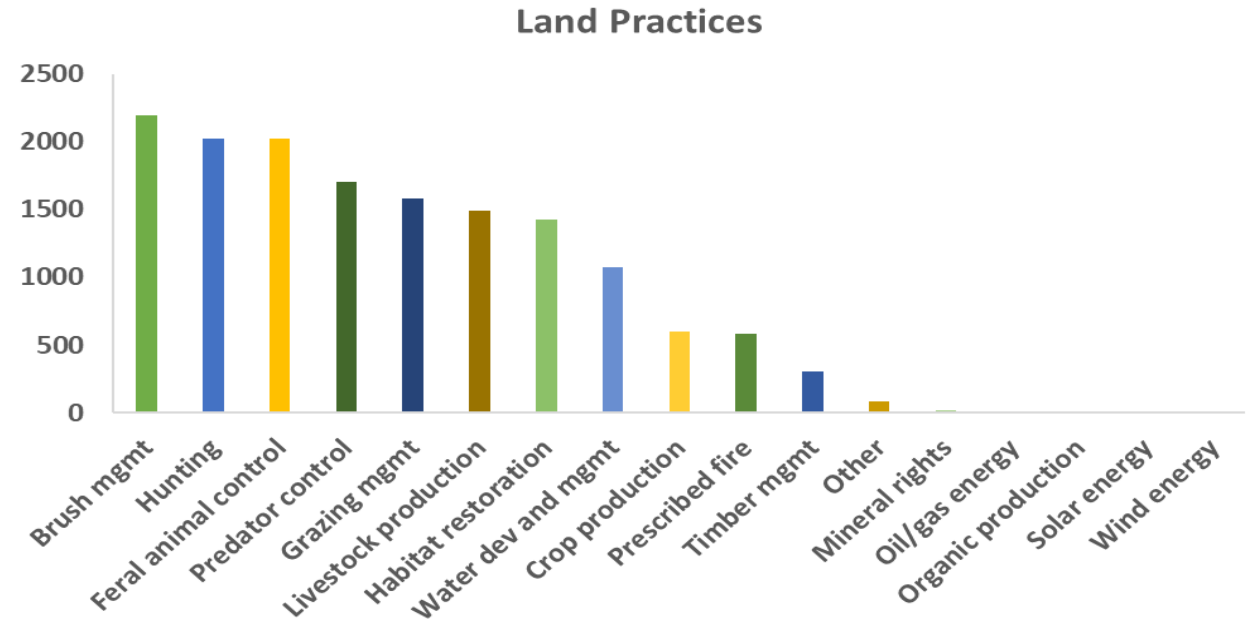



*Figure 106. West Texas and statewide comparison, how challenging is water ownership (frequency).*

# APPENDIX

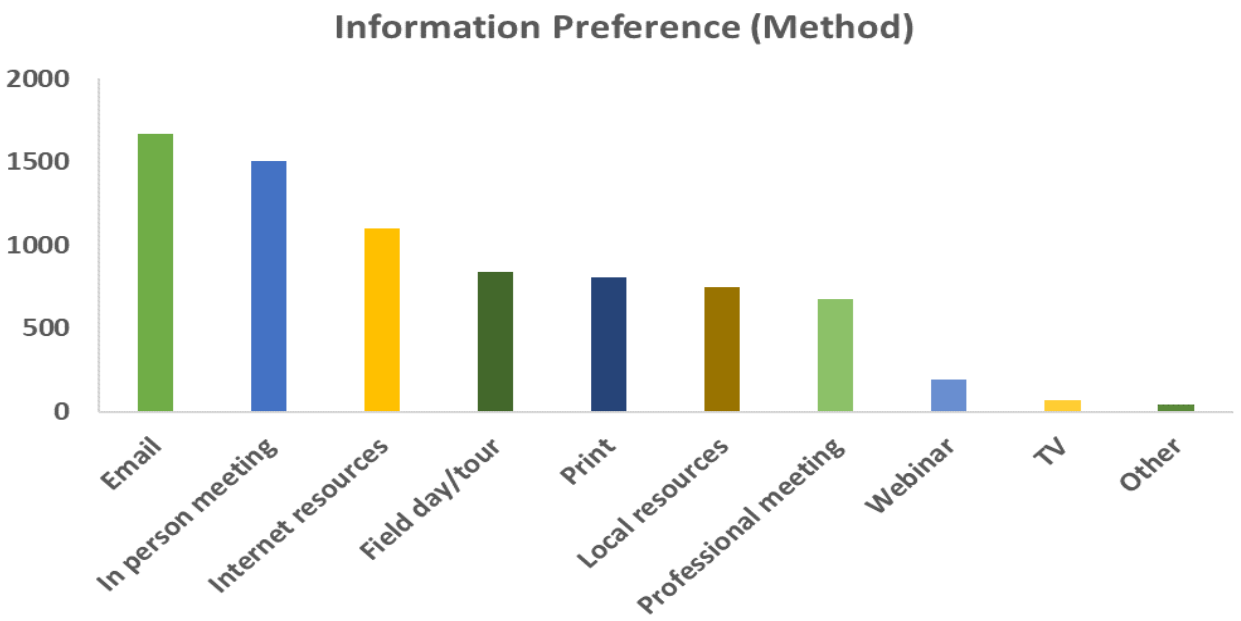
**Companion Statewide Graphs**



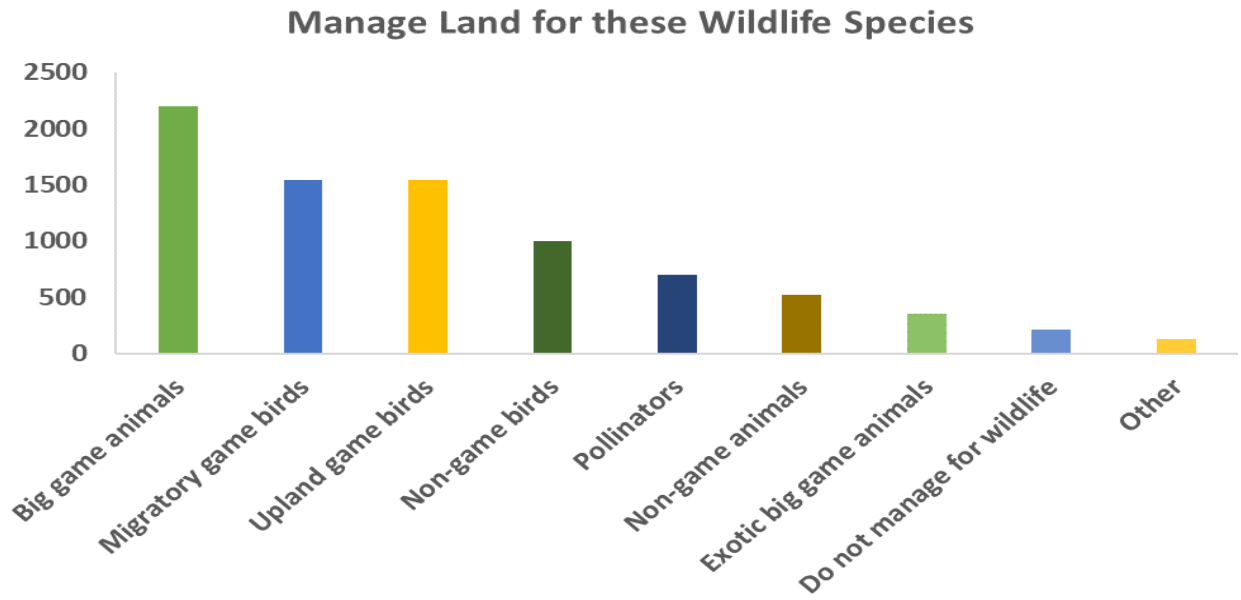

*Statewide – Land practices (frequency).**


*Statewide – Written management plan (frequency).*

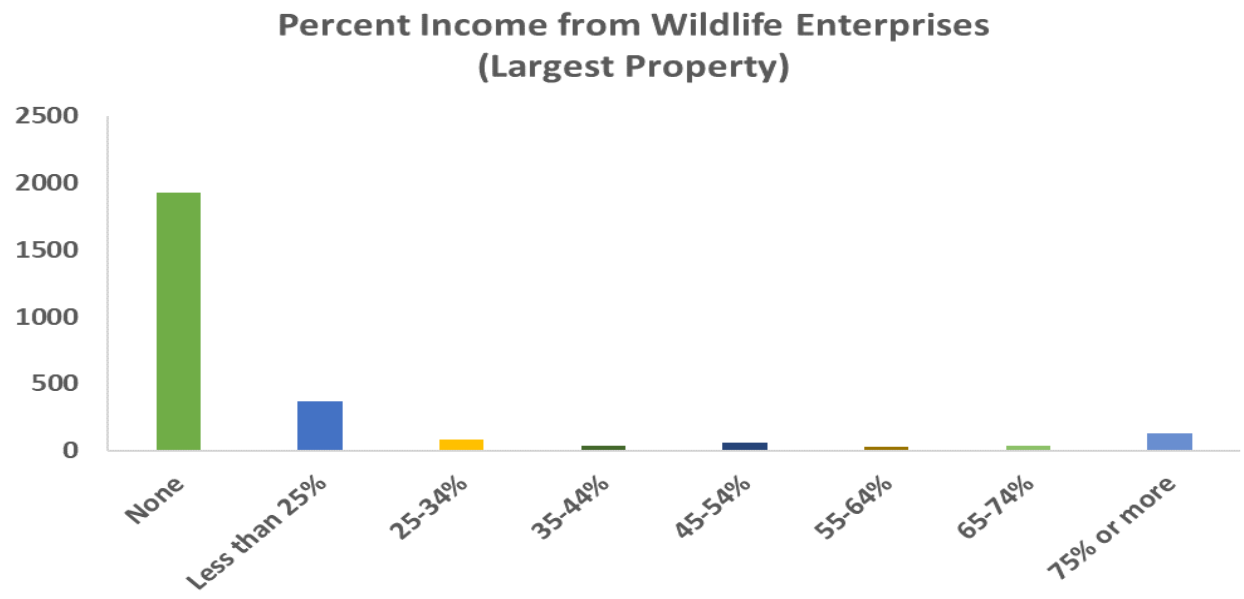
*Because oil/gas energy, mineral rights, solar energy, and wind energy topics were new topics introduced in the Summer 2019 survey (n=121), and not present in the 2016 survey (n=3,103), this may have contributed to the low response rate for these categories.



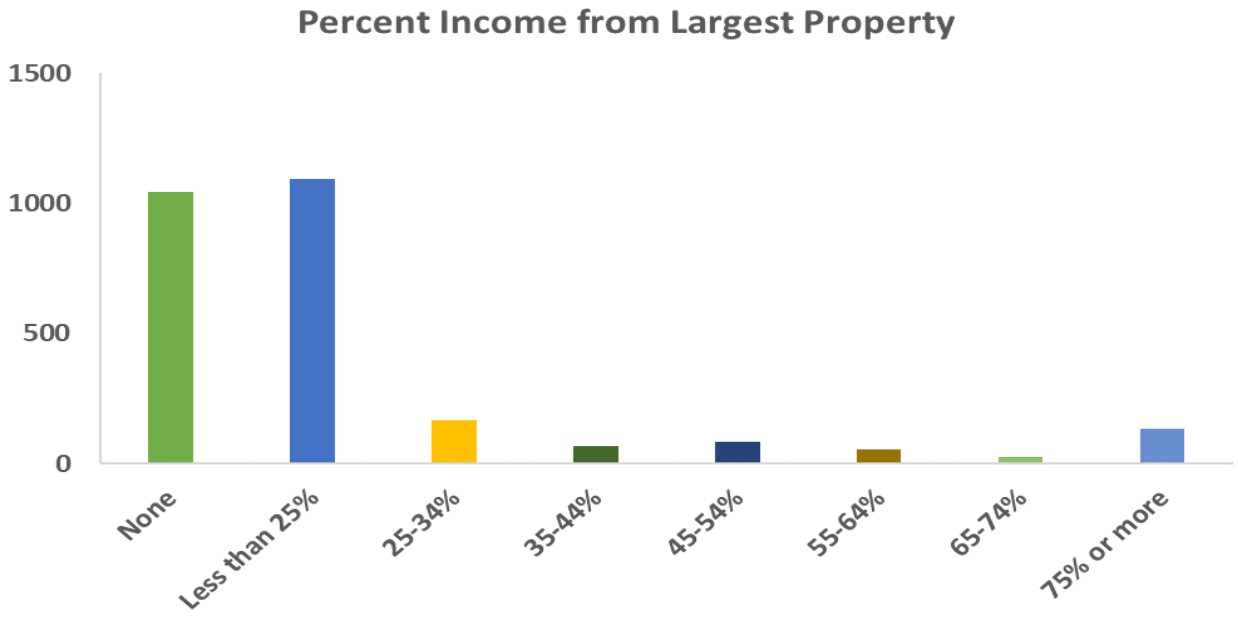

*Statewide – Information preference (method, frequency).*



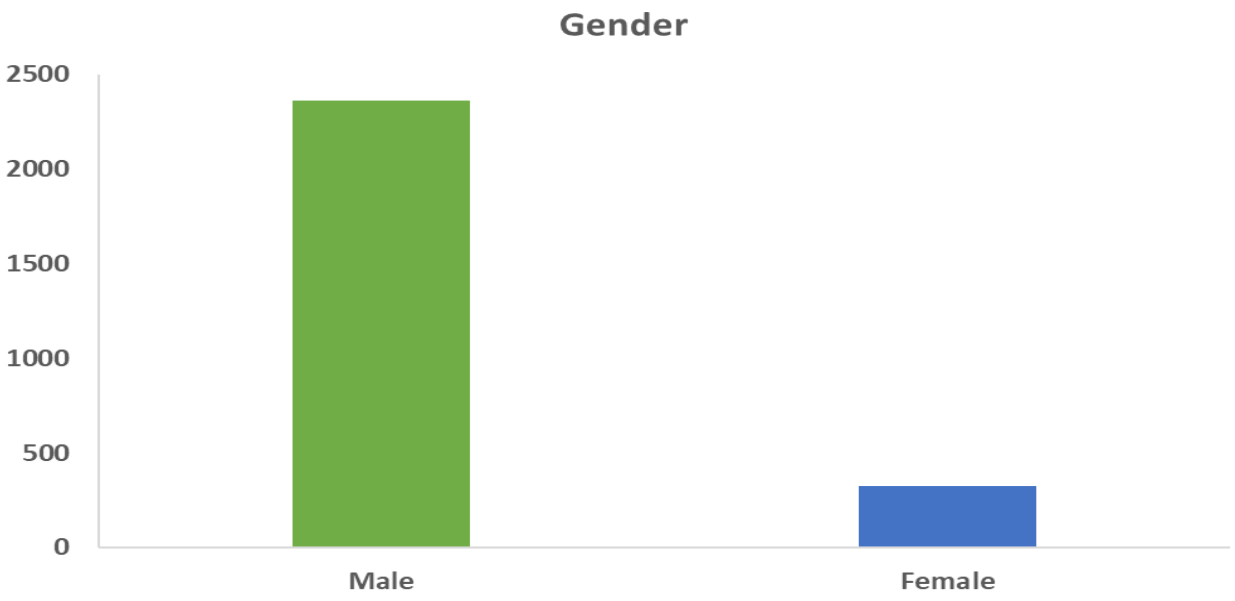

*Statewide – Manage land for wildlife species (frequency).*



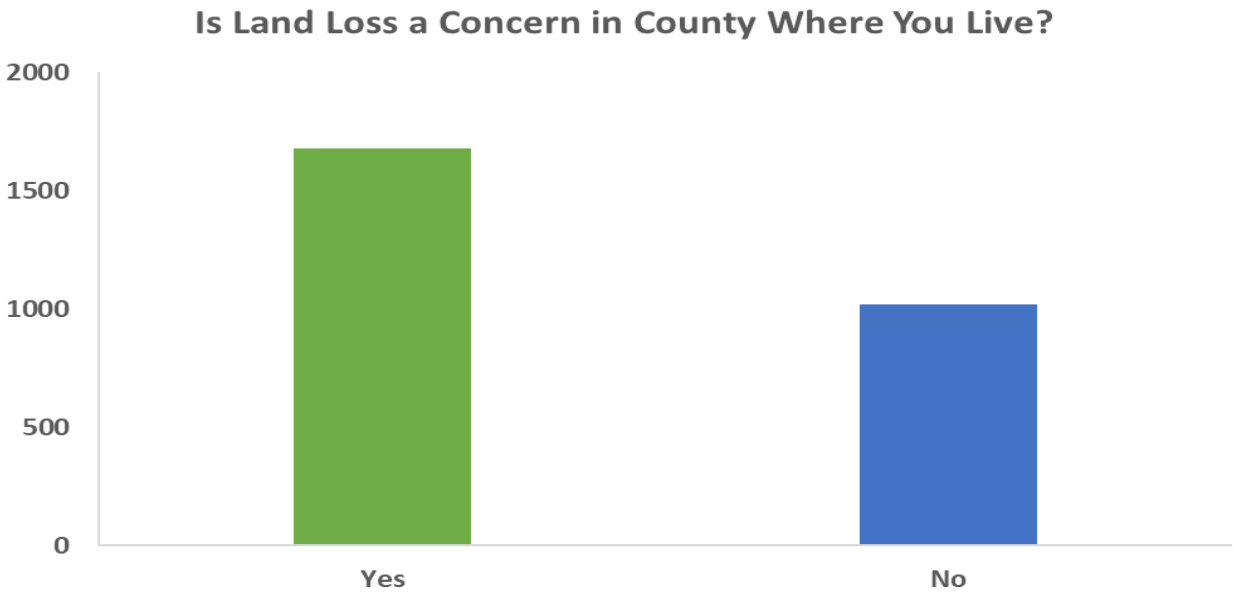

*Statewide – Percent income from wildlife enterprises (largest property, frequency).*



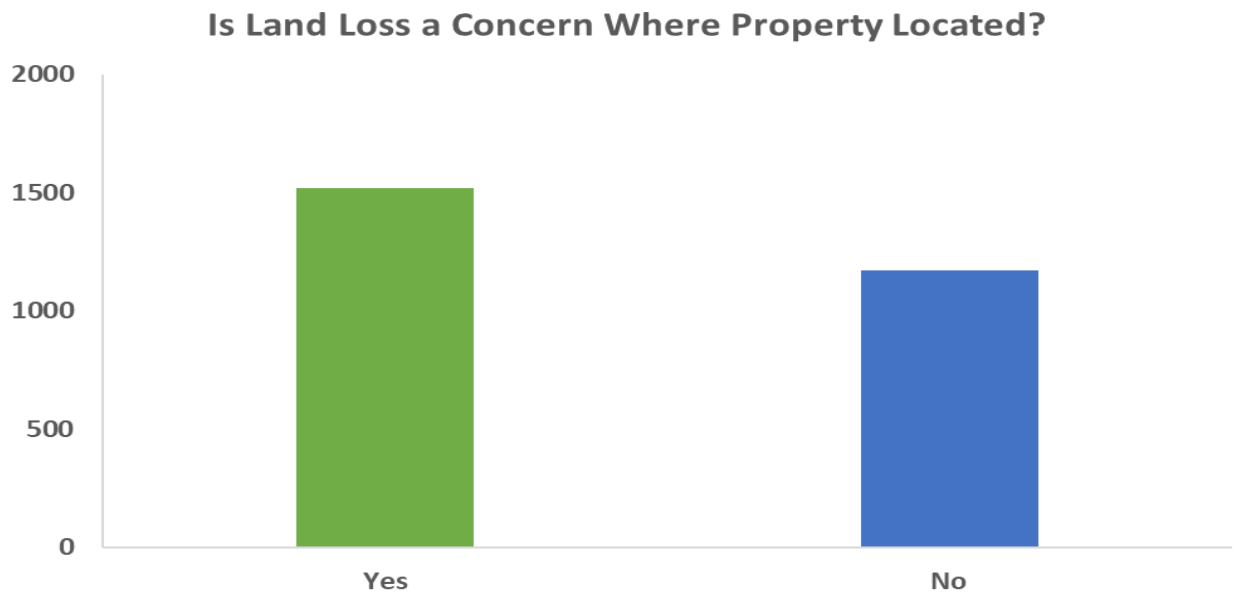

*Statewide – Percent income from largest property (frequency).*



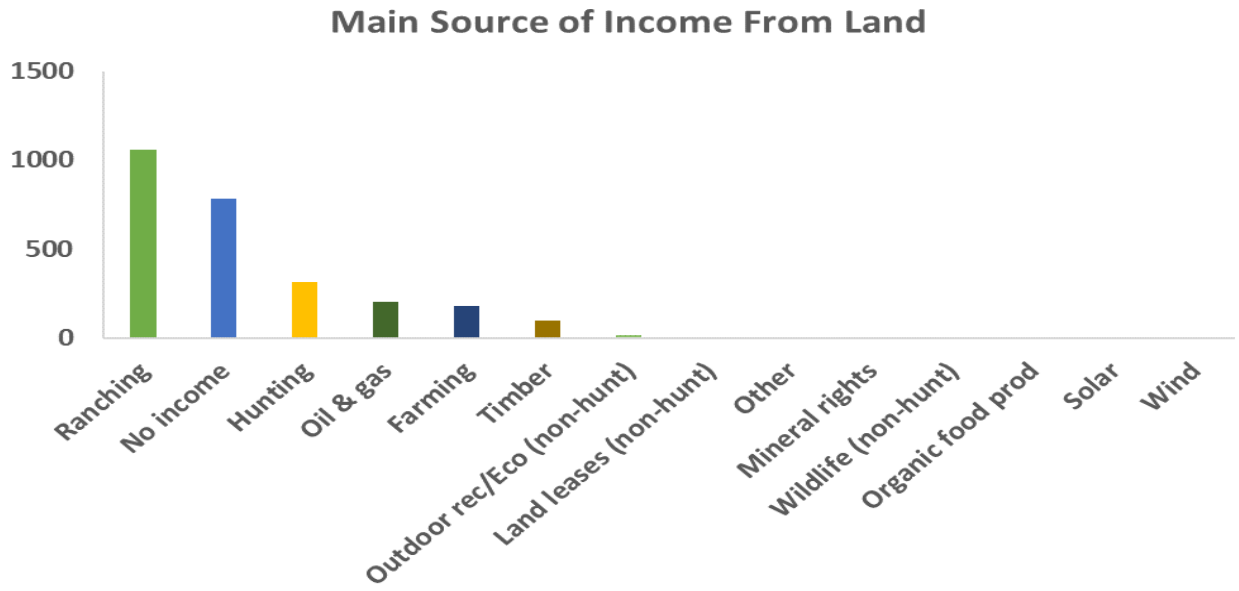

*Statewide – Gender (frequency).*




*Statewide – Is land loss a concern in county where you live (frequency)?.*

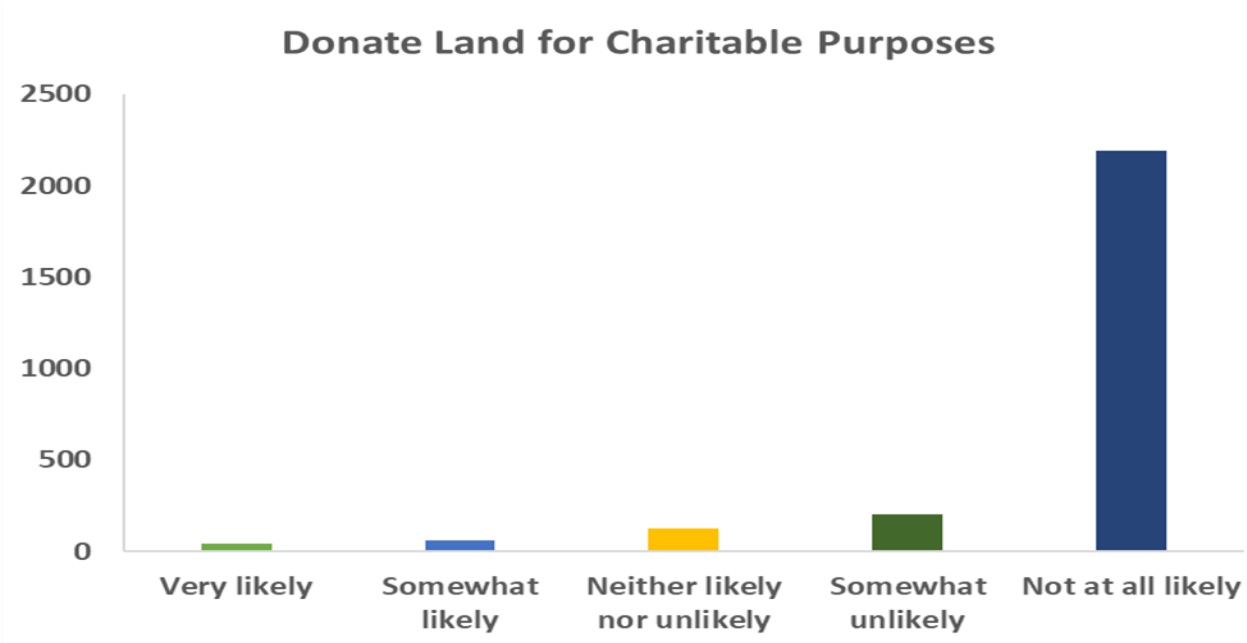



*Statewide – Is land loss a concern in county where property located (frequency)?.*

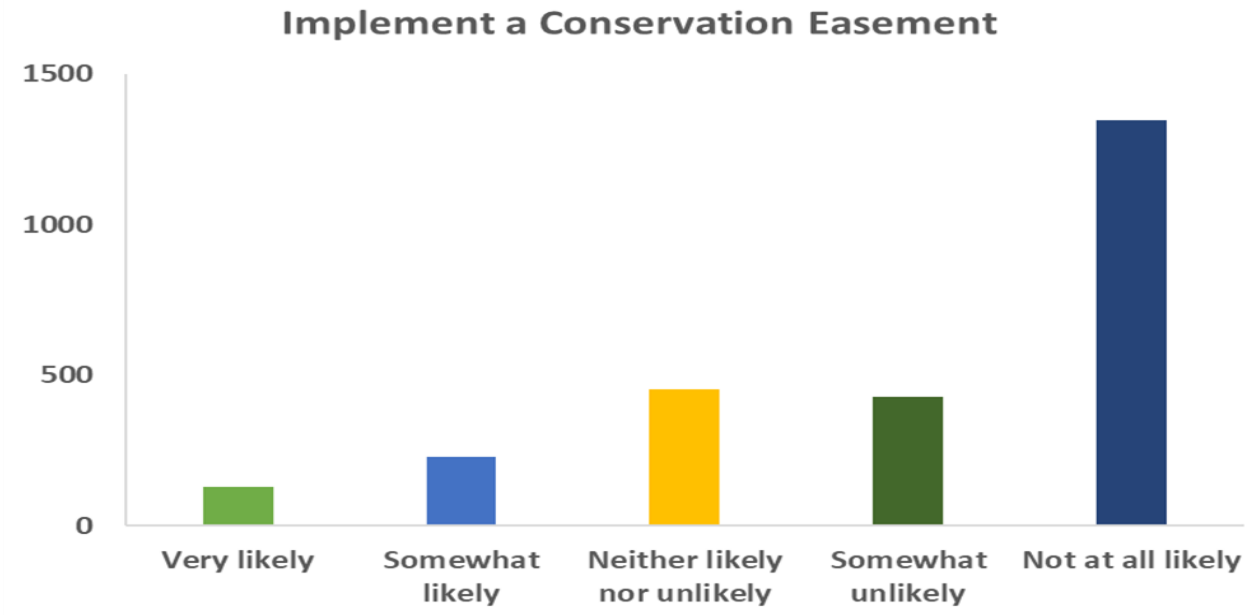



*Statewide – Main source of income from land (frequency).**

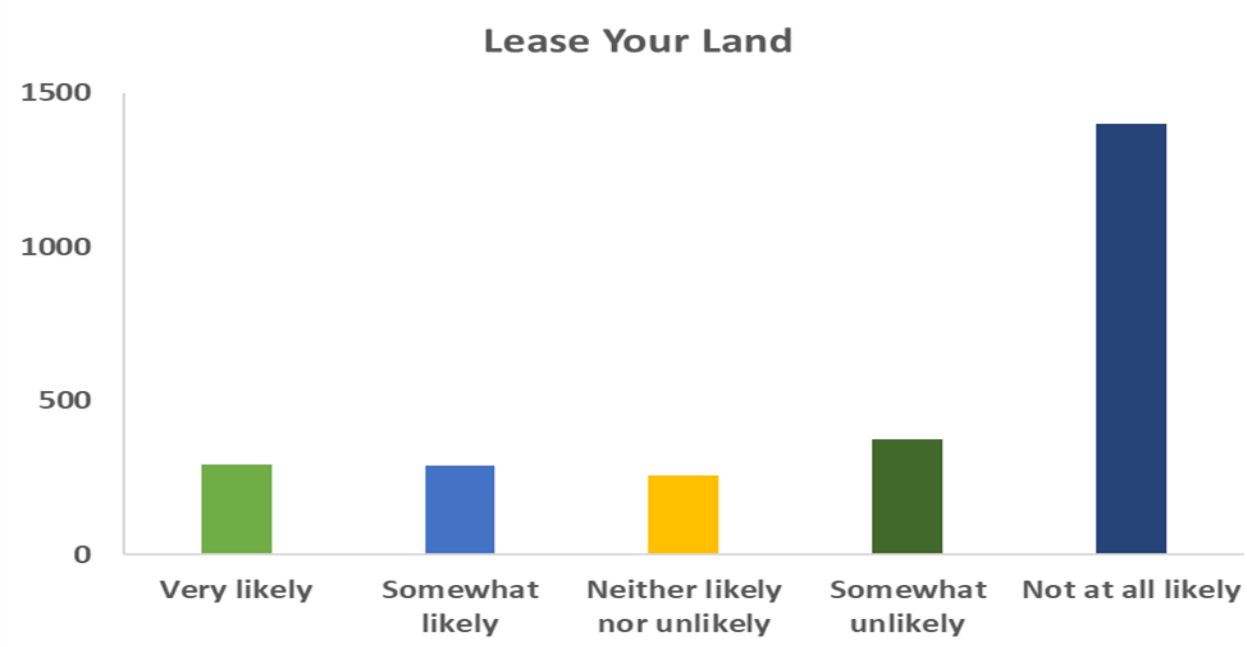
*Because land leases (non-hunting), mineral rights, organic food production, outdoor recreation/ecotourism (non-hunting), solar energy, wildlife enterprises (non-hunting) and wind energy topics were new topics introduced in the Summer 2019 survey (n=121), and not present in the 2016 survey (n=3,103), this may have contributed to the low response rate for these categories



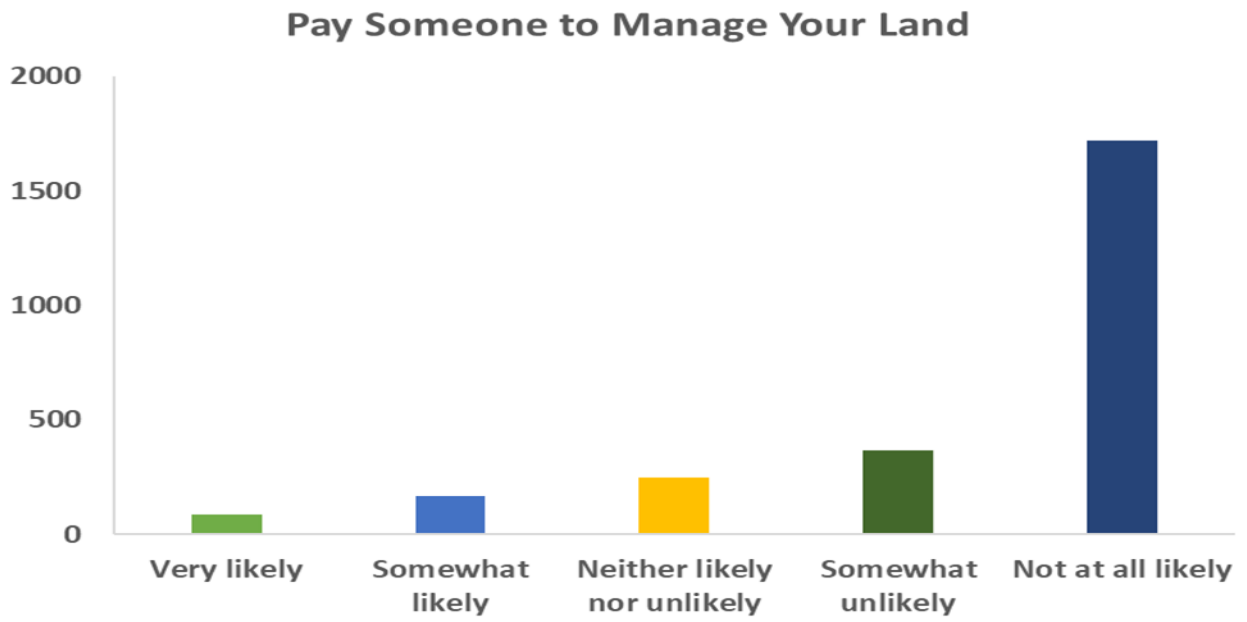

*Statewide – Donate land for charitable purposes in the next 10 years (frequency).*



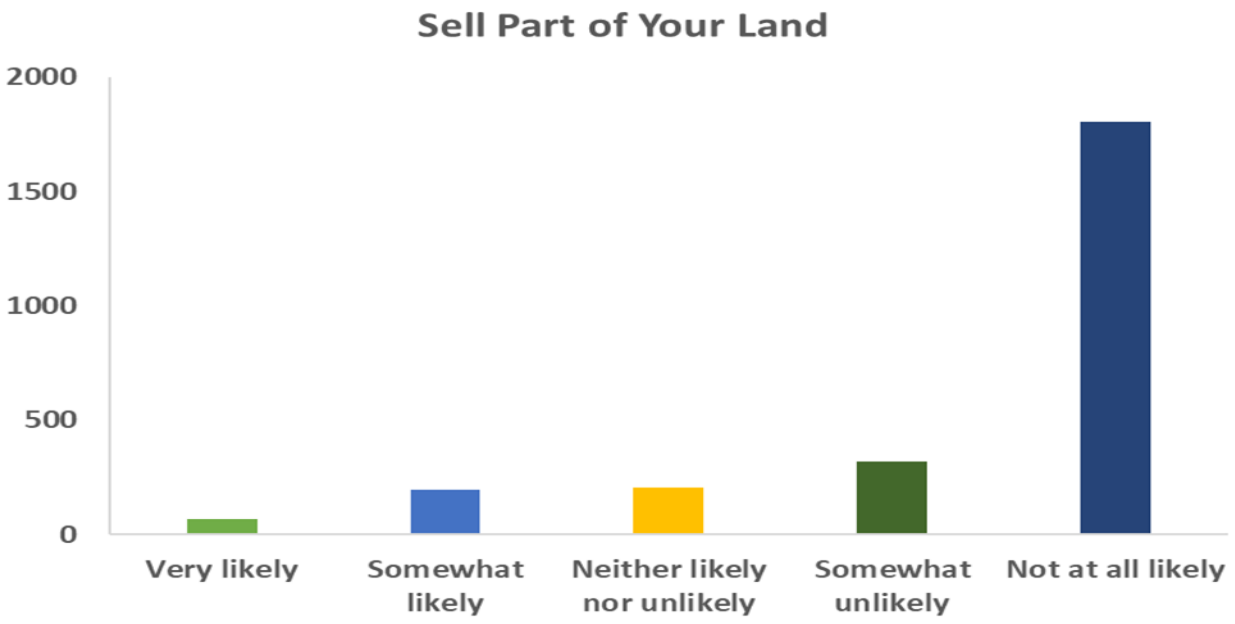

*Statewide – Implement a conservation easement in the next 10 years (frequency).*



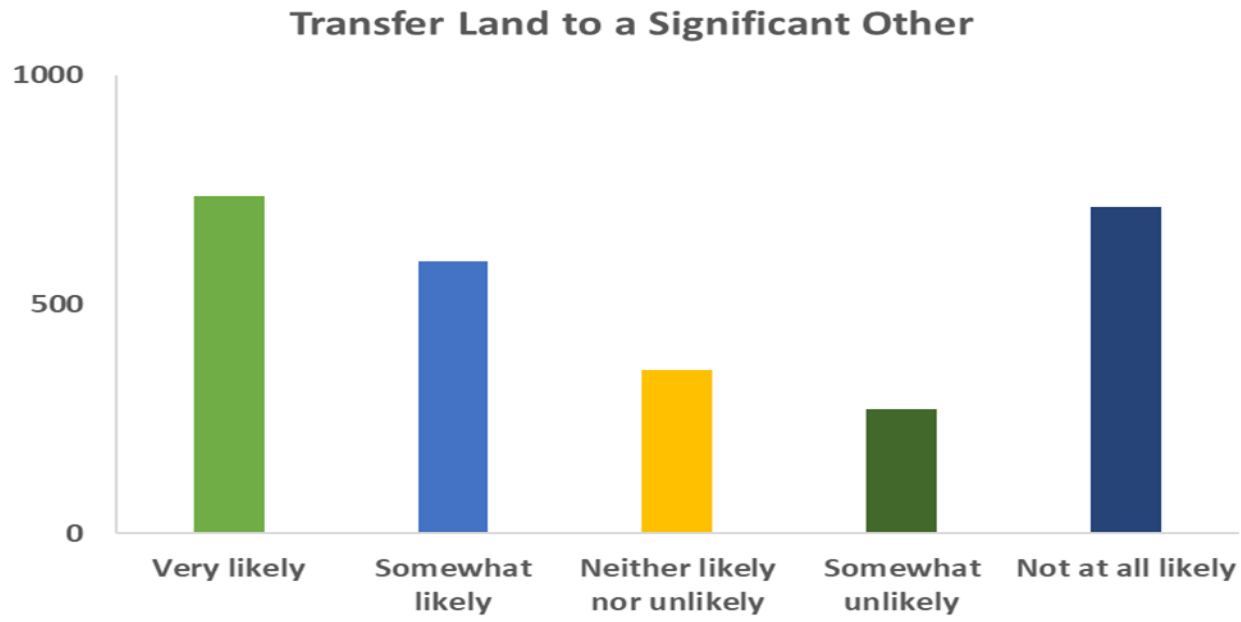

*Statewide – Lease your land in the next 10 years (frequency).*



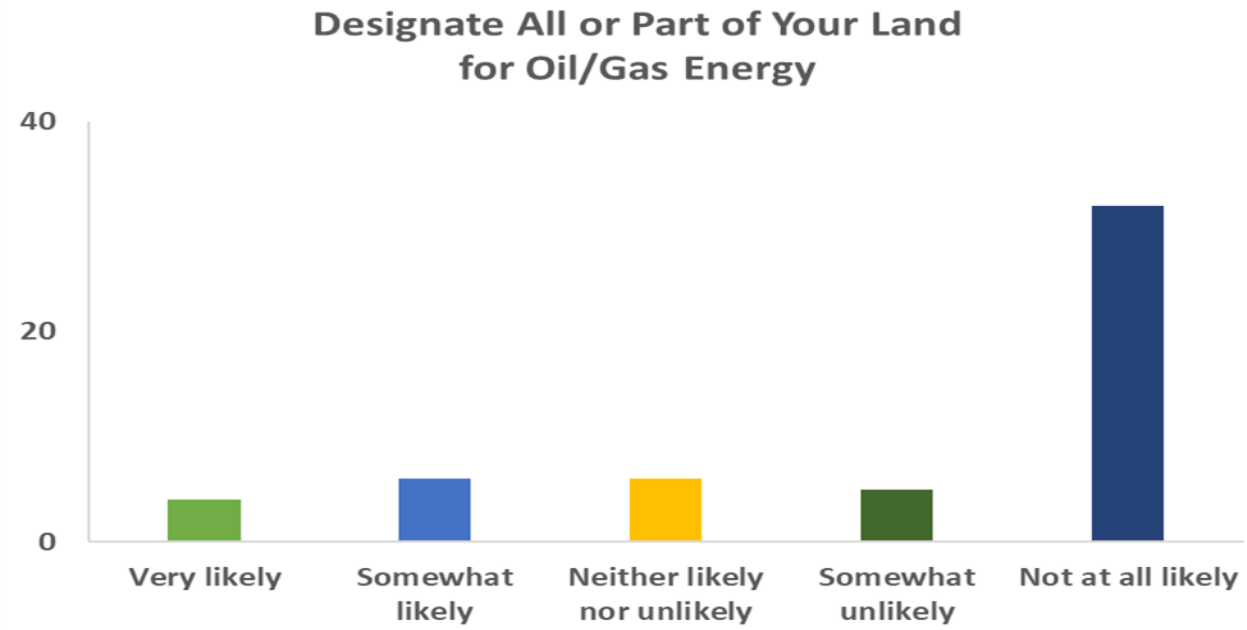

*Statewide – Pay someone to manage your land in the next 10 years (frequency).*



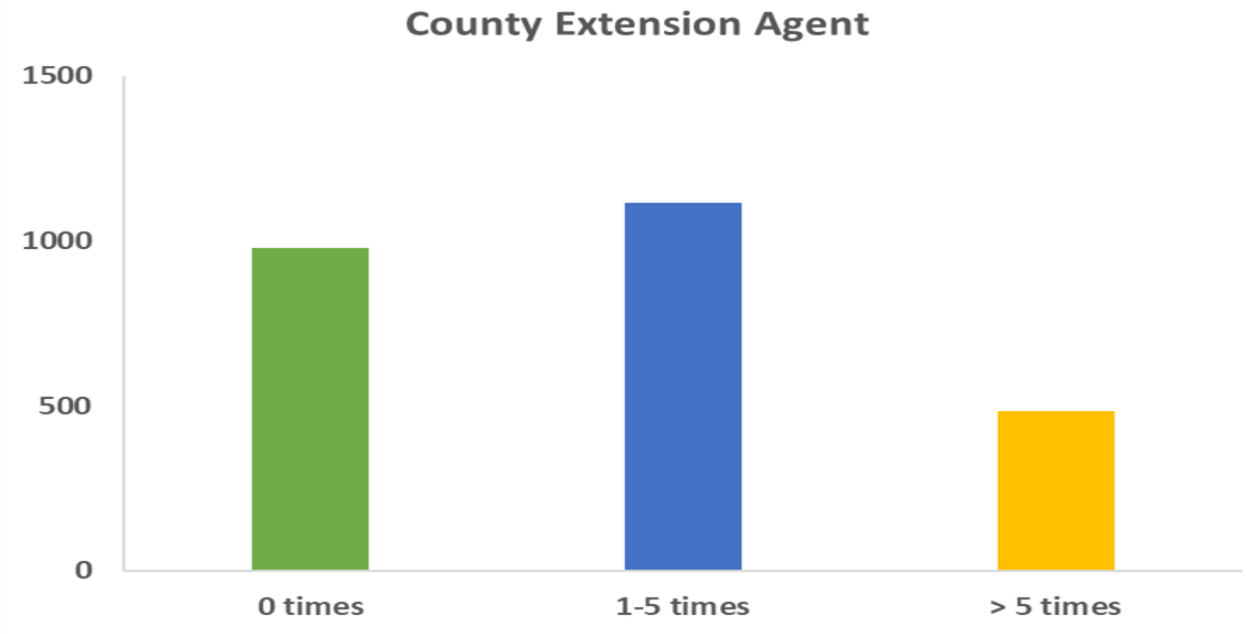

*Statewide – Sell part of your land in the next 10 years (frequency)*.



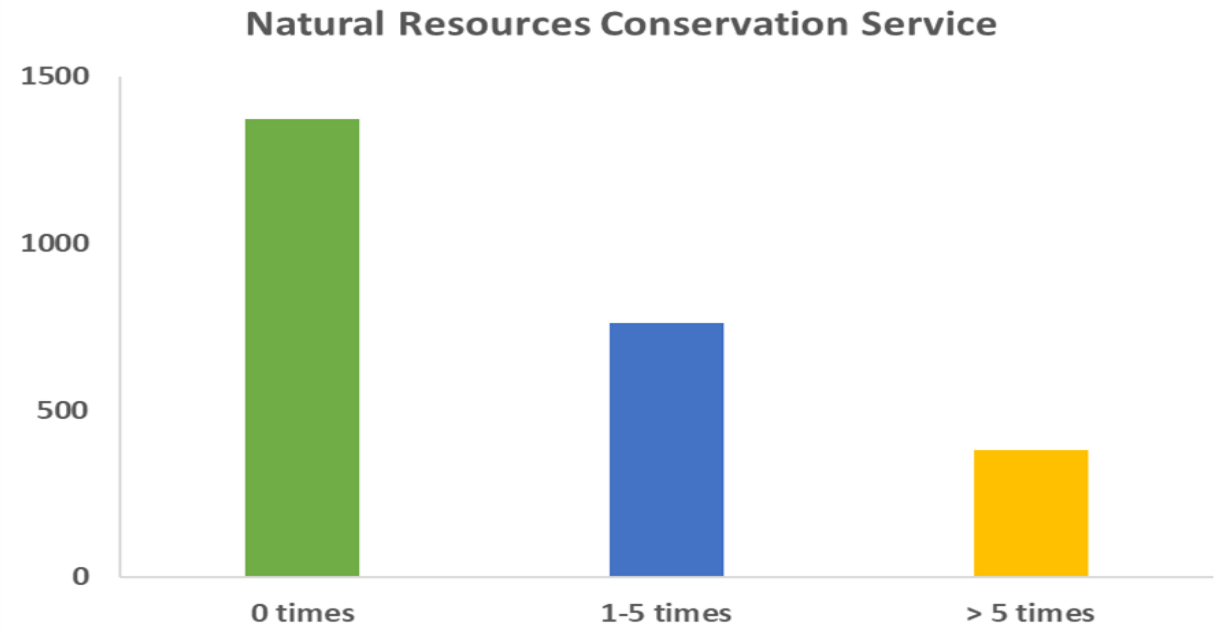

*Statewide – Transfer land to a significant other in the next 10 years (frequency)*.



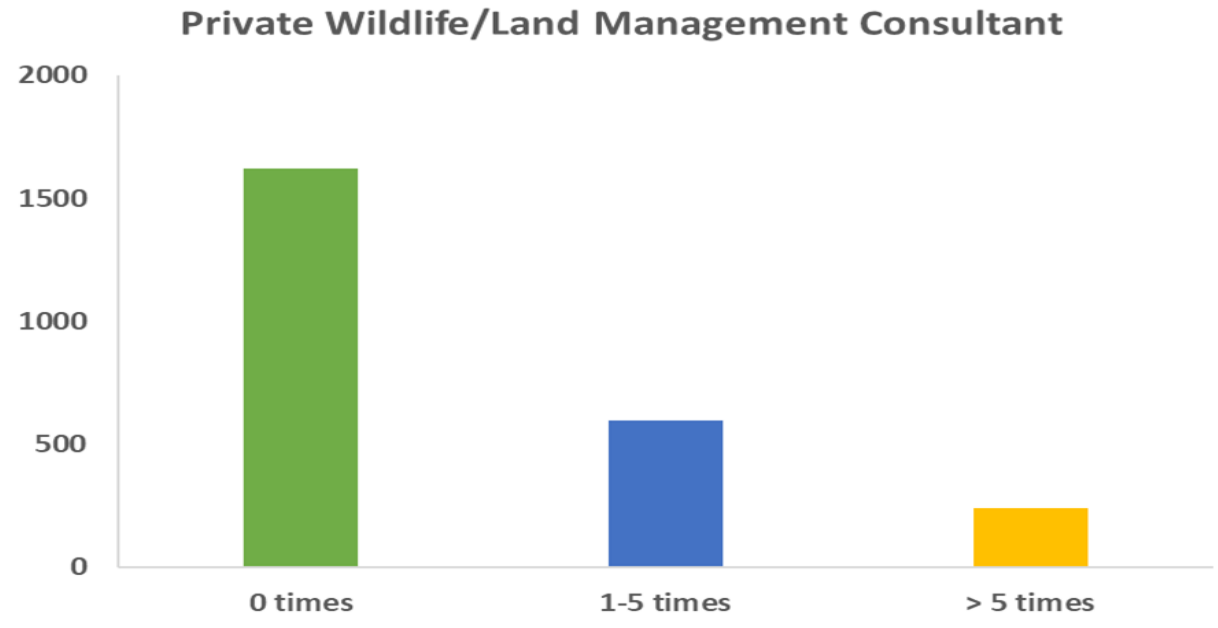

*Statewide – Designate land for oil/gas energy in the next 10 years (frequency)*.



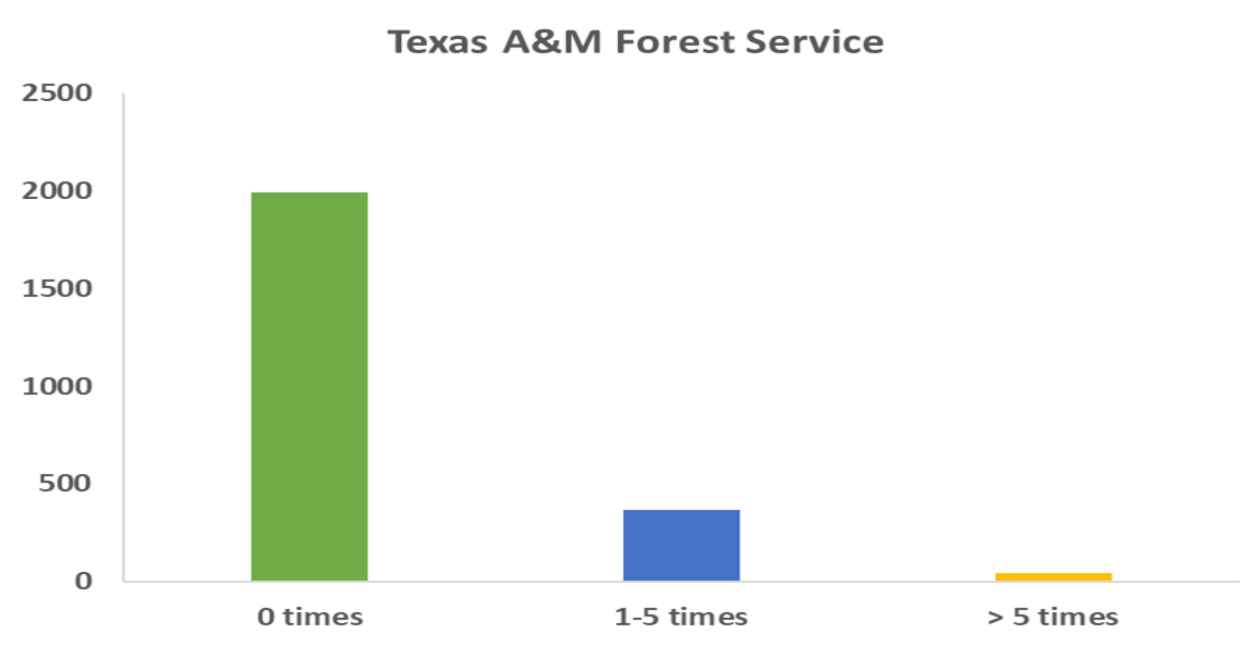

*Statewide – Frequency of interaction with County Extension Agent in the last 5 years (frequency)*.



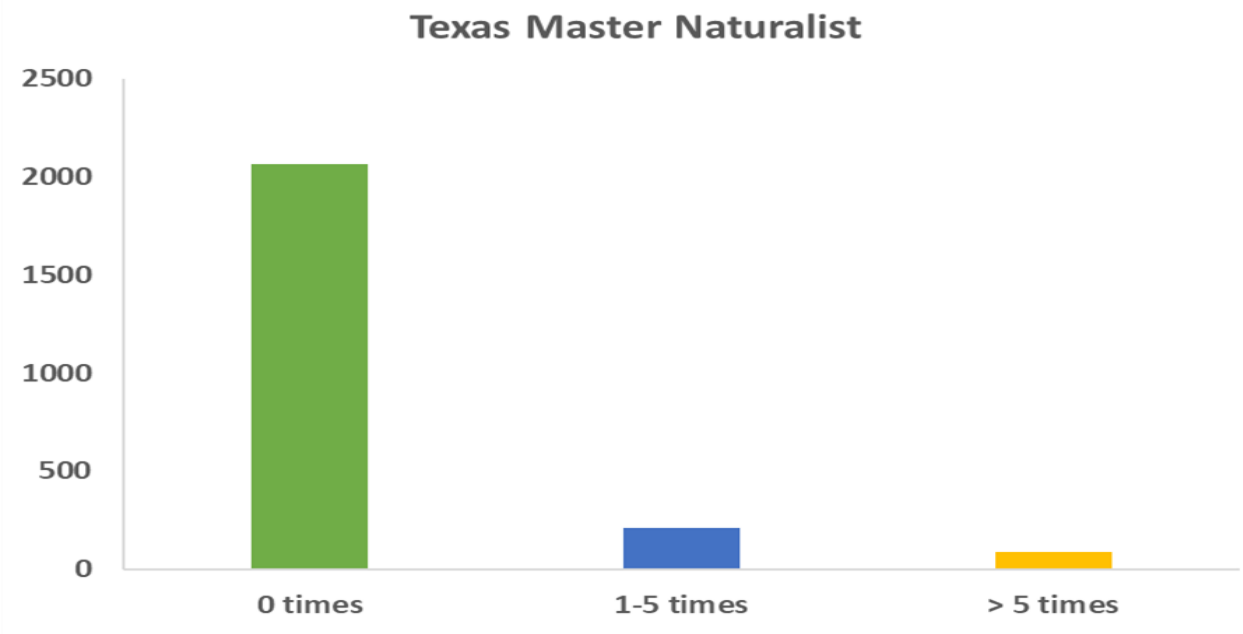

*Statewide – Frequency of interaction with Natural Resources Conservation Service in the last 5 years (frequency).*



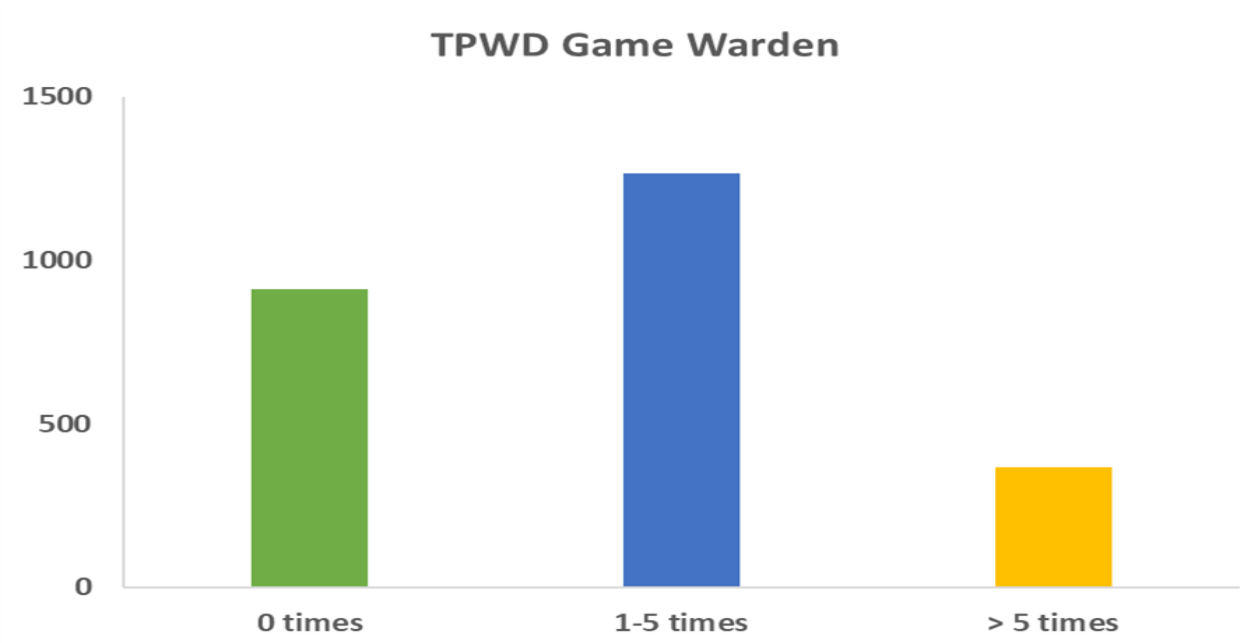

*Statewide – Frequency of interaction with private wildlife/land management consultant in the last 5 years (frequency).*



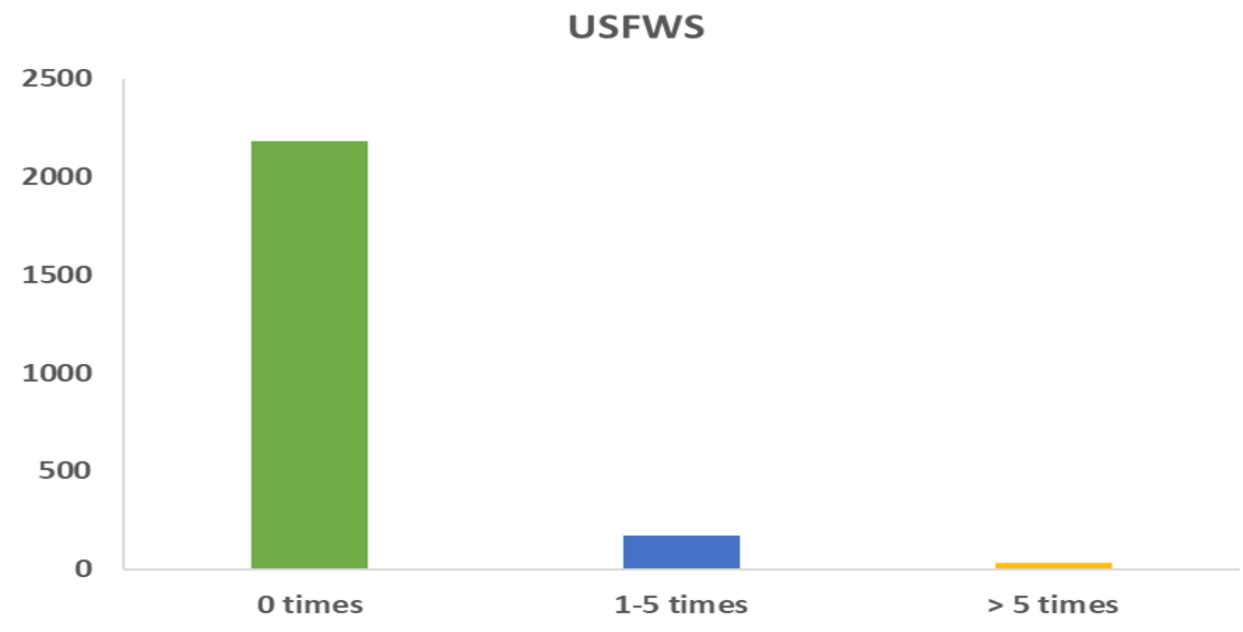

*Statewide – Frequency of interaction with Texas A&M Forest Service in the last 5 years (frequency).*



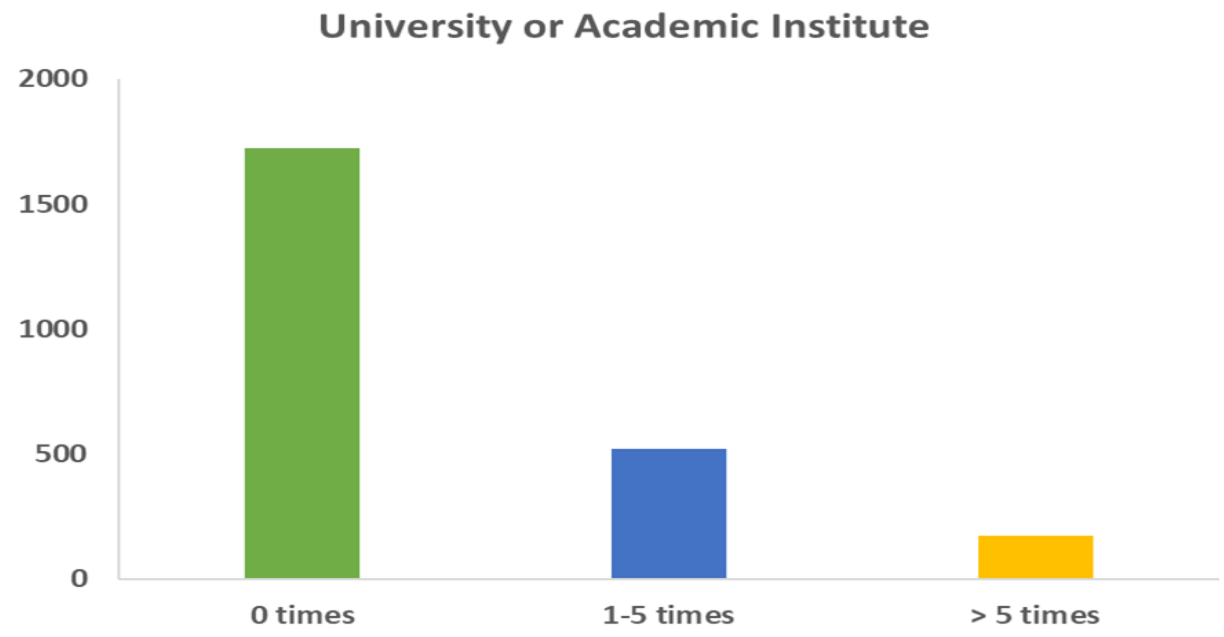

*Statewide – Frequency of interaction with Texas Master Naturalist in the last 5 years (frequency).*



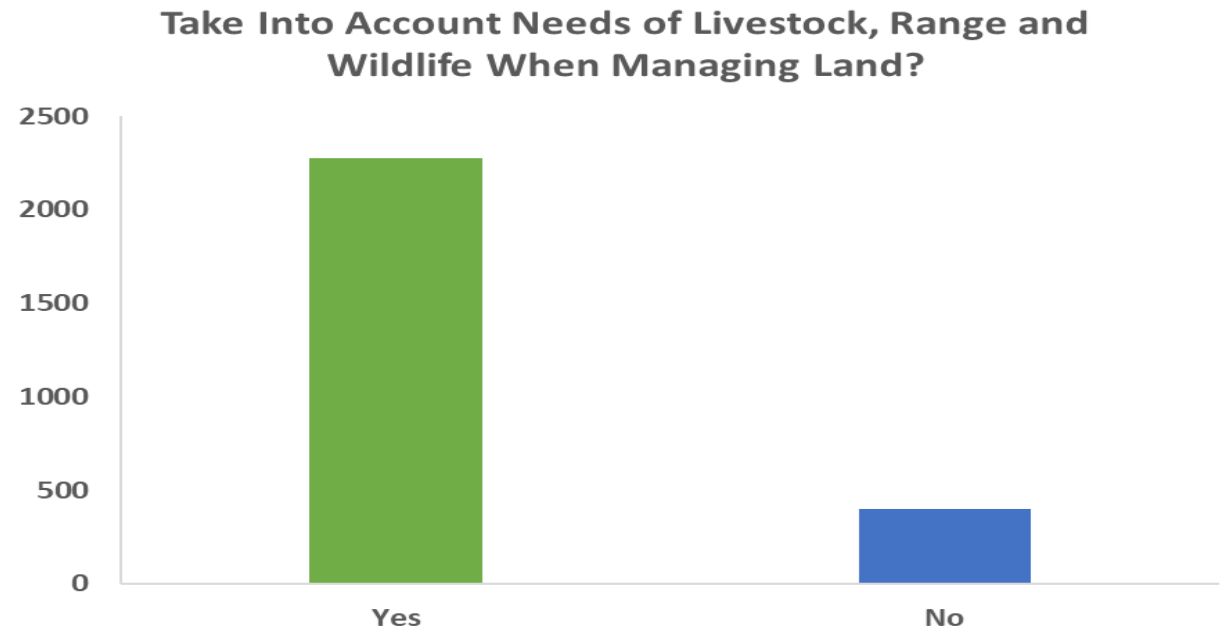

*Statewide – Frequency of interaction with TPWD Game Warden in the last 5 years (frequency).*



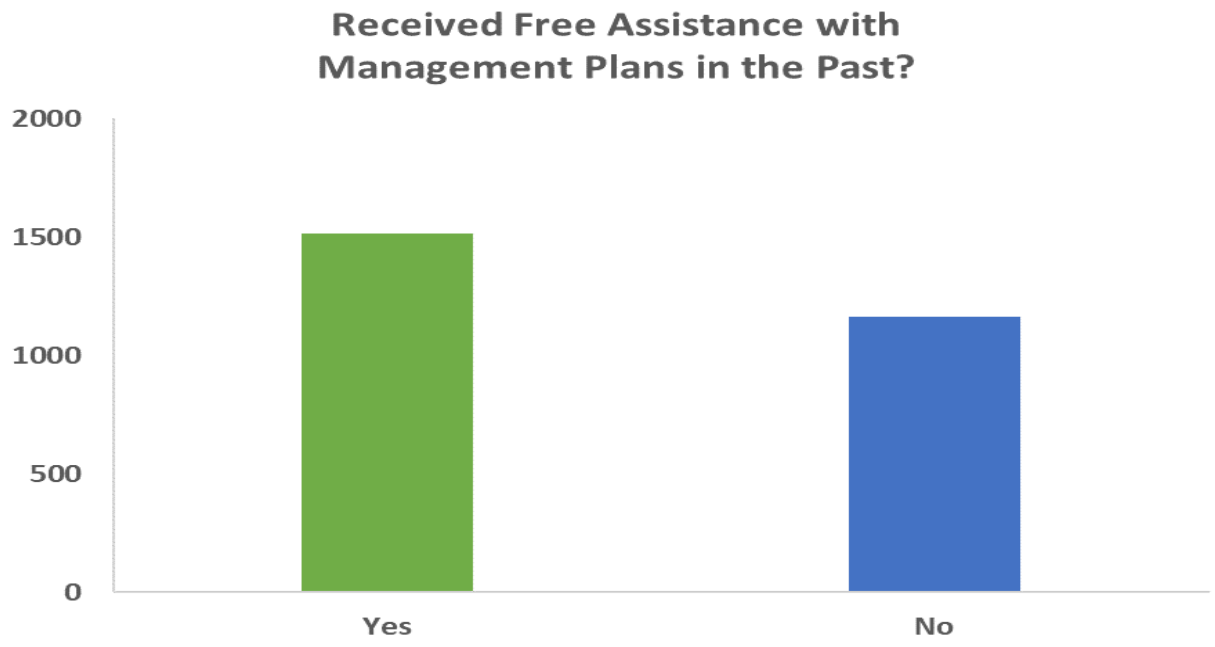

*Statewide – Frequency of interaction with USFWS in the last 5 years (frequency).*



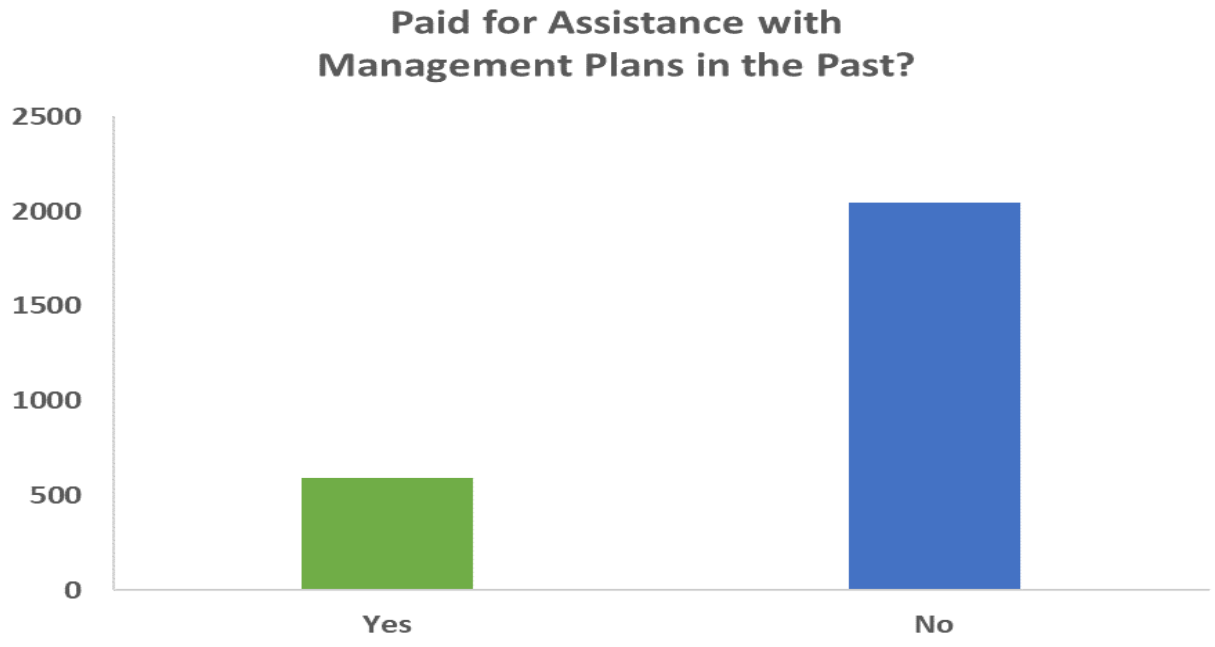

*Statewide – Frequency of interaction with university or academic institute in the last 5 years (frequency).*



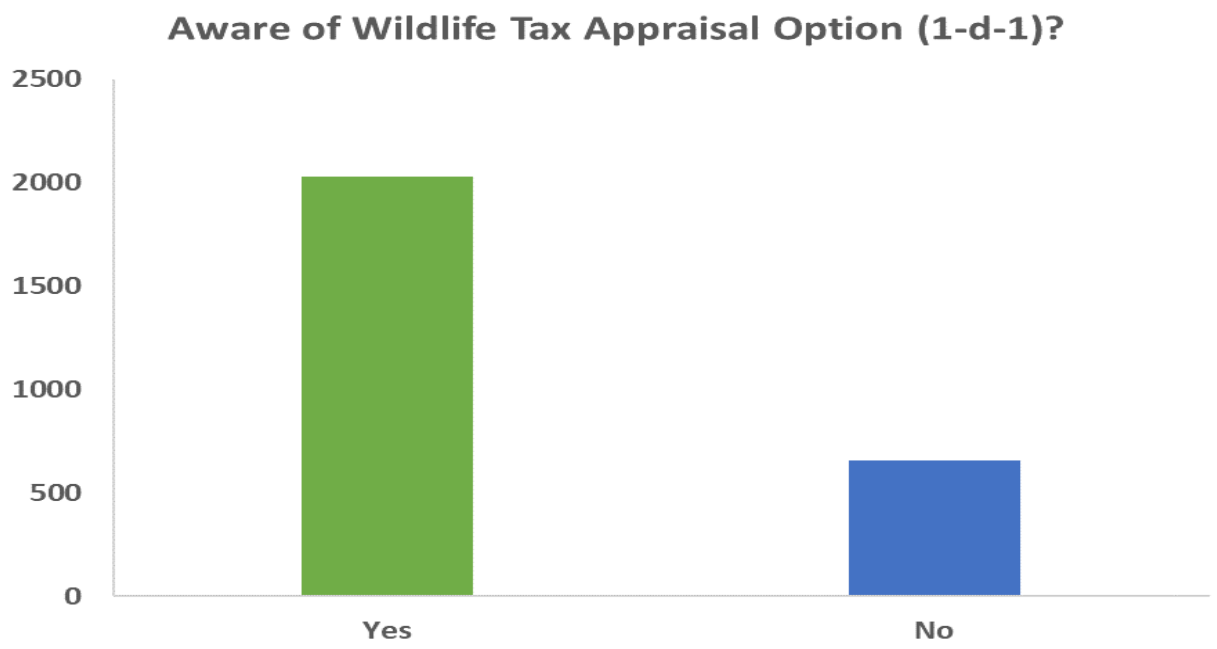

*Statewide – Take into account needs of livestock, range and wildlife when managing land (frequency)?.*



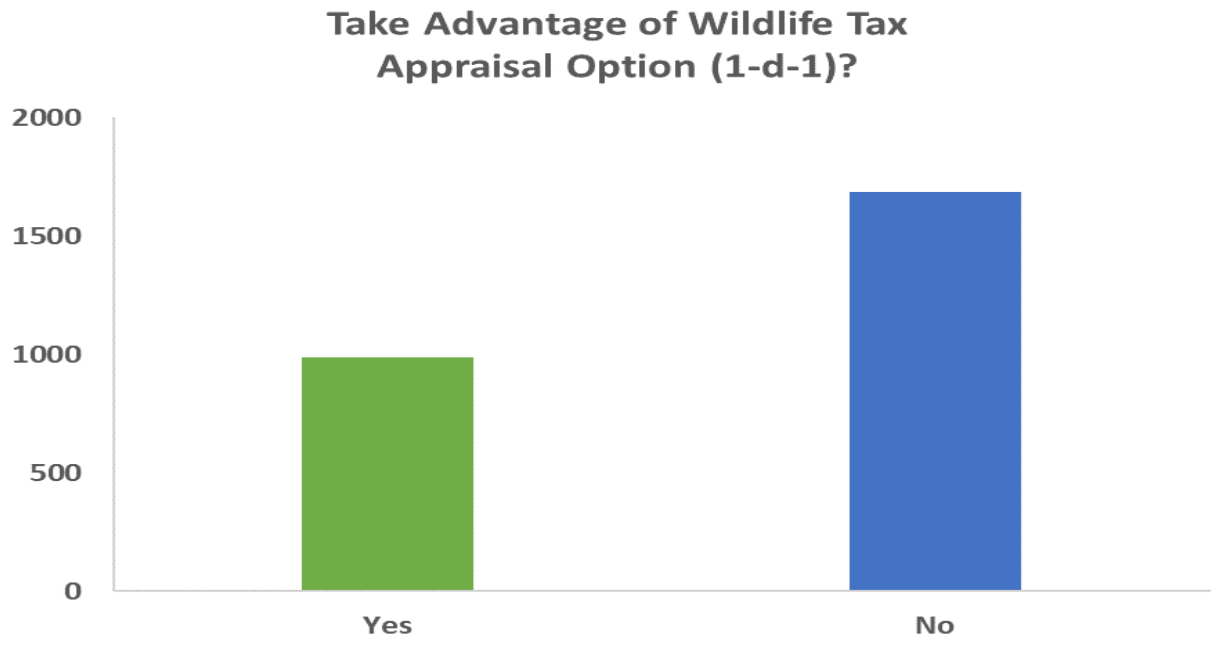

*Statewide – Received free assistance with management plan in the past (frequency)?.*



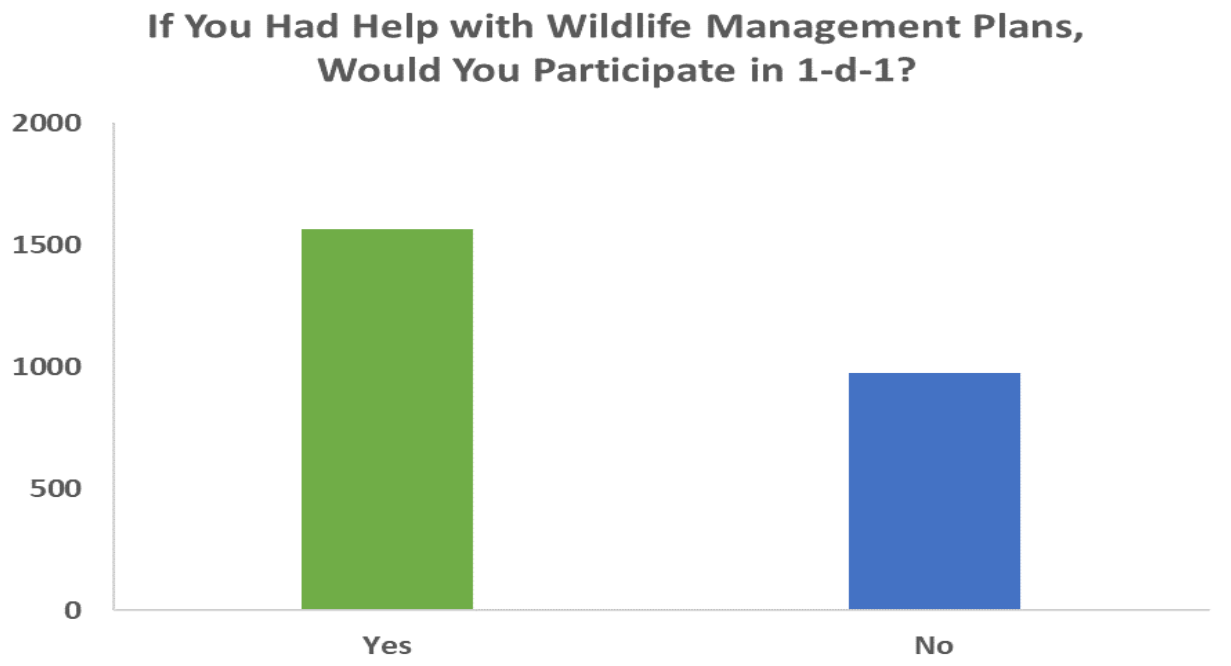

*Statewide – Paid for assistance with management plans in the past (frequency)?.*



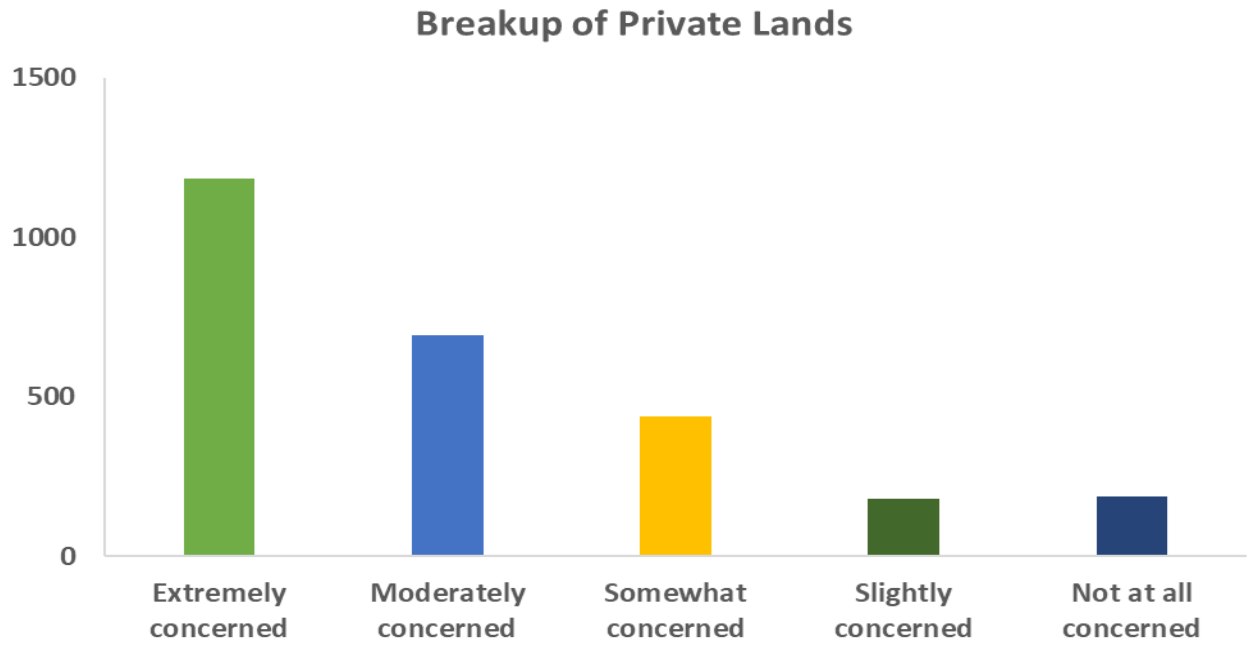

*Statewide – Aware of wildlife tax appraisal option (1-d-1, frequency)?.*



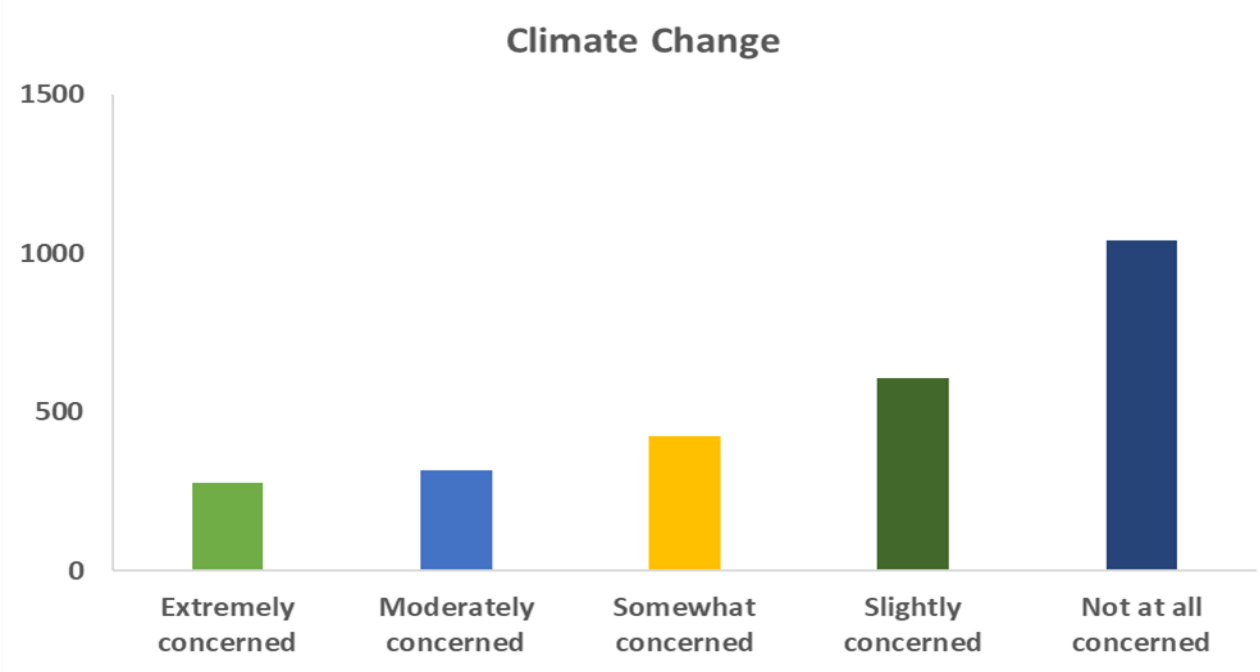

*Statewide – Take advantage of wildlife tax appraisal option (1-d-1, frequency)?.*



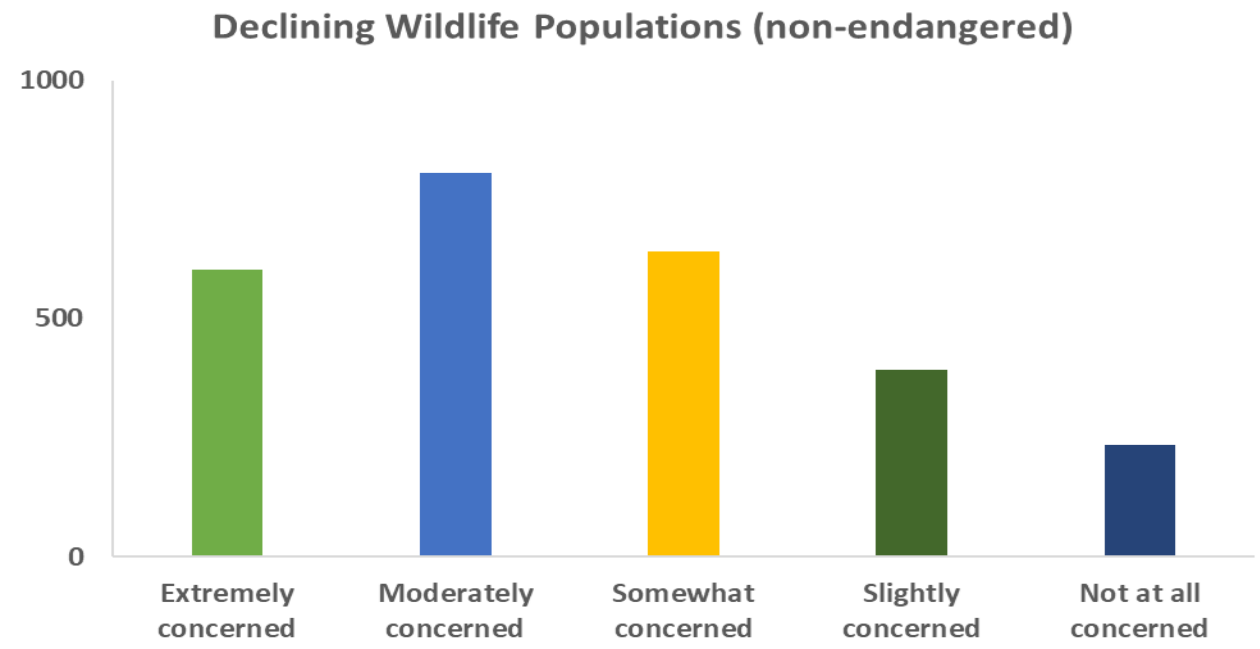

*Statewide – If you had help with wildlife management plans, would you participate in 1-d-1 (frequency)?.*



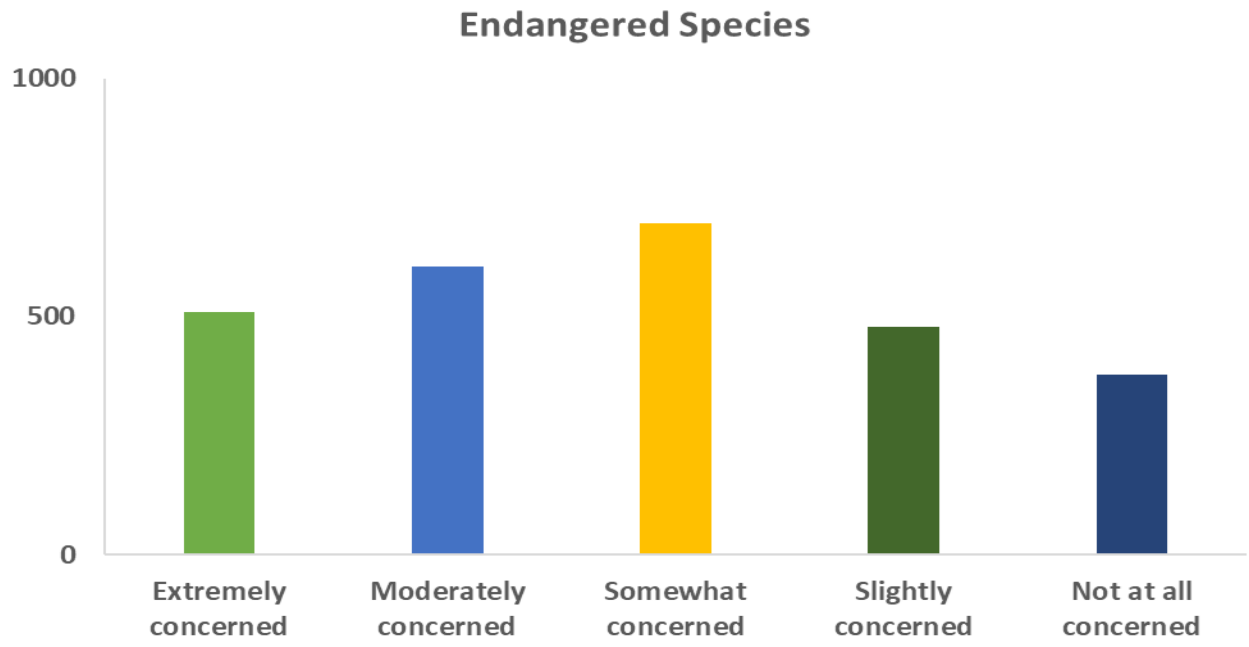

*Statewide – Level of concern regarding breakup of private lands (frequency).*



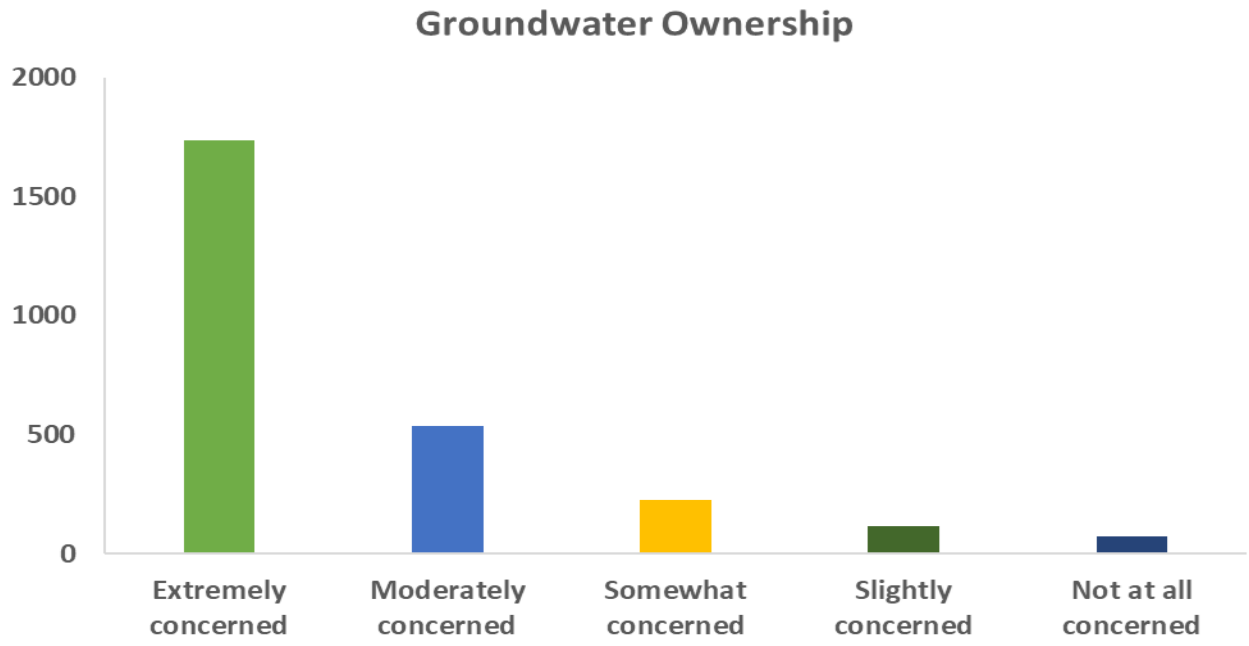

*Statewide – Level of concern regarding climate change (frequency).*



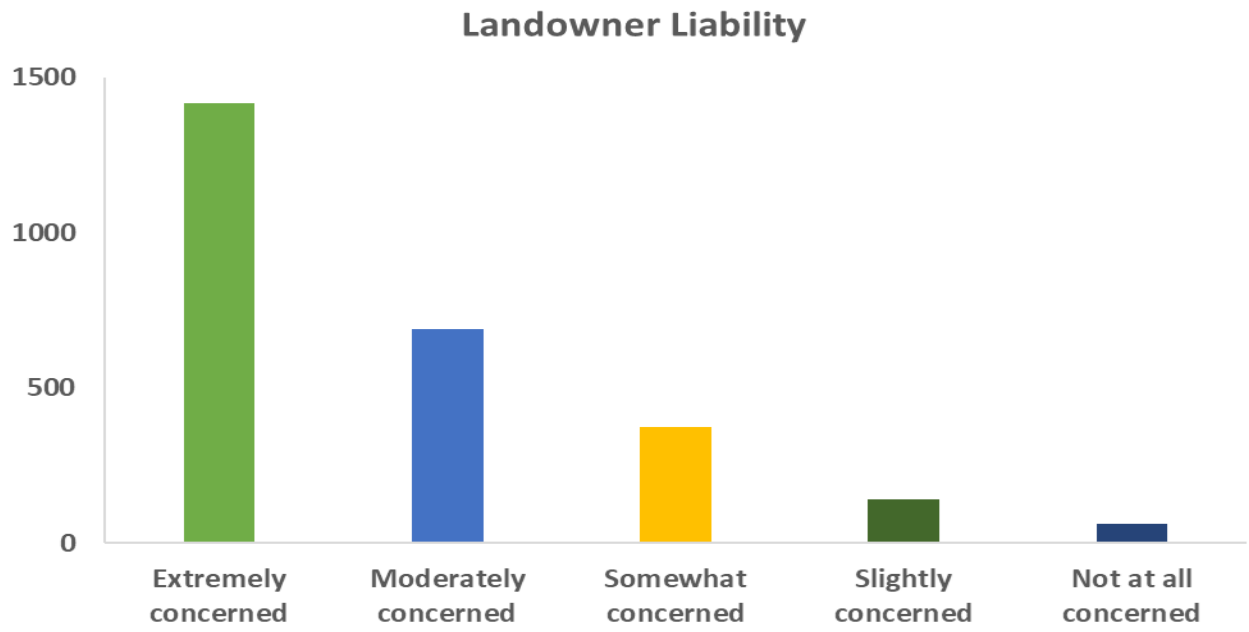

*Statewide – Level of concern regarding declining wildlife populations (non-endangered, frequency)*



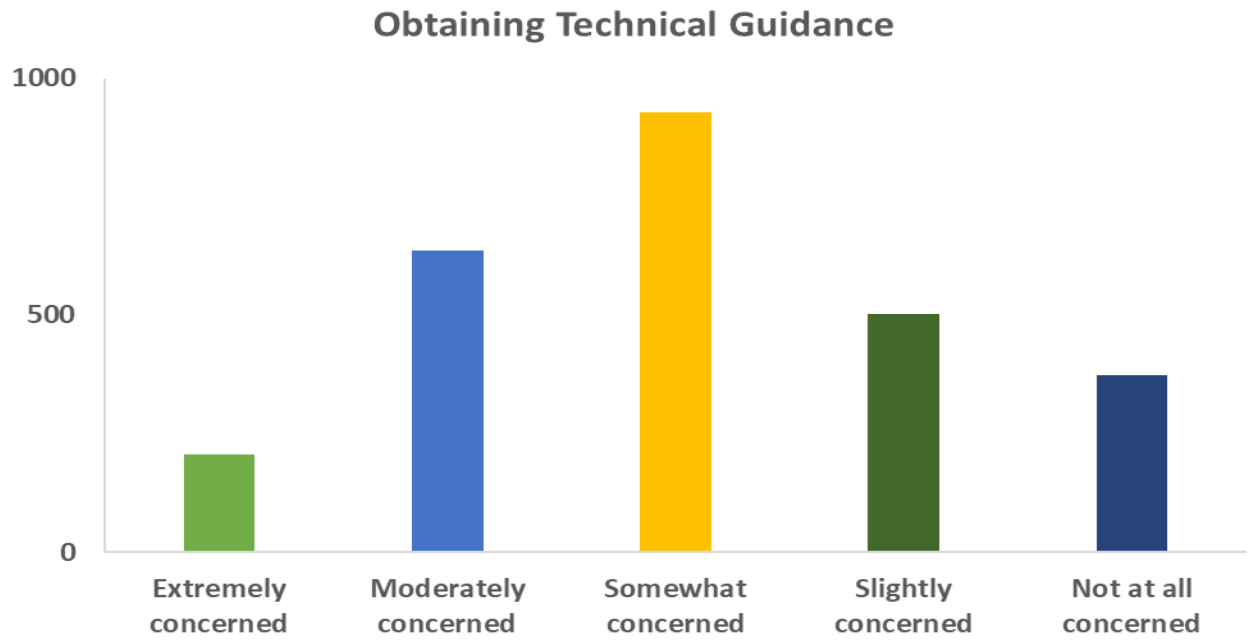

*Statewide – Level of concern regarding endangered species (frequency).*



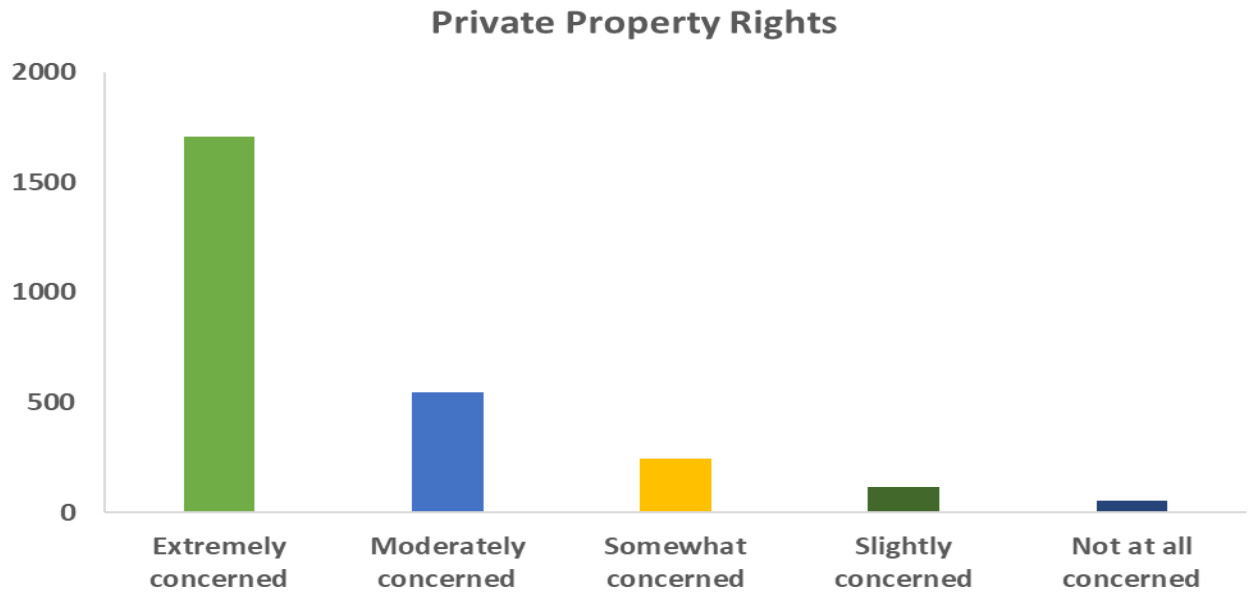

*Statewide – Level of concern regarding groundwater ownership (frequency).*



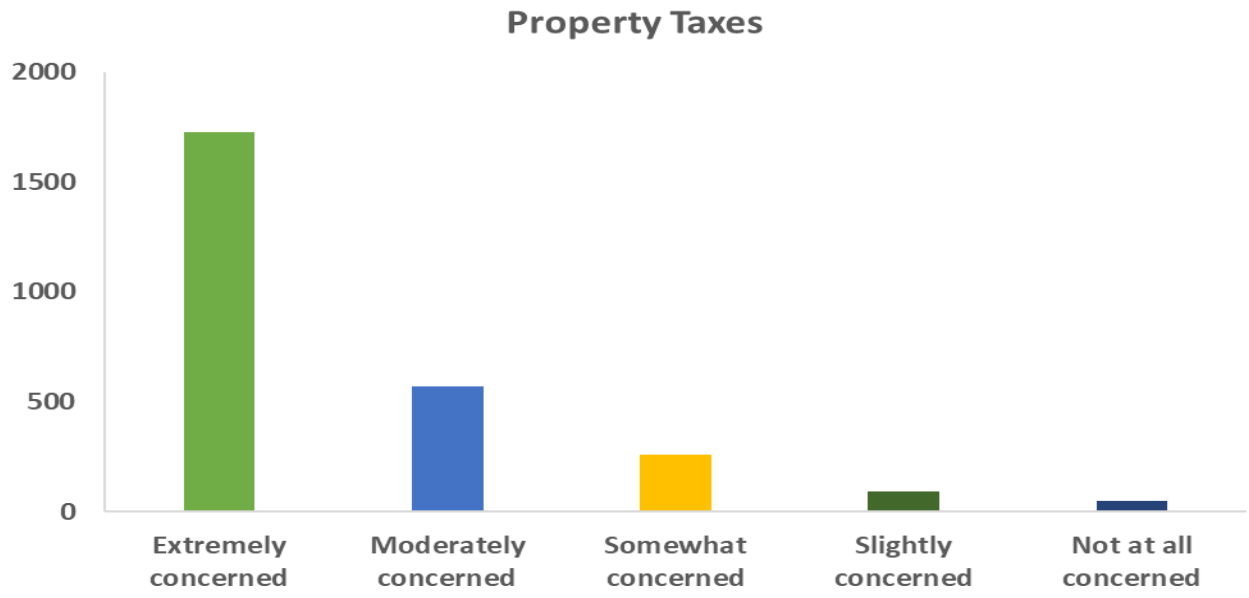

*Statewide – Level of concern regarding landowner liability (frequency).*



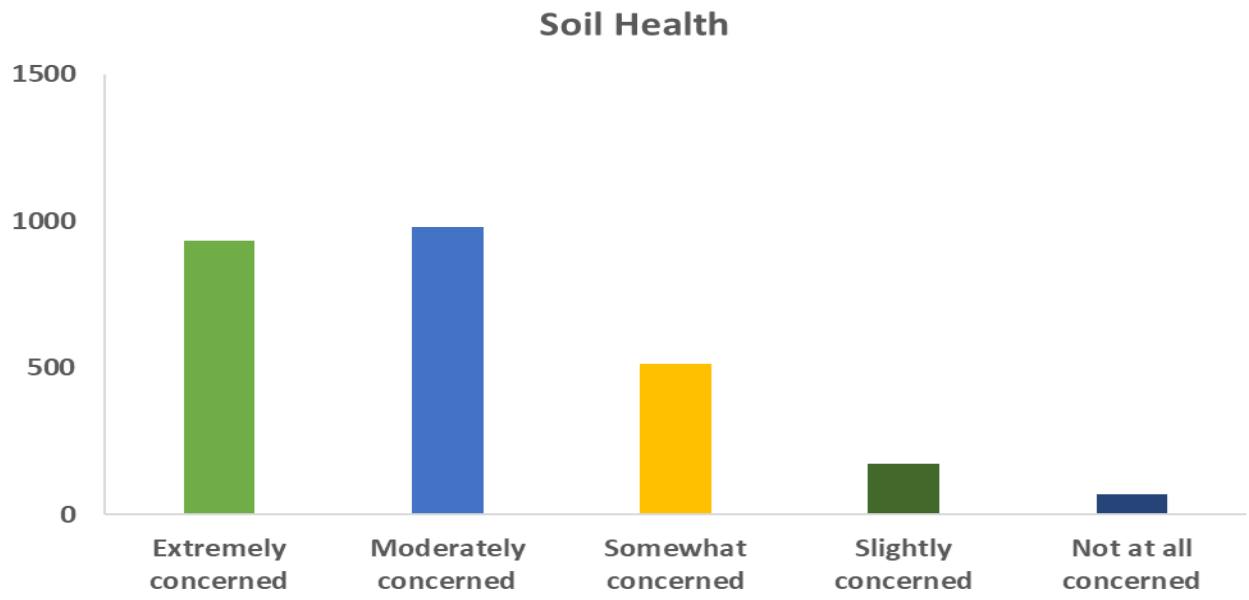

*Statewide – Level of concern regarding obtaining technical guidance (frequency).*



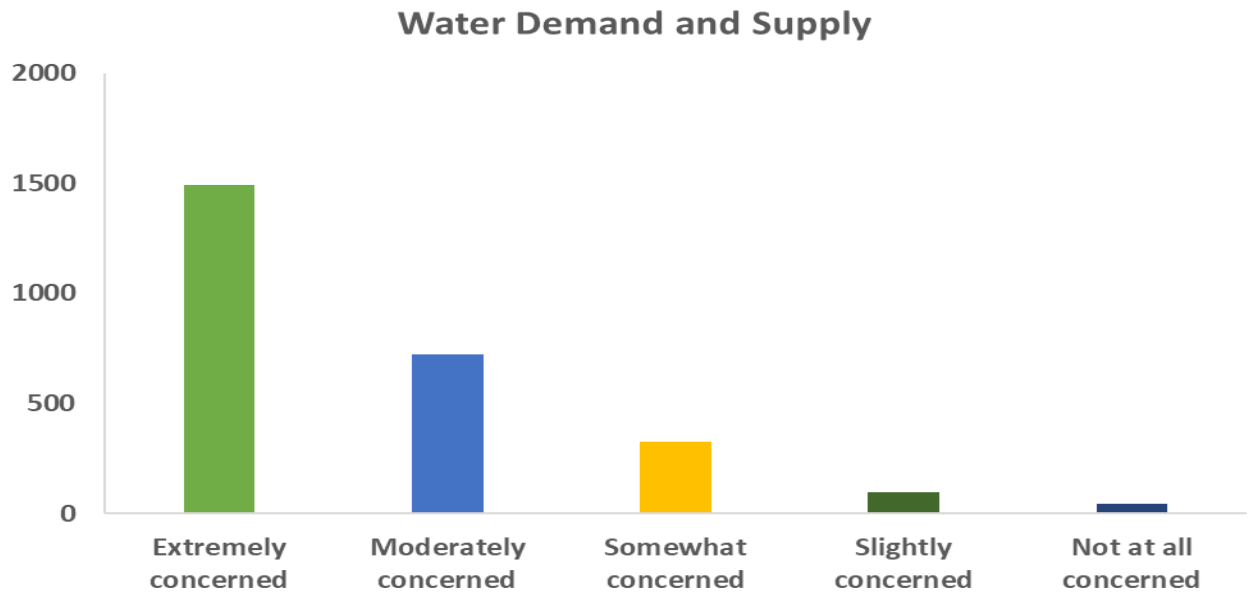

*Statewide – Level of concern regarding private property rights (frequency).*



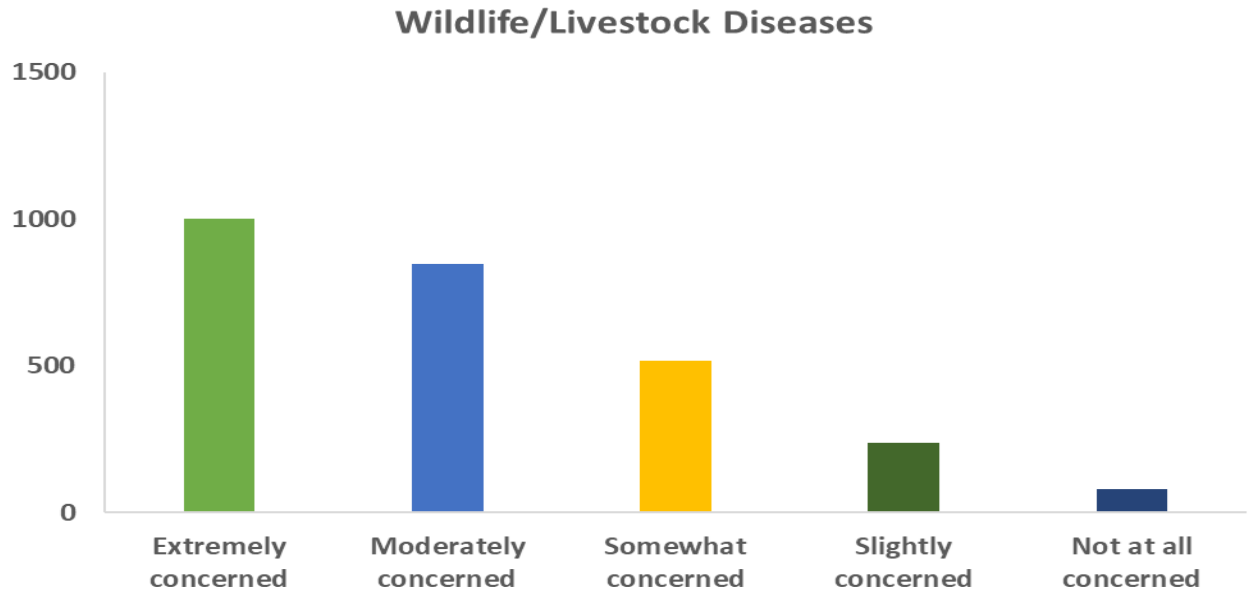

*Statewide – Level of concern regarding property taxes (frequency).*



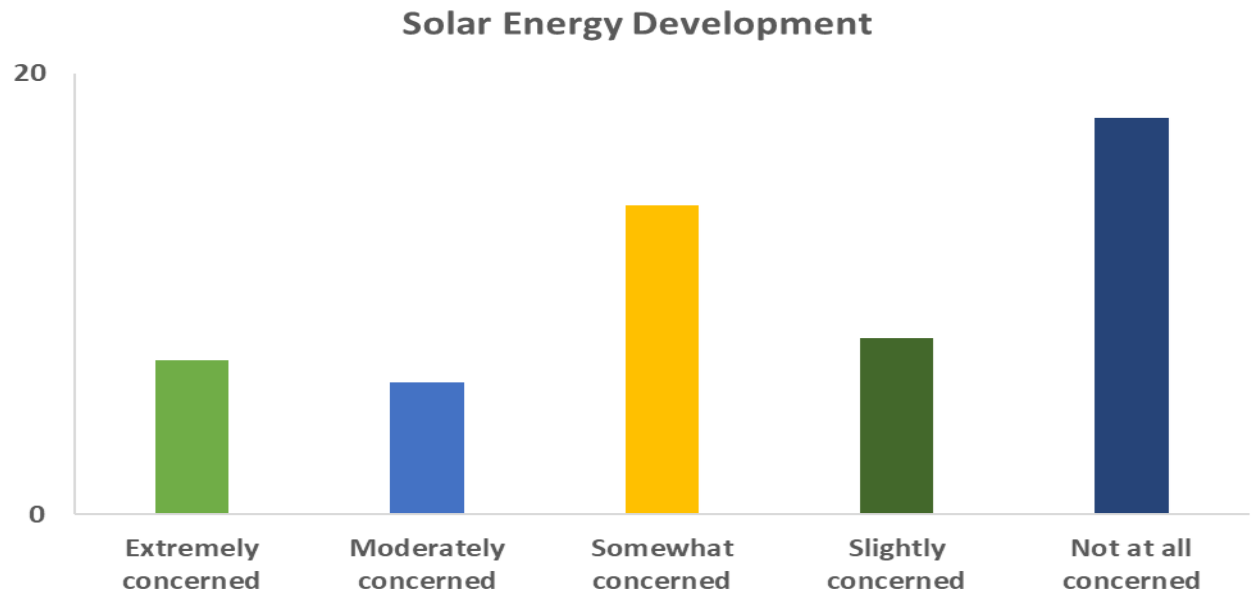

*Statewide – Level of concern regarding soil health (frequency).*



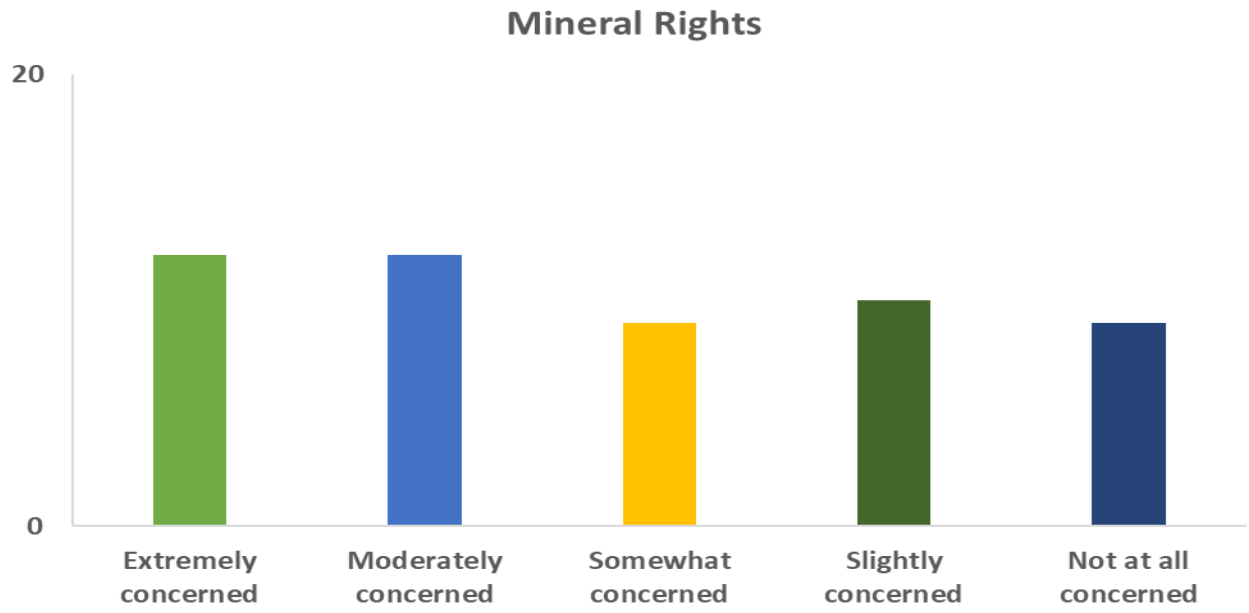

*Statewide – Level of concern regarding water demand and supply (frequency).*



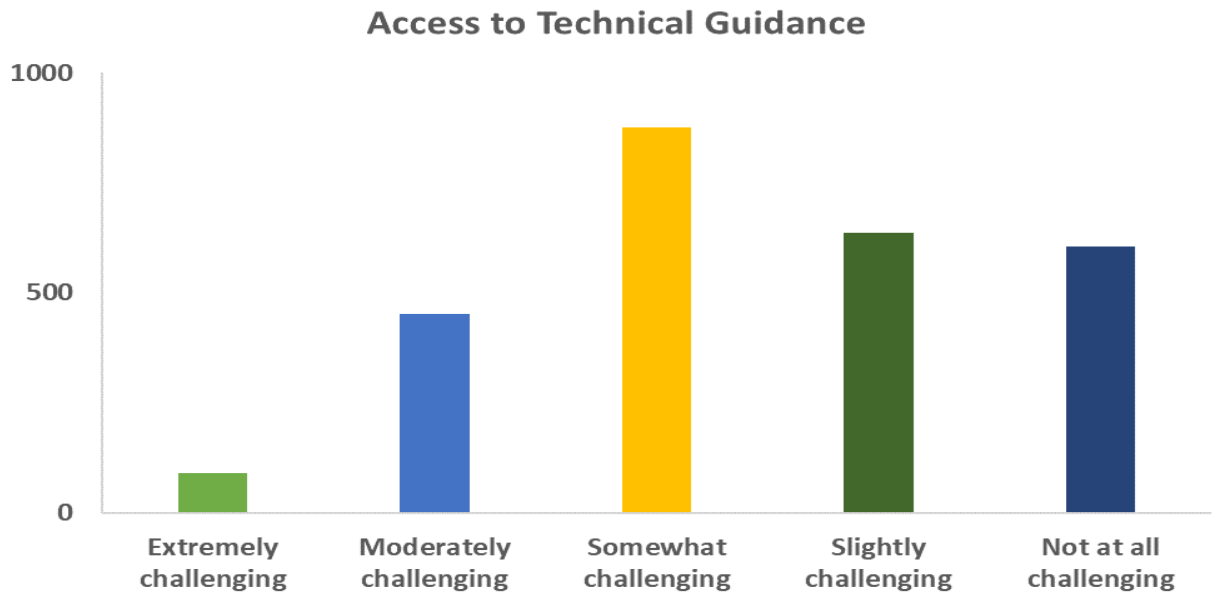

*Statewide – Level of concern regarding wildlife/livestock diseases (frequency).*



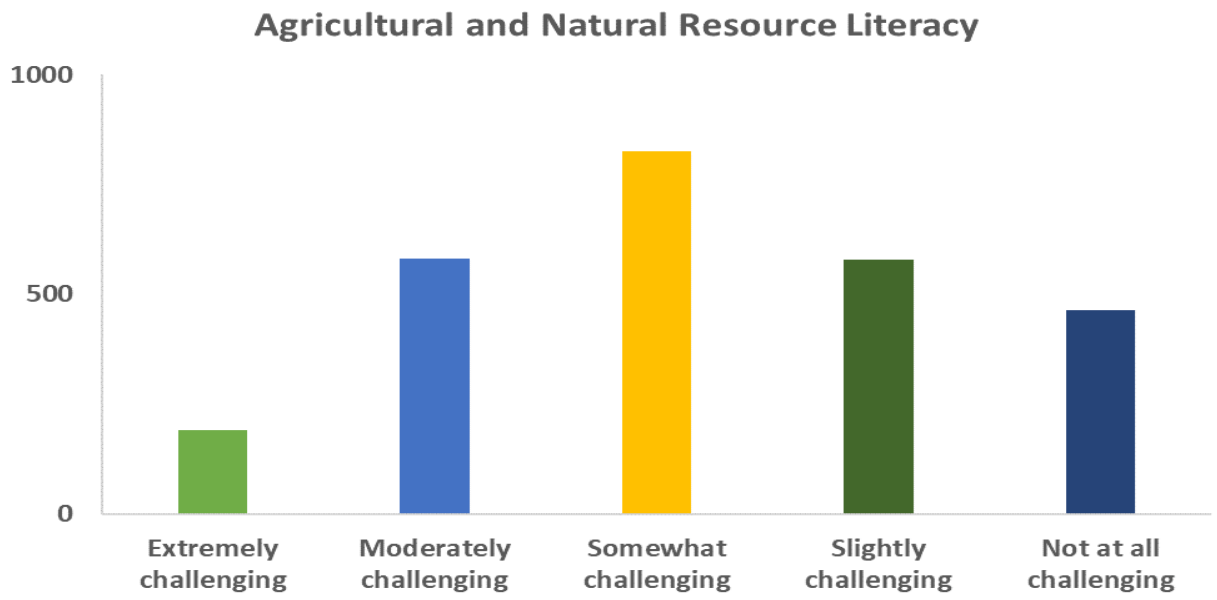

*Statewide – Level of concern regarding solar energy development (frequency).*



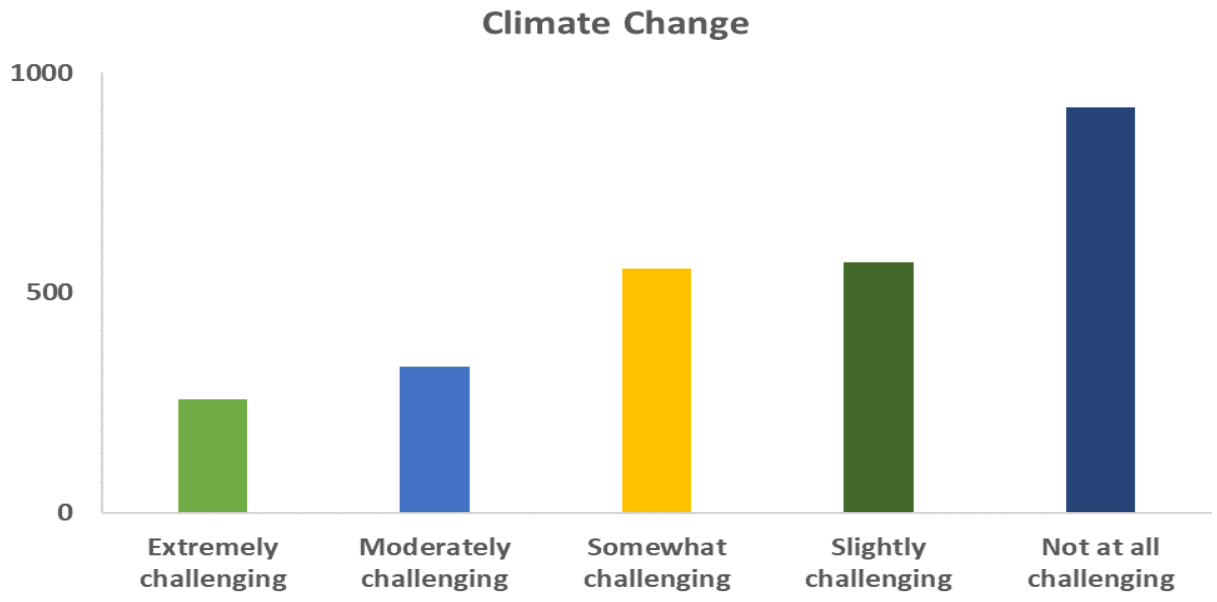

*Statewide – Level of concern regarding mineral rights (frequency).*



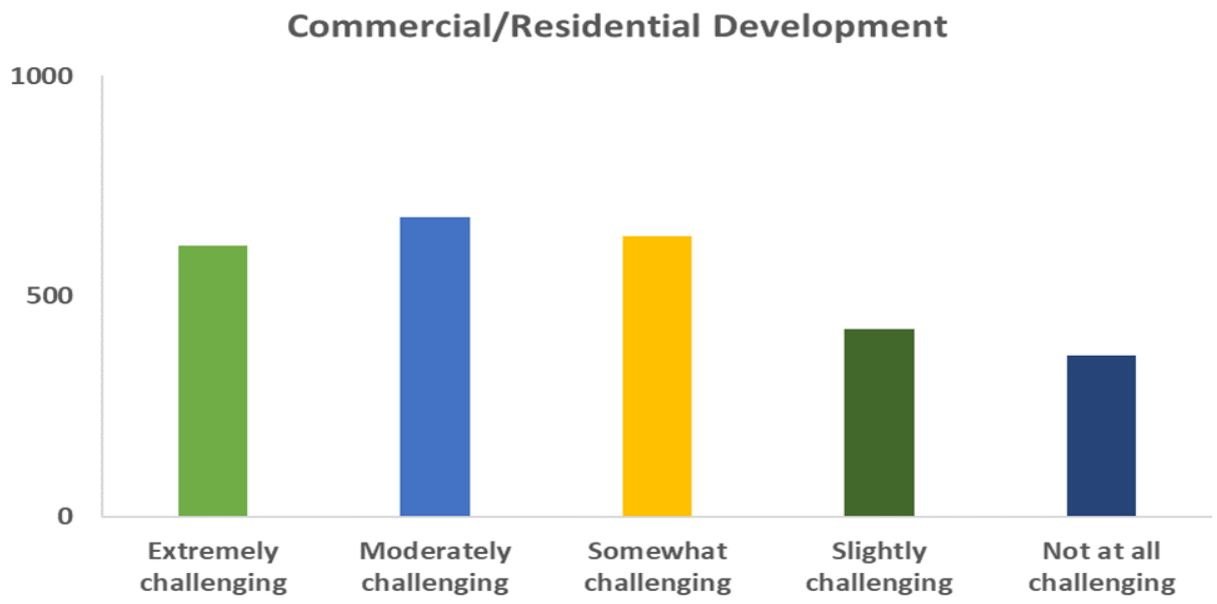

*Statewide – How challenging is access to technical guidance (frequency).*



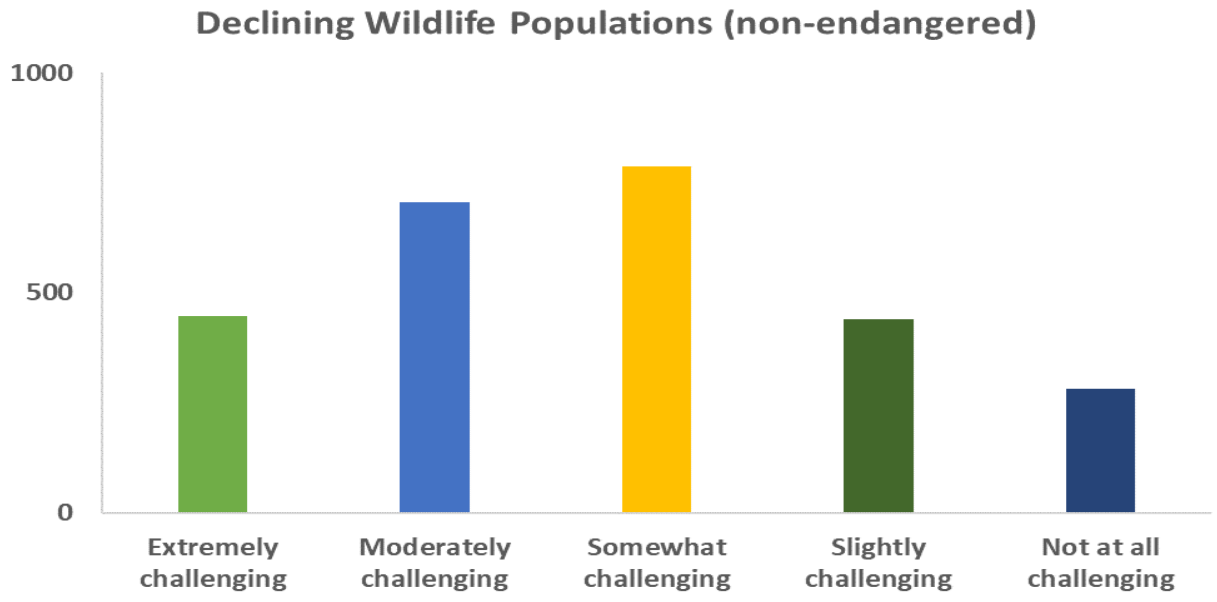

*Statewide – How challenging is agricultural and natural resource literacy (frequency).*



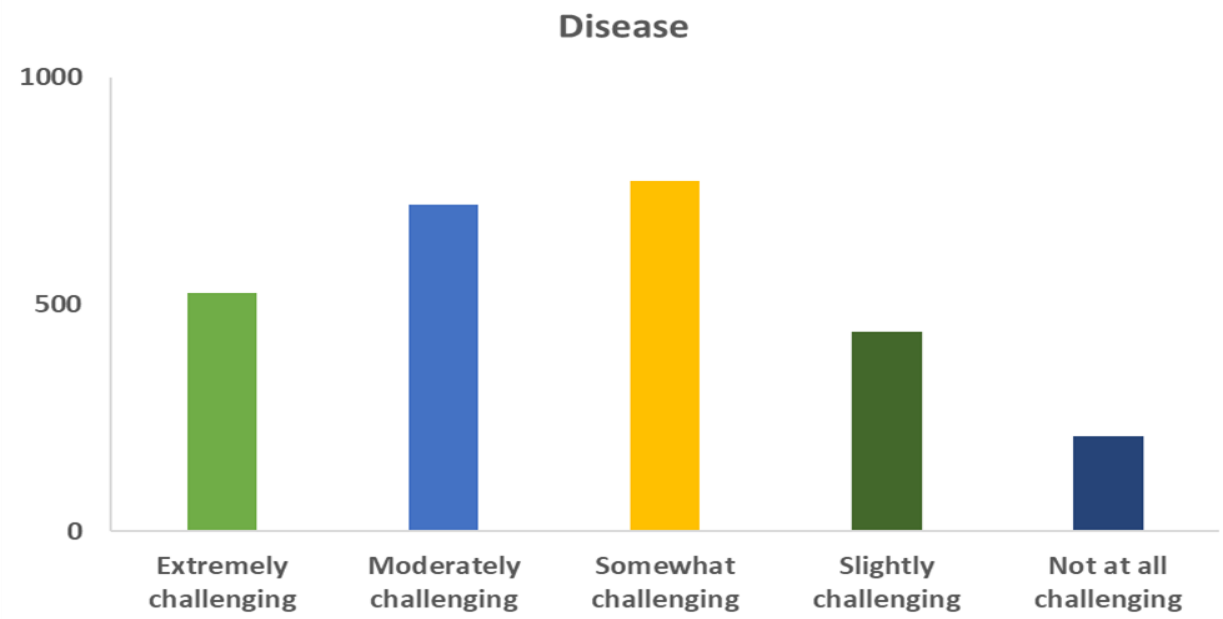

*Statewide – How challenging is climate change (frequency).*



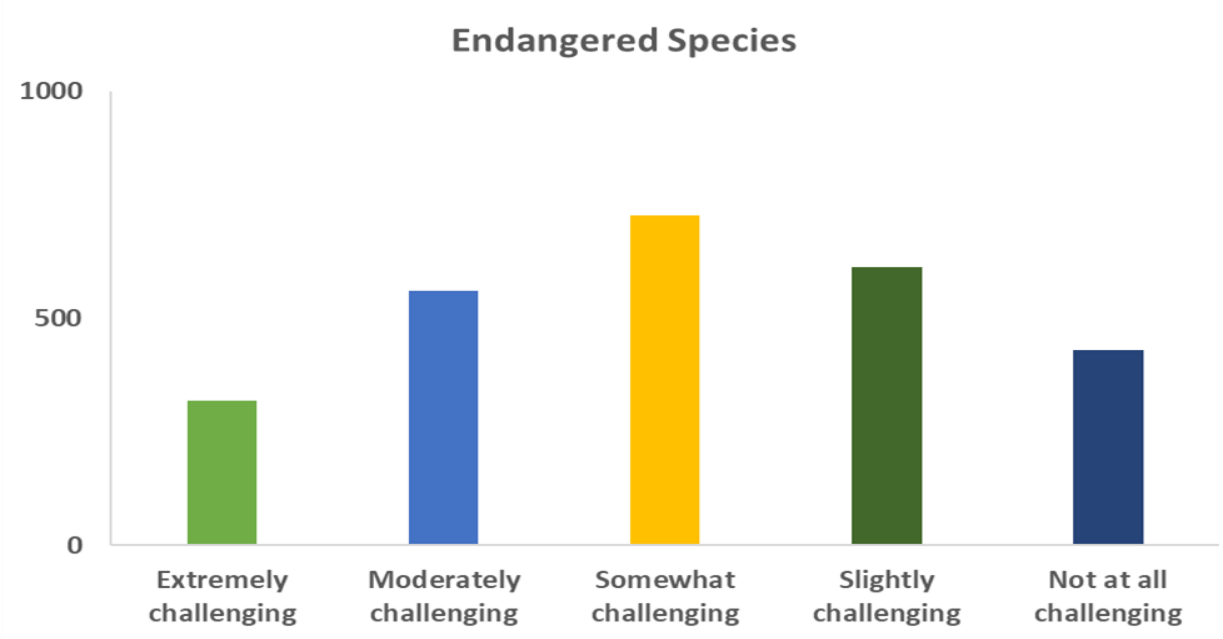

*Statewide – How challenging is commercial/residential development (frequency).*



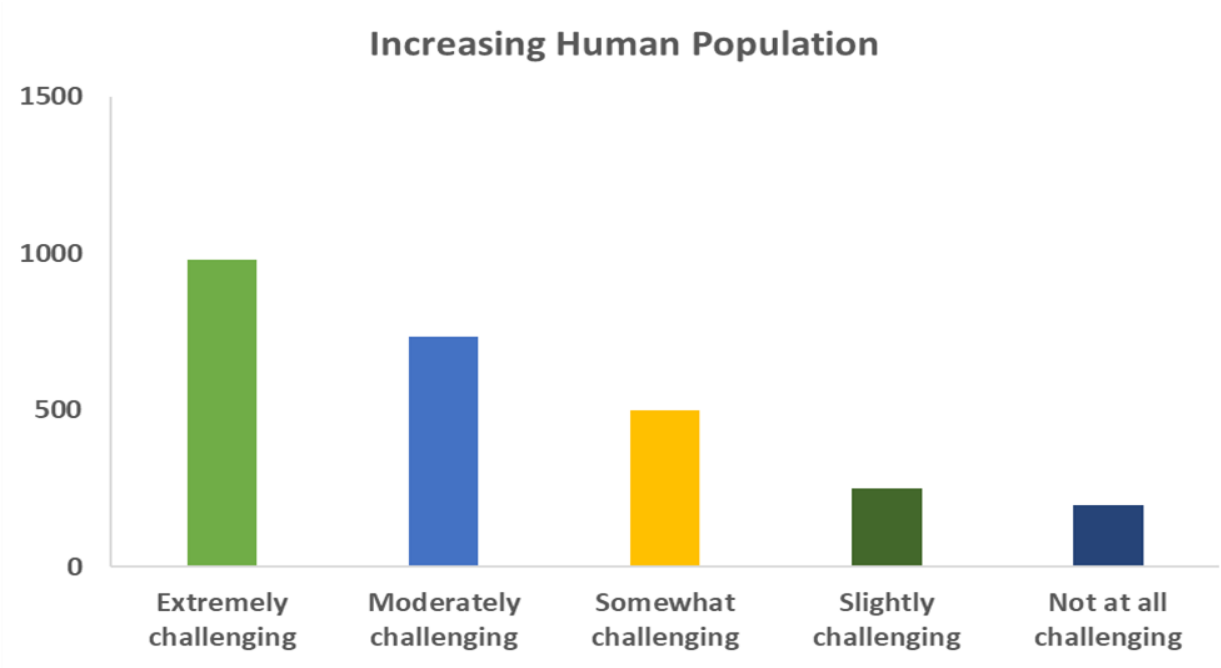

*Statewide – How challenging are declining wildlife populations (non-endangered, frequency).*



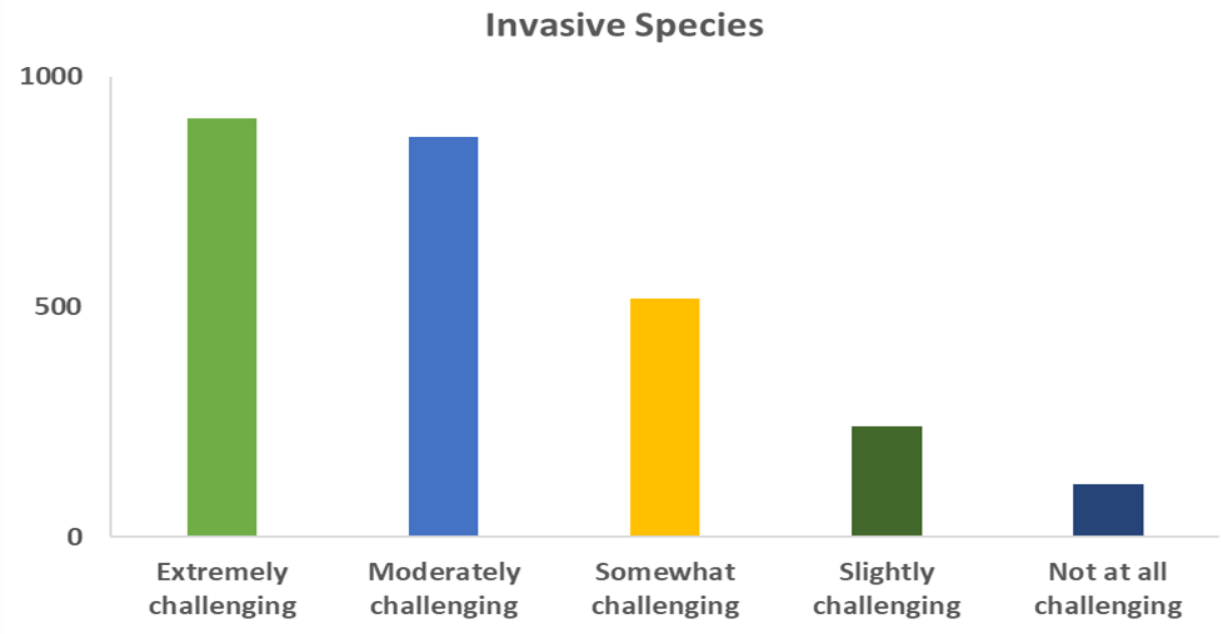

*Statewide – How challenging is disease (frequency).*



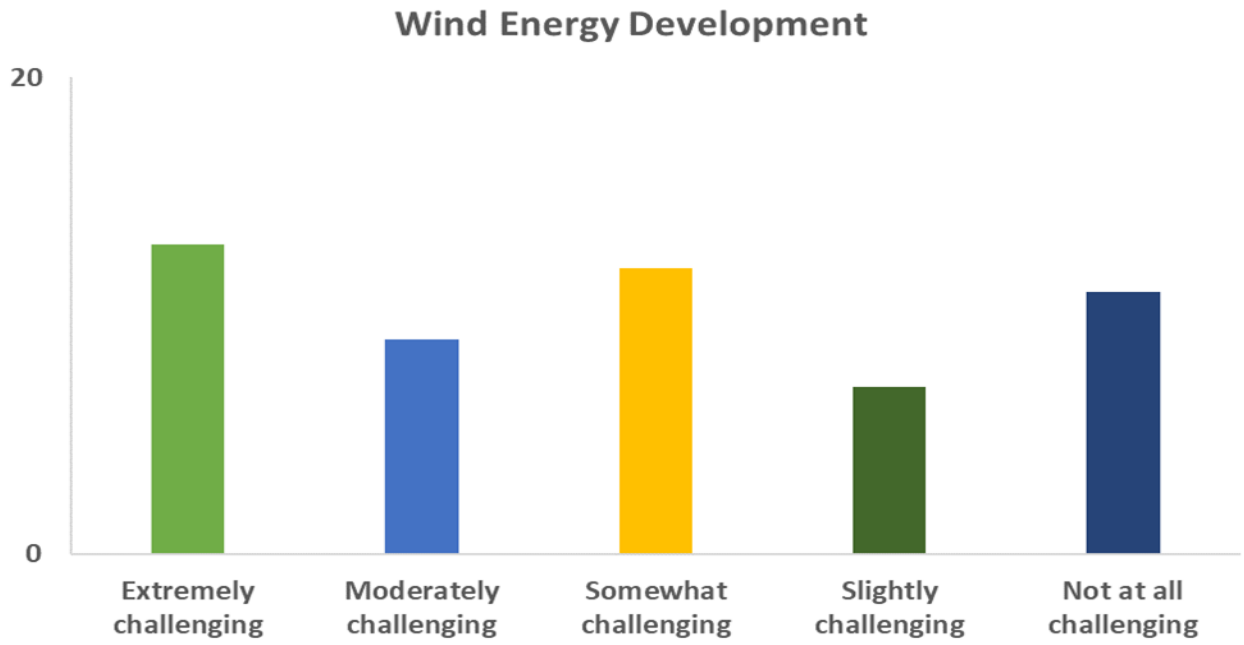

*Statewide – How challenging are endangered species (frequency).*



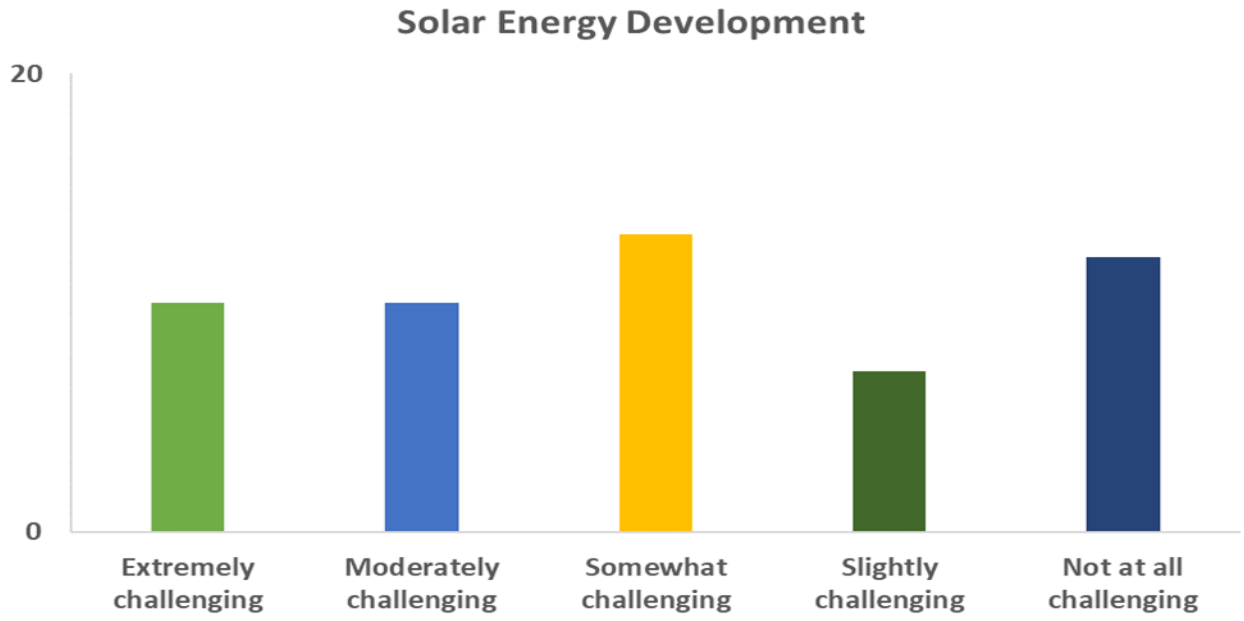

*Statewide – How challenging is increasing human population (frequency).*



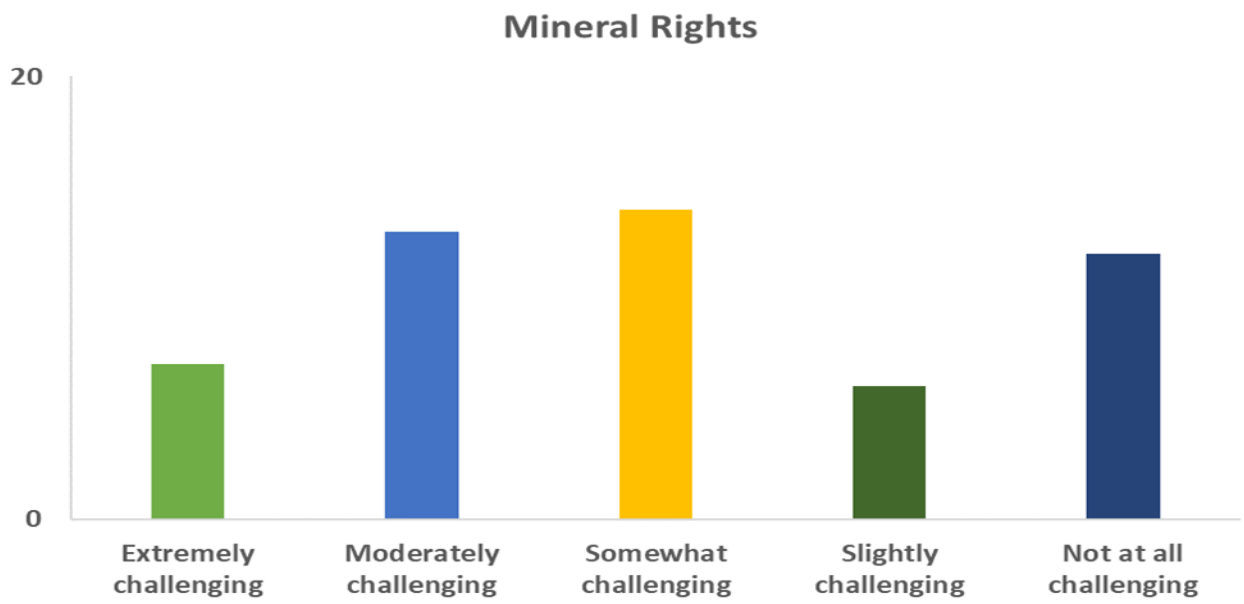

*Statewide – How challenging are invasive species (frequency).*



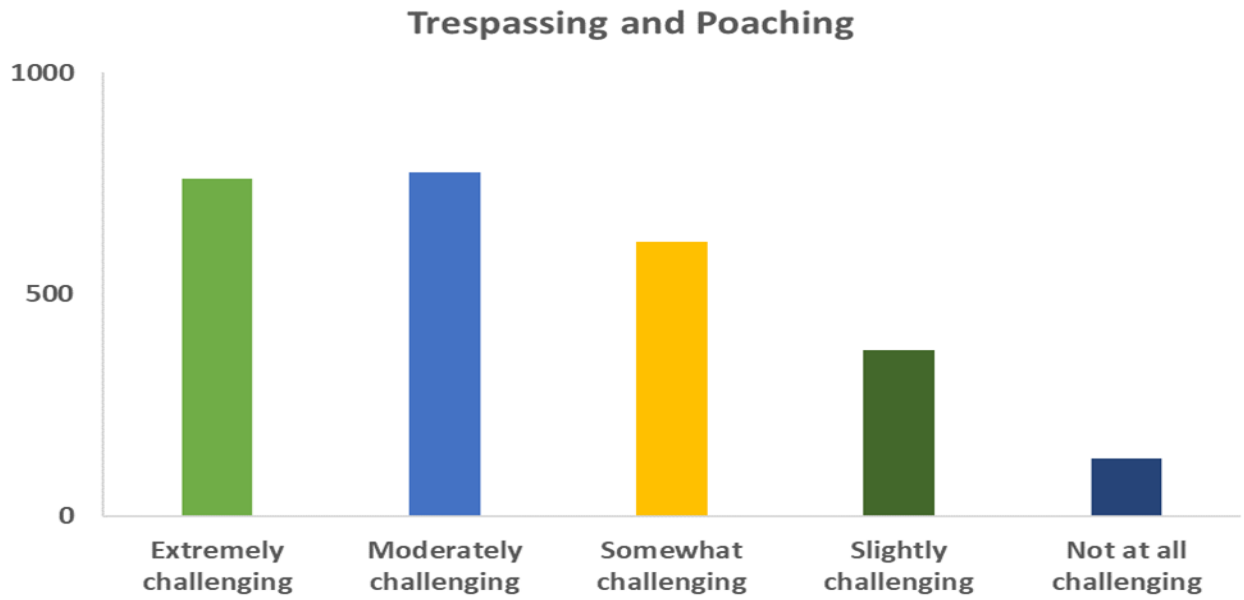

*Statewide – How challenging is wind energy development (frequency).*



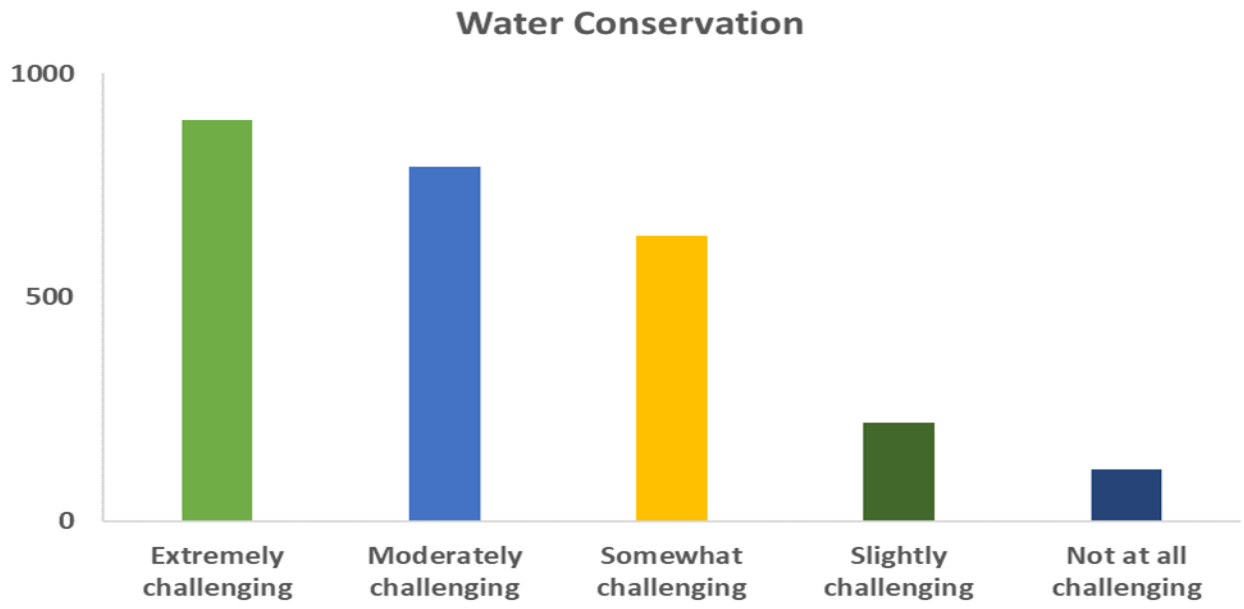

*Statewide – How challenging is solar energy development (frequency).*



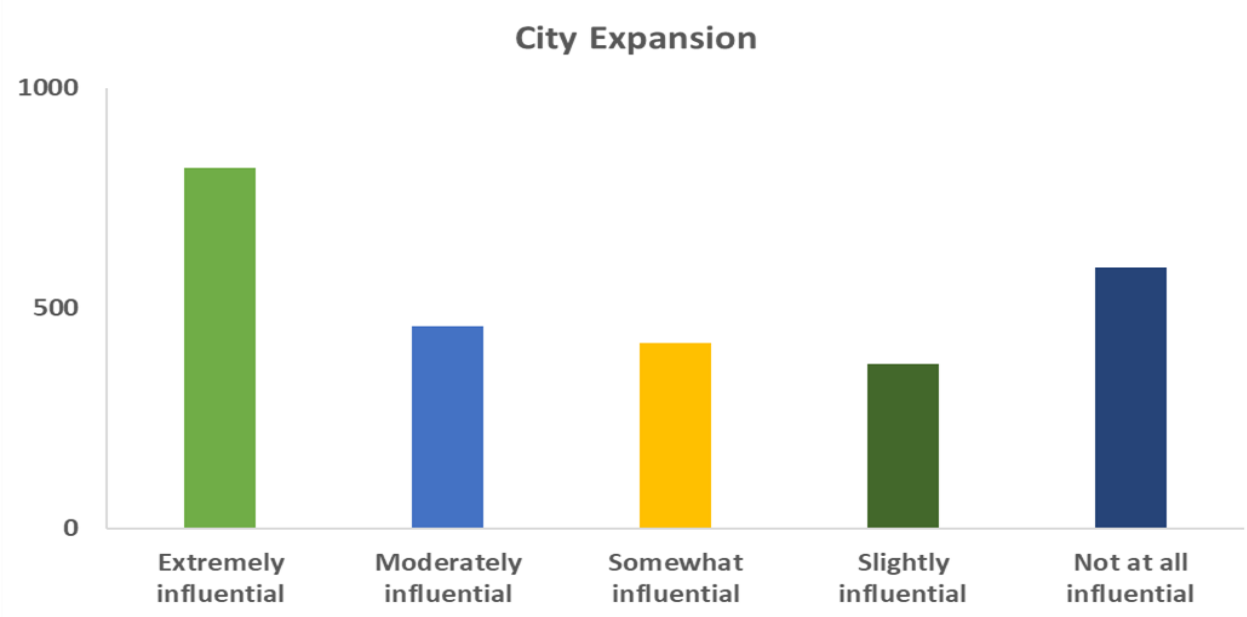

*Statewide – How challenging are mineral rights (frequency).*



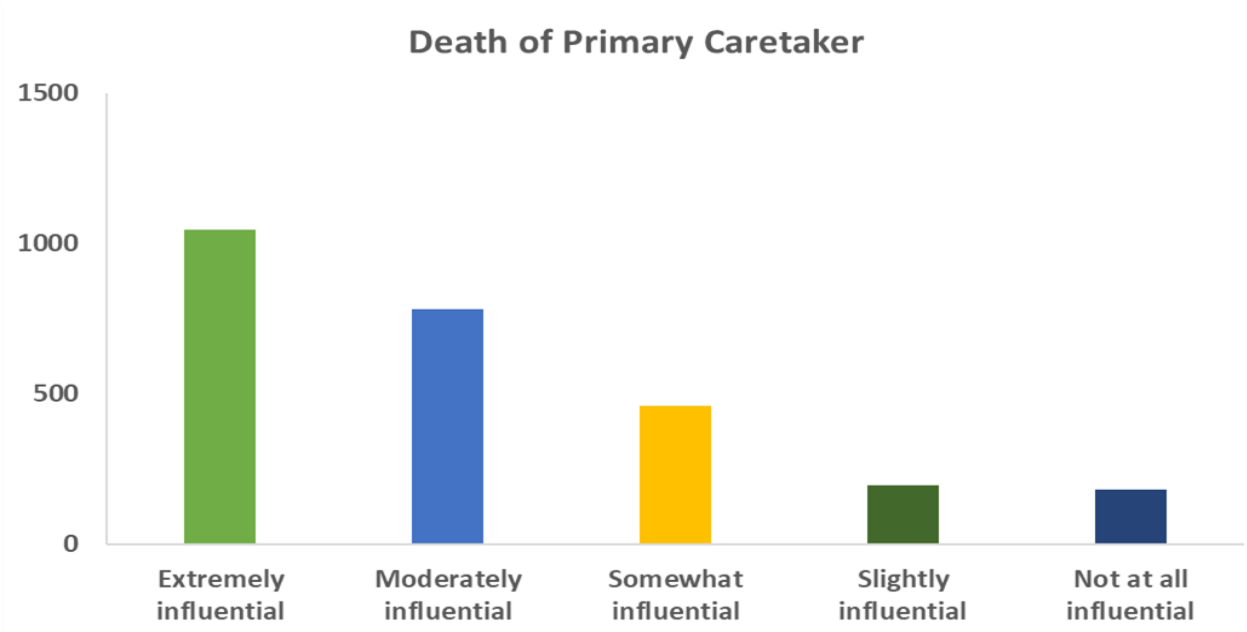

*Statewide – How challenging are trespassing and poaching (frequency).*



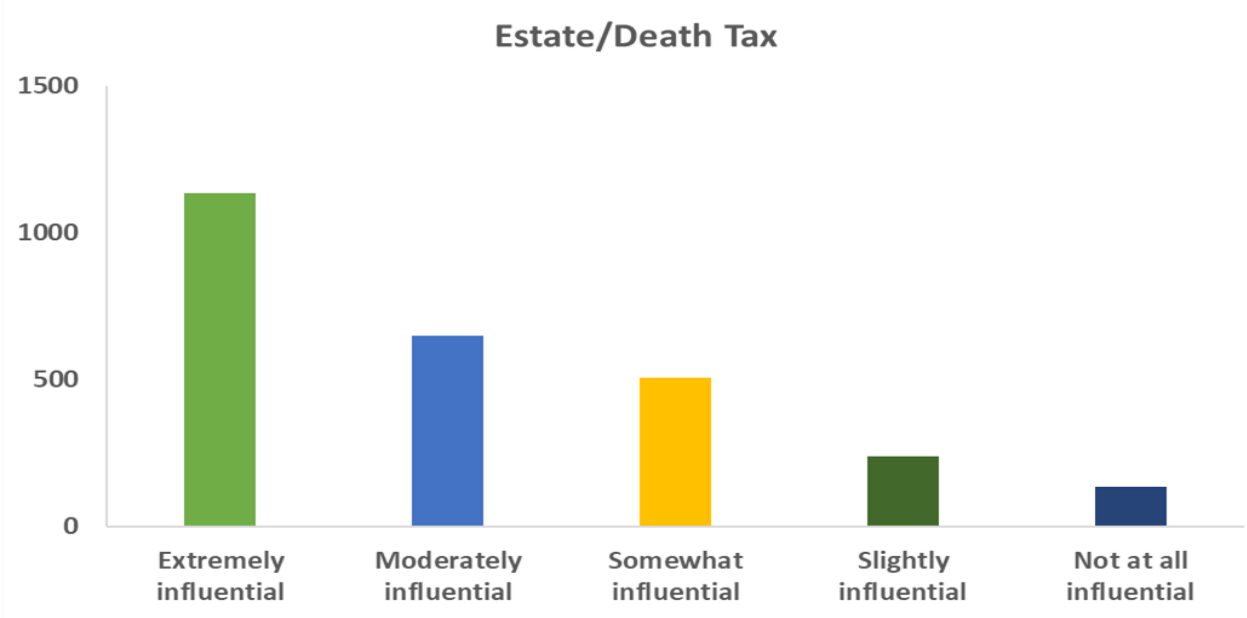

*Statewide –How challenging is water conservation (frequency).*



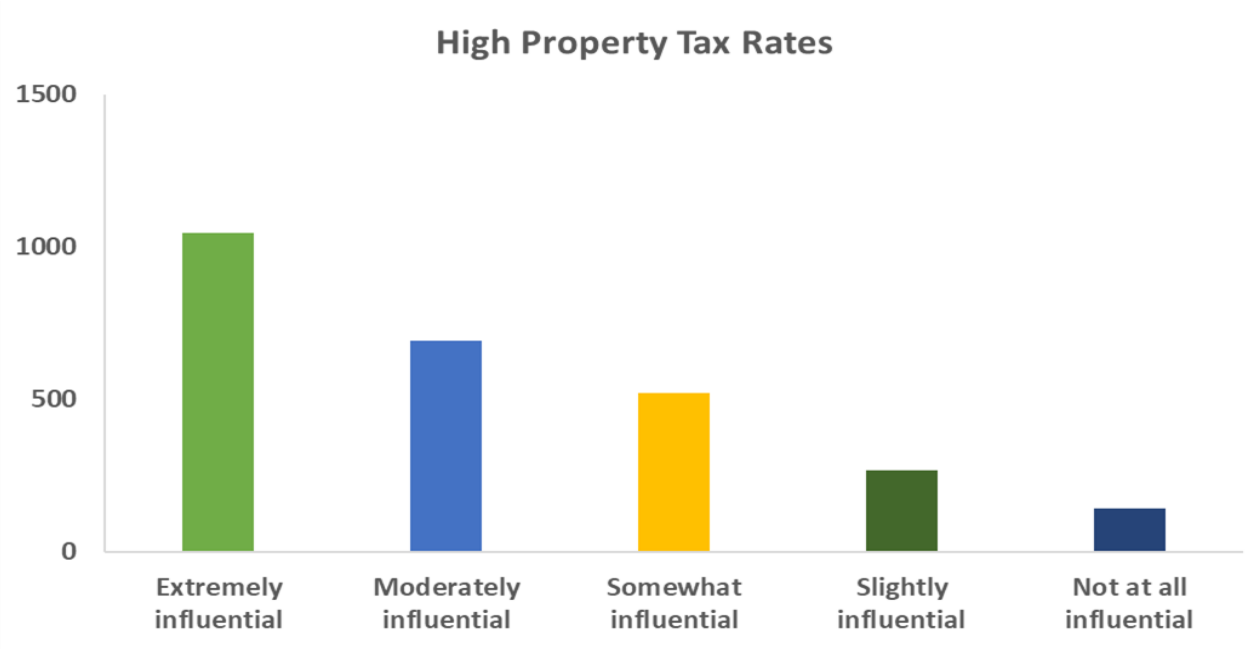

*Statewide – How influential to land loss or fragmentation is city expansion (frequency).*



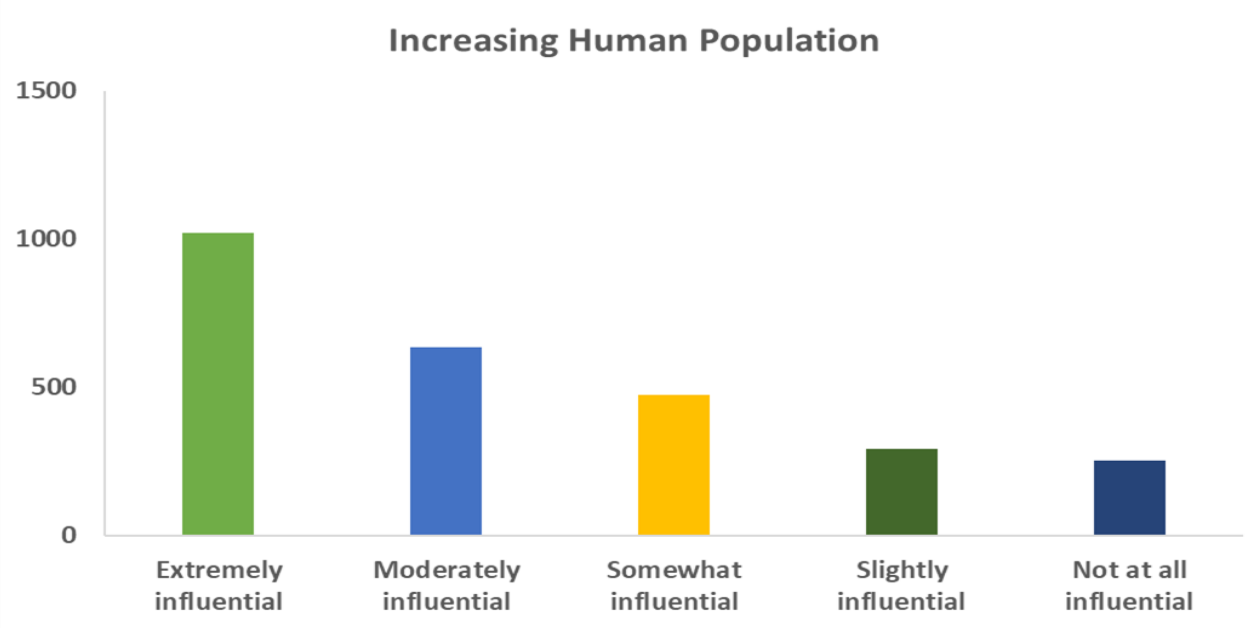

*Statewide – How influential to land loss or fragmentation is the death of a primary caretaker (frequency).*



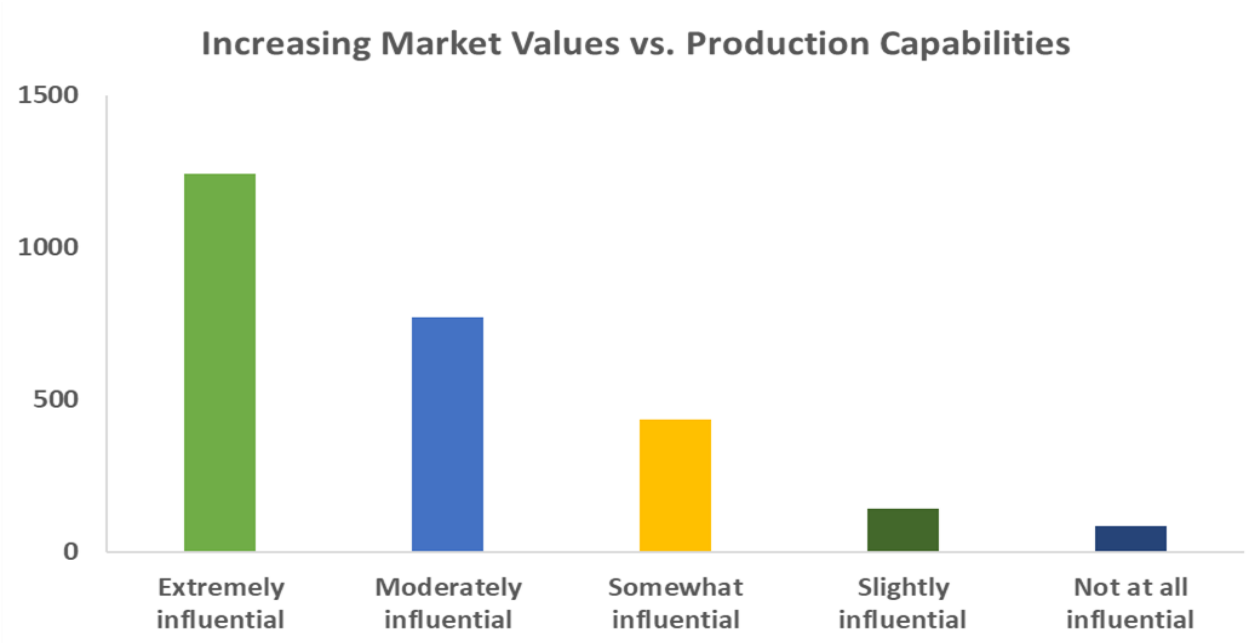

*Statewide – How influential to land loss or fragmentation is the estate/death tax (frequency).*



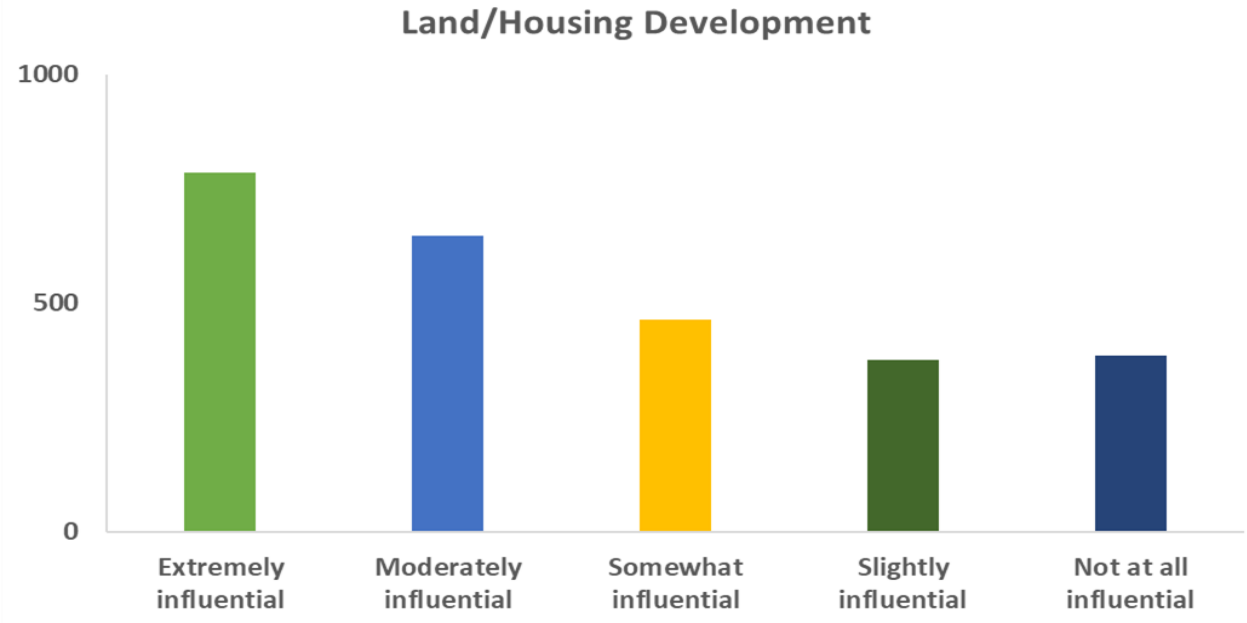

*Statewide – How influential to land loss or fragmentation are high property tax rates (frequency).*



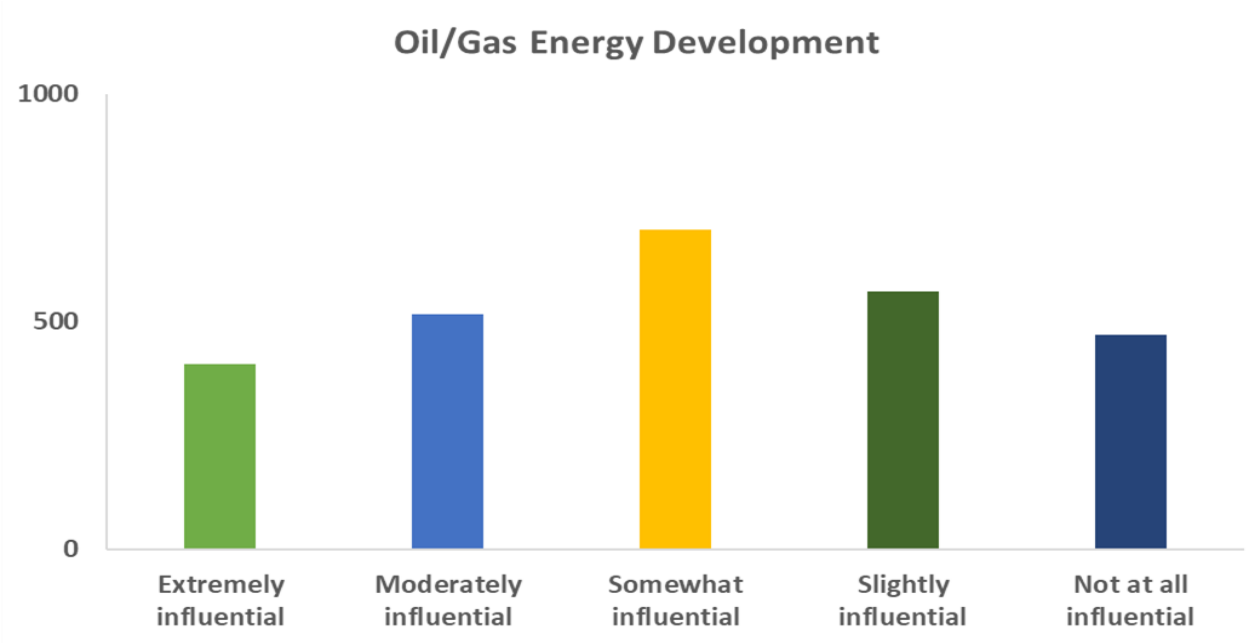

*Statewide – How influential to land loss or fragmentation is increasing human population (frequency).*



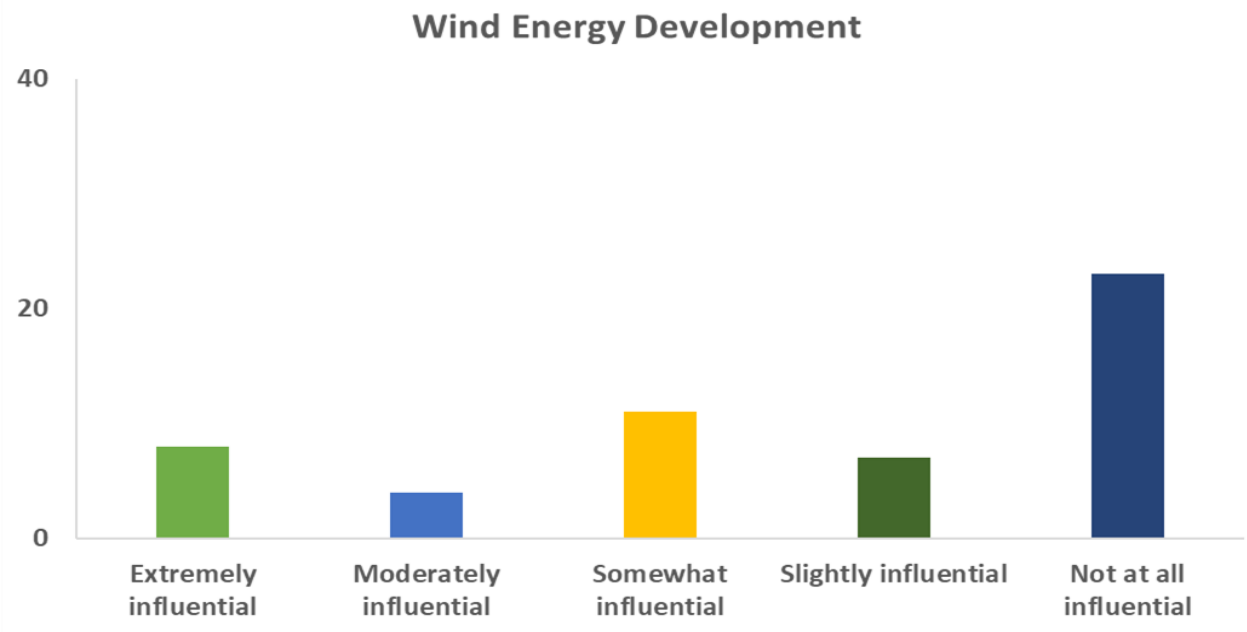

*Statewide – How influential to land loss or fragmentation are increasing market values vs. production capabilities (frequency).*



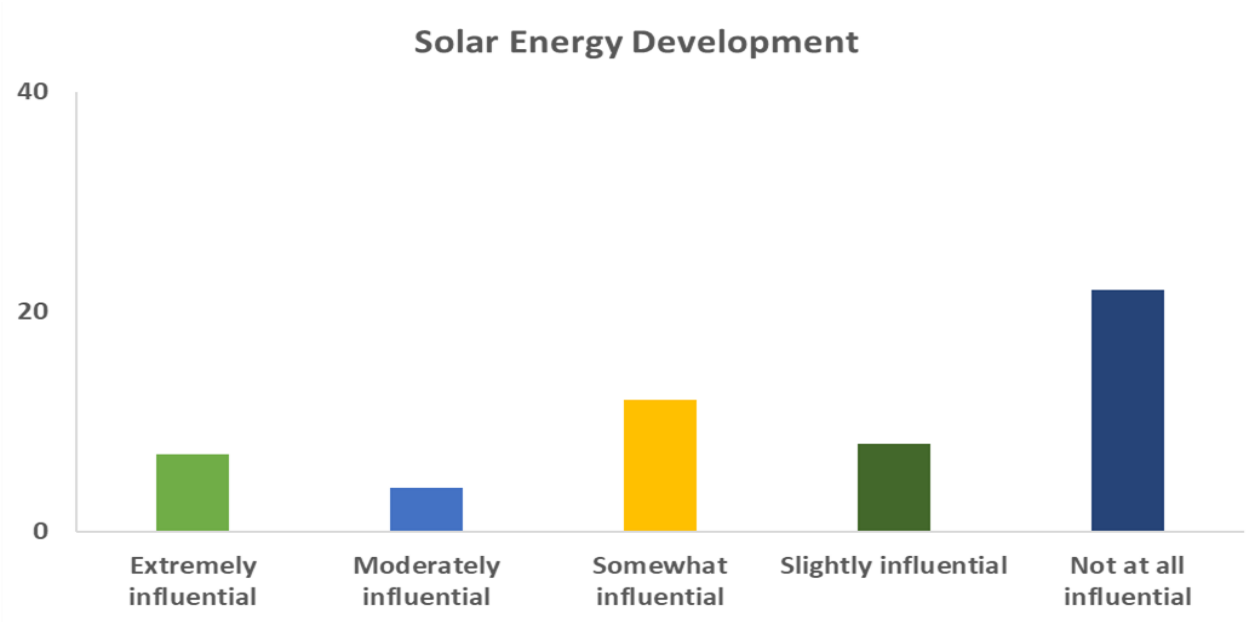

*Statewide – How influential to land loss or fragmentation is land/housing development (frequency).*



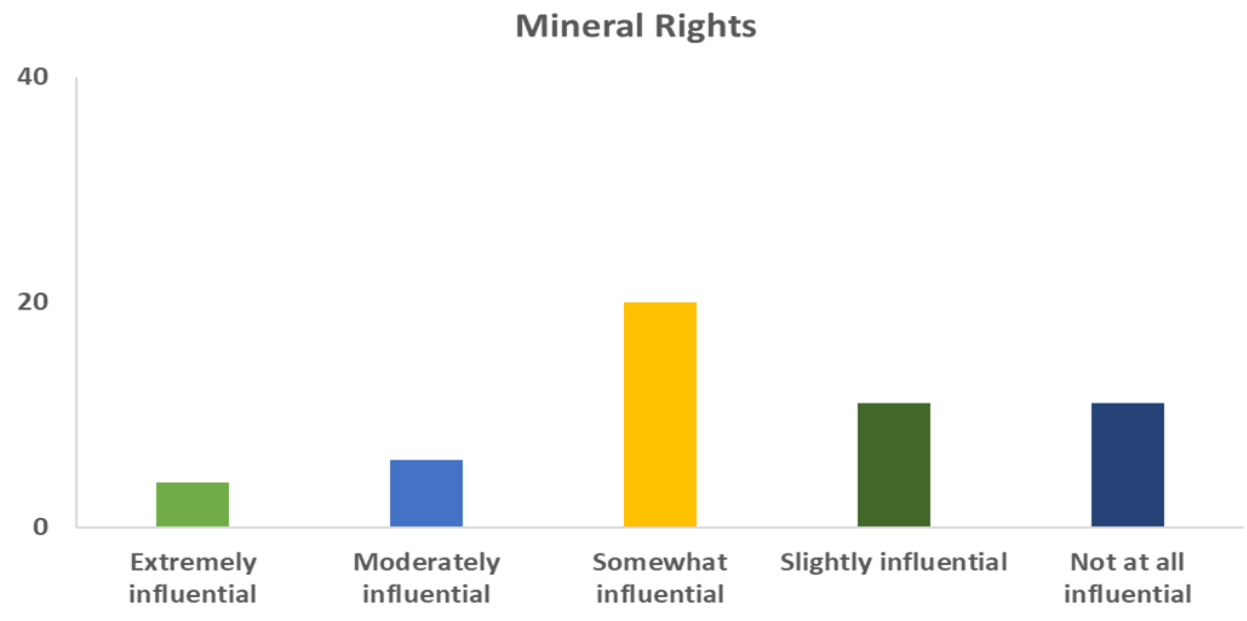

*Statewide – How influential to land loss or fragmentation is oil/gas energy development (frequency).*



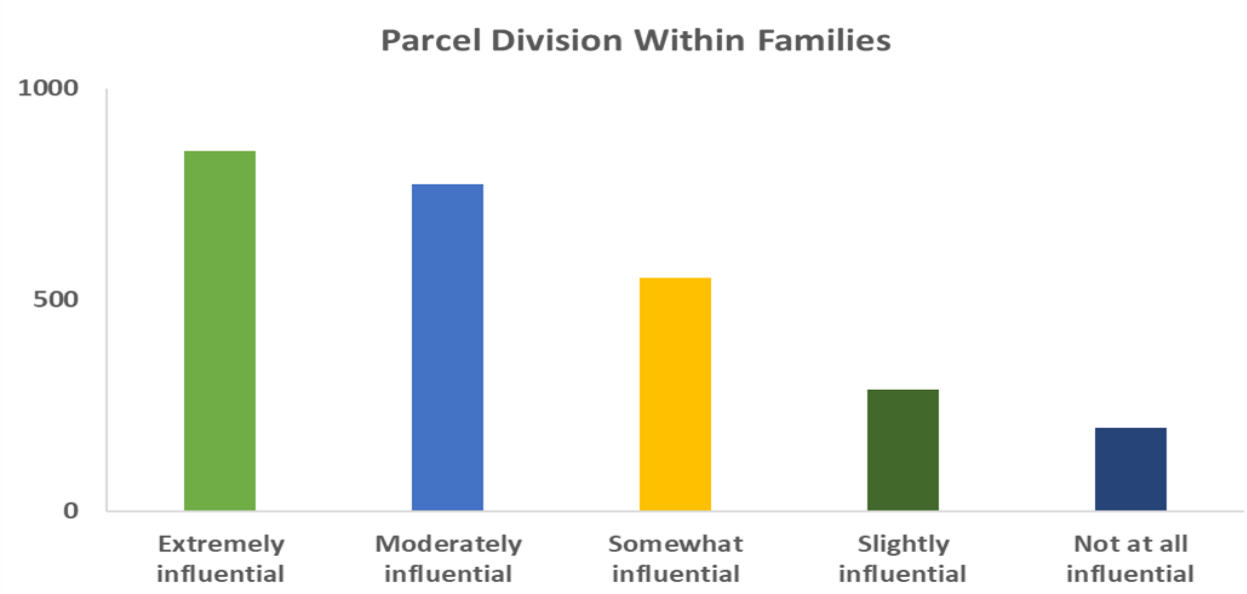

*Statewide – How influential to land loss or fragmentation is wind energy development (frequency).*



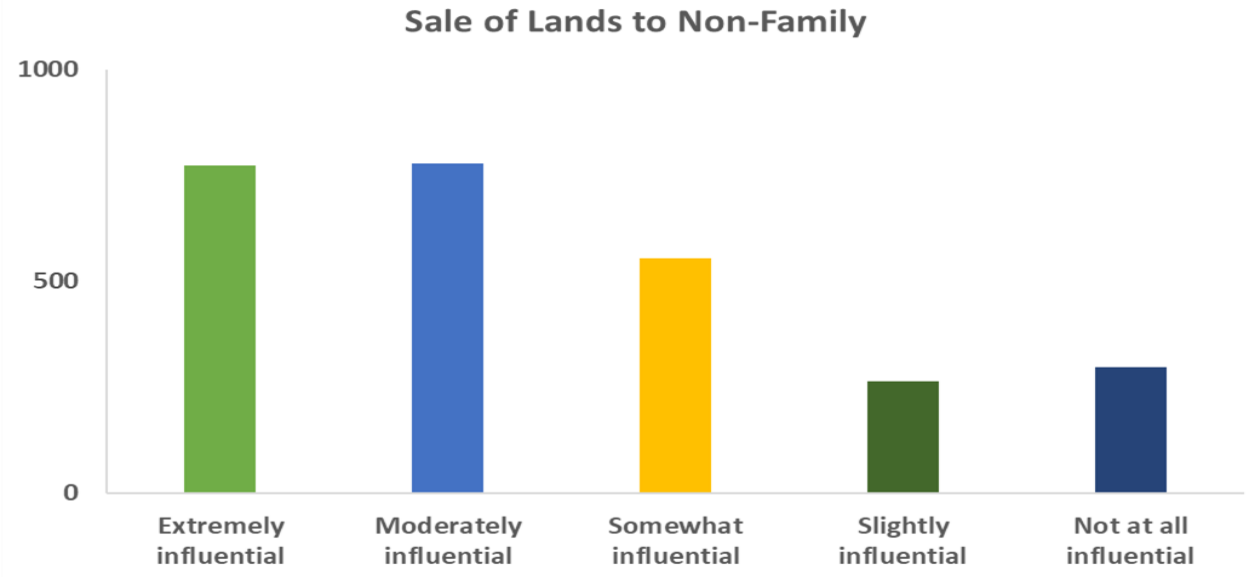

*Statewide – How influential to land loss or fragmentation is solar energy development (frequency).*



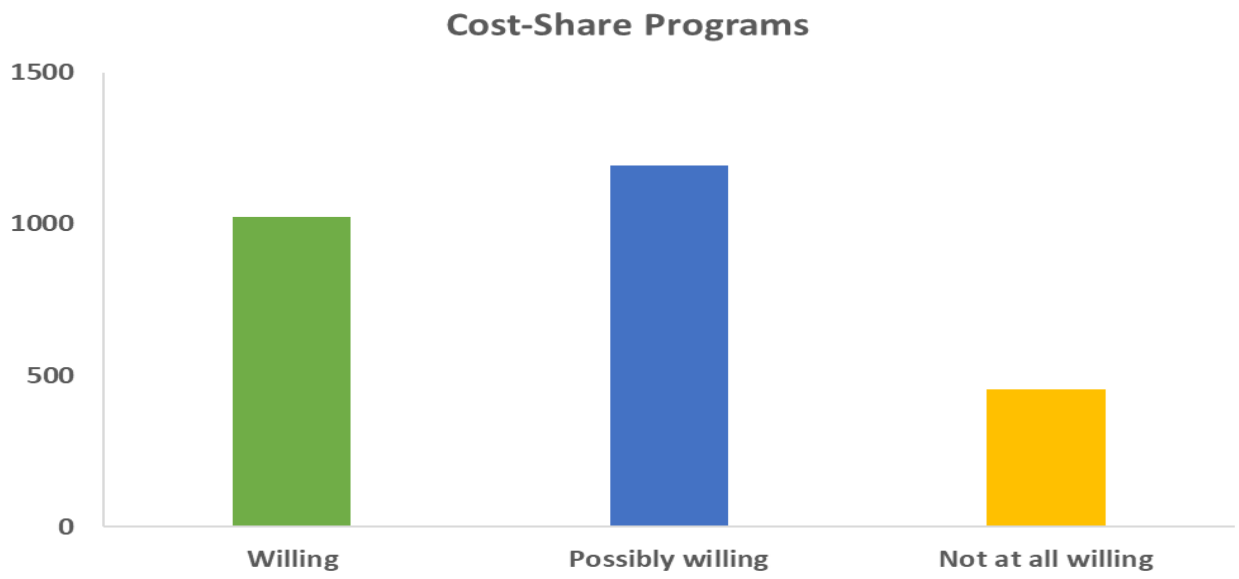

*Statewide – How influential to land loss or fragmentation are mineral rights (frequency).*



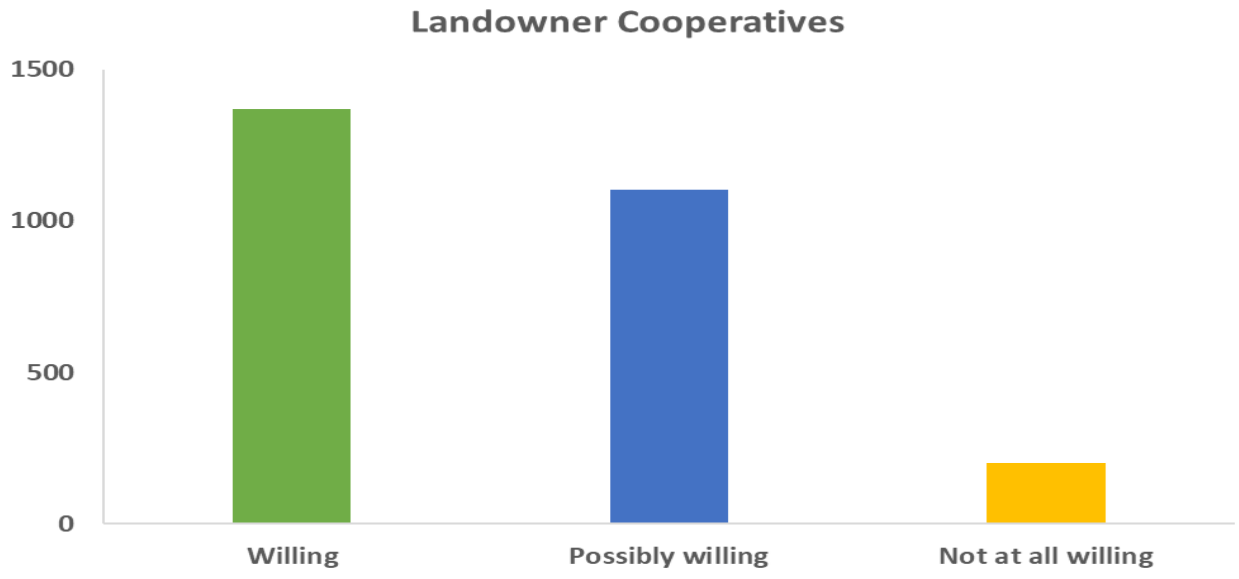

*Statewide – How influential to land loss or fragmentation is parcel division within families (frequency).*



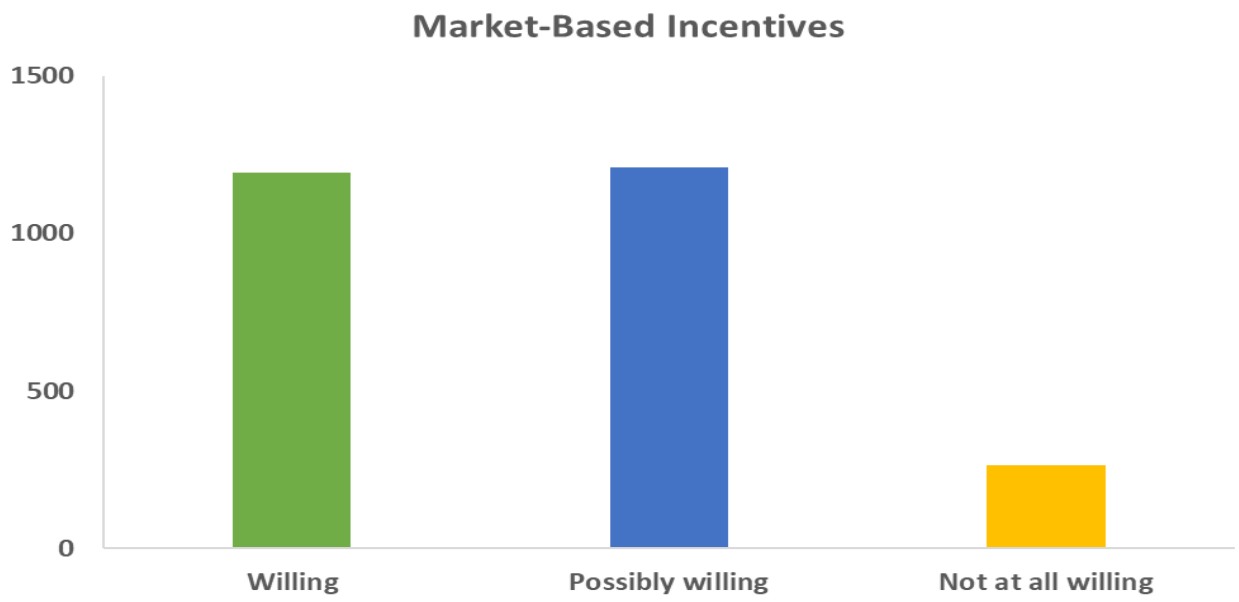

*Statewide – How influential to land loss or fragmentation is the sale of lands to non-family (frequency).*



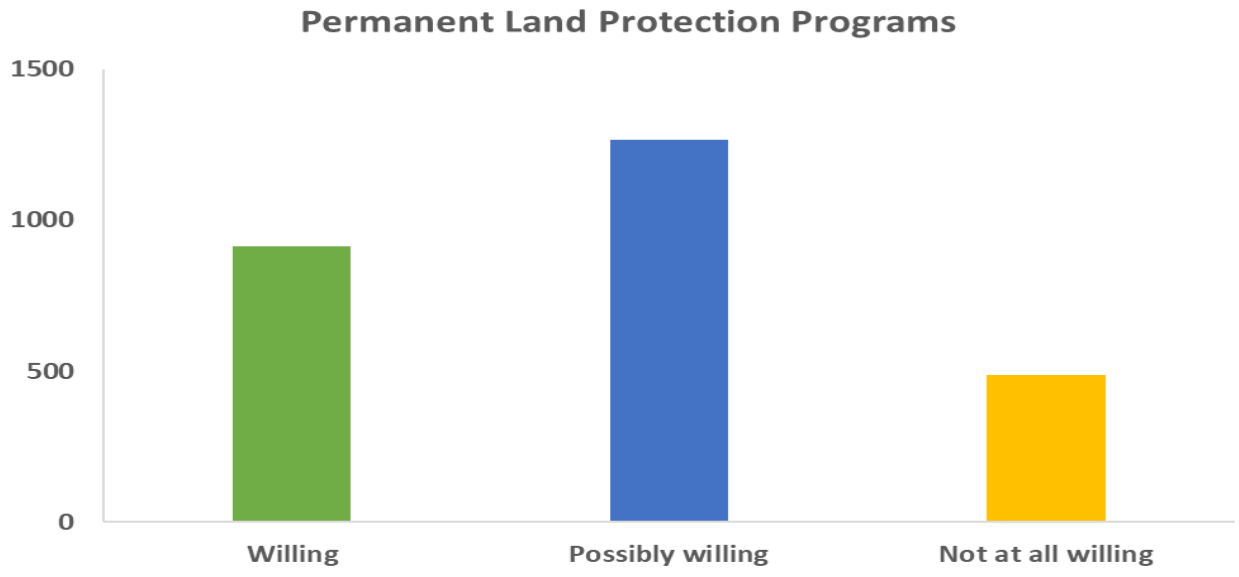

*Statewide – Willingness to participate in cost-share programs (frequency).*



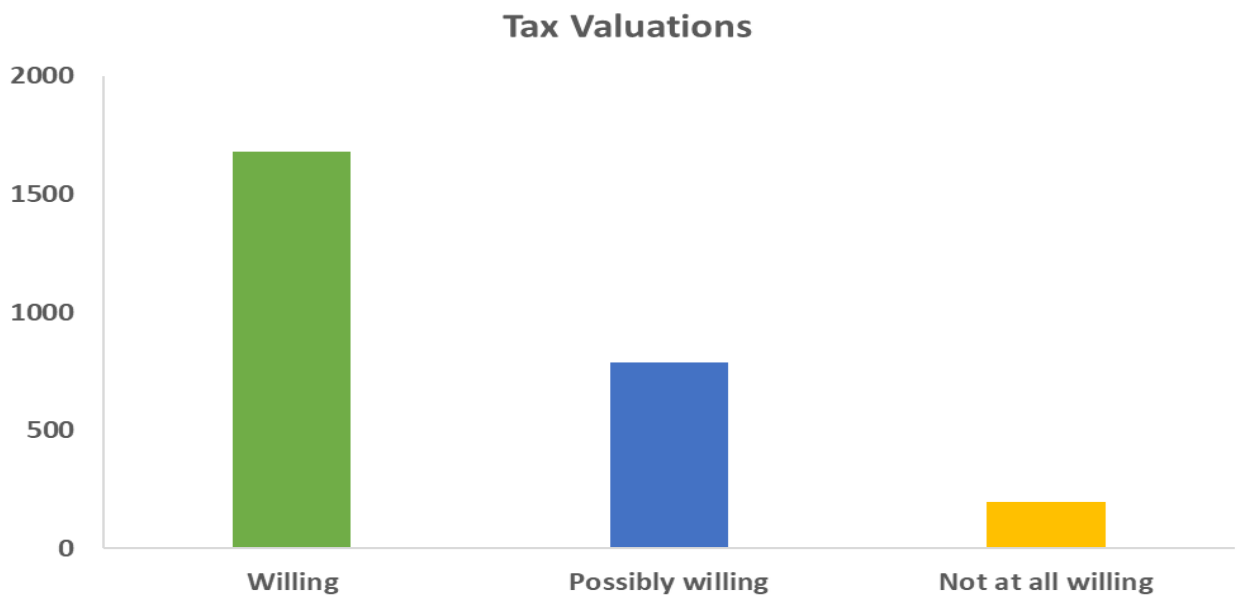

*Statewide – Willingness to participate in landowner cooperatives (frequency).*



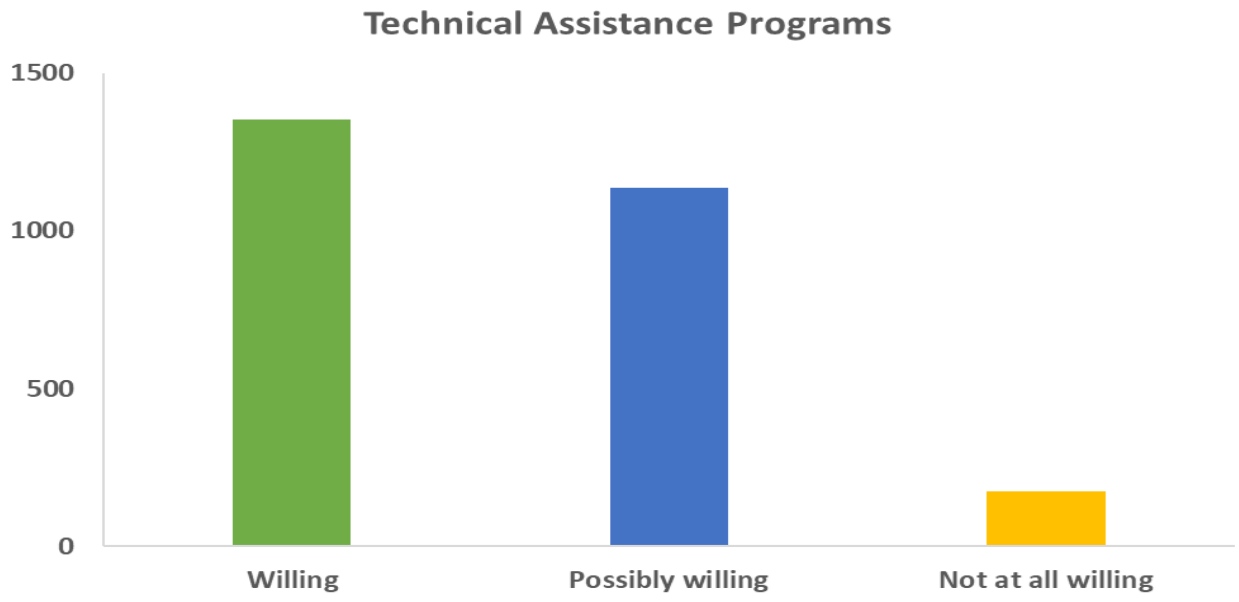

*Statewide – Willingness to participate in market-based incentives (frequency).*



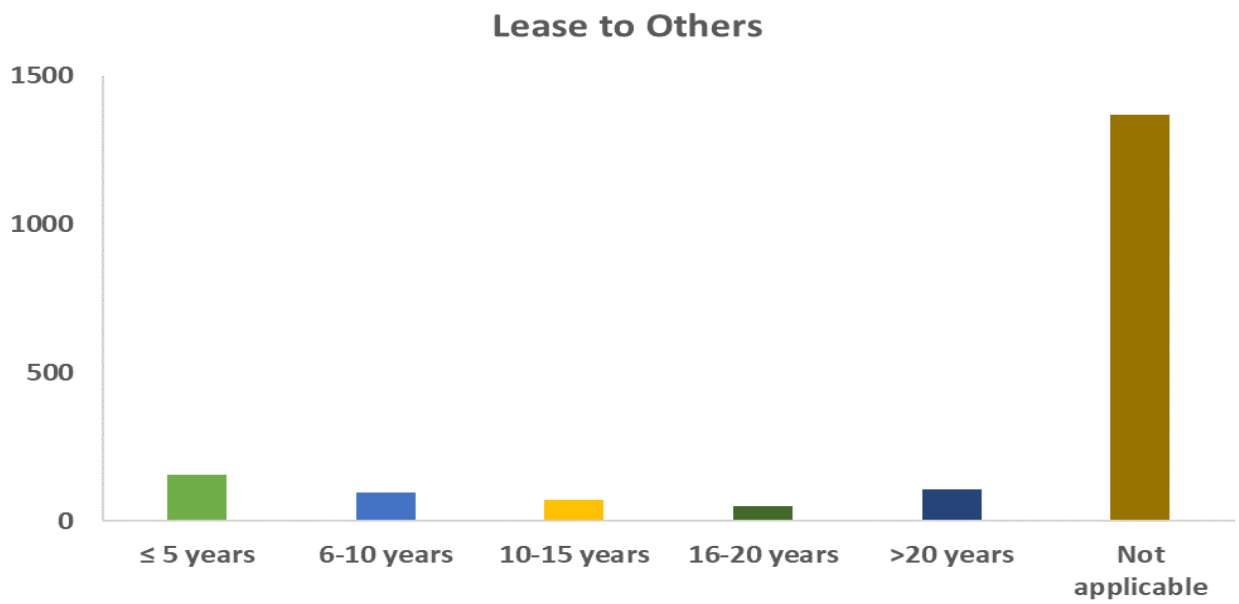

*Statewide – Willingness to participate in permanent land protection programs (frequency).*



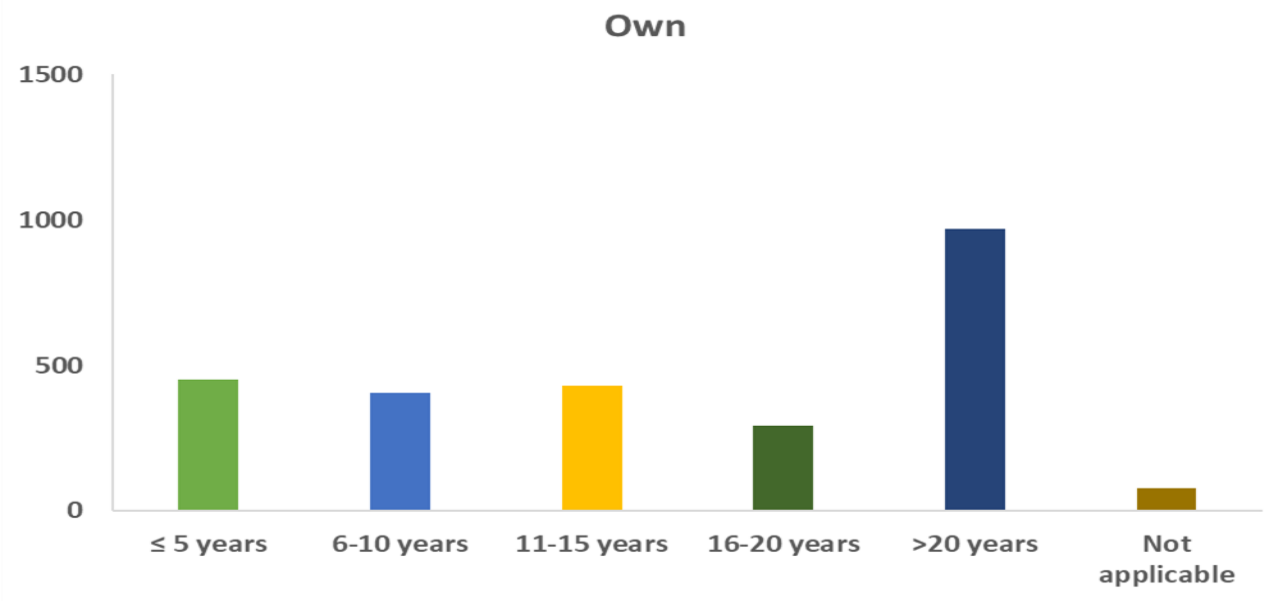

*Statewide – Willingness to participate in tax valuations (frequency).*



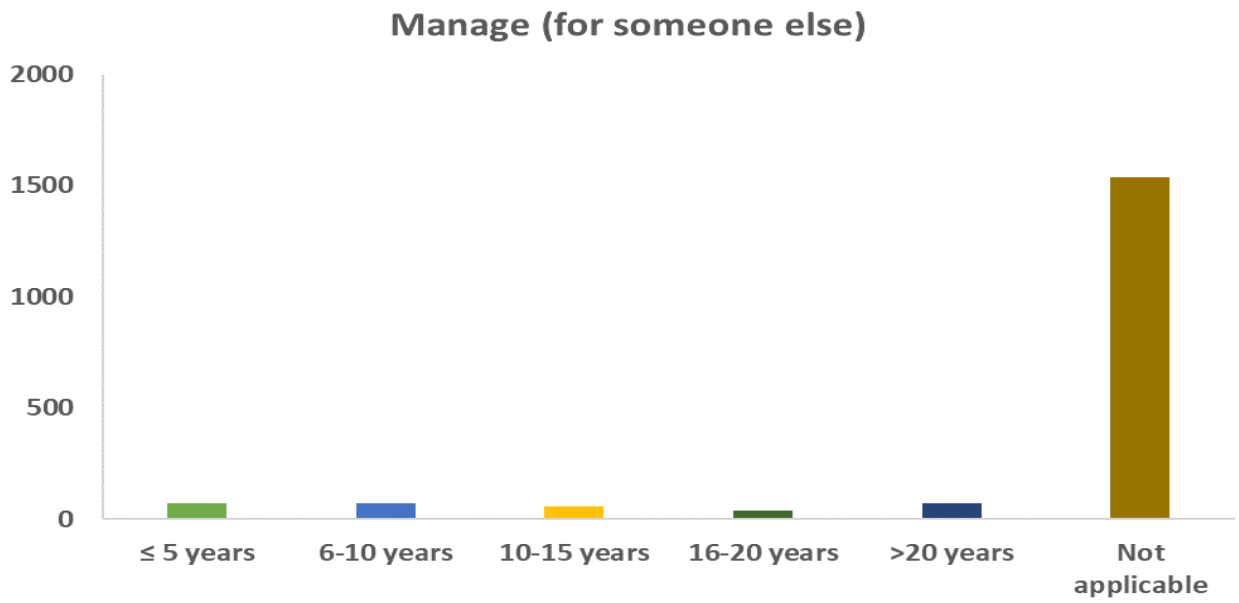

*Statewide – Willingness to participate in technical assistance programs (frequency).*



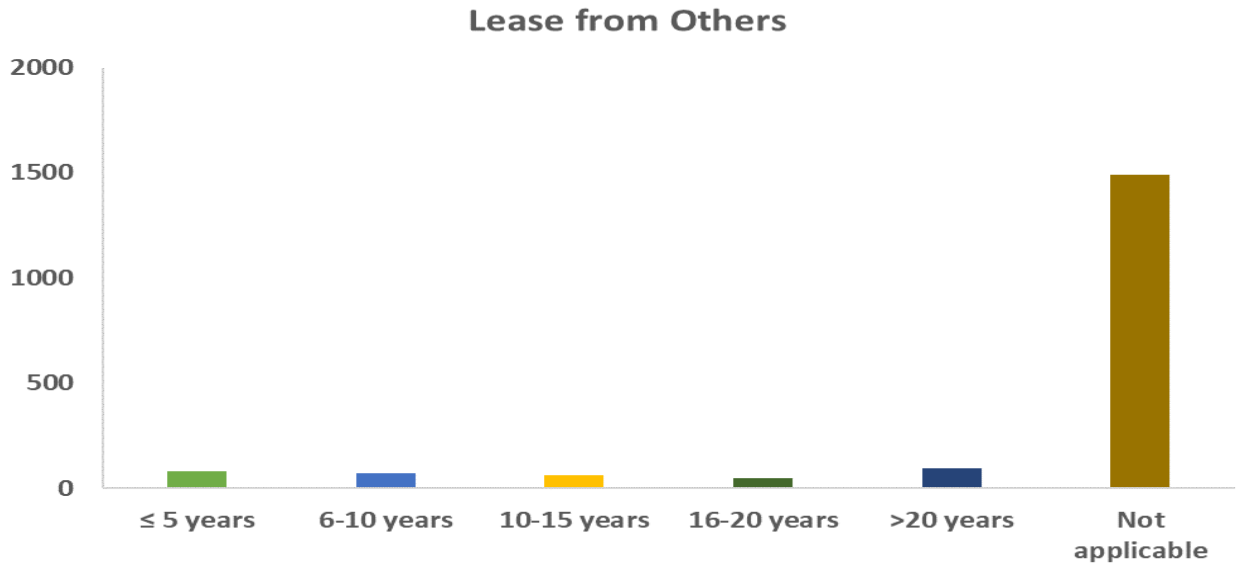

*Statewide – Lease to others (frequency).*




*Statewide – Own land (frequency).*




*Statewide – Manage land for someone else (frequency).*




*Statewide – Lease land from others (frequency).*