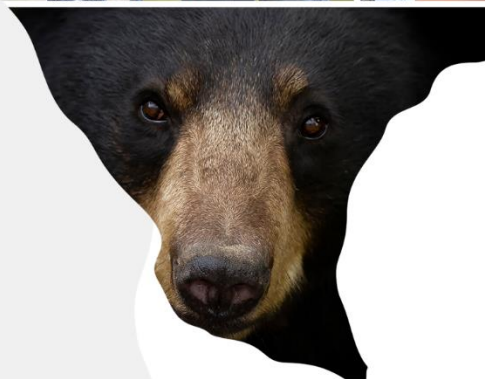
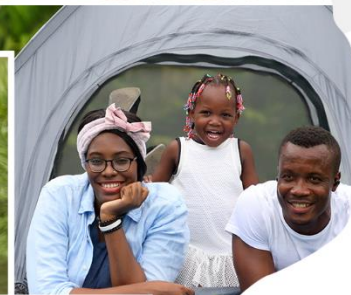




2022 Final Report

Texas

National Survey of
Fishing,
Hunting,
& Wildlife-Associated
Recreation



Report prepared for:

Texas Parks and Wildlife Department

Report prepared by:

NORC at the University of Chicago

For more information, please visit:

<https://www.norc.org/research/projects/survey-of-fishing-hunting-and-wildlife-recreation.html>



Table of Contents

2022 FHWAR Project Overview.....	1
2022 FHWAR Question Updates	2
Wildlife Watching Question Changes.....	2
Question Order	2
Question Grouping.....	2
Removed Questions	2
2022 FHWAR Sampling and Weighting Strategy	4
Sampling Overview	4
Weighting Overview.....	4
Texas Highlights	6
Wildlife Related Recreation	6
2022 Participation in Texas by Residents and Nonresidents	6
2022 Expenditures in Texas by Residents and Nonresidents.....	7
Anglers.....	8
2022 Participation in Texas by Residents and Nonresidents	8
2021 Participation in Texas by 6- to 15-Year-Old Residents.....	12
2022 Expenditures in Texas by Residents and Nonresidents.....	12
Hunters	14
2022 Participation in Texas by Residents and Nonresidents	14
2021 Participation in Texas by 6- to 15-Year-Old Residents.....	17
2022 Expenditures in Texas by Residents and Nonresidents.....	18
Wildlife Watchers.....	19
2022 Participation in Texas by Residents and Nonresidents	19
2022 Expenditures in Texas by Residents and Nonresidents.....	22
Other Outdoor Recreation Activities.....	23
2021 Participation in Texas by Residents	23
Texas Specific Questions.....	24

Project Overview

The National Survey of Fishing, Hunting, and Wildlife-Associated Recreation has been conducted since 1955 and is one of the oldest and most comprehensive continuing recreation surveys. The Survey collects information on the number of anglers, hunters, and wildlife watchers, how often they participate, and how much they spend on their activities in the United States.

In coordination with AFWA and the U.S. Fish and Wildlife Service, NORC at the University of Chicago administered the 2022 National Survey. To establish a sustainable model moving forward, the survey underwent a major methodological redesign, including:

- A mixed-mode approach where interviews were conducted via web, telephone, and self-administered paper questionnaires sent through the mail instead of costly in-person interviewing.
- A blended sample design that primarily used AmeriSpeak®, NORC's probability-based panel, and an address-based sample (ABS) to provide full rural coverage, reduce avidity bias, and reduce nonresponse bias.
- The inclusion of sample from nonprobability online panels to provide a cost-effective approach for state-level data. NORC employed our TrueNorth capability to combine probability and nonprobability samples to create reliable estimates that meet the state-level precision requirements.
- A streamlined questionnaire to focus on key estimates and reduce respondent burden.

Data collection for the Survey was carried out in two phases by NORC at the University of Chicago. The first phase consisted of a screening interview, conducted January through April 2022. NORC interviewed a sample of 42,340 households nationwide. Through these interviews, one adult household member provided information for up to four adults age 16 and older and up to four children ages 6 to 15 in the household. This interview covered 2021 participation in fishing, hunting, wildlife watching and other outdoor recreation activities, as well as expectations for participation in 2022. In total, data was collected for about 97,415 household members.

The second phase of data collection covered 2022 activities in detail and consisted of three detailed interview waves. The first wave was conducted May through August 2022. The second wave was conducted September through December 2022. The final wave was conducted January through March 2023. Interviews were conducted with samples of likely anglers, hunters, and wildlife watchers who were identified in the initial screening phase. Interviews were conducted via the web, telephone, and self-administered questionnaire. Respondents in the second survey phase were limited to those who were at least 16 years old. Each respondent provided information pertaining only to his or her activities and expenditures. Sample sizes were designed to provide statistically reliable results at the national level. During the second phase, 105,698 completed any survey, including 24,720 who completed the angler survey, 11,655 who completed the hunter survey, 58,704 who completed the wildlife watching survey, and 10,619 who did not participate in any of the three activities and were not asked detailed questions about them.

Question Updates

In consultation with AFWA, NORC redesigned the survey instruments for 2022 to address concerns about survey bias, reduce omitting events from survey reports, and reduce the length of the survey instruments with special attention to items AFWA/FWS specifically requested be addressed. This process included cognitive and debriefing interviews and a pilot test to improve data quality and reduce respondent burden.

Wildlife Watching Question Changes

As in previous rounds, the 2022 FHWAR Wildlife Watching questionnaire asked respondents about six separate activities constituting around-the-home wildlife watching: observing wildlife, photographing wildlife, feeding wildlife, maintaining natural areas, maintaining plantings, and visiting parks or natural areas. In the 2022 survey, these detailed activities were also asked about at the end of the Fishing and Hunting questionnaires to match around-the-home wildlife-watching questions on the Wildlife Watching questionnaire. In previous rounds, there was only a single yes/no question about wildlife watching on the Fishing and Hunting questionnaires. In addition, the question asking about photographing wildlife was edited to clarify that cell phone pictures of wildlife count as a form of wildlife photography. Lastly, around-the-home wildlife-watching questions were asked first then away-from-home wildlife watching and associated expenditures. Switching this order seemed to aid in better recall and resulted in less confusion.

Question Order

For the screener, NORC rearranged the order of the sections so that respondents were asked about wildlife watching first, followed by fishing, then hunting. This was done so that respondents would be first presented with questions on activities the general population is more likely to have participated in. Since fewer people have hunted, these questions were moved later in the questionnaire.

Question Grouping

The Screener questionnaire was reworked to simply ask if a household member had engaged in an activity. Respondents were asked to report on activities for their entire household, selecting one person at a time then cycling through all types of activities.

Removed Questions

AFWA/ FWS requested that certain questions be reviewed before the 2022 administration to reduce the survey length and respondent burden. Questions about 2022 hunting, fishing, and wildlife-watching activity were removed from the screener questionnaire knowing that few would have

participated in these activities already at that early point of 2022. Instead, the first four months of the year were asked about in the Wave 1 questionnaire. Fishing questions were reworked to not explicitly ask about fishing in the Great Lakes. Instead, fishing in the Great Lakes was included through freshwater fishing questions. Instead of asking for the number of days one fished for shellfish and finfish, the 2022 questionnaires asked what kind of saltwater fishing was done in each coastal state in which one reported fishing, including fishing for finfish, shellfish, or both, to shorten the survey. The Wave 3 fishing questionnaire did not ask specifically about bass boats when asking about large purchases made in 2022. Instead, they were included in the “motorboat” category. The hunting questionnaire removed species-specific questions and asked instead about four broad categories: big game, small game, migratory birds, and other animals.

Sampling and Weighting Strategy

Sampling Overview

NORC used three sampling sources for the 2022 FHWAR project. An address-based sample (ABS) and AmeriSpeak®, NORC's probability-based panel, were used throughout the project while opt-in panels were incorporated in Wave 3.

Screeners sample included ABS and AmeriSpeak®. The ABS sample was developed from the United State Postal Service's Delivery Sequence File (DSF), which allowed for oversampling counties with high hunting participation identified by hunting license lists. The sample was stratified by state.

Individuals identified through the screener phase were contacted in the remaining three waves. Supplemental ABS and AmeriSpeak® samples were incorporated in later waves to improve the precision of the results. Nonprobability, online panels were used in Wave 3 as a cost-effective approach for state-level data collection for the 23 coastal states and states who purchased state-level data.

Weighting Overview

NORC weighted data after the screener and Wave 3. Weights accounted for probability of selection, nonresponse, and population characteristics across the various sample sources.

- **ABS Weighting**

- Base weights: Inverse of the probability of selection of the sampled household
- Nonresponse weights: Used county-level hunting license data and market data used to predict hunting and fishing participation
- Population weights: Based on Census Division using age, sex, education, race, ethnicity, and urbanicity

- **AmeriSpeak Weighting**

- Base weights: Used the AmeriSpeak® panel weight and the probability of selection of the sampled panelist
- Nonresponse weights: Used AmeriSpeak® panel profile data and market data
- Population weights: Based on Census Division using age, sex, education, race, ethnicity, and urbanicity

- **Opt-in Panel Weighting**

- Base and Nonresponse weights: Not calculated due to the nonprobability nature of the panels
- Population weights: Calculated within each opt-in state/rest of Census Division using age, sex, education, race, ethnicity, and urbanicity, and within each Census Division by sex using 2022 hunting, fishing and wildlife watching participation

The three combined data sources were raked within each opt-in state/rest of Census Division using age, sex, education, race, ethnicity, and urbanicity and within each opt-in state/rest of Census Division by age. Small area modeling was used to generate the 2022 hunting, fishing, and wildlife watching participation estimates and refine estimates of the number of anglers in coastal states and the ratio of freshwater and saltwater anglers in coastal states using 2011 FHWAR data.

Texas Highlights



Wildlife Related Recreation

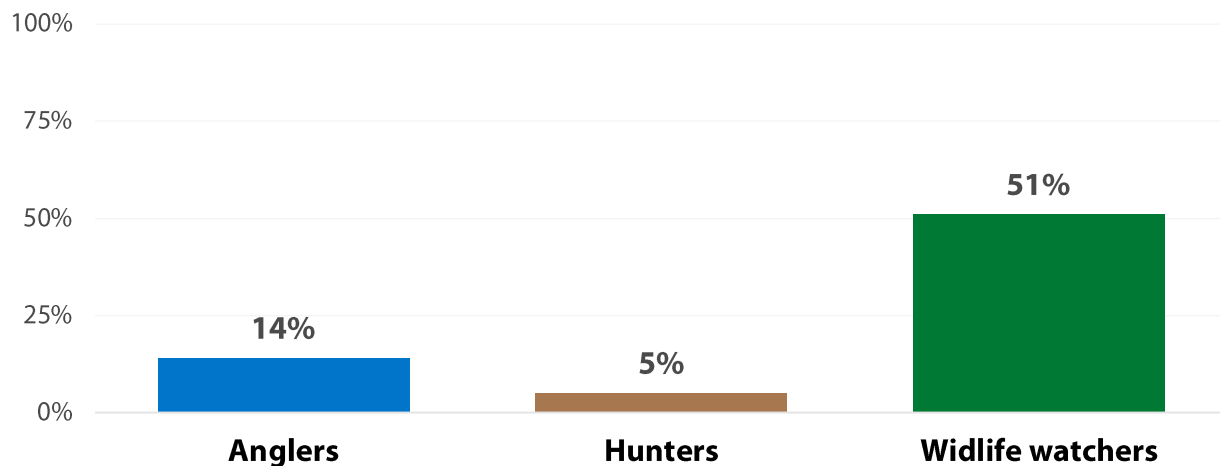
2022 Participation in Texas by Residents and Nonresidents

In 2022, 11.9 million¹ Texas residents age 16 and older participated in wildlife associated recreation activities in their state. Among these participants, 3.2 million fished, 1.1 million hunted, and 11.5 million participated in wildlife watching activities, such as observing, feeding, and photographing wildlife. The sum of anglers, hunters, and wildlife watchers exceeds the total number of participants in wildlife-related recreation because many individuals engaged in more than one wildlife-related activity.

Overall, 14% of the Texas population age 16 and older fished, 5% hunted, and 51% participated in wildlife watching in 2022.

11.9 million Texas residents age 16+ participated in wildlife associated recreation activities in 2022.

Percent Texas residents age 16 and older



¹ Numbers are reported rounded to the hundreds' place (e.g., 4,190 becomes 4,200) place thousands' place (e.g., 516,136 becomes 516,000), hundred thousands' place (e.g., 1,553,013 becomes 1.6 million), ten millions' place (e.g., 99,352,033 becomes 99 million) or hundred millions' place (e.g., 12,533,867,266 becomes 12.5 billion).

When considering activities by both residents and nonresidents age 16 and older, there were 3.7 million anglers, 1.4 million hunters, and 13.7 million wildlife watchers.

Of the total anglers, 3.2 million were Texas state residents while 518,000 were nonresidents. Of the total hunters, 1.1 million were Texas residents while 261,000 were nonresidents.

Among the total wildlife watchers, 11.3 million Texas state residents observed wildlife around the home and 5.0 million Texas state residents observed wildlife away from home. Many individuals did both. Another 2.3 million were nonresidents who were observing wildlife while on trips away from home.

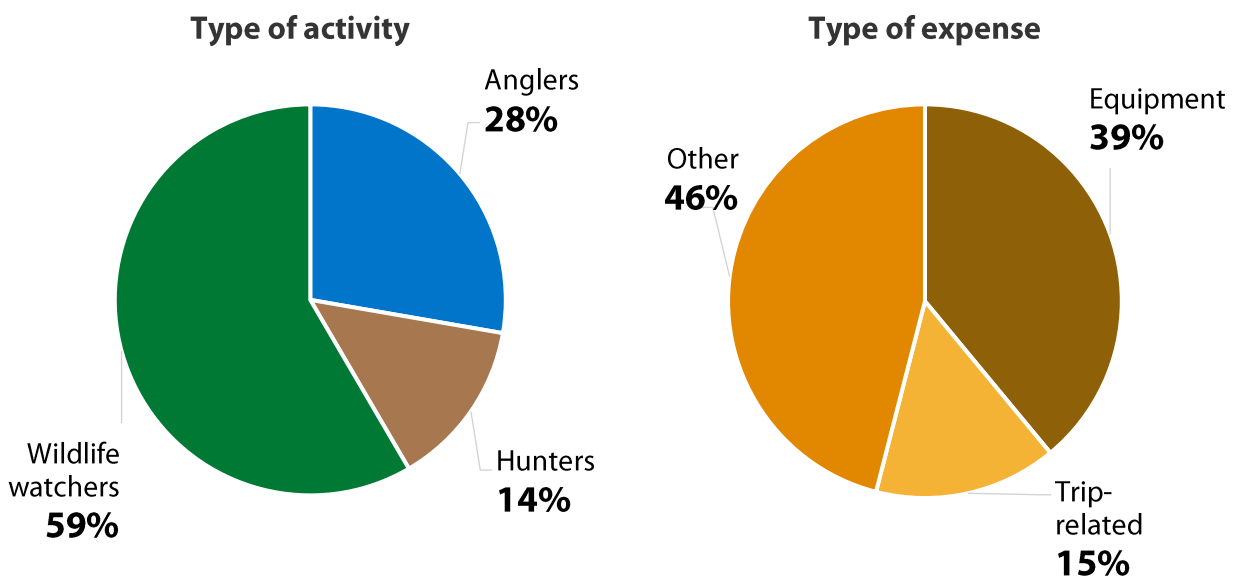
2022 Expenditures in Texas by Residents and Nonresidents

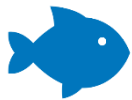
In total, state residents and nonresidents spent \$39.8 billion on wildlife associated recreation in Texas in 2022. Anglers spent \$11.0 billion, hunters spent \$5.4 billion, and wildlife watchers spent \$23.4 billion.

Among these total expenditures, \$15.7 billion was spent on equipment costs; \$6.0 billion on trip-related costs, such as food, lodging, and transportation; and \$18.2 billion on other costs, such as licenses, dues, and owning or leasing land.

Overall, state residents and nonresidents spent \$39.8 billion on wildlife associated recreation in Texas in 2022.

Percent total 2022 expenditures





Anglers

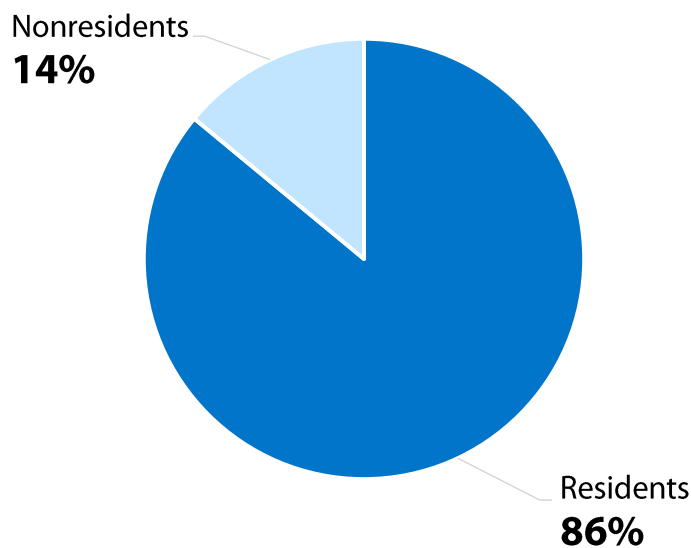
2022 Participation in Texas by Residents and Nonresidents

Overall, 3.7 million state residents and nonresidents age 16 and older fished in Texas in 2022, accounting for 30.8 million fishing trips and 42.1 million days spent fishing.

Of these anglers, 3.2 million were Texas state residents while 518,000 were nonresidents.

Overall, 3.7 million state residents and nonresidents age 16 and older fished in Texas in 2022.

Percent anglers in Texas age 16 and older



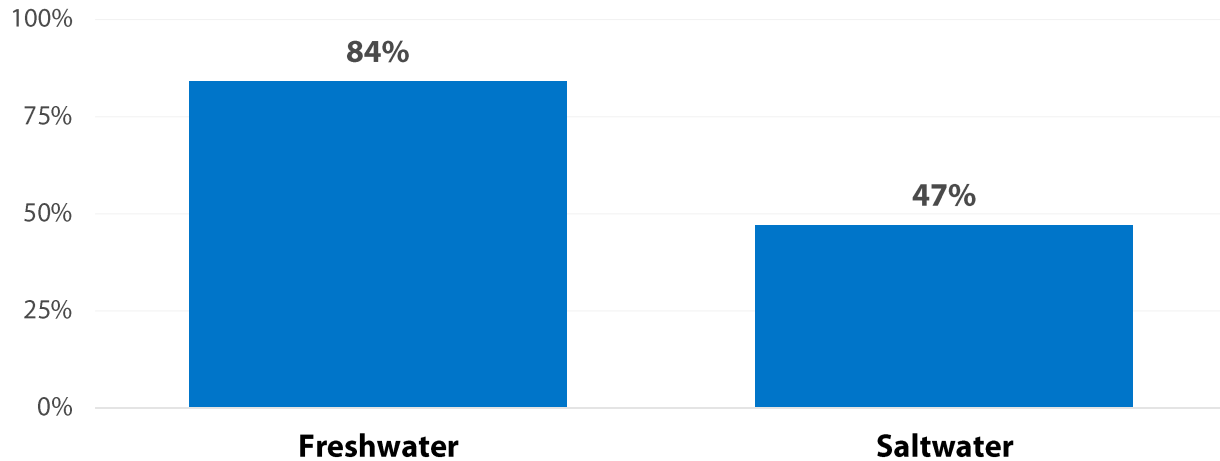
Eighty-four percent (3.1 million) of these participants freshwater fished, accounting for 66% of the total fishing trips and 70% of the total fishing days in Texas.

Another 47% (1.7 million) saltwater fished, making up 34% of all fishing trips and 30% of all fishing days.

The sum of freshwater and saltwater fishing exceeds the total number of anglers because many individuals engaged in more than one type of fishing.

Overall, 3.7 million state residents and nonresidents age 16 and older fished in Texas in 2022.

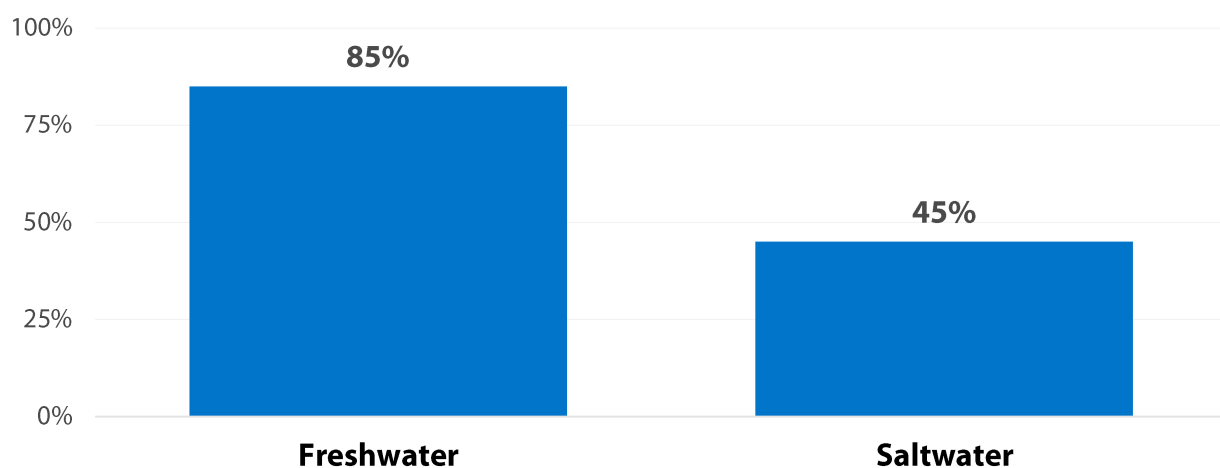
Percent anglers in Texas age 16 and older



And among just Texas residents, 2.7 million did any freshwater fishing in their state and 1.4 million did any saltwater fishing. Many residents did both types.

3.2 million state residents age 16 and older fished in Texas in 2022.

Percent Texas resident anglers in Texas age 16 and older



The following demographics refer to participation among Texas residents only, and cover any type of recreational fishing.

Among Texas residents, 13% of those living in an urban area and 18% of those living in a rural area fished in 2022.

In terms of the age breakdown, 14% of Texas residents age 16 to 34 fished in 2022, along with 15% of those 35 to 54 and 13% of those age 55 and older.

With regard to gender, 20% of Texas resident men fished in 2022, as did 9% of Texas resident women and 17% of adults who identify in some other way.

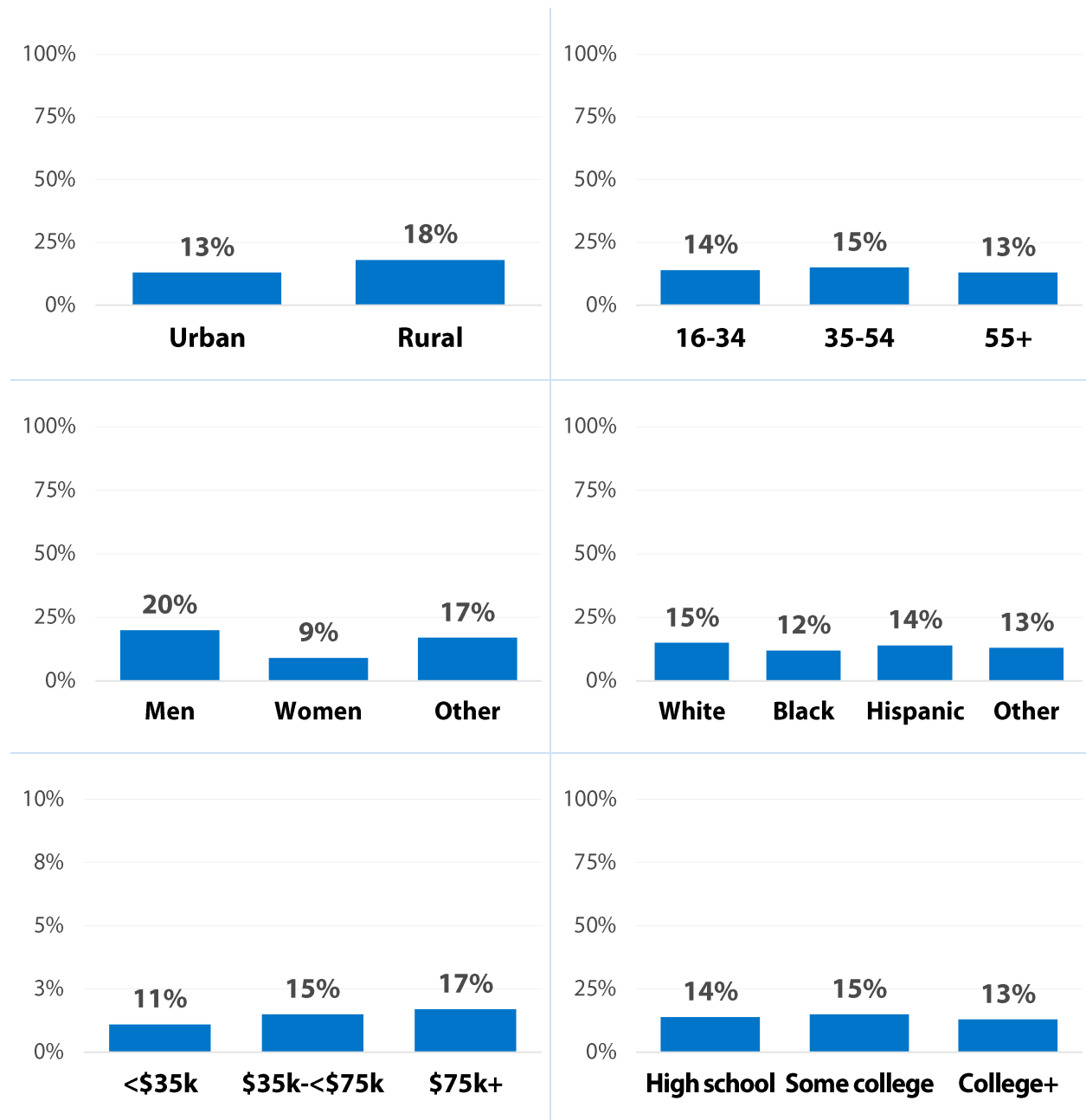
The participation rate by race and ethnicity was 15% of white Texas residents, 12% of Black residents, 14% of Hispanic residents, and 13% of residents of another race fished in 2022.

Among Texas residents making less than \$35,000 a year, 11% fished, as did 15% of those making between \$35,000 and \$74,999, and 17% of those making \$75,000 or more.

When looking at fishing by educational levels, 14% of Texas residents with a high school education or less fished in 2022, along with 15% of those with some college education, and 13% of those with a college degree or higher.

Demographics among Texas resident anglers.

Percent Texas residents age 16 and older who fished

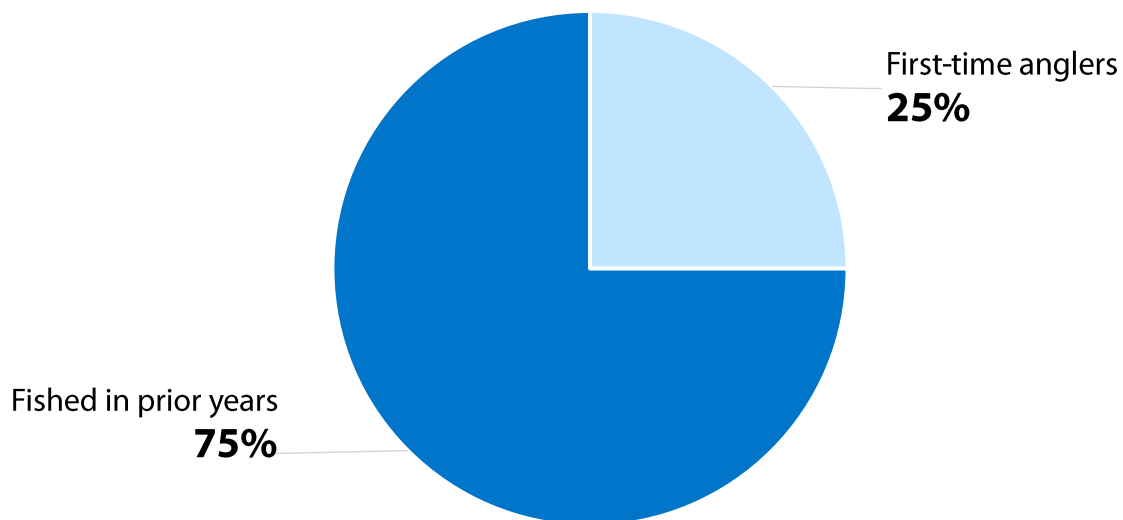


2021 Participation in Texas by 6- to 15-Year-Old Residents

While the focus of the 2022 FHWAR Survey is on the wildlife associated recreation activities and participation of those age 16 and older, the Screener portion of the survey, which was conducted in early 2022, provides information about fishing by 6- to 15-year-olds in 2021. The following calculations capture the 2021 participation of Texas residents, although the activities could have happened anywhere in the United States.

Overall, 780,000 Texas state residents age 6 to 15 fished in 2021, including 195,000 who fished for the first time.

Percent Texas resident anglers age 6 to 15

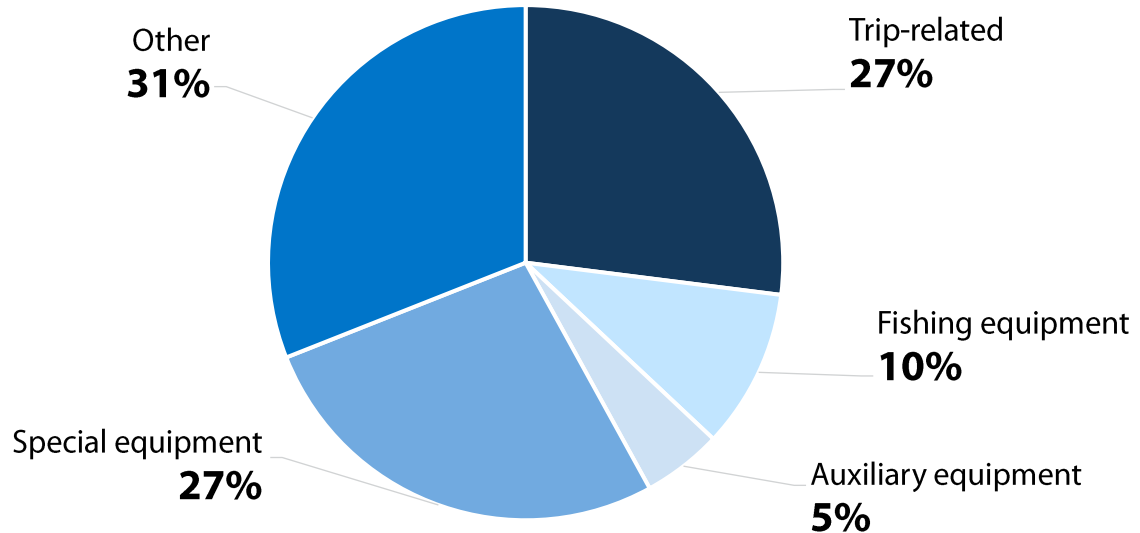


2022 Expenditures in Texas by Residents and Nonresidents

Overall, anglers in Texas spent \$11.0 billion in 2022. Of this total, \$3.0 billion was spent on trip-related expenses such as food, lodging, and transportation. An additional \$4.6 billion was spent on equipment, including \$1.1 billion on fishing equipment, \$551 million on auxiliary equipment for fishing such as camping equipment or clothing, and \$3.0 billion on special equipment for fishing such as boats or other vehicles. Finally, anglers spent \$3.4 billion on other expenditures such as licenses, permits, or land for fishing.

Overall, anglers in Texas spent \$11.0 billion in 2022.

Percent total angler expenditures



The average expenditures per angler were \$3,000 in total, including \$800 on trip related costs, \$1,300 on equipment, and \$900 on other costs.



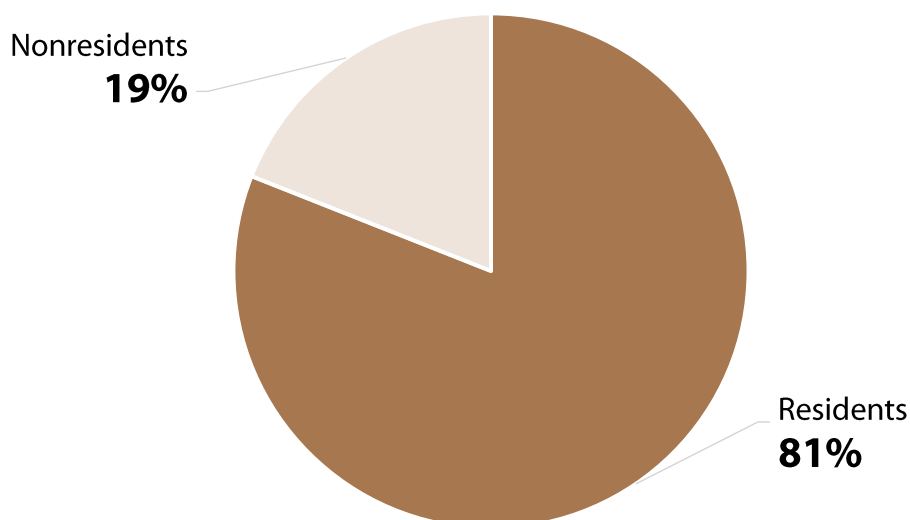
2022 Participation in Texas by Residents and Nonresidents

Overall, 1.4 million state residents and nonresidents age 16 and older hunted in Texas in 2022, accounting for 10.2 million hunting trips and 14.3 million days spent hunting.

Of the total hunters, 1.1 million were Texas residents while 261,000 were nonresidents.

Overall, 1.4 million state residents and nonresidents age 16 and older hunted in Texas in 2022.

Percent hunters in Texas age 16 and older



Seventy-two percent (973,000) of these participants hunted big game, accounting for 50% of the total hunting trips and 57% of the total hunting days in Texas.

Another 33% (451,000) hunted small game, accounting for 19% of all hunting trips and 18% of all hunting days.

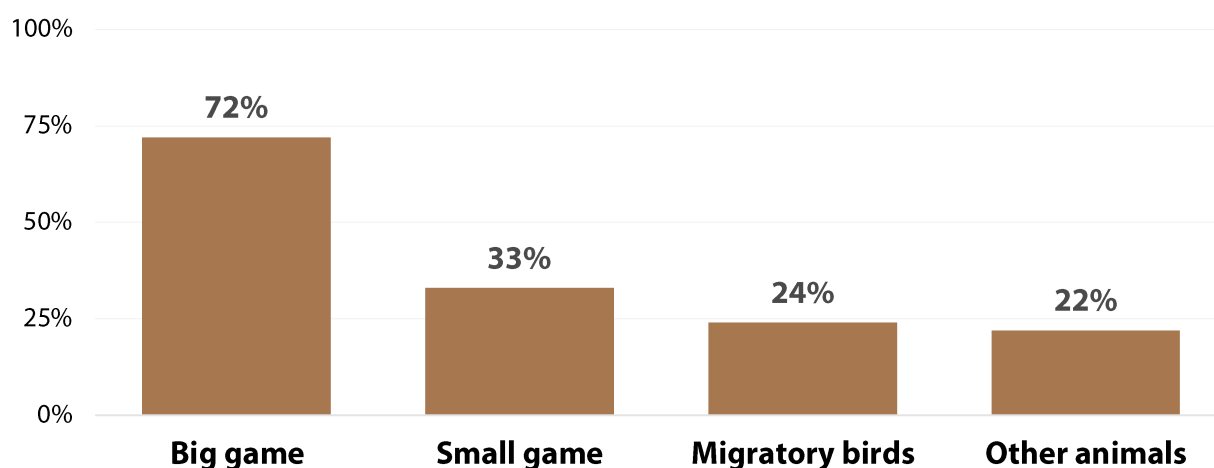
Twenty-four percent (323,000) hunted migratory birds, making up 16% of all hunting trips and 12% of all hunting days.

And 22% (293,000) hunted other animals, accounting for 16% of all hunting trips and 13% of all hunting days.

The sum of big game, small game, migratory bird, and other animal hunting exceeds the total number of hunters because many individuals engaged in more than one type of hunting.

Overall, 1.4 million state residents and nonresidents age 16 and older hunted in Texas in 2022.

Percent hunters in Texas age 16 and older



The following demographics refer to participation among Texas residents only, and cover any type of recreational hunting.

Among Texas residents, 4% of those living in an urban area and 8% of those living in a rural area did any hunting in 2022.

In terms of the age breakdown, 4% of Texas residents age 16 to 34 hunted in 2022, along with 5% of those 35 to 54 and 6% of those age 55 and older.

With regard to gender, 8% of Texas resident men hunted in 2022, as did 2% of Texas resident women and 3% of adults who identify in some other way.

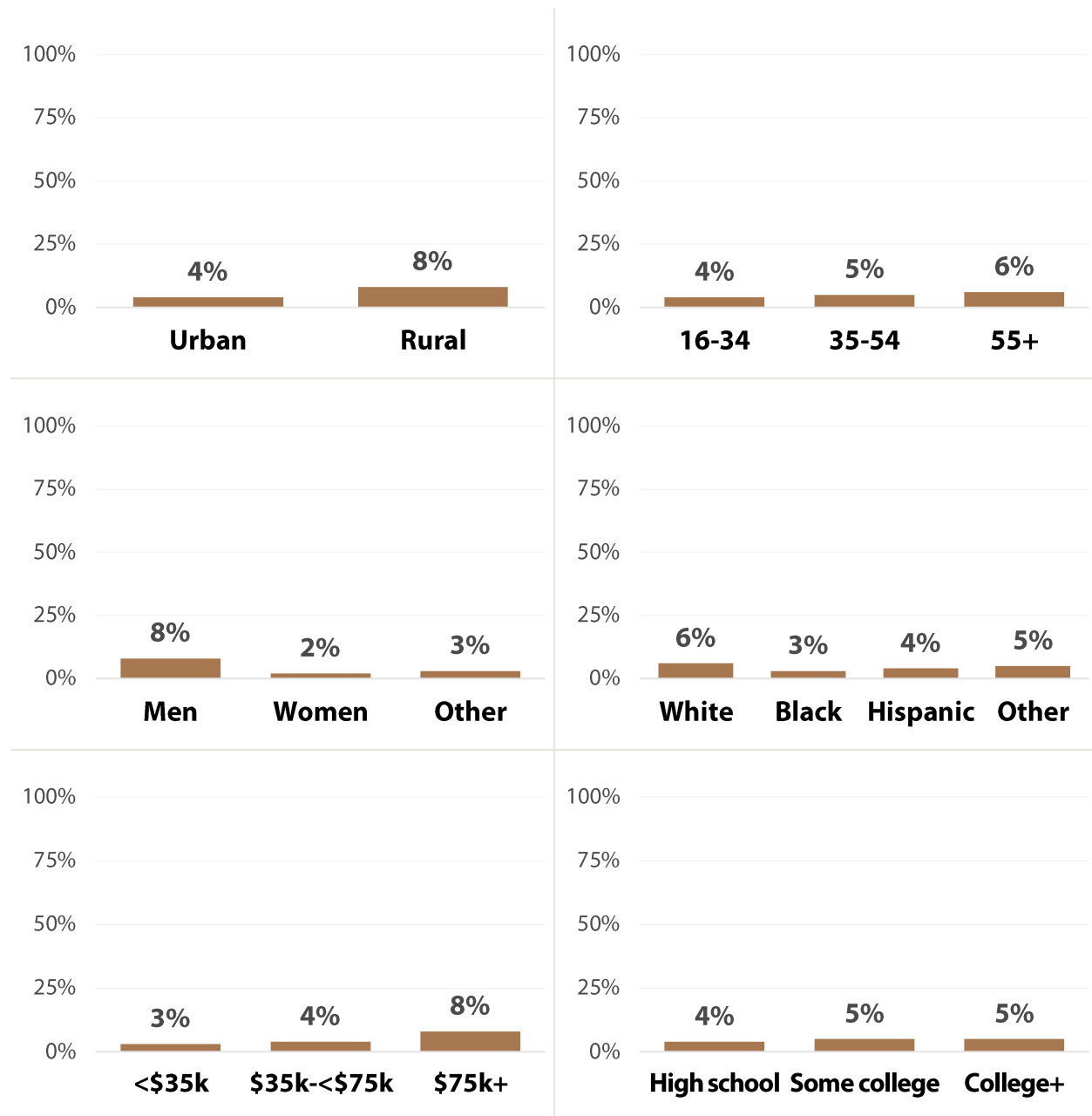
The participation rate by race and ethnicity was 6% of white Texas residents, 3% of Black residents, 4% of Hispanic residents, and 5% of residents of another race hunted in 2022.

Among Texas' residents making less than \$35,000 a year, 3% hunted. As did 4% of those making between \$35,000 and \$74,999, and 8% of those making \$75,000 or more.

When looking at hunting by educational levels, 4% of Texas residents with a high school education or less hunted in 2022, along with 5% of those with some college education, and 5% of those with a college degree or higher.

Demographics among Texas resident hunters.

Percent Texas residents age 16 and older who hunted

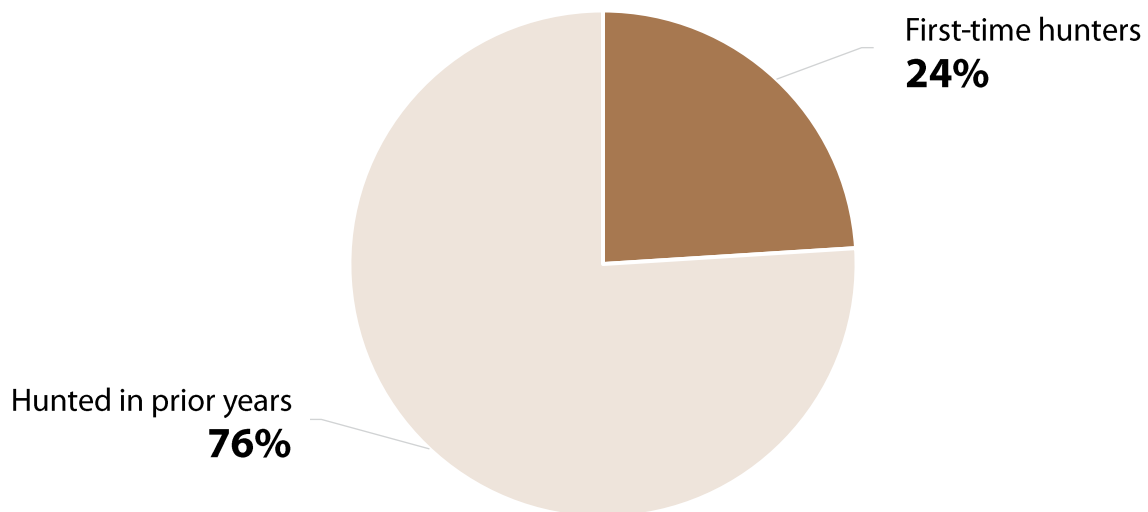


2021 Participation in Texas by 6- to 15-Year-Old Residents

Based on the Screener portion of the survey, 133,000 Texas residents age 6 to 15 hunted in 2021, with 33,000 doing so for the first time. These activities could have happened anywhere in the United States.

Overall, 133,000 Texas residents age 6 to 15 hunted in 2021 including 33,000 who hunted for the first time.

Percent of Texas resident hunters age 6-15

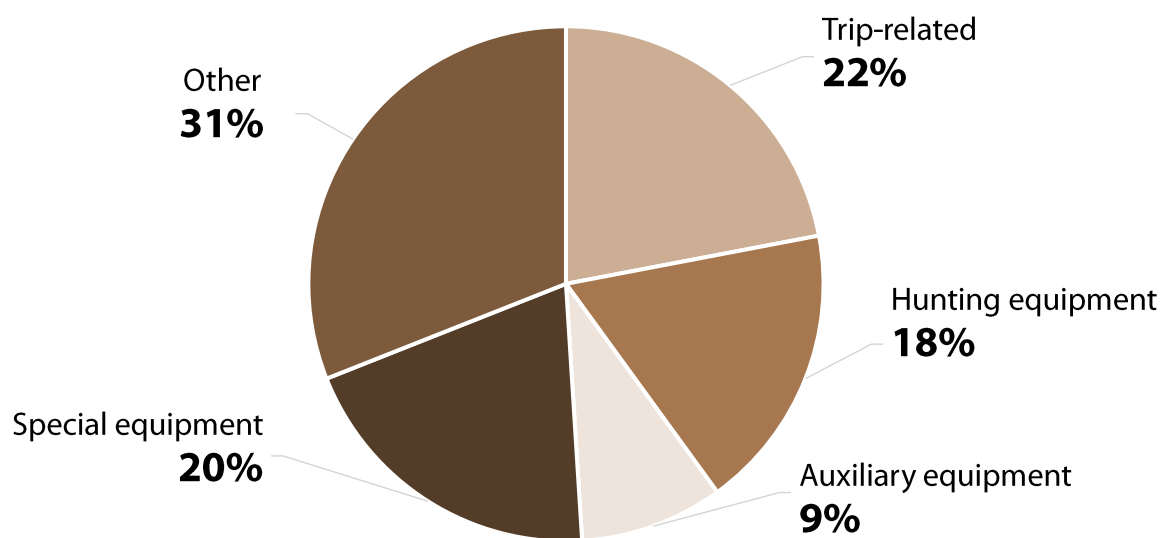


2022 Expenditures in Texas by Residents and Nonresidents

Overall, hunters in Texas spent \$5.4 billion in 2022. Of this total, \$1.2 billion was spent on trip-related expenses such as food, lodging, and transportation. An additional \$2.6 billion was spent on equipment, including \$992 million on hunting equipment, \$496 million on auxiliary equipment for hunting such as camping equipment or clothing, and \$1.1 billion on special equipment for hunting such as boats or other vehicles. Finally, hunters spent \$1.7 billion on other expenditures such as licenses, permits, or land for hunting.

Overall, hunters in Texas spent \$5.4 billion in 2022.

Percent total hunter expenditures



The average expenditures per hunter were \$4,000 in total, including \$900 on trip related costs, \$1,900 on equipment, and \$1,200 on other costs.



Wildlife Watchers

2022 Participation in Texas by Residents and Nonresidents

Overall, 13.7 million state residents and nonresidents age 16 and older watched wildlife in Texas in 2022, accounting for 43.5 million wildlife watching trips and 700 million days spent wildlife watching.

Among the total wildlife watchers, 11.3 million Texas state residents observed wildlife around the home and 5.0 million Texas state residents observed wildlife away from home. Many individuals did both. Another 2.3 million were nonresidents who were observing wildlife while on trips away from home.

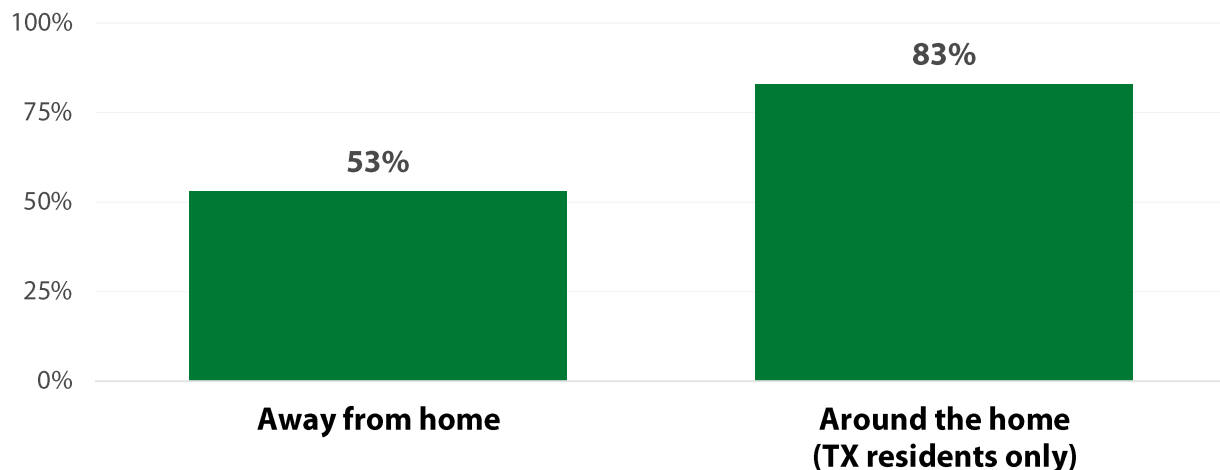
Fifty-three percent (7.3 million) of these resident and nonresident participants were observing wildlife away from home, accounting for 13% of the total wildlife watching days in Texas.

And 83% (11.3 million) of these participants were observing wildlife around the home, making up 87% of the total wildlife watching days in Texas.

The sum of around the home and away from home exceeds the total number of wildlife watchers because many individuals engaged in more than one type.

Overall, 13.7 million state residents and nonresidents age 16 and older watched wildlife in Texas in 2022.

Percent wildlife watchers in Texas age 16 and older



The following demographics refer to participation among Texas residents only, and covers any type of wildlife watching, both around the home and away from home.

Among Texas residents, 50% of those living in an urban area and 56% of those living in a rural area watched wildlife in 2022.

In terms of the age breakdown, 53% of Texas residents age 16 to 34 watched wildlife in 2022, along with 48% of those 35 to 54 and 53% of those age 55 and older.

With regard to gender, 56% of Texas resident men watched wildlife in 2022, as did 46% of Texas resident women and 70% of adults who identify in some other way.

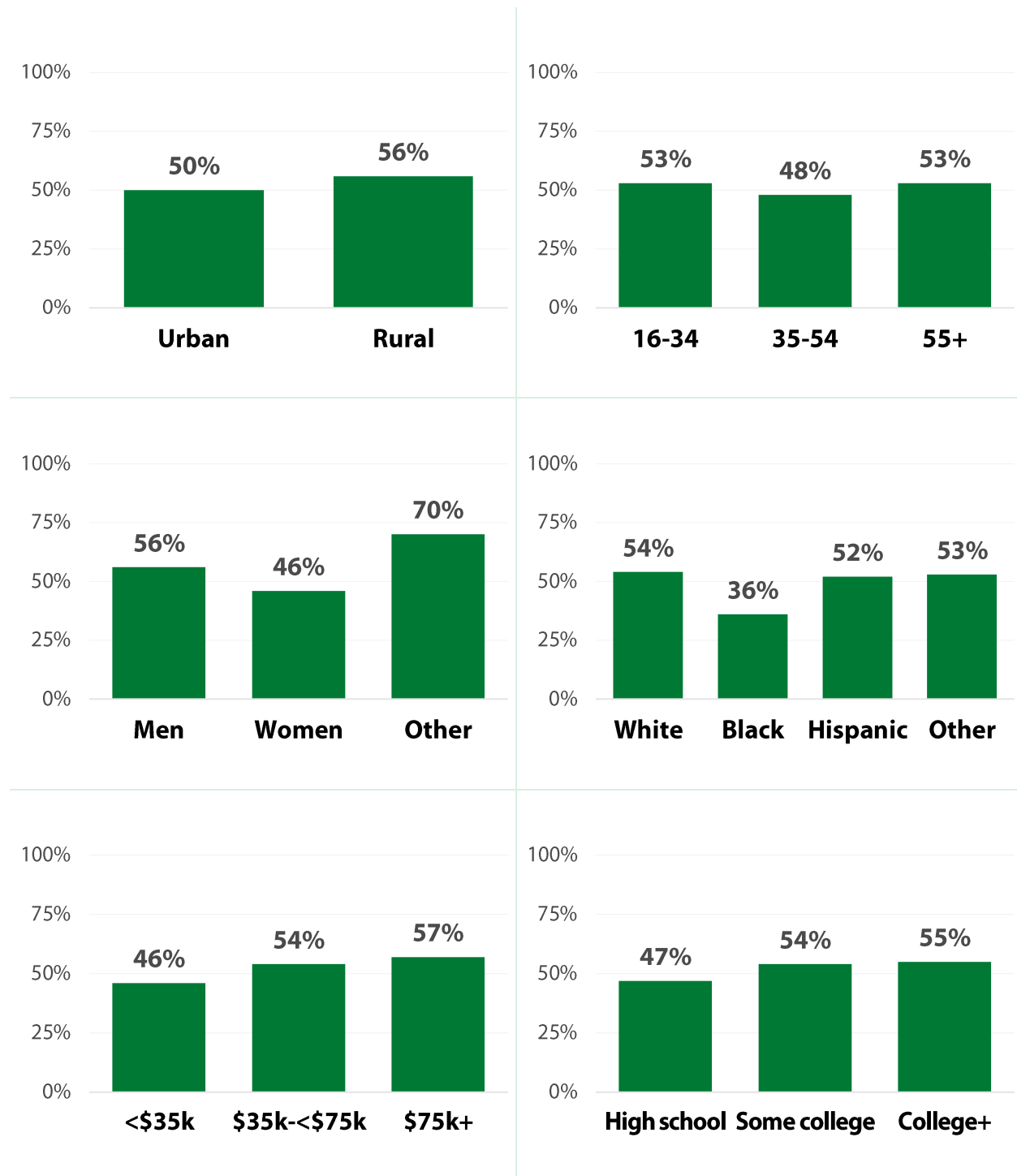
The participation rate by race and ethnicity was 54% of white Texas residents, 36% of Black residents, 52% of Hispanic residents, and 53% of residents of another race watched wildlife in 2022.

Among Texas' residents making less than \$35,000 a year, 46% watched wildlife. As did 54% of those making between \$35,000 and \$74,999, and 57% of those making \$75,000 or more.

When looking at wildlife-watching by educational levels, 47% of Texas residents with a high school education or less watched wildlife in 2022, along with 54% of those with some college education, and 55% of those with a college degree or higher.

Demographics among Texas resident wildlife watchers.

Percent Texas residents age 16 and older who watched wildlife

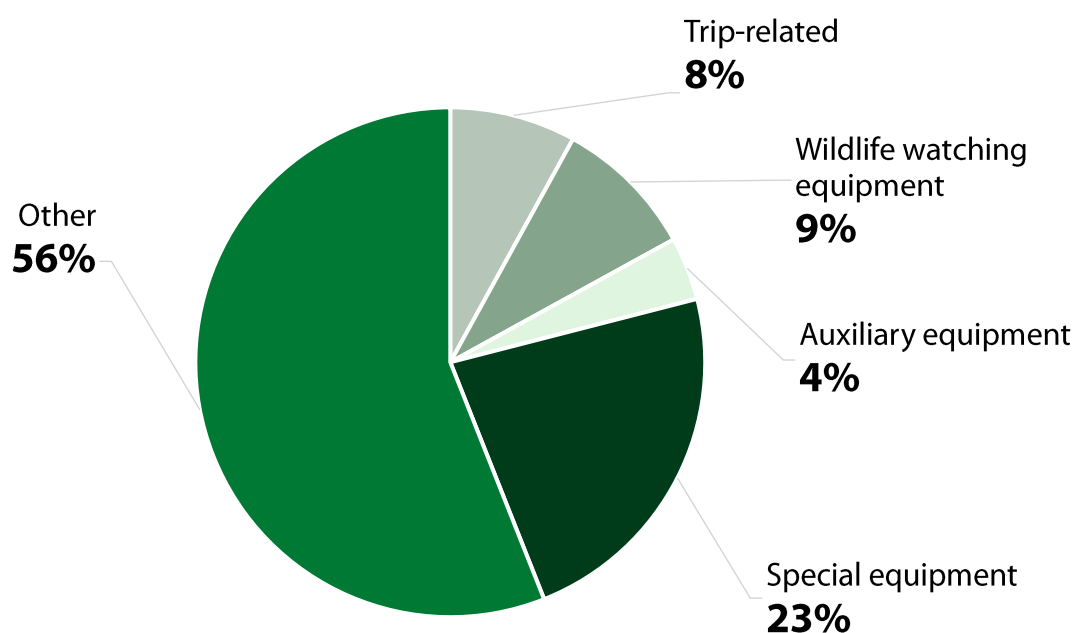


2022 Expenditures in Texas by Residents and Nonresidents

Overall, wildlife watchers in Texas spent \$23.4 billion in 2022. Of this total, \$1.7 billion was spent on trip-related expenses such as food, lodging, and transportation. An additional \$8.5 billion was spent on equipment, including \$2.1 billion on wildlife watching equipment, \$946 million on auxiliary equipment for wildlife watching such as camping equipment or clothing, and \$5.4 billion on special equipment for wildlife watching such as boats or other vehicles. Finally, wildlife watchers spent \$13.1 billion on other expenditures such as dues or land for wildlife watching.

Overall, wildlife watchers in Texas spent \$23.4 billion in 2022.

Percent total wildlife watcher expenditures



The average expenditures per wildlife watcher were \$1,700 in total, including \$100 on trip related costs, \$600 on equipment, and \$1,000 on other costs.

Other Outdoor Recreation Activities

2021 Participation in Texas by Residents

In addition to fishing, hunting, and wildlife watching, the 2022 FHWAR Survey asked about participation in other outdoor recreation activities including recreational target shooting and archery (unrelated to hunting), and motorized boating. The following findings were part of the Screener portion of the survey, which was conducted in early 2022, and provides information about each activity by Texas residents age 6 and older in 2021. These numbers capture participation anywhere in the United States for each activity.

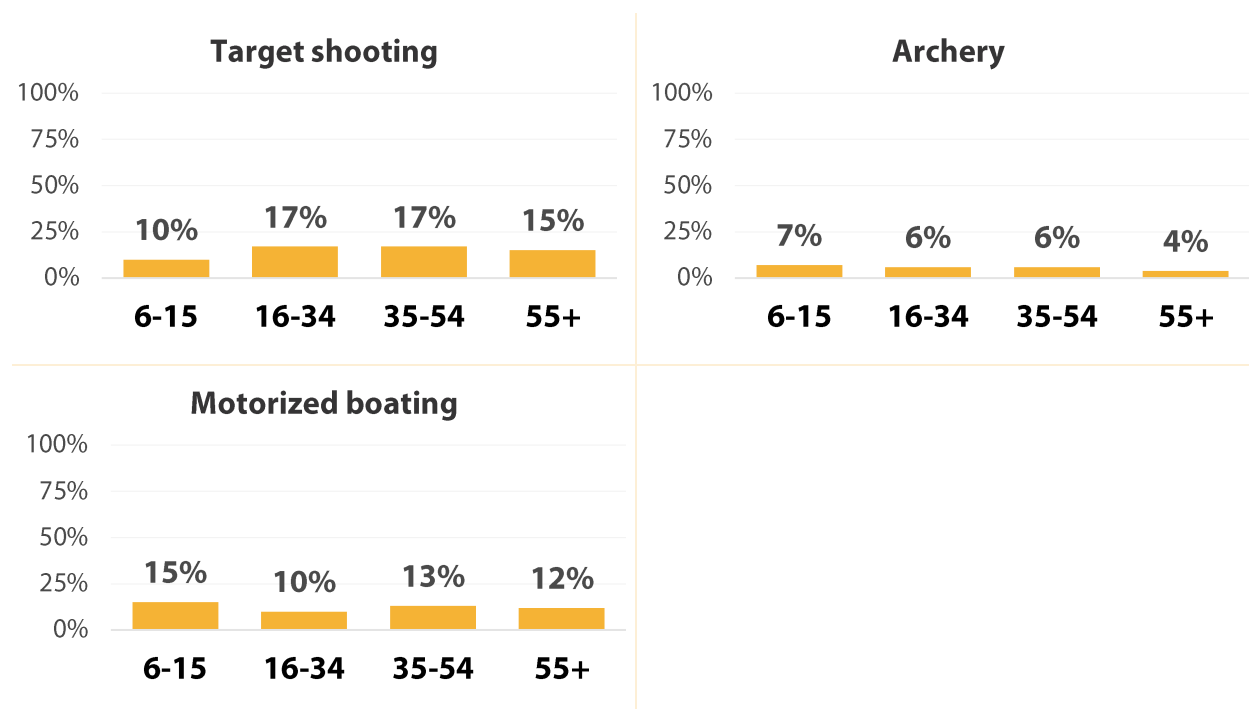
Overall, 4.1 million Texas residents participated in recreational target shooting in 2021. Of these participants, 410,000 were age 6 to 15; 1.3 million were age 16 to 34; 1.3 million were age 35 to 54; and 1.1 million were age 55 or older.

Additionally, 1.5 million Texas residents participated in recreational archery in 2021. 300,000 were age 6 to 15; 451,000 were age 16 to 34; 417,000 were age 35 to 54; and 247,000 were age 55 or older.

And 3.3 million Texas residents used a motorized boat in 2021, including 609,000 age 6 to 15; 755,000 age 16 to 34; 996,000 age 35 to 54; and 864,000 age 55 or older.

Participation in other outdoor activities among Texas residents in 2021.

Percent of Texas residents



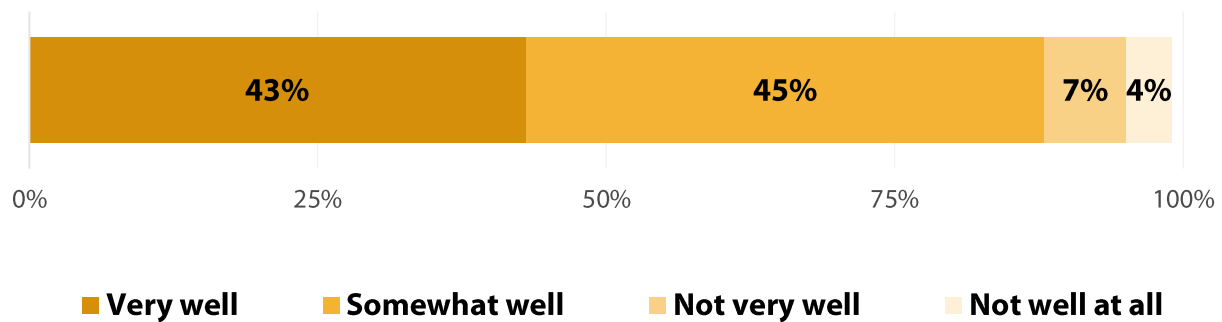
Texas Specific Questions

In addition to the data from the national questionnaires, NORC provided states with the opportunity to collect state-level data through Wave 3 of the 2022 FHWAR survey. Doing so allowed state agencies to collect detailed, reliable information about fishing, hunting and wildlife watching activities in their state. The following calculations capture the findings of these tailored state questions asked of Texas state residents.

Forty-three percent of Texans say that the Texas Parks and Wildlife Department represents their values very well, and another 45% say they do so somewhat well. Just 7% say they the department does not represent their values very well, and 4% not well at all.

How well do you feel the Texas Parks and Wildlife Department represents your values?

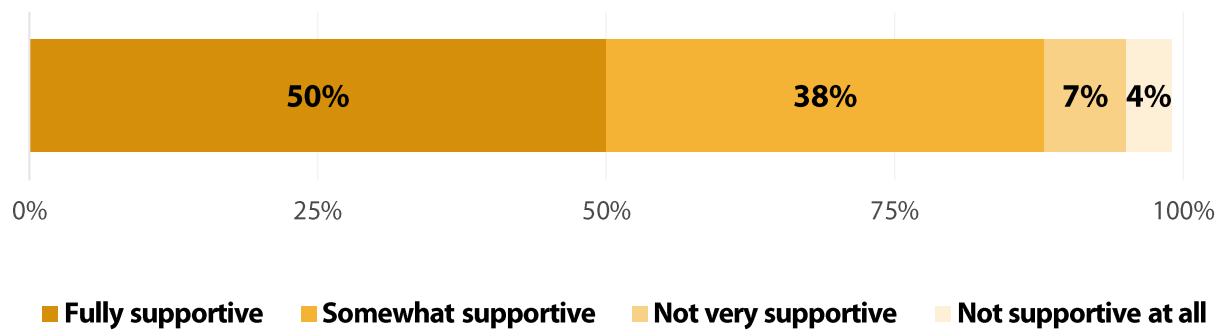
Percent Texas residents age 16 and older



Similarly, nearly 9 in 10 Texans are supportive of the department's mission², with 50% fully support and 38% somewhat supportive. Eleven percent are not supportive.

How supportive are you of the mission of the Texas Parks and Wildlife Department?

Percent Texas residents age 16 and older

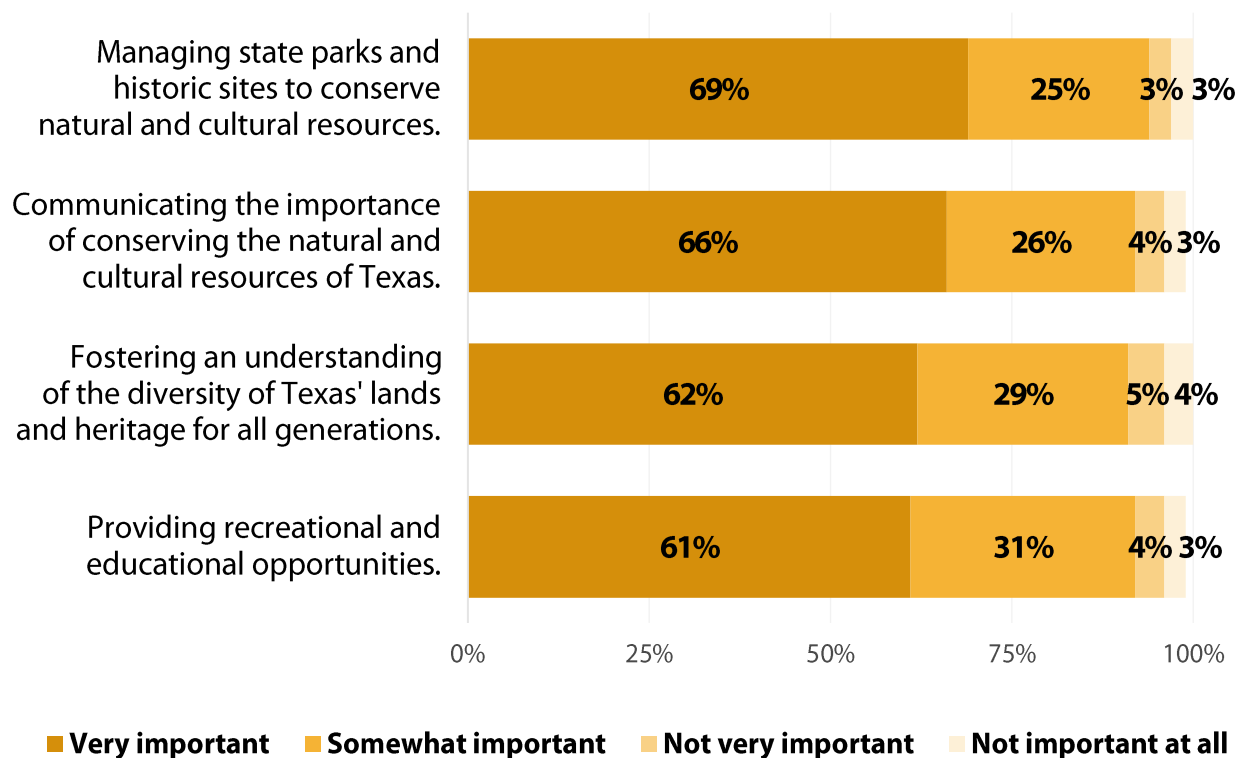


² Prior to answering this question, respondents were shown or read the following: The mission of the Texas Parks and Wildlife Department is: "To manage and conserve the natural and cultural resources of Texas and to provide hunting, fishing and outdoor recreation opportunities for the use and enjoyment of present and future generations."

And when it comes to the different responsibilities of the Texas Parks and Wildlife Department, about 9 in 10 Texans agree that each responsibility mentioned is important to them.

How important are each of the following responsibilities of the Texas Parks and Wildlife Department to you?

Percent Texas residents age 16 and older



And when asked about which responsibility is more important to them, 80% of Texans say managing and conserving all fisheries resources and their habitats is most important, while 17% prioritize managing and conserving only ones that are commercially and recreationally important.

And 83% say the same about managing and conserving all wildlife resources and their habitats compared to 14% who say only those that are commercially and recreationally important.