

FHWAR

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

2022 Final Report

Minnesota



Report prepared for:

Minnesota Department of
Natural Resources
Division of Fish and Wildlife

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 2022 Project Overview	1
2022 FHWAR Question Updates	3
Wildlife Watching Question Changes	3
Question Order	3
Question Grouping	3
Removed Questions	4
2022 FHWAR Sampling and Weighting Strategy	5
Sampling Overview	5
Weighting Overview	5
Minnesota Highlights	7
Wildlife Related Recreation	7
2022 Participation in Minnesota by Residents and Nonresidents.....	7
2022 Expenditures in Minnesota by Residents and Nonresidents.....	8
Anglers	9
2022 Participation in Minnesota by Residents and Nonresidents.....	9
2021 Participation in Minnesota by 6- to 15-Year-Old Residents.....	13
2022 Expenditures in Minnesota by Residents and Nonresidents.....	14
Hunters	15
2022 Participation in Minnesota by Residents and Nonresidents.....	15
2021 Participation in Minnesota by 6- to 15-Year-Old Residents.....	18

2022 Expenditures in Minnesota by Residents and Nonresidents.....	20
Wildlife Watchers.....	21
2022 Participation in Minnesota by Residents and Nonresidents.....	21
2022 Expenditures in Minnesota by Residents and Nonresidents.....	24
Other Outdoor Recreation Activities.....	25
2021 Participation in Minnesota by Residents.....	25
Minnesota Specific Questions.....	27

2022 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.

Screener 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.

Minnesota Highlights



Wildlife Related Recreation

2022 Participation in Minnesota by Residents and Nonresidents

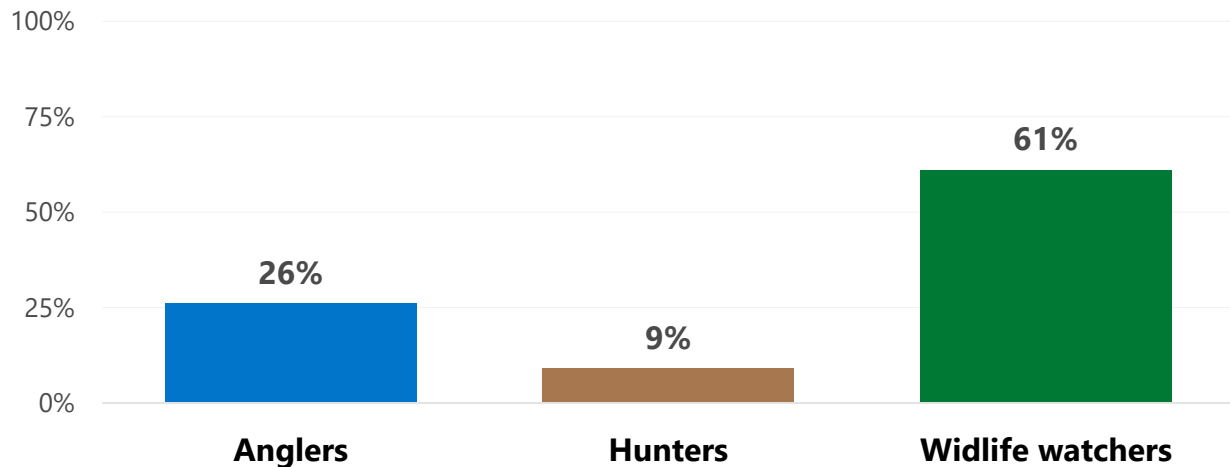
In 2022, 2.8 million¹ Minnesota residents age 16 and older participated in wildlife associated recreation activities in their state. Among these participants, 1.2 million fished, 400,000 hunted, and 2.7 million participated in wildlife watching activities, such as observing, feeding, and photographing 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, 26% of the Minnesota population age 16 and older fished, 9% hunted, and 61% participated in wildlife watching in 2022.

¹ Numbers are reported rounded to the hundreds' (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).

2.8 million Minnesota residents age 16+ participated in wildlife associated recreation activities in 2022.

Percent Minnesota residents age 16 and older



When considering activities by both residents and nonresidents age 16 and older, there were 1.7 million anglers, 504,000 hunters, and 3.6 million wildlife watchers.

Of the total anglers, 1.2 million were Minnesota state residents while 508,000 were nonresidents. Of the total hunters, 400,000 were Minnesota residents while 104,000 were nonresidents.

Among the total wildlife watchers, 2.7 million Minnesota state residents observed wildlife around the home and 1.2 million Minnesota state residents observed wildlife away from home. Many individuals did both. Another 863,000 were nonresidents who were observing wildlife while on trips away from home.

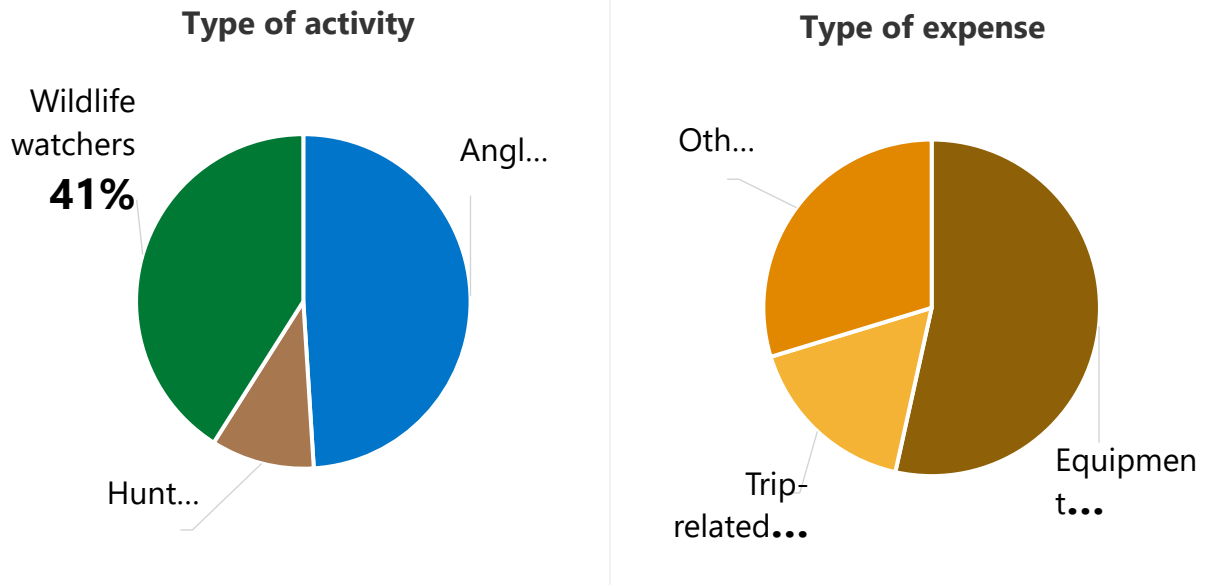
2022 Expenditures in Minnesota by Residents and Nonresidents

In total, state residents and nonresidents spent \$12.1 billion on wildlife associated recreation in Minnesota in 2022. Anglers spent \$5.9 billion, hunters spent \$1.2 billion, and wildlife watchers spent \$5.0 billion.

Among these total expenditures, \$6.5 billion was spent on equipment costs; \$2.0 billion on trip-related costs, such as food, lodging, and transportation; and \$3.6 billion on other costs, such as licenses, dues, and owning or leasing land.

Overall, state residents and nonresidents spent \$12.1 billion on wildlife associated recreation in Minnesota in 2022.

Percent total 2022 expenditures



Anglers

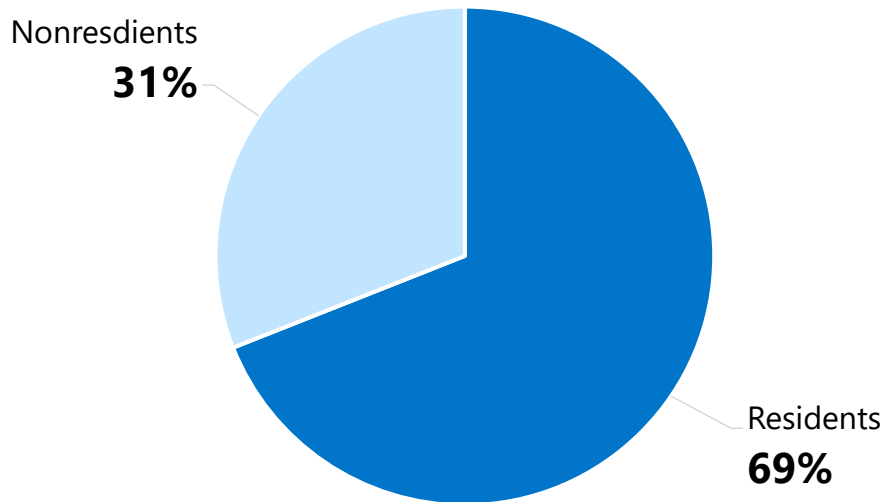
2022 Participation in Minnesota by Residents and Nonresidents

Overall, 1.7 million state residents and nonresidents age 16 and older fished in Minnesota in 2022, accounting for 9.9 million fishing trips and 22.1 million days spent fishing.

Of these anglers, 1.2 million were Minnesota state residents while 508,000 were nonresidents.

Overall, 1.7 million state residents and nonresidents age 16 and older fished in Minnesota in 2022.

Percent anglers in Minnesota age 16 and older



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

Among Minnesota residents, 23% of those living in an urban area and 36% of those living in a rural area fished in 2022.

In terms of the age breakdown, 22% of Minnesota residents age 16 to 34 fished in 2022, along with 30% of those 35 to 54 and 26% of those age 55 and older.

With regard to gender, 38% of Minnesota resident men fished in 2022, as did 14% of Minnesota resident women.

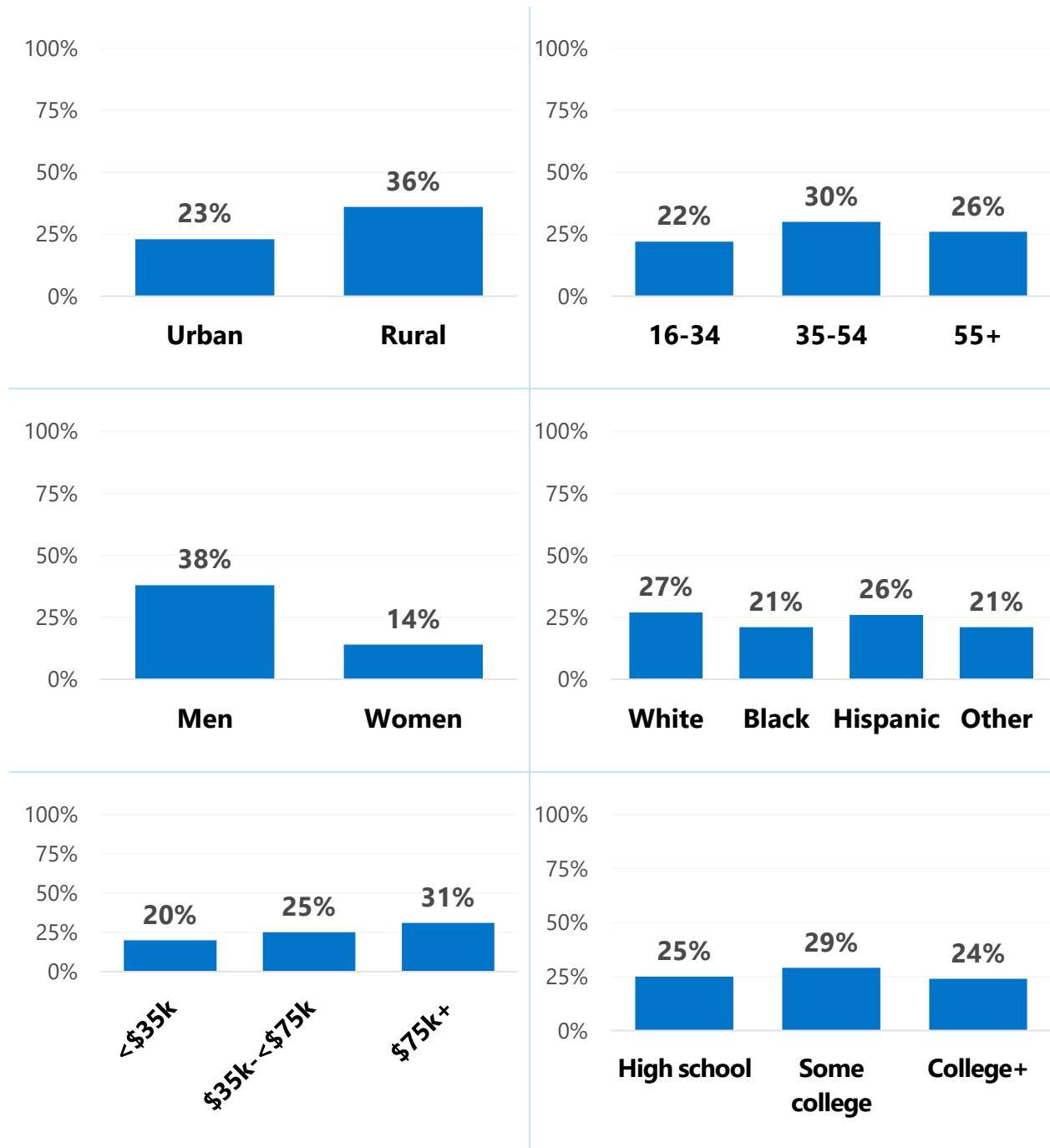
The participation rate by race and ethnicity was 27% of white Minnesota residents, 21% of Black residents, 26% of Hispanic residents, and 21% of residents of another race fished in 2022.

Among Minnesota residents making less than \$35,000 a year, 20% fished, as did 25% of those making between \$35,000 and \$74,999, and 31% of those making \$75,000 or more.

When looking at fishing by educational levels, 25% of Minnesota residents with a high school education or less fished in 2022, along with 29% of those with some college education, and 24% of those with a college degree or higher.

Demographics among Minnesota resident anglers.

Percent Minnesota residents age 16 and older who fished

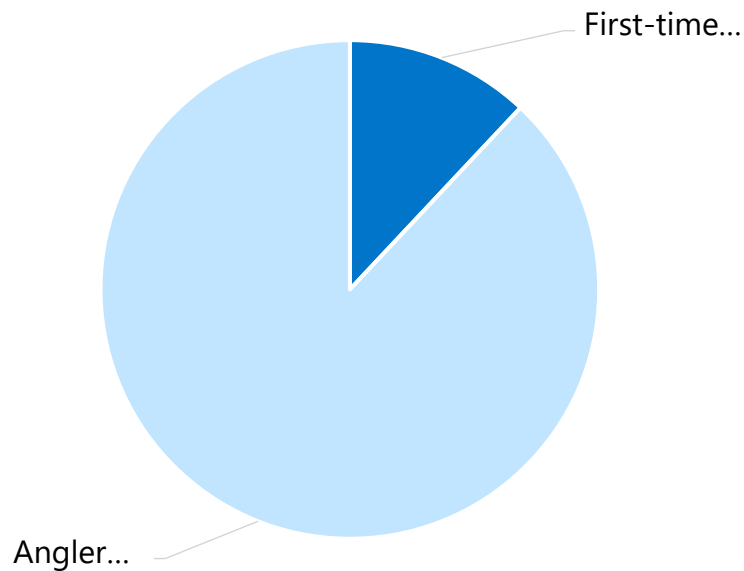


2021 Participation in Minnesota by 6- to 15-Year-Old Residents

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 Minnesota residents, although the activities could have happened anywhere in the United States.

Overall, 234,000 Minnesota state residents age 6 to 15 fished in 2021, including 29,000 who fished for the first time.

Percent Minnesota resident anglers age 6 to 15

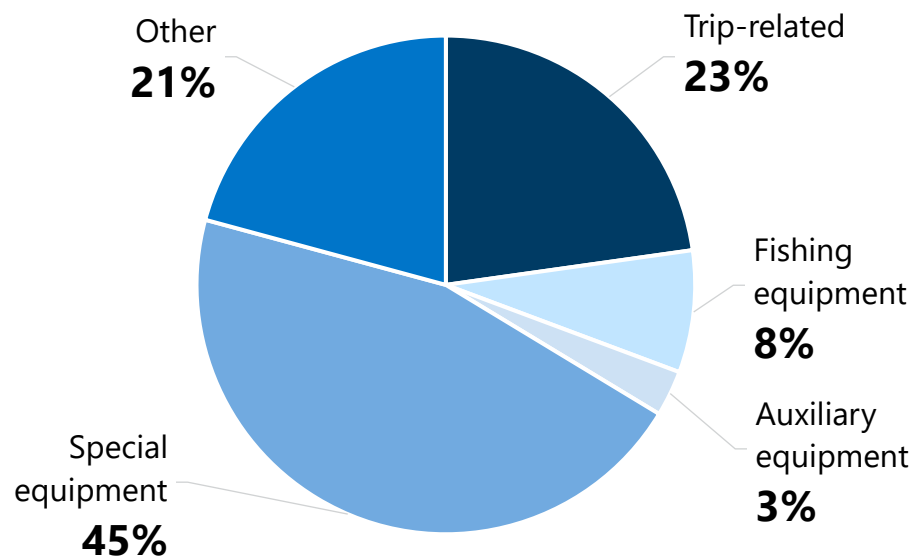


2022 Expenditures in Minnesota by Residents and Nonresidents

Overall, anglers in Minnesota spent \$5.9 billion in 2022. Of this total, \$1.3 billion was spent on trip-related expenses such as food, lodging, and transportation. An additional \$3.3 billion was spent on equipment, including \$448 million on fishing equipment, \$186 million on auxiliary equipment for fishing such as camping equipment or clothing, and \$2.7 billion on special equipment for fishing such as boats or other vehicles. Finally, anglers spent \$1.2 billion on other expenditures such as licenses, permits, or land for fishing.

Overall, anglers in Minnesota spent \$5.9 billion in 2022.

Percent total angler expenditures



The average expenditures per angler were \$3,600 in total, including \$800 on trip related costs, \$2,000 on equipment, and \$700 on other costs.



Hunters

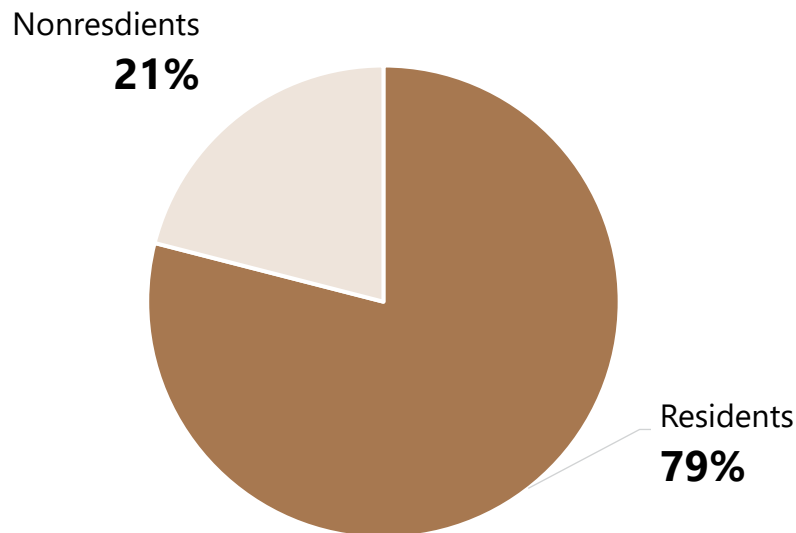
2022 Participation in Minnesota by Residents and Nonresidents

Overall, 504,000 state residents and nonresidents age 16 and older hunted in Minnesota in 2022, accounting for 2.9 million hunting trips and 5.8 million days spent hunting.

Of the total hunters, 400,000 were Minnesota residents while 104,000 were nonresidents.

Overall, 504,000 state residents and nonresidents age 16 and older hunted in Minnesota in 2022.

Percent hunters in Minnesota age 16 and older



Eighty-one percent (406,000) of these participants hunted big game, accounting for 43% of the total hunting trips and 62% of the total hunting days in Minnesota.

Another 36% (179,000) hunted small game, accounting for 32% of all hunting trips and 24% of all hunting days.

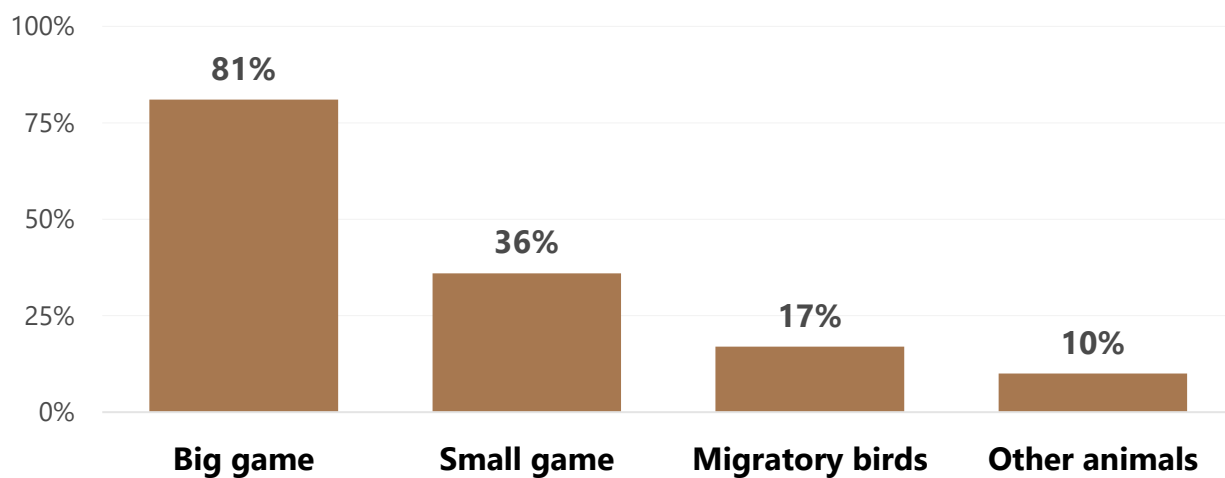
Seventeen percent (84,000) hunted migratory birds, making up 15% of all hunting trips and 10% of all hunting days.

And 10% (48,000) hunted other animals, accounting for 9% of all hunting trips and 4% 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, 504,000 state residents and nonresidents age 16 and older hunted in Minnesota in 2022.

Percent hunters in Minnesota age 16 and older



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

Among Minnesota residents, 6% of those living in an urban area and 18% of those living in a rural area did any hunting in 2022.

In terms of the age breakdown, 7% of Minnesota residents age 16 to 34 hunted in 2022, along with 12% of those 35 to 54 and 9% of those age 55 and older.

With regard to gender, 15% of Minnesota resident men hunted in 2022, as did 3% of Minnesota resident women.

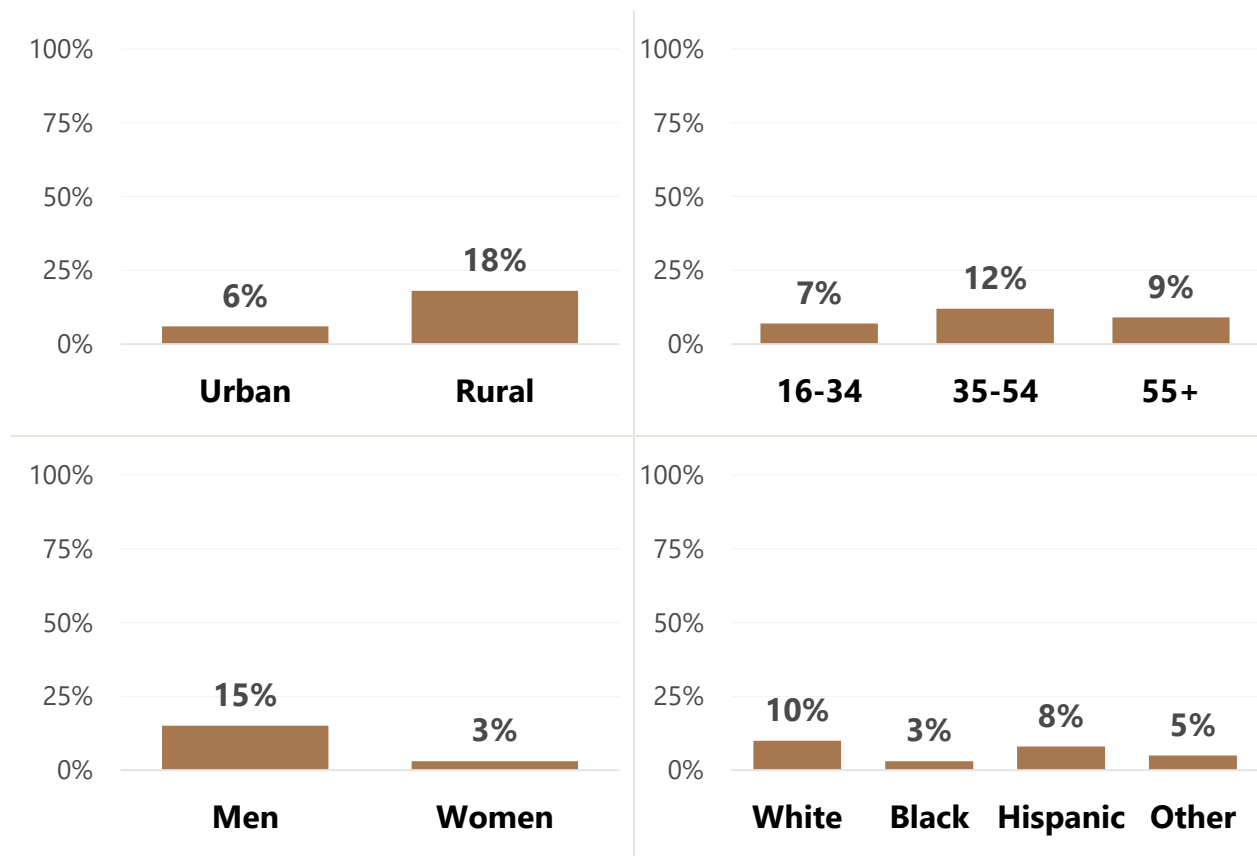
The participation rate by race and ethnicity was 10% of white Minnesota residents, 3% of Black residents, 8% of Hispanic residents, and 5% of residents of another race hunted in 2022.

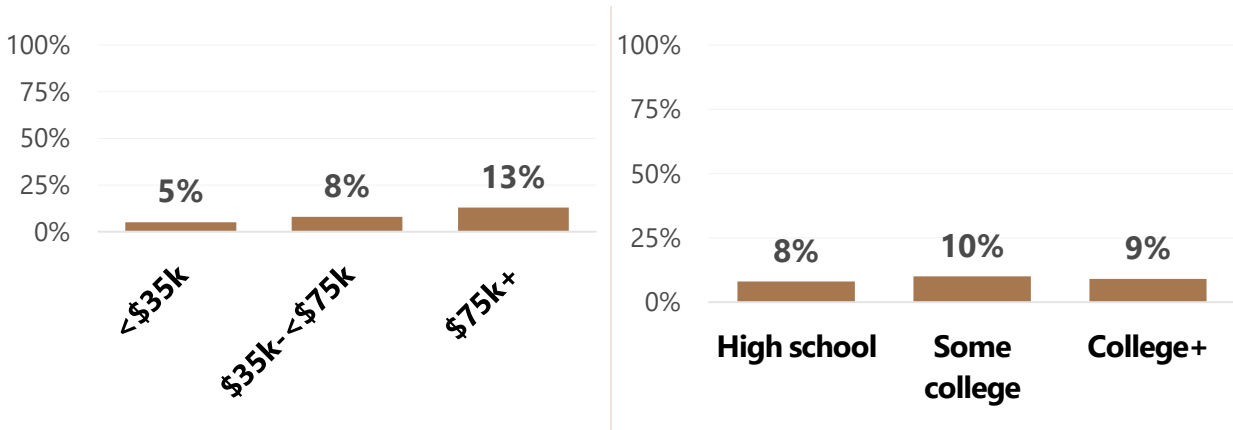
Among Minnesota residents making less than \$35,000 a year, 5% hunted, as did 8% of those making between \$35,000 and \$74,999, and 13% of those making \$75,000 or more.

When looking at hunting by educational levels, 8% of Minnesota residents with a high school education or less hunted in 2022, along with 10% of those with some college education, and 9% of those with a college degree or higher.

Demographics among Minnesota resident hunters.

Percent Minnesota residents age 16 and older who hunted



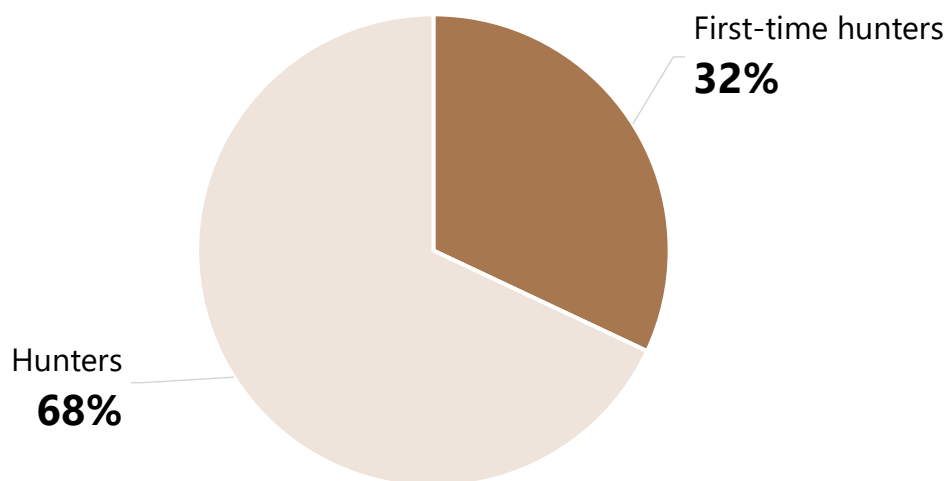


2021 Participation in Minnesota by 6- to 15-Year-Old Residents

Based on the Screener portion of the survey, 69,000 Minnesota residents age 6 to 15 hunted in 2021, with 22,000 doing so for the first time. These activities could have happened anywhere in the United States.

Overall, 69,000 Minnesota residents age 6 to 15 hunted in 2021 including 22,000 who hunted for the first time.

Percent of Minnesota resident hunters age 6-15

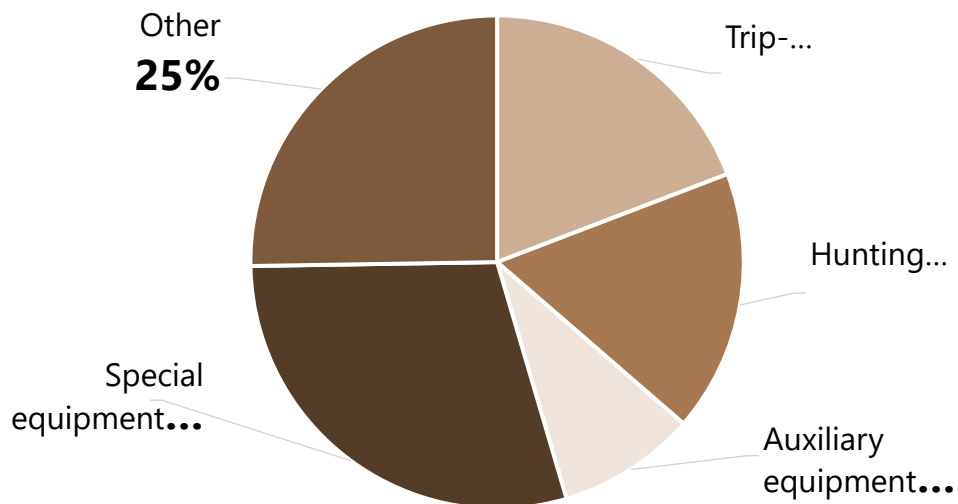


2022 Expenditures in Minnesota by Residents and Nonresidents

Overall, hunters in Minnesota spent \$1.2 billion in 2022. Of this total, \$226 million was spent on trip-related expenses such as food, lodging, and transportation. An additional \$656 million was spent on equipment, including \$203 million on hunting equipment, \$106 million on auxiliary equipment for hunting such as camping equipment or clothing, and \$348 million on special equipment for hunting such as boats or other vehicles. Finally, hunters spent \$300 million on other expenditures such as licenses, permits, or land for hunting.

Overall, hunters in Minnesota spent \$1.2 billion in 2022.

Percent total hunter expenditures



The average expenditures per hunter were \$2,300 in total, including \$400 on trip related costs, \$1,300 on equipment, and \$600 on other costs.



Wildlife Watchers

2022 Participation in Minnesota by Residents and Nonresidents

Overall, 3.6 million state residents and nonresidents age 16 and older watched wildlife in Minnesota in 2022, accounting for 16.1 million wildlife watching trips and 248 million days spent wildlife watching.

Among the total wildlife watchers, 2.7 million Minnesota state residents observed wildlife around the home and 1.2 million Minnesota state residents observed wildlife away from home. Many individuals did both. Another 863,000 were nonresidents who were observing wildlife while on trips away from home.

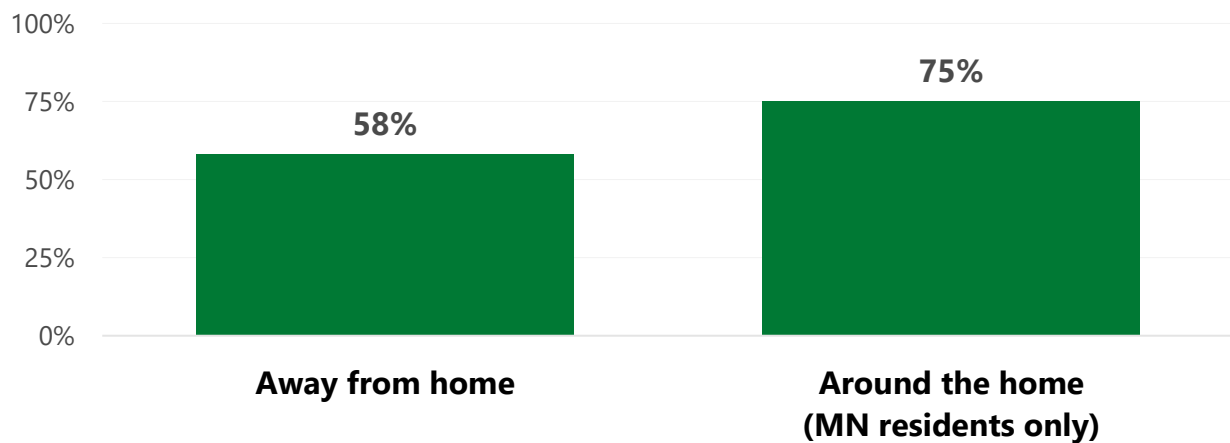
Fifty-eight percent (2.1 million) of these resident and nonresident participants were observing wildlife away from home, accounting for 12% of the total wildlife watching days in Minnesota.

And 75% (2.7 million) of these participants were observing wildlife around the home, making up 88% of the total wildlife watching days in Minnesota.

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, 3.6 million state residents and nonresidents age 16 and older watched wildlife in Minnesota in 2022.

Percent wildlife watchers in Minnesota age 16 and older



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

Among Minnesota residents, 58% of those living in an urban area and 69% of those living in a rural area watched wildlife in 2022.

In terms of the age breakdown, 52% of Minnesota residents age 16 to 34 watched wildlife in 2022, along with 52% of those 35 to 54 and 76% of those age 55 and older.

With regard to gender, 72% of Minnesota resident men watched wildlife in 2022, as did 50% of Minnesota resident women.

The participation rate by race and ethnicity was 64% of white Minnesota residents, 54% of Black residents, 51% of Hispanic residents, and 50% of residents of another race watched wildlife in 2022.

Among Minnesota residents making less than \$35,000 a year, 54% watched wildlife, as did 59% of those making between \$35,000 and \$74,999, and 67% of those making \$75,000 or more.

When looking at wildlife-watching by educational levels, 56% of Minnesota residents with a high school education or less watched wildlife in 2022, along with 62% of those with some college education, and 64% of those with a college degree or higher.

Demographics among Minnesota resident wildlife watchers.

Percent Minnesota residents age 16 and older who watched wildlife

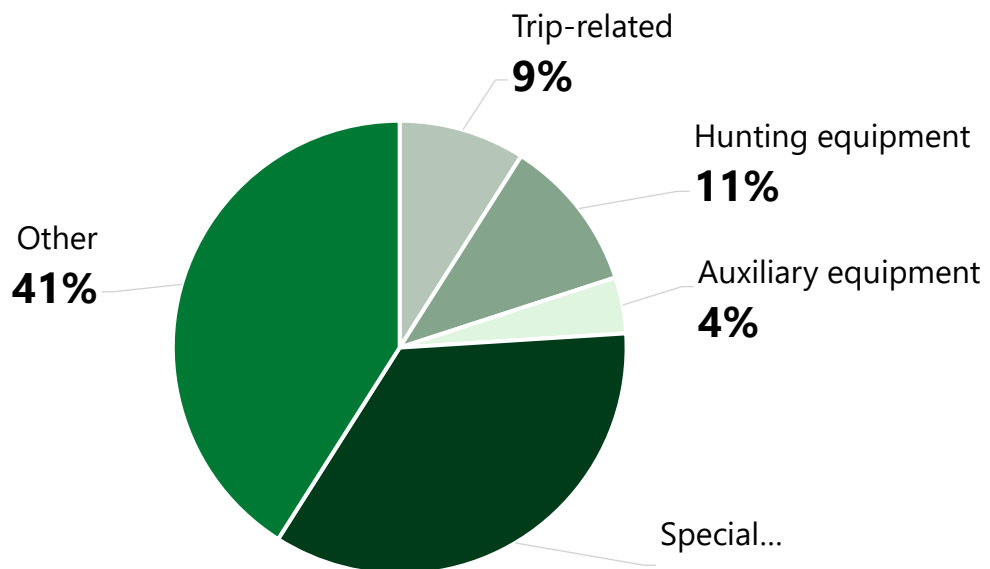


2022 Expenditures in Minnesota by Residents and Nonresidents

Overall, wildlife watchers in Minnesota spent \$5.0 billion in 2022. Of this total, \$462 million was spent on trip-related expenses such as food, lodging, and transportation. An additional \$2.5 billion was spent on equipment, including \$528 million on wildlife watching equipment, \$204 million on auxiliary equipment for wildlife watching such as camping equipment or clothing, and \$1.8 billion on special equipment for wildlife watching such as boats or other vehicles. Finally, wildlife watchers spent \$2.0 billion on other expenditures such as dues or land for wildlife watching.

Overall, wildlife watchers in Minnesota spent \$5.0 billion in 2022.

Percent total wildlife watcher expenditures



The average expenditures per wildlife watcher were \$1,400 in total, including \$100 on trip related costs, \$700 on equipment, and \$600 on other costs.

Other Outdoor Recreation Activities

2021 Participation in Minnesota 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 Minnesota residents age 6 and older in 2021. These numbers capture participation anywhere in the United States for each activity.

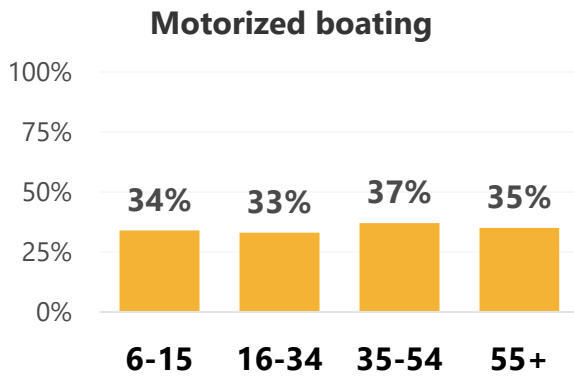
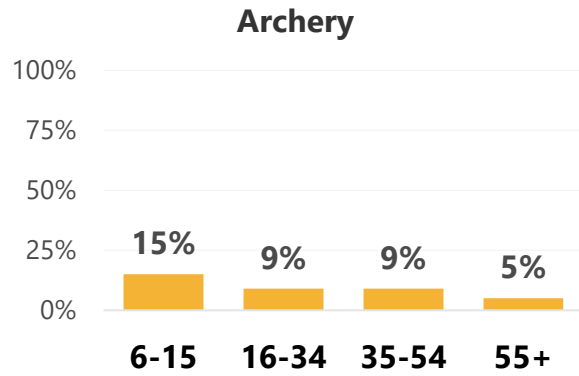
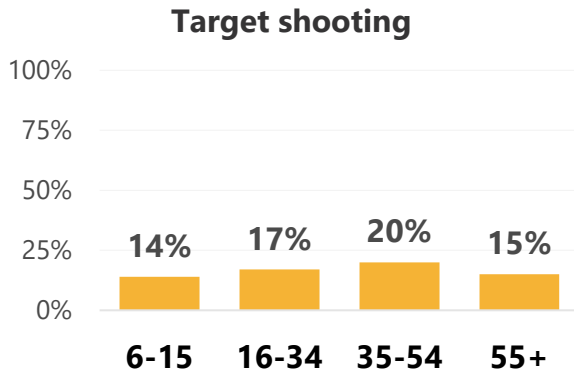
Overall, 847,000 Minnesota residents participated in recreational target shooting in 2021. Of these participants, 103,000 were age 6 to 15; 216,000 were age 16 to 34; 280,000 were age 35 to 54; and 239,000 were age 55 or older.

Additionally, 426,000 Minnesota residents participated in recreational archery in 2021. 111,000 were age 6 to 15; 112,000 were age 16 to 34; 124,000 were age 35 to 54; and 76,000 were age 55 or older.

And 1.8 million Minnesota residents used a motorized boat in 2021, including 247,000 age 6 to 15; 429,000 age 16 to 34; 505,000 age 35 to 54; and 571,000 age 55 or older.

Participation in other outdoor activities among Minnesota residents in 2021.

Percent of Minnesota residents



Minnesota 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 Minnesota state residents.

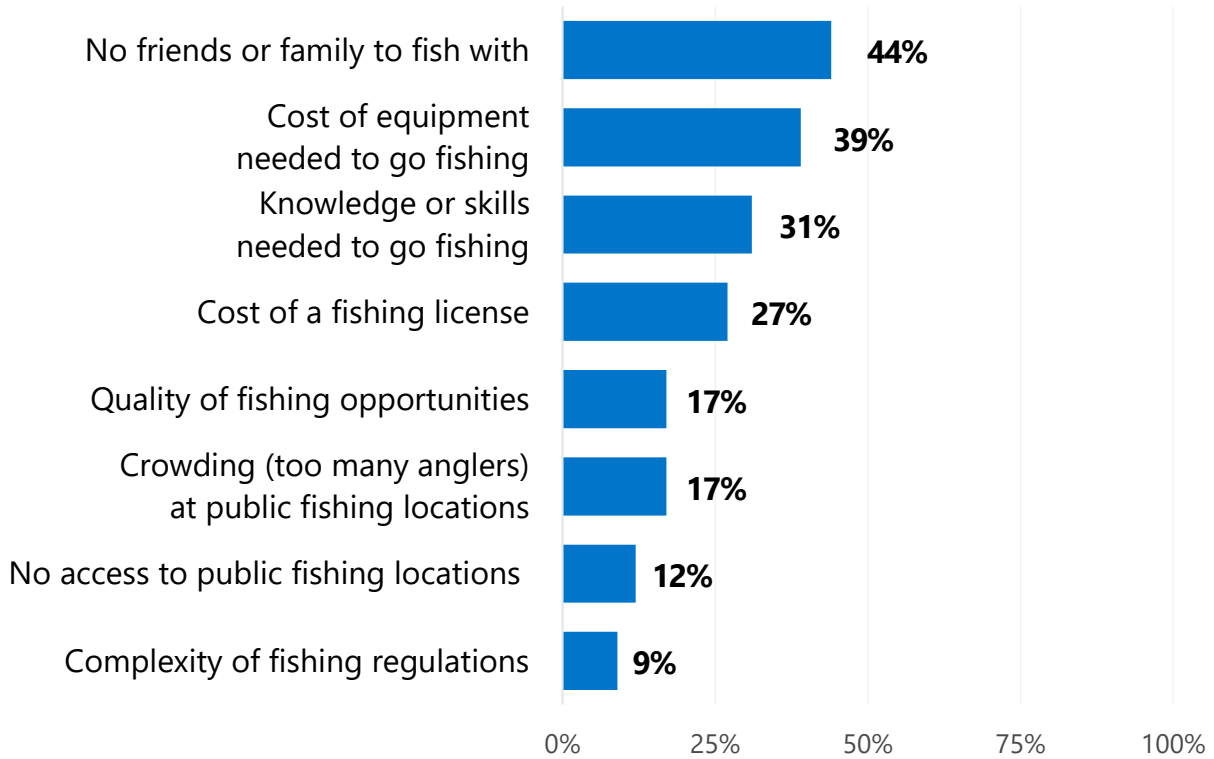
Among Minnesota residents who did not report doing any recreational fishing in 2022, just 5% had a valid Minnesota fishing license for the year while 95% did not.

More than a third (36%) of these residents who did not fish in 2022 report that they have an interest in fishing in Minnesota in the future. Sixty-one percent, meanwhile, are not interested in fishing in Minnesota.

When asked about factors that prevent them from fishing in Minnesota despite their interest, Minnesotans are most likely to cite having no friends or family to go with, cost of equipment or of a fishing license, and the lack of knowledge or skills needed.

Which of the following factors prevent you from fishing in Minnesota?

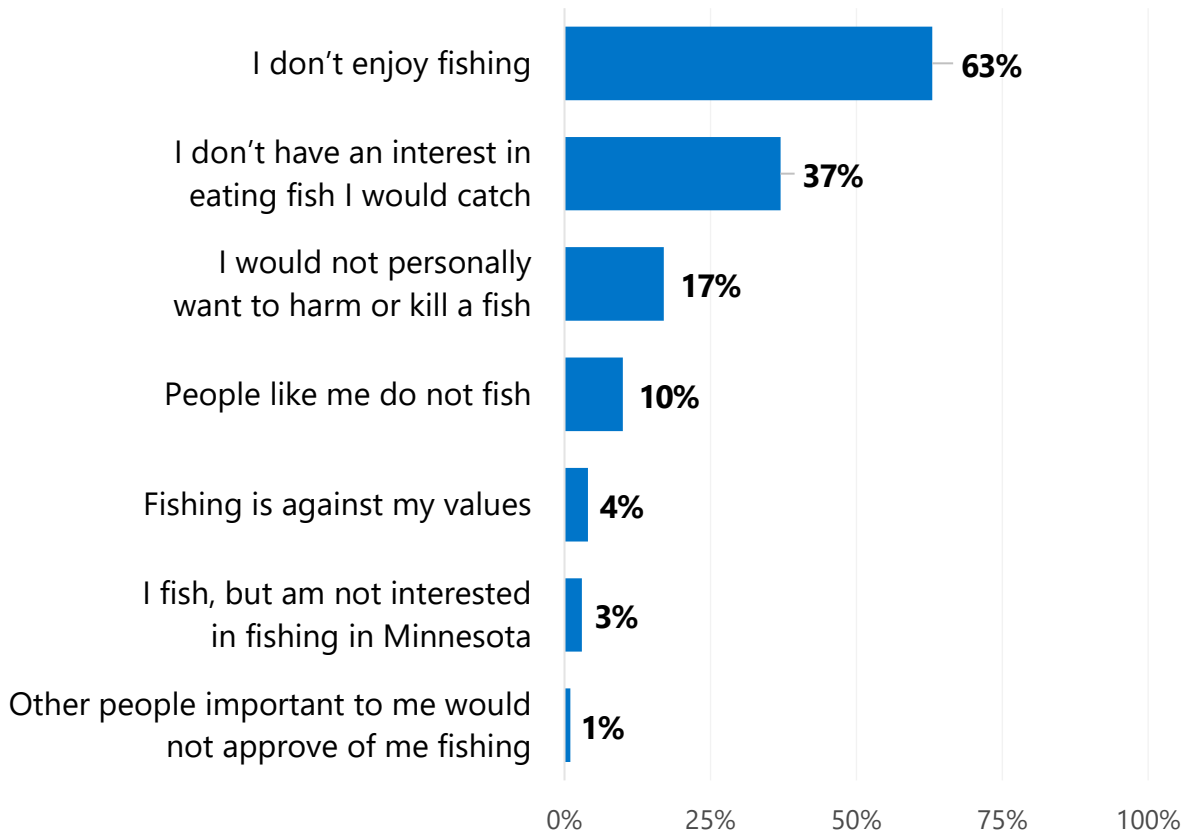
Percent Minnesota residents age 16 and older who did not fish in 2022 and have an interest in fishing in Minnesota in the future



Among those who are not interested in fishing in Minnesota, the top reasons given are that they simply do not enjoy fishing or would not have an interest in eating the fish they would catch.

Which of the following are reasons you do not want to fish in Minnesota?

Percent Minnesota residents age 16 and older who did not fish in 2022 and do not have an interest in fishing in Minnesota in the future



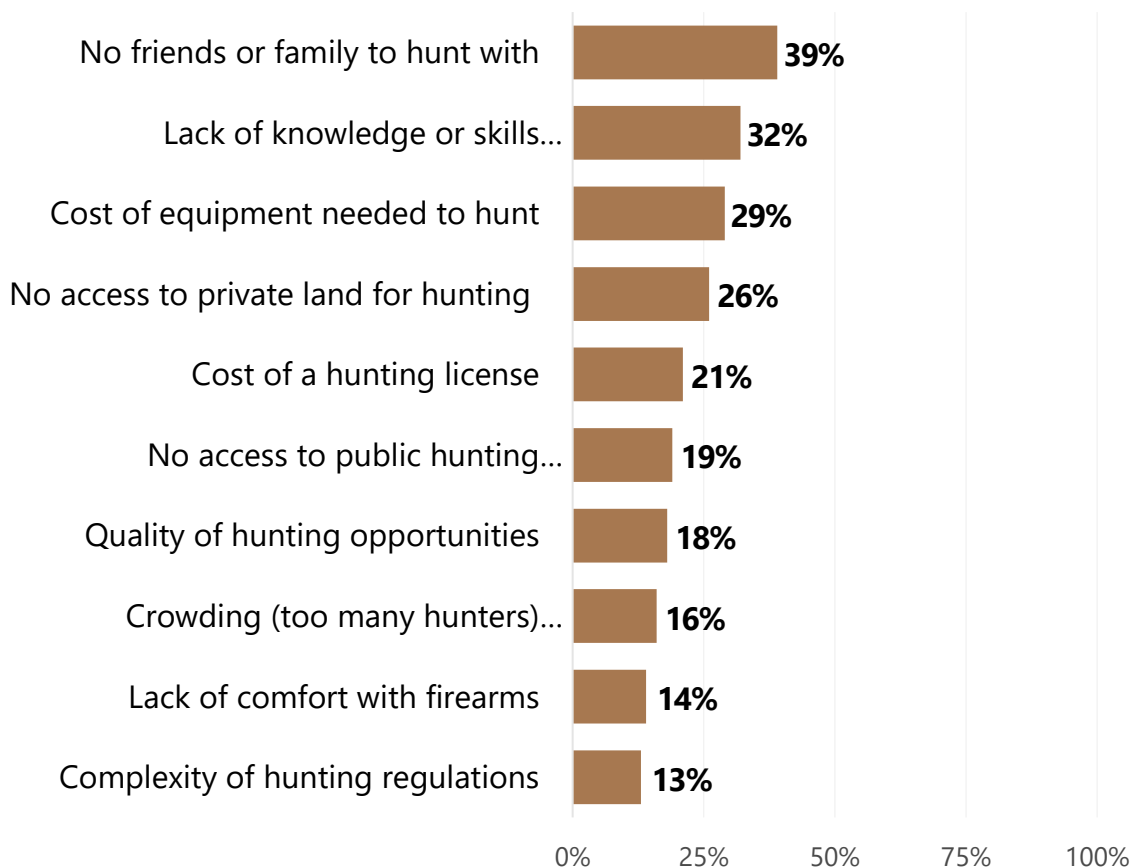
And among Minnesota residents who did not report doing any hunting in 2022, just 4% had a valid Minnesota hunting license for the year while 96% did not.

And just 13% of these residents who did not hunt in 2022 report that they have an interest in hunting in Minnesota in the future, while 85% do not.

When asked about factors that prevent them from hunting in Minnesota despite their interest, Minnesotans cite similar reasons as those who do not fish. Namely, having no friends or family to go with, cost of equipment, and the lack of knowledge or skills needed.

Which of the following factors prevent you from hunting in Minnesota?

Percent Minnesota residents age 16 and older who did not hunt in 2022 and have an interest in hunting in Minnesota in the future



And among those who are not interested in hunting in Minnesota, the top reasons given are that they are simply do not enjoy hunting or would not have to harm or kill an animal.

Which of the following are reasons you do not want to hunt in Minnesota?

Percent Minnesota residents age 16 and older who did not hunt in 2022 and do not have an interest in hunting in Minnesota in the future

