

Deer Hunting in the United States: Demographics and Trends

Addendum to the 2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation

Report 2011-10



June 2016

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This report is intended to complement the National and State Reports for the 2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation. The conclusions in this report are the author's and do not represent official positions of the U.S. Fish and Wildlife Service.

 $\label{lem:continuous} The \ author \ thanks \ Sylvia \ Cabrera \ and \ Richard \ Aiken \ for \ valuable \ input \ into \ this \ report.$

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Introduction

Deer hunting is unquestionably the most popular type of hunting in the U.S. According to the 2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (FHWAR), there were 10.9 million deer hunters in 2011, which is three and a half times greater than the second most hunted species: wild turkey. For people 16 years of age and over, about 1 in every 22 Americans and 8 in 10 hunters hunted deer in 2011. Their total hunting-related trip and equipment expenditures while seeking deer totaled \$12.9 billion.

This report provides information about deer hunter demographic characteristics, spending patterns, trends, and bag rate. It is intended to be used as an informational tool by resource managers, academics, product manufacturers, and other interested parties.

The report is organized into three parts:

Part One: The "Participation and Demographics" section examines the size and geographic dispersion of the deer hunting population. Additionally, widely used demographic features such as income, age, gender, education, and geographic location are included.

Part Two: The "Trends" section describes the trends in expenditures and days of deer hunting going back to 1991.

Part Three: The "Bag Rate" section uses average days afield and trend data for analysis.

Appendix: Trend and Participation rate estimates are tabulated for the nation and each State.



Most reported data contained herein are from the *2011 FHWAR*¹. The exceptions are trends data obtained from previous *FHWAR* Surveys. All nontrend participation, dollar expenditures, and hunting behavior statistics are representative of 2011. All data stem from persons age 16 years and older.

¹ FHWAR documents are available on the U.S. Fish and Wildlife Service website: http://wsfrprograms.fws.gov/Subpages/ NationalSurvey/National Survey.htm

Part One – Participation and Demographics

Deer Hunting Participation

Deer is clearly the species of choice for the majority of hunters in the U.S. Table 1 indicates that 79% or 10.9 million of the 13.7 million hunters in the U.S. hunted for deer in 2011. Wild turkey is the second most hunted species at 3.1 million. Wild Turkey are followed by squirrel (1.7 million), rabbit (1.5 million), and then several bird species (1.3 to 1.5 million).

The third and the fourth columns of Table 1 provide additional information on other hunting activities of deer hunters. The third column entitled "Hunters Who also Hunted Deer" indicates the number of deer hunters that sought different species. For example, of the 867 thousand elk hunters in the U.S., 645 thousand also hunted deer. The fourth column entitled "Percent Deer Hunters" indicates the percent of hunters that sought other species also hunted deer. For example, 74 percent of the 867 thousand elk hunters hunted deer in 2011.

The biggest overlap was for bear and deer hunting, 95 percent. The smallest was for moose hunting, 29 percent. The largest and the smallest overlaps were both big game species. With moose also being a big game species and having the smallest percentage of hunters that are also deer hunters, the question is why? One reason may be the time and economic investments necessary to hunt moose. Additionally, most hunters hunt to acquire meat. If a moose hunter is successful, he or she is unlikely to need additional meat that year.

The "Percent Deer Hunters" column reveals that most other species hunters were also active deer hunters. With the exception of moose at 29 percent, at least 45 percent of hunters for other species were also deer hunters. As seen in Table 1, overall, 68 percent of small game hunters, 59 percent of migratory bird hunters, and 79 percent of other animal hunters hunted deer in 2011. With the exception of grouse/prairie chicken and

Table 1. All Hunters and Deer Hunters by Species Type: 2011

(1vambers in thousands, 1 opula	order to yours of	ia dira oraciv)	Hunters	
	$Number of \\ Hunters$	$Percent\ of\ All\ Hunters$	Who also Hunted Deer	Percent Deer Hunters
All Hunters	13,674	100		
Big Game	11,570	85	10,851	94
Deer	10,851	79	10,851	100
Elk	867	6	645	74
Bear	526	4	501	95
Wild Turkey	3,115	23	2,739	88
Moose	106	1	*31	*29
Wild Sheep/Feral Goat				
Feral Pig (Hawaii only)	*19	(Z)		
Any unlisted big game	286	2	204	71
Small Game	4,506	33	3,048	68
Rabbit, hare	1,545	11	1,199	78
Quail	841	6	382	45
Grouse/Prairie Chicken	812	6	639	79
Squirrel	1,691	12	1,374	81
Pheasant	1,474	11	688	47
Ptarmigan	*32	(Z)		
Any unlisted small game	299	2	202	68
Migratory Birds	2,583	19	1,522	59
Geese	781	6	476	61
Duck	1,371	10	866	63
Dove	1,271	9	674	53
Any unlisted migratory birds	227	2	191	84
Other Animals	2,168	16	1,707	79
Groundhog (Woodchuck)	195	1	177	91
Raccoon	325	2	244	75
Fox	174	1	*133	*76
Coyote	1,049	8	812	77
Wolf	•••			•••
Mongoose				
Feral Pig	699	5	622	89
Any unlisted other animals	253	2	175	69
* Fatimata based on a sample size				

^{*} Estimate based on a sample size of 10-29.

^{...} Sample size too small (less than 10) to report data reliably. (Z) Less than 0.5 percent.

any unlisted migratory birds, winged species ranged from just 45 percent to 63 percent. This may have to do with the difference in the firearm used to hunt these species compared to deer (shotgun versus rifle, most often).

There is an additional question of interest with respect to the other species hunting activity of deer hunters. Given the ample crossover of other species hunters into deer hunting, one might ask the question: how many hunters sought deer and nothing else? About 5.0 million or 46% of deer hunters hunted deer and nothing else. Furthermore, 2.8 million hunters did not hunt deer at all. The remaining 5.9 million hunters sought deer and other species.

Tables 2 and 3 contain State-by-State estimates of deer hunting participation in 2011. Table 2 contains the number of all hunters and deer hunters by State of residence as well as the percent of hunters who hunted deer. Table 3 contains the total days of deer hunting that occurred within each State, along with the total of all hunting days, and percent of all hunting days spent hunting deer.

Among other things, Table 2 reveals that deer hunting was a prominent activity in nearly every State. At least 50 percent of hunters in all but three States hunted deer. The deer hunting participation in thirteen States was 90 percent or higher (Arkansas, Georgia, Maryland, Michigan, Mississippi, New Jersey, New York, Oregon, Pennsylvania, Vermont, Virginia, West Virginia, and Wisconsin). Mississippi and West Virginia had the highest proportion of deer hunters (97 percent) while Texas had the largest number (893 thousand). Conversely, Alaska had the lowest proportion of deer hunters, 14 percent, while Rhode Island had the smallest number.²

Table 2. In-State All Hunting and Deer Hunting, by State of Residence: 2011

	$Total\ Resident\ Hunters$	Total Resident Deer Hunters	Percent
United States, total	12,890	10,306	80
Alabama	492	405	82
Alaska	104	*15	*14
Arizona	225		
Arkansas	316	286	91
California	377	*126	*33
Colorado	144	*77	*53
Connecticut	46	*27	*59
Delaware	19	*14	*74
Florida	215	*136	*63
Georgia	293	268	91
Hawaii	*23		•••
Idaho	*162	*90	*56
Illinois	459	297	65
Indiana	377	262	69
Iowa	200	172	86
Kansas	170	125	74
Kentucky	316	274	87
Louisiana	253	190	75
Maine	141	123	87
Maryland	69	*63	*91
Massachusetts	52	39	75
Michigan	501	479	96
Minnesota	457	368	
	436	423	81 97
Mississippi Missouri			
Missouri	477	386	81
Montana	104	75 72	72 cc
Nebraska	110	73 *22	66 *50
Nevada	39		*56
New Hampshire	42	*33	*79
New Jersey	93	84	90
New Mexico	64	*34	*53
New York	739	702	95
North Carolina	259	215	83
North Dakota	(NA)	(NA)	(NA)
Ohio	516	446	86
Oklahoma	219	*119	*54
Oregon	181	169	93
Pennsylvania	699	650	93
Rhode Island	15	*6	*40
South Carolina	180	140	78
South Dakota	127	99	78
Tennessee	276	247	89
Texas	1,080	893	83
Utah	158	98	62
Vermont	66	60	91
Virginia	326	300	92
Washington	200	169	85
West Virginia	184	179	97
Wisconsin	763	725	95
Wyoming	76	*41	*54

st Estimate based on a sample size of 10–29.

² Among States that have a reportable sample size of 10 or greater.

^{...} Sample size too small (less than 10) to report data reliably. (NA) Not Available.

Nationally, the percent of deer hunters in Table 2 (80 percent) and the percent of deer hunting days in Table 3 (60 percent) indicate that deer hunting was less prominent as a proportion of all hunting days than deer hunters was of all hunters. Table 3 shows that deer hunting makes up the majority of hunting activity in 29 states and represents more than 75 percent of all hunting day activity in 7 states (Delaware, Maryland, Michigan, Mississippi, New Jersey, Pennsylvania, and Wisconsin).



Table 3. In-State All Hunting and Deer Hunting Days, by State of Residence: 2011 (Numbers in thousands. Population 16 years old and older.)

	$Total \ Hunting Days$	$Total\ Deer$ $Hunting\ Days$	Percent
United States, total	263,038	157,129	60
Alabama	10,285	6,098	59
Alaska	1,044	*78	*7
Arizona	2,363		
Arkansas	10,006	7,365	74
California	6,585	*1,017	*15
Colorado	1,553	*419	*27
Connecticut	947	*391	*41
Delaware	343	*261	*76
Florida	4,969	*2,376	*48
Georgia	7,742	5,758	74
Hawaii	*774		
Idaho	*1,983	*1,021	*51
Illinois	7,354	4,278	58
Indiana	10,814	5,356	50
Iowa	3,988	2,309	58
Kansas	4,075	1,835	45
Kentucky	11,402	4,989	44
Louisiana	5,044	2,970	59
Maine	2,240	1,492	67
Maryland	*919	*699	*76
Massachusetts	1,041	*529	*51
Michigan	10,840	9,120	84
Minnesota	5,502	2,890	53
Mississippi	8,537	6,653	78
Missouri	9,154	6,520	71
Montana	2,002	962	48
Nebraska	1,490	615	41
Nevada	699	*195	*28
New Hampshire	1,207	*890	*74
New Jersey	2,380	1,948	82
New Mexico	851	*306	*36
New York	17,673	9,900	56
North Carolina	7,314	3,553	49
North Dakota	(NA)	(NA)	(NA)
Ohio	8,688	5,300	61
Oklahoma	4,790	*1,912	*40
Oregon	2,133	1,228	58
Pennsylvania	17,648	14,763	84
Rhode Island	248	*86	*35
South Carolina	3,882	2,636	68
South Dakota	2,811	799	28
Tennessee	9,507	5,347	56
Texas	19,778	12,039	61
Utah	2,482	781	31
Vermont	1,403	1,007	72
Virginia	9,302	6,736	72
Washington	2,445	1,221	50
West Virginia	3,035	1,908	63
Wisconsin	10,085	7,617	76
Wyoming	1,103	*294	*27

^{*} Estimate based on a sample size of 10-29.

^{...} Sample size too small (less than 10) to report data reliably.

General Demographic Characteristics

Tables 4 to 11 address the distribution of the deer and non-deer hunter³ populations among widely used demographic characteristics such as income, age, gender, education, and geographic location. All tables follow a similar format. The first two columns present the distribution of the U.S. population in 2011 among the demographic variables of interest. The first column "Number" indicates the distribution in quantity, and the second column "Percent" presents the proportion of total individuals that appear in each respective category of the demographic variable. Thus, in Table 4, the second column indicates that 3 percent of the U.S. population 16 years or older was 16 or 17 years. The "Number" and "Percent" columns within the deer hunter and non-deer hunter categories are handled similarly. For example, row two of Table 4 reveals that 3 percent of deer hunters

were age 16 or 17 years. The "Percent of U.S. Population" indicates the proportion of the U.S. population that participated in deer hunting. Continuing with those 16 or 17 years, this constitutes 5 percent of the U.S. population in that age group.

Age

The age category with the greatest number of participants was 45 to 54 years, 2.5 million. The age category with the highest proportional level of participation was 55 to 64 years, 6 percent. While the age category with the least number of participants was 16 to 17 years, 364 thousand. And the age group with the lowest proportional level of participation was 65 years and older, 3 percent.

Only 10 percent of deer hunters were over the age of 65, whereas 16 percent of Americans are 65 years old and older. As baby boomers increasingly surpass 65, this alone indicates an impending change in deer hunting participation. The aging of the baby boomers is not as pronounced for non-deer hunters where 14 percent of non-deer hunters are 65 years old or older.

However, the "Percent of the U.S. Population" columns are even more telling for deer hunters. The percent of the U.S. population 55 to 64 years old that deer hunted is 6 percent, but it falls to 3 percent for those over 65. This represents a 50 percent decline in the participation rate. The obvious implication, provided that this pattern persists, is that deer hunting will likely experience declines in participation as the Baby Boomers get older.

Population Size of Residence Twenty-one percent of the U.S. population living outside an MSA⁴ went deer hunting in 2011 (Table 5). Non-deer hunters were more likely to live inside an MSA (81 percent) compared to deer hunters (75 percent).

Table 4. Age of Deer and Non-Deer Hunters: 2011

(Numbers in thousands. Population 16 years old and older.)

U.S. Population		tion	Deer Hunters			Non-Deer Hunters	
Age	Number	Percent	Number	Percent	Percent of U.S. Population	Number	Percent
United States, total	239,313	100	10,851	100	5	2,823	100
16 to 17 years	7,652	3	364	3	5	*55	*2
18 to 24 years	26,517	11	1,001	9	4	287	10
25 to 34 years	41,613	17	1,601	15	4	478	17
35 to 44 years	40,779	17	1,969	18	5	447	16
45 to 54 years	46,167	19	2,489	23	5	654	23
55 to 64 years	38,469	16	2,335	22	6	507	18
65 years and older	38,117	16	1,093	10	3	394	14

^{*} Estimate based on a sample size of 10-29.

Table 5. Population Density of Deer and Non-Deer Hunters: 2011

(Numbers in thousands. Population 16 years old and older.)

	U.S. Populo	ution	Deer Hunters		Non-Deer Hunters		
$Population\ Size \ of\ Residence$	Number	Percent	Number	Percent	Percent of U.S. Population	Number	Percent
United States, total	239,313	100	10,851	100	5	2,823	100
Inside MSA	224,025	94	8,168	75	4	2,286	81
Outside MSA	15,288	6	2,233	21	15	282	10

Note: Detail does not add to total because of suppressed responses.

³ A "deer hunter" hunted for deer in 2011 and could have hunted another type of wild game. A "non-deer hunter" hunted for anything *except* deer.

⁴ A Metropolitan Statistical Area (MSA) is a county or group of contiguous counties containing at least one city of 50,000 or more inhabitants or twin cities with a combined population of at least 50,000 (except in New England, which includes both towns and cities instead of counties).

⁽Z) Less than 0.5 percent.

Gender

Table 6 reveals that 88 percent of deer hunters were male while 94 percent of non-deer hunters were male. There were a significant number of female hunters. Nearly 1.3 million females hunted for deer and another 167 thousand were non-deer hunters in 2011.

Marital Status

Over half of the U.S. population 16 years old or older was married and for hunters, the marriage rate was over 70 percent. Married deer hunters accounted for 6 percent of the U.S. population while only 3 percent of unmarried persons deer hunted.

Race

While people of all races went hunting in 2011, the vast majority were White. Six percent of the nation's White population, 2 percent of the Black population, and

Figure 1. Gender of Deer and Non-Deer Hunters: 2011

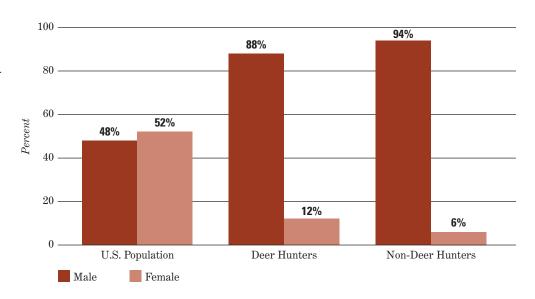


Table 6. Sex of Deer and Non-Deer Hunters: 2011

(Numbers in thousands. Population 16 years old and older.)

	U.S. Population		DeerHunters			Non-Deer Hunters	
Sex	Number	Percent	Number	Percent	Percent of U.S. Population	Number	Percent
United States, total	239,313	100	10,851	100	5	2,823	100
Male	114,705	48	9,562	88	8	2,655	94
Female	124,608	52	1,290	12	1	167	6

Table 7. Marital Status of Deer and Non-Deer Hunters: 2011

(Numbers in thousands. Population 16 years old and older.)

	U.S. Population		Deer Hunters			Non-Deer Hunters	
Marital Status	Number	Percent	Number	Percent	Percent of U.S. Population	Number	Percent
United States, total	239,313	100	10,851	100	5	2,823	100
Married	131,567	55	7,754	71	6	1,904	67
Not Married	107,746	45	3,097	29	3	919	33

Table 8. Race of Deer and Non-Deer Hunters: 2011

	U.S. Populo	tion	Deer Hunters		Non-Deer Hunters		
Race	Number	Percent	Number	Percent	Percent of U.S. Population	Number	Percent
United States, total	239,313	100	10,851	100	5	2,823	100
White	182,872	76	10,226	94	6	2,626	93
Black	23,402	10	364	3	2	*49	*2
Asian	11,647	5	*12	(Z)	(Z)	•••	
All Other Races	21,392	9	249	2	1	133	5

st Estimate based on a sample size of 10–29.

^{...} Sample size too small (less than 10) to report data reliably.

⁽Z) Less than 0.5 percent.

1 percent of those identified as races other than White, Black, or Asian went deer hunting in 2011. The race distribution of non-deer hunters was similar to that of deer hunters.

Ethnicity

Hispanics made up 14 percent of the U.S. population 16 years old or older and 1 percent of them participated in deer hunting. While the percent of the Hispanic population participating in deer hunting was small, there were 166

thousand Hispanic deer hunters and another 105 thousand Hispanics who were non-deer hunters (Table 9).

Non-deer hunting had a higher proportion of Hispanic hunters compared to deer hunting. In 2011, 4 percent of non-deer hunters were Hispanic compared to 2 percent of deer hunters.

Education

Deer hunting was a popular activity among hunters of all educational

backgrounds, as shown in Table 10. Deer hunters with at least some college totaled 5.4 million. Another 4.2 million had a high school education, and 1.3 million deer hunters had less than a high school education.

The percent of the U.S. population that hunted deer increased as years of schooling increased to 1–3 years of college, then the rate dipped downward. Hunters pursuing something other than deer were more likely to have completed

Table 9. Ethnicity of Deer and Non-Deer Hunters: 2011

(Numbers in thousands. Population 16 years old and older.)

	U.S. Population		DeerHunters			Non-Deer Hunters	
Ethnicity	Number	Percent	Number	Percent	Percent of U.S. Population	Number	Percent
United States, total	239,313	100	10,851	100	5	2,823	100
Non-Hispanic	206,756	86	10,685	98	5	2,718	96
Hispanic	32,557	14	166	2	1	*105	*4

^{*} Estimate based on a sample size of 10-29.

Figure 2. Education of Deer and Non-Deer Hunters: 2011

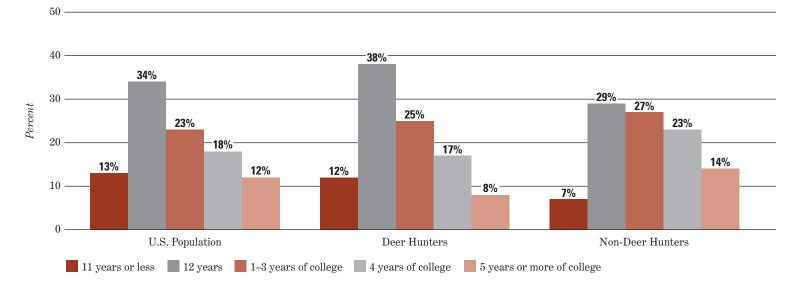


Table 10. Education of Deer and Non-Deer Hunters: 2011

	U.S. Populo	ution	Deer Hunters			Non-Deer Hunters	
Education	Number	Percent	Number	Percent 1	Percent of U.S. Population	Number	Percent
United States, total	239,313	100	10,851	100	5	2,823	100
11 years or less	31,574	13	1,272	12	4	210	7
12 years	81,984	34	4,169	38	5	806	29
1 to 3 years of college	55,014	23	2,739	25	5	771	27
4 years of college	42,552	18	1,793	17	4	654	23
5 years or more of college	28,188	12	878	8	3	382	14

4 years of college or more compared to deer hunters and the U.S. population. The proportion of non-deer hunters continuing beyond a bachelor's degree was nearly double the proportion of deer hunters.

Household Income

For much of the income spectrum, the percent of the U.S. population that hunted deer increased as household income increased (Table 11). For the high end of the income spectrum, \$100,000 or more, the participation rate dipped. Despite this dip, in general deer hunting participation was positively correlated with income. At 8 percent, the participation rate for deer hunting was highest for individuals with household incomes from \$75,000 to \$99,999.



Table 11. Annual Household Income of Deer and Non-Deer Hunters: 2011

_	U.S. Popula	tion	D	eer Hunters		Non-Deer H	unters
$Annual\ Household\\Income$	Number	Percent	Number	Percent	Percent of U.S. Population	Number	Percent
United States, total	239,313	100	10,851	100	5	2,823	100
Less than \$20,000	30,550	13	852	8	3	*139	*5
\$20,000 to \$24,999	12,713	5	424	4	3	*109	*4
\$25,000 to \$29,999	10,441	4	443	4	4	*52	*2
\$30,000 to \$34,999	11,504	5	407	4	4	149	5
\$35,000 to \$39,999	11,441	5	489	5	4	*117	*4
\$40,000 to \$49,999	17,091	7	875	8	5	254	9
\$50,000 to \$74,999	33,850	14	2,199	20	6	411	15
\$75,000 to \$99,999	25,236	11	1,973	18	8	398	14
\$100,000 to \$149,999	23,790	10	1,357	13	6	575	20
\$150,000 or more	17,151	7	587	5	3	274	10
Not Reported	45,545	19	1,245	11	3	346	12

 $^{* \,} Estimate \, based \, on \, a \, sample \, size \, of \, 10\text{--}29.$

Geographic Divisions
Figure 3 displays the distribution of deer hunters by the U.S. Census Bureau's geographic divisions. As a percent of the

U.S. population, the East South Central division had the highest percent of deer hunters (10 percent). The percent of the divisional populations that went deer

hunting in 2011 was highest in the Central divisions. The East North Central division had the most deer hunters with nearly 2.3 million participants.

Figure 3. Deer Hunters as a Percent of the U.S. Population: 2011

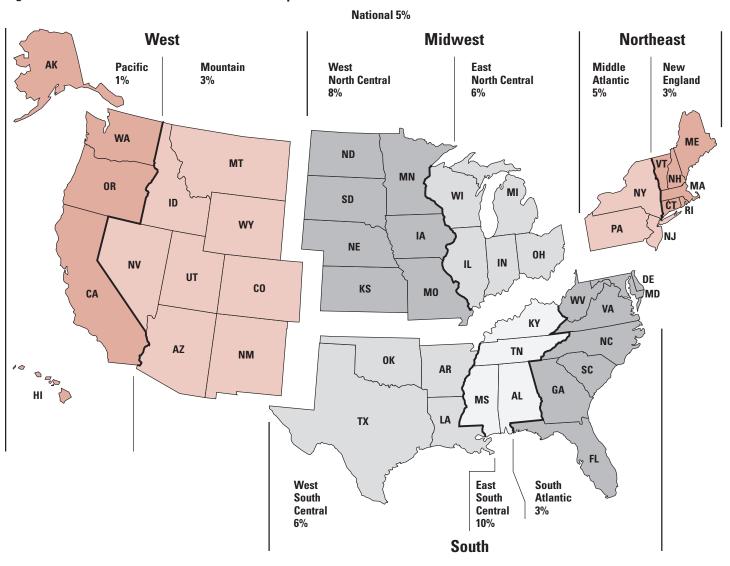


Table 12. Deer Hunters as a Percent of the U.S. Population by Geographic Division: 2011

_	U.S. Populo	ation	D	eer Hunters		Non-Deer H	unters
Census Geographic Division	Number	Percent	Number	Percent	Percent of U.S. Population	Number	Percent
United States, total	239,313	100	10,851	100	5	2,823	100
New England	11,593	5	317	3	3	103	4
Middle Atlantic	32,392	14	1,461	13	5	97	3
East North Central	36,199	15	2,269	21	6	419	15
West North Central	15,860	7	1,296	12	8	365	13
South Atlantic	46,417	19	1,567	14	3	303	11
East South Central	14,206	6	1,359	13	10	172	6
West South Central	27,195	11	1,531	14	6	378	13
Mountain	17,013	7	521	5	3	522	18
Pacific	38,438	16	531	5	1	465	16

Wildlife Watching Patterns In 2011 over 6.1 million deer hunters watched wildlife in addition to hunting. Wildlife watching is defined as closely observing, feeding, and photographing wildlife, maintaining plantings and natural areas around the home for the benefit of wildlife, and visiting public parks within a mile of home to wildlife watch. These wildlife-watching activities are split into around-the-home (within a mile of home) and away-from-home (at least one mile from home) categories.

Fifty-seven percent of all deer hunters watched wildlife compared to 59 percent of non-deer hunters (and 30 percent of the general population). Aroundthe-home wildlife watching was more popular with half of hunters feeding, photographing, or observing wildlife around their home. Nearly 3 million deer hunters took trips of a distance at least one mile from their home for the primary purpose of watching wildlife.

Figure 4: Wildlife Watching Participation by Deer Hunters: 2011

(Population 16 years of age or older)

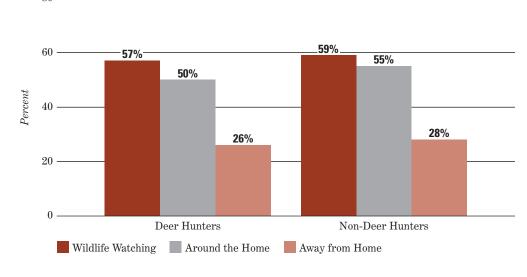


Table 13. Wildlife Watching Participation by Deer Hunters: 2011

(Numbers in thousands. Population 16 years old and older.)

_	Deer Hunters		Non-Deer Hunters		
	Number	Percent	Number	Percent	
Total Hunters	10,851	100	2,823	100	
Total Participants	6,143	57	1,662	59	
Around the Home	5,445	50	1,544	55	
Away from Home	2,862	26	794	28	

Note: Detail does not add to total because of multiple responses



Part Two – Trends in Participation, Expenditures, and Days

A basic summary of hunting participation, days, and trip and equipment expenditure trends is shown in Table 14. Trip expenditures were directly related to hunting trips. They included but were not limited to food, drink, lodging, and transportation fees. Equipment expenditures included both hunting equipment such as rifles, ammunition, and hunting dogs, and auxiliary equipment used primarily for hunting (that is camping equipment, clothing, and taxidermy costs). Special equipment primarily included purchases of big ticket items such as boats, campers, trucks, and cabins that were used primarily for hunting. Some highlights of Table 14 include the following.

Participation 1 4 1

In 2011, 6 percent of the U.S. population 16 years old and older enjoyed hunting, regardless of the species sought. Big game hunting was the most popular type. An estimated 11.6 million hunters

pursued big game, such as deer and elk. Deer was the most popular type of big game and nearly 10.9 million hunters sought deer in 2011. Hunting increased 9 percent from 2006 to 2011. Big game hunting and deer hunting both increased by 8 percent over the same time period.

Days

After a remarkably consistent run of nearly identical estimates for deer hunting days for 1996, 2001, and 2006, there was a 27 percent increase from 2006 to 2011 in deer hunting days. This amounts to an increase of more than two days afield for deer hunters in 2011, on average. Total hunting days increased 28 percent while big game hunting only increased 22 percent from 2006 to 2011.

Expenditures

In 2011 total trip and equipment expenditures of deer and non-deer hunters was \$24.4 billion. Deer hunters were responsible for \$12.9 billion, or 53 percent of the total. Per person spending of deer hunters was \$1,186 for trip and equipment expenditures.

The increase in days seems more responsible for the increase in expenditures than just the fact that there were more deer hunters. Deer trip and equipment expenditures increased by 30 percent from 2006 to 2011, while the average expenditures increased by 20 percent.

(Numbers in thousands except averages Population 16 years old and older)

trumbers in thousands, except averages. I opulation to years out and order.)						
1991	1996	2001	2006	2011		
14,063	13,975	13,034	12,510	13,674		
10,745	11,288	10,911	10,682	11,570		
10,277	10,722	10,272	10,062	10,854		
235,806	256,676	228,368	219,925	281,884		
137,501	165,411	171,368	174,492	212,116		
112,853	131,345	133,457	132,194	167,658		
11	12	13	13	15		
\$14.218.272	\$23.552.057	\$19.831.576	\$19.425.664	\$24,393,679		
\$8,407,042	\$13,924,620	\$12,812,924	\$13,114,883	\$16,853,654		
\$6,890,710	\$10,986,496	\$9,978,377	\$9,935,750	\$12,868,020		
\$670	\$1,025	\$971	\$987	\$1,186		
	1991 14,063 10,745 10,277 235,806 137,501 112,853 11 \$14,218,272 \$8,407,042 \$6,890,710	1991 1996 14,063 13,975 10,745 11,288 10,277 10,722 235,806 256,676 137,501 165,411 112,853 131,345 11 12 \$14,218,272 \$23,552,057 \$8,407,042 \$13,924,620 \$6,890,710 \$10,986,496	1991 1996 2001 14,063 13,975 13,034 10,745 11,288 10,911 10,277 10,722 10,272 235,806 256,676 228,368 137,501 165,411 171,368 112,853 131,345 133,457 11 12 13 \$14,218,272 \$23,552,057 \$19,831,576 \$8,407,042 \$13,924,620 \$12,812,924 \$6,890,710 \$10,986,496 \$9,978,377	1991 1996 2001 2006 14,063 13,975 13,034 12,510 10,745 11,288 10,911 10,682 10,277 10,722 10,272 10,062 235,806 256,676 228,368 219,925 137,501 165,411 171,368 174,492 112,853 131,345 133,457 132,194 11 12 13 13 \$14,218,272 \$23,552,057 \$19,831,576 \$19,425,664 \$8,407,042 \$13,924,620 \$12,812,924 \$13,114,883 \$6,890,710 \$10,986,496 \$9,978,377 \$9,935,750		

Note: Estimates are in 2011 dollars.

Part Three – Bag Rate

Bag questions for selected species hunting were included in the 1991, 1996, 2006, and 2011 FHWAR Surveys. Deer hunters were asked if they had killed one or more deer. In 1991 and 1996 deer hunters were also asked if they got a buck.

In 1991, 47 percent of deer hunters (4.8 million hunters) killed at least one deer. Of those, 71 percent killed at least one buck (3.4 million). 5.5 million deer hunters did not kill a deer. These estimates apply to deer hunters hunting anywhere in the U.S.

In 1996, 44 percent of all deer hunters hunting in their State of residence killed one or more deer. The estimate itself is 3.9 million out of 8.9 million. Of those hunters, 72 percent killed a buck. The estimate itself is 2.8 million out of 3.9 million deer hunters. For hunters going to other States, 42 percent killed a deer (375,000 out of 885,000 hunters). Of those successful hunters, 79 percent killed a buck (297,000 out of 375,000 hunters).

In 2006, 47 percent of all deer hunters hunting in their resident State killed at least one deer. That was 3.8 million out of 8.3 million resident State deer hunters. As for deer hunters going to another State, 340 thousand out of 743 thousand (46 percent) got at least one deer.

(Numbers in thousands. Population 16 years old and older.)

	193	1991		
	Number	Percent		
All deer hunters	10.3	100		
Successful deer hunters	4.8	47		
Got a buck	3.4	33		
Unsuccessful deer hunters	5.5	53		

Note: "Successful" means killed one or more deer.

Table 16. Deer Hunter Bag Rate: 1996

(Numbers in thousands. Population 16 years old and older.)

(1 tumbers in thousands, 1 optimion 10 years old and older.)		
	1996	
	Number	Percent
All deer hunters	10.7	100
All deer hunters hunting in their state of residence	8.9	100
Successful deer hunters in state of residence	3.9	44
Got a buck	2.8	31
Unsuccessful deer hunters in their state of residence	5.0	56
All deer hunters hunting in nonresident states	0.9	100
Successful deer hunters in nonresident states	0.4	42
Got a buck	0.3	34
Unsuccessful deer hunters in nonresident states	0.5	58

Note: "Successful" means killed one or more deer.

Table 17. Deer Hunter Bag Rate: 2006

(Numbers in thousands, Population 16 years old and older.)

2006	
Number	Percent
10.1	100
8.3	100
3.8	47
(NA)	(NA)
4.5	53
0.7	100
0.3	46
(NA)	(NA)
0.4	54
	Number 10.1 8.3 3.8 (NA) 4.5 0.7 0.3 (NA)

Note: "Successful" means killed one or more deer.

(NA) Not Available.

In 2011, only 33 percent of deer hunters were successful in their State of residence. Just 26 percent were successful in nonresident States. This may explain why the average days afield for deer hunters increased from 13 to 15. The drop in successfully bagging a deer encouraged hunters to go more often.

Deer Hunters Resident State Success Rates

Throughout the U.S., deer hunters were successful bagging a deer just a third of the time in their resident State in 2011. Figure 5 provides a more detailed look at resident State deer hunters who bagged at least one deer. Just three States (Nebraska, Texas, and Virginia) had bag rates greater than 50%.

A number of States had a success rate above the national average, too. This included Arkansas, Iowa, Tennessee, South Carolina, North Dakota, Pennsylvania, Illinois, North Carolina, Kansas, South Dakota, and Mississippi. Both Louisiana and Missouri had bag rates equal to the national average of 33 percent.

States that had bag rates lower than the national average were Kentucky, Georgia, Michigan, Utah, New York, Alabama, West Virginia, Wisconsin, Minnesota, and Vermont. Residents of Alaska, Colorado, Idaho, Montana, Oregon, and Wyoming were not asked the deer bag rate question because they were asked about elk or moose. The remaining States did not have enough responses for a reliable estimate.

Table 18. Deer Hunter Bag Rate: 2011

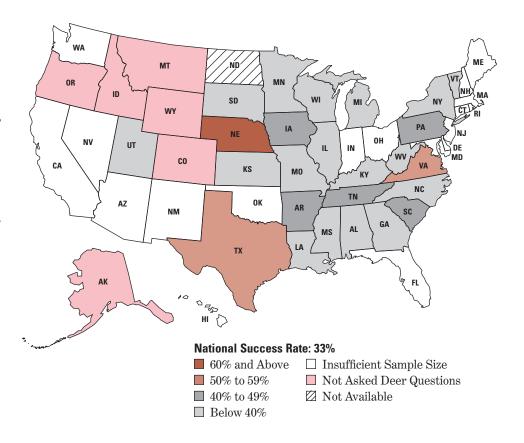
(Numbers in thousands. Population 16 years old and older.)

	2011	
	Number	Percent
All deer hunters	10.9	100
All deer hunters hunting in their state of residence	9.2	100
Successful deer hunters in state of residence	3.0	33
Got a buck	(NA)	(NA)
Unsuccessful deer hunters in their state of residence	6.1	66
All deer hunters hunting in nonresident states	0.8	100
Successful deer hunters in nonresident states	0.2	26
Got a buck	(NA)	(NA)
Unsuccessful deer hunters in nonresident states	0.6	74

Note: "Successful" means killed one or more deer.

(NA) Not Available.

Figure 5. State Resident Success Rates for Bagging a Deer: 2011



Average Days for Successful Hunters

The days afield is another key to how successful a hunt was. Does increased avidity lead to a successful hunt? On average, regardless of success, deer hunters spent 16 days in their resident State hunting for deer. New Hampshire deer hunters had the highest average with 27 days afield followed by Arkansas at 26 days afield and Pennsylvania and New Jersey with an average of 23 days.

Deer hunters who bagged a deer in 2011 spent an average of 21 days afield, a full 8 days more than those who did not harvest a deer, 13 days. As a rule successful deer hunters spent more time in the woods compared to hunters who did not successfully bag a deer. Hunters in Arkansas, Pennsylvania, and Georgia led the pack with the highest days afield at 42, 39, and 35, respectively.

These results may provide useful information for State agencies responsible for deer management and the deer hunting season. Hunters who spend more days afield will ultimately have more opportunities to bag a deer. More opportunities mean more chances of having a successful deer hunt. Some States require a one deer limit while others allow multiple deer to be taken. Unlike in 2006, when the States with the highest success rate had a bag limit of one deer, 2011 saw States with higher bag limits lead the way in success rate. State agencies that manage deer and hunters who take to the field in pursuit of their game know it is more than a take-limit that results in a successful hunt.

Table 19. State Resident Average Days for Deer Hunting, In State of Residence: 2011 (Population 16 years old and older.)

(Topulation To years old an	na olaer.)	A D	A D C
	Average Days	$Average\ Days$ for $Hunters\ Who$	Average Days for Hunters Who Did
	Deer Hunting	Bagged A Deer	Not Bag A Deer
United States, total	16	22	13
Alabama	15	*21	*14
Arizona			
Arkansas	26	*42	*11
California	*8		*8
Connecticut	*14		*11
Delaware	*19		*13
Florida	*17		*18
Georgia	21	*35	*14
Hawaii			
Illinois	14	*21	*10
Indiana	20	•••	20
Iowa	13	*20	*7
Kansas	15	*9	*21
Kentucky	18	*24	*14
Louisiana	16	*21	*13
Maine	12		12
Maryland	*11		*10
Massachusetts	*14		*11
Michigan	19	*21	*18
Minnesota	8	*10	7
Mississippi	16	*26	10
Missouri	17	15	19
Nebraska	8	*7	*11
Nevada	*9		*12
New Hampshire	*27		*18
New Jersey	23	•••	*13
New Mexico	*9		*12
New York	14	*15	14
North Carolina	17	*22	*13
North Dakota	(NA)	(NA)	(NA)
Ohio	12		*12
Oklahoma	*16	•••	*15
Pennsylvania	23	*39	13
Rhode Island	*14	•••	*12
South Carolina	19	*27	*14
South Dakota	8	*8	*8
Tennessee	22	*27	*19
Texas	13	*17	*11
Utah	8	*8	*8
Vermont	17	*20	15
Virginia	22	26	20
Washington	7		7
West Virginia	11	*15	9
Wisconsin	11	*15	8

Note: This table only includes states asked about deer hunting in their contingent valuation questions. Those excluded Colorado, Idaho, Montana, Oregon, Wyoming, and Alaska.

 $^{* \,} Estimate \, based \, on \, a \, sample \, size \, of \, 10\text{--}29.$

^{...} Sample size too small (less than 10) to report data reliably. (NA) Not available.

Conclusion

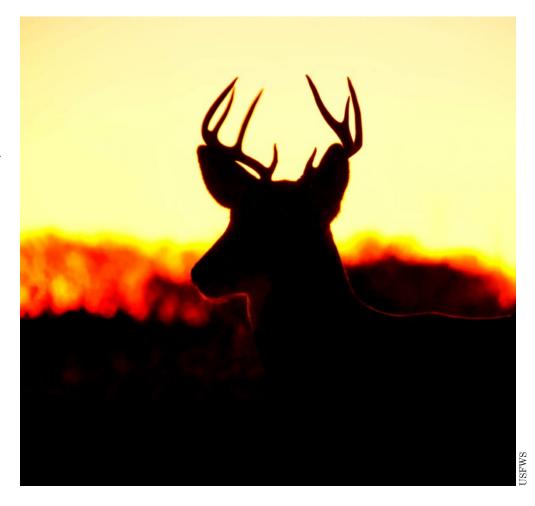
Of the 13.7 million hunters in 2011, 79 percent, or 10.9 million sought deer. These hunters also sought other game species. Most deer hunters, 95 percent, hunted deer in their resident State. Just over 1 million hunted deer in a nonresident State, while 546 thousand hunted deer in a nonresident State, only.

Deer hunters are most often White, Non-Hispanic males in their late forties to early fifties. A disproportionate amount of them live outside of a MSA. However, the majority of them do still hail from a place with a population 50,000 or greater. Deer hunters are more likely to be married than non-deer hunters. They are less educated than the general population, but that is not reflected in their annual household income, which is skewed slightly higher.

Deer hunters are slightly less likely to participate in wildlife-watching activities than non-deer hunters.

Days afield increased by 18 percent for the average deer hunter from 2006 to 2011. Average trip and equipment expenditures for deer hunting increased by 20 percent over that time. Therefore, the increase in the average trip and equipment expenditures can be mostly explained by the cost to go deer hunting.

It appears that the main motivation behind this increase in days afield may be due to the unusually low bag rate experienced by deer hunters compared to past Survey years. With the increase in overall deer hunters of 789 thousand from 2006 to 2011, there may have simply been less deer to go around per hunter. Many deer hunters continued to go, and those who went the most experienced the most success.



There is an equilibrium that perpetuates future participation. Not every deer hunter goes every year. And it is only natural that past experience would dictate the likelihood of a deer hunter picking up the rifle the next year. Many deer hunters just simply aren't willing to spend any more time than they already do afield. If they begin to experience less success, they may grow frustrated and lose interest. State wildlife agencies use this information to form policy on bag limits. There has been a resurgence in interest in hunting, and to consolidate this increase, State wildlife agencies need to be adaptive in how they manage their resource. Some of the increase is

no doubt due to more free time because of less than full employment, but the annual household income of deer hunters would seem to suggest that this is not the driving force.

Big Game hunting was not always the most popular type of hunting, but as use of social media has increased, so has the desire to hunt the biggest and most impressive species. With deer hunting leading the way, there may be more pressure to limit the most avid hunters to a smaller bag limit. This will increase the chance of other hunters to also experience success.

Appendix Tables



Appendix A. Trend in Number of Deer Hunters, by State of Activity: 1991–2011 (Numbers in thousands. Population 16 years old and older.)

	1991	1996	2001	2006	2011	2011:1991 Ratio	2011:200 Rati
United States, total	10,277	10,722	10,272	10,062	10,851	1.1	1.
Alabama	249	269	379	334	435	1.7	1.
Alaska	9	15	19	17	*25	*2.8	*1.
Arizona	90	74	63	76	•••	•••	
Arkansas	243	296	314	277	308	1.3	1
California	186	239	85	107	133	0.7	1
Colorado	208	243	99	66	*79	*0.4	*1
Connecticut	30	42	27	21	*30	*1.0	*1
Delaware	16	28	11	24	*18	*1.1	*0
Florida	180	130	156	168	147	0.8	0
Georgia	323	322	332	405	323	1.0	0
Hawaii	5	11	7	9			
Idaho	149	183	125	119	*139	*0.9	*1
Illinois	248	256	238	204	334	1.3	1
Indiana	204	262	215	231	266	1.3	1
Iowa	149	187	133	165	176	1.2	1
Kansas	63	100	140	118	139	2.2	1
Kentucky	205	271	231	238	301	1.5	1
Louisiana	199	228	207	202	212	1.1	1
Maine	154	169	145	160	132	0.9	0
Maryland	97	109	126	125	*73	*0.8	*0
Massachusetts	82	76	56	57	*41	*0.5	*0
			667				
Michigan	742	839		713	488	0.7	0
Minnesota	335	473	475	415	384	1.1	0
Mississippi	295	345	288	276	469	1.6	1
Missouri	364	416	373	492	449	1.2	0
Montana	178	135	154	162	102	0.6	0
Nebraska	63	74	78	63	78	1.2	1
Nevada	27	28	25	26	*22	*0.8	*0
New Hampshire	60	65	67	52	39	0.7	0
New Jersey	101	75	111	67	84	0.8	1
New Mexico	62	56	75	31	*34	*0.5	*1
New York	651	576	651	506	752	1.2	1
North Carolina	280	259	207	215	268	1.0	1
North Dakota	57	58	74	74	(NA)	(NA)	(NA
Ohio	386	312	417	426	483	1.3	1
Oklahoma	125	224	199	181	*134	*1.1	*0
Oregon	195	221	183	164	174	0.9	1
Pennsylvania	937	810	932	978	714	0.8	0
Rhode Island	15	20	6	11	*9	*0.6	*0
South Carolina	177	228	207	161	196	1.1	1
South Dakota	66	68	68	57	115	1.7	2
Гennessee	220	266	228	242	332	1.5	1
Texas	722	752	860	814	930	1.3	1
Utah	147	109	139	102	122	0.8	1
Vermont	90	89	92	63	83	0.9	1
Virginia	309	326	313	345	399	1.3	1
Washington	177	214	156	150	176	1.0	1
West Virginia	294	343	259	244	190	0.6	0
Wisconsin	665	552	596	620	785	1.2	1
Wyoming	88	62	66	55	82	0.9	1
11 y offining	00	02	00	00	02	0.0	1

^{*} Estimate based on a sample size of 10–29. ... Sample size too small (less than 10) to report data reliably. (NA) Not Available.

Appendix B. Trend in Number of Deer Hunters, by State of Residence: 1991–2011 (Numbers in thousands. Population 16 years old and older.)

	$Number\ of\ participants$					$Participation\ Rates$				
	1991	1996	2001	2006	2011	1991	1996	2001	2006	2011
United States, total	10,277	10,722	10,272	10,062	10,851	5	5	5	4	5
Alabama	219	212	293	284	405	7	6	9	8	11
Alaska	9	17	18	20	*16	2	4	4	4	*3
Arizona	94	72	65	70	*65	3	2	2	2	*1
Arkansas	217	268	278	268	286	12	14	14	12	13
California	235	298	93	131	156	1	1	(Z)	(Z)	1
Colorado	108	144	72	41	*80	4	5	$\frac{1}{2}$	1	*2
Connecticut	36	51	34	29	*32	1	2	1	1	*1
Delaware	17	27	12	17	*16	3	5	2	3	*2
Florida	265	161	242	252	228	3	1	2	2	2
Georgia	259	299	307	305	278	5	5	5	4	4
Hawaii	7	11	8	9	*8	1	1	1	1	*1
Idaho	132	152	108	92	*90	18	17	11	8	*8
Illinois	277	286	252	176	337	3	3	3	2	3
Indiana	200	263	200	208	269	5	6	4	4	5
Iowa	141	178	131	164	175	7	8	6	7	7
Kansas	67	97	111	88	133	4	5	6	4	6
Kentucky	184	255	201	215	274	7	8	6	7	8
Louisiana	213	254	214	211	233	7	8	6	6	7
Maine	117	135	115	138	124	12	14	11	13	12
	114	155 97	106	127	*78	3	2	3	3	*2
Maryland										*1
Massachusetts	97	82	68	59	*53	2	2	1	1	
Michigan	713	800	640	696	479	10	11	8	9	6
Minnesota	332	463	467	410	382	10	13	13	10	9
Mississippi	248	257	221	234	423	13	13	10	11	19
Missouri	352	406	339	453	388	9	10	8	10	8
Montana	134	117	132	125	79	22	17	19	17	10
Nebraska	61	75	73	61	76	5	6	6	4	5
Nevada	32	29	24	26	*28	4	2	2	1	*1
New Hampshire	57	54	46	45	35	7	6	5	4	3
New Jersey	106	78	112	61	99	2	1	2	1	1
New Mexico	58	56	62	26	*38	5	4	5	2	*2
New York	613	552	578	464	712	4	4	4	3	5
North Carolina	289	258	221	226	242	6	5	4	3	3
North Dakota	60	61	77	72	(NA)	13	13	16	14	(NA)
Ohio	379	296	417	404	458	5	3	5	5	5
Oklahoma	127	218	192	180	*119	5	9	7	7	*4
Oregon	190	215	177	159	172	9	9	7	6	6
Pennsylvania	836	703	825	892	650	9	8	9	9	6
Rhode Island	13	16	8	11	*8	2	2	1	1	*1
South Carolina	139	200	191	135	195	5	7	6	4	5
South Dakota	60	56	51	54	105	11	10	9	9	17
Tennessee	214	236	201	223	257	6	6	5	5	5
Texas	713	703	857	774	893	6	5	6	5	5
Utah	137	90	128	95	98	12	6	8	5	5
Vermont	65	65	70	54	64	15	14	15	11	13
Virginia	293	324	270	310	322	6	6	5	5	5
Washington	180	210	169	156	180	5	5	4	3	3
West Virginia	237	236	208	186	207	17	16	14	13	14
Wisconsin	599	527	547	594	725	16	14	13	14	16
Wyoming	49	44	40	31	44	14	12	11	8	10
* 7 1 1	1	20								

^{*} Estimate based on a sample size of 10–29.

⁽Z) Less than 0.5 percent.

⁽NA) Not Available.

U.S. Department of the Interior U.S. Fish & Wildlife Service





June 2016