1991

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

Issued March 1993

U.S. Department of the Interior
Bruce Babbitt, Secretary

FISH AND WILDLIFE SERVICE
John F. Turner, Director

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Division of Federal Aid

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure their development in the best interests of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

The mission of the Department's Fish and Wildlife Service is to conserve, protect, and enhance fish and wildlife and their habitats for the continuing benefit of the American people. The Service is responsible for national programs of vital importance to our natural resources, including administration of the Federal Aid in Sport Fish Restoration and the Federal Aid of Wildlife Restoration Programs. These two grant programs provide financial assistance to the States for projects to enhance and protect fish and wildlife resources and to assure their availability to the public for recreational purposes. Funds from the administrative portion of these programs are used to pay for the National Survey of Fishing, Hunting, and Wildlife–Associated Recreation.

Economics and Statistics Administration
Jeffrey Mayer, Acting Under Secretary for Economic Affairs

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SUGGESTED CITATION

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1991 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation.
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Foreword

In 1991, more than half of the people in the United States 16 years old and older enjoyed some type of wildlife-related recreation. Whether they were fishing, hunting, or engaging in some other outdoor activity, millions of Americans enjoyed our country's fish and wildlife. In order to continue providing such opportunities, careful planning based on detailed information on resource use is necessary. The National Survey of Fishing, Hunting, and Wildlife-Associated Re-creation is a unique source of such information. The Survey is an important tool not only for natural resource managers who use it to track trends in fish and wildlife-related recreation for future planning, but for everyone who cares about outdoor recreation.

The 1991 Survey was requested by the States through the International Association of Fish and Wildlife Agencies. It is the eighth in a series of surveys conducted for the U.S. Fish and Wildlife Service since 1955. The Survey is financed by hunters, anglers, and boaters through excise taxes on sporting arms, ammunition, fishing equipment, and motorboat fuels as authorized under the Federal Aid in Sport Fish and Wildlife Restoration Acts.

The Survey reports resource use by anglers, hunters, and those who enjoyed nonconsumptive activities such as observing, feeding, and photographing wildlife. It also shows wildlife-related recreation to be a boom to our economy. The $59 million Americans spent to enjoy wildlife supported hundreds of thousands of jobs.

Our American heritage is enriched by visions of bald eagles soaring gracefully, a flock of geese gliding into a placid lake and a 10-point buck bounding across a golden meadow in the fall. These and other beautiful wild creatures have the power to captivate us, to transcend the mundane in life, and fill us with awe. The value we place on such things is well documented in this Survey. Let us use this information wisely in the stewardship of our land and its wildlife.

John F. Turner, Director
Fish and Wildlife Service
U.S. Department of the Interior

Highlights

Introduction

The National Survey of Fishing, Hunting, and Wildlife-Associated Recreation reports results from interviews with U.S. residents about their fishing, hunting, and other fish and wildlife-related recreation. This report focuses on 1991 participation and expenditures of U.S. residents 16 years of age and older.

The numbers reported should not be directly compared with those in previous survey reports because of changes in survey methodology in 1991. These changes were made to improve accuracy in the information provided. An explanation of the changes and trends information are provided in appendix B.

The report also provides information on participation in wildlife-related recreation, particularly of persons 6 to 15 years of age, in 1990. The 1990 information is provided in appendix C. Additional information about the scope and coverage of the Survey can be found in the Survey Background and Method section of this report. The remainder of this section defines important terms used in the Survey.

Wildlife-Associated Recreation

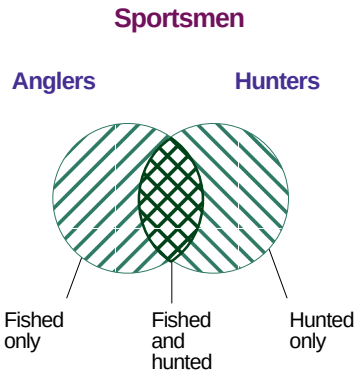
Wildlife-associated recreation includes fishing, hunting, and primary nonconsumptive wildlife activities. These categories are not mutually exclusive because many individuals enjoyed fish and wildlife in several ways in 1991. Wildlife-associated recreation is re-ported in two major categories: (1) fishing and hunting, and (2) primary nonconsumptive uses of wildlife resources such as observing, feeding, and photo-graphing wildlife.

Fishing and Hunting

This Survey reports information about residents of the United States who fished or hunted in 1991, regardless of whether they were licensed. The fishing and hunting sections of this report are organized to report three groups: (1) sportsmen, (2) anglers, and (3) hunters.

Sportsmen

Sportsmen are persons who fish or hunt. Individuals who fished or hunted commercially in 1991 are reported as sportsmen only if they fished or hunted for recreation. The sportsmen group is composed of the three subgroups in the diagram below: (1) those who fish and hunt, (2) those who only fish, and (3) those who only hunt. The total number of sportsmen is not equal to the sum of anglers and hunters because those people who both fish and hunt are not counted twice.



Anglers

Anglers are sportsmen who only fish plus those who fish and hunt. The angler group includes not only licensed hook and line anglers, but also those who have no license and those who use special methods such as spears for fishing. Three types of fishing are reported: (1) freshwater, excluding the Great Lakes, (2) Great Lakes, and (3) saltwater. Since many anglers enjoy more than one type of fishing, the total number of anglers is less than the sum of the three types of fishing.

Hunters

Hunters are sportsmen who only hunt plus those who hunt and fish. The hunter group includes not only licensed hunters using common hunting practices, but also those who have no license and those who engage in hunting with a bow and arrow, muzzleloader, other primitive firearm, or a pistol or handgun. Four types of hunting are reported: (1) big game, (2) small game, (3) migratory bird, and (4) other animals. Since many hunters enjoy more than one type of hunting, the sum of hunters for big game, small game, migratory bird, and other animals exceeds the total number of hunters.

Primary Nonconsumptive Wildlife Activities

Since 1980, the National Survey of Fishing, Hunting and Wildlife-Associated Recreation has included information on nonconsumptive activities in addition to fishing and hunting. However, the 1991 Survey, unlike the 1980 and 1985 Surveys, reports data only for primary nonconsumptive activities.

Secondary nonconsumptive activities, such as incidentally observing wildlife while pleasure driving, are not included.

Many people, including sportsmen, enjoy wildlife-associated recreation other than fishing or hunting. These nonharvesting activities, such as observing, feeding, or photographing fish and other wildlife, are called nonconsumptive wildlife activities. Two types of nonconsumptive activity are reported: (1) nonresidential and (2) residential. Because some people participate in more than one type of nonconsumptive wildlife activity, the sum of participants in each type will be greater than the total number of nonconsumptive participants. Only thoseengaged in activities whose primary purpose was nonconsumptive are included in the Survey. The two types of nonconsumptive wildlife activities are defined below.

Primary Nonresidential

This group includes persons who take trips or outings of at least 1 mile for the primary purpose of observing, feeding, or photographing fish and wildlife. Trips to fish or hunt or scout and trips to zoos, circuses, aquariums, and museums are not considered nonconsumptive wildlife activities.

Primary Residential

This group includes those whose activities are within 1 mile of home and involve one or more of the following: (1) closely observing or trying to identify birds or other wildlife, (2) photographing wildlife, (3) feeding birds or other wildlife on a regular basis, (4) maintaining natural areas of at least one-quarter acre for which benefit to wildlife is the primary purpose, (5) maintaining plantings (shrubs, agricultural crops, etc.) for which benefit to wildlife is the primary concern, or (6) visiting public parks within 1 mile of home for the primary purpose of observing, feeding, or photographing wildlife.

Summary

The Survey revealed that 108.7 million U.S. residents 16 years old and older participated in some form of wildlife- related recreation activity in 1991. During that year, 35.6 million people in the United States fished, 14.1 million hunted, and 76.1 million enjoyed at least one type of nonconsumptive recreation activity for which enjoying wildlife was the primary purpose.

The information for participation and expenditures of persons 16 years old and older is based on estimates from the detailed phase of the 1991 Survey. This information is not comparable with estimates from previous Surveys because of changes in survey methodology in 1991. A complete explanation is provided in appendix B along with a trends analysis that takes these differences into account.

Persons 6 to 15 years old were not included in the second phase (detailed) interviews of 1991 participants. However, an estimate of their participation was calculated using data from the 1985 and 1991 screening surveys. Both screening sources had nearly identical proportions of 6 to 15 year-old participants to total participants (.09 for hunting; .21 for fishing; and .16 for nonconsumptive activity). Based on these percentages, there were 1.4 million hunters, 9.5 million anglers, and 14.5 million nonconsumptive participants 6 to 15 years old in 1991. More information on 6 to 15 year olds is provided in appendix C. For the rest of this report all 1991 information pertains to participants 16 years old and older unless otherwise indicated.

Among anglers, hunters, and nonconsumptive participants there was a considerable overlap in activities. In 1991, 69 percent of the hunters also fished, and 27 percent of the anglers also hunted. In addition, 50 percent of the anglers and 57 percent of the hunters also participated in primary nonconsump- tive activities, while 26 percent of all primary nonconsumptive participants reported hunting and/or fishing during the year.

Total Wildlife-Associated Recreation

Participants	108.7 million
Expenditures	$59 billion

Sportsmen

Total participants	40.0 million
Anglers	35.6 million
Hunters	14.1 million
Total days	747 million
Anglers	511 million
Hunters	236 million
Total expenditures	$41 billion
Anglers	$24 billion
Hunters	$12 billion
Unspecified	$ 5 billion

Detail does not add to total because of multiple responses.

Nonconsumptive

Total participants	76.1 million
Residential	73.9 million
Nonresidential	30.0 million
Total expenditures	$18.1 billion

Detail does not add to total because of multiple responses.

Expenditures associated with wildlife-related recreation totaled $59.0 billion in 1991. Trip-related costs totaled $22.8 billion, while $28.5 billion was spent on equipment, and $7.8 billion was spent on other items.

Anglers spent a total of $24.0 billion, hunters $12.3 billion, and primary nonconsumptive participants $18.1 billion.

Trends

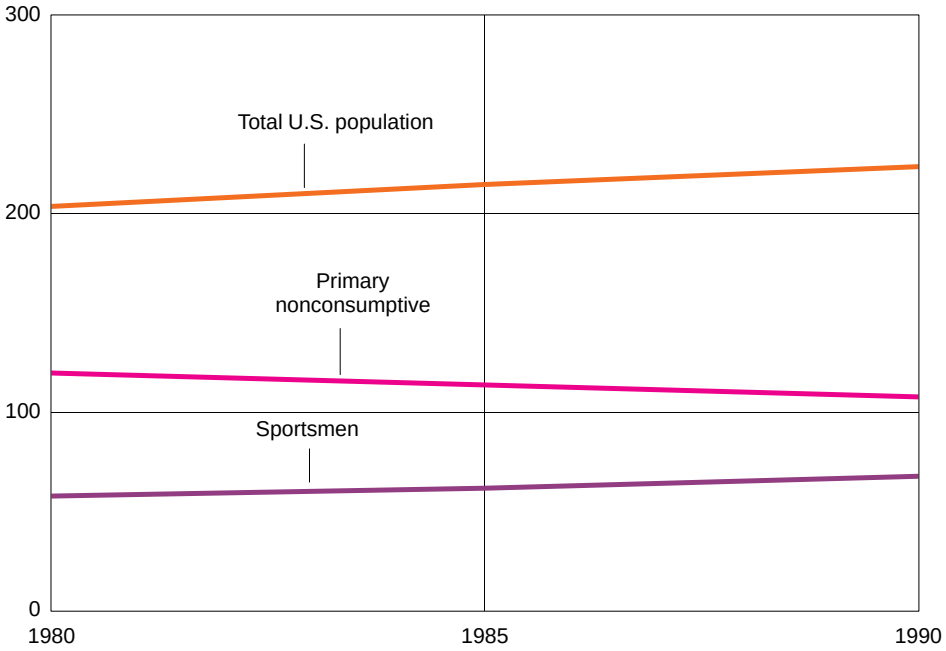
Wildlife-related recreation continues to be popular among millions of Americans. Trend information from the screening phases of the 1991 and 1985 Surveys show an increase of 11 percent in the number of anglers 6 years old and older from 1985 to 1990. Fishing expenditures increased by 27 percent. The number of hunters 6 years of age and older showed an increase of 3 percent, and the expenditures for hunting increased by 7 percent.

The number of nonconsumptive recreationists 6 years old and older who took trips away from home for the primary purpose of observing, feeding, or photographing wildlife increased by 10 percent from 1985 to 1990. Those who enjoyed these activities around their homes decreased by 6 percent.

This trend information is based on estimates from the screening phases of the Surveys and not on estimates from the detailed phases of the Surveys. As explained in appendix B, the estimates from the detailed phases are not directly comparable.

Trends in Wildlife-Associated Recreation: 1980-1990

(In millions)



Note: U.S. Population 6 years old and older
Estimates from screening phases of Surveys

Source: Appendix B

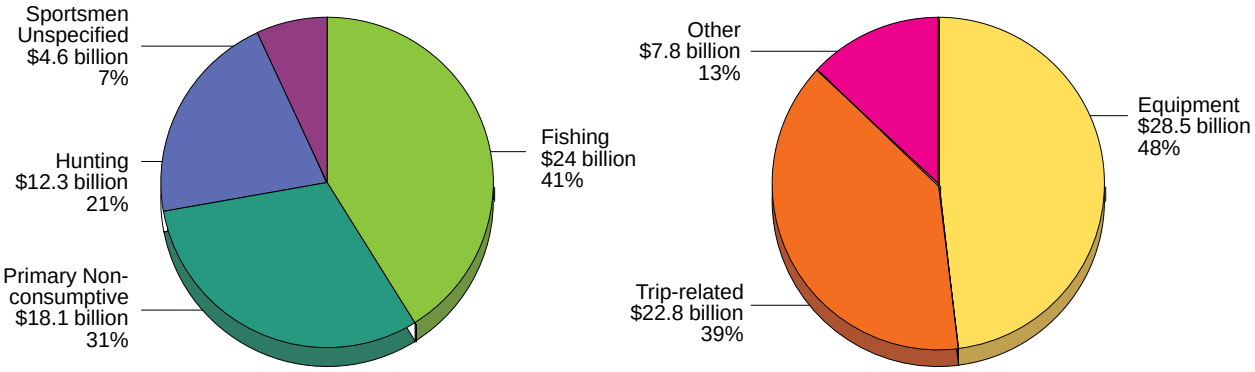
Fishing And Hunting

In 1991, 40 million U.S. residents 16 years old and older went fishing and/or hunting. More specifically, 35.6 million fished and 14.1 million hunted. The overage is accounted for by those who both fished and hunted, 9.7 million.

In 1991, expenditures by sportsmen totaled $40.9 billion. Trip-related expendi-tures, including those for food and lodging and transportation, were $15.3 billion, 37 percent of all fishing and hunting expenditures. Total equipment expenditures amounted to $18.9 billion, 46 percent of the total. Other expenditures such as those for magazines, membership dues, contributions, land leasing and ownership, and licenses, stamps, tags, and permits accounted for $6.7 billion, or 16 percent of all sportsmen's expenditures.

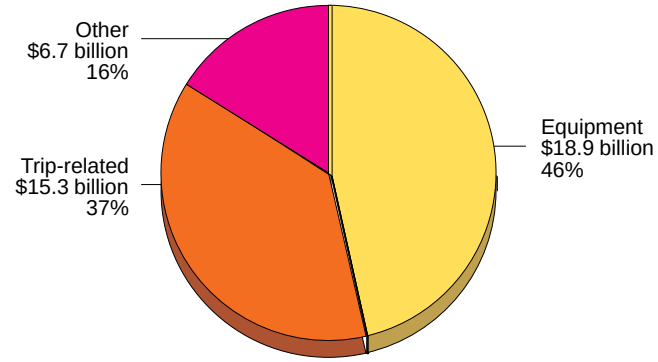
Expenditures for Wildlife–Related Recreation

(Total expenditures: $59 billion)



Expenditures by Sportsmen

(Total expenditures: $40.9 billion)



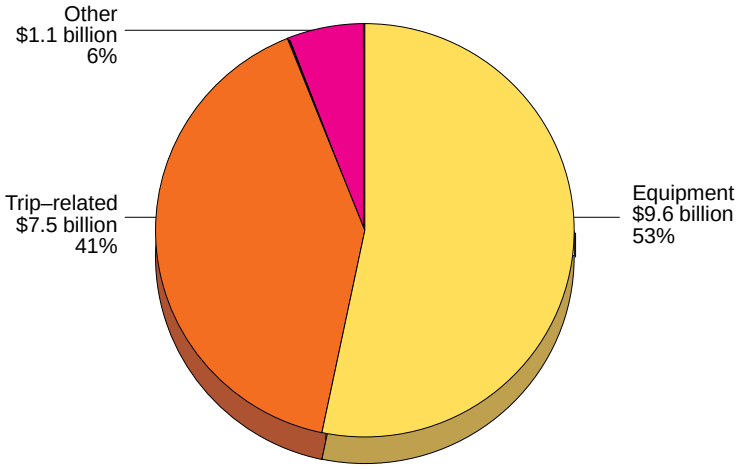
Nonconsumptive Wildlife-Associated Recreation

Observing, feeding, or photographing wildlife was enjoyed by 76.1 million people 16 years old and older in 1991. Among this group, 30 million people took trips for the primary purpose of enjoying wildlife while 73.9 million stayed within a mile of their homes to participate in primary nonconsumptive activities.

In 1991, nonconsumptive participants spent $18.1 billion. Trip-related expenses, including those for food, lodging, and transportation, totaled $7.5 billion, 41 percent of the total expenditures. A total of $9.6 billion was spent on equipment, 53 percent of all nonconsumptive expenses. The remaining $1.1 billion, or 6 percent of the total, was spent on magazines, membership dues, and contributions to conservation or wildlife-related organizations.

Expenditures for Primary Nonconsumptive Participants

(Total expenditures: $18.1 billion)



Fishing Highlights

In 1991, 35.6 million U.S. residents 16 years old and older enjoyed a variety of fishing opportunities throughout the United States. Anglers fished 511 million days and took 454 million fishing trips. They spent $24 billion on fishing-related expenses during the year. Among the 31 million freshwater anglers, including those who fished the Great Lakes, 440 million days were spent and 390 million trips were taken freshwater fishing. Freshwater anglers spent $15.1 billion on freshwater fishing trips and equipment expenditures.

Saltwater fishing attracted 8.9 million anglers who enjoyed 64 million trips on 75 million days. They spent almost $5 billion on their trip and equipment costs.

Total Fishing

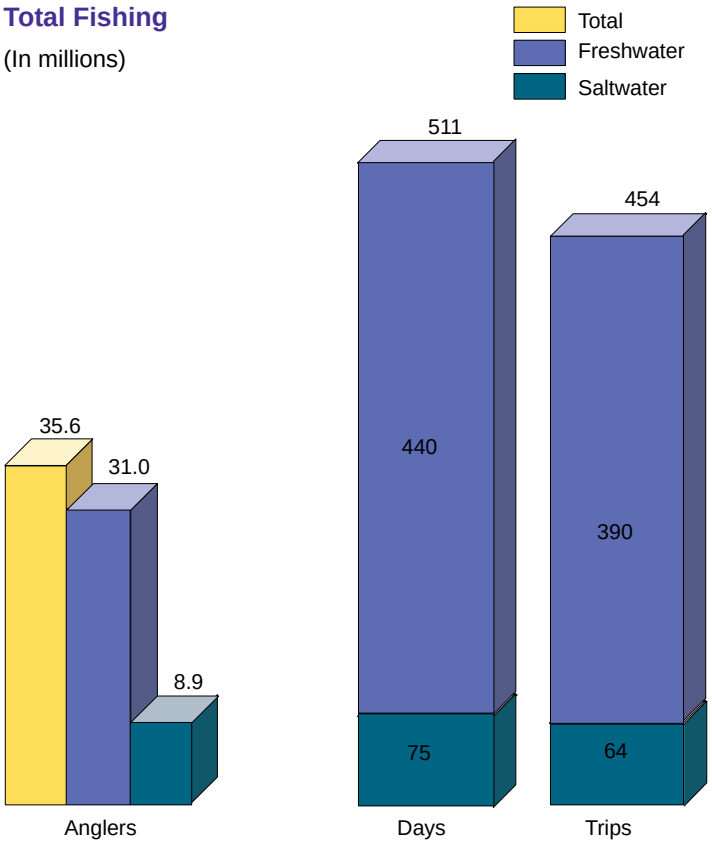
Anglers	**35.6 million**
Freshwater	31.0 million
Saltwater	8.9 million
Days	**511 million**
Freshwater	440 million
Saltwater	75 million
Trips	**454 million**
Freshwater	390 million
Saltwater	64 million
Expenditures	**$24 billion**
Freshwater	15.1 billion
Saltwater	5.0 billion
Unspecified	3.9 billion

Detail does not add to total because of multiple responses.

Source: Tables 1, 17, and 20

Total Fishing

(In millions)



Scale enlarged to show detail of data.

Detail does not add to total because of multiple responses.

Fishing Expenditures

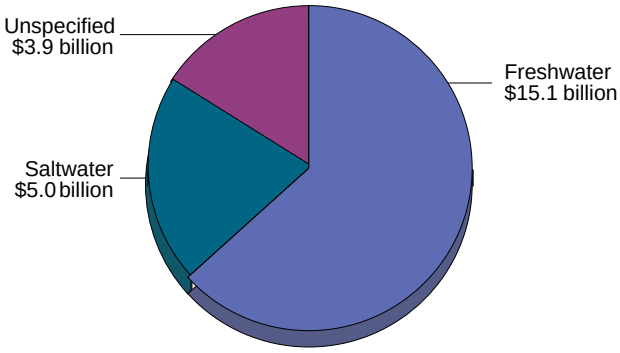
Anglers spent $24 billion in 1991 including $11.8 billion spent on travel-related costs, 49 percent of all fishing expenditures. Five billion dollars, 42 percent of all trip-related costs, were spent on food and lodging, and $2.8 billion, 24 percent of trip-related expenditures, were spent on transportation. Other trip costs such as land use fees, guide fees, equipment rental, boating expenses, and bait cost anglers $4.1 billion, 35 percent of all trip expenses.

Fishing equipment expenditures totaled $9.4 billion in 1991, 39 percent of all fishing expenditures. Anglers spent $3.7 billion on fishing equipment such as rods, reels, tackle boxes, depth finders, and artificial lures and flies. This amounted to 40 percent of all equipment expenditures. Auxiliary equipment, such as camping equipment, binoculars, and special fishing clothing, amounted to $619 million, 7 percent of equipment costs. Special equipment such as boats, vans, and trail bikes cost anglers $5 billion, 53 percent of all equipment costs.

Anglers also spent a considerable amount on land leasing and ownership, $2.1 billion or 9 percent of all expenditures. They spent $649 million on magazines, membership dues, contributions, licenses, stamps, tags, and permits.

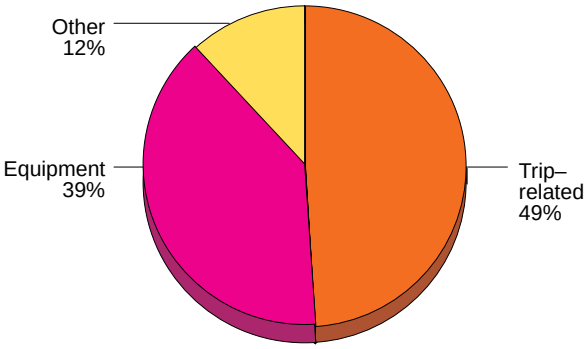
Expenditures

(Total expenditures $24 billion)



Percent of Total Fishing Expenditures

(Total expenditures $24 billion)



Total Fishing Expenditures

Total fishing expenditures	**$24.0 billion**
Total trip-related	**$11.8 billion**
Food and lodging	5.0 billion
Transportation	2.8 billion
Other trip costs	4.1 billion
Total equipment expenditures	**$9.4 billion**
Fishing equipment	3.7 billion
Auxiliary equipment	0.6 billion
Special equipment	5.0 billion
Total other fishing expenditures	**$2.8 billion**
Magazines	0.1 billion
Membership dues and contributions	0.1 billion
Land leasing and ownership	2.1 billion
Licenses, stamps, tags, and permits	0.5 billion

Source: Table 16

Freshwater Fishing Highlights

Freshwater fishing was the most popular type of fishing. In 1991, 31 million anglers fished 440 million days and took 390 million trips. Their expenditures for trips and equipment totaled $15.1 billion for the year. Excluding those who fished the Great Lakes, freshwater anglers numbered 30.2 million, 85 percent of all anglers. Freshwater anglers who did not fish the Great Lakes took 369 million trips on 431 million days and spent $13.8 billion on trips and equipment for an average of $458 per angler.

The 2.6 million anglers who fished the Great Lakes enjoyed 25 million days and 20 million trips fishing. Their trip and equipment expenditures, $1.3 billion, were 9 percent of the total freshwater trip and equipment expenditures. Great Lakes anglers averaged $524 for the year.

Freshwater Fishing Expenditures

Trip and equipment expenditures for freshwater fishing (excluding the Great Lakes) totaled $13.8 billion in 1991. Total trip-related expenditures came to $7.9 billion. Food and lodging amounted to $3.5 billion, 45 percent of all trip-related costs. Transportation costs were $2.1 billion, 27 percent of all freshwater trip costs. Other trip-related expenses for anglers fishing freshwater other than the Great Lakes included guide fees, equipment rental, and bait at a cost of $2.3 billion.

Almost $6 billion was spent on equipment for freshwater fishing, excluding the Great Lakes. Non-Great Lakes freshwater anglers purchased $2.3 billion of fishing equipment such as rods and reels, tackle boxes, depth finders, and artificial lures and flies. Expenditures for auxiliary equipment including camping equipment and binoculars totaled $452

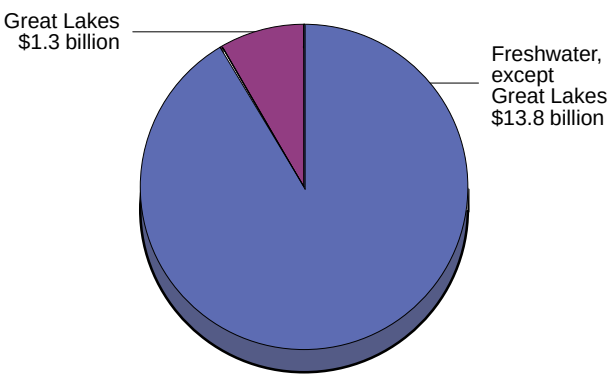
Freshwater Fishing

Anglers	**31**	**million**
Freshwater, except Great Lakes	30.2	million
Great Lakes	2.6	million
Days	**440**	**million**
Freshwater, except Great Lakes	431	million
Great Lakes	25	million
Trips	**390**	**million**
Freshwater, except Great Lakes	369	million
Great Lakes	20	million
Trip and equipment expenditures	**$15.1**	**billion**
Freshwater, except Great Lakes	13.8	billion
Great Lakes	1.3	billion

Detail does not add to total because of multiple responses.

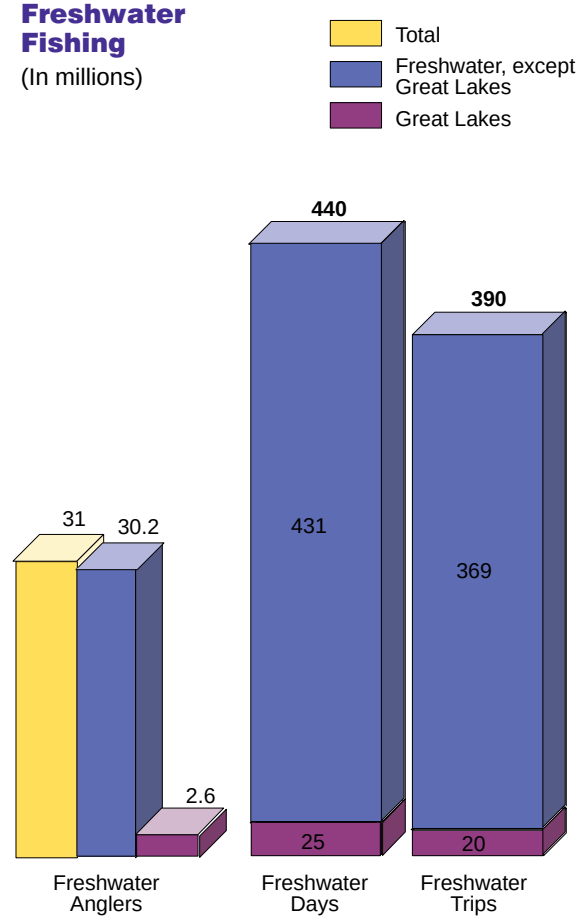
Source: Tables 1, 17, 18, and 19

Freshwater Trip and Equipment Expenditures



Freshwater Fishing

(In millions)



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million for the year. Expenditures for special equipment, such as boats, vans, and trail bikes accounted for $3.2 billion.

Great Lakes anglers spent $1.3 billion on trips and equipment in 1991. Trip-related expenses totaled $870 million. Of these expenditures, almost $331 million was spent on food and lodging, 38 percent of trip costs; $173 million was spent on transportation, 20 percent of trip costs; and $366 million was spent on other items such as guide fees, equipment rental, and bait, 42 percent of trip costs.

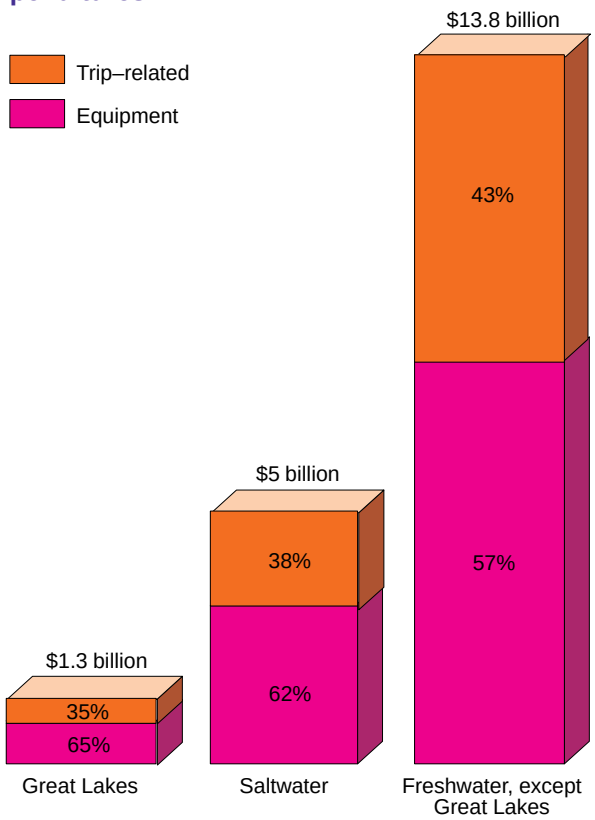
Great Lakes anglers spent $467 million on equipment. They bought $190 million worth of fishing equipment (rods and reels, etc.). They spent $29 million on auxiliary equipment (camping equipment, binoculars, etc.) and $247 million on the purchase of special equipment (boats, vans, etc.).

Saltwater Fishing Highlights and Expenditures

In 1991, 8.9 million anglers enjoyed saltwater fishing on 64 million trips totaling 75 million days. Overall, they spent almost $5 billion during the year on trips and equipment. Of their expenditures, trip-related costs garnered the largest portion, $3.1 billion. Food and lodging cost $1.1 billion, 35 percent of trip expenditures, transportation costs totaled $526 million, or 17 percent of trip costs; and other trip costs such as equipment rental, bait, and guide fees were $1.5 billion.

Saltwater anglers spent $1.9 billion on equipment. They spent $749 million on fishing equipment (rods and reels, etc.), $69 million on auxiliary equipment (camping equipment, binoculars, etc.), and $1.1 billion on special equipment (boats, vans, etc.).

Trip and Equipment Expenditures



Saltwater Fishing

Anglers	8.9 million
Days	75 million
Trips	64 million
Trip and equipment expenditures	$5 billion

Source: Tables 1 and 20

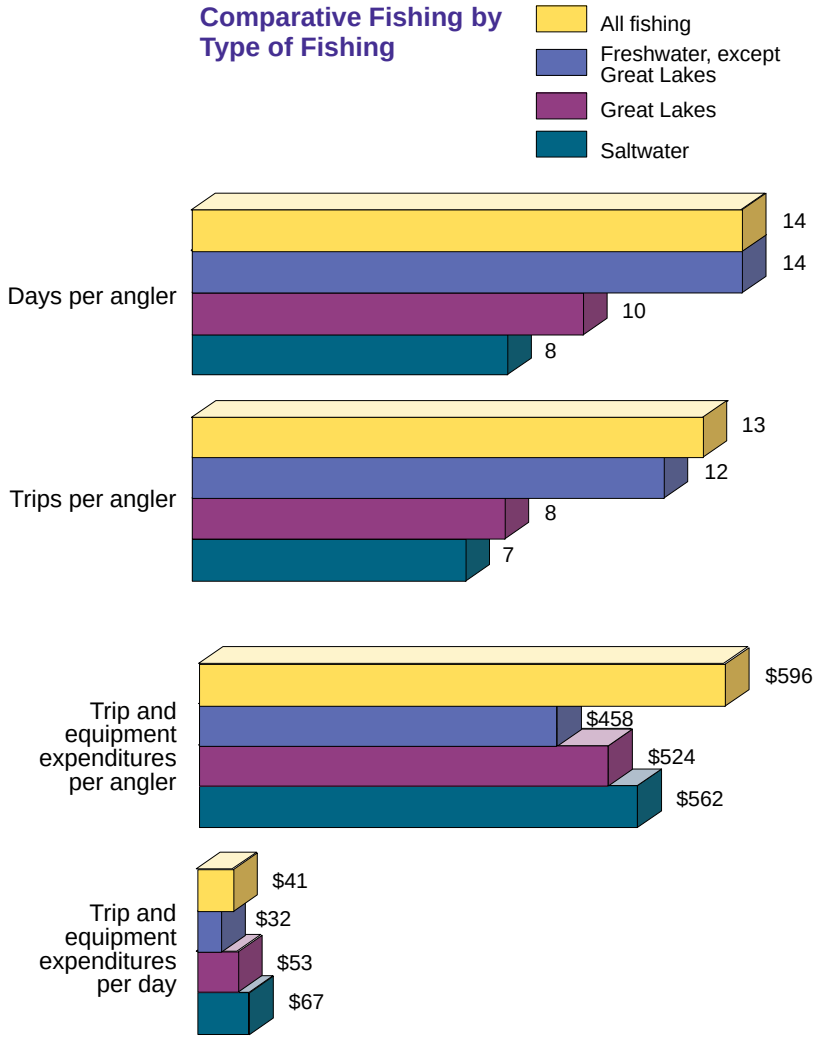
Comparative Fishing Highlights

In 1991, anglers spent an average of 14 days fishing and took an average of 13 fishing trips. Freshwater, non-Great Lakes anglers averaged 14 days fishing and 12 trips. While Great Lakes anglers averaged 10 days fishing and 8 trips, their saltwater counterparts fished an average of 8 days and took an average of 7 trips.

Overall, anglers spent an average of $674 on fishing-related expenses in 1991 at $47 per day. They averaged $596 per angler on trip and equipment costs, a daily average of $41.

Freshwater anglers, excluding the Great Lakes, averaged $458 per participant in 1991 for trips and equipment. Great Lakes anglers spent an average of $524 per angler, and saltwater anglers averaged $562 per angler for the year on their trip and equipment costs. Non-Great Lakes freshwater anglers averaged $32 per day of fishing. Great Lakes anglers' daily average was $53. And saltwater anglers spent an average of $67 for each day of saltwater fishing.

Comparative Fishing by Type of Fishing



Fishing for Selected Fish

Of the 30.2 million anglers who fished freshwater sources other than the Great Lakes, 12.9 million spent 158 million days fishing for black bass. Panfish were sought by 10.1 million anglers on 102 million days. Catfish and bullheads drew 9.2 million anglers on 96 million days. Over 8.3 million anglers fished for crappie on 91 million days. Trout fishing attracted 9.1 million anglers on 81 million days in 1991, and 6.4 million anglers fished for white bass on 63 million days.

Freshwater anglers also commonly fished for walleye, sauger, northern pike, pickerel, salmon, steelhead, and muskie.

In 1991, 2.6 million anglers fished the Great Lakes. Walleye and sauger attracted 1 million anglers on 9 million days. Perch were fished for on 8 million days by 983 thousand Great Lakes anglers. Salmon drew 721 thousand anglers for 5 million days of fishing. Black bass, lake trout, and steelhead attracted 526, 482, and 289 thousand anglers respectively.

Among the 8.9 million saltwater anglers, 2.3 million fished for flatfish, including flounder and halibut, on 16 million days. Bluefish were a favorite of 1.9 million anglers on 12 million days. Seatrout were sought by 1.3 million anglers on 13 million days and 881 thousand anglers fished for mackerel on 5 million days. Five million days were spent fishing for salmon by 783 thousand anglers and 683 thousand anglers fished for lingcod on 3 million days in 1991.

Selected Fish by Type of Fishing

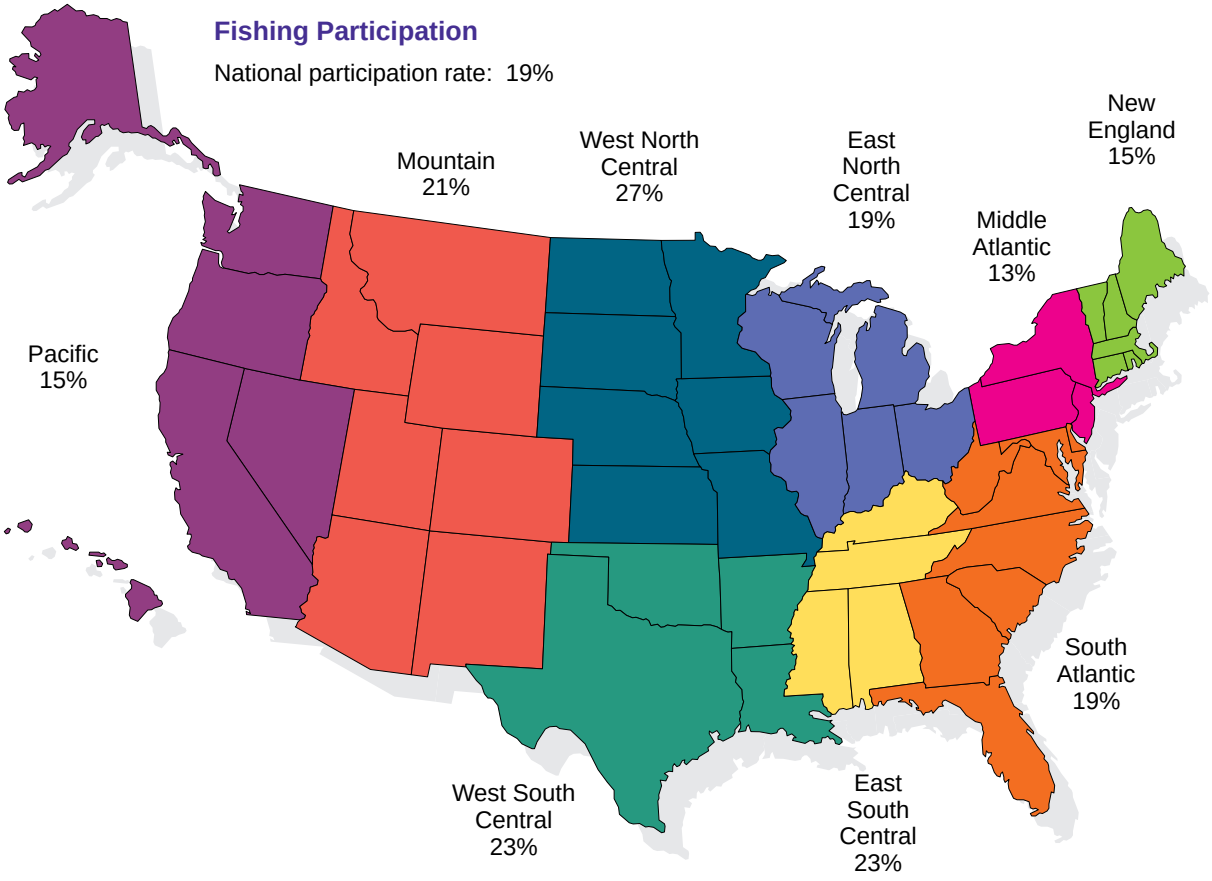
(In millions)

Type of fishing	Anglers	Days
Freshwater, except Great Lakes		
Black bass	12.9	158
Panfish	10.1	102
Catfish/bullhead	9.2	96
Crappie	8.3	91
Trout	9.1	81
White bass	6.4	63
Great Lakes		
Walleye/sauger	1.00	9
Perch	0.98	8
Salmon	0.72	5
Black bass	0.53	4
Lake trout	0.48	3
Steelhead	0.29	2
Saltwater		
Flatfish (flounder, halibut)	2.30	16
Bluefish	1.90	12
Seatrout	1.30	13
Mackerel	0.88	5
Salmon	0.78	5
Lingcod/rockcod	0.68	3

Source: Tables 4, 5, and 6

Participation by Geographic Division

In 1991, 190 million people 16 years old and older lived in the United States. Almost one out of every five U.S. residents went fishing. While the national participation rate was 19 percent, the regional rates ranged from 13 percent in the Middle Atlantic Division to 27 percent in the West North Central Division. The West North Central, East South Central, West South Central, and Mountain Divisions all reported participation rates above the national rate. The East and West South Central Divisions each had participation rates of 23 percent and the Mountain Division recorded a participation rate of 21 percent. The East North Central and South Atlantic Divisions both had participation rates of 19 percent. The New England and Pacific Divisions each recorded participation rates of 15 percent.



Fishing in State of Residence and in Other States

A majority of the 35.6 million anglers who fished in 1991 did so within their home state. Approximately 32.3 million participants, 91 percent of all anglers, fished in their state of residence. More than 8.4 million, 24 percent, fished out-of-state. Percentages do not add up to 100 because those sportsmen who fished both in-state and out-of-state were included in both categories.

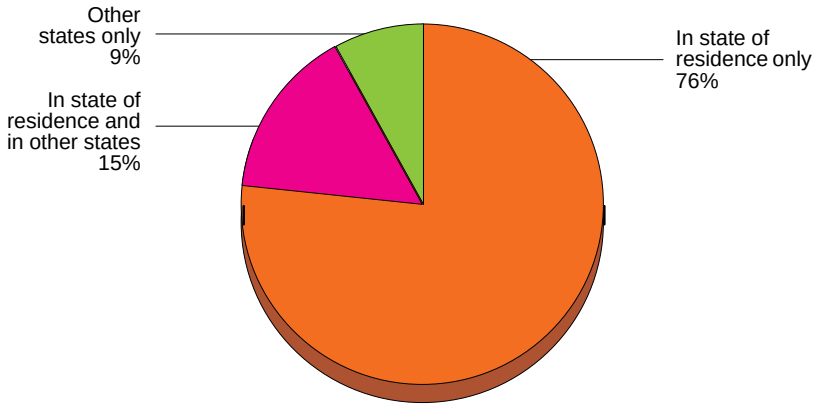
Most of the 30.2 million freshwater anglers (excluding Great Lakes) fished within their resident state, 27.7 million or 92 percent. Six million, 20 percent of these freshwater anglers, fished out-of-state.

Fishing on the Great Lakes was enjoyed primarily by anglers fishing within their home state. Over 2 million anglers, or 83 percent of the 2.6 million Great Lakes anglers, fished within their state of residence. Comparatively, 585 thousand or 23 percent of Great Lakes anglers fished out-of-state.

In comparison with freshwater anglers, 29 percent of saltwater anglers fished out-of-state. Moreover, 76 percent, almost 6.8 million saltwater anglers, also reported fishing within the borders of their home state. Those saltwater anglers fishing out-of-state numbered 2.6 million.

Percent of All Fishing, in State of Residence and Other States

(Total: 35.6 million participants)



Fishing in State of Residence and in Other States

(In millions)

	In-state	Out-of-state
Total anglers	**32.3**	**8.4**
Freshwater, except Great Lakes	27.7	6.0
Great Lakes	2.1	0.6
Saltwater	6.8	2.6

Source: Table 3

Angler Distance Traveled

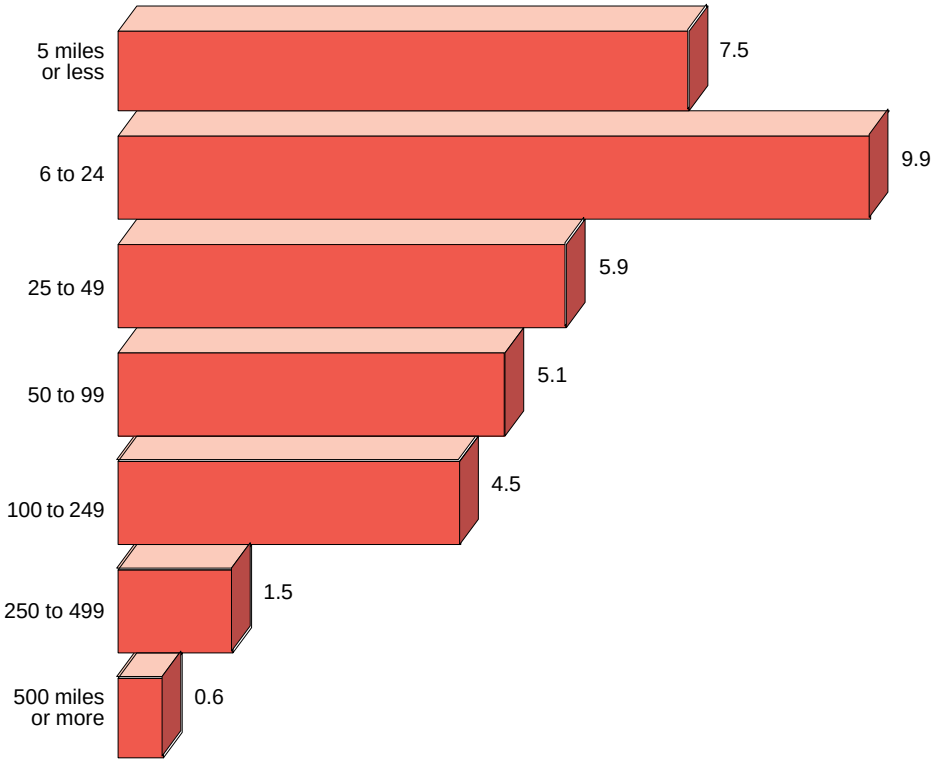
While most anglers traveled relatively short distances to fish, others reported taking long journeys in pursuit of fishing opportunities in 1991. Fifty-two percent of the country's freshwater anglers, excluding Great Lakes, stayed within a 25-mile radius of their homes when they went fishing at their most often visited site.

In contrast, 19 percent of the anglers who fished the Great Lakes traveled 6 to 24 miles to go fishing at their most often visited sites, 20 percent reported traveling 100 to 249 miles one-way, and 10 percent were willing to journey 250 to 499 miles one-way to enjoy Great Lakes fishing.

Forty-one percent of saltwater anglers went fishing at their most often visited sites within a 25-mile radius of their homes. Of these, 22 percent traveled 6 to 24 miles one-way, and 19 percent of all saltwater anglers traveled 5 miles or less. Furthermore, 7 percent of all saltwater anglers traveled 250 to 499 miles one-way to visit their most often used sites. Finally 2 percent reported traveling 1,000 miles or more one-way in 1991.

Number of Anglers, by Distance Traveled One-way to Site Used Most Often

(Number of anglers in millions)



Types of Freshwater Fished, Excluding Great Lakes

Freshwater anglers fished in ponds of less than 10 acres, lakes and reservoirs greater than 10 acres, and rivers and streams. Most non-Great Lakes freshwater anglers, 20.9 million (69 percent), fished lakes or reservoirs on 221 million days. Rivers and streams were utilized by 13.7 million freshwater anglers (45 percent) on 126 million days. Small ponds attracted 10.6 million anglers (35 percent) on 78 million days.

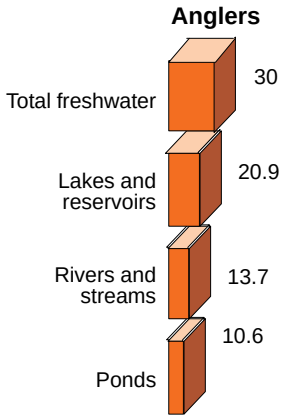
Great Lakes Anglers

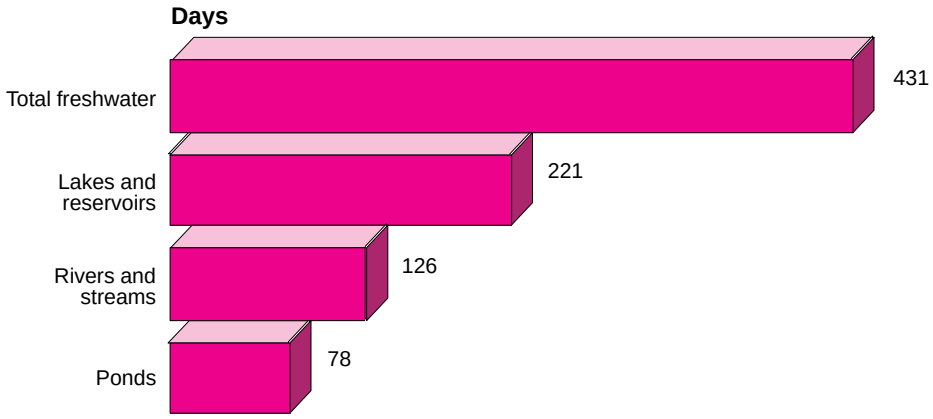
Great Lakes fishing includes not only the Great Lakes, but also their tributaries, bodies of water that connect the Great Lakes, and the St. Lawrence River south of the bridge at Cornwall. The most popular of the lakes among anglers was Lake Erie. Thirty-five percent of all the Great Lakes anglers fished Lake Erie on an average of 8 days during 1991. Lake Michigan was a close second in popularity. Thirty-four percent enjoyed fishing in Lake Michigan's waters with an average of 6 days per angler recorded. Lake Ontario was fished by 12 percent of all Great Lakes anglers. Anglers fished Lake Ontario an average of 8 days in 1991.

The connecting waters (St Mary's river system, St. Claire, Niagra and Detroit Rivers) of the lakes attracted 10 percent of the total Great Lakes anglers. They averaged 12 days of fishing on these waters in 1991. While Lake St. Claire was fished by only 5 percent of all Great Lakes anglers, these participants fished an average of 14 days per year, more than any other Great Lake or their connecting waters.

Types of Freshwater Fished, Excluding Great Lakes

(In millions)





Great Lakes Fishing

	Anglers (Thousands)	Percentage of all Great Lakes anglers
Total, all Great Lakes	**2,552**	**100**
Lake Erie	905	35
Lake Michigan	864	34
Lake Ontario	298	12
Connecting waters	260	10
Lake Huron	230	9
Tributaries to the Great Lakes	148	6
Lake St. Claire	118	5
Lake Superior	114	4
St. Lawrence River	31	1

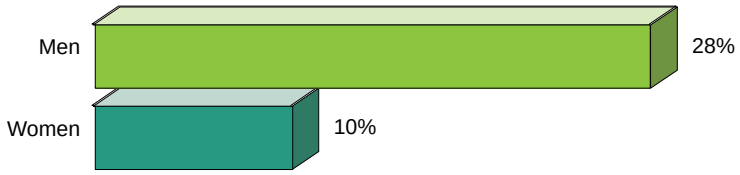
Source: Table 32

Sex and Age of Anglers

While fishing was enjoyed by more men than women in 1991, a substantial number of women fished as well. In 1991, 28 percent of American males fished and 10 percent of American females fished. Of the 35.6 million anglers who fished in the U.S., 72 percent (25.7 million) were male and 28 percent (9.9 million) were female.

Almost 10 million anglers, 28 percent of all anglers, were 25 to 34 years old, which is 23 percent of the U.S. population in that age group. They were closely followed by 8.6 million anglers 35 to 44 years old who comprised 24 percent of all anglers. Twenty-two percent of the U.S. population 35 to 44 years old fished in 1991. Eighteen percent of the 45 to 54 year old age group, 4.9 million participants, accounted for 14 percent of all anglers. Thirteen percent of all anglers, 4.6 million people, were l8 to 24 years old in 1991. Twenty percent of all people in that age group fished. Anglers 55 to 64 years old numbered 3.3 million, 9 percent of total anglers and 16 percent of the U.S. population 55 to 64 years old. While the 2.8 million anglers 65 years old and older made up 8 percent of the angler population, they comprised 9 percent of the U.S. population 65 years old and older. The 16 and 17 year olds added 1.5 million individuals, or 4 percent, to the angler population, participating at a rate of 23 percent.

Percent of U.S. Population 16 Years Old and Older Who Fished, by Sex

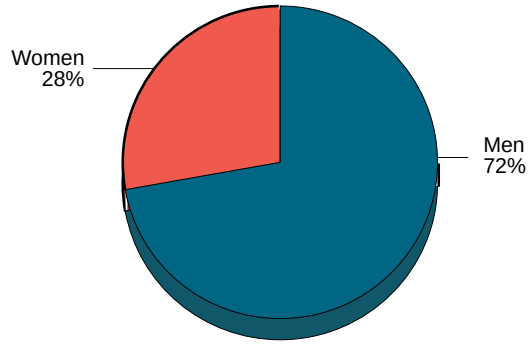


Anglers, by Sex and Age

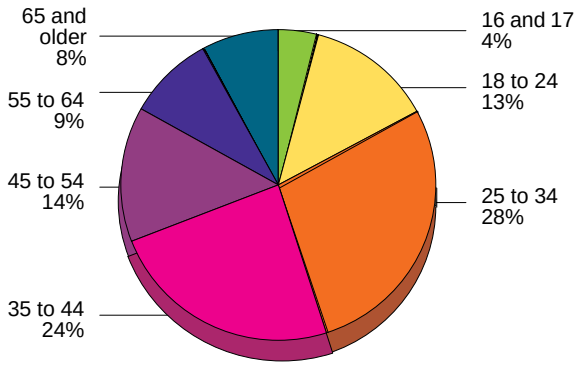
Total, both sexes	**35.6 million**
Male	25.7
Female	9.9
Total, all ages	**35.6 million**
16 and 17	1.5
18-24	4.6
25-34	9.9
35-44	8.6
45-54	4.9
55-64	3.3
65 and older	2.8

Source: Table 13

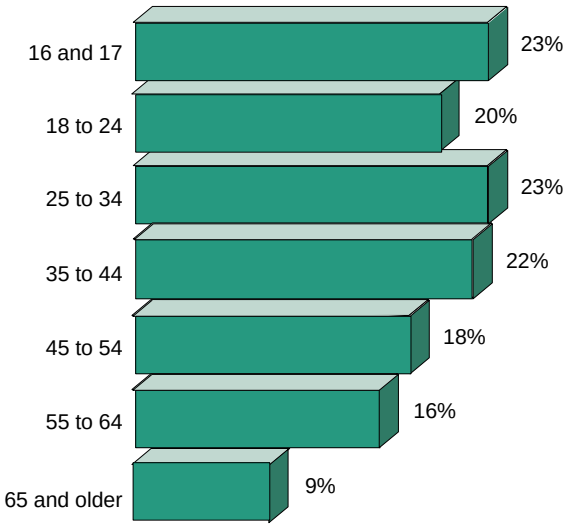
Percent of Anglers 16 Years Old and Older, by Sex



Percent of Anglers, by Age



Percent of U.S. Population Who Fished, by Age

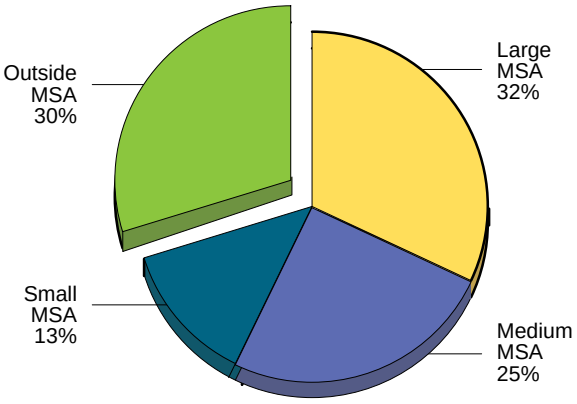


Size of Residence of Anglers

In 1991, 70 percent of U.S. residents who fished lived inside a Metropolitan Statistical Area (MSA) with most anglers coming from large MSA's. MSA's with populations of 1,000,000 or more recorded that 14 percent of their population fished, while 32 percent of all anglers came from these large urban areas. Within MSA's with populations of 250,000 to 999,999, 19 percent of the total population enjoyed fishing, representing 25 percent of the angler population. And MSA's with populations of 50,000 to 249,999 had a participation rate of 22 percent; they made up 13 percent of all anglers. In areas outside of MSA's, 25 percent of the population fished in 1991. These participants made up 30 percent of all anglers.

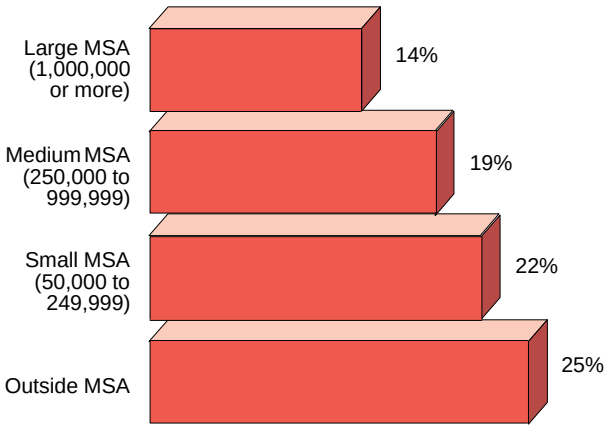
Percent of Anglers 16 Years Old and Older, by Residence

(Angler population: 35.6 million)



Percent of U.S. Population 16 Years Old and Older Who Fished, by Residence

(19% of total U.S. population fished)

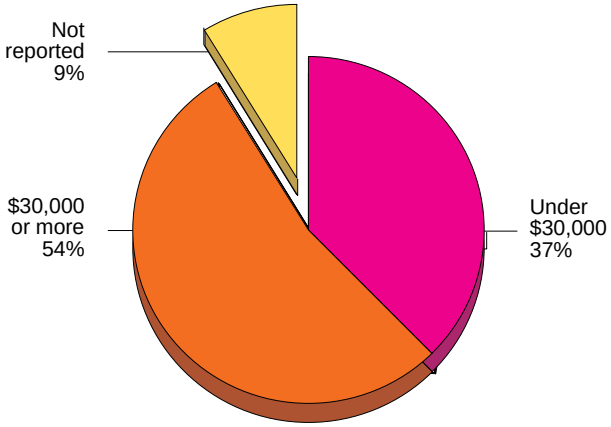


Income of Anglers

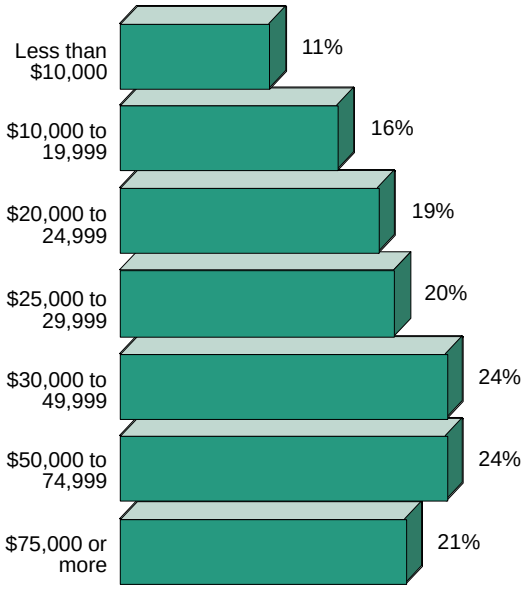
Anglers at all income levels enjoyed fishing. Participation rates ranged from 11 percent for all individuals with household incomes of $10,000 or less to 24 percent for those who reported annual household incomes of $30,000- $49,999 and $50,000-$74,999. Those living in households with incomes of $10,000 or less comprised 6 percent of all anglers; those with $30,000- $49,999 incomes made up 29 percent of all anglers; and those with household incomes of $50,000-$74,999 comprised 16 percent of all anglers. Sixteen percent of the individuals with household earnings of $10,000-$19,999 represented 13 percent of all anglers. Nineteen percent of the individuals with household earnings of $20,000-$24,999 fished, adding 8 percent to the angler total. Among those individuals with household incomes of $25,000- $29,999 a year, 20 percent fished in 1991 representing 11 percent of all anglers. Finally, 21 percent of the households earning $75,000 or more made up 8 percent of the total angler population.

In 1990, the median household income of U.S. residents was approximately $30,000, with half the households earning less than $30,000 and the other half earning $30,000 or more. Among anglers, 37 percent came from households with an annual income of less than $30,000, while 54 percent were from households earning $30,000 or more annually. The remaining 9 percent of the angler population did not report their income.

Percent of Anglers 16 Years Old and Older, by Income



Percent of U.S. Population 16 Years Old and Older Who Fished, by Income

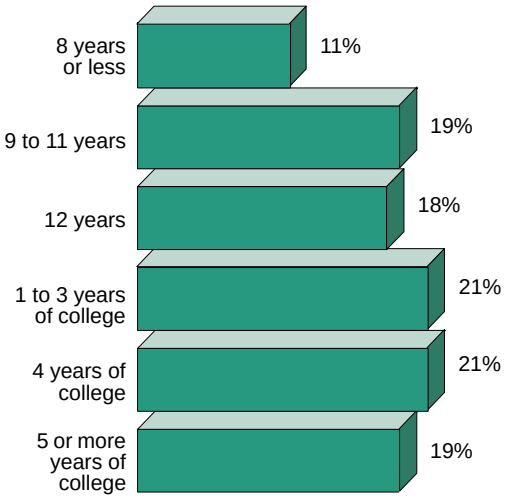


Education and Race of Anglers

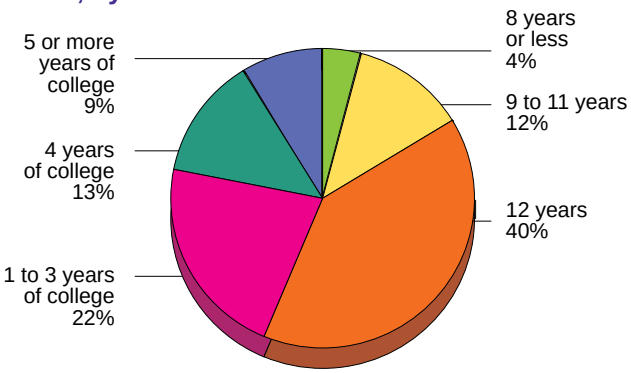
People from a variety of educational backgrounds fished in 1991. The lowest participation rate, 11 percent, was found among those with 8 years of education or less. They made up 4 percent of all anglers. The highest participation rate, 21 percent, was found among those individuals with 1 to 4 years of college. Those persons with 1 to 3 years of college made up 22 percent of all anglers, while those with 4 years of college represented 13 percent of all anglers. Individuals with 9 to 11 years of education had a participation rate of 19 percent as did those with 5 years or more of college. These two education groups represented 12 percent and 9 percent of all anglers respectively. Finally, 18 percent of those with 12 years of education fished in 1991, 40 percent of all anglers.

Participation rates among people of different races varied. Among the general population, 20 percent of the White population fished compared with 10 percent of the Black population and 11 percent of individuals of other races. Among anglers, 92 percent of the total were White, 5 percent were Black, and 3 percent were other races.

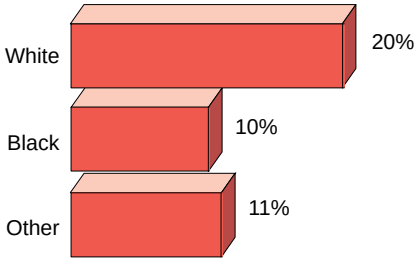
Percent of U.S. Population 16 Years Old and Older Who Fished, by Education



Percent of Anglers 16 Years Old and Older, by Education



Percent of U.S. Population 16 Years Old and Older Who Fished, by Race



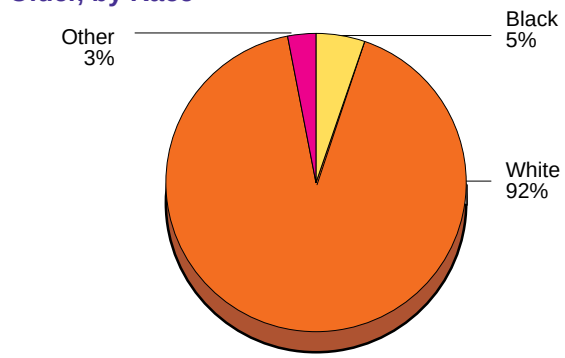
Anglers, by Education and Race

(In millions)

Total anglers	**35.6**
Education	
0-8 years	1.5
9-11 years	4.2
12 years	14.2
1-3 years college	7.7
4 years college	4.7
5 or more years college	3.2
Race	
White	32.8
Black	1.8
Other	1.0

Source: Table 13

Percent of Anglers 16 Years Old and Older, by Race

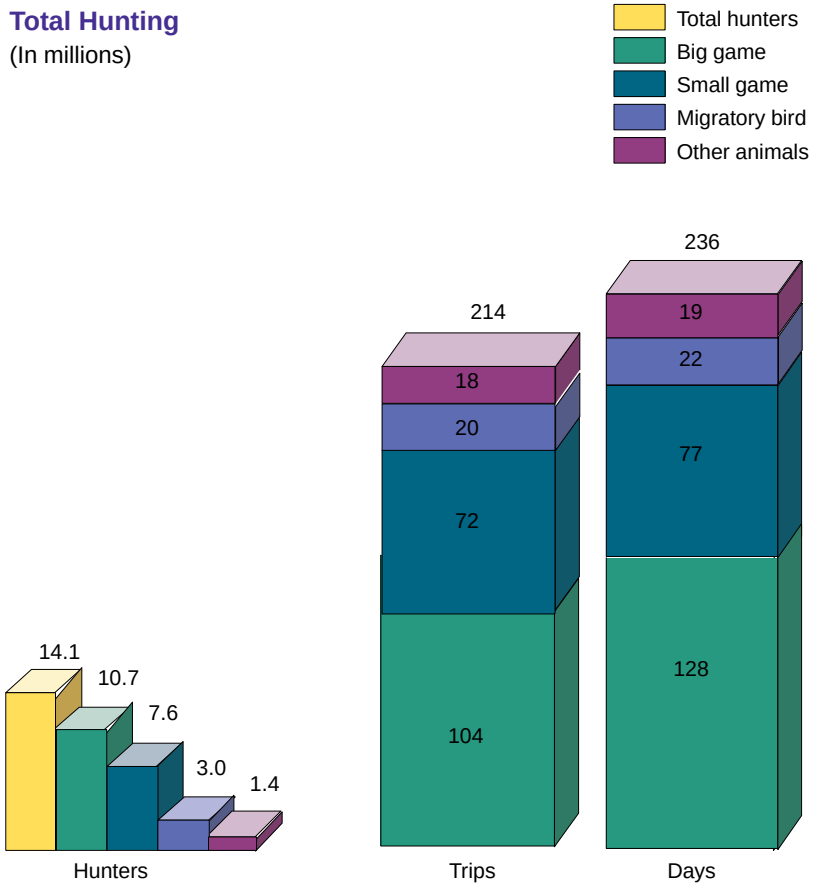


Hunting Highlights

In 1991, 14.1 million people 16 years old and older enjoyed hunting a variety of game animals within the United States. They hunted 236 million days and took 214 million trips. Their expenditures totaled $12.3 billion.

In 1991, 10.7 million hunters pursued big game such as deer and elk on 128 million days. They spent $5.1 billion on trips and equipment during the year. A total of 7.6 million people hunted small game including squirrels and rabbits. In addition to 77 million days of hunting, they spent $1.5 billion on hunting trips and equipment. Migratory bird hunters numbered 3 million. They spent 22 million days hunting birds such as waterfowl and dove. Their trip and equipment expenditures totaled $686 million. Other animals, such as raccoons and groundhogs, were sought by 1.4 million hunters on 19 million days. These hunters spent $255 million on trips and equipment for the year.

Total Hunting
(In millions)



Scale enlarged to show detail of data.

Detail does not add to total because of multiple responses.

Hunting Expenditures

Of the $12.3 billion spent by hunters in 1991, 28 percent, $3.4 billion, was spent on trip-related expenses. Food and lodging totaled $1.8 billion, 53 percent of all trip-related expenses. Transportation cost hunters $1.3 billion, 39 percent of their trip-related expenditures. Other trip-related expenses such as guide fees, land use fees, and equipment rental were $278 million or 8 percent of all trip-related expenses.

Total hunting equipment expenditures were $5.2 billion in 1991, 42 percent of all hunting expenses. Hunting equipment, such as guns and rifles, telescopic sights, and ammunition, cost hunters $3.3 billion, 64 percent of all equipment costs. Expenditures for auxiliary equipment, including camping equipment, binoculars, and special hunting clothing, accounted for $635 million or 12 percent of all equip- ment expenses. Special equipment, such as campers or trail bikes, amounted to $1.2 billion or 24 percent of all equipment expenditures.

Hunters spent $181 million on magazines, membership dues and contributions, 1 percent of total expenses. Land leasing and ownership expenditures totaled $3 billion, 24 percent of the total.

Total Hunting

Hunters	**14.1 million**
Big game	10.7
Small game	7.6
Migratory bird	3.0
Other animals	1.4
Days	**236 million**
Big game	128
Small game	77
Migratory bird	22
Other animals	19
Trips	**214 million**
Big game	104
Small game	72
Migratory bird	20
Other animals	18
Expenditures	**$12.3 billion**
Big game	5.1
Small game	1.5
Migratory bird	0.7
Other animals	0.3
Unspecified	4.8

Detail does not add to total because of multiple responses.

Source: Tables 1, 21, 22, 23, 24, and 25

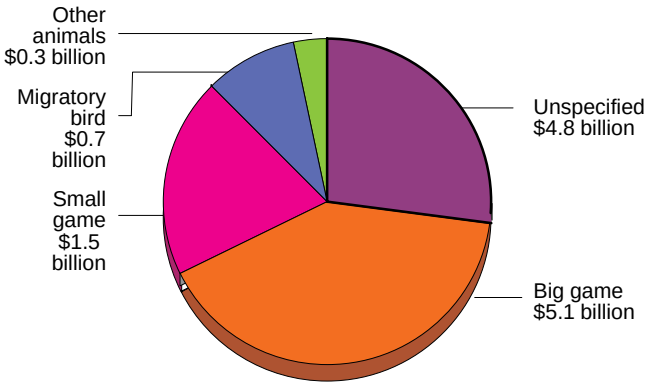
Total Hunting Expenditures

Total hunting expenditures	**$12.3 billion**
Total trip-related	**$ 3.4 billion**
Food and lodging	1.8
Transportation	1.3
Other trip costs	0.3
Total equipment expenditures	**$5.2 billion**
Hunting equipment3.3	
Auxiliary equipment	0.6
Special equipment	1.2
Total other hunting expenditures	**$3.7 billion**
Magazines, membership dues and contributions	0.2
Land leasing and ownership	3.0
Licenses, stamps, tags, and permits	0.5

Source: Table 21

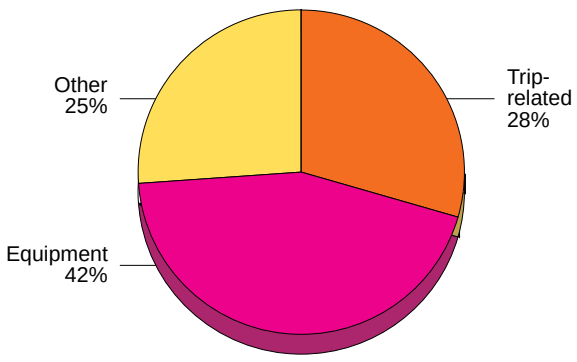
Expenditures

(Total expenditures $12.3 billion)



Percent of Total Hunting Expenditures

(Total expenditures $12.3 billion)



Big Game Hunting

In 1991, 10.7 million hunters devoted 128 million days to hunting big game including deer, elk, bear, and wild turkey. They took 104 million trips. Each hunter spent an average of 12 days hunting big game in 1991.

Trip and equipment expenditures for big game hunters amounted to $5.1 billion. Trip-related expenses totaled $2.2 billion. Of that amount, food and lodging totaled $1.2 billion or 55 percent of the trip-related costs. Transportation costs were $817 million for big game hunters, 37 percent of trip-associated costs. Other trip-related expenses amounted to $176 million or 8 percent of trip costs.

In addition, big game hunters spent $2.9 billion on equipment. Hunting equipment (guns, ammunition, etc.) accounted for $1.6 billion. Purchases of auxiliary equipment (camping equipment, binoculars, etc.) totaled $451 million. And special equipment (vans, trail bikes, etc.) cost big game hunters $852 million.

Small Game Hunting

On 77 million days in 1991, 7.6 million hunters pursued small game such as rabbits, squirrels, pheasants, quail, and grouse while on 72 million trips. Small game sportsmen averaged 10 days in the field hunting.

Small game hunters spent $1.5 billion on trips and equipment in 1991. Of the $781 million spent on trip-related costs, $402 million, or 51 percent of all small game trip-related costs, were spent on food and lodging. Transportation costs accounted for $325 million or 42 percent of small game trip expenses. Other trip-related expenditures contributed $53 million or 7 percent to the total spent on small game hunting trips.

Small game equipment expenditures totaled $769 million. Specifically, purchases of hunting equipment (guns, ammunition, etc.) accounted for $589 million spent by small game hunters during the year. Auxiliary equipment (camping equipment, binoculars, etc.) cost $48 million, and special equipment (vans, trail bikes, etc.) cost small game hunters almost $132 million for the year.

Big Game Hunting Trip and Equipment Expenditures

(Total expenditures $5.1 billion)

Big Game	
Hunters	10.7 million
Days	128 million
Trips	104 million
Trip and equipment expenditures	$5.1 billion

Source: Tables 1 and 22

Small Game Hunting Trip and Equipment Expenditures

(Total expenditures $1.5 billion)

Small Game	
Hunters	7.6 million
Days	77 million
Trips	72 million
Trip and equipment expenditures	$1.5 billion

Source: Tables 1 and 23

Migratory Bird Hunting

In 1991, 3 million migratory bird hunters devoted 22 million days on 20 million trips to hunting birds such as doves, ducks and geese. Migratory bird hunters spent an average of 7 days hunting for the year.

The $686 million spent by migratory bird hunters in 1991 were spent on hunting trips and equipment. Of the items contributing to this sum, $346 million were spent on trip-related expenses. A further breakdown reveals food and lodging cost migratory bird hunters $168 million, or 49 percent of trip-related expenses; transportation accounted for $135 million or 39 percent of all trip costs. Other trip expenses amounted to $44 million making up 13 percent of the total trip-related expenditures for migratory bird hunters.

Migratory bird hunters purchased $340 million worth of equipment in 1991. They spent $284 million on hunting equipment (guns, ammunition, etc.). Another $38 million were spent by migratory bird hunters on auxiliary equipment (camping equipment, binoculars, etc.). And $17 million were spent on special equipment (vans, trail bikes, etc.).

Hunting Other Animals

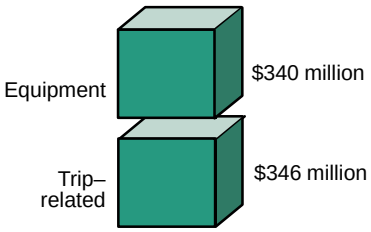
During 1991, 1.4 million hunters reported spending 19 million days on 18 million trips pursuing other animals such as groundhogs, raccoons, foxes, and coyotes. They averaged 14 days of hunting in 1991.

Overall, they spent $255 million in 1991 on trips and equipment. Trip-related costs totaled $118 million. Of that, food and lodging cost $52 million or 44 percent of trip-related costs; transportation $62 million, 52 percent of trip-related expenses; and other expenses $5 million, 4 percent of trip-related costs.

Equipment expenditures for hunting other animals totaled $137 million in 1991. Hunters pursuing other animals spent $104 million on hunting equipment (guns, ammunition, etc.), $9 million on auxiliary equipment (camping equipment, binoculars, etc.), and $24 million on special equipment (vans, trail bikes, etc.).

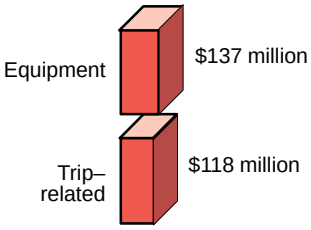
Migratory Bird Hunting Trip and Equipment Expenditures

(Total expenditures $686 million)



Trip and Equipment Expenditures for Hunting Other Animals

(Total expenditures $255 million)



Migratory Bird	
Hunters	3 million
Days	22 million
Trips	20 million
Trip and equipment expenditures	$686 million

Source: Tables 1 and 24

Other Animals	
Hunters	1.4 million
Days	19 million
Trips	18 million
Trip and equipment expenditures	$255 million

Source: Tables 1 and 25

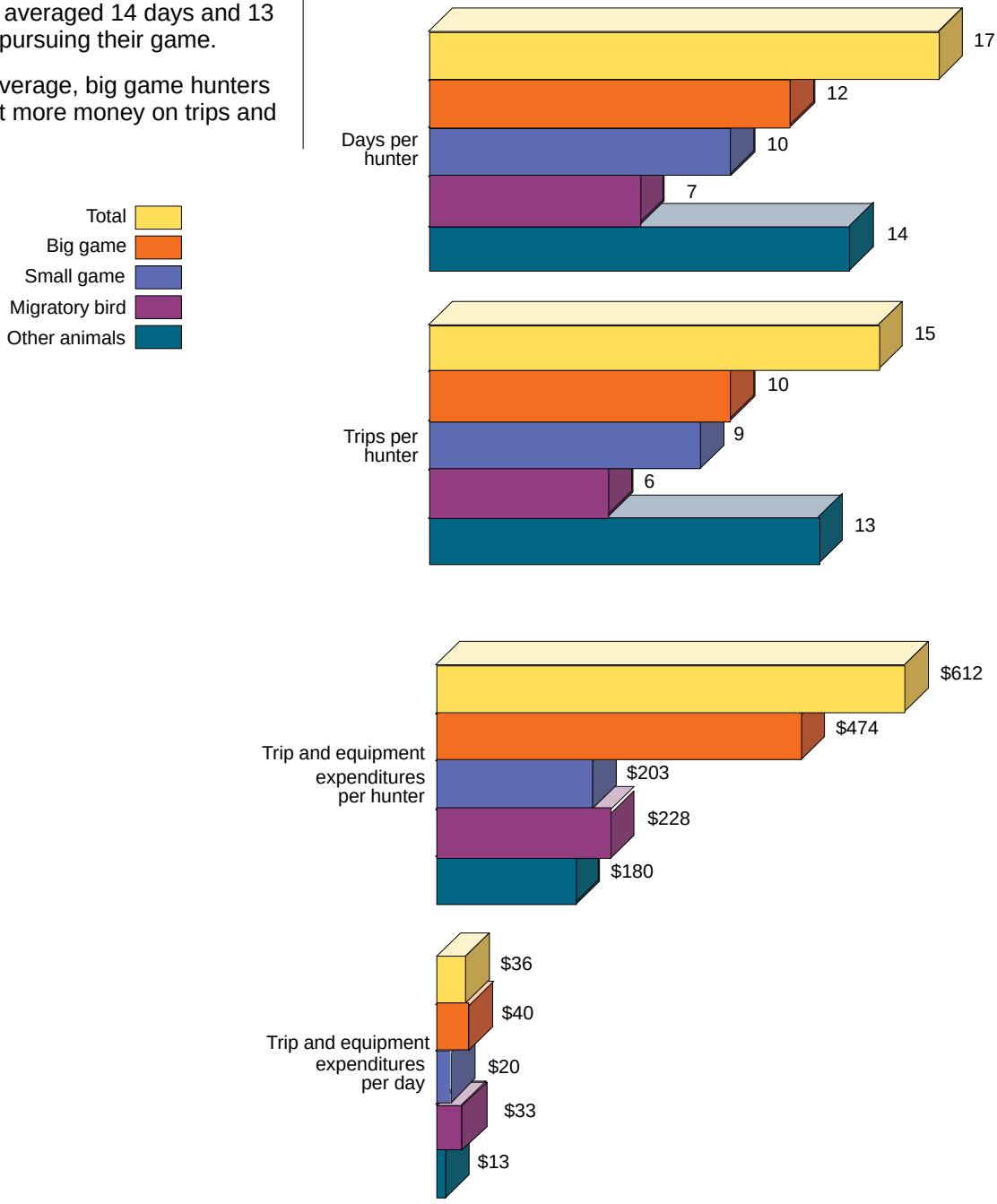
Comparative Hunting Highlights

In 1991, each big game hunter averaged 12 days of hunting and 10 trips per hunter. Small game hunters spent an average of 10 days hunting in the field on an average of 9 trips. In comparison, migratory bird hunters spent an average of 7 days and 6 trips hunting. Those participants hunting other animals averaged 14 days and 13 trips pursuing their game.

On average, big game hunters spent more money on trips and equipment than other hunters in 1991. They averaged $474 per hunter for the year. Small game hunters spent an average of $203 per hunter during 1991. Migratory bird hunters averaged $228 and those hunting other animals spent $180 per hunter for the year.

For each day of hunting, big game hunters averaged $40. Small game hunters' daily expenditures averaged $20. Migratory bird hunters averaged $33 for each day spent hunting. And among those hunting other animals, the daily average was $13.

Comparative Hunting, by Type of Hunting



Hunting for Selected Game

For big game hunters, deer was the most popular draw among 10.3 million hunters on 113 million days. The 682 thousand hunters who hunted elk went out on 5 million days. While bear attracted 368 thousand hunters on 3 million days, wild turkey drew 1.7 million hunters on 13 million days. In addition, 404 thousand hunters spent 3 million days hunting other big game animals.

In 1991, approximately 4 million small game hunters hunted rabbits and hares on 36 million days. Quail were flushed out by 1.7 million hunters on 14 million days, while grouse and prairie chicken were favorites of 1.4 million hunters on 11 million days. Squirrels were hunted by 3.6 million participants on 30 million days. Pheasants attracted 2.3 million hunters on 16 million days. In addition, 823 thousand hunters spent 7 million days hunting other small game animals.

Among those hunting migratory birds, 9 million days were spent by 1.9 million participants dove hunting. Ducks were hunted by 1.2 million enthusiasts on 9 million days. And 882 thousand hunters hunted geese on 7 million days in 1991. An additional 259 thousand sportsmen hunted other migratory bird species on 1.7 million days.

Among those hunters who hunted other animals, 471 thousand participants spent 5 million days hunting groundhogs; 408 thousand people hunted raccoons on 7 million days. Fox hunters, numbering 204 thousand, went out on 2 million days. Coyotes were hunted by 427 thousand hunters on 4 million days. And on 3.2 million days, 312 thousand hunters pursued other animals not included above.

Hunting for Selected Game

(In millions)

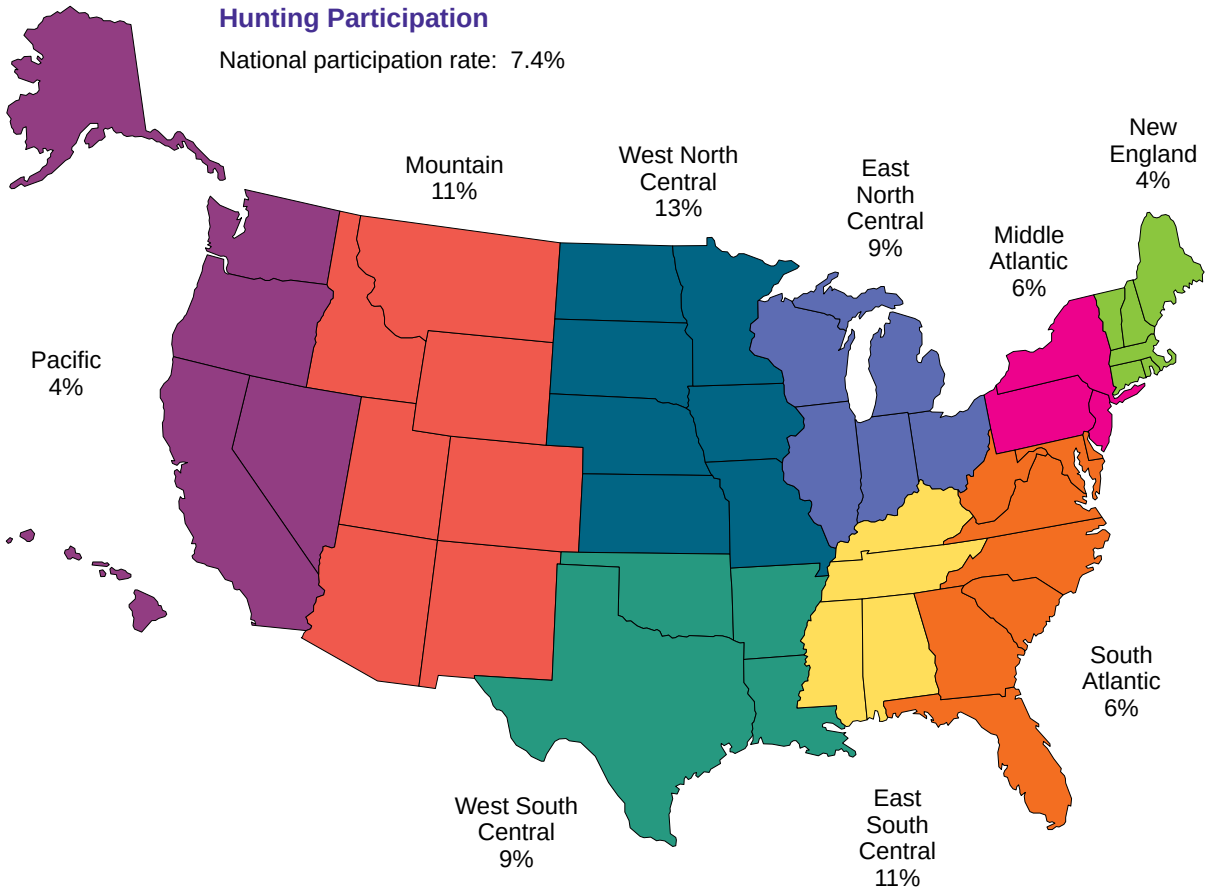
Type of hunting	Hunters	Days
Big game	**10.7**	**128**
Deer	10.3	113
Wild turkey	1.7	13
Elk	0.7	5
Bear	0.4	3
Small game	**7.6**	**77**
Rabbits and hares	4.0	36
Squirrels	3.6	30
Pheasant	2.3	16
Quail	1.7	14
Grouse/prairie chicken	1.4	11
Migratory bird	**3.0**	**22**
Doves	1.9	9
Ducks	1.2	9
Geese	0.9	7
Other animals	**1.4**	**19**
Groundhog (woodchuck)	0.4	5
Coyote	0.4	4
Raccoon	0.4	7
Fox	0.2	2

Source: Tables 8, 9, 10, and 11

Participation by Geographic Division

In 1991, 190 million people 16 years old and older lived in the United States. The national hunting participation rate was 7.4 percent.

Regionally, participation rates ranged from 4 percent in the New England and Pacific Census Divisions to 13 percent in the West North Central Division. The East North Central, East South Central, West South Central, and Mountain Divisions all had participation rates above the national rate. The East North Central and West South Central Divisions both had a participation rate of 9 percent, while the East South Central and Mountain Divisions recorded rates of 11 percent. The Middle and South Atlantic Divisions recorded participation rates of 6 percent.



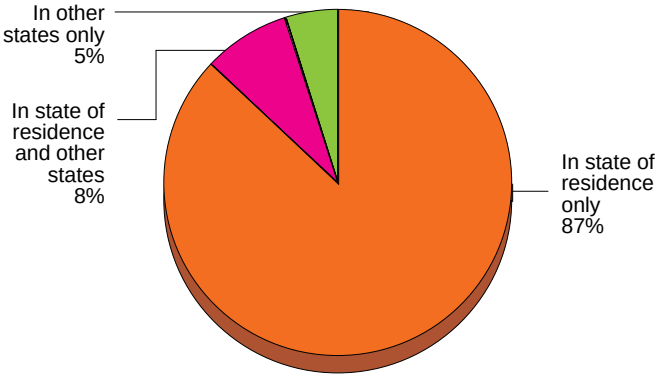
Hunting in State of Residence and in Other States

An overwhelming majority of participants hunted within their state of residence, 13.4 million or 95 percent of all hunters. Only 1.8 million, 13 percent, hunted in another state. Percentages do not add up to 100 because those sportsmen who hunted both in-state and out-of-state were included in both categories.

Big game hunters were the most likely to hunt in a state other than their home state. In 1991, 95 percent, 10.2 million big game hunters, hunted within their state of residence, but 12 percent, 1.2 million people, traveled to another state to hunt. Ninety-four percent of all small game hunters, 7.2 million hunters, pursued their game in their resident state. Ten percent, 746 thousand, ventured across state lines to hunt small game. While 95 percent of all migratory bird hunters, 2.9 million participants, hunted within their resident state, 9 percent or 256 thousand sportsmen hunted out-of-state. And among sportsmen who hunted other animals, 94 percent, 1.3 million, hunted in-state and 9 percent, 131 thousand participants, hunted out-of-state.

Percent of All Hunting, in State of Residence and in Other States

(Total: 14.1 million participants)



Hunting in State of Residence and in Other States

(In millions)

	In-state	Out-of-state
All hunters	**13.4**	**1.8**
Big game	10.2	1.2
Small game	7.2	0.7
Migratory bird	2.9	0.3
Other animals	1.3	0.1

Source: Table 7

Hunter Distance Traveled

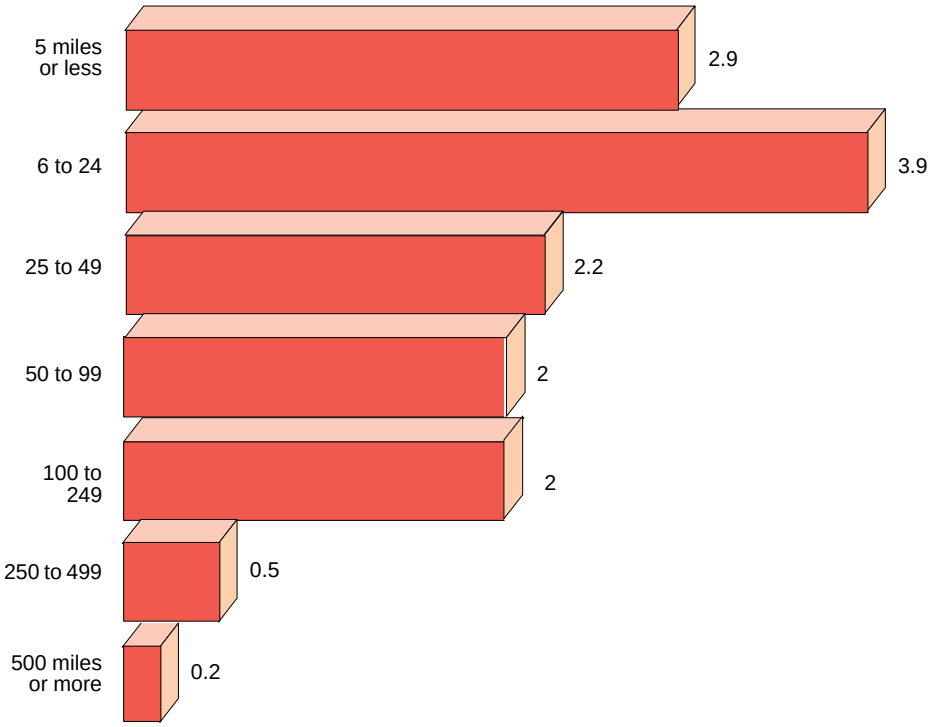
Forty-nine percent of all hunters traveled 24 miles or less one-way to the place they most often hunted, 44 percent traveled 25 to 249 miles, and 5 percent traveled 250 or more miles one-way.

In contrast, forty-five percent of all big game hunters traveled 24 miles or less to their most often used site in pursuit of deer or other big game animals. Almost the same number, 46 percent, trekked 25 to 249 miles one-way from home, and 8 percent traveled 250 miles or more to the site they used most often.

Most small game hunters, 59 percent, used a site within 24 miles from home most often. The majority of migratory bird hunters, 54 percent, also preferred to hunt within 24 miles of home. Forty-two percent of those who hunted other animals such as groundhogs used sites most often within 5 miles of home, but 30 percent traveled 6 to 24 miles from home.

Number of Hunters, by Distance Traveled One-way to Site Used Most Often

(Number of hunters in millions)



Hunting on Public and Private Lands

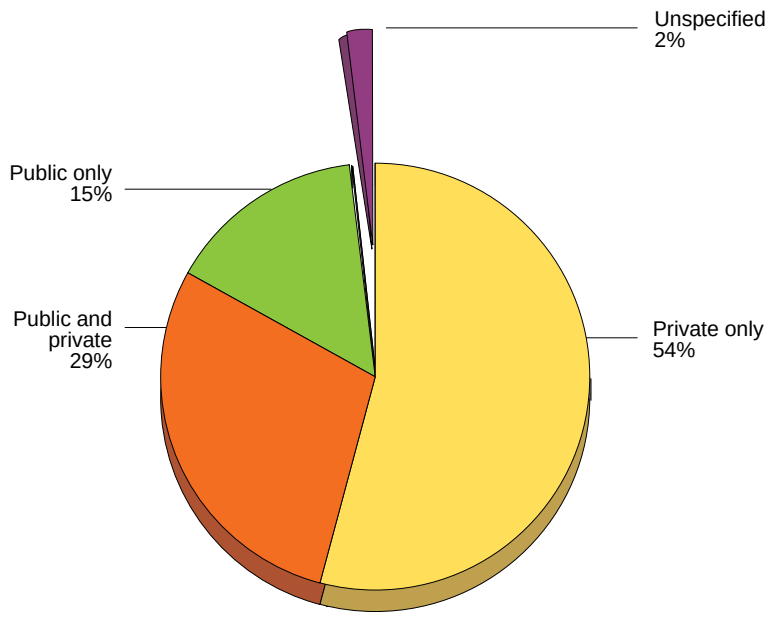
In 1991, 14.1 million hunters 16 years old and older hunted on public land, private land, or both. Some hunters, 2.1 million (15 percent), used publicly owned lands exclusively. Those hunters who hunted only on private land numbered 7.6 million (54 percent). Slightly over 4 million hunters (29 percent) hunted on both public and private lands. Over six million (44 percent) hunted on publicly owned lands compared to 11.7 million (83 percent) who hunted on privately owned land.

In 1991, 6.2 million hunters used public lands on 65 million days, 27 percent of all hunting days. Forty-three percent of big game hunters spent 37 million days on public lands. Among the 7.6 million small game hunters, 34 percent used public land on 19 million days. Five and one-half million days were spent on public lands by 887 thousand migratory bird hunters, 29 percent of all migratory bird hunters. Of the participants who hunted other animals in 1991, 293 thousand, 21 percent pursued their game on publicly owned lands on 2.6 million days.

In contrast, 11.7 million hunters spent 179 million days, 76 percent of all hunting days, pursuing their sport on private lands in 1991. Seventy-nine percent of big game hunters, 84 percent of small game hunters, 82 percent of migratory bird hunters, and 90 percent of hunters pursuing other animals spent time hunting on private lands.

Days spent hunting on private land also varied by type of hunting. In 1991, big game hunters spent 70 percent (90.4 million days) of their total hunting days on private lands; small game hunters spent 74 percent (57.4 million days) of their hunting days on private lands; and migratory bird hunters spent 70 percent (15.5 million days) of their hunting days on private lands. Persons hunting other animals spent 81 percent (15.7 million days) of their hunting days on private lands.

People Hunting on Public and Private Lands

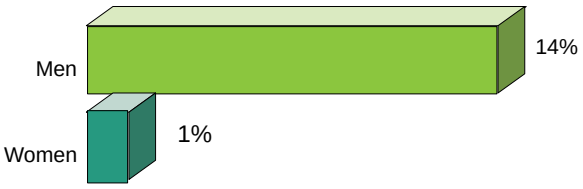


Sex and Age of Hunters

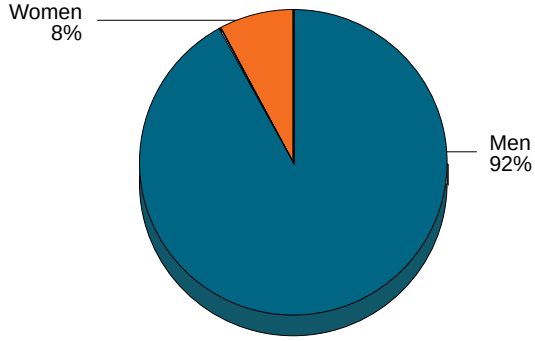
Of the U.S. population 16 years old and older, 14 percent of the males and 1 percent of the females enjoyed hunting in 1991. Of the 14.1 million participants who hunted in 1991, 92 percent (13 million) were male and 8 percent (1.1 million) were female.

Hunter participation was seen in all age groups around the country. Participation rates among the total hunting population ranged from 5 percent among hunters 16 and 17 years old to 28 percent for those hunters 25 to 34 years old. In 1991, 662 thousand 16 and 17 year olds, 10 percent of the 16 and 17 year-old U.S. population, and 3.9 million 25 to 34 year olds, 9 percent of the 25 to 34 year-old U.S. population, reported hunting. For the population 35 to 44 years old, 3.4 million hunted, constituting 24 percent of all hunters and 9 percent of the Nation's 35 to 44 year old populace. Hunters 45 to 54 years old numbered 2.1 million and represented 8 percent of the general population 45 to 54 years old and 15 percent of all hunters. Two million hunters 18 to 24 years old made up 14 percent of all hunters, and represented 9 percent of their age group nationwide. Hunters 55 to 64 years old numbered 1.2 million or 8 percent of all hunters and 6 percent of the country's 55 to 64 year old population as a whole. Finally, 837 thousand hunters 65 years old and older characterized 6 percent of all hunters and 3 percent of the 65 years old and older U.S. population in 1991.

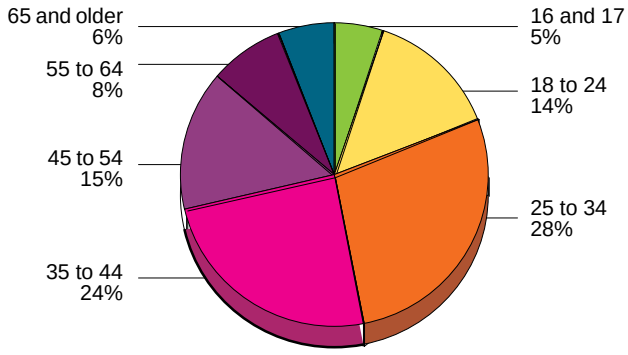
Percent of U.S. Population 16 Years Old and Older Who Hunted, by Sex



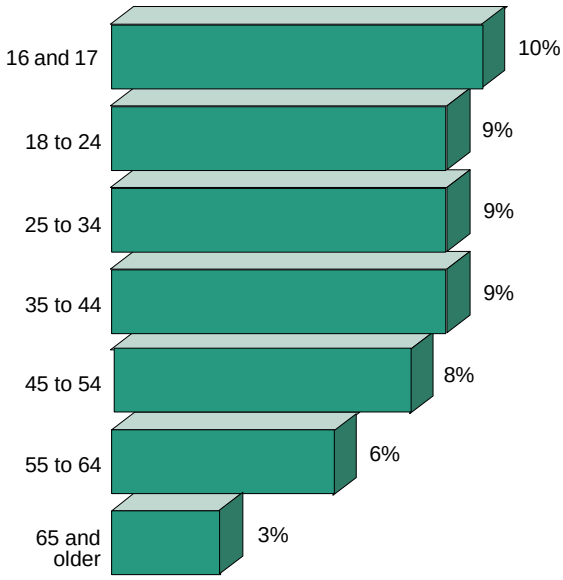
Percent of Hunters 16 Years Old and Older, by Sex



Percent of Hunters, by Age



Percent of U.S. Population Who Hunted, by Age



Hunters, by Sex and Age

Total, both sexes	**14.1 million**
Male	13.0 million
Female	1.1 million
Total, all ages	**14.1 million**
16-17	662 thousand
18-24	2.0 million
25-34	3.9 million
35-44	3.4 milion
45-54	2.1 million
55-64	1.2 million
65 and older	837 thousand

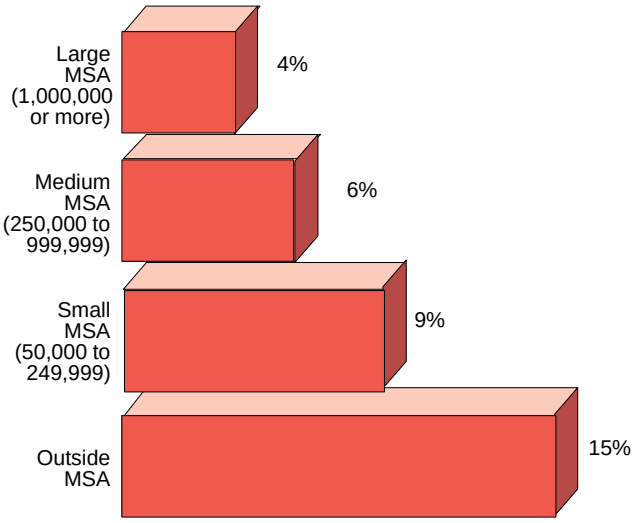
Source: Table 14

Size of Residence of Hunters

While most hunters were from areas outside heavily populated Metropolitan Statistical Areas (MSA), a substantial number of people living in large MSA's also enjoyed hunting. Twenty-two percent of all hunters were from MSA's with populations of 1,000,000 or more. Four percent of the total residents of these large MSA's hunted. For MSA's with populations of 250,000 to 999,999, 6 percent of the population hunted; they comprised 21 percent of all hunters. Nine percent of all residents of MSA's with populations of 50,000 to 249,999 hunted in 1991. Thirteen percent of all hunters resided in these areas. Although 22 percent of the U.S. population 16 years of age and older resided in areas outside MSA's in 1991, 44 percent of all hunters lived outside MSA's. Fifteen percent of all people living outside MSA's hunted in 1991 in contrast with 5 percent of all people living inside MSA's who hunted.

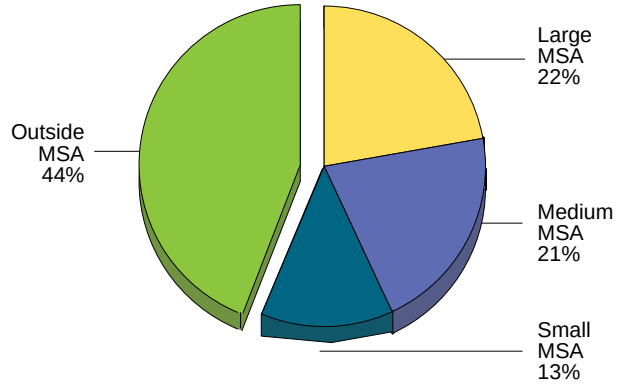
Percent of U.S. Population 16 Years Old and Older Who Hunted, by Residence

(7% of total U.S. population hunted)



Percent of Hunters 16 Years Old and Older, by Residence

(Hunter population: 14.1 million)

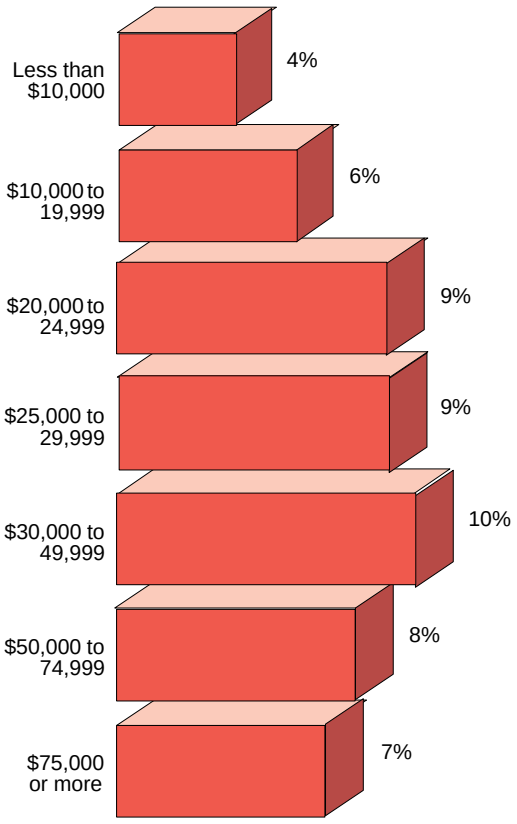


Income of Hunters

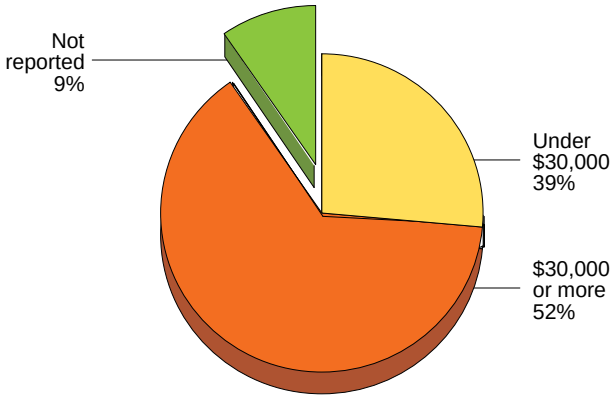
Participation rates among hunters with different annual household incomes varied from 4 percent of persons living in households earning less than $10,000 a year (5 percent of all hunters came from these households) to 10 percent of those persons living in households reporting incomes of $30,000-$49,999 (31 percent of all hunters came from these households). Six percent of the persons in households reporting incomes of $10,000-$19,999 comprised 13 percent of all hunters. Nine percent of the nation's population with household incomes of $20,000-$24,999 a year enjoyed hunting. They made up 9 percent of all hunters. Nine percent of all people in households earning $25,000-$29,999 hunted. They constituted 11 percent of all hunters. Of those people in households reporting earnings of $50,000-$74,999, 8 percent hunted in 1991 and represented 15 percent of the hunter population. Seven percent of those in households earning $75,000 or more per year enjoyed hunting and contributed 7 percent to the hunter population.

In 1990, the median income for U.S. households was approximately $30,000, with half the households earning less than $30,000 and the other half earning $30,000 or more annually. Thirty-nine percent of all hunters came from households with annual incomes less than $30,000, while 52 percent came from households with annual incomes of $30,000 or more. The remaining 9 percent of the hunting sample did not report their income.

Percent of U.S. Population 16 Years Old and Older Who Hunted, by Income



Percent of Hunters 16 Years Old and Older, by Income

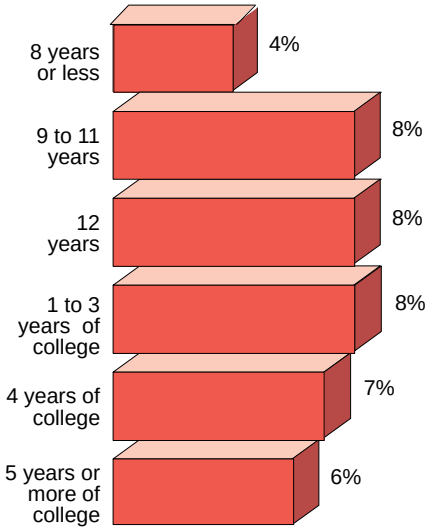


Education and Race of Hunters

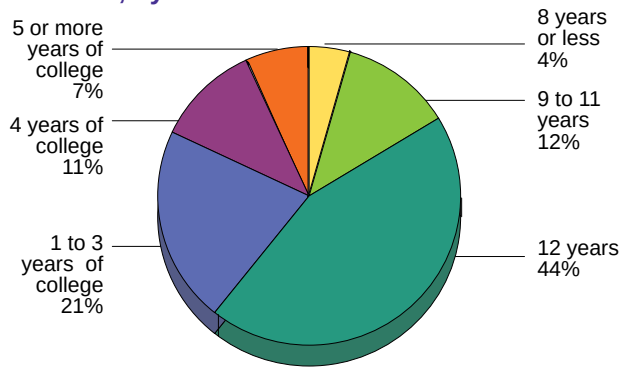
People from a variety of educational backgrounds went hunting in 1991. Participation rates ranged from 8 percent among those hunters with 9 to 12 years of school and 1 to 3 years of college to 4 percent among hunters with 8 years of education or less. Those with 9 to 11 years of education represented 12 percent of all hunters and those with 12 years of education made up 44 percent. Hunters with 1 to 3 years of college made up 21 percent of the hunter total. Eleven percent of all hunters had 4 years of college. Seven percent of all people in the U.S. with 4 years of college hunted in 1991. Four percent of the U.S. population with 8 years of education or less made up 4 percent of all hunters. And 6 percent of the people in the U.S. with 5 or more years of college represented 7 percent of all hunters.

While 7 percent of the U.S. population went hunting in 1991, participation among races varied. Eight percent of the nation's White population hunted, 2 percent of the Black population hunted, and 2 percent of other races hunted. Of the 14.1 million hunters, 97 percent were White, 2 percent were Black, and 1 percent were of other races.

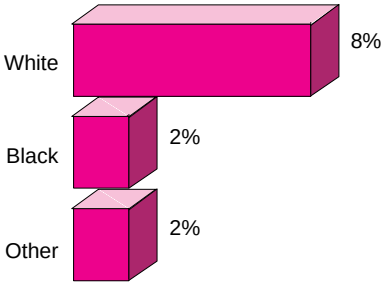
Percent of U.S. Population 16 Years Old and Older Who Hunted, by Education



Percent of Hunters 16 Years Old and Older, by Education



Percent of U.S. Population 16 Years Old and Older Who Hunted, by Race

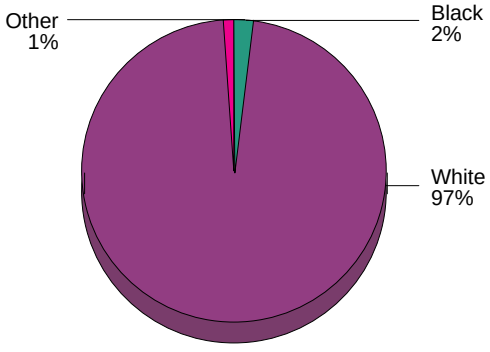


Hunters, by Education and Race

Total hunters	**14.1 million**
Education	
0-8 years	595 thousand
9-11 years	1.7 million
12 years	6.3 million
1-3 years of college	2.9 million
4 years of college	1.6 million
5 or more years of college	1.0 million
Race	
White	13.6 million
Black	294 thousand
Other	197 thousand

Source: Table 14

Percent of Hunters 16 Years Old and Older, by Race



Noncon-sumptive Highlights

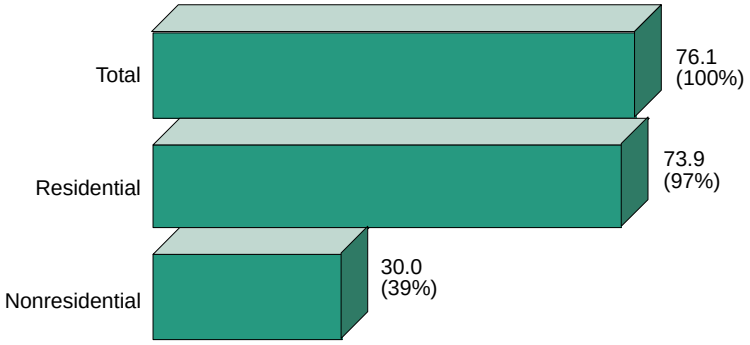
Nonconsumptive activities including observing, feeding, and photographing wildlife continue to be popular in the United States. These activities are categorized here as being either residential, within a mile of one's home, or nonresidential, at least 1 mile from home.

The 1991 Survey collected information only on primary nonconsumptive activities, those activities whose main purpose was to observe, feed, or photograph wildlife. Secondary or incidental participation such as observing wildlife while pleasure driving was not included in the Survey.

In 1991, 76.1 million U.S. residents, 39 percent of the U.S. population 16 years old and older, enjoyed a variety of primary nonconsumptive activities. People who took a primary interest in wildlife around their homes numbered 73.9 million, while those who took trips away from their homes for the primary purpose of participating in nonconsumptive wildlife-associated recreation numbered nearly 30 million people.

Primary Nonconsumptive Participants

(In millions)



Primary Nonconsumptive Participants, by Activity
(In millions)

Total nonconsumptive participants	**76.1**
Nonresidential	**30.0**
Observed wildlife	28.8
Photographed wildlife	14.2
Fed wildlife	13.3
Residential	**73.9**
Fed wildlife	65.4
Observed wildlife	54.7
Photographed wildlife	17.0
Visited public parks or areas	15.5
Maintained plantings or natural areas	13.6

Detail does not add to total because of multiple responses.

Source: Table 44

Nonconsumptive Expenditures

Seventy-seven percent of all primary nonconsumptive participants 16 years old and older spent $18.1 billion, an average of $311 per spender in 1991. Their expenditures represented 31 percent of all wildlife-related expenditures.

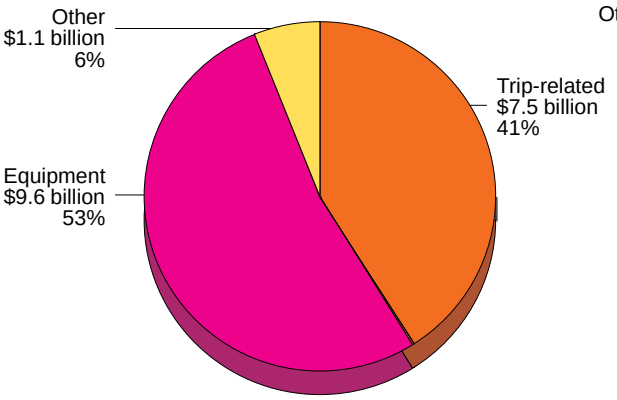
In 1991, nonconsumptive participants spent $7.5 billion on trips to pursue their activities. Food and lodging accounted for $4.4 billion, transportation expenses were $2.6 billion, and other trip costs, such as land use fees and equipment rental, were $448 million for the year.

These recreationists purchased $9.6 billion of equipment. They spent $5.7 billion on nonconsumptive equipment including binoculars, film, bird food, and special clothing. Auxiliary equipment expenditures for items such as tents and backpacking equipment amounted to $350 million for the year. And participants spent $3.5 billion on special equipment including vans and trail bikes.

Nonconsumptive participants also spent $321 million on magazines and $742 million on membership dues and contributions for the year.

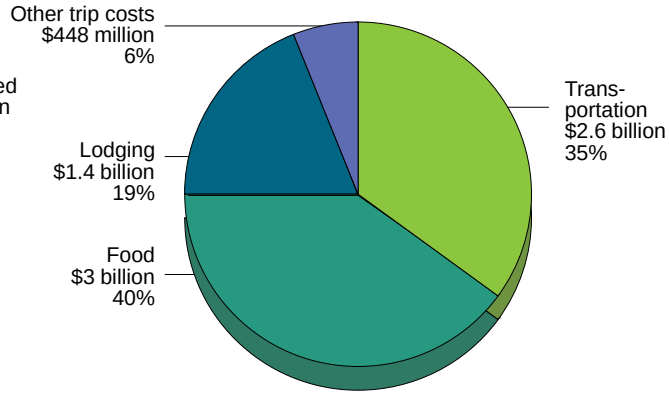
Nonconsumptive Expenditures

(Total expenditures $18.1 billion)



Trip–Related Expenditures

(Total expenditures $7.5 billion)



Nonconsumptive Expenditures

Total nonconsumptive expenditures	**$18.1 billion**
Total trip-related	**$7.5 billion**
Food and lodging	$4.4
Transportation	$2.6
Other trip costs	$0.4
Total equipment expenditures	**$9.6 billion**
Nonconsumptive equipment	$5.7
Auxiliary equipment	$0.3
Special equipment	$3.5
Total other nonconsumptive expenditures	**$1.1 billion**
Magazines	$0.3
Membership dues and contributions	$0.7

Source: Table 50

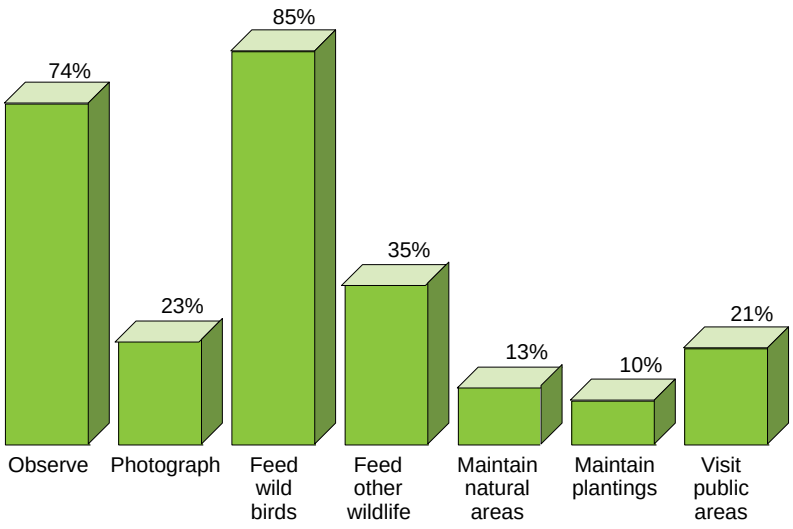
Primary Residential Activities Highlights

Primary residential participants 16 years old and older numbered 73.9 million in 1991, 97 percent of all nonconsumptive recreationists. The most popular residential nonconsumptive activity, feeding birds and other wildlife, was enjoyed by 65.4 million people, 89 percent of all residential nonconsumptive participants. Nearly 54.7 million people observed wildlife in 1991, constituting 74 percent of the residential participants.

Photographing wildlife was enjoyed by almost 17 million people, or 23 percent of all residential participants. Another 15.5 million residential participants, 21 percent, visited public areas including parks within a mile of their homes. Nine and a half million people, 13 percent of the residential participants, maintained natural areas for the primary purpose of benefiting wildlife. Finally, 7.6 million participants, 10 percent of all residential participants, maintained plantings for the primary purpose of benefiting wildlife.

Percent of Total Residential Participation, by Activity

(Total: 73.9 million participants)



Primary Residential Participants

(In millions)

Total participants	**73.9**
Observe wildlife	54.7
Photograph wildlife	17.0
Feed wild birds	63.1
Feed other wildlife	26.1
Maintain natural areas	9.5
Maintain plantings	7.6
Visit public areas	15.5

Detail does not add to total because of multiple responses.

Source: Table 46

Wildlife Observed, Fed, or Photographed by Primary Residential Participants

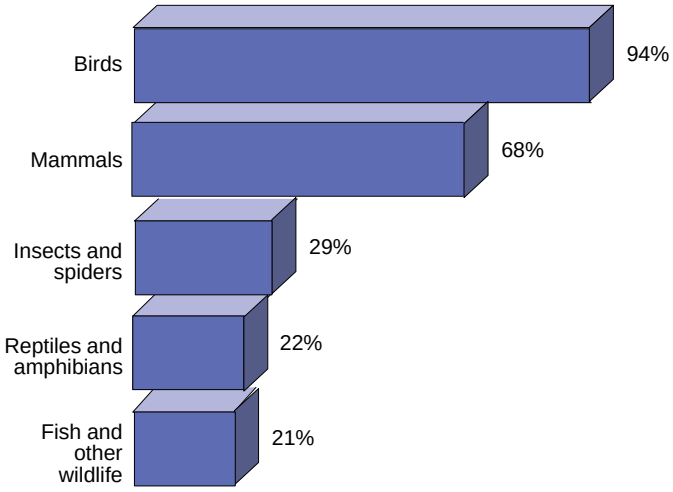
Of the 54.7 million participants who reported observing wildlife around their homes, a large majority, 51.3 million, watched birds. Watching mammals was popular among 37.1 million participants. Insects and spiders attracted the attention of 15.7 million people, 12.2 million watched amphibians or reptiles, and 11.5 million people reported observing fish or other wildlife.

Of the 65.4 million residential wildlife feeders in 1991, 96 percent fed birds. Over 63 million people fed birds an average of 7 months in 1991. Approximately 26.1 million participants fed other wildlife for 5 months, on average, during the year.

Almost 17 million residential participants photographed wildlife. Twenty-nine percent of the residential participants spent 2 to 3 days taking pictures of wildlife. Eight percent of the participants spent 21 or more days photographing wildlife. In between, 19 percent of the participants spent 1 day photographing wildlife, 15 percent 4 to 5 days, 17 percent 6 to 10 days, and 10 percent 11 to 20 days.

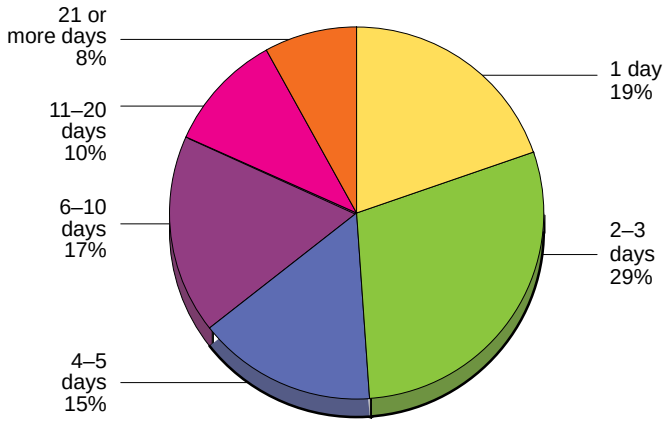
Percent of Residential Wildlife Observers, by Type of Wildlife Observed

(Total wildlife observers: 54.7 million)



Days Spent Photographing Wildlife

(Total participants: 17 million)



Primary Residential Participation by Geographic Division

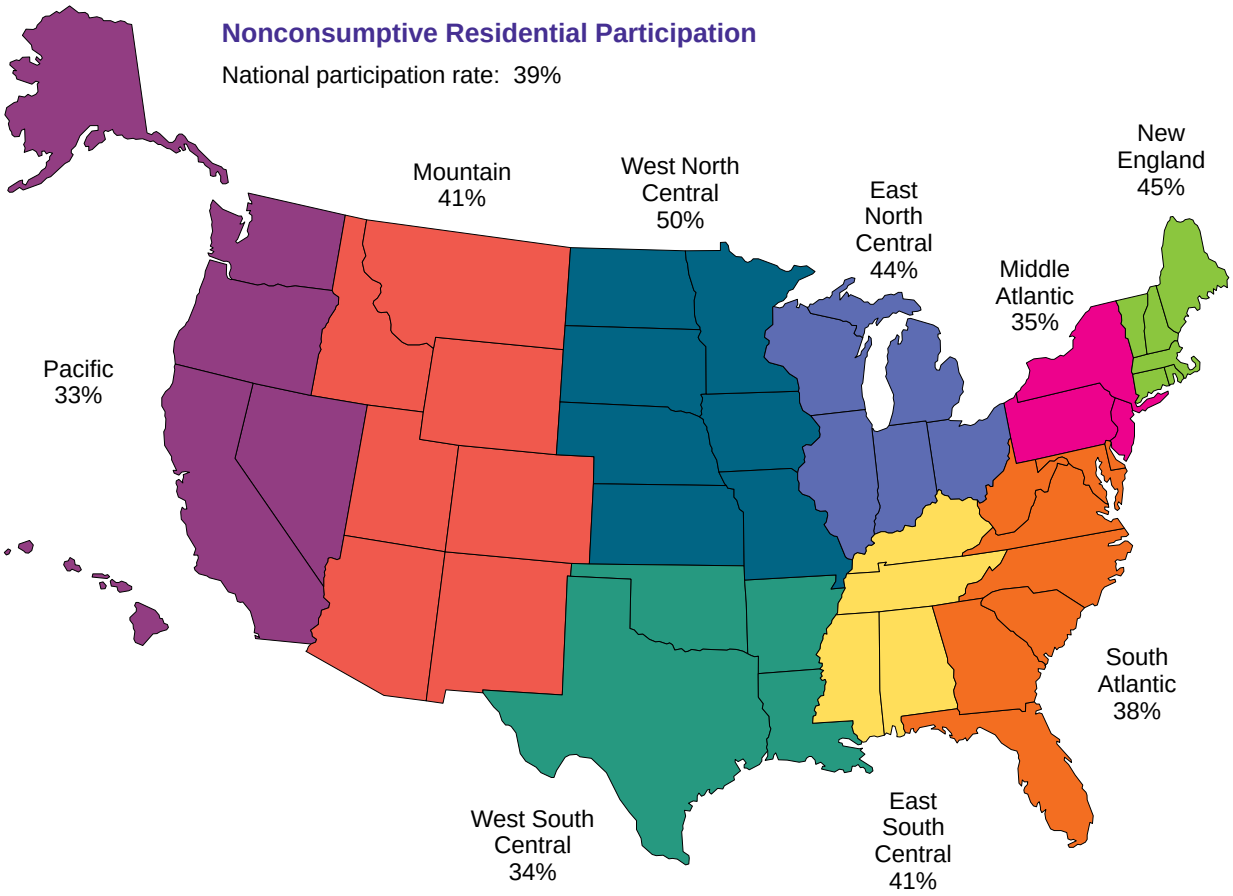
In 1991, 190 million people 16 years old and older lived in the United States. Of those individuals, 39 percent observed, fed, or photographed wildlife around their homes. The participation rates of these primary residential participants varied from region to region.

Residential nonconsumptive participation rates ranged from 33 percent in the Pacific Division to 50 percent in the West North Central Division. The New England, East North Central, West North Central, EastSouth Central, and Mountain Divisions all had participation rates above the national participation rate of 39 percent. New England had a participation rate of 45 percent followed closely by the East North Central Division with a participation rate of 44 percent. The East South Central and Mountain Divisions followed with 41 percent each. The participation rate for the South Atlantic Division was 38 percent. The Middle Atlantic and West South Central Divisions had participation rates of 35 percent and 34 percent respectively.

Sex and Age of Primary Residential Participants

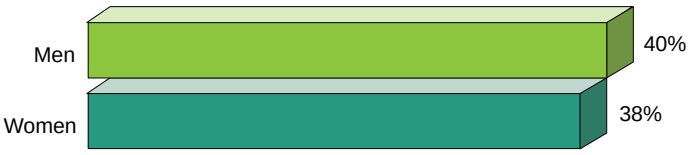
Residential nonconsumptive activities were enjoyed by males and females in almost equal proportions. In 1991, 40 percent of American males 16 years old and older enjoyed residential activities, as did 38 percent of American females of the same age group. Of the 73.9 million residential nonconsumptive participants, 49 percent (35.9 million) were male and 51 percent (38 million) were female.

Of the 73.9 million residential participants, 46 percent or 34.1 million were 25 to 44 years old. Thirty-nine percent of the 25 to 34 year old age group participated in residential nonconsumptive recreation,

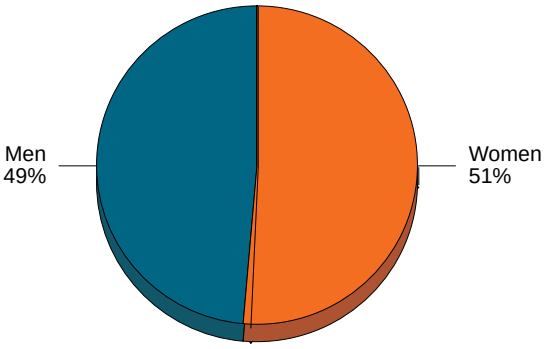


while the participation rate for the U.S. population 35 to 44 years old was 45 percent. Each of these age groups represented 23 percent of the residential nonconsumptive participation total, and both groups numbered approximately 17 million individuals. Participants 65 years old and older numbered 11.8 million with a 38 percent participation rate. They represented 16 percent of all residential participants. Participants 45 to 54 years old numbered 10.9 million and represented 15 percent of all residential participants. Their participation rate was 40 percent. There were 9.2 million participants in the 55 to 64 year old age group, accounting for 12 percent of all residential recreationists and having a participation rate of 44 percent. The 18 to 24 year old participants numbered 6 million, or 8 percent of the residential participants. Their participation rate was 26 percent in 1991. Finally, the 16 and 17 year old participants totaled 2 million with a participation rate of 30 percent, accounting for 3 percent of the residential nonconsumptive participants.

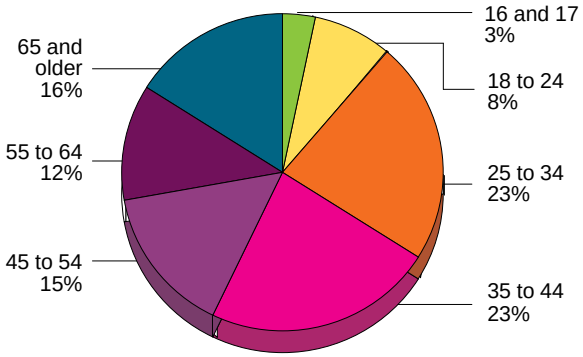
Percent of U.S. Population 16 Years Old and Older Who Participated, by Sex



Percent of Primary Residential Participants 16 Years Old and Older, by Sex



Percent of Primary Residential Participants, by Age



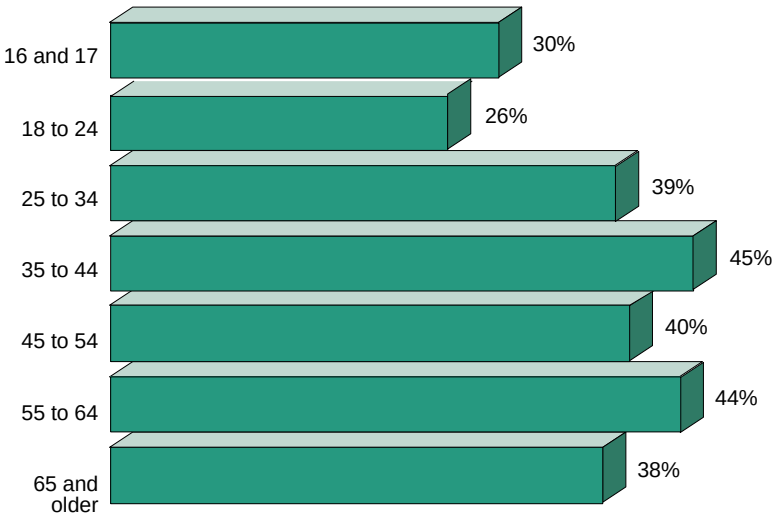
Primary Residential Participants, by Sex and Age

(In millions)

Total, both sexes	**73.9**
Male	35.9
Female	38.0
Total, all ages	**73.9**
16-17	2.0
18-24	6.0
25–34	16.8
35-44	17.3
45-54	10.9
55-64	9.2
65 and older	11.8

Source: Table 52

Percent of U.S. Population Who Participated, by Age



Size of Residence of Primary Residential Participants

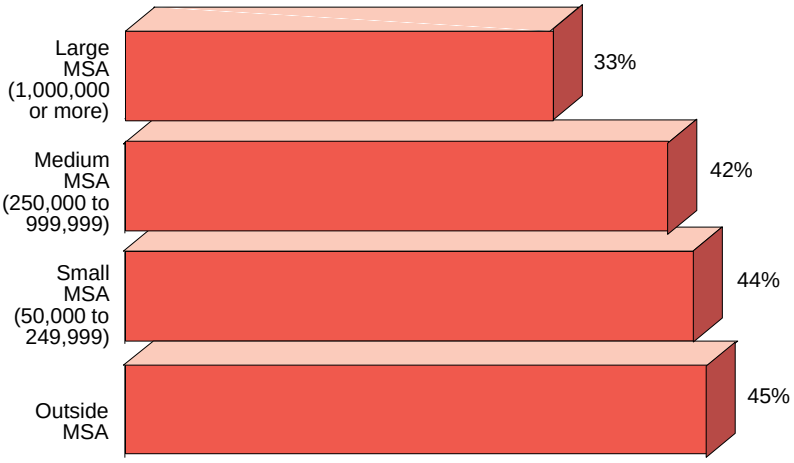
Thirty-nine percent of all U.S. residents 16 years old and older participated in nonconsumptive wildlife-associated recreation around their homes in 1991.

Participation rates varied by population size of metropolitan areas. People living in Metropolitan Statistical Areas (MSA's) with populations of 1,000,000 or more had a participation rate of 33 percent. These recreationists comprised 36 percent of the total residential participants. In MSA's of 250,000 to 999,999, the participation rate was 42 percent, 26 percent of all residential recreationists. Twelve percent of the residential non- consumptive participants were from MSA's with populations of 50,000 to 249,999. The population of these areas had a participation rate of 44 percent.

The highest participation rate for residential nonconsumptive participants was among persons residing outside of MSA's. While 22 percent of the total U.S. population lived outside these areas in 1991, they represented 26 percent of all residential nonconsumptive participants. Forty-five percent of that population group participated in nonconsumptive activities around their homes in 1991.

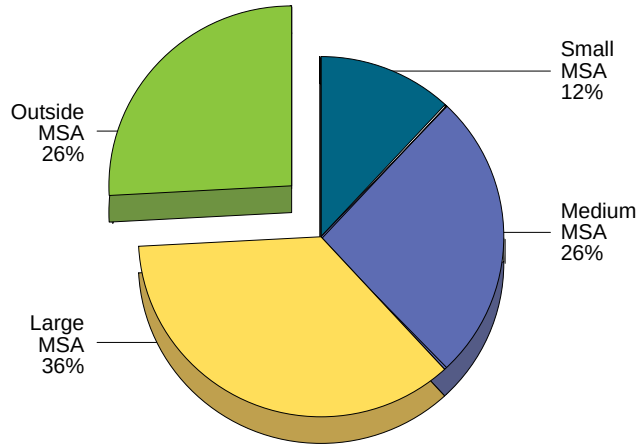
Percent of U.S. Population 16 Years Old and Older Who Participated, by Residence

(39% of total U.S. population participated)



Percent of Primary Residential Participants 16 Years Old and Older, by Residence

(Total residential participants: 73.9 million)

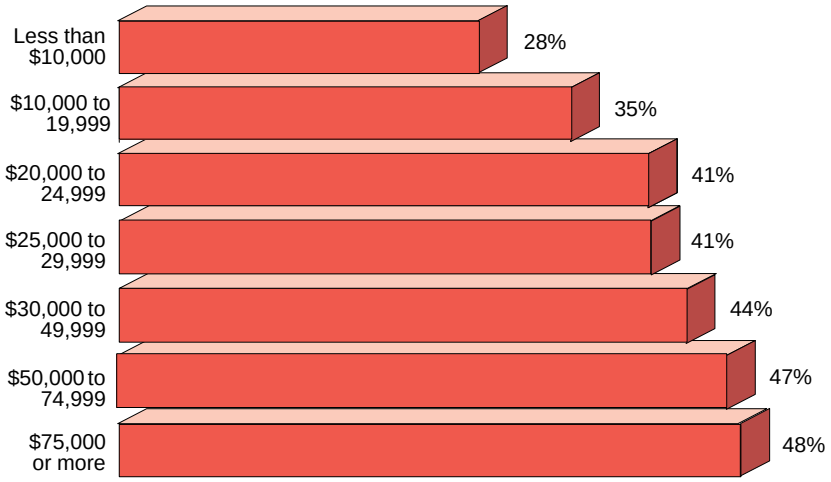


Income of Primary Residential Participants

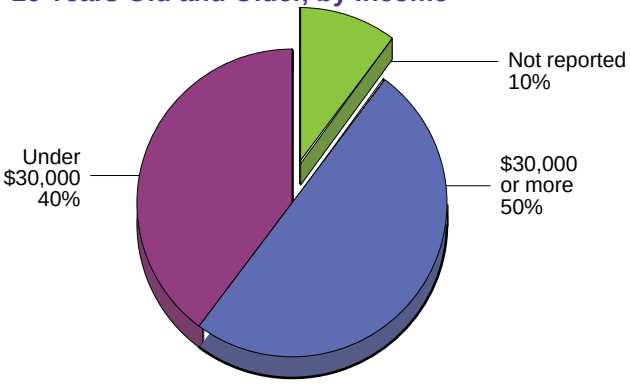
Primary residential nonconsumptive activities were enjoyed by people of all income levels. Participation rates ranged from 28 percent among U.S. residents living in households earning less than $10,000 per year to 48 percent among participants living in households earning $75,000 or more annually. These groups represented 7 percent and 9 percent of all residential nonconsumptive participants respectively. Participants in households earning $10,000-$19,999 a year had a participation rate of 35 percent and constituted 14 percent of all residential recreationists. The participation rate among recreationists with annual household incomes of $20,000-$24,999 was 41 percent making up 8 percent of all residential participants. People with annual household incomes of $25,000-$29,999 participated at a rate of 41 percent and made up 10 percent of all residential participants. Those people with annual household incomes of $30,000-$49,999, representing 25 percent of the residential participants, had a participation rate of 44 percent. Among the 16 percent of residential participants who reported annual household incomes of $50,000- $74,999, the participation rate was 47 percent.

In 1990, the median household income in the U.S. was approximately $30,000, with half the households earning less than $30,000 and the other half earning $30,000 or more. Forty percent of the residential nonconsumptive participants lived in households that earned less than $30,000, while 50 percent lived in households that reported an annual income of $30,000 or more. Ten percent of the residential nonconsumptive sample did not report their income.

Percent of U.S. Population 16 Years Old and Older Who Participated, by Income



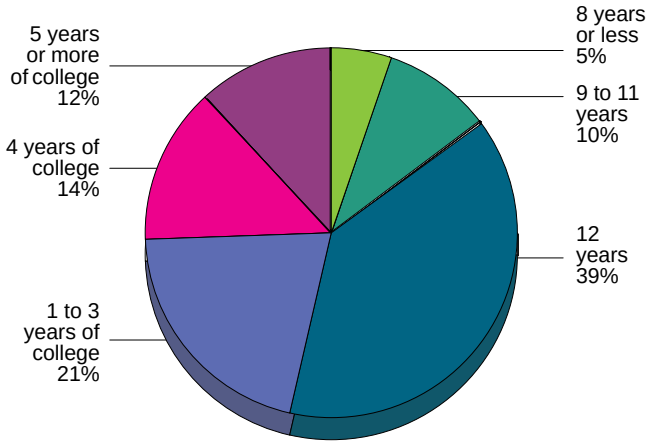
Percent of Primary Residential Participants 16 Years Old and Older, by Income



Education and Race of Primary Residential Participants

Among residential participants, a wide range of educational backgrounds was recorded. The highest rate of participation was found among recreationists with 5 or more years of college, 51 percent. They made up 12 percent of all residential nonconsumptive participants. The lowest participation rate, 25 percent, was among people with 8 years of education or less, 5 percent of all residential participants. The participation rate among those with 9 to 11 years of education was 33 percent. They constituted 10 percent of all residential participants. Residential recreationists with 12 years of schooling, 39 percent of all residential participants, had a participation rate of 37 percent. Participants with 1 to 3 years of college had a participation rate of 42 percent, while those with 4 years of college had a participation rate of 45 percent in 1991. They represented 21 percent and 14 percent of all residential nonconsumptive participants respectively.

Percent of Primary Residential Participants 16 Years Old and Older, by Education



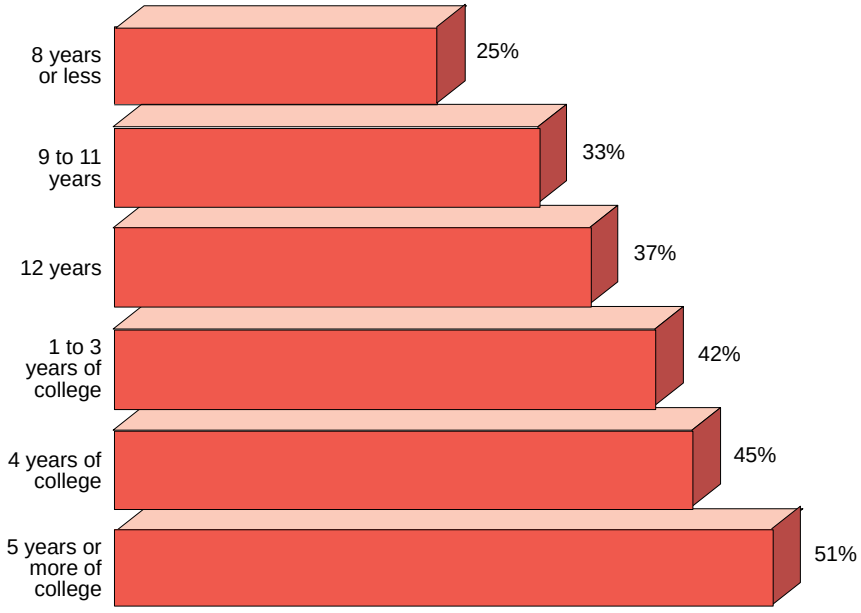
Primary Residential Participants, by Education and Race

(In millions)

Total participants	**73.9**
Education	
0-8 years	3.6
9-11 years	7.2
12 years	28.6
1-3 years of college	15.5
4 years of college	10.3
5 or more years of college	8.7
Race	
White	69.0
Black	3.0
Other	1.8

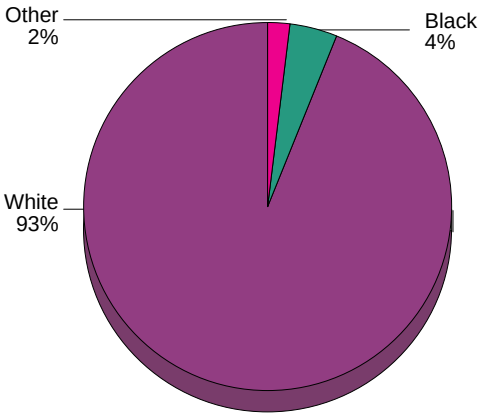
Source: Table 52

Percent of U.S. Population 16 Years Old and Older Who Participated, by Education

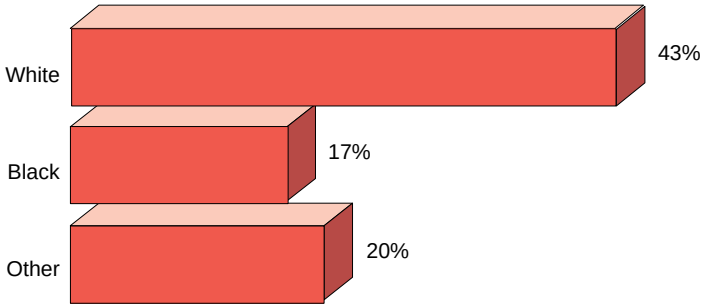


A wide variety of participation rates was found among the different races. For the U.S. population, 43 percent of the White population engaged in residential nonconsumptive activities, 17 percent of the Black population enjoyed such activities, and 20 percent of individuals of other races participated. Of the total number of primary residential participants, 93 percent were White, 4 percent were Black, and 2 percent were all other races.

Percent of Primary Residential Participants 16 Years Old and Older, by Race



Percent of U.S. Population 16 Years Old and Older Who Participated, by Race



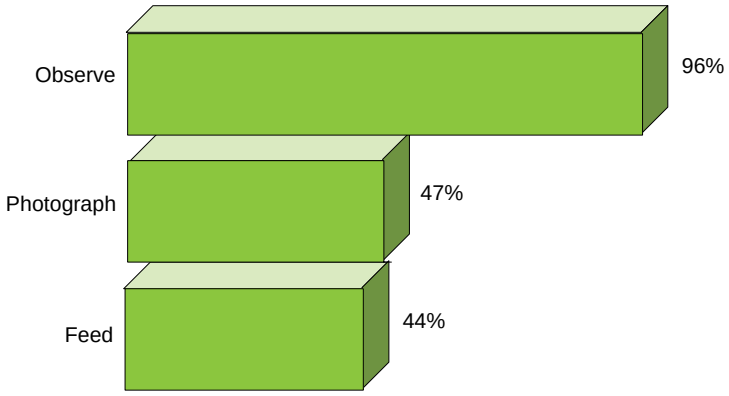
Primary Nonresidential Activities Highlights

In 1991, almost 30 million people 16 years old and older took trips away from home for the primary purpose of observing, feeding, or photographing wildlife. They constituted 39 percent of all primary nonconsumptive participants.

The most popular nonresidential activity was observing wildlife. Almost 29 million participants, 96 percent of all nonresidential participants, observed wildlife on an average of 10 days during the year. Photographing wildlife was enjoyed by 14.2 million people, 47 percent of all nonresidential participants, with an average of 6 days per participant. And 13.3 million people fed wildlife on an average of 8 days while away from home, 44 percent of all nonresidential recreationists.

Eighty-three percent of all primary nonresidential participants took trips within their state of residence. Sixty-eight percent of the primary nonresidential participants took trips only in their state of residence, 15 percent took trips both in their state of residence and to another state, and 17 percent took trips only to other states. Altogether, 32 percent of primary nonresidential participants took at least some of their trips to other states.

Percent of Primary Nonresidential Participants, by Activity

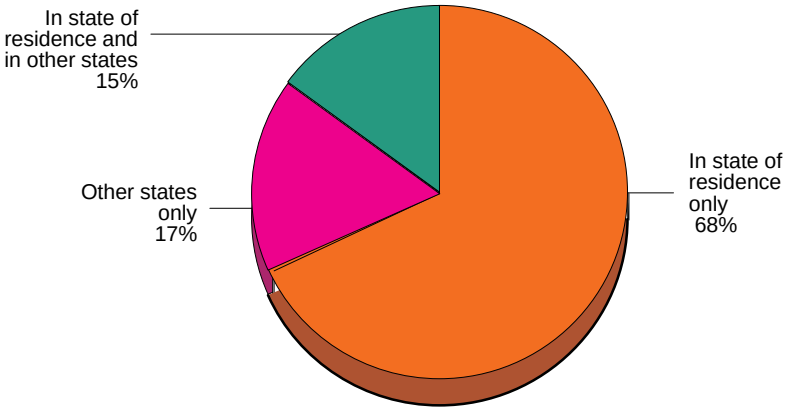


Primary Nonresidential
(In millions)

Total participants	**30.0**
Observers	28.8
Photographers	14.2
Feeders	13.3
Total days	**342**
Observing	296
Photographing	82
Feeding	102

Source: Table 45

Percent of Primary Nonresidential Participants in State of Residence and Other States



Wildlife Observed, Fed, or Photographed by Primary Nonresidential Participants

In 1991, many types of wildlife were enjoyed by the 30 million people who took trips for the primary purpose of observing, feeding, or photographing fish and wildlife in the United States. Birds attracted the attention of the largest number of people, 24.7 million individuals, 82 percent of all nonresidential participants 16 years old and older.

Land mammals such as deer, bear, and coyotes drew almost as much attention as birds. Twenty-two and a half million participants, 75 percent of all nonresidential participants, observed, fed, or photographed land mammals. Fish attracted the attention of 10.1 million participants, 34 percent of all nonresidential recreationists.

Over 3 million people, 10 percent of all nonresidential participants, observed, fed, or photographed marine mammals such as whales, seals, and dolphins.

Other wildlife such as butterflies, snakes, and turtles were observed, photographed, or fed by 14.7 million nonresidential participants, 49 percent of all nonconsumptive participants.

Primary Nonresidential Participants, by Type of Wildlife Observed, Fed, or Photographed

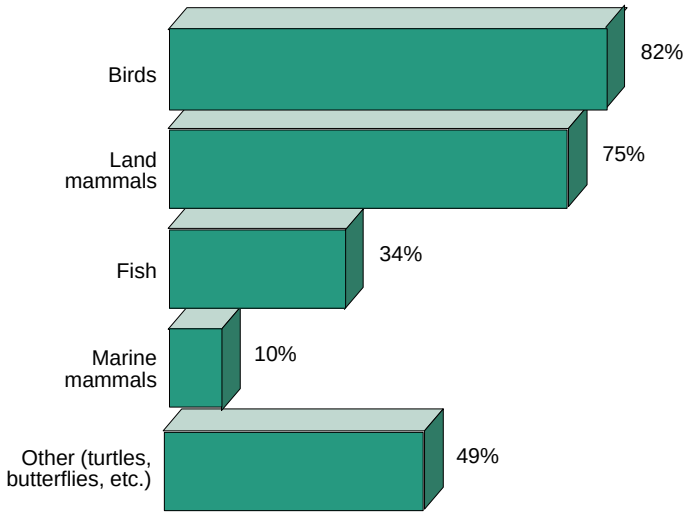
(In millions)

Total participants	**30.0**
Birds, total	24.7
Birds of prey	12.8
Waterfowl and shorebirds	19.1
Other birds	15.9
Land mammals, total	22.5
Fish	10.1
Other (turtles, butterflies,etc.)	14.7
Marine mammals	3.1

Source: Table 49

Percent of Primary Nonresidential Participants Who Observed, Fed, or Photographed Wildlife

(Total participants: 30 million)

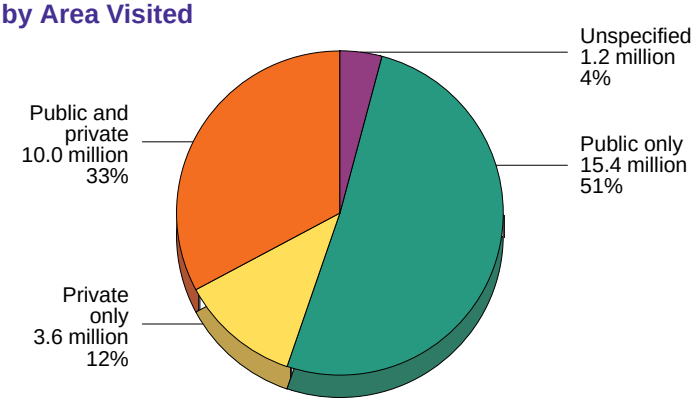


Area or Site Visited by Primary Nonresidential Participants

In 1991, both public and private areas provided significant opportunities for Americans to enjoy nonconsumptive wildlife-associated recreation activities. Almost 10 million, or 33 percent of all nonresidential participants, said they had visited both public and private areas during 1991. Most nonresidential participants, 15.4 million or 51 percent, reported visiting only public areas to enjoy their activities, while 3.6 million or 12 percent of nonresidential participants visited only private areas.

People also visited many different types of wildlife habitat while pursuing their activities during 1991. Almost 22 million people visited woodland habitats, 73 percent of the nonresidential participants. Lakes and streamsides also attracted a large number of visitors, 19.2 million people or 64 percent of the total. Brush covered areas and open fields attracted almost an equal number of people, 16.8 million, 56 percent, and 16.2 million, 54 percent, respectively. Wetlands were visited by 11.7 million, or 39 percent of all nonresidential participants, and manmade areas had 10 million recreational visitors, 33 percent of all nonresidential participants. Oceanside areas were visited by 6.9 million people accounting for 23 percent of all nonresidential recreationists. Other types of habitats accounted for 3.9 million nonresidential participants, 13 percent of the total nonconsumptive population.

Primary Nonresidential Participants, by Area Visited



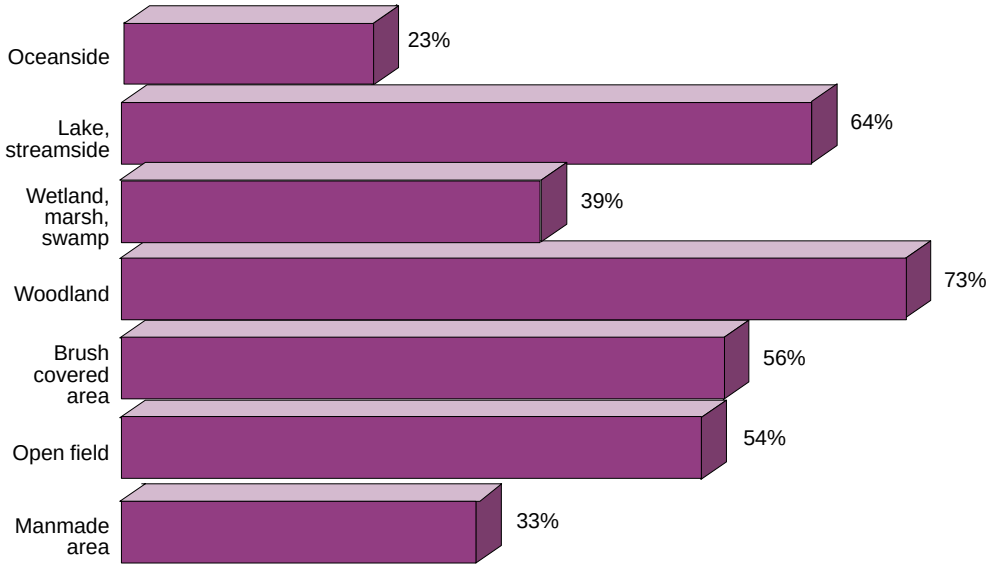
Primary Nonresidential Participants, by Site Visited

(In millions)

Total participants	**30.0**
Woodland	22.0
Lake or streamside	19.2
Open field	16.2
Brush covered area	16.8
Wetland, marsh, swamp	11.7
Manmade area	10.0
Oceanside	6.9

Source: Table 48

Type of Site Visited by Primary Nonresidential Participants



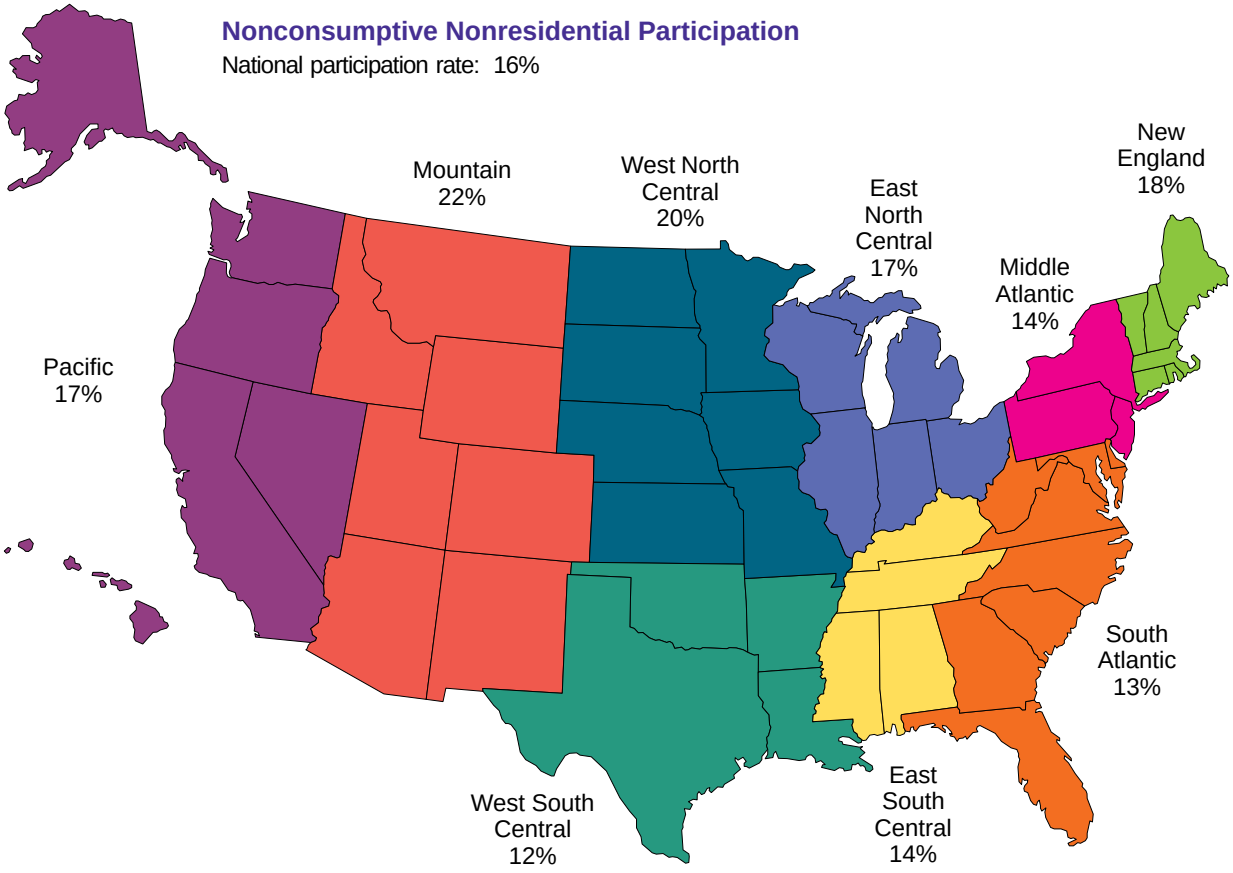
Primary Nonresidential Participants by Geographic Division

In 1991, 190 million people 16 years old and older lived in the United States. Of those individuals, 16 percent participated in primary nonresidential activities. Participation rates varied from region to region.

Nonresidential participation rates ranged from 12 percent in the West South Central Division to 22 percent in the Mountain Division. Participants in the South Atlantic Division had a participation rate of 13 percent. Individuals in the Middle Atlantic and East South Central Divisions recorded participation rates of 14 percent. The Pacific, East North Central, New England, and West North Central Divisions all had participation rates above the national participation rate of 16 percent. The Pacific and East North Central Divisions each had a participation rate of 17 percent. In the New England Division, 18 percent of the population participated in nonresidential activities. And 20 percent of the population in the West North Central Division participated in nonresidential nonconsumptive activities.

Nonconsumptive Nonresidential Participation

National participation rate: 16%



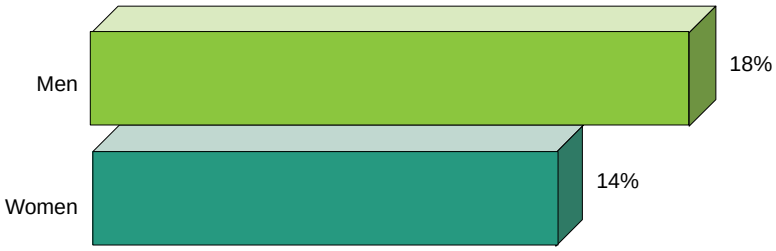
Sex and Age of Nonresidential Participants

Nearly equal numbers of males and females 16 years old and older enjoyed nonresidential nonconsumptive activities. In 1991, 18 percent of American males and 14 percent of American females enjoyed observing, feeding, or photographing wildlife away from home. Among the 30 million nonresidential participants, 53 percent (15.9 million) were male, and 47 percent (14.1 million) were female.

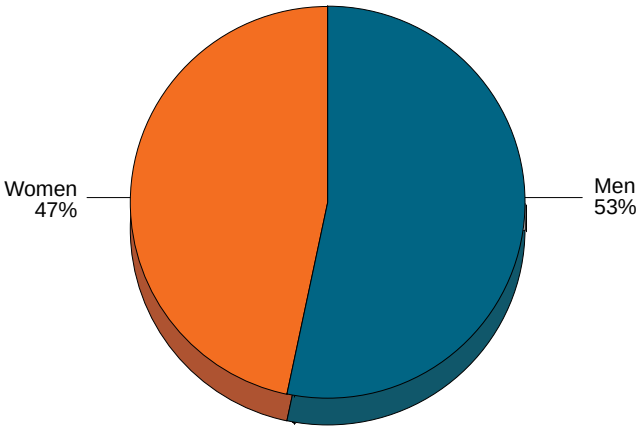
The age group with the most nonresidential participants, 8.9 million, was the 25 to 34 year olds with a participation rate of 21 percent. This group was closely followed by the 7.7 million participants in the 35 to 44 year old age group whose participation rate was 20 percent.

These two groups represented 30 percent and 26 percent of all nonresidential participants respectively. There were 4.3 million participants in the 45 to 54 year old age group, 14 percent of all nonresidential participants. Sixteen percent of the people in this age group participated in nonresidential activities. The 18 to 24 year old group, which had a participation rate of 14

Percent of U.S. Population 16 Years Old and Older Who Participated, by Sex

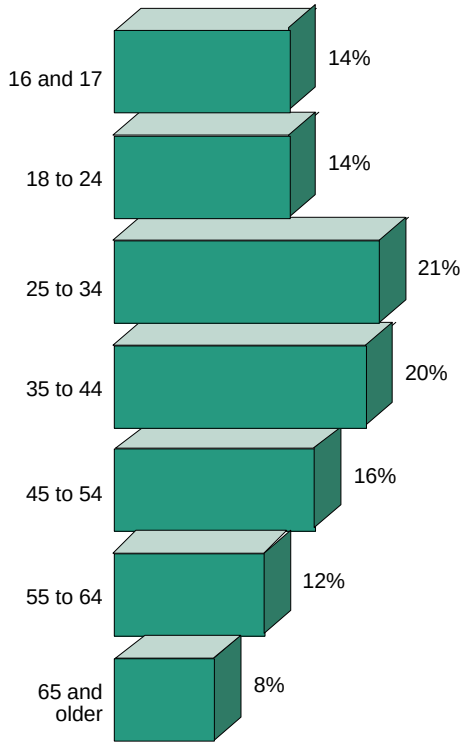


Percent of Primary Nonresidential Participants 16 Years Old and Older, by Sex

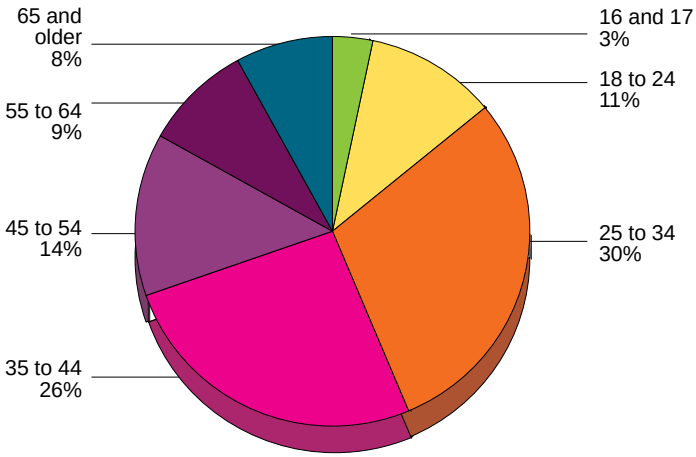


percent, numbered 3.2 million people and represented 11 percent of all nonresidential recreationists. Additionally, 2.6 million participants, 9 percent of all nonresidential participants, were 55 to 64 years old. They represented 12 percent of the U.S. population within that age group. Participants 65 years old and older numbered 2.4 million. They accounted for 8 percent of all nonresidential participants and had a participation rate of 8 percent. The 16 and 17 year olds had a participation rate of 14 percent. These 889 thousand individuals comprised 3 percent of all nonresidential participants.

Percent of U.S. Population Who Participated, by Age



Percent of Primary Nonresidential Participants, by Age



Primary Nonresidential Participants, by Sex and Age

Total, both sexes	**30.0 million**
Male	15.9 million
Female	14.1 million
Total, all ages	**30.0 million**
16-17	889 thousand
18-24	3.2 million
25-34	8.9 million
35–44	7.7 million
45-54	4.3 million
55-64	2.6 million
65 and older	2.4 million

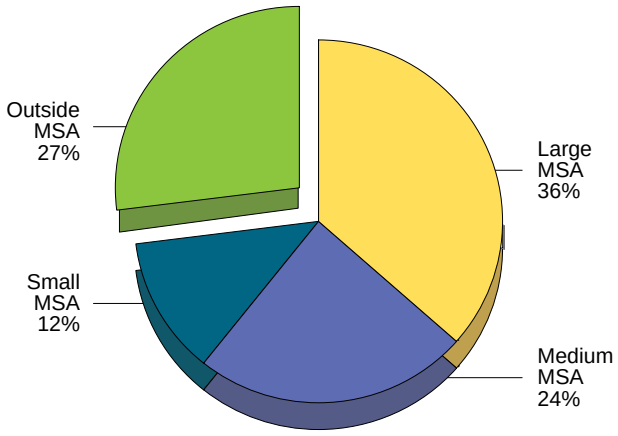
Source: Table 51

Size of Residence of Primary Nonresidential Participants

Nonresidential nonconsumptive activities were enjoyed by a substantial number of people from both urban and rural areas. Those living in Metropolitan Statistical Areas (MSA's) with populations of 1,000,000 or more participated at a rate of 13 percent and represented 36 percent of all nonresidential participants. The participation rate for nonresidential recreationists in MSA's with populations of 250,000 to 999,999, 24 percent of all nonresidential participants, was 16 percent. MSA's with populations of 50,000 to 249,999 had a participation rate of 18 percent and represented 12 percent of all nonresidential recreationists. Those participants residing in areas outside an MSA had a participation rate of 19 percent and represented 27 percent of the nonresidential total.

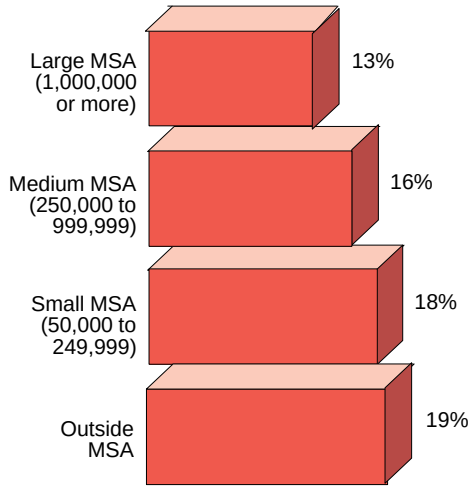
Percent of Primary Nonresidential Participants 16 Years Old and Older, by Residence

(Total nonresidential participants: 30 million)



Percent of U.S. Population 16 Years Old and Older Who Participated, by Residence

(16% of total U.S. population participated)

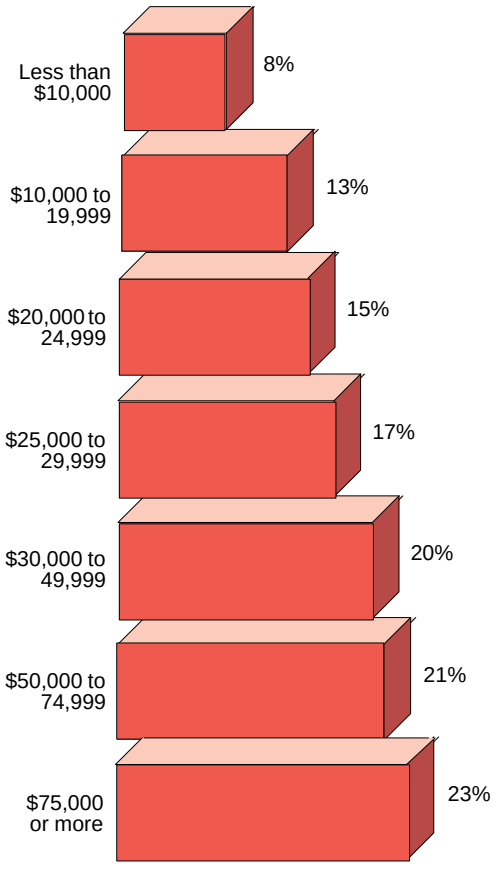


Income of Primary Nonresidential Participants

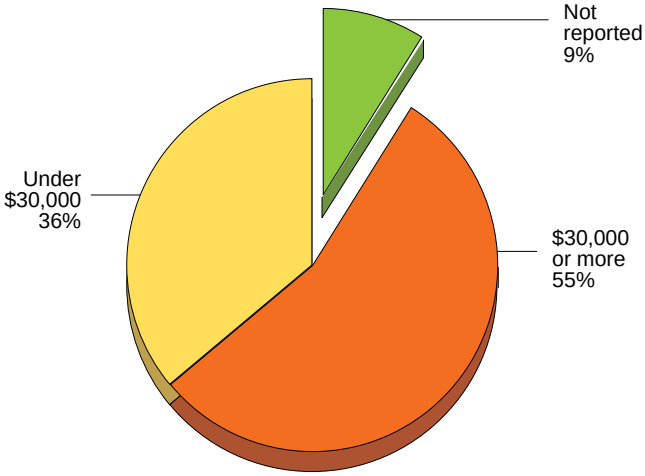
People from households at all income levels enjoyed nonconsumptive activities away from home. Participation rates ranged from 8 percent for those in households earning less than $10,000 per year (5 percent of all nonresidential participants) to 23 percent in those households earning $75,000 or more annually (10 percent of all nonresidential participants). Following close behind this income group were participants from households earning $50,000- $74,999 per year with a participation rate of 21 percent. They represented 17 percent of all nonresidential participants. Those in the $30,000-$49,999 income group with a 20 percent participation rate constituted the largest portion of nonresidential participants, 28 percent. Of those earning an annual household income of $25,000- $29,999, 17 percent enjoyed nonresidential activities. They represented 10 percent of the nonresidential total. Participants in the $20,000-$24,999 household income group had a 15 percent participation rate, and the participation rate for those in households earning $10,000-$19,999 was 13 percent. These two groups were 8 percent and 13 percent of all nonresidential recreationists respectively.

In 1990, the U.S. median household income was approximately $30,000. Half of the households earned less than $30,000 and the other half earned $30,000 or more. Among nonresidential nonconsumptive participants, 36 percent came from households with annual incomes of less than $30,000, while 55 percent were from households earning $30,000 or more annually. Nine percent of the nonresidential nonconsumptive sample did not report their income.

Percent of U.S. Population 16 Years Old and Older Who Participated, by Income



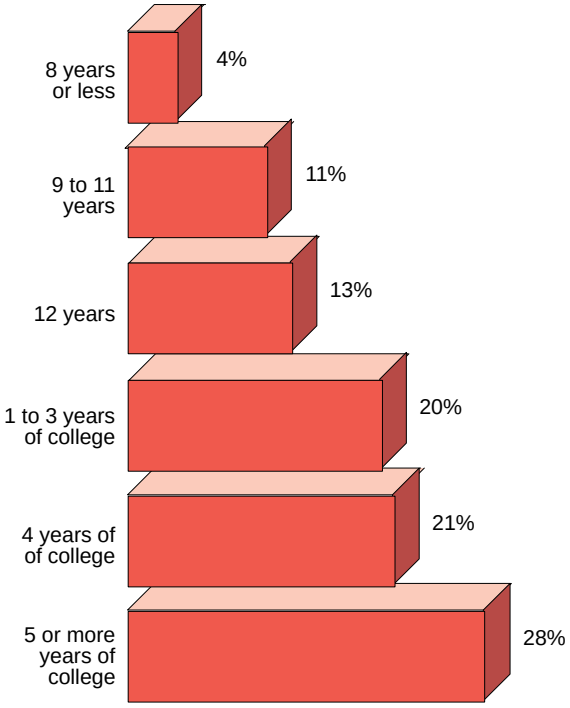
Percent of Primary Nonresidential Participants 16 Years Old and Older, by Income



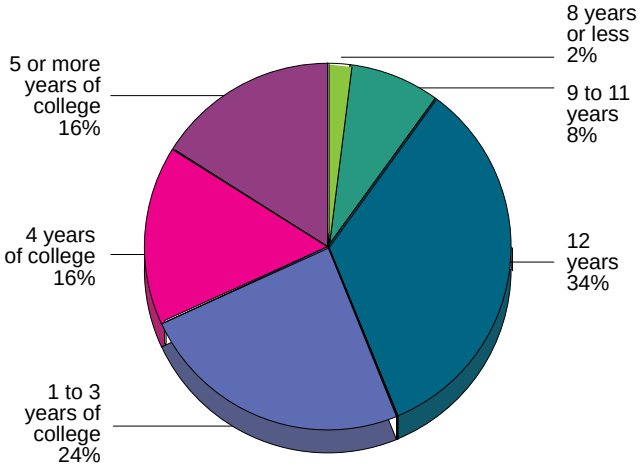
Education and Race of Primary Nonresidential Participants

People of all educational levels participated in nonresidential activities in 1991. Four percent of the U.S. population with 8 years of education or less participated in a nonresidential nonconsumptive activity, 2 percent of the nonresidential total. In comparison, 28 percent of the population with 5 years or more of college joined in nonresidential activities and represented 16 percent of all nonresidential participants. The participation rate of enthusiasts with 9 to 11 years of education was 11 percent. These participants made up 8 percent of all nonresidential enthusiasts. Those with 12 years of education had a 13 percent participation rate and represented 34 percent of the nonresidential total. Participants with 1 to 3 years of college participated at a rate of 20 percent, contributing 24 percent to the nonresidential total. Lastly, 21 percent of those with 4 years of college participated in nonresidential activities, making up 16 percent of all nonresidential participants.

Percent of U.S. Population 16 Years Old and Older Who Participated, by Education

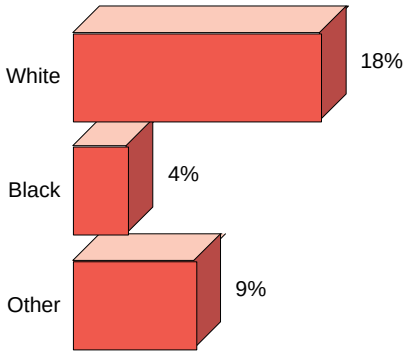


Percent of Primary Nonresidential Participants 16 Years Old and Older, by Education

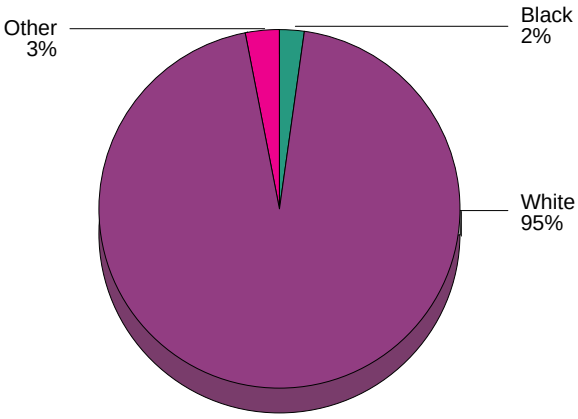


The participation rates among races varied greatly. Eighteen percent of all White individuals living in the U.S. participated in nonresidential activities in 1991, 4 percent of all Black individuals participated, and 9 percent of individuals of other races participated. Of the total 30 million nonresidential participants, 95 percent were White, 2 percent were Black, and 3 percent were other races.

Percent of U.S. Population 16 Years Old and Older Who Participated, by Race



Percent of Primary Nonresidential Participants 16 Years Old and Older, by Race



Primary Nonresidential Participants, by Education and Race

Total participants	**30.0 million**
Education	
8 years or less	578 thousand
9-11 years	2.3 million
12 years	10.3 million
1-3 years of college	7.2 million
5 or more years of college	4.8 million
Race	
White	28.5 million
Black	678 thousand
Other	843 thousand

Source: Table 51

Tables

List of Tables

Fishing and Hunting: 1991

Nonconsumptive Wildlife–Associated Recreation: 1991

State Wildlife–Associated Recreation: 1991

Guide to Statistical Tables

Purpose and Coverage of Tables

The statistical tables of this report were designed to meet a wide range of needs of those interested in knowing about wildlife-associated recreation. Special terms used in these tables are defined in appendix A.

The tables are based on responses to the 1991 Survey which was designed to collect data about participation in wildlife-associated recreation. To take part in the Survey a respondent must have been a U.S. resident (a resident of one of the fifty states or the District of Columbia). No one residing outside the United States (including U.S. citizens) was eligible for interviewing. Therefore, reported state and national totals do not include participation by those who were not U.S. residents or who were residing outside the United States. When participation in Canada by U.S. residents is being reported, it is noted in the table titles or footnotes.

Comparability With Previous Surveys

The methodology for the 1991 Survey was changed to improve accuracy. As a result, the data estimates presented in the following tables for participation and expenditures should not be compared with similar estimates from previous National Surveys. An explanation of the differences between the 1991 Survey and the 1980 and 1985 Surveys is presented in the Survey Background and Method section. Trends information is provided in appendix B.

Coverage of an Individual Table

Since the Survey covers many activities in various places by participants of different ages, all table titles, headnotes, stubs, and footnotes are designed to identify and articulate each item being reported in the table. For example, the title of table 1 shows that data about anglers and hunters, their days of participation, and number of trips are being reported by type of activity. By contrast, the title of table 2 indicates that it contains data on U.S. anglers and hunters who fished and hunted in Canada.

Percentages Reported in the Tables

Percentages are reported in the tables for the convenience of the user. When exclusive groups are being reported, the base of a percentage is apparent from its context because the percents add to 100 percent (plus or minus a rounding error). For example, table 1 reports the number of trips taken by big game hunters (49 percent), those taken by small game hunters (34 percent), those taken by migratory bird hunters (9 percent), and those taken by sportsmen hunting other animals (8 percent). These form 100 percent because they are exclusive categories.

Percents should not add to 100 when non-exclusive groups are being reported. Using table 1 as an example again, note that adding the percentages associated with total number of big game hunters (76 percent), total small game hunters (54 percent), total migratory bird

hunters (21 percent), and total hunters of other animals (10 percent) will not yield total hunters (100 percent) because types of game are not exclusive categories.

When the base of the percentage may not be apparent in context, it is identified in a footnote. For example, table 7 reports 3 percentages with different bases: one for the number of hunters, one for the number of trips, and one for days of hunting. Footnotes are used to clarify the bases of the reported percentages.

Footnotes to the Tables

Footnotes are used to clarify the information or items that are being reported in a table. Symbols in the body of a table indicate important footnotes. These symbols are used in the tables to refer to the same footnote each time they appear:

* Estimate based on a small sample size.

... Sample size too small to report data reliably.

W Less than .5 dollars.

Z Less than .5 percent.

X Not applicable.

Estimates based upon fewer than ten responses are regarded as being based on a sample size that is too small for reliable reporting. An estimate based upon at least ten but fewer than thirty responses is treated as an estimate based on a small sample size. Other footnotes appear, as necessary, to qualify or clarify the estimates reported in the tables.

In addition, these two important footnotes appear frequently:

- Detail does not add to total because of multiple responses.
- Detail does not add to total because of multiple responses and nonresponses.

“Multiple responses” is a term used to reflect the fact that individuals or their characteristics fall into more than one category. Using table 3 as an example, those who fished in saltwater and freshwater appear in both of these totals. Yet each angler is represented only once in the “Total, all fishing” row. Similarly, those who hunt for big game and small game are counted only once as a hunter. Therefore, totals may be smaller than the sum of subcategories when multiple responses exist.

“Nonresponse” exists because the Survey questions were answered voluntarily. Some respondents did not answer all of the questions. The effect of nonresponses may be illustrated by table 15, where the reported total for fishing and hunting expenditures is greater than the sum of reported fishing expenditures plus reported hunting expenditures. This occurs because some respondents did not respond to the questions about the primary purpose of their expenditures. As a result, it is known that the expenditures were for fishing or hunting, but it is not known whether they were for fishing or whether they were for hunting. Totals are greater than the sum of subcategories when nonresponses have occurred.

Table 1. Anglers and Hunters 16 Years Old and Older, Days of Participation, and Trips, by Type of Fishing and Hunting: 1991

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

Type of fishing and hunting	Participants		Days of participation		Trips	
	Number	Percent	Number	Percent	Number	Percent
Total sportsmen	39,979	100	747,135	100	668,327	100
Fishing						
Total, all fishing	35,578	100	511,329	100	453,951	100
Total, all freshwater	31,041	87	439,536	86	389,843	86
Freshwater, except Great Lakes	30,186	85	430,922	84	369,344	81
Great Lakes	2,552	7	25,335	5	20,499	5
Saltwater	8,885	25	74,696	15	64,108	14
Hunting						
Total, all hunting	14,063	100	235,806	100	214,375	100
Big game	10,745	76	128,411	54	104,224	49
Small game	7,642	54	77,132	33	72,487	34
Migratory bird	3,009	21	22,235	9	19,537	9
Other animals	1,411	10	19,340	8	18,127	8

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

Table 2. Participation in Canada by U.S. Anglers and Hunters: 1991

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

Participants and activity	Total, fishing and hunting		Fishing		Hunting	
	Number	Percent	Number	Percent	Number	Percent
Participants	893	100	862	97	38	4
Days of participation	5,867	100	5,663	97	203	3
Trips	1,754	100	1,704	97	50	3
Trip expenditures	$426,145	100	$392,257	92	$33,888	8

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

Table 3. Anglers, Trips, and Days of Fishing, by Type of Fishing: 1991

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

Anglers, trips, and days of fishing	Total, all fishing		Type of fishing							
			Freshwater						Saltwater	
			Total, all freshwater		Freshwater, except Great Lakes		Great Lakes			
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Anglers										
Total in U.S.	35,578	100	31,041	100	30,186	100	2,552	100	8,885	100
In state of residence	32,281	91	28,471	92	27,655	92	2,121	76	6,757	83
In other states	8,442	24	6,426	21	6,038	20	585	29	2,618	23
Trips										
Total in U.S.	453,951	100	389,843	100	369,344	100	20,499	100	64,108	100
1 day trips	398,081	88	342,438	88	324,870	88	17,568	87	55,643	86
2 or more day trips	55,870	12	47,404	12	44,473	12	2,931	13	8,466	14
Days of fishing										
Total days in U.S.	511,329	100	439,536	100	430,922	100	25,335	100	74,696	100
Days in state of residence	451,418	88	391,332	89	380,563	88	21,477	83	62,298	85
Days in other states	59,870	12	48,199	11	50,352	12	3,852	17	12,362	15
Average days per angler	14	(X)	14	(X)	14	(X)	10	(X)	8	(X)

Note: Detail for participants does not add to total because of multiple responses. Percents shown for anglers, trips and days of fishing are based on the respective ''Total in U.S.'' rows.
(X) Not applicable.

Table 4. Freshwater Anglers and Days of Fishing, by Type of Fish: 1991

(Population 16 years old and older. Numbers in thousands. Excludes Great Lakes fishing)

Type of fish	Anglers		Days of fishing		Average days per angler
	Number	Percent	Number	Percent	
Total, all types of fish	30,186	100	430,922	100	14
Black bass (largemouth, smallmouth, etc.)	12,857	43	158,226	37	12
White bass, striped bass and striped bass hybrids	6,408	21	63,181	15	10
Panfish	10,149	34	102,184	24	10
Crappie	8,327	28	90,940	21	11
Catfish and bullheads	9,195	30	96,451	22	10
Walleye and sauger	3,278	11	37,302	9	11
Northern pike, pickerel, muskie and muskie hybrids	2,693	9	29,327	7	11
Trout	9,107	30	81,366	19	9
Salmon	989	3	8,548	2	9
Steelhead	493	2	4,025	1	8
Anything[1]	4,984	17	37,744	9	8
Other freshwater fish	2,550	8	21,452	5	8

Note: Detail does not add to total because of multiple responses.
[1] Respondent identified ''Anything'' from a list of categories of fish.

Table 5. Great Lakes Anglers and Days of Fishing, by Type of Fish: 1991

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

Type of fish	Anglers		Days of fishing		Average days per angler
	Number	Percent	Number	Percent	
Total, all types of fish	2,552	100	25,335	100	10
Black bass (largemouth, smallmouth, etc.)	526	21	4,369	17	8
Walleye and sauger	1,028	40	9,489	37	9
Northern pike, pickerel, muskie and muskie hybrids	213	8	2,318	9	11
Perch	983	39	8,170	32	8
Salmon	721	28	4,622	18	6
Steelhead	289	11	2,444	10	8
Lake trout	482	19	2,980	12	6
Other trout	276	11	2,280	9	8
Anything[1]	371	15	2,814	11	8
Other Great Lakes fish	314	12	2,086	8	7

Note: Detail does not add to total because of multiple responses.
[1] Respondent identified ''Anything'' from a list of categories of fish.

Table 6. Saltwater Anglers and Days of Fishing, by Type of Fish: 1991

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

Type of fish	Anglers		Days of fishing		Average days per angler
	Number	Percent	Number	Percent	
Total, all types of fish	8,885	100	74,696	100	8
Salmon	783	9	4,590	6	6
Striped bass	1,117	13	7,639	10	7
Flatfish, flounder, halibut	2,302	26	16,170	22	7
Bluefish	1,915	22	12,147	16	6
Lingcod, rockcod	683	8	3,220	4	5
Seatrout	1,314	15	12,618	17	10
Sturgeon	*75	*1	*531	*1	*7
Mackerel	881	10	5,488	7	6
Billfish (marlin, swordfish, sailfish, spearfish)	322	4	2,052	3	6
Anything[1]	2,831	32	17,861	24	6
Other saltwater fish	4,279	48	32,368	43	8

Note: Detail does not add to total because of multiple responses.
[1] Respondent identified ''Anything'' from a list of categories of fish.
* Estimate based on a small sample size.

Table 7. Hunters, Trips, and Days of Hunting, by Type of Hunting: 1991

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

Hunters, trips, and days of hunting	Total, all hunting		Type of hunting							
			Big game		Small game		Migratory bird		Other animals	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Hunters										
Total in U.S.	14,063	100	10,745	100	7,642	100	3,009	100	1,411	100
In state of residence	13,370	95	10,167	95	7,215	94	2,861	95	1,321	94
In other states	1,826	13	1,241	12	746	10	256	9	131	9
Trips										
Total in U.S.	214,375	100	104,224	100	72,487	100	19,537	100	18,127	100
1 day trips	191,466	89	88,504	85	67,728	93	18,006	92	17,228	95
2 or more day trips	22,909	11	15,720	15	4,759	7	1,531	8	899	5
Days of hunting										
Total days in U.S.	235,806	100	128,411	100	77,132	100	22,235	100	19,340	100
Days in state of residence	220,125	93	118,338	92	72,824	94	20,908	94	18,102	94
Days in other states	15,681	7	10,072	8	4,308	6	1,327	6	1,237	6
Average days per hunter	17	(X)	12	(X)	10	(X)	7	(X)	14	(X)

Note: Detail does not add to total because of multiple responses. Percents shown for hunters, trips, and days of hunting are based on the respective ''Total in U.S.'' rows.
(X) Not applicable.

Table 8. Big Game Hunters and Days of Hunting, by Type of Game: 1991

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

Type of game	Hunters		Days of hunting		Average days per hunter
	Number	Percent	Number	Percent	
Total, all big game	10,745	100	128,411	100	12
Deer	10,277	96	112,853	88	11
Elk	682	6	5,048	4	7
Bear	368	3	2,882	2	8
Wild turkey	1,720	16	13,483	10	8
Other	404	4	3,235	3	8

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

Table 9. Small Game Hunters and Days of Hunting, by Type of Game: 1991

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

Type of game	Hunters		Days of hunting		Average days per hunter
	Number	Percent	Number	Percent	
Total, all small game	7,642	100	77,132	100	10
Rabbits, hares	3,980	52	35,624	46	9
Quail	1,694	22	13,511	18	8
Grouse/prairie chicken	1,375	18	10,629	14	8
Squirrels	3,569	47	29,602	38	8
Pheasant	2,285	30	16,136	21	7
Other	823	11	6,824	9	8

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

Table 10. Migratory Bird Hunters and Days of Hunting, by Type of Game: 1991

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

Type of game	Hunters		Days of hunting		Average days per hunter
	Number	Percent	Number	Percent	
Total, all migratory birds	3,009	100	22,235	100	7
Geese	882	29	6,584	30	7
Ducks	1,164	39	8,800	40	8
Doves	1,851	61	9,480	43	5
Other	259	9	1,667	7	6

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

Table 11. Hunters of Other Animals and Days of Hunting, by Type of Game: 1991

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

Type of game	Hunters		Days of hunting		Average days per hunter
	Number	Percent	Number	Percent	
Total, all other animals	1,411	100	19,340	100	14
Groundhog (woodchuck)	471	33	4,851	25	10
Raccoon	408	29	7,196	37	18
Fox	204	14	2,157	11	11
Coyote	427	30	4,482	23	10
Other	312	22	3,238	17	10

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

Table 12. Selected Characteristics of Anglers and Hunters: 1991

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

Characteristic	U.S. population		Sportsmen (fished or hunted)			Fished only		
	Number	Percent	Number	Percent who participated	Percent	Number	Percent who participated	Percent
Total persons	189,964	100	39,979	21	100	25,916	14	100
Population density of residence								
Urban	138,191	73	24,378	18	61	17,747	13	68
Rural	51,773	27	15,602	30	39	8,169	16	32
Population size of residence								
MSA	147,339	78	27,328	19	68	19,460	13	75
1,000,000 or more	81,346	43	12,515	15	31	9,444	12	36
250,000 - 999,999	45,601	24	9,667	21	24	6,755	15	26
50,000 - 249,999	20,392	11	5,146	25	13	3,261	16	13
Outside MSA	42,625	22	12,652	30	32	6,456	15	25
Census geographic division								
New England	10,180	5	1,658	16	4	1,214	12	5
Middle Atlantic	29,216	15	4,508	15	11	2,763	9	11
East North Central	32,188	17	7,202	22	18	4,412	14	17
West North Central	13,504	7	4,143	31	10	2,434	18	9
South Atlantic	33,682	18	6,996	21	17	4,913	15	19
East South Central	11,667	6	2,984	26	7	1,705	15	7
West South Central	19,926	10	5,125	26	13	3,281	16	13
Mountain	10,092	5	2,488	25	6	1,419	14	5
Pacific	29,508	16	4,875	17	12	3,774	13	15
Age								
Total	189,964	100	39,979	21	100	25,916	14	100
16 to 17 years	6,530	3	1,669	26	4	1,007	15	4
18 to 24 years	23,023	12	5,245	23	13	3,229	14	12
25 to 34 years	42,931	23	11,046	26	28	7,115	17	27
35 to 44 years	38,341	20	9,553	25	24	6,185	16	24
45 to 54 years	27,021	14	5,658	21	14	3,585	13	14
55 to 64 years	21,085	11	3,682	17	9	2,505	12	10
65 years and older	31,032	16	3,127	10	8	2,290	7	9
Sex								
Male, total	90,369	48	29,705	33	74	16,710	18	64
16 to 17 years	3,385	2	1,348	40	3	715	21	3
18 to 24 years	11,365	6	3,865	34	10	2,023	18	8
25 to 34 years	20,791	11	8,023	39	20	4,413	21	17
35 to 44 years	18,590	10	7,050	38	18	3,938	21	15
45 to 54 years	13,289	7	4,222	32	11	2,297	17	9
55 to 64 years	9,933	5	2,834	29	7	1,732	17	7
65 years and older	13,017	7	2,365	18	6	1,592	12	6
Female, total	99,595	52	10,274	10	26	9,206	9	36
16 to 17 years	3,145	2	321	10	1	291	9	1
18 to 24 years	11,659	6	1,380	12	3	1,206	10	5
25 to 34 years	22,140	12	3,023	14	8	2,703	12	10
35 to 44 years	19,751	10	2,503	13	6	2,246	11	9
45 to 54 years	13,732	7	1,436	10	4	1,288	9	5
55 to 64 years	11,153	6	849	8	2	774	7	3
65 years and older	18,015	9	762	4	2	698	4	3
Race								
White	162,367	85	37,026	23	93	23,454	14	90
Black	18,395	10	1,883	10	5	1,589	9	6
All others	9,202	5	1,071	12	3	874	9	3
Annual household income								
Under $10,000	18,585	10	2,228	12	6	1,555	8	6
$10,000 to $19,999	29,864	16	5,296	18	13	3,466	12	13
$20,000 to $24,999	15,188	8	3,302	22	8	1,980	13	8
$25,000 to $29,999	18,727	10	4,229	23	11	2,627	14	10
$30,000 to $49,999	42,689	22	11,626	27	29	7,336	17	28
$50,000 to $74,999	24,448	13	6,473	26	16	4,414	18	17
$75,000 or more	13,579	7	3,121	23	8	2,174	16	8
Not reported	26,884	14	3,705	14	9	2,364	9	9
Education								
8 years or less	14,311	8	1,786	12	4	1,190	8	5
9 - 11 years	21,595	11	4,730	22	12	2,995	14	12
12 years	77,293	41	16,140	21	40	9,890	13	38
1 - 3 years college	36,725	19	8,638	24	22	5,742	16	22
4 years college	22,920	12	5,132	22	13	3,565	16	14
5 or more years college	17,120	9	3,554	21	9	2,533	15	10

(continued)

Table 12. Selected Characteristics of Anglers and Hunters: 1991—Continued

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

Characteristic	Hunted only			Fished and hunted		
	Number	Percent who participated	Percent	Number	Percent who participated	Percent
Total persons	4,402	2	100	9,662	5	100
Population density of residence						
Urban	2,010	1	46	4,621	3	48
Rural	2,392	5	54	5,040	10	52
Population size of residence						
MSA	2,451	2	56	5,417	4	56
1,000,000 or more	988	1	22	2,084	3	22
250,000 - 999,999	863	2	20	2,048	4	21
50,000 - 249,999	601	3	14	1,285	6	13
Outside MSA	1,951	5	44	4,245	10	44
Census geographic division						
New England	114	1	3	330	3	3
Middle Atlantic	638	2	14	1,108	4	11
East North Central	937	3	21	1,852	6	19
West North Central	496	4	11	1,213	9	13
South Atlantic	555	2	13	1,528	5	16
East South Central	349	3	8	930	8	10
West South Central	533	3	12	1,311	7	14
Mountain	409	4	9	660	7	7
Pacific	370	1	8	730	2	8
Age						
Total	4,402	2	100	9,662	5	100
16 to 17 years	188	3	4	474	7	5
18 to 24 years	652	3	15	1,364	6	14
25 to 34 years	1,117	3	25	2,813	7	29
35 to 44 years	969	3	22	2,399	6	25
45 to 54 years	764	3	17	1,309	5	14
55 to 64 years	411	2	9	765	4	8
65 years and older	300	1	7	537	2	6
Sex						
Male, total	3,995	4	91	9,000	10	93
16 to 17 years	175	5	4	457	13	5
18 to 24 years	587	5	13	1,255	11	13
25 to 34 years	990	5	22	2,620	13	27
35 to 44 years	877	5	20	2,234	12	23
45 to 54 years	708	5	16	1,216	9	13
55 to 64 years	382	4	9	720	7	7
65 years and older	274	2	6	498	4	5
Female, total	407	(Z)	9	661	1	7
16 to 17 years	...	...	...	*17	*1	*(Z)
18 to 24 years	65	1	1	109	1	1
25 to 34 years	127	1	3	193	1	2
35 to 44 years	92	(Z)	2	165	1	2
45 to 54 years	56	(Z)	1	93	1	1
55 to 64 years	30	(Z)	1	45	(Z)	(Z)
65 years and older	...	...	...	*39	*(Z)	*(Z)
Race						
White	4,250	3	97	9,323	6	96
Black	73	(Z)	2	221	1	2
All others	79	1	2	118	1	1
Annual household income						
Under $10,000	247	1	6	426	2	4
$10,000 to $19,999	619	2	14	1,210	4	13
$20,000 to $24,999	409	3	9	913	6	9
$25,000 to $29,999	472	3	11	1,130	6	12
$30,000 to $49,999	1,278	3	29	3,012	7	31
$50,000 to $74,999	605	2	14	1,455	6	15
$75,000 or more	284	2	6	663	5	7
Not reported	488	2	11	853	3	9
Education						
8 years or less	269	2	6	326	2	3
9 - 11 years	544	3	12	1,190	6	12
12 years	1,924	2	44	4,325	6	45
1 - 3 years college	937	3	21	1,958	5	20
4 years college	413	2	9	1,155	5	12
5 or more years college	314	2	7	707	4	7

Note: Percent who participated shows the percent of each row's population who participated in the activity named by the column (the percent of those living in urban areas who fished only, etc.). Percent columns show the percent of each column's participants who are described by the row heading (the percent of those who fished only who lived in urban areas, etc.).

* Estimate based on a small sample size.

... Sample size too small to report data reliably.

(Z) Less than 0.5 percent.

Table 13. Selected Characteristics of Anglers, by Type of Fishing: 1991

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

Characteristic	U.S. population		Total, all fishing			Freshwater		
						Total		
	Number	Percent	Number	Percent who participated	Percent	Number	Percent who participated	Percent
Total persons	189,964	100	35,578	19	100	31,041	16	100
Population density of residence								
Urban	138,191	73	22,368	16	63	18,890	14	61
Rural	51,773	27	13,210	26	37	12,151	23	39
Population size of residence								
MSA	147,339	78	24,877	17	70	20,966	14	68
1,000,000 or more	81,346	43	11,527	14	32	9,551	12	31
250,000 to 999,999	45,601	24	8,804	19	25	7,530	17	24
50,000 to 249,999	20,392	11	4,546	22	13	3,886	19	13
Outside MSA	42,625	22	10,701	25	30	10,075	24	32
Census geographic division								
New England	10,180	5	1,545	15	4	1,188	12	4
Middle Atlantic	29,216	15	3,871	13	11	3,008	10	10
East North Central	32,188	17	6,264	19	18	6,191	19	20
West North Central	13,504	7	3,647	27	10	3,633	27	12
South Atlantic	33,682	18	6,441	19	18	4,887	15	16
East South Central	11,667	6	2,635	23	7	2,509	22	8
West South Central	19,926	10	4,592	23	13	4,039	20	13
Mountain	10,092	5	2,079	21	6	2,030	20	7
Pacific	29,508	16	4,505	15	13	3,556	12	11
Age								
Total	189,964	100	35,578	19	100	31,041	16	100
16 to 17 years	6,530	3	1,481	23	4	1,346	21	4
18 to 24 years	23,023	12	4,593	20	13	4,110	18	13
25 to 34 years	42,931	23	9,929	23	28	8,707	20	28
35 to 44 years	38,341	20	8,584	22	24	7,459	19	24
45 to 54 years	27,021	14	4,894	18	14	4,215	16	14
55 to 64 years	21,085	11	3,271	16	9	2,845	13	9
65 years and older	31,032	16	2,827	9	8	2,360	8	8
Sex								
Male	90,369	48	25,711	28	72	22,670	25	73
Female	99,595	52	9,867	10	28	8,371	8	27
Race								
White	162,367	85	32,776	20	92	28,727	18	93
Black	18,395	10	1,810	10	5	1,583	9	5
All others	9,202	5	992	11	3	732	8	2
Annual household income								
Under $10,000	18,585	10	1,981	11	6	1,839	10	6
$10,000 to $19,999	29,864	16	4,677	16	13	4,286	14	14
$20,000 to $24,999	15,188	8	2,893	19	8	2,636	17	8
$25,000 to $29,999	18,727	10	3,757	20	11	3,309	18	11
$30,000 to $49,999	42,689	22	10,348	24	29	9,072	21	29
$50,000 to $74,999	24,448	13	5,868	24	16	4,874	20	16
$75,000 or more	13,579	7	2,837	21	8	2,274	17	7
Not reported	26,884	14	3,217	12	9	2,751	10	9
Education								
8 years or less	14,311	8	1,517	11	4	1,391	10	4
9 - 11 years	21,595	11	4,186	19	12	3,789	18	12
12 years	77,293	41	14,216	18	40	12,559	16	40
1 - 3 years college	36,725	19	7,700	21	22	6,751	18	22
4 years college	22,920	12	4,720	21	13	3,887	17	13
5 or more years college	17,120	9	3,240	19	9	2,665	16	9

(continued)

Table 13. Selected Characteristics of Anglers, by Type of Fishing: 1991—Continued

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

Characteristic	Freshwater						Saltwater		
	Freshwater, except Great Lakes			Great Lakes					
	Number	Percent who participated	Percent	Number	Percent who participated	Percent	Number	Percent who participated	Percent
Total persons	30,186	16	100	2,552	1	100	8,885	5	100
Population density of residence									
Urban	18,219	13	60	1,804	1	71	6,570	5	74
Rural	11,967	23	40	747	1	29	2,314	4	26
Population size of residence									
MSA	20,248	14	67	2,086	1	82	7,474	5	84
1,000,000 or more	9,113	11	30	1,086	1	43	3,679	5	41
250,000 to 999,999	7,340	16	24	738	2	29	2,481	5	28
50,000 to 249,999	3,794	19	13	263	1	10	1,314	6	15
Outside MSA	9,938	23	33	465	1	18	1,411	3	16
Census geographic division									
New England	1,186	12	4	30	(Z)	1	702	7	8
Middle Atlantic	2,820	10	9	523	2	20	1,446	5	16
East North Central	5,553	17	18	1,833	6	72	307	1	3
West North Central	3,626	27	12	79	1	3	71	1	1
South Atlantic	4,882	14	16	45	(Z)	2	2,916	9	33
East South Central	2,503	21	8	*16	*(Z)	*1	328	3	4
West South Central	4,039	20	13	...	...	...	1,053	5	12
Mountain	2,025	20	7	*13	*(Z)	*(Z)	129	1	1
Pacific	3,552	12	12	...	...	...	1,932	7	22
Age									
Total	30,186	16	100	2,552	1	100	8,885	5	100
16 to 17 years	1,285	20	4	110	2	4	319	5	4
18 to 24 years	3,989	17	13	311	1	12	1,075	5	12
25 to 34 years	8,521	20	28	689	2	27	2,465	6	28
35 to 44 years	7,303	19	24	623	2	24	2,233	6	25
45 to 54 years	4,067	15	13	406	2	16	1,370	5	15
55 to 64 years	2,778	13	9	199	1	8	722	3	8
65 years and older	2,243	7	7	215	1	8	700	2	8
Sex									
Male	22,041	24	73	2,085	2	82	6,628	7	75
Female	8,145	8	27	467	(Z)	18	2,257	2	25
Race									
White	27,922	17	93	2,396	1	94	8,006	5	90
Black	1,550	8	5	109	1	4	441	2	5
All others	714	8	2	*47	*1	*2	438	5	5
Annual household income									
Under $10,000	1,795	10	6	98	1	4	295	2	3
$10,000 to $19,999	4,198	14	14	275	1	11	914	3	10
$20,000 to $24,999	2,573	17	9	178	1	7	544	4	6
$25,000 to $29,999	3,250	17	11	193	1	8	797	4	9
$30,000 to $49,999	8,793	21	29	790	2	31	2,592	6	29
$50,000 to $74,999	4,744	19	16	494	2	19	1,868	8	21
$75,000 or more	2,195	16	7	235	2	9	1,077	8	12
Not reported	2,638	10	9	288	1	11	798	3	9
Education									
8 years or less	1,351	9	4	103	1	4	228	2	3
9 - 11 years	3,691	17	12	260	1	10	811	4	9
12 years	12,218	16	40	1,033	1	40	3,266	4	37
1 - 3 years college	6,507	18	22	640	2	25	2,015	5	23
4 years college	3,797	17	13	313	1	12	1,507	7	17
5 or more years college	2,622	15	9	204	1	8	1,058	6	12

Note: Percent who participated shows the percent of each row's population who participated in the activity named by the column (the percent of those living in urban areas who fished in the Great Lakes, etc.). Percent columns show the percent of each column's participants who are described by the row heading (the percent of those who fished in the Great Lakes who lived in urban areas, etc.).

* Estimate based on a small sample size.

... Sample size too small to report data reliably.

(Z) Less than .5 percent.

Table 14. Selected Characteristics of Hunters, by Type of Hunting: 1991

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

Characteristic	U.S. population		Total, all hunting			Type of hunting		
						Big game		
	Number	Percent	Number	Percent who participated	Percent	Number	Percent who participated	Percent
Total persons	189,964	100	14,063	7	100	10,745	6	100
Population density of residence								
Urban	138,191	73	6,631	5	47	4,777	3	44
Rural	51,773	27	7,432	14	53	5,969	12	56
Population size of residence								
MSA	147,339	78	7,868	5	56	5,809	4	54
1,000,000 or more	81,346	43	3,071	4	22	2,230	3	21
250,000 - 999,999	45,601	24	2,911	6	21	2,105	5	20
50,000 - 249,999	20,392	11	1,885	9	13	1,473	7	14
Outside MSA	42,625	22	6,195	15	44	4,937	12	46
Census geographic division								
New England	10,180	5	444	4	3	391	4	4
Middle Atlantic	29,216	15	1,746	6	12	1,587	5	15
East North Central	32,188	17	2,789	9	20	2,198	7	20
West North Central	13,504	7	1,709	13	12	1,139	8	11
South Atlantic	33,682	18	2,083	6	15	1,676	5	16
East South Central	11,667	6	1,279	11	9	886	8	8
West South Central	19,926	10	1,843	9	13	1,297	7	12
Mountain	10,092	5	1,069	11	8	843	8	8
Pacific	29,508	16	1,101	4	8	729	2	7
Age								
Total	189,964	100	14,063	7	100	10,745	6	100
16 to 17 years	6,530	3	662	10	5	434	7	4
18 to 24 years	23,023	12	2,016	9	14	1,517	7	14
25 to 34 years	42,931	23	3,930	9	28	3,105	7	29
35 to 44 years	38,341	20	3,369	9	24	2,616	7	24
45 to 54 years	27,021	14	2,073	8	15	1,606	6	15
55 to 64 years	21,085	11	1,177	6	8	893	4	8
65 years and older	31,032	16	837	3	6	574	2	5
Sex								
Male	90,369	48	12,995	14	92	9,920	11	92
Female	99,595	52	1,068	1	8	825	1	8
Race								
White	162,367	85	13,572	8	97	10,441	6	97
Black	18,395	10	294	2	2	170	1	2
All others	9,202	5	197	2	1	134	1	1
Annual household income								
Under $10,000	18,585	10	673	4	5	484	3	5
$10,000 to $19,999	29,864	16	1,830	6	13	1,443	5	13
$20,000 to $24,999	15,188	8	1,322	9	9	1,064	7	10
$25,000 to $29,999	18,727	10	1,602	9	11	1,306	7	12
$30,000 to $49,999	42,689	22	4,289	10	31	3,301	8	31
$50,000 to $74,999	24,448	13	2,059	8	15	1,541	6	14
$75,000 or more	13,579	7	947	7	7	621	5	6
Not reported	26,884	14	1,341	5	10	985	4	9
Education								
8 years or less	14,311	8	595	4	4	436	3	4
9 - 11 years	21,595	11	1,735	8	12	1,346	6	13
12 years	77,293	41	6,250	8	44	5,010	6	47
1 - 3 years college	36,725	19	2,896	8	21	2,174	6	20
4 years college	22,920	12	1,567	7	11	1,064	5	10
5 or more years college	17,120	9	1,020	6	7	716	4	7

(continued)

Table 14. Selected Characteristics of Hunters, by Type of Hunting: 1991—Continued

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

Characteristic	Type of hunting								
	Small game			Migratory bird			Other animals		
	Number	Percent who participated	Percent	Number	Percent who participated	Percent	Number	Percent who participated	Percent
Total persons	7,642	4	100	3,009	2	100	1,411	1	100
Population density of residence									
Urban	3,531	3	46	1,600	1	53	456	(Z)	32
Rural	4,111	8	54	1,410	3	47	955	2	68
Population size of residence									
MSA	4,161	3	54	1,883	1	63	619	(Z)	44
1,000,000 or more	1,533	2	20	757	1	25	187	(Z)	13
250,000 - 999,999	1,653	4	22	666	1	22	271	1	19
50,000 - 249,999	975	5	13	461	2	15	160	1	11
Outside MSA	3,480	8	46	1,126	3	37	792	2	56
Census geographic division									
New England	234	2	3	53	1	2	50	(Z)	4
Middle Atlantic	964	3	13	195	1	6	231	1	16
East North Central	1,599	5	21	372	1	12	299	1	21
West North Central	1,154	9	15	339	3	11	175	1	12
South Atlantic	1,098	3	14	451	1	15	208	1	15
East South Central	803	7	11	313	3	10	153	1	11
West South Central	887	4	12	722	4	24	120	1	8
Mountain	431	4	6	212	2	7	90	1	6
Pacific	472	2	6	353	1	12	85	(Z)	6
Age									
Total	7,642	4	100	3,009	2	100	1,411	1	100
16 to 17 years	452	7	6	154	2	5	77	1	5
18 to 24 years	1,245	5	16	528	2	18	289	1	20
25 to 34 years	2,158	5	28	867	2	29	385	1	27
35 to 44 years	1,775	5	23	752	2	25	338	1	24
45 to 54 years	1,010	4	13	412	2	14	192	1	14
55 to 64 years	555	3	7	182	1	6	85	(Z)	6
65 years and older	447	1	6	115	(Z)	4	47	(Z)	3
Sex									
Male	7,241	8	95	2,854	3	95	1,313	1	93
Female	401	(Z)	5	155	(Z)	5	99	(Z)	7
Race									
White	7,306	4	96	2,920	2	97	1,372	1	97
Black	235	1	3	40	(Z)	1	*31	*(Z)	*2
All others	101	1	1	49	1	2	*8	*(Z)	*1
Annual household income									
Under $10,000	438	2	6	91	(Z)	3	70	(Z)	5
$10,000 to $19,999	957	3	13	224	1	7	211	1	15
$20,000 to $24,999	674	4	9	258	2	9	146	1	10
$25,000 to $29,999	877	5	11	291	2	10	178	1	13
$30,000 to $49,999	2,283	5	30	945	2	31	442	1	31
$50,000 to $74,999	1,161	5	15	562	2	19	184	1	13
$75,000 or more	513	4	7	376	3	12	79	1	6
Not reported	739	3	10	262	1	9	102	(Z)	7
Education									
8 years or less	325	2	4	57	(Z)	2	59	(Z)	4
9 - 11 years	950	4	12	261	1	9	163	1	12
12 years	3,340	4	44	1,094	1	36	649	1	46
1 - 3 years college	1,583	4	21	742	2	25	312	1	22
4 years college	867	4	11	532	2	18	152	1	11
5 or more years college	577	3	8	322	2	11	76	(Z)	5

Note: Percent who participated shows the percent of each row's population who participated in the activity named by the column (the percent of those living in urban areas who hunted big game, etc.). Percent columns show the percent of each column's participants who are described by the row heading (the percent of big game hunters who lived in urban areas, etc.).

(Z) Less than .5 percent.

* Estimate based on a small sample size.

Table 15. Summary of Expenditures for Fishing and Hunting: 1991

(Population 16 years old and older)

Expenditure item	Expenditures		Spenders		
	Amount (thousands of dollars)	Average per sportsman (dollars)	Number (thousands)	Percent of sportsmen	Average per spender (dollars)
Total, all items	40,923,429	1,024	39,191	98	1,044
Trip-related expenditures					
Total trip-related	15,288,354	382	37,889	95	404
Food and lodging, total	6,777,500	170	33,626	84	202
Food	5,410,853	135	33,494	84	162
Lodging	1,366,647	34	8,443	21	162
Transportation, total	4,138,593	104	35,016	88	118
Public	416,768	10	1,522	4	274
Private	3,721,825	93	34,643	87	107
Other trip costs	4,372,262	109	30,115	75	145
Equipment expenditures					
Fishing equipment	3,776,644	94	24,276	61	156
Hunting equipment	3,857,692	96	12,900	32	299
Auxiliary equipment[1]	1,806,862	45	11,678	29	155
Special equipment[2]	9,494,454	237	3,598	9	2,639
Other expenditures					
Magazines	255,892	6	8,800	22	29
Membership dues and contributions	402,610	10	5,503	14	73
Land leasing and ownership	5,142,431	129	1,997	5	2,575
Licenses, stamps, tags, and permits	898,489	22	27,151	68	33

Note: Detail does not add to total because of multiple responses. Detail in subsequent tables may not add to totals shown here because of nonresponse to individual questions.

[1] Auxiliary equipment includes camping equipment, binoculars, special fishing and hunting clothing, etc.

[2] Special equipment includes boats, campers, cabins, trail bikes, etc.

Table 16. Expenditures for Fishing: 1991

(Population 16 years old and older)

Expenditure item	Expenditures		Spenders		
	Amount (thousands of dollars)	Average per angler (dollars)	Number (thousands)	Percent of anglers	Average per spender (dollars)
Total, all items	23,990,125	674	34,786	98	690
Trip-related expenditures					
Total trip-related	11,847,750	333	33,881	95	350
Food and lodging, total	4,953,383	139	29,835	84	166
Food	3,817,472	107	29,708	84	129
Lodging	1,135,911	32	7,384	21	154
Transportation, total	2,799,922	79	30,830	87	91
Public	307,665	9	1,175	3	262
Private	2,492,257	70	30,494	86	82
Other trip costs, total	4,094,445	115	29,661	83	138
Guide fees	107,308	3	598	2	179
Pack trip or package fees	342,947	10	2,243	6	153
Public land use fees	96,463	3	3,974	11	24
Private land use fees	56,479	2	1,489	4	38
Equipment rental	169,220	5	2,727	8	62
Boat launching, mooring, storage, maintenance, insurance, and fuel	2,171,312	61	12,240	34	177
Bait	898,421	25	25,392	71	35
Ice	252,294	7	15,321	43	16
Equipment expenditures					
Fishing equipment, total	3,740,104	105	23,645	66	158
Rods and rod making components	868,095	24	11,446	32	76
Reels	575,892	16	9,043	25	64
Lines, hooks, sinkers, etc.	460,964	13	18,158	51	25
Artificial lures and flies	619,076	17	15,665	44	40
Depth finders and other electronic fishing devices	276,408	8	889	2	311
Tackle boxes	79,720	2	3,317	9	24
Creels, stringers, fish bags, landing nets, and gaff hooks	53,823	2	3,313	9	16
Minnow seines, traps, and bait containers	33,410	1	2,472	7	14
Spearfishing equipment	12,619	(W)	197	1	64
Ice fishing equipment	39,709	1	649	2	61
Other	720,387	20	3,540	10	203
Auxiliary equipment, total	619,433	17	5,639	16	110
Camping equipment	298,240	8	2,444	7	122
Binoculars, field glasses, telescopes, etc.	28,548	1	367	1	78
Special fishing or hunting clothing, rubber boots, waders, and foul weather gear	189,180	5	2,800	8	68
Processing and taxidermy costs	36,614	1	238	1	154
Other	66,851	2	971	3	69
Special equipment[1]	5,005,651	141	2,370	7	2,113
Other expenditures					
Magazines	88,468	2	3,713	10	24
Membership dues and contributions	73,399	2	1,684	5	44
Land leasing and ownership	2,128,619	60	682	2	3,119
Licenses, stamps, tags, and permits, total	486,700	14	22,533	63	22
Licenses	443,287	12	22,193	62	20
Stamps, tags, and permits	43,414	1	4,578	13	9

Note: Detail does not add to total because of multiple responses. Detail in tables 17-20 may not add to totals shown here because of multiple responses and nonresponse.

[1] Special equipment includes boats, campers, cabins, trail bikes, etc.

(W) Less than .5 dollars.

Table 17. Trip and Equipment Expenditures for Freshwater Fishing: 1991

(Population 16 years old and older)

Expenditure item	Expenditures		Spenders		
	Amount (thousands of dollars)	Average per angler (dollars)	Number (thousands)	Percent of anglers	Average per spender (dollars)
Total, all items	15,148,591	488	30,207	97	501
Trip-related expenditures					
Total trip-related	8,755,251	282	29,411	95	298
Food and lodging, total	3,862,636	124	25,779	83	150
Food	3,068,709	99	25,684	83	119
Lodging	793,927	26	5,987	19	133
Transportation, total	2,274,289	73	26,886	87	85
Public	208,871	7	815	3	256
Private	2,065,418	67	26,611	86	78
Other trip costs, total	2,618,326	84	25,421	82	103
Guide fees	65,643	2	376	1	175
Pack trip or package fees	116,254	4	639	2	182
Public land use fees	76,929	2	3,412	11	23
Private land use fees	47,943	2	1,283	4	37
Equipment rental	121,745	4	1,958	6	62
Boat launching, mooring, storage, maintenance, insurance, and fuel	1,308,449	42	10,246	33	128
Bait	691,340	22	22,205	72	31
Ice	190,023	6	13,013	42	15
Equipment expenditures					
Fishing equipment, total	2,470,145	80	19,298	62	128
Rods and rod making components	578,309	19	8,961	29	65
Reels	369,685	12	6,892	22	54
Lines, hooks, sinkers, etc.	317,218	10	14,432	46	22
Artificial lures and flies	470,895	15	12,816	41	37
Depth finders and other electronic fishing devices	197,651	6	653	2	303
Tackle boxes	56,371	2	2,462	8	23
Creels, stringers, fish bags, landing nets, and gaff hooks	28,712	1	2,475	8	12
Minnow seines, traps, and bait containers	21,527	1	1,854	6	12
Spearfishing equipment	2,647	(W)	78	(Z)	34
Ice fishing equipment	36,634	1	589	2	62
Other	390,496	13	2,285	7	171
Auxiliary equipment, total	481,235	16	4,466	14	108
Camping equipment	248,289	8	2,012	6	123
Binoculars, field glasses, telescopes, etc.	14,545	(W)	188	1	77
Special fishing or hunting clothing, rubber boots, waders, and foul weather gear	141,724	5	2,158	7	66
Processing and taxidermy costs	31,253	1	209	1	149
Other	45,424	1	735	2	62
Special equipment[1]	3,441,961	111	1,831	6	1,880

Note: Detail does not add to total because of multiple responses.
[1] Special equipment includes boats, campers, cabins, trail bikes, etc.
(W) Less than .5 dollars.
(Z) Less than .5 percent.

Table 18. Trip and Equipment Expenditures for Freshwater Fishing, Except Great Lakes: 1991

(Population 16 years old and older)

Expenditure item	Expenditures		Spenders		
	Amount (thousands of dollars)	Average per angler (dollars)	Number (thousands)	Percent of anglers	Average per spender (dollars)
Total, all items	13,811,713	458	29,443	98	469
Trip-related expenditures					
Total trip-related	7,885,427	261	28,575	95	276
Food and lodging, total	3,531,662	117	24,912	83	142
Food	2,819,172	93	24,825	82	114
Lodging	712,490	24	5,449	18	131
Transportation, total	2,101,072	70	26,073	86	81
Public	193,593	6	735	2	263
Private	1,907,479	63	25,805	85	74
Other trip costs, total	2,252,693	75	24,591	81	92
Guide fees	59,433	2	321	1	185
Pack trip or package fees	81,145	3	413	1	197
Public land use fees	69,934	2	3,238	11	22
Private land use fees	46,621	2	1,244	4	37
Equipment rental	111,875	4	1,818	6	62
Boat launching, mooring, storage, maintenance, insurance, and fuel	1,064,375	35	9,595	32	111
Bait	644,490	21	21,500	71	30
Ice	174,820	6	12,441	41	14
Equipment expenditures					
Fishing equipment, total	2,279,660	76	18,655	62	122
Rods and rod making components	545,126	18	8,604	29	63
Reels	354,768	12	6,599	22	54
Lines, hooks, sinkers, etc.	302,661	10	13,901	46	22
Artificial lures and flies	447,048	15	12,273	41	36
Depth finders and other electronic fishing devices	149,832	5	620	2	242
Tackle boxes	53,922	2	2,367	8	23
Creels, stringers, fish bags, landing nets, and gaff hooks	26,802	1	2,376	8	11
Minnow seines, traps, and bait containers	20,403	1	1,787	6	11
Spearfishing equipment	2,510	(W)	76	(Z)	33
Ice fishing equipment	33,655	1	554	2	61
Other	342,932	11	2,139	7	160
Auxiliary equipment, total	452,007	15	4,280	14	106
Camping equipment	229,857	8	1,963	7	117
Binoculars, field glasses, telescopes, etc.	14,471	(W)	186	1	78
Special fishing or hunting clothing, rubber boots, waders, and foul weather gear	134,542	4	2,049	7	66
Processing and taxidermy costs	28,834	1	190	1	152
Other	44,303	1	696	2	64
Special equipment[1]	3,194,619	106	1,769	6	1,806

Note: Detail does not add to total because of multiple responses. Includes anglers who did not fish in freshwater excluding Great Lakes.

[1] Special equipment includes boats, campers, cabins, trail bikes, etc.

(W) Less than .5 dollars.

(Z) Less than .5 percent.

Table 19. Trip and Equipment Expenditures for Great Lakes Fishing: 1991

(Population 16 years old and older)

Expenditure item	Expenditures		Spenders		
	Amount (thousands of dollars)	Average per angler (dollars)	Number (thousands)	Percent of anglers	Average per spender (dollars)
Total, all items	1,336,879	524	2,638	100	507
Trip-related expenditures					
Total trip-related	869,824	341	2,420	95	359
Food and lodging, total	330,974	130	2,214	87	150
Food	249,537	98	2,202	86	113
Lodging	81,437	32	672	26	121
Transportation, total	173,217	68	2,174	85	80
Public	15,278	6	95	4	160
Private	157,939	62	2,123	83	74
Other trip costs, total	365,633	143	2,079	81	176
Guide fees	6,210	2	58	2	108
Pack trip or package fees	35,109	14	238	9	147
Public land use fees	6,995	3	227	9	31
Private land use fees	*1,323	*1	*53	*2	*25
Equipment rental	9,870	4	175	7	57
Boat launching, mooring, storage, maintenance, insurance, and fuel	244,073	96	1,044	41	234
Bait	46,850	18	1,622	64	29
Ice	15,202	6	1,028	40	15
Equipment expenditures					
Fishing equipment, total	190,485	75	1,110	43	172
Rods and rod making components	33,183	13	426	17	78
Reels	14,917	6	315	12	47
Lines, hooks, sinkers, etc.	14,556	6	713	28	20
Artificial lures and flies	23,847	9	654	26	36
Depth finders and other electronic fishing devices	*47,819	*19	*35	*1	*1,372
Tackle boxes	2,450	1	97	4	25
Creels, stringers, fish bags, landing nets, and gaff hooks	1,910	1	109	4	18
Minnow seines, traps, and bait containers	1,124	(W)	76	3	15
Spearfishing equipment	...	...	...	...	...
Ice fishing equipment	*2,979	*1	*37	*1	*80
Other	47,564	19	150	6	317
Auxiliary equipment, total	29,228	11	215	8	136
Camping equipment	*18,432	*7	*55	*2	*333
Binoculars, field glasses, telescopes, etc.	...	...	...	...	...
Special fishing or hunting clothing, rubber boots, waders, and foul weather gear	7,182	3	116	5	62
Processing and taxidermy costs	*2,419	*1	*20	*1	*122
Other	*1,121	*(W)	*39	*2	*28
Special equipment[1]	247,342	97	61	2	4,031

Note: Detail does not add to total because of multiple responses. Includes anglers who did not Great Lakes fish.

[1] Special equipment includes boats, campers, cabins, trail bikes, etc.

(W) Less than .5 dollars.

(Z) Less than .5 percent.

* Estimate based on a small sample size.

... Sample size too small to report data reliably.

Table 20. Trip and Equipment Expenditures for Saltwater Fishing: 1991

(Population 16 years old and older)

Expenditure item	Expenditures		Spenders		
	Amount (thousands of dollars)	Average per angler (dollars)	Number (thousands)	Percent of anglers	Average per spender (dollars)
Total, all items	4,991,952	562	8,832	99	565
Trip-related expenditures					
Total trip-related	3,092,499	348	8,497	96	364
Food and lodging, total	1,090,747	123	7,524	85	145
Food	748,763	84	7,457	84	100
Lodging	341,985	38	1,740	20	197
Transportation, total	525,633	59	7,229	81	73
Public	98,794	11	414	5	239
Private	426,839	48	7,015	79	61
Other trip costs, total	1,476,119	166	7,581	85	195
Guide fees	41,665	5	238	3	175
Pack trip or package fees	226,693	26	1,682	19	135
Public land use fees	19,535	2	647	7	30
Private land use fees	8,536	1	231	3	37
Equipment rental	47,475	5	850	10	56
Boat launching, mooring, storage, maintenance, insurance, and fuel	862,863	97	2,862	32	302
Bait	207,081	23	5,333	60	39
Ice	62,271	7	3,847	43	16
Equipment expenditures					
Fishing equipment, total	749,187	84	3,863	43	194
Rods and rod making components	177,860	20	1,510	17	118
Reels	121,435	14	1,248	14	97
Lines, hooks, sinkers, etc	74,951	8	2,765	31	27
Artificial lures and flies	66,967	8	1,856	21	36
Depth finders and other electronic fishing devices	39,827	4	110	1	363
Tackle boxes	8,298	1	352	4	24
Creels, stringers, fish bags, landing nets, and gaff hooks	11,869	1	454	5	26
Minnow seines, traps, and bait containers	6,252	1	313	4	20
Spearfishing equipment	9,484	1	109	1	87
Other	232,062	26	643	7	361
Auxiliary equipment, total	69,121	8	757	9	91
Camping equipment	19,175	2	199	2	96
Binoculars, field glasses, telescopes, etc.	7,696	1	100	1	77
Special fishing or hunting clothing, rubber boots, waders, and foul weather gear	27,913	3	417	5	67
Processing and taxidermy costs	*2,888	*(W)	*21	*(Z)	*141
Other	11,450	1	155	2	74
Special equipment[1]	1,081,144	122	320	4	3,379

Note: Detail does not add to total because of multiple responses. Includes anglers who did not saltwater fish.

[1] Special equipment includes boats, campers, cabins, trail bikes, etc.

(W) Less than .5 dollars.

(Z) Less than .5 percent.

* Estimate based on a small sample size.

Table 21. Expenditures for Hunting: 1991

(Population 16 years old and older)

Expenditure item	Expenditures		Spenders		
	Amount (thousands of dollars)	Average per hunter (dollars)	Number (thousands)	Percent of hunters	Average per spender (dollars)
Total, all items	12,336,435	877	13,771	98	896
Trip-related expenditures					
Total trip-related	3,440,604	245	12,696	90	271
Food and lodging, total	1,824,117	130	10,949	78	167
Food	1,593,381	113	10,936	78	146
Lodging	230,736	16	1,474	10	157
Transportation, total	1,338,671	95	12,204	87	110
Public	109,103	8	389	3	280
Private	1,229,567	87	12,098	86	102
Other trip costs, total	277,817	20	1,409	10	197
Guide fees	46,913	3	196	1	239
Pack trip or package fees	81,218	6	185	1	440
Public land use fees	16,974	1	486	3	35
Private land use fees	121,771	9	703	5	173
Equipment rental	10,942	1	113	1	97
Equipment expenditures					
Hunting equipment, total	3,283,413	233	10,732	76	306
Guns and rifles	1,555,980	111	3,052	22	510
Rifles	732,588	52	1,609	11	455
Shotguns	489,518	35	1,326	9	369
Muzzleloaders, primitive firearms	83,852	6	349	2	240
Pistols, handguns	250,023	18	618	4	405
Bows, arrows, archery equipment	344,239	24	2,043	15	169
Telescopic sights	167,360	12	1,054	7	159
Decoys and game calls	58,523	4	1,152	8	51
Ammunition	531,055	38	9,488	67	56
Hand loading equipment	114,118	8	1,010	7	113
Hunting dogs and associated costs	310,576	22	936	7	332
Other	201,563	14	2,287	16	88
Auxiliary equipment, total	635,334	45	4,291	31	148
Camping equipment	99,627	7	626	4	159
Binoculars, field glasses, telescopes, etc.	75,755	5	745	5	102
Special fishing or hunting clothing, rubber boots, waders, and foul weather gear	273,179	19	3,056	22	89
Processing and taxidermy costs	159,703	11	945	7	169
Other	27,069	2	375	3	72
Special equipment[1]	1,249,777	89	496	4	2,520
Other expenditures					
Magazines	41,892	3	1,587	11	26
Membership dues and contributions	138,856	10	1,584	11	88
Land leasing and ownership	3,013,812	214	572	4	5,267
Licenses, stamps, tags, and permits, total	532,747	38	11,750	84	45
Licenses	405,274	29	11,596	82	35
Federal duck stamps	21,868	2	1,458	10	15
Other stamps, tags, and permits	105,605	8	4,788	34	22

Note: Detail does not add to total because of multiple responses. Detail in tables 22-25 may not add to totals shown here because of multiple responses and nonresponse.

[1] Special equipment includes boats, campers, cabins, trail bikes, etc.

Table 22. Trip and Equipment Expenditures for Big Game Hunting: 1991

(Population 16 years old and older)

Expenditure item	Expenditures		Spenders		
	Amount (thousands of dollars)	Average per hunter (dollars)	Number (thousands)	Percent of hunters	Average per spender (dollars)
Total, all items	5,090,443	474	10,506	98	485
Trip-related expenditures					
Total trip-related	2,195,565	204	9,813	91	224
Food and lodging, total	1,202,265	112	8,481	79	142
Food	1,033,272	96	8,470	79	122
Lodging	168,993	16	1,075	10	157
Transportation, total	817,120	76	9,404	88	87
Public	82,742	8	273	3	303
Private	734,378	68	9,275	86	79
Other trip costs, total	176,180	16	862	8	204
Guide fees	33,249	3	71	1	467
Pack trip or package fees	58,435	5	114	1	513
Public land use fees	12,632	1	342	3	37
Private land use fees	66,055	6	391	4	169
Equipment rental	5,810	1	60	1	97
Equipment expenditures					
Hunting equipment, total	1,591,890	148	6,714	62	237
Guns and rifles	775,672	72	1,644	15	472
Rifles	532,464	50	1,075	10	495
Shotguns	86,601	8	287	3	302
Muzzleloaders, primitive firearms	70,866	7	290	3	244
Pistols, handguns	85,741	8	195	2	439
Bows, arrows, archery equipment	311,799	29	1,858	17	168
Telescopic sights	126,853	12	772	7	164
Decoys and game calls	17,761	2	662	6	27
Ammunition	162,484	15	4,578	43	35
Hand loading equipment	46,711	4	481	4	97
Hunting dogs and associated costs	31,038	3	98	1	316
Other	119,572	11	1,308	12	91
Auxiliary equipment, total	451,459	42	3,160	29	143
Camping equipment	59,853	6	460	4	130
Binoculars, field glasses, telescopes, etc.	60,132	6	569	5	106
Special fishing or hunting clothing, rubber boots, waders, and foul weather gear.	176,598	16	2,016	19	88
Processing and taxidermy costs	137,553	13	841	8	163
Other	17,322	2	252	2	69
Special equipment[1]	851,529	79	353	3	2,412

Note: Detail does not add to total because of multiple responses. Includes hunters who did not big game hunt.
[1] Special equipment includes boats, campers, cabins, trail bikes, etc.
(W) Less than .5 dollars.
(Z) Less than .5 percent.

Table 23. Trip and Equipment Expenditures for Small Game Hunting: 1991

(Population 16 years old and older)

Expenditure item	Expenditures		Spenders		
	Amount (thousands of dollars)	Average per hunter (dollars)	Number (thousands)	Percent of hunters	Average per spender (dollars)
Total, all items	1,549,816	203	7,355	96	211
Trip-related expenditures					
Total trip-related	780,947	102	6,479	85	121
Food and lodging, total	402,160	53	5,070	66	79
Food	366,062	48	5,068	66	72
Lodging	36,098	5	333	4	108
Transportation, total	325,382	43	6,107	80	53
Public	13,032	2	84	1	155
Private	312,349	41	6,070	79	51
Other trip costs, total	53,405	7	449	6	119
Guide fees	6,536	1	77	1	85
Pack trip or package fees	17,179	2	45	1	386
Public land use fees	2,075	(W)	125	2	17
Private land use fees	24,804	3	226	3	110
Equipment rental	*2,810	*(W)	*46	*1	*61
Equipment expenditures					
Hunting equipment, total	588,764	77	3,835	50	154
Guns and rifles	303,425	40	993	13	306
Rifles	80,163	10	360	5	223
Shotguns	169,402	22	531	7	319
Muzzleloaders, primitive firearms	*5,768	*1	*31	*(Z)	*185
Pistols, handguns	48,092	6	167	2	288
Bows, arrows, archery equipment	5,498	1	83	1	66
Telescopic sights	15,024	2	166	2	90
Decoys and game calls	5,108	1	97	1	52
Ammunition	101,825	13	2,989	39	34
Hand loading equipment	15,124	2	200	3	76
Hunting dogs and associated costs	130,005	17	532	7	244
Other	12,755	2	307	4	42
Auxiliary equipment, total	48,118	6	576	8	84
Camping equipment	4,797	1	63	1	76
Binoculars, field glasses, telescopes, etc.	2,919	(W)	40	1	73
Special fishing or hunting clothing, rubber boots, waders, and foul weather gear	27,985	4	422	6	66
Processing and taxidermy costs	9,588	1	52	1	184
Other	2,830	(W)	46	1	62
Special equipment[1]	131,987	17	52	1	2,517

Note: Detail does not add to total because of multiple responses. Includes hunters who did not small game hunt.

[1] Special equipment includes boats, campers, cabins, trail bikes, etc.

(W) Less than .5 dollars.

(Z) Less than .5 percent.

* Estimate based on a small sample size.

Table 24. Trip and Equipment Expenditures for Migratory Bird Hunting: 1991

(Population 16 years old and older)

Expenditure item	Expenditures		Spenders		
	Amount (thousands of dollars)	Average per hunter (dollars)	Number (thousands)	Percent of hunters	Average per spender (dollars)
Total, all items	686,025	228	3,054	100	225
Trip-related expenditures					
Total trip-related	346,213	115	2,642	88	131
Food and lodging, total	168,033	56	2,167	72	78
Food	146,828	49	2,165	72	68
Lodging	21,205	7	185	6	115
Transportation, total	134,571	45	2,495	83	54
Public	10,302	3	50	2	205
Private	124,269	41	2,471	82	50
Other trip costs, total	43,609	14	309	10	141
Guide fees	5,402	2	51	2	105
Pack trip or package fees	*5,395	*2	*25	*1	*218
Public land use fees	2,184	1	74	2	30
Private land use fees	29,254	10	181	6	162
Equipment rental	*1,374	*(W)	*15	*(Z)	*93
Equipment expenditures					
Hunting equipment, total	284,319	94	1,758	58	162
Guns and rifles	114,667	38	242	8	474
Rifles	...	...	...	...	...
Shotguns	111,769	37	228	8	490
Muzzleloaders, primitive firearms	...	...	...	...	...
Pistols, handguns	...	...	...	...	...
Bows, arrows, archery equipment	...	...	...	...	...
Telescopic sights	...	...	...	...	...
Decoys and game calls	28,028	9	303	10	93
Ammunition	67,014	22	1,368	45	49
Hand loading equipment	8,827	3	118	4	75
Hunting dogs and associated costs	51,593	17	192	6	268
Other	13,572	5	162	5	84
Auxiliary equipment, total	38,460	13	343	11	112
Camping equipment	*1,619	*1	*16	*1	*100
Binoculars, field glasses, telescopes, etc.	*2,411	*1	*27	*1	*88
Special fishing or hunting clothing, rubber boots, waders, and foul weather gear	24,427	8	259	9	94
Processing and taxidermy costs	8,415	3	47	2	177
Other	*1,589	*1	*26	*1	*62
Special equipment[1]	*17,032	*6	*35	*1	*492

Note: Detail does not add to total because of multiple responses. Includes hunters who did not hunt for migratory birds.

[1] Special equipment includes boats, campers, cabins, trail bikes, etc.

(W) Less than .5 dollars.

(Z) Less than .5 percent.

* Estimate based on a small sample size.

... Sample size too small to report data reliably.

Table 25. Trip and Equipment Expenditures for Hunting Other Animals: 1991

(Population 16 years old and older)

Expenditure item	Expenditures		Spenders		
	Amount (thousands of dollars)	Average per hunter (dollars)	Number (thousands)	Percent of hunters	Average per spender (dollars)
Total, all items	254,681	180	1,244	88	205
Trip-related expenditures					
Total trip-related	117,879	84	1,015	72	116
Food and lodging, total	51,658	37	731	52	71
Food	47,219	33	731	52	65
Lodging	4,439	3	43	3	103
Transportation, total	61,598	44	956	68	64
Public	*3,026	*2	*17	*1	*178
Private	58,572	41	949	67	62
Other trip costs, total	4,622	3	45	3	103
Guide fees	...	...	...	...	...
Pack trip or package fees	...	...	...	...	...
Public land use fees	...	...	...	...	...
Private land use fees	*1,658	*1	*20	*1	*84
Equipment rental	...	...	...	...	...
Equipment expenditures					
Hunting equipment, total	104,099	74	492	35	212
Guns and rifles	37,428	27	101	7	372
Rifles	14,504	10	50	4	291
Shotguns	*3,484	*2	*19	*1	*187
Muzzleloaders, primitive firearms	...	...	...	...	...
Pistols, handguns	19,168	14	46	3	418
Bows, arrows, archery equipment	...	...	...	...	...
Telescopic sights	4,397	3	37	3	119
Decoys and game calls	2,032	1	50	4	41
Ammunition	10,063	7	279	20	36
Hand loading equipment	3,407	2	54	4	63
Hunting dogs and associated costs	35,821	25	75	5	478
Other	10,667	8	45	3	239
Auxiliary equipment, total	9,025	6	74	5	121
Camping equipment	...	...	...	...	...
Binoculars, field glasses, telescopes, etc.	*1,153	*1	*14	*1	*80
Special fishing or hunting clothing, rubber boots, waders, and foul weather gear	2,494	2	41	3	62
Processing and taxidermy costs	*1,808	*1	*14	*1	*130
Other	...	...	...	...	...
Special equipment[1]	...	...	...	...	...

Note: Detail does not add to total because of multiple responses. Includes hunters who did not hunt other animals.

[1] Special equipment includes boats, campers, cabins, trail bikes, etc.

(W) Less than .5 dollars.

(Z) Less than .5 percent.

* Estimate based on a small sample size.

... Sample size too small to report data reliably.

Table 26. Special Equipment Expenditures for Fishing and Hunting: 1991

(Population 16 years old and older)

Special equipment item	Expenditures		Spenders		
	Amount (thousands of dollars)	Average per sportsman (dollars)	Number (thousands)	Percent of sportsmen	Average per spender (dollars)
Total, all items	9,494,454	237	3,598	9	2,639
Motor boat (other than bass boat)	648,679	16	178	(Z)	3,650
Bass boat	1,846,287	46	451	1	4,093
Canoe, other non-motor boat	123,229	3	219	1	562
Boat motor, trailer or hitch, and other boat accessories	609,677	15	993	2	614
Travel or tent trailer, pickup, camper, van, motor home	3,728,489	93	636	2	5,860
Cabin	*643,738	*16	*35	*(Z)	*18,396
Trail bike, dune buggy, 4x4 vehicle, 3-wheeler, snowmobile	1,806,709	45	473	1	3,820
Other	87,646	2	1,455	4	60

Note: Detail does not add to total because of multiple responses.
(Z) Less than .5 percent.
* Estimate based on a small sample size.

Table 27. Expenditures for Fishing, Hunting, or Wildlife Magazines, or for Dues or Contributions to Organizations: 1991

(Population 16 years old and older)

Fishing or hunting	Magazines					Dues or contributions				
	Spenders[1]		Expenditures			Spenders[1]		Expenditures		
	Number (thousands)	Percent	Amount (thousands of dollars)	Percent	Average per spender (dollars)	Number (thousands)	Percent	Amount (thousands of dollars)	Percent	Average per spender (dollars)
Total sportsmen	8,918	100	255,892	100	29	5,560	100	402,610	100	72
Anglers, total	3,865	43	90,620	35	23	1,726	31	74,499	19	43
Freshwater, except Great Lakes	2,397	27	52,795	21	22	986	18	43,785	11	44
Great Lakes	118	1	2,217	1	19	*53	*1	*2,289	*1	*43
Saltwater	454	5	10,554	4	23	271	5	11,395	3	42
Hunters, total	1,872	21	47,692	19	25	1,906	34	151,147	38	79
Big game	960	11	24,217	9	25	640	12	43,513	11	68
Small game	178	2	4,070	2	23	220	4	11,178	3	51
Migratory bird	80	1	1,571	1	20	373	7	58,282	14	156
Other animals	*34	*(Z)	*572	*(Z)	*17	*25	*(Z)	*2,608	*1	*103
Unable to specify	4,532	51	119,394	47	26	2,606	47	179,807	45	69

Note: Detail does not add to total because of multiple responses and nonresponse. The ''Expenditures'' and ''Spenders'' estimates in this table do not match the corresponding entries in tables 16 and 21. This is because the anglers data in this table include expenditures for magazines or dues that were primarily for use in fishing by spenders who hunted but did not fish in 1991. Similarly, the hunters data include expenditures for magazines or dues that were primarily for use in hunting by spenders who fished but did not hunt in 1991.
[1] Spenders column reports the number of sportsmen who purchased or acquired the item. Not all spenders reported an expenditure amount.
* Estimate based on a small sample size.
(Z) Less than 0.5 percent.

Table 28. Anglers and Hunters Who Purchased Licenses or Were Exempt: 1991

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

Sportsmen	Anglers		Hunters	
	Number	Percent	Number	Percent
Total sportsmen	35,578	100	14,063	100
Total license purchasers[1]	23,302	65	11,986	85
Sportsmen purchasing licenses:				
In state of residence	21,445	60	11,460	81
In other states	3,653	10	1,325	9
Total exempt from purchasing licenses	3,037	9	1,024	7
Sportsmen exempt from license purchase:				
In state of residence	2,596	7	859	6
In other states	375	1	117	1
Other[2]	6,586	19	894	6
Not reported	3,329	9	486	3

Note: Detail does not add to total because of multiple responses and nonresponse. Respondents could have been licensed in one state and exempt in another.

[1] Includes persons who had licenses bought for them. Does not include persons who purchased licenses and did not fish or hunt in 1991.

[2] Includes persons engaged in activities requiring no licenses or exemptions and those who failed to buy a license for activities requiring a license.

Table 29. Expenditures for Fishing and Hunting Licenses, Stamps, Tags, and Permits: 1991

(Population 16 years old and older. Amounts in thousands of dollars)

Primary use	Total, all licenses, stamps, tags, and permits		Licenses		Stamps, tags, and permits	
	Amount	Percent	Amount	Percent	Amount	Percent
Total, fishing or hunting	898,489	100	727,602	100	170,886	100
Fishing	486,700	54	443,287	61	43,414	25
Hunting	532,747	59	405,274	56	127,473	75

Note: Detail does not add to total because of nonresponse and multiple responses. Does not include expenditures for licenses, stamps, tags, and permits purchased before 1991. Does not include expenditures for licenses, stamps, tags, and permits by anglers and hunters who did not fish or hunt in 1991.

Table 30. Selected Characteristics of Anglers and Hunters Who Purchased Licenses: 1991

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

Characteristic	Anglers						Hunters					
	Total		Purchased a license[1]		Did not purchase a license[2]		Total		Purchased a license[1]		Did not purchase a license[2]	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total persons	35,578	100	23,302	65	12,276	35	14,063	100	11,986	85	2,078	15
Population density of residence												
Urban	22,368	100	14,496	65	7,872	35	6,631	100	5,621	85	1,010	15
Rural	13,210	100	8,806	67	4,404	33	7,432	100	6,365	86	1,068	14
Population size of residence												
MSA	24,877	100	16,147	65	8,730	35	7,868	100	6,649	85	1,219	15
1,000,000 or more	11,527	100	7,311	63	4,216	37	3,071	100	2,579	84	492	16
250,000 - 999,999	8,804	100	5,621	64	3,183	36	2,911	100	2,421	83	490	17
50,000 - 249,999	4,546	100	3,215	71	1,331	29	1,885	100	1,649	87	236	13
Outside MSA	10,701	100	7,155	67	3,546	33	6,195	100	5,336	86	859	14
Census geographic division												
New England	1,545	100	979	63	565	37	444	100	407	92	37	8
Middle Atlantic	3,871	100	2,197	57	1,674	43	1,746	100	1,569	90	177	10
East North Central	6,264	100	4,484	72	1,780	28	2,789	100	2497	90	292	10
West North Central	3,647	100	2,873	79	774	21	1,709	100	1487	87	222	13
South Atlantic	6,441	100	3,084	48	3,357	52	2,083	100	1,612	77	471	23
East South Central	2,635	100	1,641	62	994	38	1,279	100	999	78	280	22
West South Central	4,592	100	3,169	69	1,423	31	1,843	100	1,550	84	294	16
Mountain	2,079	100	1,639	79	440	21	1,069	100	977	91	92	9
Pacific	4,505	100	3,235	72	1,269	28	1,101	100	886	81	214	19
Age												
Total	35,578	100	23,302	65	12,276	35	14,063	100	11,986	85	2,078	15
16 to 17 years	1,481	100	786	53	694	47	662	100	513	78	149	22
18 to 24 years	4,593	100	2,917	64	1,676	36	2,016	100	1,705	85	311	15
25 to 34 years	9,929	100	6,787	68	3,142	32	3,930	100	3,447	88	483	12
35 to 44 years	8,584	100	6,084	71	2,500	29	3,369	100	3,003	89	366	11
45 to 54 years	4,894	100	3,496	71	1,398	29	2,073	100	1,871	90	202	10
55 to 64 years	3,271	100	2,251	69	1,019	31	1,177	100	1,012	86	165	14
65 years and older	2,827	100	981	35	1,846	65	837	100	434	52	403	48
Sex												
Male	25,711	100	17,762	69	7,949	31	12,995	100	11,172	86	1,823	14
Female	9,867	100	5,540	56	4,327	44	1,068	100	814	76	254	24
Race												
White	32,776	100	21,804	67	10,972	33	13,572	100	11,643	86	1,929	14
Black	1,810	100	931	51	879	49	294	100	214	73	80	27
All others	992	100	566	57	425	43	197	100	129	65	69	35
Annual household income												
Under $10,000	1,981	100	1,062	54	918	46	673	100	493	73	181	27
$10,000 to $19,999	4,677	100	2,815	60	1,862	40	1,830	100	1,427	78	403	22
$20,000 to $24,999	2,893	100	1,891	65	1,002	35	1,322	100	1,157	88	165	12
$25,000 to $29,999	3,757	100	2,524	67	1,234	33	1,602	100	1,409	88	193	12
$30,000 to $49,999	10,348	100	7,154	69	3,193	31	4,289	100	3761	88	528	12
$50,000 to $74,999	5,868	100	4,053	69	1,816	31	2,059	100	1,814	88	245	12
$75,000 or more	2,837	100	1,803	64	1,033	36	947	100	828	87	119	13
Not reported	3,217	100	2,001	62	1,217	38	1,341	100	1,098	82	243	18
Education												
8 years or less	1,517	100	794	52	722	48	595	100	448	75	148	25
9 - 11 years	4,186	100	2,474	59	1,712	41	1,735	100	1,434	83	301	17
12 years	14,216	100	9,594	67	4,622	33	6,250	100	5,378	86	871	14
1 - 3 years college	7,700	100	5,209	68	2,491	32	2,896	100	2,488	86	407	14
4 years college	4,720	100	3,090	65	1,630	35	1,567	100	1,391	89	177	11
5 or more years college	3,240	100	2,140	66	1,100	34	1,020	100	846	83	174	17
Days of participation												
0 to 5 days	16,617	100	9,121	55	7,496	45	5,191	100	3,860	74	1,331	26
6 to 10 days	6,525	100	4,491	69	2,035	31	2,700	100	2,420	90	281	10
11 to 25 days	6,976	100	5,266	75	1,710	25	3,372	100	3,073	91	299	9
26 days or more	5,460	100	4,425	81	1,035	19	2,800	100	2,633	94	166	6

[1]Includes persons who purchased a license in 1991 in any state. Respondents could have been licensed in one state and exempt in another.
[2]Includes those persons who did not purchase a license in any state in 1991 and those who did not specify a license purchase in 1991.

Table 31. Freshwater Anglers and Days of Fishing, by Type of Water: 1991

(Population 16 years old and older. Numbers in thousands. Excludes Great Lakes fishing)

Type of water	Anglers		Days of fishing	
	Number	Percent	Number	Percent
Total, all types of water	30,186	100	430,922	100
Lakes or reservoirs, 10 acres or more	20,878	69	221,176	51
Ponds, less than 10 acres	10,601	35	78,405	18
Rivers or streams	13,660	45	126,147	29

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

Table 32. Great Lakes Anglers and Days of Fishing, by Great Lake: 1991

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

Great Lake	Anglers		Days of fishing	
	Number	Percent	Number	Percent
Total, all Great Lakes	2,552	100	25,335	100
Lake Ontario	298	12	2,394	9
Lake Erie	905	35	7,082	28
Lake Huron	230	9	2,113	8
Lake Michigan	864	34	5,090	20
Lake Superior	114	4	883	3
Lake St. Claire	118	5	1,658	7
St. Lawrence River	*31	*1	*218	*1
Connecting waters	260	10	3,021	12
Tributaries to the Great Lakes	148	6	1,616	6

Note: Detail does not add to total because of multiple responses and nonresponse.
* Estimate based on a small sample size.

Table 33. Hunters and Days of Hunting on Public and Private Land, by Type of Hunting: 1991

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

Hunters and days of hunting	Total, all hunting		Type of hunting							
			Big game		Small game		Migratory bird		Other animals	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Hunters										
Total, all land	14,063	100	10,745	100	7,642	100	3,009	100	1,411	100
Public land, total	6,204	44	4,626	43	2,634	34	887	29	293	21
Public land only	2,115	15	2,162	20	1,089	14	487	16	124	9
Public and private land	4,073	29	2,451	23	1,542	20	400	13	168	12
Private land, total	11,725	83	8,464	79	6,424	84	2,454	82	1,273	90
Private land only	7,587	54	5,990	56	4,840	63	2,046	68	1,099	78
Private and public land	4,073	29	2,451	23	1,542	20	400	13	168	12
Days of hunting										
Total, all land	235,806	100	128,411	100	77,132	100	22,235	100	19,340	100
Public land[1]	64,707	27	37,434	29	19,093	25	5,538	25	2,642	14
Private land[2]	178,990	76	90,432	70	57,391	74	15,512	70	15,655	81

Note: Detail does not add to total because of multiple responses and nonresponse.
[1] Days of hunting on public land includes both days spent solely on public land and those spent on public and private land.
[2] Days of hunting on private land includes both days spent solely on private land and those spent on private and public land.

Table 34. Hunters and Days of Hunting on Public Land, by Selected Characteristic: 1991

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

Characteristic	Hunters				Days of hunting			
		Hunters on public land [1]				Days on public land [2]		
	Total hunters, public and private land	Number	Percent of total hunters	Percent of hunters using public land	Total days, public and private land	Number	Percent of total days	Percent of days on public land
Total persons	14,063	6,204	44	100	235,806	64,707	27	100
Population density of residence								
Urban	6,631	3,182	48	51	88,327	29,633	34	46
Rural	7,432	3,022	41	49	147,479	35,074	24	54
Population size of residence								
MSA	7,868	3,621	46	58	113,182	33,582	30	52
1,000,000 or more	3,071	1,496	49	24	35,988	12,573	35	19
250,000- 999,999	2,911	1,289	44	21	45,973	12,463	27	19
50,000- 249,999	1,885	836	44	13	31,221	8,546	27	13
Outside MSA	6,195	2,583	42	42	122,624	31,125	25	48
Census geographic division								
New England	444	209	47	3	7,898	2,557	32	4
Middle Atlantic	1,746	937	54	15	30,978	10,179	33	16
East North Central	2,789	1,175	42	19	49,835	12,626	25	20
West North Central	1,709	685	40	11	24,012	6,020	25	9
South Atlantic	2,083	698	34	11	39,834	7,575	19	12
East South Central	1,279	375	29	6	27,442	4,230	15	7
West South Central	1,843	512	28	8	31,330	5,641	18	9
Mountain	1,069	881	82	14	11,030	8,022	73	12
Pacific	1,101	732	67	12	13,446	7,856	58	12
Age								
Total	14,063	6,204	44	100	235,806	64,707	27	100
16 to 17 years	662	296	45	5	11,595	2,809	24	4
18 to 24 years	2,016	890	44	14	40,264	9,864	24	15
25 to 34 years	3,930	1,888	48	30	68,539	20,082	29	31
35 to 44 years	3,369	1,477	44	24	55,563	15,689	28	24
45 to 54 years	2,073	909	44	15	33,683	9,562	28	15
55 to 64 years	1,177	457	39	7	15,910	3,974	25	6
65 years and older	837	287	34	5	10,251	2,727	27	4
Sex								
Male	12,995	5,798	45	93	222,294	61,211	28	95
Female	1,068	406	38	7	13,512	3,496	26	5
Race								
White	13,572	5,981	44	96	228,112	62,257	27	96
Black	294	98	33	2	5,499	1,188	22	2
All others	197	124	63	2	2,196	1,262	57	2
Annual household income								
Under $10,000	673	269	40	4	12,226	3,766	31	6
$10,000 to $19,999	1,830	776	42	13	30,017	8,279	28	13
$20,000 to $24,999	1,322	621	47	10	25,189	6,320	25	10
$25,000 to $29,999	1,602	777	48	13	28,819	9,246	32	14
$30,000 to $49,999	4,289	1,964	46	32	72,217	19,542	27	30
$50,000 to $74,999	2,059	919	45	15	33,151	9,311	28	14
$75,000 or more	947	354	37	6	13,332	3,023	23	5
Not reported	1,341	523	39	8	20,857	5,219	25	8
Education								
8 years or less	595	207	35	3	9,814	2,090	21	3
9 - 11 years	1,735	732	42	12	31,510	8,655	27	13
12 years	6,250	2,876	46	46	110,143	31,859	29	49
1- 3 years college	2,896	1,297	45	21	47,364	12,581	27	19
4 years college	1,567	671	43	11	22,874	5,933	26	9
5 or more years college	1,020	420	41	7	14,101	3,588	25	6

Note: Percent of total hunters and percent of total days are based on the total hunters and total days columns for each row. Percent of hunters using public land and percent of days on public land are based on the total number of hunters on public land and total number of days on public land.

[1] Hunters on public land include those who hunted on both public and private land.

[2] Days of hunting on public land includes both days spent solely on public land and those spent on public and private land.

Table 35. Participation in Ice Fishing, Fly-Fishing, and Other Special Fishing Methods: 1991

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

Anglers and days	Total	
	Number	Percent
Anglers		
Total anglers	35,578	100
Anglers using special fishing methods		
Total	1,479	4
Bow and arrow	285	1
Net or seine	953	3
Spearfishing	381	1
Ice anglers and days		
Total anglers	35,578	100
Ice anglers	2,640	7
Total days of fishing	511,329	100
Days of ice fishing	16,901	3
Fly-anglers and days		
Total anglers	35,578	100
Fly-anglers	4,391	12
Total days of fishing	511,329	100
Days of fly-fishing	27,567	5

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

Table 36. Participants in Organized Fishing Competitions: 1991

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

Anglers in competitions	Anglers	
	Number	Percent
Total anglers	35,578	100
Fished in tournaments, derbies, contests, etc	1,934	5
Fished in tournaments, derbies, contests, etc., that were catch and release competitions	642	2

Table 37. Hunters Using Bows and Arrows and Special Firearms While Hunting, and Preparing for Hunting by Target Shooting: 1991

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

Hunters	Total	
	Number	Percent
Total hunters	14,063	100
Hunters using special methods, total	4,063	29
Bow and arrow	2,732	19
Muzzleloader or other primitive firearm	1,439	10
Pistol or handgun	1,100	8
Target shooting in preparation for hunting[1]	7,731	55
Used a shooting range	3,258	23

Note: Detail does not add to total because of multiple responses.
[1] In state of residence only.

Table 38. Sportsmen Using Owned or Leased Land for the Primary Purpose of Fishing or Hunting: 1991

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

Sportsmen and acres owned or leased	Owned or leased		Owned		Leased	
	Number	Percent	Number	Percent	Number	Percent
Sportsmen owning or leasing land primarily for fishing or hunting						
Total	2,573	100	1,477	100	1,210	100
Anglers	1,008	39	734	50	289	24
Hunters	1,730	67	853	58	962	80
Big game	1,408	55	646	44	814	67
Small game	110	4	79	5	*33	*3
Migratory bird	138	5	62	4	83	7
Other animals	...	...	...	...	...	...
Acres owned or leased primarily for fishing or hunting						
Total	394,390	100	59,176	100	335,215	100
Acres for fishing	95,932	24	7,284	12	88,647	26
Acres for hunting	298,459	76	51,891	88	246,568	74

Note: Detail does not add to total because of multiple responses and nonresponse.
* Estimate based on a small sample size.
... Sample size too small to report data reliably.
(Z) Less than 0.5 percent.

Table 39. Sportsmen Owning or Leasing Land that Included Wetlands for the Primary Purpose of Fishing or Hunting and Acres Owned or Leased: 1991

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

Fishing or hunting	Owned for the primary purpose of fishing or hunting						Leased for the primary purpose of fishing or hunting					
	Sportsmen			Acres			Sportsmen			Acres		
	Total owners	Owners of wetlands	Percent of total owners	Total acres owned	Wetland acres owned	Percent of total acres owned	Total lessors	Lessors of wetlands	Percent of total lessors	Total acres leased	Wetland acres leased	Percent of total acres leased
Total, fishing or hunting	1,477	545	37	59,176	7,757	13	1,210	487	40	335,215	17,970	5
Fishing	734	188	26	7,284	1,835	25	289	56	19	88,647	600	1
Hunting	853	404	47	51,891	5,922	11	962	452	47	246,568	17,370	7

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

Table 40. Expenditures for Land Owned or Leased for the Primary Purpose of Fishing or Hunting: 1991

(Population 16 years old and older)

Fishing or hunting	Owned for the primary purpose of fishing or hunting					Leased for the primary purpose of fishing or hunting				
	Sportsmen		Expenditures		Average per sportsman owning land (dollars)	Sportsmen		Expenditures		Average per sportsman leasing land (dollars)
	Number (thousands)	Percent	Amount (thousands of dollars)	Percent		Number (thousands)	Percent	Amount (thousands of dollars)	Percent	
Total, fishing or hunting	1,477	100	4,670,624	100	3,161	1,210	100	471,807	100	390
Fishing	734	50	1,972,120	42	2,689	289	24	156,498	33	542
Hunting	853	58	2,698,504	58	3,164	962	80	315,309	67	328

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

Table 41. Age First Hunted, by Sex: 1991

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

Beginning age of hunting	Total hunters		Male hunters		Female hunters	
	Number	Percent	Number	Percent	Number	Percent
Total hunters	14,063	100	12,995	100	1,068	100
Age when first hunted:						
Less than 6 years	1,163	8	1,046	8	116	11
6 to 8 years	1,574	11	1,501	12	73	7
9 to 11 years	2,424	17	2,321	18	103	10
12 to 15 years	5,942	42	5,703	44	239	22
16 to 17 years	1,357	10	1,239	10	118	11
18 to 24 years	997	7	801	6	196	18
25 to 34 years	409	3	283	2	127	12
35 to 44 years	131	1	71	1	60	6
45 to 54 years	*48	*(Z)	*19	*(Z)	*29	*3
55 to 64 years	*12	*(Z)	...	...	...	...
65 years or older	...	...	...	...	...	...

Note: Detail does not add to total because of multiple responses and nonresponse. Corresponding data for anglers are not available.
* Estimate based on a small sample size.
... Sample size too small to report data reliably.
(Z) Less than .5 percent.

Table 42. Anglers, by Average One-Way Distance Traveled and Type of Fishing: 1991

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

Anglers	Total, all fishing		Type of fishing					
			Freshwater, except Great Lakes		Great Lakes		Saltwater	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total anglers	35,578	100	30,186	100	2,552	100	8,885	100
Anglers who traveled:[1]								
5 miles or less	7,476	21	6,957	23	374	15	1,659	19
6 to 24 miles	9,890	28	8,635	29	484	19	1,923	22
25 to 49 miles	5,864	16	4,854	16	359	14	1,059	12
50 to 99 miles	5,088	14	4,069	13	357	14	1,320	15
100 to 249 miles	4,467	13	3,617	12	511	20	1,322	15
250 to 499 miles	1,463	4	1,211	4	257	10	614	7
500 to 999 miles	388	1	296	1	40	2	247	3
1,000 miles or more	221	1	148	(Z)	...	...	195	2

Note: Detail does not add to total because of multiple responses and nonresponse.
[1] Distance traveled was to site used most often.
(Z) Less than 0.5 percent.
... Sample size too small to report data reliably.

Table 43. Hunters, by Average One-Way Distance Traveled and Type of Hunting: 1991

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

Hunters	Total, all hunting		Type of hunting							
			Big game		Small game		Migratory bird		Other animals	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total hunters	14,063	100	10,745	100	7,642	100	3,009	100	1,411	100
Hunters who traveled:[1]										
5 miles or less	2,938	21	2,292	21	2,297	30	615	20	589	42
6 to 24 miles	3,937	28	2,597	24	2,209	29	1,000	33	420	30
25 to 49 miles	2,193	16	1,575	15	1,182	15	476	16	142	10
50 to 99 miles	2,032	14	1,527	14	856	11	421	14	98	7
100 to 249 miles	1,977	14	1,843	17	718	9	325	11	95	7
250 to 499 miles	544	4	606	6	194	3	79	3	39	3
500 to 999 miles	135	1	151	1	72	1	25	1	*7	*(Z)
1,000 miles or more	53	(Z)	66	1	*13	*(Z)	*10	*(Z)	...	...

Note: Detail does not add to total because of multiple responses and nonresponse.
[1] Distance traveled was to site used most often.
(Z) Less than 0.5 percent.
* Estimate based on a small sample size.
... Sample size too small to report data reliably.

Table 44. Nonconsumptive Participants, by Primary Nonconsumptive Activity: 1991

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

Activity	Participants	
	Number	Percent
Total primary participants	76,111	100
Nonresidential	29,999	39
Observe wildlife	28,812	38
Photograph wildlife	14,225	19
Feed wildlife	13,306	17
Residential	73,904	97
Observe wildlife	54,653	72
Photograph wildlife	16,990	22
Feed wild birds or other wildlife	65,423	86
Visit public parks or areas	15,525	20
Maintain plantings or natural areas	13,601	18

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

Table 45. Participants, Trips, and Days of Participation in Primary Nonresidential Activities: 1991

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

Participants, trips, and days of participation	Total	
	Number	Percent
Participants		
Total participants	29,999	100
Observe wildlife	28,812	96
Photograph wildlife	14,225	47
Feed wildlife	13,306	44
Trips		
Total trips	269,352	100
1 day trips	225,441	84
2 or more day trips	43,911	16
Average days per trip	1	(X)
Days		
Total days	342,406	100
Observing wildlife	296,456	87
Photographing wildlife	81,600	24
Feeding wildlife	102,104	30
Average days per participant	11	(X)
Observing wildlife	10	(X)
Photographing wildlife	6	(X)
Feeding wildlife	8	(X)

Note: Detail does not add to total because of multiple responses and nonresponse. Percents shown are based on the ''Total participants,'' ''Total trips,'' and ''Total days'' rows.
(X) Not applicable.

Table 46. Participation in Primary Residential Activities: 1991

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

Activity	Participants	
	Number	Percent
Total primary residential participants	73,904	100
Observe wildlife	54,653	74
Visit public parks[1]	15,525	21
Photograph wildlife	16,990	23
Feed wildlife	65,423	89
Maintain natural areas	9,547	13
Maintain plantings	7,647	10
Observe wildlife		
Participants observing:		
Total, all wildlife	54,653	100
Birds	51,256	94
Mammals	37,110	68
Amphibians or reptiles	12,225	22
Insects or spiders	15,695	29
Fish or other wildlife	11,460	21
Participants observing:		
Total, 1 day or more	54,653	100
1 to 10 days	12,080	22
11 to 20 days	5,907	11
21 to 50 days	8,431	15
51 to 100 days	8,350	15
101 to 200 days	11,840	22
201 or more days	6,564	12
Visit public parks[1]		
Participants visiting:		
Total, 1 day or more	15,525	100
1 to 5 days	8,685	56
6 to 11 days	2,702	17
12 or more days	3,958	25
Photograph wildlife		
Participants photographing:		
Total, 1 day or more	16,990	100
1 day	3,203	19
2 to 3 days	4,964	29
4 to 5 days	2,555	15
6 to 10 days	2,841	17
11 to 20 days	1,707	10
21 or more days	1,426	8
Feed wildlife		
Participants feeding:		
Total, all wildlife	65,423	100
Wild birds	63,131	96
Other wildlife	26,108	40
Average months feeding wild birds[2]	7	(X)
Average months feeding other wildlife[3]	5	(X)
Maintain natural areas		
Participants maintaining:		
Total, all acreages	9,547	100
Less than 1 acre	4,378	46
1 to 10 acres	3,754	39
11 to 50 acres	769	8
More than 50 acres	455	5
Maintain plantings		
Participants maintaining plantings	7,647	100
Participants spending:		
Under $25	1,787	23
$25 to $74.99	1,166	15
$75 or more	1,194	16
Average expenditure per participant for plantings	48	(X)

Note: Detail does not add to total because of multiple responses and nonresponse.
[1] Includes visits only to parks or publicly held areas within one mile of home.
[2] Based on the number of months where participants fed wild birds at least once a week.
[3] Based on the number of months where participants fed other wildlife at least once.
(X) Not applicable.

Table 47. Nonconsumptive Wildlife-Associated Recreation in Canada by U.S. Residents: 1991

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

Participants and activity	Number
Participants	1,001
Days of participation	4,334
Trips	1,080
Trip expenditures	$308,576

Table 48. Primary Nonresidential Participants, by Area or Site Visited: 1991

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

Area or site visited	Total	
	Number	Percent
Total, all areas	29,999	100
Public only	15,352	51
Private only	3,552	12
Public and private	9,938	33
Sites		
Total, all sites	29,999	100
Oceanside	6,903	23
Lake and streamside	19,227	64
Marsh, wetland, swamp	11,735	39
Woodland	21,976	73
Brush-covered area	16,791	56
Open field	16,240	54
Man-made area	10,042	33
Other	3,874	13

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

Table 49. Primary Nonresidential Participants, by Wildlife Observed, Photographed or Fed and Place: 1991

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

Wildlife observed, photographed or fed	Total participants		Participation by place					
			Total		In state of residence		In other states	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total, all wildlife	29,999	100	29,999	100	24,809	83	9,470	32
Total birds	24,690	82	24,690	100	21,032	85	7,962	32
Birds of prey	12,839	43	12,839	100	10,896	85	4,378	34
Waterfowl and shore birds	19,129	64	19,129	100	16,605	87	5,968	31
Other birds	15,852	53	15,852	100	13,514	85	5,136	32
Land mammals	22,519	75	22,519	100	19,264	86	7,283	32
Fish	10,147	34	10,147	100	8,553	84	3,904	38
Marine mammals	3,079	10	3,079	100	2,200	71	1,552	50
Other wildlife	14,694	49	14,694	100	12,412	84	5,219	36

Note: Detail does not add to total because of multiple responses. Column showing percent of total participants is based on the ''Total, all wildlife'' number. Participation by place percent columns are based on the total number of participants for each type of wildlife.

Table 50. Expenditures for Primary Nonconsumptive Wildlife-Related Recreation: 1991

(Population 16 years old and older)

Expenditure item	Expenditures (thousands of dollars)	Spenders		
		Number (thousands)	Percent of nonconsumptive participants[1]	Average per spender (dollars)
Total, all items[2]	18,103,887	58,246	77	311
Trip-related expenditures				
Total trip-related	7,482,073	28,240	94	265
Food and lodging, total	4,424,825	23,845	79	186
Food	2,984,194	23,767	79	126
Lodging	1,440,631	7,780	26	185
Transportation, total	2,609,341	27,056	90	96
Public	665,842	2,344	8	284
Private	1,943,499	26,421	88	74
Other trip costs, total	447,907	8,585	29	52
Guide fees, pack trip or package fees	198,171	1,828	6	108
Public land use fees	129,969	5,870	20	22
Private land use fees	31,100	1,264	4	25
Equipment rental	88,668	1,682	6	53
Equipment and other expenses				
Total	10,621,813	53,365	70	199
Nonconsumptive equipment, total	5,703,557	50,537	66	113
Binoculars, spotting scopes	372,590	3,719	5	100
Film and developing	1,105,067	19,642	26	56
Cameras, special lenses and other photographic equipment	1,085,357	3,840	5	283
Day packs, carrying cases and special clothing	406,502	4,061	5	100
Bird food, total	2,047,965	40,903	54	50
Commercially prepared and packaged wild bird food	1,540,645	35,841	47	43
Other bulk foods used to feed wild birds	507,320	15,224	20	33
Nest boxes, bird houses, feeders, baths	468,061	16,060	21	29
Other nonconsumptive equipment	218,016	4,522	6	48
Auxiliary equipment, total	349,986	2,821	4	124
Tents, tarps	140,802	1,431	2	98
Frame packs and backpacking equipment	61,761	801	1	77
Other camping equipment	147,423	1,467	2	100
Special equipment, total	3,506,231	1,242	2	2,822
Travel or tent trailer, pickup, camper, van, motor home	1,772,904	328	(Z)	5,407
Off-the-road vehicle	1,509,326	265	(Z)	5,691
Other	224,001	696	1	322
Magazines	320,900	12,293	16	26
Membership dues and contributions	741,140	11,427	15	65

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

[1] Percent of nonconsumptive participants column is based on primary nonresidential participants for trip-related expenditures. For equipment and other expenditures the percent of nonconsumptive participants is based on total primary nonconsumptive participants.

[2] Information on trip-related expenditures was collected for primary nonresidential participants only. Equipment and other expenditures are based on information collected from both nonresidential and residential participants.

(Z) Less than .5 percent.

Table 51. Selected Characteristics of Participants in Primary Nonresidential Activities: 1991

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

Characteristic	U.S. population		Primary participants			Primary nonresidential participants — Total		
	Number	Percent	Number	Percent who participated	Percent	Number	Percent who participated	Percent
Total persons	189,964	100	76,111	40	100	29,999	16	100
Population density of residence								
Urban	138,191	73	49,501	36	65	19,498	14	65
Rural	51,773	27	26,610	51	35	10,501	20	35
Population size of residence								
MSA	147,339	78	56,053	38	74	21,928	15	73
1,000,000 or more	81,346	43	27,430	34	36	10,862	13	36
250,000 - 999,999	45,601	24	19,379	42	25	7,322	16	24
50,000 - 249,999	20,392	11	9,244	45	12	3,744	18	12
Outside MSA	42,625	22	20,058	47	26	8,071	19	27
Census geographic division								
New England	10,180	5	4,598	45	6	1,856	18	6
Middle Atlantic	29,216	15	10,556	36	14	4,166	14	14
East North Central	32,188	17	14,511	45	19	5,572	17	19
West North Central	13,504	7	6,924	51	9	2,654	20	9
South Atlantic	33,682	18	13,047	39	17	4,450	13	15
East South Central	11,667	6	4,864	42	6	1,592	14	5
West South Central	19,926	10	7,035	35	9	2,459	12	8
Mountain	10,092	5	4,437	44	6	2,215	22	7
Pacific	29,508	16	10,139	34	13	5,035	17	17
Age								
Total	189,964	100	76,111	40	100	29,999	16	100
16 to 17 years	6,530	3	2,062	32	3	889	14	3
18 to 24 years	23,023	12	6,489	28	9	3,170	14	11
25 to 34 years	42,931	23	17,678	41	23	8,862	21	30
35 to 44 years	38,341	20	17,705	46	23	7,744	20	26
45 to 54 years	27,021	14	11,070	41	15	4,303	16	14
55 to 64 years	21,085	11	9,288	44	12	2,601	12	9
65 years and older	31,032	16	11,819	38	16	2,431	8	8
Sex								
Male, total	90,369	48	37,188	41	49	15,868	18	53
16 to 17 years	3,385	2	1,113	33	1	481	14	2
18 to 24 years	11,365	6	3,171	28	4	1,568	14	5
25 to 34 years	20,791	11	8,466	41	11	4,547	22	15
35 to 44 years	18,590	10	9,007	48	12	4,332	23	14
45 to 54 years	13,289	7	5,783	44	8	2,386	18	8
55 to 64 years	9,933	5	4,452	45	6	1,408	14	5
65 years and older	13,017	7	5,196	40	7	1,145	9	4
Female, total	99,595	52	38,924	39	51	14,132	14	47
16 to 17 years	3,145	2	949	30	1	408	13	1
18 to 24 years	11,659	6	3,317	28	4	1,602	14	5
25 to 34 years	22,140	12	9,213	42	12	4,315	19	14
35 to 44 years	19,751	10	8,699	44	11	3,413	17	11
45 to 54 years	13,732	7	5,287	39	7	1,916	14	6
55 to 64 years	11,153	6	4,836	43	6	1,193	11	4
65 years and older	18,015	9	6,623	37	9	1,286	7	4
Race								
White	162,367	85	71,065	44	93	28,479	18	95
Black	18,395	10	3,111	17	4	678	4	2
All others	9,202	5	1,934	21	3	843	9	3
Annual household income								
Under $10,000	18,585	10	5,331	29	7	1,470	8	5
$10,000 to $19,999	29,864	16	10,706	36	14	3,768	13	13
$20,000 to $24,999	15,188	8	6,431	42	8	2,291	15	8
$25,000 to $29,999	18,727	10	7,915	42	10	3,121	17	10
$30,000 to $49,999	42,689	22	19,287	45	25	8,402	20	28
$50,000 to $74,999	24,448	13	11,761	48	15	5,203	21	17
$75,000 or more	13,579	7	6,803	50	9	3,148	23	10
Not reported	26,884	14	7,877	29	10	2,597	10	9
Education								
8 years or less	14,311	7	3,647	26	5	578	4	2
9 - 11 years	21,595	11	7,378	34	10	2,323	11	8
12 years	77,293	41	29,294	38	38	10,258	13	34
1 - 3 years college	36,725	19	16,097	44	21	7,242	20	24
4 years college	22,920	12	10,729	47	14	4,819	21	16
5 or more years college	17,120	9	8,966	52	12	4,765	28	16

(continued)

Table 51. Selected Characteristics of Participants in Primary Nonresidential Activities: 1991—Continued

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

Characteristic	Primary nonresidential participants								
	Observe			Photograph			Feed		
	Number	Percent who participated	Percent	Number	Percent who participated	Percent	Number	Percent who participated	Percent
Total persons	28,812	15	100	14,225	7	100	13,306	7	100
Population density of residence									
Urban	18,676	14	65	9,454	7	66	9,068	7	68
Rural	10,137	20	35	4,771	9	34	4,238	8	32
Population size of residence									
MSA	21,024	14	73	10,734	7	75	10,088	7	76
1,000,000 or more	10,402	13	36	5,485	7	39	5,145	6	39
250,000 - 999,999	7,002	15	24	3,502	8	25	3,364	7	25
50,000 - 249,999	3,621	18	13	1,747	9	12	1,578	8	12
Outside MSA	7,788	18	27	3,491	8	25	3,218	8	24
Census geographic division									
New England	1,792	18	6	891	9	6	779	8	6
Middle Atlantic	3,992	14	14	1,946	7	14	1,901	7	14
East North Central	5,405	17	19	2,485	8	17	2,686	8	20
West North Central	2,575	19	9	1,045	8	7	1,023	8	8
South Atlantic	4,328	13	15	2,218	7	16	2,049	6	15
East South Central	1,549	13	5	695	6	5	765	7	6
West South Central	2,287	11	8	939	5	7	1,338	7	10
Mountain	2,117	21	7	1,155	11	8	686	7	5
Pacific	4,767	16	17	2,851	10	20	2,078	7	16
Age									
Total	28,812	15	100	14,225	7	100	13,306	7	100
16 to 17 years	831	13	3	430	7	3	454	7	3
18 to 24 years	3,067	13	11	1,249	5	9	1,479	6	11
25 to 34 years	8,618	20	30	4,225	10	30	4,133	10	31
35 to 44 years	7,412	19	26	4,103	11	29	3,537	9	27
45 to 54 years	4,078	15	14	2,092	8	15	1,801	7	14
55 to 64 years	2,459	12	9	1,107	5	8	1,047	5	8
65 years and older	2,347	8	8	1,018	3	7	855	3	6
Sex									
Male, total	15,255	17	53	7,339	8	52	6,729	7	51
16 to 17 years	436	13	2	207	6	1	219	6	2
18 to 24 years	1,516	13	5	660	6	5	629	6	5
25 to 34 years	4,421	21	15	2,064	10	15	1,920	9	14
35 to 44 years	4,171	22	14	2,303	12	16	1,980	11	15
45 to 54 years	2,271	17	8	1,101	8	8	961	7	7
55 to 64 years	1,319	13	5	609	6	4	562	6	4
65 years and older	1,121	9	4	396	3	3	458	4	3
Female, total	13,557	14	47	6,886	7	48	6,577	7	49
16 to 17 years	395	13	1	224	7	2	235	7	2
18 to 24 years	1,551	13	5	589	5	4	850	7	6
25 to 34 years	4,197	19	15	2,161	10	15	2,213	10	17
35 to 44 years	3,241	16	11	1,800	9	13	1,558	8	12
45 to 54 years	1,807	13	6	991	7	7	839	6	6
55 to 64 years	1,140	10	4	498	4	4	485	4	4
65 years and older	1,226	7	4	623	3	4	397	2	3
Race									
White	27,360	17	95	13,441	8	94	12,445	8	94
Black	643	3	2	239	1	2	399	2	3
All others	810	9	3	545	6	4	462	5	3
Annual household income									
Under $10,000	1,402	8	5	521	3	4	630	3	5
$10,000 to $19,999	3,659	12	13	1,571	5	11	1,909	6	14
$20,000 to $24,999	2,221	15	8	989	7	7	1,056	7	8
$25,000 to $29,999	3,049	16	11	1,453	8	10	1,440	8	11
$30,000 to $49,999	8,038	19	28	4,123	10	29	3,780	9	28
$50,000 to $74,999	4,945	20	17	2,729	11	19	2,179	9	16
$75,000 or more	3,022	22	10	1,741	13	12	1,382	10	10
Not reported	2,476	9	9	1,099	4	8	930	3	7
Education									
8 years or less	547	4	2	141	1	1	291	2	2
9 - 11 years	2,175	10	8	949	4	7	1,140	5	9
12 years	9,912	13	34	4,392	6	31	4,714	6	35
1 - 3 years college	6,966	19	24	3,611	10	25	3,326	9	25
4 years college	4,665	20	16	2,484	11	17	1,945	8	15
5 or more years college	4,532	26	16	2,645	15	19	1,878	11	14

Note: Detail does not add to total because of multiple responses. Percent who participated shows the percent of each row's population who participated in the activity named by the column (the percent of those living in urban areas who observed wildlife, etc.). Percent columns show the percent of each column's participants who are described by the row heading (the percent of those who observed wildlife who lived in urban areas, etc.).

Table 52. Selected Characteristics of Participants in Primary Residential Activities: 1991

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

Characteristic	U.S. population		Primary participants			Primary residential participants — Total		
	Number	Percent	Number	Percent who participated	Percent	Number	Percent who participated	Percent
Total persons	189,964	100	76,111	40	100	73,904	39	100
Population density of residence								
Urban	138,191	73	49,501	36	65	47,939	35	65
Rural	51,773	27	26,610	51	35	25,964	50	35
Population size of residence								
MSA	147,339	78	56,053	38	74	54,526	37	74
1,000,000 or more	81,346	43	27,430	34	36	26,587	33	36
250,000 - 999,999	45,601	24	19,379	42	25	18,936	42	26
50,000 - 249,999	20,392	11	9,244	45	12	9,003	44	12
Outside MSA	42,625	22	20,058	47	26	19,378	45	26
Census geographic division								
New England	10,180	5	4,598	45	6	4,544	45	6
Middle Atlantic	29,216	15	10,556	36	14	10,282	35	14
East North Central	32,188	17	14,511	45	19	14,175	44	19
West North Central	13,504	7	6,924	51	9	6,722	50	9
South Atlantic	33,682	18	13,047	39	17	12,813	38	17
East South Central	11,667	6	4,864	42	6	4,765	41	6
West South Central	19,926	10	7,035	35	9	6,817	34	9
Mountain	10,092	5	4,437	44	6	4,145	41	6
Pacific	29,508	16	10,139	34	13	9,641	33	13
Age								
Total	189,964	100	76,111	40	100	73,904	39	100
16 to 17 years	6,530	3	2,062	32	3	1,961	30	3
18 to 24 years	23,023	12	6,489	28	9	6,007	26	8
25 to 34 years	42,931	23	17,678	41	23	16,823	39	23
35 to 44 years	38,341	20	17,705	46	23	17,263	45	23
45 to 54 years	27,021	14	11,070	41	15	10,891	40	15
55 to 64 years	21,085	11	9,288	44	12	9,193	44	12
65 years and older	31,032	16	11,819	38	16	11,765	38	16
Sex								
Male, total	90,369	48	37,188	41	49	35,925	40	49
16 to 17 years	3,385	2	1,113	33	1	1,079	32	1
18 to 24 years	11,365	6	3,171	28	4	2,940	26	4
25 to 34 years	20,791	11	8,466	41	11	7,977	38	11
35 to 44 years	18,590	10	9,007	48	12	8,697	47	12
45 to 54 years	13,289	7	5,783	44	8	5,667	43	8
55 to 64 years	9,933	5	4,452	45	6	4,394	44	6
65 years and older	13,017	7	5,196	40	7	5,171	40	7
Female, total	99,595	52	38,924	39	51	37,978	38	51
16 to 17 years	3,145	2	949	30	1	882	28	1
18 to 24 years	11,659	6	3,317	28	4	3,067	26	4
25 to 34 years	22,140	12	9,213	42	12	8,846	40	12
35 to 44 years	19,751	10	8,699	44	11	8,566	43	12
45 to 54 years	13,732	7	5,287	39	7	5,224	38	7
55 to 64 years	11,153	6	4,836	43	6	4,799	43	6
65 years and older	18,015	9	6,623	37	9	6,593	37	9
Race								
White	162,367	85	71,065	44	93	69,049	43	93
Black	18,395	10	3,111	17	4	3,049	17	4
All others	9,202	5	1,934	21	3	1,806	20	2
Annual household income								
Under $10,000	18,585	10	5,331	29	7	5,196	28	7
$10,000 to $19,999	29,864	16	10,706	36	14	10,446	35	14
$20,000 to $24,999	15,188	8	6,431	42	8	6,239	41	8
$25,000 to $29,999	18,727	10	7,915	42	10	7,697	41	10
$30,000 to $49,999	42,689	22	19,287	45	25	18,603	44	25
$50,000 to $74,999	24,448	13	11,761	48	15	11,471	47	16
$75,000 or more	13,579	7	6,803	50	9	6,557	48	9
Not reported	26,884	14	7,877	29	10	7,695	29	10
Education								
8 years or less	14,311	8	3,647	25	5	3,617	25	5
9 - 11 years	21,595	11	7,378	34	10	7,155	33	10
12 years	77,293	41	29,294	38	38	28,595	37	39
1 - 3 years college	36,725	19	16,097	44	21	15,525	42	21
4 years college	22,920	12	10,729	47	14	10,293	45	14
5 or more years college	17,120	9	8,966	52	12	8,719	51	12

(continued)

Table 52. Selected Characteristics of Participants in Primary Residential Activities: 1991—Continued

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

Characteristic	Primary residential participants								
	Observe			Photograph			Feed wild birds		
	Number	Percent who participated	Percent	Number	Percent who participated	Percent	Number	Percent who participated	Percent
Total persons	54,653	29	100	16,990	9	100	63,131	33	100
Population density of residence									
Urban	34,330	25	63	10,137	7	60	40,357	29	64
Rural	20,322	39	37	6,853	13	40	22,774	44	36
Population size of residence									
MSA	39,839	27	73	12,408	8	73	46,455	32	74
1,000,000 or more	19,573	24	36	6,182	8	36	22,498	28	36
250,000 - 999,999	13,508	30	25	4,201	9	25	16,319	36	26
50,000 - 249,999	6,758	33	12	2,025	10	12	7,638	37	12
Outside MSA	14,814	35	27	4,582	11	27	16,677	39	26
Census geographic division									
New England	3,440	34	6	1,165	11	7	3,974	39	6
Middle Atlantic	7,681	26	14	2,642	9	16	8,890	30	14
East North Central	10,580	33	19	3,386	11	20	12,592	39	20
West North Central	5,015	37	9	1,428	11	8	5,726	42	9
South Atlantic	9,344	28	17	3,008	9	18	11,097	33	18
East South Central	3,374	29	6	828	7	5	4,176	36	7
West South Central	4,992	25	9	1,103	6	6	5,815	29	9
Mountain	2,997	30	5	998	10	6	3,222	32	5
Pacific	7,229	24	13	2,431	8	14	7,640	26	12
Age									
Total	54,653	29	100	16,990	9	100	63,131	33	100
16 to 17 years	1,283	20	2	453	7	3	1,523	23	2
18 to 24 years	3,991	17	7	1,263	5	7	4,334	19	7
25 to 34 years	12,271	29	22	3,934	9	23	13,741	32	22
35 to 44 years	12,681	33	23	4,470	12	26	14,679	38	23
45 to 54 years	8,257	31	15	2,917	11	17	9,652	36	15
55 to 64 years	7,060	33	13	2,002	9	12	8,291	39	13
65 years and older	9,110	29	17	1,949	6	11	10,912	35	17
Sex									
Male, total	26,676	30	49	8,135	9	48	29,965	33	47
16 to 17 years	735	22	1	201	6	1	831	25	1
18 to 24 years	2,063	18	4	588	5	3	2,026	18	3
25 to 34 years	5,734	28	10	1,836	9	11	6,214	30	10
35 to 44 years	6,487	35	12	2,206	12	13	7,225	39	11
45 to 54 years	4,244	32	8	1,373	10	8	4,992	38	8
55 to 64 years	3,403	34	6	964	10	6	3,927	40	6
65 years and older	4,010	31	7	966	7	6	4,750	36	8
Female, total	27,976	28	51	8,855	9	52	33,167	33	53
16 to 17 years	548	17	1	252	8	1	692	22	1
18 to 24 years	1,928	17	4	675	6	4	2,308	20	4
25 to 34 years	6,537	30	12	2,099	9	12	7,527	34	12
35 to 44 years	6,194	31	11	2,264	11	13	7,454	38	12
45 to 54 years	4,012	29	7	1,543	11	9	4,660	34	7
55 to 64 years	3,657	33	7	1,038	9	6	4,364	39	7
65 years and older	5,099	28	9	983	5	6	6,162	34	10
Race									
White	51,685	32	95	16,436	10	97	59,123	36	94
Black	1,906	10	3	299	2	2	2,541	14	4
All others	1,062	12	2	255	3	2	1,468	16	2
Annual household income									
Under $10,000	3,664	20	7	649	3	4	4,483	24	7
$10,000 to $19,999	7,607	25	14	1,784	6	11	8,951	30	14
$20,000 to $24,999	4,404	29	8	1,325	9	8	5,439	36	9
$25,000 to $29,999	5,670	30	10	1,901	10	11	6,411	34	10
$30,000 to $49,999	14,019	33	26	4,814	11	28	15,994	37	25
$50,000 to $74,999	8,688	36	16	3,136	13	18	9,906	41	16
$75,000 or more	5,042	37	9	1,844	14	11	5,478	40	9
Not reported	5,559	21	10	1,538	6	9	6,470	24	10
Education									
8 years or less	2,393	17	4	291	2	2	3,250	23	5
9 - 11 years	4,817	22	9	1,163	5	7	6,164	29	10
12 years	20,809	27	38	6,023	8	35	24,831	32	39
1 - 3 years college	11,570	32	21	4,189	11	25	13,289	36	21
4 years college	7,943	35	15	2,725	12	16	8,393	37	13
5 or more years college	7,120	42	13	2,598	15	15	7,204	42	11

Note: Detail does not add to total because of multiple responses and nonresponse. Percent who participated shows the percent of each row's population who participated in the activity named by the column (the percent of those living in urban areas who observed wildlife, etc.). Percent columns show the percent of each column's participants who are described by the row heading (the percent of those who observed wildlife who lived in urban areas, etc.).

Table 53. Participation of Primary Nonconsumptive Participants in Fishing and Hunting: 1991

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

Type of fishing and hunting	Primary nonconsumptive participants					
	Total		Nonresidential		Residential	
	Number	Percent	Number	Percent	Number	Percent
Total participants	76,127	100	30,172	100	73,904	100
Nonsportsmen	55,964	74	19,427	64	56,126	76
Sportsmen	20,163	26	10,745	36	17,777	24
Fished only	12,208	16	6,073	20	10,903	15
Hunted only	2,203	3	1,183	4	1,866	3
Fished and hunted	5,752	8	3,489	12	5,009	7

Note: Detail does not add to total because of multiple responses and nonresponse. Includes persons who participated only in Canada.

Table 54. Participation of Sportsmen in Primary Nonconsumptive Activities, by Nonconsumptive Activity: 1991

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

Nonconsumptive activity	Sportsmen		Anglers		Hunters	
	Number	Percent	Number	Percent	Number	Percent
Total sportsmen	40,160	100	35,787	100	14,066	100
No nonconsumptive activities	19,997	50	17,827	50	6,111	43
With nonconsumptive activities	20,163	50	17,960	50	7,955	57
Primary nonresidential	10,745	27	9,562	27	4,672	33
Primary residential	13,827	34	12,337	34	5,635	40

Note: Detail does not add to total because of multiple responses and nonresponse. Includes persons who participated only in Canada.

Table 55. Participants in Wildlife-Associated Recreation, by Participant's State of Residence: 1991

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

Participant's state of residence	Population	Total participants		Sportsmen		Primary nonconsumptive participants	
		Number	Percent of population	Number	Percent of population	Number	Percent of population
U.S., total	189,966	108,745	57	39,979	21	76,111	40
Alabama	3,110	1,755	56	756	24	1,229	40
Alaska	369	343	93	152	41	229	62
Arizona	2,707	1,451	54	467	17	1,083	40
Arkansas	1,807	1,209	67	575	32	812	45
California	22,366	9,167	41	2,913	13	6,480	29
Colorado	2,514	1,690	67	639	25	1,161	46
Connecticut	2,500	1,371	55	351	14	1,075	43
Delaware	528	282	53	93	18	211	40
Florida	10,320	5,578	54	2,038	20	3,866	37
Georgia	4,840	2,628	54	1,071	22	1,756	36
Hawaii	842	334	40	154	18	230	27
Idaho	746	578	77	295	40	385	52
Illinois	8,899	4,833	54	1,670	19	3,452	39
Indiana	4,267	2,810	66	968	23	2,033	48
Iowa	2,164	1,597	74	628	29	1,060	49
Kansas	1,882	1,275	68	510	27	876	47
Kentucky	2,826	1,816	64	737	26	1,191	42
Louisiana	3,161	1,765	56	882	28	1,060	34
Maine	953	746	78	274	29	548	57
Maryland	3,659	1,938	53	598	16	1,456	40
Massachusetts	4,639	2,401	52	612	13	1,882	41
Michigan	7,014	4,640	66	1,691	24	3,273	47
Minnesota	3,308	2,914	88	1,205	36	1,953	59
Mississippi	1,914	1,105	58	591	31	742	39
Missouri	3,940	2,965	75	1,156	29	2,006	51
Montana	601	469	78	227	38	312	52
Nebraska	1,210	834	69	316	26	602	50
Nevada	914	486	53	180	20	337	37
New Hampshire	864	588	68	189	22	449	52
New Jersey	6,007	2,853	47	828	14	2,152	36
New Mexico	1,126	636	56	225	20	466	41
New York	13,803	6,011	44	1,917	14	4,301	31
North Carolina	5,104	2,999	59	1,153	23	2,152	42
North Dakota	477	326	68	162	34	200	42
Ohio	8,306	5,196	63	1,692	20	3,696	44
Oklahoma	2,411	1,692	70	704	29	1,146	48
Oregon	2,223	1,615	73	626	28	1,124	51
Pennsylvania	9,405	5,526	59	1,763	19	4,103	44
Rhode Island	777	454	58	101	13	368	47
South Carolina	2,645	1,367	52	630	24	863	33
South Dakota	525	347	66	166	32	228	43
Tennessee	3,818	2,410	63	900	24	1,701	45
Texas	12,548	6,548	52	2,964	24	4,016	32
Utah	1,139	736	65	313	28	504	44
Vermont	446	367	82	131	29	276	62
Virginia	4,721	2,962	63	1,022	22	2,070	44
Washington	3,709	2,919	79	1,030	28	2,076	56
West Virginia	1,420	846	60	372	26	584	41
Wisconsin	3,700	3,005	81	1,180	32	2,058	56
Wyoming	345	262	76	141	41	190	55

Note: Detail does not add to total because of multiple responses. U.S. totals include responses from participants residing in the District of Columbia, as described in the statistical reliability appendix.

Table 56. Expenditures for Wildlife-Associated Recreation, by Participant's State of Residence: 1991

(Population 16 years old and older. Expenditures in thousands of dollars)

Participant's state of residence	Total wildlife-associated expenditures				Fishing and hunting expenditures			
	Total	Trip-related	Equipment	Other	Total	Trip-related	Equipment	Other
U.S., total	59,027,316	22,770,428	28,495,426	7,761,462	40,923,429	15,288,354	18,935,652	6,699,422
Alabama	935,024	356,730	439,744	138,550	755,115	283,122	337,777	134,216
Alaska	517,644	150,419	269,222	98,003	373,464	101,395	179,752	92,317
Arizona	867,155	288,337	543,782	35,036	546,800	186,426	335,749	24,625
Arkansas	905,680	290,016	509,349	106,315	717,037	245,148	373,436	98,453
California	5,310,908	2,398,580	2,379,500	532,829	2,705,716	1,240,744	1,142,649	322,323
Colorado	896,002	340,980	495,545	59,476	518,444	208,912	262,827	46,706
Connecticut	602,004	209,503	356,761	35,740	316,679	114,896	184,897	16,886
Delaware	168,564	54,041	72,174	42,349	130,212	38,327	51,860	40,025
Florida	3,347,915	1,596,800	1,545,270	205,845	2,163,077	1,040,434	974,650	147,993
Georgia	1,095,341	550,444	482,329	62,568	899,058	443,830	402,395	52,833
Hawaii	158,343	97,673	56,126	4,544	105,452	64,632	38,725	2,095
Idaho	388,286	134,140	236,106	18,039	320,269	94,577	210,936	14,756
Illinois	2,344,145	1,090,918	872,236	380,991	1,534,045	655,464	581,178	297,403
Indiana	938,194	446,605	404,605	86,985	678,775	326,736	276,997	75,042
Iowa	660,349	208,549	297,238	154,562	536,382	147,370	240,672	148,341
Kansas	542,257	195,914	321,277	25,065	453,495	150,146	285,189	18,161
Kentucky	1,018,076	316,184	639,627	62,264	836,698	256,248	527,152	53,298
Louisiana	1,533,485	495,899	764,156	273,430	1,311,697	435,221	611,246	265,230
Maine	343,777	122,807	183,168	37,802	233,403	83,147	117,577	32,679
Maryland	761,470	310,121	359,568	91,781	491,735	191,886	234,125	65,723
Massachusetts	1,108,190	482,445	520,324	105,420	619,920	265,837	292,155	61,929
Michigan	3,548,799	1,006,208	2,010,548	532,044	2,655,349	706,033	1,444,281	505,035
Minnesota	1,707,064	648,907	793,460	264,698	1,343,555	467,024	631,697	244,834
Mississippi	985,813	300,382	559,679	125,752	753,215	241,820	393,903	117,491
Missouri	1,306,215	479,558	645,774	180,884	866,283	352,809	342,977	170,498
Montana	291,455	104,888	167,617	18,951	189,250	70,714	103,630	14,906
Nebraska	304,796	138,945	129,874	35,977	227,264	100,313	96,877	30,074
Nevada	372,351	149,125	208,582	14,644	183,911	76,024	97,436	10,450
New Hampshire	259,580	89,902	147,605	22,073	141,669	58,690	67,289	15,691
New Jersey	1,330,077	639,748	572,972	117,357	869,954	429,313	354,885	85,756
New Mexico	421,498	135,283	266,741	19,473	212,127	74,089	126,712	11,325
New York	2,630,439	1,032,132	1,278,472	319,836	1,496,899	651,204	605,500	240,195
North Carolina	1,239,390	505,008	628,965	105,416	977,131	389,357	500,340	87,433
North Dakota	155,220	69,511	69,883	15,826	137,469	59,800	62,987	14,682
Ohio	1,954,957	863,015	892,155	199,787	1,406,815	587,312	666,066	153,437
Oklahoma	936,591	352,599	497,053	86,938	707,381	271,085	357,807	78,489
Oregon	1,069,164	348,744	675,248	45,172	707,053	229,731	447,339	29,983
Pennsylvania	2,452,166	1,103,673	1,154,673	193,820	1,329,126	647,526	535,301	146,299
Rhode Island	162,016	67,279	82,993	11,745	94,646	36,994	48,810	8,841
South Carolina	636,824	220,847	259,883	156,094	555,043	197,494	206,662	150,887
South Dakota	231,243	83,376	121,724	26,144	192,602	64,308	103,965	24,329
Tennessee	1,221,397	460,797	681,553	79,046	926,157	333,491	526,398	66,268
Texas	3,598,031	1,599,415	1,246,515	752,101	2,720,282	1,176,196	830,822	713,264
Utah	517,033	178,276	314,188	24,569	346,878	119,428	206,024	21,426
Vermont	181,605	75,567	82,661	23,378	123,670	55,303	48,992	19,374
Virginia	1,122,366	490,554	503,606	128,205	742,970	348,906	296,046	98,018
Washington	1,904,118	681,764	1,141,367	80,987	1,392,900	382,823	963,323	46,754
West Virginia	358,677	129,335	175,304	54,038	292,715	96,651	144,910	51,154
Wisconsin	1,820,946	560,361	1,014,052	246,533	1,338,191	419,778	702,315	216,098
Wyoming	196,763	74,765	104,215	17,783	145,641	50,593	78,729	16,318

(continued)

Table 56. Expenditures for Wildlife-Associated Recreation, by Participant's State of Residence: 1991—Continued

(Population 16 years old and older. Expenditures in thousands of dollars)

Participant's state of residence	Primary nonconsumptive expenditures			
	Total	Trip-related	Equipment	Other
U.S., total	18,103,887	7,482,073	9,559,774	1,062,040
Alabama	179,909	73,608	101,967	4,334
Alaska	144,180	49,024	89,470	5,686
Arizona	320,355	101,911	208,033	10,410
Arkansas	188,643	44,868	135,913	7,862
California	2,605,192	1,157,836	1,236,851	210,506
Colorado	377,557	132,068	232,718	12,770
Connecticut	285,325	94,607	171,864	18,854
Delaware	38,351	15,714	20,314	2,323
Florida	1,184,837	556,366	570,620	57,852
Georgia	196,283	106,614	79,934	9,735
Hawaii	52,891	33,041	17,401	2,449
Idaho	68,017	39,563	25,171	3,283
Illinois	810,099	435,454	291,058	83,588
Indiana	259,419	119,869	127,608	11,942
Iowa	123,966	61,179	56,567	6,221
Kansas	88,761	45,768	36,088	6,904
Kentucky	181,378	59,936	112,475	8,967
Louisiana	221,788	60,678	152,910	8,201
Maine	110,374	39,660	65,591	5,123
Maryland	269,735	118,235	125,443	26,057
Massachusetts	488,270	216,609	228,170	43,491
Michigan	893,451	300,175	566,267	27,009
Minnesota	363,509	181,883	161,762	19,864
Mississippi	232,598	58,562	165,776	8,260
Missouri	439,932	126,749	302,797	10,386
Montana	102,205	34,174	63,986	4,045
Nebraska	77,532	38,632	32,997	5,903
Nevada	188,440	73,101	111,146	4,194
New Hampshire	117,911	31,212	80,316	6,382
New Jersey	460,123	210,435	218,087	31,601
New Mexico	209,371	61,194	140,029	8,148
New York	1,133,540	380,928	672,972	79,641
North Carolina	262,259	115,652	128,625	17,983
North Dakota	17,751	9,711	6,897	1,144
Ohio	548,142	275,703	226,089	46,349
Oklahoma	229,210	81,515	139,246	8,449
Oregon	362,111	119,014	227,909	15,189
Pennsylvania	1,123,040	456,147	619,372	47,521
Rhode Island	67,370	30,285	34,182	2,903
South Carolina	81,781	23,353	53,221	5,207
South Dakota	38,641	19,067	17,759	1,815
Tennessee	295,240	127,306	155,156	12,778
Texas	877,749	423,218	415,693	38,837
Utah	170,154	58,848	108,164	3,143
Vermont	57,936	20,263	33,668	4,004
Virginia	379,396	141,648	207,560	30,187
Washington	511,218	298,941	178,044	34,232
West Virginia	65,962	32,684	30,394	2,884
Wisconsin	482,755	140,584	311,737	30,434
Wyoming	51,122	24,171	25,486	1,465

Note: U.S. totals include responses from participants residing in the District of Columbia, as described in the statistical reliability appendix.

Table 57. Trip-Related Expenditures for Fishing, Hunting, and Primary Nonresidential Activities, by State Where Spending Took Place: 1991

(Population 16 years old and older. Amounts in thousands of dollars)

State where spending took place	Trip-related expenditures for fishing			Trip-related expenditures for hunting			Trip-related expenditures for primary nonresidential activities		
	Total, residents and non-residents	Residents	Non-residents	Total residents and non-residents	Residents	Non-residents	Total residents and non-residents	Residents	Non-residents
U.S., total	11,847,750	8,673,239	3,170,073	3,440,604	2,635,862	804,550	7,482,073	3,457,664	4,024,409
Alabama	255,889	161,813	94,076	89,659	74,013	15,645	64,955	34,623	30,332
Alaska	239,530	72,954	166,576	44,325	25,595	*18,731	291,254	33,741	257,514
Arizona	156,874	100,212	56,662	38,740	27,595	*11,145	187,043	59,142	127,900
Arkansas	216,941	134,354	82,587	85,048	75,388	9,660	79,084	31,337	47,747
California	829,902	789,551	40,352	107,884	106,644	*1,240	929,358	678,176	251,183
Colorado	169,563	97,382	72,181	156,460	40,184	116,275	362,202	93,484	268,719
Connecticut	62,331	55,973	6,358	5,435	4,316	*1,118	29,226	20,263	8,963
Delaware	40,006	17,831	22,175	3,175	2,613	...	9,098	2,967	*6,130
Florida	1,202,344	822,215	380,129	84,859	81,934	...	706,728	306,425	400,303
Georgia	254,082	183,171	70,911	106,109	82,178	23,931	76,944	39,798	37,146
Hawaii	71,795	39,558	*32,237	9,697	4,781	...	223,770	13,174	210,596
Idaho	74,823	44,883	29,940	44,245	34,107	10,138	86,821	19,749	67,072
Illinois	243,387	225,440	17,947	56,440	48,554	*7,886	104,243	93,449	10,794
Indiana	193,801	164,507	29,294	56,094	47,054	*9,040	83,610	66,203	17,406
Iowa	72,584	59,758	12,826	46,558	27,960	18,598	37,059	24,990	12,069
Kansas	75,485	60,299	15,186	44,349	30,468	13,882	22,004	14,699	*7,305
Kentucky	162,327	130,867	31,460	71,892	54,248	*17,645	74,890	34,811	40,080
Louisiana	336,716	276,411	60,305	81,841	77,464	*4,376	49,019	28,230	20,790
Maine	115,603	54,397	61,206	31,606	16,336	15,270	130,870	22,417	108,454
Maryland	155,433	111,803	43,631	30,270	23,226	*7,044	92,042	40,564	51,479
Massachusetts	192,221	146,212	46,009	14,099	12,425	*1,673	117,656	64,733	52,923
Michigan	535,735	440,991	94,744	189,722	176,501	*13,221	267,141	166,778	100,362
Minnesota	456,900	337,539	119,361	84,662	74,393	*10,269	121,016	87,908	33,108
Mississippi	136,707	104,999	31,708	95,441	71,418	24,023	29,522	18,610	10,913
Missouri	309,527	203,648	105,879	82,167	68,779	13,388	119,382	61,411	57,971
Montana	121,376	35,909	85,467	105,698	30,439	75,259	212,037	19,334	192,703
Nebraska	45,783	42,109	3,675	37,695	24,798	12,898	26,340	15,115	11,225
Nevada	40,830	26,671	*14,159	18,687	15,657	...	67,986	23,317	44,669
New Hampshire	61,501	30,526	30,975	9,653	5,794	*3,859	90,226	13,624	76,602
New Jersey	366,274	256,162	110,112	30,213	24,314	*5,899	82,323	51,235	31,087
New Mexico	64,510	35,001	29,509	34,799	18,281	*16,518	118,964	25,615	93,350
New York	514,820	392,523	122,297	162,252	142,677	19,575	232,737	131,391	101,345
North Carolina	377,155	240,900	136,256	58,048	53,054	*4,994	156,161	53,901	102,259
North Dakota	20,872	18,400	*2,472	24,436	18,585	*5,851	9,804	4,891	*4,913
Ohio	391,532	350,769	40,762	67,838	60,336	*7,502	121,770	92,783	28,987
Oklahoma	196,442	161,031	35,411	54,291	48,210	*6,081	51,419	34,062	*17,357
Oregon	204,744	145,621	59,123	56,281	52,004	*4,278	168,959	78,485	90,474
Pennsylvania	265,956	217,474	48,482	165,805	132,491	33,314	219,540	161,245	58,294
Rhode Island	39,589	20,620	18,968	2,849	1,468	...	23,322	8,526	*14,796
South Carolina	241,392	125,033	116,359	61,813	40,249	21,564	91,250	9,823	81,427
South Dakota	39,070	31,862	7,208	47,944	23,111	24,833	51,632	11,090	40,541
Tennessee	258,988	179,995	78,993	77,224	61,072	16,152	148,829	76,167	72,662
Texas	791,806	737,682	54,124	282,938	243,259	39,679	244,879	202,862	42,017
Utah	96,460	57,073	39,386	41,436	31,283	*10,153	103,648	29,471	74,176
Vermont	44,733	20,522	24,211	32,646	13,487	*19,159	44,177	8,305	35,872
Virginia	200,075	159,595	40,480	84,624	76,004	8,620	145,965	55,730	90,235
Washington	284,635	251,389	33,246	66,504	64,729	*1,776	266,923	166,475	100,447
West Virginia	55,386	33,241	22,145	53,778	31,625	22,154	54,863	18,750	36,113
Wisconsin	475,540	239,108	236,432	150,673	119,249	31,425	212,129	92,589	119,540
Wyoming	82,433	27,256	55,177	51,509	15,514	35,995	228,085	15,194	212,890

Note: Detail does not add to total because of nonresponse. U.S. totals include responses from participants residing in the District of Columbia, as described in the statistical reliability appendix.

* Estimate based on a small sample size.

... Sample size too small to report data reliably.

Table 58. Anglers and Hunters, by Sportsman's State of Residence: 1991

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

Sportsman's state of residence	Population	Fished or hunted		Fished only		Hunted only		Fished and hunted	
		Number	Percent of population	Number	Percent of population	Number	Percent of population	Number	Percent of population
U.S., total	189,966	39,979	21	25,916	14	4,402	2	9,662	5
Alabama	3,110	756	24	445	14	78	3	233	7
Alaska	369	152	41	97	26	11	3	44	12
Arizona	2,707	467	17	314	12	79	3	74	3
Arkansas	1,807	575	32	311	17	82	5	182	10
California	22,366	2,913	13	2,376	11	206	1	331	1
Colorado	2,514	639	25	433	17	72	3	134	5
Connecticut	2,500	351	14	301	12	...	...	42	2
Delaware	528	93	18	69	13	10	2	15	3
Florida	10,320	2,038	20	1,690	16	*70	*1	278	3
Georgia	4,840	1,071	22	735	15	84	2	252	5
Hawaii	842	154	18	136	16	*4	*1	13	2
Idaho	746	295	40	134	18	48	6	113	15
Illinois	8,899	1,670	19	1,213	14	167	2	290	3
Indiana	4,267	968	23	648	15	82	2	238	6
Iowa	2,164	628	29	382	18	98	5	147	7
Kansas	1,882	510	27	308	16	64	3	138	7
Kentucky	2,826	737	26	397	14	90	3	249	9
Louisiana	3,161	882	28	549	17	81	3	252	8
Maine	953	274	29	151	16	38	4	85	9
Maryland	3,659	598	16	449	12	50	1	99	3
Massachusetts	4,639	612	13	492	11	*29	*1	91	2
Michigan	7,014	1,691	24	906	13	254	4	531	8
Minnesota	3,308	1,206	36	754	23	96	3	356	11
Mississippi	1,914	590	31	298	16	85	4	208	11
Missouri	3,940	1,156	29	677	17	117	3	362	9
Montana	601	228	38	70	12	57	9	101	17
Nebraska	1,210	316	26	178	15	47	4	91	8
Nevada	914	180	20	123	13	20	2	37	4
New Hampshire	864	189	22	124	14	14	2	52	6
New Jersey	6,007	828	14	689	11	*39	*1	100	2
New Mexico	1,126	225	20	127	11	46	4	52	5
New York	13,803	1,917	14	1,229	9	261	2	427	3
North Carolina	5,104	1,153	23	752	15	101	2	300	6
North Dakota	477	162	34	73	15	36	8	53	11
Ohio	8,306	1,692	20	1,111	13	224	3	357	4
Oklahoma	2,411	704	29	475	20	55	2	174	7
Oregon	2,223	626	28	386	17	85	4	154	7
Pennsylvania	9,405	1,763	19	844	9	338	4	581	6
Rhode Island	777	101	13	85	11	*4	*(Z)	13	2
South Carolina	2,645	630	24	444	17	*35	*1	151	6
South Dakota	525	166	32	63	12	37	7	66	13
Tennessee	3,818	900	24	564	15	96	3	240	6
Texas	12,548	2,964	24	1,946	16	315	3	703	6
Utah	1,139	313	28	151	13	62	5	100	9
Vermont	446	131	29	62	14	21	5	48	11
Virginia	4,721	1,022	22	654	14	93	2	275	6
Washington	3,709	1,030	28	779	21	64	2	187	5
West Virginia	1,420	372	26	101	7	113	8	157	11
Wisconsin	3,700	1,180	32	533	14	210	6	436	12
Wyoming	345	141	41	67	19	25	7	48	14

Note: U.S. totals include responses from participants residing in the District of Columbia, as described in the statistical reliability appendix.
* Estimate based on a small sample size.
... Sample size too small to report data reliably.
(Z) Less than .5 percent.

Table 59. Anglers and Hunters, In State and Out of State, by State of Residence: 1991

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

Angler's or hunter's state of residence	Anglers						Hunters					
	Total		Fished in state of residence		Fished in other states		Total		Hunted in state of residence		Hunted in other states	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
U.S., total	35,578	100	32,281	91	8,442	24	14,063	100	13,370	95	1,807	13
Alabama	678	100	660	97	102	15	311	100	303	97	*32	*10
Alaska	141	100	139	99	6	5	55	100	54	98	*3	*5
Arizona	388	100	334	86	117	30	153	100	141	92	*18	*12
Arkansas	493	100	477	97	70	14	264	100	262	99	*18	*7
California	2,707	100	2,500	92	487	18	537	100	438	81	128	24
Colorado	567	100	509	90	155	27	206	100	194	94	*35	*17
Connecticut	343	100	282	82	156	46	50	100	40	79	*15	*30
Delaware	83	100	65	78	38	45	25	100	21	86	*8	*31
Florida	1,968	100	1,812	92	335	17	348	100	242	70	151	43
Georgia	987	100	906	92	296	30	336	100	330	98	*46	*14
Hawaii	149	100	137	92	22	15	17	100	15	83	...	...
Idaho	247	100	232	94	51	20	161	100	158	98	*8	*5
Illinois	1,503	100	1,222	81	664	44	457	100	407	89	106	23
Indiana	886	100	799	90	240	27	320	100	310	97	*30	*9
Iowa	529	100	465	88	162	31	246	100	245	100	*13	*5
Kansas	445	100	369	83	154	34	202	100	193	96	*28	*14
Kentucky	647	100	600	93	134	21	340	100	331	97	44	13
Louisiana	801	100	769	96	116	15	333	100	300	90	84	25
Maine	236	100	233	99	18	8	123	100	123	100	...	...
Maryland	549	100	467	85	195	35	149	100	129	87	46	31
Massachusetts	583	100	497	85	261	45	120	100	101	84	51	43
Michigan	1,437	100	1,419	99	154	11	785	100	783	100	*33	*4
Minnesota	1,109	100	1,083	98	124	11	452	100	431	95	54	12
Mississippi	506	100	488	96	78	15	292	100	289	99	*25	*9
Missouri	1,039	100	961	92	260	25	479	100	465	97	65	14
Montana	171	100	164	96	20	12	158	100	158	100	...	...
Nebraska	269	100	224	83	100	37	138	100	134	97	17	*12
Nevada	160	100	110	68	90	56	57	100	46	81	19	33
New Hampshire	176	100	155	89	61	35	65	100	62	95	*10	*15
New Jersey	789	100	695	88	300	38	139	100	115	83	53	38
New Mexico	179	100	159	89	36	20	98	100	91	93	*12	*12
New York	1,656	100	1,458	88	375	23	688	100	677	98	*30	*4
North Carolina	1,052	100	990	94	180	17	401	100	376	94	73	18
North Dakota	126	100	82	65	56	44	89	100	86	96	10	11
Ohio	1,468	100	1,342	91	410	28	580	100	570	98	70	12
Oklahoma	649	100	623	96	130	20	229	100	219	96	33	15
Oregon	540	100	516	96	82	15	240	100	237	99	...	...
Pennsylvania	1,425	100	1,190	83	510	36	919	100	906	99	*91	*10
Rhode Island	97	100	87	90	35	36	16	100	13	77	9	56
South Carolina	595	100	560	94	87	15	186	100	178	96	*19	*10
South Dakota	129	100	117	91	28	22	103	100	99	96	*8	*8
Tennessee	804	100	708	88	234	29	336	100	313	93	59	18
Texas	2,650	100	2,385	90	470	18	1,018	100	988	97	*65	*6
Utah	251	100	226	90	74	30	162	100	158	97	*12	*7
Vermont	110	100	101	92	26	24	69	100	69	100	*9	*13
Virginia	929	100	810	87	322	35	368	100	353	96	*44	*12
Washington	967	100	873	90	199	21	251	100	236	94	*34	*13
West Virginia	259	100	235	91	81	31	271	100	268	99	*18	*7
Wisconsin	970	100	940	97	102	11	647	100	643	99	53	8
Wyoming	115	100	108	93	22	19	74	100	73	99	*4	*5

Note: Detail does not add to total because of multiple responses. U.S. totals include responses from participants residing in the District of Columbia, as described in the statistical reliability appendix.

* Estimate based on a small sample size.

... Sample size too small to report data reliably.

Table 60. Anglers and Hunters, by State Where Fishing or Hunting Took Place: 1991

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

State where fishing or hunting took place	Anglers						Hunters					
	Total anglers, residents and nonresidents		Residents		Nonresidents		Total hunters, residents and nonresidents		Residents		Nonresidents	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
U.S., total	35,578	100	32,281	91	8,442	24	14,063	100	13,370	95	1,807	13
Alabama	909	100	660	73	249	27	359	100	303	84	56	16
Alaska	309	100	139	45	170	55	69	100	54	79	*15	*21
Arizona	480	100	334	70	146	30	182	100	141	77	*41	*23
Arkansas	769	100	477	62	292	38	314	100	262	83	53	17
California	2,677	100	2,500	93	177	7	446	100	438	98	*9	*2
Colorado	778	100	509	65	270	35	348	100	194	56	155	44
Connecticut	345	100	282	82	62	18	57	100	40	70	*17	*30
Delaware	155	100	65	42	90	58	26	100	21	81	...	...
Florida	2,677	100	1,812	68	865	32	253	100	242	96	...	...
Georgia	1,106	100	906	82	200	18	412	100	330	80	82	20
Hawaii	201	100	137	68	*65	*32	18	100	15	79	...	...
Idaho	365	100	232	64	133	36	193	100	158	82	35	18
Illinois	1,359	100	1,222	90	137	10	449	100	407	91	*42	*9
Indiana	986	100	799	81	187	19	331	100	310	93	*22	*7
Iowa	556	100	465	84	91	16	328	100	245	75	83	25
Kansas	453	100	369	81	84	19	241	100	193	80	48	20
Kentucky	766	100	600	78	167	22	370	100	331	89	*39	*11
Louisiana	899	100	769	86	130	14	332	100	300	91	*31	*9
Maine	449	100	233	52	216	48	165	100	123	74	43	26
Maryland	700	100	467	67	233	33	147	100	129	88	*18	*12
Massachusetts	652	100	497	76	156	24	108	100	101	93	*7	*7
Michigan	1,762	100	1,419	81	344	19	826	100	783	95	43	5
Minnesota	1,450	100	1,083	75	367	25	458	100	431	94	27	6
Mississippi	663	100	488	74	175	26	364	100	289	79	75	21
Missouri	1,329	100	961	72	368	28	520	100	465	89	55	11
Montana	342	100	164	48	178	52	223	100	158	71	65	29
Nebraska	252	100	224	89	28	11	168	100	134	80	34	20
Nevada	171	100	110	64	*61	*36	57	100	46	82	...	...
New Hampshire	319	100	155	49	164	51	73	100	62	86	*10	*14
New Jersey	963	100	695	72	268	28	135	100	115	85	*21	*15
New Mexico	281	100	159	57	121	43	109	100	91	84	*17	*16
New York	1,836	100	1,458	79	377	21	742	100	677	91	65	9
North Carolina	1,481	100	990	67	491	33	398	100	376	94	*22	*6
North Dakota	99	100	82	83	*17	*17	98	100	86	87	*13	*13
Ohio	1,515	100	1,342	89	173	11	615	100	570	93	*45	*7
Oklahoma	804	100	623	78	180	22	244	100	219	89	*26	*11
Oregon	717	100	516	72	201	28	253	100	237	94	*16	*6
Pennsylvania	1,397	100	1,190	85	207	15	1,027	100	906	88	121	12
Rhode Island	171	100	87	51	84	49	22	100	13	57	...	...
South Carolina	842	100	560	67	282	33	235	100	178	76	57	24
South Dakota	158	100	117	74	41	26	147	100	99	67	48	33
Tennessee	996	100	708	71	288	29	361	100	313	87	48	13
Texas	2,589	100	2,385	92	204	8	1,060	100	988	93	72	7
Utah	317	100	226	71	91	29	177	100	158	89	*19	*11
Vermont	181	100	101	56	80	44	101	100	69	69	*31	*31
Virginia	1,034	100	810	78	224	22	402	100	353	88	49	12
Washington	995	100	873	88	122	12	248	100	236	95	*11	*5
West Virginia	339	100	235	69	104	31	342	100	268	78	74	22
Wisconsin	1,470	100	940	64	530	36	747	100	643	86	104	14
Wyoming	301	100	108	36	193	64	135	100	73	54	62	46

Note: For the U.S. row, detail does not add to total because of multiple responses. U.S. totals include responses from participants residing in the District of Columbia, as described in the statistical reliability appendix.

* Estimate based on a small sample size.

... Sample size too small to report data reliably.

Table 61. Hunters, by Type of Hunting and State Where Hunting Took Place: 1991

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

State where hunting took place	Total, all hunting		Type of hunting							
			Big game		Small game		Migratory bird		Other animals	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
U.S., total	14,063	100	10,745	76	7,642	54	3,009	21	1,411	10
Alabama	359	100	262	73	160	44	104	29	*17	*5
Alaska	69	100	60	87	24	35	13	19	*3	*5
Arizona	182	100	103	57	68	37	71	39	...	...
Arkansas	314	100	249	79	138	44	75	24	*19	*6
California	446	100	195	44	230	52	234	53	...	...
Colorado	348	100	286	82	89	25	58	17	*15	*4
Connecticut	57	100	30	53	36	64	*8	*14	...	...
Delaware	26	100	16	60	12	44	15	57	...	...
Florida	253	100	191	76	126	50	67	26	*22	*9
Georgia	412	100	329	80	167	41	77	19	*19	*5
Hawaii	18	100	16	86	*5	*28	...	...	...	...
Idaho	193	100	160	83	79	41	26	14	21	11
Illinois	449	100	256	57	296	66	121	27	*40	*9
Indiana	331	100	206	62	228	69	38	12	47	14
Iowa	328	100	156	48	271	83	26	8	36	11
Kansas	241	100	71	30	199	83	54	22	23	9
Kentucky	370	100	209	56	252	68	81	22	58	16
Louisiana	332	100	203	61	212	64	127	38	*18	*5
Maine	165	100	158	95	66	40	*12	*7	*14	*9
Maryland	147	100	102	70	64	44	34	23	*25	*17
Massachusetts	108	100	85	78	58	54	*18	*17	*13	*12
Michigan	826	100	757	92	401	49	92	11	*30	*4
Minnesota	458	100	336	73	261	57	84	18	*19	*4
Mississippi	364	100	305	84	190	52	86	24	36	10
Missouri	520	100	411	79	296	57	81	16	43	8
Montana	223	100	202	91	62	28	20	9	20	9
Nebraska	168	100	67	40	137	81	48	29	28	16
Nevada	57	100	28	50	35	61	18	32	*7	*12
New Hampshire	73	100	62	86	35	49	*7	*10	*5	*7
New Jersey	135	100	101	75	80	59	*26	*20	...	...
New Mexico	109	100	87	80	29	26	23	21	*7	*7
New York	742	100	666	90	330	45	*60	*8	*81	*11
North Carolina	398	100	288	72	224	56	94	24	*31	*8
North Dakota	98	100	58	59	60	61	34	34	16	16
Ohio	615	100	390	63	436	71	*36	*6	142	23
Oklahoma	244	100	130	53	166	68	77	31	*16	*7
Oregon	253	100	223	88	64	25	33	13	*9	*4
Pennsylvania	1,027	100	969	94	597	58	111	11	144	14
Rhode Island	22	100	16	72	12	57	*3	*12	...	...
South Carolina	235	100	184	78	90	38	70	30	*10	*4
South Dakota	147	100	69	47	118	80	39	26	26	18
Tennessee	361	100	231	64	227	63	73	20	58	16
Texas	1,060	100	739	70	413	39	470	44	*73	*7
Utah	177	100	151	85	63	36	20	11	...	...
Vermont	101	100	93	92	43	43	*6	*5	24	24
Virginia	402	100	328	82	209	52	93	23	65	16
Washington	248	100	197	80	105	43	51	21	*24	*10
West Virginia	342	100	308	90	201	59	*6	*2	51	15
Wisconsin	747	100	672	90	302	40	108	15	41	5
Wyoming	135	100	123	91	29	21	*6	*5	*10	*7

Note: Detail does not add to total because of multiple responses. U.S. totals include responses from participants residing in the District of Columbia, as described in the statistical reliability appendix.

* Estimate based on a small sample size.

... Sample size too small to report data reliably.

Table 62. Days of Hunting, by State Where Hunting Took Place and Hunter's State of Residence: 1991

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

State	Days of hunting in state						Days of hunting by state residents					
	Total days, residents and nonresidents		Days by state residents		Days by nonresidents		Total days, in state of residence and other states		Days in state of residence		Days in other states	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
U.S., total	235,806	100	220,125	93	15,681	7	235,806	100	220,125	93	15,681	7
Alabama	5,823	100	5,408	93	414	7	5,748	100	5,408	94	*340	*6
Alaska	847	100	709	84	*138	*16	737	100	709	96	28	4
Arizona	1,555	100	1,389	89	*167	*11	1,516	100	1,389	92	*127	*8
Arkansas	5,513	100	5,007	91	506	9	5,177	100	5,007	97	*170	*3
California	5,211	100	5,192	99	*19	*(Z)	6,369	100	5,192	82	1,177	18
Colorado	2,644	100	1,592	60	1,052	40	1,838	100	1,592	87	246	13
Connecticut	840	100	767	91	*73	*9	936	100	767	82	168	18
Delaware	410	100	372	91	...	...	424	100	372	88	53	12
Florida	4,545	100	4,520	99	...	...	5,946	100	4,520	76	1,425	24
Georgia	5,905	100	5,399	91	506	9	5,695	100	5,399	95	296	5
Hawaii	245	100	239	98	...	...	289	100	239	83	*50	*17
Idaho	2,168	100	1,941	90	226	10	1,985	100	1,941	98	*44	*2
Illinois	6,863	100	6,514	95	349	5	7,238	100	6,514	90	724	10
Indiana	7,155	100	6,930	97	*226	*3	7,208	100	6,930	96	279	4
Iowa	4,005	100	3,616	90	389	10	3,735	100	3,616	97	*119	*3
Kansas	2,821	100	2,560	91	262	9	2,862	100	2,560	89	302	11
Kentucky	6,042	100	5,828	96	215	4	6,112	100	5,828	95	285	5
Louisiana	6,676	100	6,447	97	*229	*3	7,398	100	6,447	87	951	13
Maine	2,347	100	1,977	84	370	16	1,998	100	1,977	99	*21	*1
Maryland	2,276	100	2,160	95	*115	*5	2,491	100	2,160	87	331	13
Massachusetts	1,426	100	1,388	97	*38	*3	1,973	100	1,388	70	585	30
Michigan	15,088	100	14,734	98	355	2	14,955	100	14,734	99	*222	*1
Minnesota	5,235	100	4,740	91	495	9	5,137	100	4,740	92	397	8
Mississippi	8,621	100	7,801	91	817	9	7,986	100	7,801	98	185	2
Missouri	7,196	100	6,809	95	388	5	7,269	100	6,809	94	461	6
Montana	2,591	100	1,940	75	651	25	1,950	100	1,940	99	...	...
Nebraska	2,251	100	1,959	87	293	13	2,055	100	1,959	95	96	5
Nevada	565	100	466	82	...	...	586	100	466	80	120	20
New Hampshire	1,118	100	1,014	91	*104	*9	1,111	100	1,014	91	98	9
New Jersey	2,363	100	2,167	92	*196	*8	2,564	100	2,167	85	397	15
New Mexico	1,088	100	939	86	*150	*14	1,021	100	939	92	*82	*8
New York	13,110	100	12,571	96	539	4	12,788	100	12,571	98	*217	*2
North Carolina	6,849	100	6,679	98	*170	*2	7,412	100	6,679	90	733	10
North Dakota	1,297	100	1,182	91	*115	*9	1,266	100	1,182	93	84	7
Ohio	9,013	100	8,668	96	345	4	9,451	100	8,668	92	782	8
Oklahoma	3,676	100	3,532	96	*144	*4	3,803	100	3,532	93	271	7
Oregon	2,554	100	2,468	97	*86	*3	2,506	100	2,468	98	*38	*2
Pennsylvania	15,639	100	14,766	94	874	6	15,626	100	14,766	94	860	6
Rhode Island	350	100	243	69	...	...	340	100	243	72	97	28
South Carolina	3,945	100	3,438	87	508	13	3,619	100	3,438	95	*181	*5
South Dakota	1,878	100	1,626	87	252	13	1,688	100	1,626	96	63	4
Tennessee	7,315	100	6,873	94	443	6	7,595	100	6,873	90	723	10
Texas	15,028	100	14,596	97	432	3	14,953	100	14,596	98	*357	*2
Utah	1,354	100	1,294	96	*60	*4	1,402	100	1,294	92	*108	*8
Vermont	1,777	100	1,455	82	323	18	1,541	100	1,455	94	86	6
Virginia	8,728	100	8,234	94	494	6	8,570	100	8,234	96	336	4
Washington	3,386	100	3,352	99	*34	*1	3,546	100	3,352	95	*194	*5
West Virginia	6,104	100	5,345	88	759	12	5,677	100	5,345	94	332	6
Wisconsin	11,324	100	10,572	93	752	7	10,983	100	10,572	96	411	4
Wyoming	1,054	100	712	68	342	32	733	100	712	97	*21	*3

Note: State totals do not include responses by participants who did not indicate the State where the hunting took place. U.S. totals include responses from participants residing in the District of Columbia, as described in the statistical reliability appendix.

* Estimate based on a small sample size.

... Sample size too small to report data reliably.

(Z) Less than .5 percent.

Table 63. Days of Hunting, by Type of Hunting and State Where Hunting Took Place: 1991

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

State where hunting took place	Total, all hunting		Type of hunting							
			Big game		Small game		Migratory bird		Other animals	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
U.S., total	235,806	100	128,411	54	77,132	33	22,235	9	19,340	8
Alabama	5,823	100	3,705	64	1,590	27	358	6	*361	*6
Alaska	847	100	612	72	233	27	90	11	*27	*3
Arizona	1,555	100	886	57	434	28	255	16	...	...
Arkansas	5,513	100	3,194	58	1,587	29	620	11	*246	*4
California	5,211	100	2,225	43	1,734	33	1,272	24	...	...
Colorado	2,644	100	1,934	73	523	20	263	10	*97	*4
Connecticut	840	100	491	58	240	29	*87	*10	...	...
Delaware	410	100	162	39	117	29	130	32	...	...
Florida	4,545	100	2,820	62	1,304	29	319	7	*325	*7
Georgia	5,905	100	4,419	75	1,088	18	416	7	*302	*5
Hawaii	245	100	191	78	*40	*16	...	...	...	...
Idaho	2,168	100	1,248	58	604	28	240	11	190	9
Illinois	6,863	100	2,632	38	2,604	38	1,620	24	*191	*3
Indiana	7,155	100	3,212	45	3,271	46	223	3	888	12
Iowa	4,005	100	1,188	30	2,440	61	185	5	406	10
Kansas	2,821	100	681	24	1,634	58	255	9	435	15
Kentucky	6,042	100	2,032	34	2,839	47	503	8	984	16
Louisiana	6,676	100	3,138	47	2,535	38	1,044	16	*172	*3
Maine	2,347	100	1,496	64	708	30	*99	*4	*213	*9
Maryland	2,276	100	1,434	63	520	23	210	9	*195	*9
Massachusetts	1,426	100	558	39	606	43	*139	*10	*193	*14
Michigan	15,088	100	9,219	61	5,328	35	722	5	*429	*3
Minnesota	5,235	100	2,245	43	2,286	44	735	14	*329	*6
Mississippi	8,607	100	5,767	67	2,179	25	479	6	526	6
Missouri	7,196	100	3,513	49	2,790	39	488	7	535	7
Montana	2,591	100	1,983	77	396	15	112	4	207	8
Nebraska	2,251	100	479	21	1,218	54	340	15	344	15
Nevada	565	100	213	38	235	42	117	21	*40	*7
New Hampshire	1,118	100	688	62	405	36	*62	*6	*51	*5
New Jersey	2,363	100	1,222	52	835	35	*308	*13	...	...
New Mexico	1,088	100	600	55	272	25	196	18	*68	*6
New York	13,110	100	8,297	63	3,655	28	*501	*4	*1,271	*10
North Carolina	6,849	100	4,145	61	1,986	29	456	7	*503	*7
North Dakota	1,297	100	346	27	593	46	249	19	153	12
Ohio	9,013	100	3,505	39	3,973	44	*384	*4	1,461	16
Oklahoma	3,676	100	1,719	47	1,348	37	361	10	*331	*9
Oregon	2,554	100	1,905	75	410	16	290	11	*83	*3
Pennsylvania	15,639	100	9,606	61	4,753	30	744	5	1,147	7
Rhode Island	350	100	187	53	112	32	*24	*7	...	...
South Carolina	3,945	100	2,703	69	793	20	501	13	*257	*7
South Dakota	1,878	100	458	24	1,012	54	386	21	189	10
Tennessee	7,315	100	3,544	48	2,605	36	487	7	859	12
Texas	15,028	100	7,667	51	3,366	22	4,066	27	*1,246	*8
Utah	1,354	100	983	73	282	21	111	8	...	...
Vermont	1,777	100	1,037	58	539	30	*48	*3	293	16
Virginia	8,728	100	5,216	60	2,117	24	482	6	1,326	15
Washington	3,386	100	1,780	53	996	29	516	15	*335	*10
West Virginia	6,104	100	3,364	55	2,110	35	...	...	937	15
Wisconsin	11,324	100	6,936	61	3,703	33	694	6	352	3
Wyoming	1,054	100	826	78	184	17	*25	*2	*101	*10

Note: Detail does not add to total because of multiple responses. U.S. totals include responses from participants residing in the District of Columbia, as described in the statistical reliability appendix.

* Estimate based on a small sample size.

... Sample size too small to report data reliably.

Table 64. Expenditures for Hunting, by Hunter's State of Residence: 1991

(Population 16 years old and older. Expenditures in thousands of dollars)

Hunter's state of residence	Total expenditures	Trip-related expenditures				Expenditures for equipment				Expenditures for other items[1]
		Total trip-related	Food and lodging	Transportation	Other trip costs	Total equipment	Hunting equipment	Auxiliary equipment	Special equipment	
U.S., total	12,336,435	3,440,604	1,824,117	1,338,671	277,817	5,168,524	3,283,413	635,334	1,249,777	3,727,307
Alabama	275,883	86,677	45,428	36,537	4,712	120,648	82,795	11,329	*26,523	68,559
Alaska	88,589	26,837	11,166	13,735	1,937	36,158	20,844	6,927	*8,386	25,594
Arizona	153,601	39,448	21,426	16,670	...	99,917	40,483	6,713	...	14,236
Arkansas	288,060	91,235	50,891	28,388	11,956	131,900	66,935	8,523	*56,442	64,926
California	643,150	178,786	81,119	82,112	*15,555	293,006	177,638	37,200	...	171,358
Colorado	154,499	50,155	27,929	19,049	*3,177	74,187	49,809	15,600	...	30,157
Connecticut	43,335	14,606	5,553	5,576	...	20,074	16,076	*3,998	...	8,655
Delaware	20,546	4,868	2,503	1,639	*726	8,352	7,064	989	...	7,326
Florida	323,749	152,599	79,232	57,312	16,054	104,315	77,854	12,072	...	66,836
Georgia	276,057	107,112	61,178	36,387	9,546	133,790	105,278	13,362	...	35,155
Hawaii	17,250	8,190	2,097	5,246	...	8,437	4,968	*571	...	623
Idaho	97,947	35,558	18,239	16,485	...	53,321	30,263	6,862	...	9,069
Illinois	326,957	81,636	40,265	28,097	13,275	144,956	121,989	18,060	...	100,365
Indiana	243,627	69,179	32,391	25,066	*11,722	131,182	84,993	9,890	...	43,267
Iowa	170,632	34,758	19,172	15,298	*288	72,515	41,276	7,258	...	63,359
Kansas	125,617	42,319	18,469	18,418	*5,432	74,163	48,295	3,688	...	9,134
Kentucky	236,506	68,496	39,542	27,225	*1,729	146,251	84,254	10,331	*51,666	21,759
Louisiana	433,808	119,029	67,599	40,941	10,489	161,033	101,816	17,211	*42,006	153,746
Maine	66,716	18,575	10,857	7,343	*375	27,017	17,591	3,621	...	21,124
Maryland	161,422	37,472	20,903	14,122	*2,448	78,341	50,342	9,488	...	45,608
Massachusetts	113,459	31,290	18,850	10,700	...	51,552	42,886	6,841	...	30,617
Michigan	873,442	205,197	119,964	74,612	10,621	464,424	173,937	44,021	*246,466	203,822
Minnesota	289,689	96,885	55,361	34,420	*7,104	110,842	86,012	20,735	...	81,963
Mississippi	402,096	81,454	37,334	31,330	12,790	215,326	87,472	13,205	...	105,315
Missouri	339,226	84,524	45,426	36,595	*2,503	123,185	82,067	12,393	*28,725	131,517
Montana	88,196	30,902	14,847	15,168	...	47,477	30,947	9,265	*7,265	9,817
Nebraska	67,626	27,953	13,607	13,715	*630	32,161	25,158	3,184	...	7,511
Nevada	65,345	21,623	11,131	8,769	*1,723	38,335	19,415	3,213	...	5,387
New Hampshire	44,051	10,375	5,667	3,747	...	24,835	13,726	3,530	...	8,841
New Jersey	123,625	50,056	26,100	16,804	*7,153	38,039	28,928	8,827	...	35,530
New Mexico	57,082	23,102	14,034	7,865	1,202	27,371	22,626	4,253	...	6,610
New York	504,491	155,483	101,587	47,136	*6,760	213,717	158,440	42,032	...	135,291
North Carolina	270,660	82,716	36,712	33,560	12,444	133,601	103,063	12,885	...	54,343
North Dakota	51,770	21,967	10,626	10,896	*444	24,871	19,383	4,223	...	4,932
Ohio	381,711	89,982	49,956	38,278	*1,748	205,131	132,680	21,903	...	86,597
Oklahoma	158,708	62,016	33,677	27,424	*915	54,791	42,534	8,413	...	41,900
Oregon	122,739	54,132	27,914	24,284	*1,933	53,852	38,300	8,193	...	14,755
Pennsylvania	536,917	205,665	106,235	73,782	*25,649	245,663	190,811	49,405	...	85,588
Rhode Island	20,785	4,502	2,509	1,759	...	9,623	7,500	*883	...	6,661
South Carolina	128,010	45,319	20,763	17,234	7,322	61,677	48,996	10,832	...	21,014
South Dakota	78,955	25,639	13,672	11,439	*527	39,583	23,910	3,710	...	13,733
Tennessee	311,721	85,769	41,569	37,636	6,565	176,857	108,014	18,011	*50,832	49,094
Texas	1,006,433	265,479	131,666	99,709	34,104	300,790	194,830	40,684	*65,277	440,163
Utah	86,214	34,630	19,638	13,678	*1,314	39,756	20,339	5,766	*13,651	11,828
Vermont	48,186	16,997	10,587	6,193	*217	21,366	18,923	2,201	...	9,824
Virginia	255,822	87,390	42,784	39,171	5,436	90,886	72,123	8,722	...	77,546
Washington	191,609	78,202	36,693	37,325	*4,183	92,711	69,665	17,813	...	20,697
West Virginia	165,081	37,765	22,274	15,180	*311	82,050	57,894	9,195	...	45,266
Wisconsin	504,072	139,294	88,026	47,342	*3,927	205,994	117,433	32,617	*55,943	158,784
Wyoming	50,249	16,761	8,947	7,276	*537	22,498	14,839	4,686	...	10,990

Note: U.S. totals include responses from participants residing in the District of Columbia, as described in the statistical reliability appendix.

[1] Includes expenditures for magazine subscriptions, membership dues and contributions, land leasing and ownership, and licenses, stamps, tags, and permits.

* Estimate based on a small sample size.

... Sample size too small to report data reliably.

Table 65. Freshwater (Except Great Lakes) Anglers and Days of Fishing, by State Where Fishing Took Place: 1991

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

State where fishing took place	Anglers						Days of fishing					
	Total anglers, residents and nonresidents		Residents		Nonresidents		Total days, residents and nonresidents		Days by state residents		Days by nonresidents	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
U.S., total	30,186	100	27,655	92	6,038	20	430,922	100	380,563	88	50,352	12
Alabama	831	100	626	75	205	25	11,215	100	9,918	88	1,298	12
Alaska	213	100	111	52	102	48	2,086	100	1,279	61	807	39
Arizona	480	100	334	70	146	30	4,074	100	3,360	82	714	18
Arkansas	769	100	477	62	292	38	11,002	100	8,727	79	2,274	21
California	2,118	100	2,014	95	104	5	18,712	100	18,079	97	633	3
Colorado	778	100	509	65	270	35	6,284	100	4,664	74	1,620	26
Connecticut	255	100	220	86	35	14	3,460	100	3,105	90	354	10
Delaware	45	100	38	85	...	...	569	100	499	88	...	...
Florida	1,311	100	1,063	81	248	19	15,465	100	14,175	92	1,290	8
Georgia	1,066	100	892	84	174	16	15,341	100	14,269	93	1,073	7
Hawaii	32	100	30	93	...	...	207	100	202	98	...	...
Idaho	365	100	232	64	133	36	3,157	100	2,495	79	662	21
Illinois	1,262	100	1,136	90	127	10	15,626	100	14,788	95	838	5
Indiana	928	100	770	83	158	17	11,793	100	10,744	91	1,049	9
Iowa	556	100	465	84	91	16	6,062	100	5,498	91	564	9
Kansas	453	100	369	81	84	19	4,981	100	4,536	91	445	9
Kentucky	766	100	600	78	167	22	9,861	100	8,744	89	1,117	11
Louisiana	785	100	684	87	101	13	12,027	100	11,293	94	734	6
Maine	361	100	215	60	146	40	3,960	100	3,152	80	808	20
Maryland	392	100	302	77	91	23	4,354	100	3,503	80	852	20
Massachusetts	373	100	330	88	43	12	6,011	100	5,659	94	352	6
Michigan	1,305	100	1,132	87	173	13	14,816	100	13,327	90	1,489	10
Minnesota	1,440	100	1,080	75	360	25	17,959	100	15,188	85	2,771	15
Mississippi	565	100	439	78	126	22	8,338	100	7,432	89	906	11
Missouri	1,329	100	961	72	368	28	15,136	100	12,368	82	2,768	18
Montana	342	100	164	48	178	52	3,156	100	1,872	59	1,284	41
Nebraska	252	100	224	89	28	11	2,734	100	2,593	95	141	5
Nevada	171	100	110	64	*61	*36	1,218	100	957	79	*261	*21
New Hampshire	267	100	139	52	128	48	2,720	100	2,138	79	582	21
New Jersey	411	100	354	86	*57	*14	5,911	100	5,146	87	*765	*13
New Mexico	281	100	159	57	121	43	1,943	100	1,366	70	577	30
New York	1,206	100	1,031	86	175	14	15,497	100	13,867	89	1,629	11
North Carolina	1,019	100	830	81	189	19	13,015	100	12,021	92	993	8
North Dakota	99	100	82	83	*17	*17	993	100	875	88	*118	*12
Ohio	1,206	100	1,122	93	85	7	14,450	100	14,064	97	387	3
Oklahoma	804	100	623	78	180	22	12,079	100	10,394	86	1,686	14
Oregon	605	100	457	76	147	24	6,490	100	5,817	90	674	10
Pennsylvania	1,379	100	1,178	85	201	15	23,792	100	21,972	92	1,820	8
Rhode Island	66	100	50	76	*16	*24	1,049	100	944	90	*104	*10
South Carolina	645	100	512	79	133	21	9,329	100	7,917	85	1,412	15
South Dakota	158	100	117	74	41	26	1,722	100	1,436	83	286	17
Tennessee	996	100	708	71	288	29	13,690	100	11,403	83	2,286	17
Texas	2,074	100	1,933	93	141	7	29,092	100	27,985	96	1,107	4
Utah	317	100	226	71	91	29	2,672	100	2,044	76	628	24
Vermont	181	100	101	56	80	44	2,258	100	1,674	74	584	26
Virginia	780	100	642	82	137	18	10,504	100	9,655	92	849	8
Washington	681	100	626	92	56	8	8,583	100	8,285	97	298	3
West Virginia	339	100	235	69	104	31	4,107	100	3,440	84	667	16
Wisconsin	1,339	100	895	67	444	33	19,003	100	14,499	76	4,504	24
Wyoming	301	100	108	36	193	64	2,348	100	1,199	51	1,150	49

Note: For the U.S. row, detail does not add to total because of multiple responses. U.S. totals include responses from participants residing in the District of Columbia, as described in the statistical reliability appendix.

* Estimate based on a small sample size.

... Sample size too small to report data reliably.

Table 66. Great Lakes Anglers and Days of Great Lakes Fishing, by State Where Fishing Took Place: 1991

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

State where fishing took place	Anglers						Days of fishing					
	Total anglers, residents and nonresidents		Residents		Nonresidents		Total days, residents and nonresidents		Days by state residents		Days by nonresidents	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
U.S., total	2,552	100	2,121	83	585	23	25,335	100	21,477	85	3,852	15
Illinois	238	100	216	91	*22	*9	1,382	100	1,325	96	*57	*4
Indiana	97	100	68	70	*29	*30	573	100	453	79	*119	*21
Michigan	886	100	687	78	199	22	11,060	100	9,907	90	1,154	10
Minnesota	52	100	*33	*63	*19	*37	303	100	*195	*64	*109	*36
New York	458	100	319	70	139	30	4,426	100	3,727	84	699	16
Ohio	629	100	537	85	92	15	4,602	100	3,959	86	644	14
Pennsylvania	*85	*100	*78	*91	...	...	*629	*100	*571	*91	...	...
Wisconsin	301	100	184	61	117	39	2,353	100	1,342	57	1,011	43

Note: For the U.S. row, detail does not add to total because of multiple responses.
* Estimate based on a small sample size.
... Sample size too small to report data reliably.

Table 67. Saltwater Anglers and Days of Saltwater Fishing, by State Where Fishing Took Place: 1991

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

State where fishing took place	Anglers						Days of fishing					
	Total anglers, residents and nonresidents		Residents		Nonresidents		Total days, residents and nonresidents		Days by state residents		Days by nonresidents	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
U.S., total	8,885	100	6,757	76	2,618	29	74,696	100	62,298	83	12,362	17
Alabama	137	100	87	63	*51	*37	1,173	100	908	77	*265	*23
Alaska	183	100	85	47	98	53	1,066	100	672	63	393	37
California	1,057	100	979	93	78	7	5,499	100	5,235	95	264	5
Connecticut	145	100	115	79	*30	*21	1,226	100	1,147	94	*79	*6
Delaware	130	100	43	33	87	67	759	100	414	54	346	46
Florida	2,051	100	1,352	66	698	34	22,633	100	19,616	87	3,017	13
Georgia	72	100	*42	*58	*30	*42	606	100	*463	*76	*143	*24
Hawaii	192	100	127	66	*65	*34	2,189	100	2,060	94	*129	*6
Louisiana	240	100	199	83	*41	*17	2,612	100	2,189	84	*423	*16
Maine	143	100	65	46	78	54	843	100	506	60	337	40
Maryland	431	100	274	63	158	37	2,526	100	2,000	79	526	21
Massachusetts	393	100	276	70	117	30	3,282	100	2,559	78	723	22
Mississippi	148	100	96	65	*52	*35	807	100	657	81	*151	*19
New Hampshire	75	100	38	50	*38	*50	293	100	141	48	*152	*52
New Jersey	746	100	510	68	235	32	6,071	100	4,583	75	1,488	25
New York	491	100	398	81	94	19	3,598	100	3,191	89	407	11
North Carolina	626	100	302	48	324	52	3,525	100	2,251	64	1,274	36
Oregon	225	100	157	70	68	30	1,072	100	894	83	177	17
Rhode Island	125	100	53	43	71	57	1,091	100	666	61	425	39
South Carolina	298	100	120	40	178	60	1,555	100	776	50	780	50
Texas	828	100	758	92	70	8	6,823	100	6,506	95	317	5
Virginia	339	100	251	74	89	26	1,853	100	1,562	84	291	16
Washington	504	100	430	85	73	15	3,557	100	3,303	93	254	7

Note: For the U.S. row, detail does not add to total because of multiple responses. U.S. totals include responses from participants residing in the District of Columbia, as described in the statistical reliability appendix.
* Estimate based on a small sample size.

Table 68. Days of Fishing, by State Where Fishing Took Place and Angler's State of Residence: 1991

[Population 16 years old and older. Numbers in thousands]

State	Days of fishing in state						Days of fishing by state residents					
	Total days, residents and nonresidents		Days by state residents		Days by nonresidents		Total days, in state of residence and other states		Days in state of residence		Days in other states	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
U.S., total	511,329	100	451,418	88	59,870	12	511,329	100	451,418	88	59,870	12
Alabama	12,498	100	10,991	88	1,507	12	11,573	100	10,991	95	582	5
Alaska	2,989	100	1,893	63	1,096	37	1,936	100	1,893	98	43	2
Arizona	4,074	100	3,360	82	714	18	4,498	100	3,360	75	1,138	25
Arkansas	11,002	100	8,727	79	2,274	21	9,232	100	8,727	95	505	5
California	23,994	100	23,236	97	759	3	26,168	100	23,236	89	2,932	11
Colorado	6,284	100	4,664	74	1,620	26	5,487	100	4,664	85	823	15
Connecticut	4,571	100	4,217	92	354	8	5,319	100	4,217	79	1,102	21
Delaware	1,306	100	900	69	405	31	1,215	100	900	74	315	26
Florida	37,771	100	33,631	89	4,123	11	36,284	100	33,631	93	2,653	7
Georgia	15,854	100	14,681	93	1,174	7	16,837	100	14,681	87	2,156	13
Hawaii	2,386	100	2,254	94	*132	*6	2,415	100	2,254	93	162	7
Idaho	3,157	100	2,495	79	662	21	2,768	100	2,495	90	273	10
Illinois	16,808	100	15,970	95	838	5	22,899	100	15,970	70	6,929	30
Indiana	12,306	100	11,206	91	1,100	9	13,029	100	11,206	86	1,823	14
Iowa	6,062	100	5,498	91	564	9	6,744	100	5,498	82	1,246	18
Kansas	4,981	100	4,536	91	445	9	5,826	100	4,536	78	1,290	22
Kentucky	9,895	100	8,778	89	1,117	11	10,066	100	8,778	87	1,288	13
Louisiana	14,519	100	13,370	92	1,149	8	14,116	100	13,370	95	746	5
Maine	4,643	100	3,641	78	1,002	22	3,734	100	3,641	98	98	2
Maryland	6,772	100	5,419	80	1,352	20	6,469	100	5,419	84	1,050	16
Massachusetts	9,183	100	8,149	89	1,035	10	9,948	100	8,149	82	1,799	18
Michigan	25,319	100	22,825	90	2,495	10	23,644	100	22,825	97	819	3
Minnesota	18,080	100	15,309	85	2,771	15	16,347	100	15,309	94	1,038	6
Mississippi	9,064	100	8,024	89	1,040	11	8,871	100	8,024	90	847	10
Missouri	15,136	100	12,368	82	2,768	18	14,267	100	12,368	87	1,899	13
Montana	3,156	100	1,872	66	1,284	34	2,118	100	1,872	88	246	12
Nebraska	2,734	100	2,593	95	141	5	3,328	100	2,593	78	735	22
Nevada	1,218	100	957	79	*261	*21	1,472	100	957	65	515	35
New Hampshire	2,894	100	2,254	78	640	22	2,604	100	2,254	86	350	13
New Jersey	11,772	100	9,606	82	2,167	18	11,531	100	9,606	83	1,925	17
New Mexico	1,943	100	1,366	70	577	30	1,694	100	1,366	81	328	19
New York	23,007	100	20,547	89	2,459	11	22,369	100	20,547	92	1,822	8
North Carolina	16,183	100	14,074	87	2,108	13	15,701	100	14,074	90	1,627	10
North Dakota	993	100	875	88	*118	*12	1,482	100	875	59	607	41
Ohio	18,880	100	17,896	95	984	5	21,224	100	17,896	84	3,328	16
Oklahoma	12,079	100	10,394	86	1,686	14	11,071	100	10,394	94	677	6
Oregon	7,394	100	6,577	89	809	11	7,224	100	6,577	91	647	9
Pennsylvania	24,313	100	22,493	93	1,820	7	26,566	100	22,493	85	4,073	15
Rhode Island	2,106	100	1,590	75	516	25	1,943	100	1,590	82	353	18
South Carolina	10,808	100	8,668	80	2,140	20	9,323	100	8,668	93	655	7
South Dakota	1,722	100	1,436	83	286	17	1,663	100	1,436	86	227	14
Tennessee	13,690	100	11,403	83	2,286	17	13,171	100	11,403	87	1,768	13
Texas	35,586	100	34,272	96	1,313	4	37,551	100	34,272	91	3,279	9
Utah	2,672	100	2,044	76	628	24	2,792	100	2,044	72	748	28
Vermont	2,258	100	1,674	77	584	23	1,912	100	1,674	87	238	13
Virginia	12,247	100	11,133	91	1,115	9	13,193	100	11,133	84	2,060	16
Washington	11,967	100	11,447	96	519	4	12,789	100	11,447	90	1,342	10
West Virginia	4,107	100	3,440	84	667	16	4,038	100	3,440	85	598	15
Wisconsin	21,257	100	15,876	75	5,381	25	16,758	100	15,876	95	882	5
Wyoming	2,348	100	1,199	51	1,150	49	1,349	100	1,199	89	150	11

Note: For the U.S. row, detail does not add to total because of nonresponse. U.S. totals include responses from participants residing in the District of Columbia, as described in the statistical reliability appendix. State totals do not include responses by participants who did not indicate the state where the fishing took place.

Table 69. Expenditures for Fishing, by Angler's State of Residence: 1991

(Population 16 years old and older. Expenditures in thousands of dollars)

Angler's state of residence	Total expenditures	Trip-related expenditures				Expenditures for equipment				Expenditures for other items[1]
		Total trip-related	Food and lodging	Transportation	Other trip costs	Total equipment	Fishing equipment	Auxiliary equipment	Special equipment	
U.S., total	23,990,125	11,847,750	4,953,383	2,799,922	4,094,445	9,365,188	3,740,104	619,433	5,005,651	2,777,187
Alabama	447,926	196,444	82,980	50,633	62,832	187,551	65,496	9,207	*112,848	63,931
Alaska	239,166	74,558	29,701	21,442	23,415	98,588	24,156	9,611	64,821	66,020
Arizona	299,592	146,978	59,856	47,357	39,764	144,508	36,275	7,977	*100,257	8,106
Arkansas	286,091	153,913	62,389	33,948	57,576	101,015	43,802	9,957	47,256	31,162
California	1,795,949	1,061,958	474,933	262,920	324,104	602,256	382,795	65,341	*154,120	131,736
Colorado	319,283	158,756	76,566	52,859	29,332	146,796	57,442	17,529	*71,825	13,731
Connecticut	252,997	100,290	34,654	20,260	45,376	145,596	36,859	5,936	*102,802	7,110
Delaware	79,456	33,459	12,892	6,086	14,480	14,228	8,319	1,016	*4,893	31,769
Florida	1,654,594	887,836	285,917	135,648	466,271	686,840	416,092	26,936	243,812	79,918
Georgia	534,539	336,719	138,427	74,420	123,872	182,997	95,702	19,007	*68,289	14,823
Hawaii	75,519	56,442	20,522	17,472	18,448	18,023	14,823	2,216	*984	1,054
Idaho	145,456	59,019	27,310	21,453	10,256	79,779	14,084	5,490	60,205	6,658
Illinois	1,111,262	573,828	266,802	134,147	172,880	348,049	141,805	17,812	*188,432	189,385
Indiana	404,367	257,557	118,716	52,929	85,912	117,065	62,162	15,680	*39,223	29,745
Iowa	320,730	112,612	57,096	29,448	26,068	126,915	30,238	4,975	91,702	81,203
Kansas	288,710	107,827	46,789	33,698	27,340	173,966	32,453	5,686	*135,826	6,917
Kentucky	468,930	187,752	78,336	48,141	61,276	251,433	52,338	6,237	192,858	29,744
Louisiana	686,201	316,192	104,659	66,610	144,923	270,015	96,088	8,472	165,455	99,994
Maine	140,636	64,571	33,861	17,340	13,370	64,749	19,209	3,938	41,601	11,316
Maryland	282,717	154,414	55,140	28,700	70,574	111,148	48,606	6,294	*56,247	17,155
Massachusetts	454,240	234,547	85,095	51,712	97,739	193,065	57,610	10,514	*124,941	26,629
Michigan	1,286,368	500,836	200,530	118,245	182,060	495,402	177,176	34,562	283,664	290,130
Minnesota	846,246	370,139	181,638	87,521	100,980	317,940	113,957	22,144	181,840	158,166
Mississippi	263,084	160,366	66,991	33,114	60,260	93,163	57,895	5,365	*29,903	9,554
Missouri	439,234	268,285	132,297	73,804	62,183	132,820	78,238	13,506	41,075	38,129
Montana	71,200	39,812	19,382	13,666	6,764	28,540	14,043	4,346	*10,150	2,848
Nebraska	147,806	72,360	32,569	20,914	18,877	54,596	21,672	3,591	*29,333	20,850
Nevada	80,123	54,401	23,696	15,421	15,284	21,431	9,836	3,673	...	4,292
New Hampshire	86,978	48,315	17,256	9,709	21,350	32,081	15,374	3,312	13,395	6,582
New Jersey	668,432	379,257	123,426	76,596	179,235	245,545	111,137	17,770	116,638	43,630
New Mexico	112,863	50,988	23,305	17,307	10,375	58,210	21,011	2,574	*34,625	3,665
New York	867,242	495,721	204,756	106,421	184,543	277,958	142,438	28,717	*106,803	93,563
North Carolina	577,540	306,640	127,028	67,551	112,061	238,659	84,568	16,413	*137,678	32,240
North Dakota	69,515	37,834	17,929	10,831	9,073	22,632	12,880	1,438	*8,314	9,049
Ohio	861,554	497,330	194,693	100,543	202,094	305,059	164,526	15,908	124,624	59,165
Oklahoma	422,036	209,069	92,380	56,960	59,729	177,888	59,208	12,845	105,835	35,078
Oregon	461,297	175,599	76,103	52,536	46,960	271,009	52,108	19,842	199,059	14,689
Pennsylvania	677,512	441,861	187,237	97,402	157,221	188,833	126,679	23,278	*38,876	46,818
Rhode Island	63,523	32,492	10,000	4,562	17,931	29,589	11,055	2,586	*15,949	1,441
South Carolina	398,587	152,175	66,968	30,225	54,982	116,540	51,078	6,877	58,586	129,872
South Dakota	87,217	38,670	17,386	10,889	10,394	37,483	15,913	2,196	*19,374	11,064
Tennessee	493,174	247,722	96,630	64,902	86,190	226,750	88,666	11,119	126,965	18,702
Texas	1,475,470	910,717	391,315	234,805	284,598	336,773	227,435	23,666	85,672	227,980
Utah	154,205	84,798	42,290	26,009	16,499	59,140	23,786	9,686	*25,668	10,267
Vermont	64,238	38,307	17,850	9,618	10,838	17,821	11,679	2,123	*4,019	8,110
Virginia	431,082	261,515	123,789	56,839	80,887	152,142	69,564	8,520	*74,059	17,424
Washington	1,009,309	304,621	125,729	81,149	97,744	681,865	115,555	33,716	532,595	22,823
West Virginia	109,209	58,886	31,887	14,373	12,626	43,733	19,650	3,362	*20,721	6,590
Wisconsin	662,024	280,483	134,460	76,085	69,938	327,167	96,968	20,768	209,431	54,374
Wyoming	66,270	33,833	15,556	11,779	6,499	28,778	9,591	5,280	*13,908	3,659

Note: U.S. totals include responses from participants residing in the District of Columbia, as described in the statistical reliability appendix.

[1] Includes expenditures for magazine subscriptions, membership dues and contributions, land leasing and ownership, and licenses, stamps, tags, and permits.

* Estimate based on a small sample size.

... Sample size too small to report data reliably.

Table 70. Participants in Primary Nonconsumptive Activities, by Participant's State of Residence: 1991

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

Participant's state of residence	Population	Primary participants					
		Total		Nonresidential		Residential	
		Number	Percent of population	Number	Percent of population	Number	Percent of population
U.S. total	189,966	76,111	40	29,999	16	73,904	39
Alabama	3,110	1,229	40	347	11	1,214	39
Alaska	369	229	62	143	39	216	59
Arizona	2,707	1,083	40	435	16	1,041	38
Arkansas	1,807	812	45	279	15	791	44
California	22,366	6,480	29	3,408	15	6,117	27
Colorado	2,514	1,161	46	571	23	1,092	43
Connecticut	2,500	1,075	43	361	14	1,061	42
Delaware	528	211	40	84	16	205	39
Florida	10,320	3,866	37	1,678	16	3,802	37
Georgia	4,840	1,756	36	400	8	1,730	36
Hawaii	842	230	27	84	10	217	26
Idaho	746	385	52	224	30	360	48
Illinois	8,899	3,451	39	1,182	13	3,411	38
Indiana	4,267	2,033	48	664	16	1,996	47
Iowa	2,164	1,060	49	398	18	1,030	48
Kansas	1,882	876	47	323	17	844	45
Kentucky	2,826	1,191	42	382	14	1,175	42
Louisiana	3,161	1,060	34	306	10	1,049	33
Maine	953	548	58	217	23	542	57
Maryland	3,659	1,456	40	531	15	1,421	39
Massachusetts	4,639	1,882	41	868	19	1,866	40
Michigan	7,014	3,273	47	1,395	20	3,167	45
Minnesota	3,308	1,953	59	782	24	1,912	58
Mississippi	1,914	742	39	231	12	727	38
Missouri	3,940	2,006	51	740	19	1,958	50
Montana	601	312	52	185	31	280	47
Nebraska	1,210	602	50	237	20	573	47
Nevada	914	337	37	175	19	307	34
New Hampshire	864	449	52	186	22	441	51
New Jersey	6,007	2,152	36	765	13	2,099	35
New Mexico	1,126	466	41	231	21	436	39
New York	13,803	4,301	31	1,611	12	4,172	30
North Carolina	5,104	2,152	42	540	11	2,112	41
North Dakota	477	200	42	78	16	191	40
Ohio	8,306	3,696	44	1,373	17	3,621	44
Oklahoma	2,411	1,146	48	394	16	1,128	47
Oregon	2,223	1,123	51	524	24	1,059	48
Pennsylvania	9,405	4,103	44	1,790	19	4,011	43
Rhode Island	777	368	47	116	15	363	47
South Carolina	2,645	863	33	179	7	855	32
South Dakota	525	228	43	96	18	214	41
Tennessee	3,818	1,701	45	632	17	1,649	43
Texas	12,548	4,016	32	1,481	12	3,848	31
Utah	1,139	504	44	284	25	463	41
Vermont	446	276	62	109	24	271	61
Virginia	4,721	2,070	44	786	17	2,031	43
Washington	3,709	2,076	56	875	24	2,033	55
West Virginia	1,420	584	41	214	15	569	40
Wisconsin	3,700	2,058	56	958	26	1,979	53
Wyoming	345	190	55	112	32	165	48

Note: Detail does not add to total because of multiple responses. U.S. totals include responses from participants residing in the District of Columbia, as described in the statistical reliability appendix.

Table 71. Participants in Primary Nonresidential Activities by State Where Activity Took Place: 1991

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

State where activity took place	Total participants		Residents		Nonresidents	
	Number	Percent	Number	Percent	Number	Percent
U.S., total	29,999	100	26,242	87	9,957	33
Alabama	450	100	312	69	139	31
Alaska	340	100	139	41	201	59
Arizona	820	100	399	49	421	51
Arkansas	467	100	260	56	207	44
California	3,845	100	3,205	83	640	17
Colorado	1,164	100	508	44	656	56
Connecticut	410	100	283	69	127	31
Delaware	124	100	65	52	58	47
Florida	2,387	100	1,443	60	944	40
Georgia	551	100	327	59	224	41
Hawaii	321	100	75	23	247	77
Idaho	382	100	194	51	188	49
Illinois	1,126	100	936	83	190	17
Indiana	748	100	582	78	166	22
Iowa	426	100	341	80	85	20
Kansas	347	100	280	81	66	19
Kentucky	580	100	358	62	222	38
Louisiana	368	100	256	70	112	30
Maine	605	100	205	34	400	66
Maryland	663	100	404	61	259	39
Massachusetts	1,002	100	718	72	284	28
Michigan	1,546	100	1,261	82	285	18
Minnesota	921	100	700	76	221	24
Mississippi	295	100	197	67	98	33
Missouri	956	100	650	68	305	32
Montana	558	100	173	31	384	69
Nebraska	276	100	207	75	69	25
Nevada	451	100	151	33	300	67
New Hampshire	475	100	159	33	316	67
New Jersey	839	100	571	68	268	32
New Mexico	422	100	211	50	211	50
New York	1,717	100	1,302	76	414	24
North Carolina	892	100	478	54	413	46
North Dakota	104	100	63	61	41	39
Ohio	1,358	100	1,156	85	202	15
Oklahoma	478	100	354	74	124	26
Oregon	882	100	479	54	402	46
Pennsylvania	2,070	100	1,531	74	539	26
Rhode Island	153	100	88	58	65	42
South Carolina	380	100	154	41	226	59
South Dakota	236	100	88	37	148	63
Tennessee	957	100	588	61	369	39
Texas	1,613	100	1,380	86	233	14
Utah	415	100	245	59	170	41
Vermont	303	100	95	31	208	69
Virginia	1,082	100	668	62	414	38
Washington	1,058	100	800	76	258	24
West Virginia	461	100	193	42	267	58
Wisconsin	1,311	100	903	69	408	31
Wyoming	552	100	103	19	449	81

Note: Detail does not add to total because of multiple responses. U.S. totals include responses from participants residing in the District of Columbia, as described in the statistical reliability appendix.

Table 72. Days of Primary Nonresidential Activity, by State Where Activity Took Place and Participant's State of Residence: 1991

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

State	Days of activity in state						Days of activity by state residents					
	Total days, residents and nonresidents		Days by residents		Days by nonresidents		Total days, in state of residence and other states		Days in state of residence		Days in other states	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
U.S., total	342,406	100	269,943	79	72,409	21	342,406	100	269,943	79	72,409	21
Alabama	3,286	100	2,534	77	753	23	3,077	100	2,534	82	544	18
Alaska	3,745	100	1,743	47	2,002	53	1,923	100	1,743	91	180	9
Arizona	5,922	100	3,869	65	2,053	35	5,026	100	3,869	77	1,157	23
Arkansas	3,202	100	1,954	61	1,248	39	2,276	100	1,954	86	322	14
California	42,353	100	38,998	92	3,354	8	46,556	100	38,998	84	7,558	16
Colorado	9,037	100	5,359	59	3,678	41	6,179	100	5,359	87	820	13
Connecticut	4,098	100	3,698	90	400	10	5,271	100	3,698	70	1,573	30
Delaware	835	100	592	71	*242	*29	878	100	592	67	286	3
Florida	17,786	100	12,189	69	5,596	31	15,421	100	12,189	79	3,232	21
Georgia	4,536	100	3,562	79	974	21	4,570	100	3,562	78	1,009	22
Hawaii	2,608	100	682	26	1,926	74	967	100	682	71	285	2
Idaho	3,439	100	1,722	50	1,717	50	2,308	100	1,722	75	586	25
Illinois	8,464	100	7,686	91	778	9	12,512	100	7,686	61	4,826	39
Indiana	7,135	100	6,243	87	892	13	7,564	100	6,243	83	1,321	17
Iowa	4,415	100	3,873	88	542	12	4,547	100	3,873	85	674	15
Kansas	2,248	100	1,974	88	*274	*12	2,668	100	1,974	74	694	26
Kentucky	4,636	100	3,519	76	1,118	24	3,967	100	3,519	89	448	11
Louisiana	2,603	100	2,040	78	563	22	2,625	100	2,040	78	585	22
Maine	4,502	100	2,085	46	2,417	54	2,453	100	2,085	85	368	15
Maryland	6,580	100	4,550	69	2,030	31	6,461	100	4,550	70	1,912	30
Massachusetts	8,222	100	6,936	84	1,286	16	10,707	100	6,936	65	3,771	35
Michigan	14,159	100	12,792	90	1,367	10	15,099	100	12,792	85	2,308	15
Minnesota	10,378	100	9,363	90	1,015	10	11,023	100	9,363	85	1,660	15
Mississippi	2,584	100	2,234	86	350	14	2,856	100	2,234	78	622	22
Missouri	7,019	100	5,328	76	1,691	24	7,186	100	5,328	74	1,858	26
Montana	4,317	100	1,640	38	2,677	62	1,921	100	1,640	85	281	15
Nebraska	1,813	100	1,502	83	312	17	1,893	100	1,502	79	391	21
Nevada	2,940	100	1,255	43	1,686	57	1,981	100	1,255	63	727	37
New Hampshire	3,337	100	1,574	47	1,762	53	2,202	100	1,574	71	628	29
New Jersey	5,472	100	4,407	81	1,064	19	6,692	100	4,407	66	2,285	34
New Mexico	3,272	100	1,823	56	1,449	44	2,493	100	1,823	73	670	27
New York	12,729	100	10,874	85	1,855	15	14,737	100	10,874	74	3,864	26
North Carolina	6,737	100	4,817	72	1,920	28	6,041	100	4,817	80	1,224	20
North Dakota	698	100	598	86	*100	*14	768	100	598	78	170	2
Ohio	12,769	100	12,120	95	649	5	15,206	100	12,120	80	3,086	20
Oklahoma	4,043	100	3,655	90	388	10	4,453	100	3,655	82	799	18
Oregon	7,038	100	5,251	75	1,786	25	6,348	100	5,251	83	1,097	17
Pennsylvania	20,062	100	17,925	89	2,137	11	23,161	100	17,925	77	5,236	23
Rhode Island	1,204	100	937	78	*267	*22	1,375	100	937	68	438	32
South Carolina	3,421	100	2,077	61	1,344	39	2,363	100	2,077	88	286	12
South Dakota	1,552	100	1,108	71	445	29	1,278	100	1,108	87	170	13
Tennessee	7,445	100	6,089	82	1,356	18	7,221	100	6,089	84	1,131	16
Texas	15,544	100	14,612	94	932	6	17,933	100	14,612	81	3,321	19
Utah	2,985	100	2,002	67	983	33	2,572	100	2,002	78	571	22
Vermont	2,364	100	1,459	62	905	38	1,827	100	1,459	80	369	20
Virginia	7,144	100	5,263	74	1,881	26	6,867	100	5,263	77	1,604	23
Washington	11,470	100	10,170	89	1,299	11	13,125	100	10,170	77	2,954	23
West Virginia	3,584	100	2,484	69	1,100	31	2,946	100	2,484	84	463	16
Wisconsin	12,914	100	9,779	76	3,135	24	11,087	100	9,779	88	1,308	12
Wyoming	3,526	100	998	28	2,528	72	1,195	100	998	84	196	16

Note: Detail does not add to total because of nonresponse. U.S. totals include responses from participants residing in the District of Columbia, as described in the statistical reliability appendix.

* Estimate based on a small sample size.

Table 73. Expenditures for Primary Nonconsumptive Activities, by Participant's State of Residence: 1991

(Population 16 years old and older. Expenditures in thousands of dollars)

Participant's state of residence	Total expenditures	Trip-related expenditures				Expenditures for equipment				Expenditures for other items[1]
		Total trip-related	Food and lodging	Transportation	Other trip costs	Total equipment	Nonconsumptive equipment	Auxiliary equipment	Special equipment	
U.S., total	18,103,887	7,482,073	4,424,825	2,609,341	447,907	9,559,774	5,703,557	349,986	3,506,231	1,062,040
Alabama	179,909	73,608	42,090	28,978	2,540	101,967	57,980	*766	...	4,334
Alaska	144,180	49,024	24,467	21,759	2,798	89,470	32,913	1,995	*54,561	5,686
Arizona	320,355	101,911	62,046	37,467	2,398	208,033	70,864	8,159	*129,010	10,410
Arkansas	188,643	44,868	24,933	17,587	*2,349	135,913	40,576	*2,367	*92,970	7,862
California	2,605,192	1,157,836	661,802	437,953	58,081	1,236,851	831,554	84,645	*320,651	210,506
Colorado	377,557	132,068	72,071	54,287	5,711	232,718	113,980	*7,420	*111,318	12,770
Connecticut	285,325	94,607	58,794	28,875	6,938	171,864	97,154	*4,029	...	18,854
Delaware	38,351	15,714	9,622	4,749	1,344	20,314	13,269	*813	...	2,323
Florida	1,184,837	556,366	326,000	141,623	88,743	570,620	341,653	*27,898	*201,069	57,852
Georgia	196,283	106,614	66,049	34,338	*6,227	79,934	74,094	...	...	9,735
Hawaii	52,891	33,041	16,588	13,661	2,792	17,401	12,268	*870	...	2,449
Idaho	68,017	39,563	21,259	17,074	1,230	25,171	20,034	*1,210	...	3,283
Illinois	810,099	435,454	263,292	148,890	23,271	291,058	237,309	*7,962	...	83,588
Indiana	259,419	119,869	67,996	45,396	6,478	127,608	109,373	*6,068	...	11,942
Iowa	123,966	61,179	33,454	22,103	5,622	56,567	46,963	...	...	6,221
Kansas	88,761	45,768	25,020	19,736	1,012	36,088	33,344	*2,445	...	6,904
Kentucky	181,378	59,936	34,386	24,229	1,322	112,475	50,405	*2,672	*59,398	8,967
Louisiana	221,788	60,678	33,832	24,255	2,591	152,910	63,624	*7,040	...	8,201
Maine	110,374	39,660	20,345	17,981	1,333	65,591	51,107	*1,347	...	5,123
Maryland	269,735	118,235	75,077	33,178	9,979	125,443	98,798	*7,937	...	26,057
Massachusetts	488,270	216,609	137,424	69,239	9,945	228,170	187,136	*10,886	*30,148	43,491
Michigan	893,451	300,175	185,065	104,100	11,011	566,267	311,848	*12,628	...	27,009
Minnesota	363,509	181,883	110,861	60,130	10,892	161,762	130,707	*6,277	...	19,864
Mississippi	232,598	58,562	34,952	21,052	2,558	165,776	54,435	*1,561	*109,780	8,260
Missouri	439,932	126,749	79,943	40,531	6,275	302,797	84,840	*7,430	...	10,386
Montana	102,205	34,174	18,279	14,861	1,033	63,986	27,465	*2,410	*34,111	4,045
Nebraska	77,532	38,632	17,815	19,135	1,682	32,997	29,030	*1,505	...	5,903
Nevada	188,440	73,101	42,575	28,620	1,906	111,146	28,955	*2,214	*79,977	4,194
New Hampshire	117,911	31,212	18,570	11,142	1,501	80,316	41,807	*2,159	*36,350	6,382
New Jersey	460,123	210,435	131,425	65,910	13,100	218,087	201,280	*5,280	...	31,601
New Mexico	209,371	61,194	36,339	23,163	1,692	140,029	42,192	5,153	*92,684	8,148
New York	1,133,540	380,928	212,431	136,758	31,738	672,972	427,422	*16,694	*228,856	79,641
North Carolina	262,259	115,652	75,828	36,493	3,331	128,625	125,907	*2,428	...	17,983
North Dakota	17,751	9,711	5,036	4,358	317	6,897	6,705	...	...	1,144
Ohio	548,142	275,703	169,910	86,786	19,007	226,089	220,053	...	...	46,349
Oklahoma	229,210	81,515	46,526	30,339	*4,649	139,246	80,971	*5,740	...	8,449
Oregon	362,111	119,014	70,806	43,199	5,008	227,909	58,083	9,628	*160,198	15,189
Pennsylvania	1,123,040	456,147	259,814	163,317	33,017	619,372	351,531	*26,756	...	47,521
Rhode Island	67,370	30,285	20,786	8,595	903	34,182	24,091	*608	...	2,903
South Carolina	81,781	23,353	14,614	7,926	*813	53,221	34,624	...	...	5,207
South Dakota	38,641	19,067	9,755	8,744	569	17,759	14,966	*857	...	1,815
Tennessee	295,240	127,306	83,252	42,746	*1,308	155,156	71,074	*3,029	*81,052	12,778
Texas	877,749	423,218	260,214	136,429	26,575	415,693	195,993	*7,452	...	38,837
Utah	170,154	58,848	35,219	18,889	4,739	108,164	31,489	*3,014	*73,661	3,143
Vermont	57,936	20,263	12,442	7,338	483	33,668	20,520	*850	*12,299	4,004
Virginia	379,396	141,648	88,870	47,707	5,071	207,560	152,290	...	...	30,187
Washington	511,218	298,941	191,751	98,124	9,067	178,044	143,543	18,016	...	34,232
West Virginia	65,962	32,684	19,194	13,305	*185	30,394	28,991	...	...	2,884
Wisconsin	482,755	140,584	76,480	58,020	6,083	311,737	156,320	*3,420	...	30,434
Wyoming	51,122	24,171	12,667	10,893	611	25,486	11,099	*1,337	...	1,465

Note: U.S. totals include responses from participants residing in the District of Columbia, as described in the statistical reliability appendix.

[1] Includes expenditures for magazine subscriptions, membership dues, and contributions.

* Estimate based on a small sample size.

... Sample size too small to report data reliably.

Survey Background and Method

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 purpose of the Survey is to gather information on the number of anglers, hunters, and nonconsumptive participants in our country, as well as how often they participate and how much they spend on these activities.

The planning process for the 1991 Survey began in 1988 when the International Association of Fish and Wildlife Agencies (IAFWA) passed a resolution asking the Fish and Wildlife Service to conduct the eighth National Survey of wildlife-associated recreation. Funding for the Survey came from the administrative portion of the Federal Aid in Sport Fish and Wildlife Restoration Programs.

Consultations with State and Federal agencies and nongovernmental organizations such as the Wildlife Management Institute, Sport Fishing Institute, American Fishing Tackle Manufacturers Association, B.A.S.S., Inc., Wild Bird Feeding Institute, The Wildlife Society, National Wildlife Federation, and American Fisheries Society started in early 1989 to ascertain survey content. Other sportsmen's organizations and conservation groups, industry representatives, and researchers also provided valuable advice on questionnaire development, and data collection and reporting.

Four regional technical committees were set up under the auspices of the IAFWA to ensure that State fish and wildlife agencies had an opportunity to participate in all phases of survey planning and design. The committees were made up of agency representatives.

The Survey was conducted in two phases by the U.S. Bureau of the Census for the Fish and Wildlife Service. The first phase interviewed a sample of 129,500 households nationwide, primarily by telephone, to determine who in the household had fished, hunted, or engaged in a nonconsumptive wildlife-related activity in 1990, and who planned to engage in those activities in 1991. In most cases, one adult household member provided information for all household members.

The first phase was conducted in January and February 1991 and achieved a 95 percent response rate from those households that were eligible. It is important to note that the first phase covered 1990 activities while the next, more in-depth phase covered 1991 activities. For more detailed information on the 1990 data refer to appendix C.

The second phase of the Survey consisted of three detailed interviews conducted every 4 months from May 1991 to March 1992 with samples of likely anglers, hunters, and nonconsumptive participants who were identified in the initial screening phase. These interviews were conducted primarily by telephone, with in-person interviews for those respondents who could not be reached by telephone. Respondents in the second interviewing phase were limited to those at least 16 years old. Each respondent provided information pertaining only to his/her activities and expenditures. Sample sizes were designed to provide statistically reliable results at the State level for fishing, hunting, and nonconsumptive activities. Altogether, interviews were completed for 23,179 anglers and

hunters and 22,723 nonconsumptive participants. More detailed information on sampling procedures and response rates is found in appendix D.

Comparability With 1980 and 1985 Surveys

The 1991 Survey questionnaires were similar to those used in the 1980 and 1985 Surveys, and the sample sizes for the three Surveys were roughly the same. Ways in which the 1991 Survey differed from the 1980 and 1985 Surveys are:

1) The interviews were conducted primarily by telephone rather than by in- person interviews. The previous two Surveys required in-person interviews because data were collected for sub-state activity which required the use of visual aids.

2) The first phase interview was done at the beginning of the Survey year, rather than at the end. This meant people had to be screened into the second phase based on anticipated activity, rather than past activity.

3) In 1985 the Bureau of the Census made a weighting adjustment to account for persons incorrectly screened out of the sample. It caused a positive bias in estimates of totals, but had little effect on summary estimates such as percentages and means. In 1991, this adjustment was not appropriate because of the change in the screening procedures. The Bureau of the Census did make an adjustment to account for persons who were screened out in 1991 but did participate in fishing or hunting that year. This adjustment was smaller than the 1985 and 1980 adjustments.

4) Three 4-month recall periods for each respondent were used rather than the one 12-month recall period used in previous Surveys. The recall period was changed as a result of research on recall bias, which found that the amount of activity and expenditures reported in 12-month recall surveys was over-estimated in comparison with that of shorter recall periods.

The 1991 Survey estimates are more accurate as a result of changes in methodologies. However, because of these changes, the 1991 estimates are not directly comparable with similar estimates of previous Surveys. The differences in data between the 1991 Survey and that of previous Surveys will be due at least in part to changes in the recall length and weighting adjustment and not due to actual declines in participation in those activities. The trends information in appendix B takes these differences into account in comparing past Survey results with 1991 Survey results.

Appendix A

Appendix A. Definitions

Annual household income – Total 1990 income of household members before taxes and other deductions.

Auxiliary equipment – Items of equipment such as camping gear that are owned primarily for wildlife-associated recreation. Items of auxiliary equipment are listed in table 16 (fishing), table 21 (hunting), and table 50 (nonconsumptive).

Big game – Antelope, bear, deer, elk, moose, wild turkey, and similar large animals which are hunted.

Census Divisions:

East North Central:
Illinois Indiana
Michigan
Ohio Wisconsin

East South Central:
Alabama
Kentucky
Mississippi
Tennessee

Middle Atlantic:
New Jersey
New York
Pennsylvania

Mountain:
Arizona
Colorado
Idaho Montana
Nevada
New Mexico
Utah Wyoming

New England:
Connecticut
Maine Massachusetts
New Hampshire
Rhode Island
Vermont

Pacific:
Alaska California
Hawaii Oregon
Washington

South Atlantic:
Delaware
District of Columbia
Florida Georgia
Maryland
North Carolina
South Carolina
Virginia West Virginia

West North Central:
Kansas
Iowa Minnesota
Missouri
Nebraska
North Dakota
South Dakota

West South Central:
Arkansas
Louisiana
Oklahoma
Texas

Day – Any part of a day spent in a given activity. For example, if someone hunted 2 hours one day and 3 hours another day, it would be recorded as 2 days of hunting. If someone hunted 2 hours in the morning and 3 hours in the evening of the same day, it would be considered 1 day of hunting.

Education – The highest completed grade of school or year of college.

Expenditures – Money spent in 1991 for wildlife-related recreation trips in the U.S. or wildlife-related recreational equipment purchased in the U.S. (and Canada where specified). Expenditures include both money spent by participants for themselves and the value of gifts they received.

Federal land – Public land owned by the Federal government such as National Forests and National Wildlife Refuges.

Fishing – The sport of catching or attempting to catch fish with a hook, line, net, bow and arrow, or spearfishing equipment; also catching or gathering shellfish (clams, crabs, etc.). The non-commercial seining or netting of fish, unless the fish are for use as bait. For example, seining for smelt is fishing, but seining for bait

minnows is not included as fishing.

Fishing equipment **–** Items owned primarily for fishing. These items are listed in table 16.

Freshwater **–** Reservoirs, lakes, ponds, and the non-tidal portions of rivers and streams.

Great Lakes fishing **–** Fishing in Lakes Superior, Michigan, Huron, St. Clair, Erie, and Ontario; their connecting waters such as the St. Mary's River system, Detroit River, St. Clair River, and the Niagara River; and the St. Lawrence River south of the bridge at Cornwall, New York. Great Lakes fishing includes fishing in tributaries of the Great Lakes for smelt, steelhead, and salmon.

Home **–** The starting point of a wildlife-related recreational trip. It may be a permanent residence, or a temporary or seasonal residence such as a cabin.

Hunting **–** The sport of shooting or attempting to shoot wildlife with firearms or archery equipment.

Hunting equipment **–** Items owned primarily for hunting. These items are listed in table 21.

Local land **–** Public land owned by local governments such as county parks or municipal watersheds.

Maintain natural areas **–** To set aside one-quarter acre or more of natural environment such as wood lots or open fields for the primary purpose of benefiting wildlife.

Maintain plantings **–** To introduce or encourage the growth of food and cover plants for the primary purpose of benefiting wildlife.

Manmade impoundments **–** Bodies of water created by manmade dams or other controls.

Migratory birds **–** Birds that regularly migrate from one region or climate to another. The Survey focuses on migratory birds which may be hunted, including band-tailed pigeons, coots, ducks, doves, gallinules, geese, rails, and woodcock.

Multiple responses **–** The term used to reflect the fact that individuals or their characteristics fall into more than one reporting category. An example of a big game hunter who hunted for deer and elk demonstrates the effect of multiple responses. In this case, adding the number of deer hunters (1) and elk hunters (1) would overstate the number of big game hunters (1) because deer and elk hunters are not mutually exclusive categories. In contrast, total participants is the sum of male and female participants because male and female are mutually exclusive categories.

Nonconsumptive activity **–** Feeding, photographing, or observing fish or other wildlife. (See also primary residential and primary nonresidential activities.)

Nonconsumptive equipment **–** Items owned primarily for observing, photographing, or feeding wildlife. These items are listed in table 50.

Nonresidents **–** Individuals who do not live in the state being reported. For example, a person living in Texas who watches whales in California is a nonresident participant in California.

Nonresponse **–** Nonresponse is a term used to reflect the fact that some survey respondents provide incomplete sets of information. For example, a survey respondent may have been unable to identify the primary type of hunting for which a gun was bought. Hunting expenditures will reflect the gun purchase, but it will not appear as spending for big game or any other type of hunting. In general, nonresponses result in reported totals that are greater than the sum of their apparent parts.

Observe **–** To take special interest in or try to identify birds, fish, or other wildlife.

One-day trips **–** Trips on which the individual went and returned on the same day without an overnight stay.

Other animals **–** Coyotes, crows, foxes, groundhogs, prairie dogs, raccoons, and similar animals that are often regarded as varmints or pests. Other animals may be classified as unprotected or nongame animals by the state in which they are hunted.

Participants **–** Individuals who engage in fishing, hunting, or a nonconsumptive activity.

Primary nonresidential activity **–** Trips or outings at least one mile from home for the primary purpose of observing, photographing, or feeding wildlife. Trips to zoos, circuses, aquariums, and museums are not included.

Primary purpose **–** The principal motivation for an activity, trip, or expenditure.

Primary residential activity – Activity within 1 mile of home with a primary purpose that is wildlife-related: (1) closely observing or trying to identify birds or other wildlife, (2) photographing wildlife, (3) feeding birds or other wildlife on a regular basis, (4) maintaining natural areas of at least one-quarter acre for which benefit to wildlife is the primary purpose, (5) maintaining plantings (shrubs, agricultural crops, etc.) for which benefit to wildlife is the primary purpose, or (6) visiting public parks within 1 mile of home for the purpose of observing, photographing, or feeding wildlife.

Public areas – Public lands owned by local, state, or Federal governments.

Public land – Land that is owned by the local, state, or Federal government.

Private land – Land that is owned by a private individual, group of individuals, or nongovernmental organization.

Residents – Individuals who live in the state being reported. For example, persons who live in California and watch whales there are resident participants in California.

Rural – The non-urban population is classified as rural (see urban).

Saltwater – Oceans, tidal bays and sounds, and the tidal portions of rivers and streams.

Screening interviews – The first survey contact with a household. Screening interviews use brief conversations with either the respondent or a household representative in each household to identify participants who are eligible for in-depth interviews. In addition, screening interviews are used to gather some data about the individuals in the households, such as their age and sex. Screening interviews are discussed in the Survey Background and Method section of this report.

Small game – Grouse, partridge, pheasants, quail, rabbits, squirrels, and similar small animals and birds for which many states have small game seasons and bag limits.

MSA – Metropolitian Statistical Area – Except in the New England States, an MSA is a county or group of contiguous counties containing at least one city of 50,000 or more inhabitants, or twin cities (i.e., cities with contiguous boundaries and constituting, for general social and economic purposes, a single community) with a combined population of at least 50,000. Also included in an MSA are contiguous counties that are socially and economically integrated with the central city. In the New England States, an MSA consists of towns and cities instead of counties. Each MSA must include at least one central city.

Special equipment – Items of equipment including boats or pickup trucks that are owned primarily for wildlife-related recreation. Items of special equipment are listed in table 26 (fishing and hunting) and table 50 (nonconsumptive).

Special fishing methods – Spearfishing, fishing with a net or seine (except for minnows or bait), or fishing with a bow and arrow.

Spenders – Individuals who reported an expenditure value for fishing, hunting, or nonconsumptive activities or equipment.

Sportsmen – Individuals who engage in fishing, hunting, or both.

State Land – Public land owned by a state such as state parks or state wildlife management areas.

Trip – An outing involving fishing, hunting, or nonconsumptive activities. In the context of this survey, a trip may begin from an individual's principal residence or from another place, such as a vacation home or the home of a relative, and a trip may last an hour, a day, or many days.

Type of fishing – Three types of fishing are reported: Fishing in (1) freshwater, except Great Lakes, (2) Great Lakes, and (3) saltwater.

Type of hunting – Four types of hunting are reported: Hunting for (1) big game, (2) small game, (3) migratory bird, and (4) other animals.

Urban – All persons living in urbanized areas and in places of 2,500 or more inhabitants outside urbanized areas. An urbanized area is a central city of 50,000 or more inhabitants, or twin cities (i.e., cities with contiguous boundaries and constituting, for general social and economic purposes, a single community) with a combined population of at least 50,000, and surrounding closely settled territory of 2,500 or more inhabitants.

Wetlands **–** In this report, wetlands are marshes, swamps, potholes, bogs, small lakes, ponds surrounded by wetland vegetation, and bottomlands that are sometimes flooded. Excluded are open bodies of water 10 acres or more in surface area.

Wildlife **–** Animals such as birds, fish, insects, mammals, and reptiles that are living in natural or wild environments. Wildlife does not include animals living in aquariums, zoos, and other artificial surroundings, or domestic animals such as farm animals or pets.

Wildlife-Associated Recreation **–** Recreational fishing, hunting, or nonconsumptive wildlife use.

Appendix B

Appendix B. Comparability With Previous Surveys

The 1991 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (FHWAR) was designed to continue the data collection of the 1955-1985 Surveys. While complete comparability between any two surveys cannot be achieved, this appendix compares the major findings of all the surveys and presents trends for the major categories of wildlife-related recreation. These trends were developed to adjust for the differences in the surveys' methodologies and definitions of categories of data collected. The differences are discussed in the following sections under the headings of the year that each survey was conducted.

Trend information is provided in two sections. The first section presents trends in hunting and fishing from 1955 to 1985. The second section presents trends in hunting, fishing, and nonconsumptive wildlife- related recreation from 1980 to 1990. The trend information for the period 1955 to 1985 is based on data from the detailed phases of the seven surveys conducted during that time period. Each had the same recall period, 12 months, for the detailed phase of its data collection. Their data are comparable after definitional differences are reconciled.

The second section presents trends from 1980 to 1990. This trend information is based on data from the screening phases rather than the detailed phases of the three surveys because there was a significant change in methodology used in the detailed phase of the 1991 Survey. The recall period in 1991 was changed from 12 to 4 months to improve the accuracy of the data collected.

Because of this change it is not possible to accurately compare data collected in the detailed phase of the 1991 Survey with that of previous surveys. Instead, trend information for 1980 to 1990 is based on data collected in the screening phases of the the last three surveys. The information is comparable because the same methodology was used. It should be noted that the screening phase information of each survey differs from the information collected in its detailed interview phase and should not be compared. The information from the screening interviews is used to show the relative level of activity from survey to survey and not to provide accurate estimates of actual participation for a particular year. Estimates based on the detailed survey interviews serve that purpose.

The principle characteristics of the 1955-1991 Surveys are summarized in table B-1. This table shows the scope and design of all the surveys.

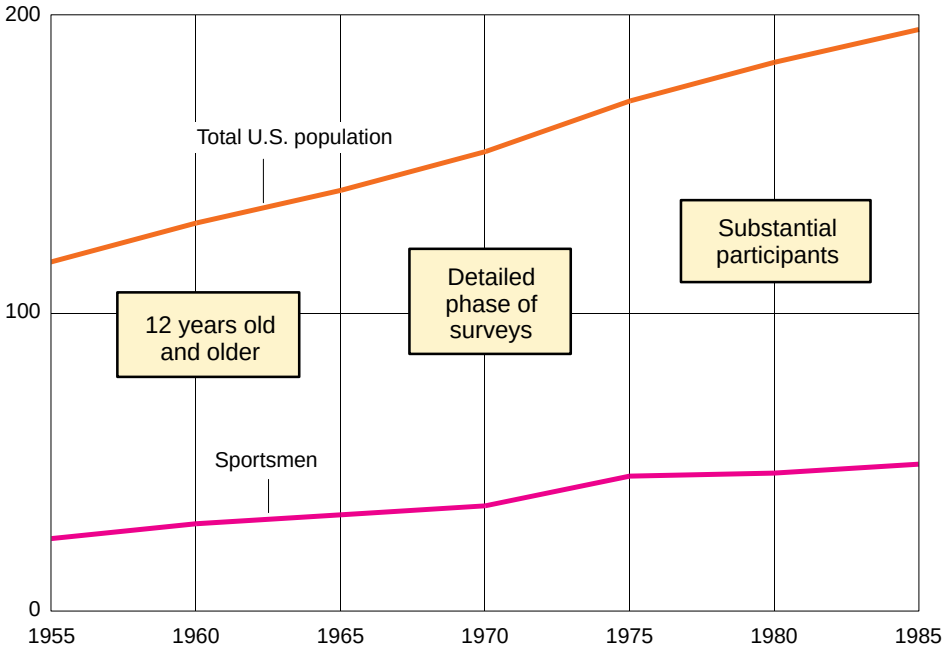
Table B-1. Major Characteristics of Surveys: 1955 to 1991

Characteristic	1955	1960	1965	1970	1975	1980	1985	1991
Survey design:								
Screening interview mode and population of interest	Combined with detailed phase	Personal interview, 12 years old and older	Personal interview, 9 years old and older	Mail questionnaire, 9 years old and older	Telephone interview, 6 years old and older	Telephone/ personal interview, 6 years old and older	Telephone/ personal interview, 6 years old and older	Telephone/ personal interview, 6 years old and older
Detailed interview mode and population of interest	Personal interview, 12 years old and older	Personal interview, 12 years old and older. Substantial participants[1]	Personal interview, 12 years old and older. Substantial participants[1]	Personal interview, 12 years old and older. Substantial participants[2]	Mail questionnaire, 9 years old and older	Personal interview, 16 years old and older	Personal interview, 16 years old and older	Telephone/ personal interview, 16 years old and older. Respondents interviewed three times at 4-month intervals.
Sample sizes:								
Screening phase (households)	20,000	18,000	16,000	24,000	106,294	116,025	102,694	102,804
Detailed phase (individuals):								
Fishing and Hunting	9,328	10,300	6,400	8,700	20,211	30,291	28,011	23,179
Nonconsumptive	(X)	(X)	(X)	(X)	(X)	5,997	26,671	22,723
Response rates:								
Screening phase	(NA)	(NA)	(NA)	(NA)	95 percent	95 percent	93 percent	95 percent
Detailed phase:								
Fishing and Hunting	(NA)	93 percent	(NA)	(NA)	37 percent	90 percent	92 percent	95 percent
Nonconsumptive	(X)	(X)	(X)	(X)	(X)	95 percent	94 percent	95 percent
Level of reporting	National	National	National	National	State and National	State and National	State and National	State and National
Data collection agent	Private contractor	Bureau of the Census	Bureau of the Census	Bureau of the Census	Private contractor	Bureau of the Census	Bureau of the Census	Bureau of the Census

NA Not available.
X Not applicable; nonconsumptive interviews were not conducted prior to 1980.
[1] Spent $5.00 or more or participated 3 days or more during the year.
[2] Spent $7.50 or more or participated 3 days or more during the year.

Participation of Sportsmen: 1955-1985

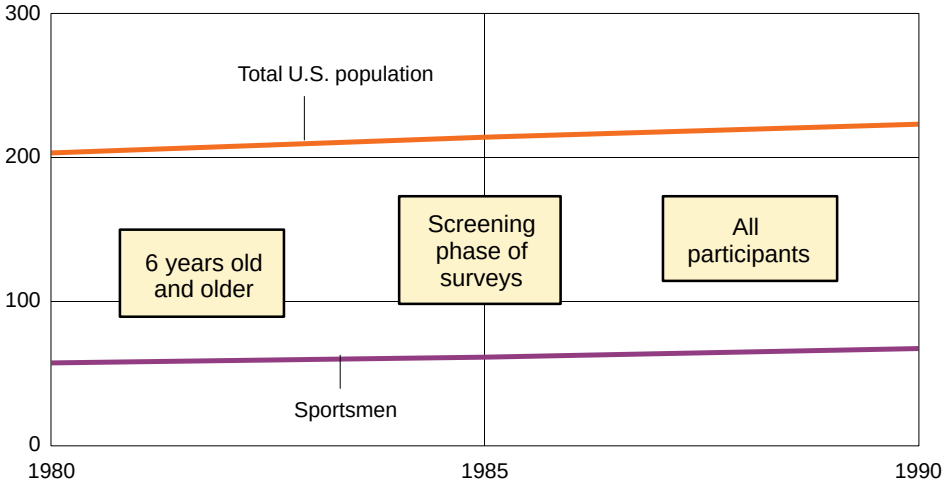
(In millions)



B–3

Participation of Sportsmen: 1980-1990

(In millions)



B–4

Section I.
Trends for 1955 to 1985

1955-1970 Surveys

The 1955-1970 National Surveys included only "substantial participants." Substantial participants were defined as those participants who participated at least 3 days and/or spent at least $5 (the 1955-1965 Surveys) or $7.50 (the 1970 Survey) during the surveyed year. Under most circumstances, the surveys may be compared for totals, but the effects of differences should be considered when comparing the details of the surveys. The 1960, 1965, and 1970 National Surveys differed from the 1955 National Survey in classification of expenditures as outlined below.

1. Alaska and Hawaii were not included in the 1955 Survey.
2. Expenditure categories were more detailed in 1970 than they were in earlier surveys.
3. The 1960-1970 classification of some expenditures differs from the 1955 Survey in the following respects:
   a. "Boats and boat motors" shown under "auxiliary equipment" were included in "equipment, other" in 1955.
   b. "Entrance and other privilege fees" shown separately were included in "trip expenditures, other" in 1955.
   c. "Snacks and refreshments" not included with "food" expenditures in the 1960-1970 reports were under "trip expenditures, other" in 1955.
   d. Expenditures on equipment, magazines, club dues, licenses, and other similar items were classified by the one sport activity for which expenditures were chiefly made. In 1955, these expenditures were evenly divided among all the activities in which the sportsman took part.
   e. Compared with 1955, the 1960-1970 Surveys reported fewer expenditures within the "other" category because selected items were transferred to more appropriate categories.
   f. Expenditures on alcoholic beverages were reported separately in the 1970 Survey.
   g. In 1970, definition of a "substantial participant" was changed from one who spent at least $5 during the year or spent 3 days fishing or hunting to one who spent $7.50 for the year or spent 3 days fishing or hunting.
4. The number of waterfowl hunters in the 1970 Survey is not comparable with those reported in the 1960 and 1965 Surveys. In 1960 and 1965, respondent sportsmen were not included in the waterfowl hunter total if they reported that they went waterfowl hunting but did not take the trip chiefly to hunt waterfowl. In 1970, all respondents who reported that they had hunted waterfowl during 1970, regardless of trip purpose, were included in the total. The number of hunters who did not take trips chiefly to hunt waterfowl in 1970 was 1,054,000.

1975 Survey

In contrast to previous surveys which covered substantial participants 12 years old and older, the 1975 Survey based all the estimates on responses from individuals 9 years of age and older and did not select respondents based upon substantial participation as defined above. As a result, individuals who participated fewer than 3 days or spent less than $7.50 on hunting or fishing were included in the estimates of participants, days of activity, and expenditures.

Categories of hunting and fishing expenditures differed from the previous four surveys in that only major categories were reported. For example, hunting equipment expenditures were not further delineated by subcategory. Similarly, no detail was provided within the category of fishing equipment expenditures. Expenses for "other" items such as daily entrance fees, magazines, club dues, and dogs were categorized as "other" in the 1975 report.

In addition to the above differences the 1975 Survey gathered data on species sought for the favorite hunting and fishing activity. These data replaced the "chiefly" category where hunting or fishing was the primary purpose of the trip or day of activity. Data omitted in the 1975 Survey that were included in previous surveys include the respondents' population density of residence, occupation, and level of education.

1980-1985 Surveys

The 1980 and 1985 Surveys were similar. Each measured participants, rather than substantial participants. Questions were incorporated into the 1980 and 1985 Survey questionnaires to facilitate the construction of categories of data for comparisons with earlier surveys. The use of "chiefly" to delimit primary purpose appeared in the 1970 and prior surveys and its use was continued in the 1980 and 1985 Surveys. The expenditure categories in 1980 and 1985 are similar to the 1970 categories with the addition of fish finders, motor homes, and camper trucks as separate categories. The definition of fishing included the use of nets or seines and spearfishing.

As in the 1970 and 1975 Surveys, the 1980 and 1985 Surveys used a two-phase process to gather information from households and individuals. In the first phase, household respondents were asked to identify each participant 6 years of age and older who resided in their household. In comparison, the 1975 and 1970 Surveys screened households for participants who were 9 years of age and older. In the second phase, the detailed interview phase, conducted in person in 1985, 1980 and 1970 and by mail in 1975, participants were eligible if they were at least 12 years old in 1970, 9 years old for the 1975 Survey, and 16 years old for the 1980 and 1985 Surveys. As a result, the population of hunters and anglers is more narrowly defined in 1980 and 1985 to include individuals 16 years old and older. However, estimates of sportsmen 6 years old and over, 9 years old and over, and 12 years old and over are available for comparison with past surveys. Detailed expenditures data were not gathered for the 6-15 year-old category in 1980 and 1985.

Trends From Tables B-2 and B-3

Tables B-2 and B-3 show major findings from the first seven national surveys for the number of participants who hunted and fished, the days they spent doing the activities, and their expenditures in 1990 dollars. Where data are available, these tables can be used to assess trends in fishing and hunting from 1955 to 1985. For the purposes of the tables, the estimates for 1975, 1980, and 1985 were adjusted to conform as closely as possible to past definitions. Therefore, totals in these tables may be different from results in the 1985 report, the 1980 report, or the 1975 report because of the exclusion here of individuals who participated for 2 days or less or spent less than $11 on fishing or hunting in 1975 and $15 in 1980 and 1985. Individuals who were younger than 12 years old are also excluded.

The 1975 Survey data were further adjusted in the following ways. Those who fished for anadromous species were divided into freshwater and saltwater participants by counting all individuals who indicated anadromous fishing only in freshwater as freshwater anglers and counting similarly for saltwater anglers. An individual could be counted in both categories. Expenditures were designated as either freshwater or saltwater when the respondent indicated that the activity took place in only one kind of water. For those individuals who fished for anadromous species in both freshwater and saltwater, expenditures were apportioned according to the ratio of the days spent in each type of water.

The categories for small game, migratory bird, and other hunting in the 1975 Survey were redefined as small game and waterfowl. All species except ducks and geese were included in small game. Participants, days, and expenditures were determined as follows for waterfowl, and all residual migratory bird participants, days, and expenditures were added to small game. If an individual only hunted for ducks or geese in the migratory bird category, the days and expenditures were tallied as waterfowl. If an individual hunted both ducks and geese, the greater number of days was used as waterfowl hunting days. It was assumed that both ducks and geese were hunted on the same day. If both waterfowl and other migratory birds were hunted by the same individual, expenditures were divided by the ratio of the days.

The 1975 Survey also included waterfowl hunting and days under a separate category of favorite and second favorite activity. The estimate of waterfowl hunting days derived above was subtracted from respondents' answers indicating that waterfowl hunting was either their favorite or second favorite activity. The distribution of the differences was normal with 61 percent being zero. Thus, minimal bias is introduced into the estimated waterfowl hunters or the days of waterfowl hunting by the procedures used to evaluate these data.

The 1980 and 1985 data that needed adjustment were the

categories of small game, migratory bird, and other hunting. Expenditures for small game hunting were calculated as the sum of expenditures for small game, other hunting, and non-waterfowl hunters who hunted for migratory birds. Expenditures for waterfowl hunting were estimated to be that portion of the migratory bird hunting expenditures that was spent by those who went waterfowl hunting.

The 1980 detailed estimates of participants, days, and expenditures were adjusted to account for the exclusion of the 12-15 year-old age group from the detailed interview phase of the 1980 Survey. That age group had been included in previous surveys. Screening information on the 12-15 year-old age group was available. The proportion of 12-15 year-old sportsmen in 1970 participating in the various types of fishing and hunting was used to allocate 1980 12-15 year-old sportsmen between the various activities. Days of participation were handled in an identical manner. The 1980 estimates of expenditures were increased using the proportion of total expenditures in 1970 that were accounted for by the 12-15 year-old age category. Adjustments were also made to account for the change between 1970 and 1980 in the percentage of the sportsmen between the ages of 12 and 15. The 1970 Survey was used for making the adjustments because of the similarities between the 1970 and 1980 Survey designs.

Since the 1985 Survey closely followed the 1980 Survey design, adjustments to 1985 estimates paralleled the 1980 adjustments. Small game hunting expenditures were calculated as in 1980. Expenditures for waterfowl hunting were calculated using the percentage of expenditures for migratory bird hunting that was accounted for by waterfowl hunting in 1980. Other adjustments were the same as in 1980.

Table B-2. Anglers and Hunters, by Census Division: 1955 to 1985

(U.S. population 12 years old and older. Numbers in thousands)

Year	Population		Sportsmen (fished or hunted)		Anglers		Hunters	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total, United States								
1955	118,366	100	24,917	21.1	20,813	17.6	11,784	10.0
1960	131,226	100	30,435	23.2	25,323	19.3	14,637	11.2
1965	141,928	100	32,881	23.2	28,348	20.0	13,585	9.6
1970	155,230	100	36,277	23.4	33,158	21.4	14,336	9.2
1975	171,860	100	45,773	26.6	41,299	24.0	17,094	9.9
1980	184,691	100	46,966	25.4	41,873	22.7	16,758	9.1
1985	195,659	100	49,827	25.5	45,345	23.2	16,340	8.4
New England								
1955	7,919	100	1,224	15.4	1,002	12.7	589	7.4
1960	8,349	100	1,368	16.4	1,205	14.4	517	6.2
1965	9,256	100	1,650	17.8	1,488	16.0	583	6.3
1970	8,652	100	1,579	18.3	1,430	16.5	582	6.7
1975	9,910	100	2,004	20.2	1,861	18.8	566	5.7
1980	10,205	100	1,974	19.3	1,788	17.5	572	5.6
1985	10,554	100	2,058	19.5	1,914	18.1	552	5.2
Middle Atlantic								
1955	24,869	100	3,539	14.2	2,811	11.3	1,608	6.5
1960	26,493	100	3,432	13.0	2,569	9.7	1,723	6.5
1965	27,346	100	3,602	13.2	2,760	10.1	1,631	6.0
1970	28,244	100	4,539	16.1	4,504	14.4	1,731	6.1
1975	30,449	100	5,919	19.4	5,097	16.7	2,096	6.9
1980	30,256	100	5,181	17.1	4,332	14.3	2,001	6.6
1985	31,099	100	5,565	17.9	4,820	15.5	1,972	6.3
East North Central								
1955	25,733	100	5,489	21.3	4,583	17.8	2,538	9.9
1960	26,833	100	6,316	32.5	5,317	19.8	2,985	11.1
1965	28,124	100	6,214	22.1	5,336	19.0	2,563	9.1
1970	31,550	100	7,284	23.1	6,699	21.2	2,812	8.9
1975	32,796	100	9,049	27.6	8,181	24.9	3,392	10.3
1980	33,526	100	8,725	26.0	7,891	23.5	2,955	8.8
1985	33,747	100	8,973	26.6	8,270	24.5	2,814	8.3
West North Central								
1955	9,201	100	2,913	31.7	2,346	25.5	1,534	16.7
1960	10,149	100	3,383	33.3	2,855	28.1	1,709	16.8
1965	11,681	100	3,678	31.5	3,226	27.6	1,620	13.9
1970	12,904	100	4,000	31.0	3,579	27.7	1,783	13.8
1975	13,564	100	4,524	33.3	4,089	30.1	1,863	13.7
1980	13,826	100	4,770	34.5	4,220	30.5	1,965	14.2
1985	14,137	100	5,140	36.4	4,681	33.1	1,971	13.9
South Atlantic								
1955	14,336	100	3,223	22.5	2,805	19.6	1,449	10.1
1960	17,798	100	4,423	24.9	3,695	20.8	2,045	11.5
1965	20,593	100	5,626	27.3	5,054	24.5	1,900	9.2
1970	23,539	100	5,461	23.2	5,129	21.8	1,904	8.1
1975	27,127	100	7,110	26.2	6,479	23.9	2,494	9.2
1980	30,512	100	7,769	25.5	7,086	23.2	2,444	8.0
1985	33,636	100	8,721	25.9	8,056	24.0	2,467	7.3
East South Central								
1955	7,959	100	1,963	24.7	1,665	20.9	989	12.4
1960	9,277	100	2,778	29.9	2,207	23.8	1,510	16.3
1965	9,652	100	2,587	26.8	2,201	22.8	1,294	13.4
1970	9,862	100	2,660	27.0	2,464	25.0	1,162	11.8
1975	10,798	100	3,007	27.8	2,689	24.9	1,355	12.5
1980	11,771	100	3,614	30.7	3,173	27.0	1,567	13.3
1985	12,364	100	3,671	29.7	3,308	26.8	1,441	11.7

Continued

Table B-2. Anglers and Hunters, by Census Division: 1955 to 1985—Continued

(U.S. population 12 years old and older. Numbers in thousands)

Year	Population		Sportsmen (fished or hunted)		Anglers		Hunters	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
West South Central								
1955	10,250	100	2,560	25.0	2,237	21.8	1,165	11.4
1960	11,837	100	3,666	31.0	3,133	26.5	1,750	14.8
1965	12,724	100	3,713	29.2	3,278	25.8	1,571	12.3
1970	14,624	100	4,380	30.0	4,006	27.4	1,918	13.1
1975	16,628	100	5,781	34.8	5,267	31.7	2,563	15.4
1980	19,136	100	5,862	30.6	5,136	26.8	2,456	12.8
1985	21,184	100	6,418	30.3	5,704	26.9	2,572	12.1
Mountain								
1955	4,529	100	1,369	30.2	1,112	24.6	796	17.6
1960	5,222	100	1,646	31.5	1,372	26.3	1,120	21.4
1965	5,029	100	1,565	31.1	1,261	25.1	988	19.6
1970	5,656	100	2,044	36.1	1,769	31.3	980	17.3
1975	7,576	100	2,570	33.9	2,252	29.7	1,159	15.3
1980	9,160	100	2,903	31.7	2,500	27.3	1,268	13.8
1985	10,215	100	3,128	30.6	2,765	27.1	1,241	12.1
Pacific								
1955	13,570	100	2,637	19.4	2,252	16.6	1,116	8.2
1960	15,268	100	3,422	22.4	2,971	19.5	1,279	8.4
1965	17,523	100	4,246	24.2	3,744	21.4	1,433	8.2
1970	20,199	100	4,332	21.4	4,030	20.0	1,466	7.3
1975	23,012	100	5,811	25.2	5,386	23.4	1,607	7.0
1980	26,299	100	6,168	23.5	5,747	21.9	1,531	5.0
1985	38,725	100	6,154	21.4	5,829	20.3	1,310	4.6

Note: These estimates are based on the detailed phases of the seven National Surveys and should not be compared with the estimates from the screening phases which are used for tables B-4 and B-5.

Table B-3. Comparison of Major Findings of the National Surveys: 1955 to 1985

(U.S. population 12 years old and older. Numbers in thousands)

Sportsmen, expenditures, and days	1955	1960	1965	1970	1975	1980	1985
Total sportsmen	24,917	30,435	32,881	36,277	45,773	46,966	49,827
Anglers	20,813	25,323	28,348	33,158	41,299	41,873	45,345
Freshwater	18,420	21,677	23,962	29,363	36,599	35,782	39,122
Saltwater	4,557	6,292	8,305	9,460	13,738	11,972	12,893
Hunters	11,784	14,637	13,583	14,336	17,094	16,758	16,340
Small game	9,822	12,105	10,576	11,671	14,182	12,496	11,130
Big game	4,414	6,277	6,566	7,774	11,037	11,047	12,576
Waterfowl	1,986	1,955	1,650	2,894	4,284	3,177	3,201
Expenditures[1]	13,904,225	17,010,944	18,282,320	23,925,058	40,730,094	42,094,416	51,101,515
Anglers	9,336,002	11,882,891	12,137,086	16,706,477	28,656,715	28,521,304	34,731,608
Freshwater	6,951,447	9,117,627	8,819,330	12,580,446	21,138,064	20,321,023	23,014,603
Saltwater	2,384,556	2,765,259	3,317,773	4,126,031	7,518,651	6,807,288	8,737,535
Hunters	4,568,222	5,128,045	4,651,589	7,218,581	12,073,379	13,185,436	12,461,852
Small game	2,409,399	3,206,537	2,552,606	3,185,841	5,519,441	4,068,112	2,846,575
Big game	1,579,704	1,526,585	1,737,452	3,209,185	5,168,708	6,876,092	6,494,911
Waterfowl	579,119	394,927	361,527	823,555	1,385,230	934,186	951,728
Days	566,870	658,308	708,578	909,876	1,459,551	1,300,983	1,415,379
Fishing	397,447	465,769	522,759	706,187	1,058,075	952,420	1,064,986
Freshwater	338,826	385,167	426,922	592,494	890,576	788,392	895,027
Saltwater	58,621	80,602	95,837	113,694	167,499	164,040	171,055
Hunting	169,423	192,539	185,819	203,689	401,476	348,543	350,393
Small game	118,630	138,192	128,448	124,041	269,653	225,793	214,544
Big game	30,834	39,190	43,845	54,536	100,600	117,406	135,447
Waterfowl	19,959	15,158	13,526	25,113	31,223	26,179	25,933

Note: These estimates are based on the detailed phases of the seven National Surveys and should not be compared with the estimates from the screening phases which are used for tables B-4 and B-5.

[1] In 1990 dollars.

Trends Section II. Trends for 1980 to 1990

This trends section covers the period from 1980 to 1990. The information is based primarily on the data collected in the screening phases of the 1980, 1985 and 1991 Surveys. These surveys used similar methodologies for screening purposes and collected comparable information. The screening phases were conducted in January 198l, January 1986, and January 1991. Respondents were asked to report wildlife-associated recreation participation for the previous 12 months. The types of activities covered were the same for all Surveys with one difference. The 1991 Survey covered only primary nonconsumptive wildlife-related recreation participation and did not include secondary nonconsumptive participation. Therefore, the trend information is only for participation in primary nonconsumptive activities. An example of a secondary nonconsumptive activity is incidentally observing wildlife while pleasure driving.

A description of the population covered, information collected, and the method of developing trend information for the period from 1980 to 1990 is presented below.

1980-1991 Surveys

The first trends section covers the survey years 1955-1985 and uses the participation definitions from the initial surveys, i.e., participants that are "substantial" and 12 years of age and older. The last three surveys have focused on participants 16 years of age and older who participated any number of days and spent any amount of money on wildlife-related recreation. Also, the earlier surveys used different categories for the types of fishing and hunting: freshwater and saltwater fishing, big game, small game, and waterfowl hunting. In the 1980, 1985, and 1991 Surveys, the fishing categories were divided into Great Lakes, other freshwater, and saltwater fishing, and the hunting categories were divided into big game, small game, migratory bird and other animals. Rather than continue with the older participant and type of activity definitions in the trends tables, the more up-to-date definitions are used in tables B-4 through B-6 for the years 1980 through 1990.

The 1991 Survey sportsmen's questionnaire was based on the 1985 questionnaire, with most of the questions the same for the two surveys. Expenditure and day averages from the detailed phases were used in the trends computations, and the differences between the 1985 and 1991 questionnaires that bear on these calculations are outlined below.

1. The 1985 respondents were asked to estimate their days of hunting and fishing participation by sub-state region, while the 1991 respondents gave their estimates by state.

2. The 1985 respondents estimated their total annual trip-related expenditures, then divided the total among the states they visited. The 1991 respondents estimated their trimester trip-related expenditures by individual state.

3. The 1985 hunting equipment expenditure list differed from the 1991 list in that it included special hunting clothes, cases and carriers for equipment or game, and hunting knives, while the 1991 list included these categories in "other."

4. The 1985 fishing trip-related expenditure list differed from the 1991 list in that it included live bait, cut bait, and prepared baits as separate categories and the 1991 list lumped them together. The 1991 list included boat insurance while the 1985 list did not.

5. The 1985 fishing equipment expenditure list included, among other things, fly rods, other rods and fishing poles, rod making component parts, fly reels, other reels, lines (not over 130 pound test) and fly lines, lines over 130 pound test, artificial lures and baits, artificial flies and dressing for flies or lines, cast nets, minnow traps and seines and other seines or nets, minnow buckets and other portable bait containers, fishing hook disgorgers, scales and knives, depth finders and fish finders and other sonar devices with flasher display only, other depth finders with graph or meter or digital or other display, other electronic fishing devices, rod holders and rod belts, ice fishing tip-ups and tilts, other ice fishing equipment items, spear fishing spears and spear guns and spear tips, other spearfishing equipment, fish fighting chairs and outriggers and downriggers, and fishing vests and other. The 1991

fishing equipment expenditure list did not go into similar detail, asking for rods and poles and rod making components, reels, lines, artificial lures and flies and baits and dressing for flies or lines, minnow traps and seines and bait containers, depth finders and other electronic fishing devices, ice fishing equipment, spearfishing equipment, and all other. All other items on the two lists were identical.

6. The special hunting and fishing equipment expenditure lists for the two survey years also differed. The 1985 Survey asked for, among other things, inboard boat, outboard boat, outboard motor, electric trolling motor, other boat accessories, boat trailer or hitch, travel or tent trailer, pickup or camper or van, motor home, trail bike or dune buggy or 4x4 vehicle or 3-wheeler, snowmobile, ice chest, and other. The 1991 Survey questionnaire included bass boat, other type of motor boat, boat motor or boat trailer or hitch or other boat accessories, pickup or camper or van or travel or tent trailer or motor home, trail bike or dune buggy or 4x4 vehicle or 3-wheeler or snowmobile, and other including ice chest. The rest of the two lists were identical.

7. The auxiliary hunting and fishing equipment expenditure lists for the two survey years had different entries. The 1985 list included, among other things, snowshoes or skis, foul weather gear, other special fishing or hunting clothes such as jackets, rubber boots or waders, maintenance and repair of equipment not including boats or vehicles, fishing or hunting boots, and other. The 1991 list included special fishing or hunting clothing or foul weather gear or boots or waders and all other.

Trends From Tables B-4, B-5, and B-6

The 1980 and 1985 Surveys required respondents to remember their recreation activities for the past year; the 1991 Survey went back to the respondents three times during the year to get their activity information. This change in the recall period was due to a study of the effect of the respondent recall length on survey estimates. The FHWAR Survey's recall study showed that there are significant differences in survey results between annual recall surveys and shorter recall surveys. Even if everything else is held constant, such as questionnaire content and sample design, just changing the respondents' recall period results in different estimates for the same phenomenon. A straight comparison without any adjustment of estimates from surveys with different recall requirements gives misleading trends data.

The 1991 FHWAR Survey's recall study also reveals that the level of recall bias varies for different types of fishing and hunting participation and expenditure. For example, annual recall respondents in the FHWAR recall study gave an estimate of average annual days of saltwater fishing that was 46 percent higher than the trimester recall estimate, while the annual recall estimate of average annual saltwater fishing trips was 30 percent higher than the trimester recall estimate. This is evidence against a single "correction factor" for all survey estimates when calculating trends data from surveys using different recall periods. Applying a correction factor to estimates from surveys with different recall requirements is not feasible.

The above demonstrates that a reliable trends analysis needs to use data compiled from surveys in which the important elements (e.g., the sample design, the questions asked, the data weighting procedure, and the recall period) vary little. For the 1980, 1985, and 1991 Surveys, the screening interviews asked an adult household respondent (except for 20 percent of the 1991 sample, in which every member of the household 16 years old and older answered for himself or herself and an adult household respondent answered for members of the household 6-15 years of age) the past year's wildlife-related recreation activity of all household members 6 years old and older. These data bases supply information that was similarly gathered and compiled. The presentation of trends data in tables B-4 through B-6 uses the screening interviews of the three surveys to arrive at estimates of recreation participation.

The strength of using the past three survey's screening interviews for the trends analysis is that they were all done in approximately the same way, making the data comparable. One significant difference, however, is that the 1980 and 1985 screening surveys cover the years 1980 and 1985, while the

1991 screening survey covers the year 1990. This is because the annual recall of the 1980 and 1985 Surveys allowed the respondents to be screened into the detailed phase after the year was over, while the 1991 trimester interviews required respondents to be screened into the detailed phase during the first part of the year 1991 before their activity took place. The data from the screening interviews are subject to similar biases such as (1) the data come from household respondents rather than the self-response of participants and (2) annual recall was used in each screening interview. These biases mean the resulting estimates are not as accurate as the estimates from the second (detailed) phase of each survey, in which the hunters, anglers, and nonconsumptive participants themselves were interviewed about their activity over the surveyed year (with trimester recall, in the case of the 1991 Survey). However, the screening interview estimates are good indicators of relative levels of activity, while not being as accurate as the estimates for that year's activity which were derived from the detailed phase of the surveys.

The hunting, fishing, nonresidential, and residential nonconsumptive total participation estimates came directly from the 1980, 1985, and 1991 screening data files. The type of hunting and fishing participation estimates were calculated by using their proportions of total hunting and fishing observed in the detailed phases of the 1980, 1985, and 1991 Surveys. The expenditure and day information from the screening files were not used in the expenditure and day sections of table B-4 because this information was not collected the same way in each screening survey. Each survey used different ranges to categorize the respondent's answer, and the last range was open-ended, making the calculation of a single expenditure or day estimate difficult. Therefore the expenditure and day estimates were calculated by multiplying the participation estimates by the average expenditure and day estimates from the 1980 and 1985 detailed phases and from the 1991 annual recall phase. The 1991 annual recall phase was a survey independent of the 1991 trimester recall survey. During the last interview phase of the 1991 trimester interviewing a sample of sportsmen was interviewed regarding their 1991 activity. This survey used annual recall and supplied national-level estimates, not state-level estimates as the trimester survey did. The 1991 expenditure averages were used to approximate the 1990 expenditure averages by adjusting for the inflation from 1990 to 1991. The expenditure averages for all three survey years do not include land leasing and ownership. The fishing expenditure averages for 1980 lumped together Great Lakes and other freshwater fishing; the average of total freshwater fishing expenditures was used for both the 1980 Great Lakes and other freshwater fishing expenditure calculation.

Table B-4. Comparison of Major Findings of the National Surveys: 1980 to 1990

(Sportsmen and nonconsumptive participation estimates are for people 6 years old and older; expenditures and days are for participants 16 years old and older. Numbers in thousands)

Participants, expenditures, and days	1980	1985	1990
Total sportsmen	59,354	63,390	69,491
Anglers	54,235	58,889	65,128
Great Lakes	3,796	4,711	4,559
Other freshwater	45,557	48,878	55,359
Saltwater	15,728	17,667	16,282
Hunters	18,761	18,237	18,783
Big game	12,757	13,678	14,463
Small game	13,320	11,854	10,143
Migratory birds	5,628	5,471	3,944
Other animals	2,814	3,100	1,878
Expenditures[1]	40,809,501	48,666,616	63,273,830
Anglers	27,198,301	33,381,510	42,532,506
Great Lakes	1,008,369	1,877,233	2,249,556
Other freshwater	12,101,789	20,932,773	25,763,285
Saltwater	3,904,732	8,807,404	9,782,588
Hunters	12,628,883	10,944,749	11,737,921
Big game	4,275,583	6,231,064	5,508,717
Small game	2,553,690	2,090,146	1,785,809
Migratory birds	959,213	1,198,233	773,496
Other animals	379,688	424,339	292,987
Days	1,168,141	1,308,326	1,282,376
Anglers	848,960	979,566	975,422
Great Lakes	38,623	44,784	50,316
Other freshwater	677,464	774,320	960,014
Saltwater	147,720	153,934	154,008
Hunters	319,181	328,760	306,954
Big game	114,230	123,280	157,572
Small game	143,124	128,220	101,299
Migratory birds	40,320	39,448	25,067
Other animals	37,800	47,498	28,985
Total nonconsumptive participants	121,125	115,269	109,472
Residential	115,788	107,022	100,750
Nonresidential	22,972	34,200	37,545

Note: These estimates come from the screening phases of the three National Surveys, and are only for use as trends measures. Estimates from the screening interviews are not as accurate as estimates from the detailed interviews in measuring the surveyed year's wildlife-associated recreation activity.

[1] In 1990 dollars.

Table B-5. Anglers and Hunters, by Census Division: 1980 to 1990

(U.S. population 6 years old and older. Numbers in thousands)

Year	Total population	Sportsmen	Anglers	Hunters
Total, United States				
1980	205,255	59,354	54,235	18,761
1985	216,318	63,390	58,889	18,237
1990	225,494	69,491	65,128	18,783
New England				
1980	11,230	2,551	2,364	630
1985	11,528	2,660	2,518	582
1990	11,826	2,963	2,859	581
Middle Atlantic				
1980	33,362	6,579	5,699	2,188
1985	34,021	7,105	6,368	2,091
1990	34,110	7,690	6,997	2,119
East North Central				
1980	37,439	11,228	10,409	3,249
1985	37,531	11,453	10,737	3,083
1990	38,276	12,416	11,601	3,530
West North Central				
1980	15,384	6,048	5,494	2,223
1985	15,717	6,429	5,964	2,211
1990	16,115	6,641	6,191	2,181
South Atlantic				
1980	33,795	9,863	9,175	2,786
1985	36,849	10,944	10,277	2,787
1990	39,587	12,159	11,558	2,794
East South Central				
1980	13,207	4,556	4,109	1,815
1985	13,734	4,585	4,199	1,641
1990	13,974	5,234	4,859	1,788
West South Central				
1980	21,495	7,213	6,492	2,815
1985	23,817	8,063	7,352	2,981
1990	24,184	8,810	8,268	2,750
Mountain				
1980	10,273	3,566	3,160	1,392
1985	11,464	3,974	3,599	1,408
1990	12,288	4,288	3,903	1,398
Pacific				
1980	29,072	7,750	7,333	1,663
1985	31,659	8,177	7,873	1,452
1990	35,134	9,291	8,890	1,641

Note: These estimates come from the screening phases of the three National Surveys, and are only for use as trends measures. Estimates from the screening interviews are not as accurate as estimates from the detailed interviews in measuring the surveyed year's wildlife-associated recreation activity.

Table B-6. Nonconsumptive Participants, by Census Division: 1980 to 1990

(U.S. population 6 years old and older. Numbers in thousands)

Year	Total population	Total nonconsumptive	Residential	Nonresidential
Total, United States				
1980	205,255	121,125	115,788	22,972
1985	216,318	115,269	107,022	34,200
1990	225,494	109,472	100,750	37,545
New England				
1980	11,230	7,557	7,355	1,166
1985	11,528	6,909	6,557	1,842
1990	11,826	6,367	5,968	2,113
Middle Atlantic				
1980	33,362	19,732	19,166	3,410
1985	34,021	16,578	15,498	4,803
1990	34,110	14,831	13,820	4,784
East North Central				
1980	37,439	25,107	24,202	4,567
1985	37,531	22,769	21,245	6,853
1990	38,276	21,030	19,701	6,915
West North Central				
1980	15,384	9,787	9,334	2,025
1985	15,717	9,459	8,724	3,131
1990	16,115	9,534	8,806	3,381
South Atlantic				
1980	33,795	19,925	19,273	3,147
1985	36,849	19,146	18,179	4,592
1990	39,587	19,103	17,830	5,881
East South Central				
1980	13,207	7,628	7,417	987
1985	13,734	7,100	6,729	1,558
1990	13,974	6,904	6,451	2,053
West South Central				
1980	21,495	11,375	10,833	1,981
1985	23,817	11,386	10,612	3,081
1990	24,184	10,526	9,687	3,185
Mountain				
1980	10,273	5,640	5,062	1,715
1985	11,464	6,592	5,791	2,813
1990	12,288	6,471	5,603	3,021
Pacific				
1980	29,072	14,374	13,147	3,974
1985	31,659	15,330	13,686	5,529
1990	35,134	14,705	12,882	6,211

Note: These estimates come from the screening phases of the three National Surveys, and are only for use as trends measures. Estimates from the screening interviews are not as accurate as estimates from the detailed interviews in measuring the surveyed year's wildlife-associated recreation activity.

Appendix C

Appendix C. Selected Data From Screening Interviews

The 1991 Survey of Fishing, Hunting, and Wildlife-Associated Recreation was carried out in two phases. The first (or screening) phase was conducted in January and February 1991. The main purpose of this phase was to collect information about persons 16 years old and older in order to develop a sample of potential sportsmen and nonconsumptive participants for the second (or detailed) phase. Information was also collected on the number of persons 6 to 15 years old who participated in wildlife-related recreation activities in 1990. These data are reported here in order to include the recreation activity of 6 to 15 year olds in this report. It is important to emphasize that the information from the 1991 screening questionnaires relate to activity only up to and including 1990. Also, these data were based on long-term recall (at least 12-month recall was required for most of these tables) and were reported, in most cases, by one household respondent speaking for all household members rather than the short-term recall of the actual participant, as in the case of the 1991 detailed phase.

Tables C-1, C-2, and C-3 report data on participants 6 years old and older for the most recent year an individual hunted, sportsmen 6 years and older who participated for the first time in 1990, and sportsmen 6 years and older who participated in 1989 but not in 1990. The remainder of the tables, C-4 thru C-11, report data specifically on 6 to 15 year-old participants in 1990. Detailed expenditures and recreational activity data were not gathered for the 6 to 15 year-old participants.

Because of the difference in methodologies between the screening phase and the detailed phase of the 1991 Survey, the data collected are not comparable. Only participants 16 years old and older were eligible for the detailed phase. The detailed phase was a series of three interviews conducted at 4-month intervals while the screening interviews were all 1-year recall. The shorter recall period of the detailed phase improved data accuracy. It has been found in Survey studies that in many cases longer recall periods result in over-estimating participation in and expenditures on wildlife-related recreation activities.

Table C-1. Anglers and Hunters Participating for the First Time in 1990, by Age Group

(Population 6 years old and older. Numbers in thousands)

Age group	Total anglers in 1990	Fishing for first time		Total hunters in 1990	Hunting for first time	
		Number	Percent of anglers in age group		Number	Percent of hunters in age group
Total, all ages	65,127	3,589	6	18,782	1,304	7
6 to 8 years	4,032	831	21	166	67	40
9 to 11 years	4,436	460	10	377	145	39
12 to 15 years	5,322	367	7	1,187	336	28
16 to 17 years	2,155	102	5	783	116	15
18 to 24 years	6,833	336	5	2,480	215	9
25 to 34 years	13,934	654	5	4,511	214	5
35 to 44 years	12,463	454	4	4,105	120	3
45 to 54 years	7,206	180	2	2,573	48	2
55 to 64 years	4,609	103	2	1,517	25	2
65 years or older	4,136	101	2	1,083	19	2

Note: Data reported on this table are from screening interviews in which in most cases one adult household member responded for all household members. The screening interview required the respondent to recall 12 months worth of activity.

Table C-2. Anglers and Hunters Participating in 1989 But Not in 1990, by Age Group

(Population 6 years old and older. Numbers in thousands)

Age group	Anglers		Hunters	
	Number	Percent	Number	Percent
Total, all ages	11,693	100	3,568	100
6 to 8 years	621	5	26	1
9 to 11 years	674	6	56	2
12 to 15 years	875	7	173	5
16 to 17 years	403	3	87	2
18 to 24 years	1,352	12	547	15
25 to 34 years	2,610	22	980	27
35 to 44 years	2,297	20	756	21
45 to 54 years	1,344	11	458	13
55 to 64 years	795	7	261	7
65 years or older	721	6	221	6

Note: Data reported on this table are from screening interviews in which in most cases one adult household member responded for all household members. The screening interview required the respondent to recall 12 months worth of activity. Includes persons who fished or hunted only in other countries.

Table C-3. Most Recent Year of Hunting, by Age Group

(Population 6 years old and older. Numbers in thousands)

Age group	Total, all persons who hunted in 1990 or earlier year		Most recent year of hunting					
			1990		1989		1988	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total, all ages	48,167	100	18,782	39	3,568	7	2,228	5
6 to 11 years	710	100	543	77	83	12	27	4
12 to 15 years	1,491	100	1,187	80	173	12	42	3
16 to 17 years	1,033	100	783	76	87	8	56	5
18 to 24 years	4,551	100	2,480	54	547	12	419	9
25 to 34 years	9,972	100	4,511	45	980	10	611	6
35 to 44 years	10,155	100	4,105	40	756	7	432	4
45 to 54 years	7,666	100	2,573	34	458	6	313	4
55 to 64 years	5,620	100	1,517	27	261	5	159	3
65 years or older	6,969	100	1,083	16	221	3	169	2

	Most recent year of hunting							
	1987		1986		1985		Before 1985	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total, all ages	1,571	3	1,319	3	1,374	3	19,325	40
6 to 11 years	*14	*2	*13	*2	...	...	*23	*3
12 to 15 years	*18	*1	*18	*1	*15	*1	39	3
16 to 17 years	32	3	*12	*1	*19	*2	43	4
18 to 24 years	257	6	173	4	164	4	510	11
25 to 34 years	432	4	333	3	392	4	2,713	27
35 to 44 years	332	3	310	3	296	3	3,924	39
45 to 54 years	203	3	194	3	213	3	3,713	48
55 to 64 years	153	3	143	3	117	2	3,270	58
65 years or older	130	2	124	2	151	2	5,091	73

Note: Data reported on this table are from screening interviews in which in most cases one adult household member responded for all household members. The screening interview required the respondent to recall 12 months worth of activity.

* Estimate based on a small sample size.

... Sample size too small to report data reliably.

Table C-4. Anglers and Hunters 6 to 15 Years Old: 1990

(Population 6 to 15 years old. Numbers in thousands)

Sportsmen	Total, 6 to 15 years old		12 to 15 years old		9 to 11 years old		6 to 8 years old	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total sportsmen (Fished or hunted)	14,011	100	5,496	100	4,471	100	4,045	100
Total anglers	13,790	98	5,322	97	4,436	99	4,032	99
Fished only	12,281	88	4,309	78	4,093	92	3,879	96
Fished and hunted	1,509	11	1,013	18	342	8	153	4
Total hunters	1,730	12	1,187	22	377	8	166	4
Hunted only	221	2	174	3	35	1	*13	*(Z)
Hunted and fished	1,509	11	1,013	18	342	8	153	4

Note: Detail does not add to total because of multiple responses. Data reported on this table are from screening interviews in which one adult household member responded for all household members 6 to 15 years old. The screening interview required the respondent to recall 12 months worth of activity. Includes persons who fished or hunted only in other countries.

(Z) Less than .5 percent.

Table C-5. Nonconsumptive Participants 6 to 15 Years Old, by Primary Nonconsumptive Activity: 1990

(Population 6 to 15 years old. Numbers in thousands)

Activity	Total, 6 to 15 years old			12 to 15 years old			9 to 11 years old			6 to 8 years old		
	Number	Percent of participants	Percent of population	Number	Percent of participants	Percent of population	Number	Percent of participants	Percent of population	Number	Percent of participants	Percent of population
Total primary participants	17,136	100	48	6,145	100	45	5,468	100	51	5,523	100	49
Nonresidential	7,311	43	21	2,374	39	18	2,431	44	22	2,505	45	22
Residential	15,406	90	43	5,565	91	41	4,912	90	45	4,928	89	44
Observe wildlife	10,892	64	31	3,832	62	28	3,507	64	32	3,553	64	32
Photograph wildlife	2,199	13	6	1,006	16	7	692	13	6	501	9	4
Feed wild birds or other wildlife	11,924	70	34	4,291	70	32	3,791	69	35	3,842	70	34
Maintain plantings or natural areas	3,154	18	9	1,255	20	9	999	18	9	900	16	8

Note: Detail does not add to total because of multiple responses. Columns showing percent of participants are based on the first row of each column. Columns showing percent of population in age group are based on the U.S. population in each age category, including those who did not participate in nonconsumptive activities. Data reported on this table are from screening interviews in which one adult household member responded for household members 6 to 15 years old. The screening interview required the respondent to recall 12 months worth of activity. Includes persons who participated only in other countries.

Table C-6. Selected Characteristics of Anglers and Hunters 6 to 15 Years Old: 1990

(Population 6 to 15 years old. Numbers in thousands)

Characteristic	U.S. population		Sportsmen (fished or hunted)			Fished only		
	Number	Percent	Number	Percent who participated	Percent	Number	Percent who participated	Percent
Total persons	35,530	100	14,011	39	100	12,281	35	100
Population density of residence								
Urban	24,720	70	8,441	34	60	7,731	31	63
Rural	10,810	30	5,570	52	40	4,550	42	37
Population size of residence								
MSA	26,817	75	9,681	36	69	8,845	33	72
1,000,000 or more	14,355	40	4,482	31	32	4,196	29	34
250,000 - 999,999	8,642	24	3,409	39	24	3,094	36	25
50,000 - 249,999	3,819	11	1,790	47	13	1,555	41	13
Outside MSA	8,713	25	4,330	50	31	3,436	39	28
Census geographic division								
New England	1,645	5	650	39	5	605	37	5
Middle Atlantic	4,893	14	1,571	32	11	1,463	30	12
East North Central	6,088	17	2,645	43	19	2,328	38	19
West North Central	2,611	7	1,470	56	10	1,231	47	10
South Atlantic	5,906	17	2,125	36	15	1,867	32	15
East South Central	2,307	6	993	43	7	779	34	6
West South Central	4,258	12	1,690	40	12	1,385	33	11
Mountain	2,196	6	977	45	7	844	38	7
Pacific	5,626	16	1,891	34	13	1,781	32	15
Age								
6 to 8 years	11,194	32	4,045	36	29	3,879	35	32
9 to 11 years	10,824	30	4,471	41	32	4,093	38	33
12 to 15 years	13,512	38	5,496	41	39	4,309	32	35
Sex								
Male, total	18,185	51	8,836	49	63	7,292	40	59
6 to 8 years	5,692	16	2,416	42	17	2,279	40	19
9 to 11 years	5,582	16	2,801	50	20	2,469	44	20
12 to 15 years	6,911	19	3,619	52	26	2,545	37	21
Female, total	17,345	49	5,175	30	37	4,989	29	41
6 to 8 years	5,501	15	1,629	30	12	1,600	29	13
9 to 11 years	5,242	15	1,669	32	12	1,625	31	13
12 to 15 years	6,601	19	1,877	28	13	1,764	27	14
Race								
White	28,936	81	12,856	44	92	11,186	39	91
Black	4,453	13	629	14	4	593	13	5
All others	2,141	6	527	25	4	502	23	4
Annual household income								
Under $10,000	3,623	10	837	23	6	761	21	6
$10,000 to $19,999	5,401	15	1,753	32	13	1,533	28	12
$20,000 to $24,999	2,828	8	1,013	36	7	869	31	7
$25,000 to $29,999	3,706	10	1,522	41	11	1,312	35	11
$30,000 to $49,999	9,186	26	4,323	47	31	3,801	41	31
$50,000 to $74,999	4,869	14	2,376	49	17	2,110	43	17
$75,000 or more	2,539	7	1,199	47	9	1,056	42	9
Not reported	3,379	10	988	29	7	837	25	7

(continued)

Table C-6. Selected Characteristics of Anglers and Hunters 6 to 15 Years Old: 1990—Continued

(Population 6 to 15 years old. Numbers in thousands)

Characteristic	Hunted only			Fished and hunted		
	Number	Percent who participated	Percent	Number	Percent who participated	Percent
Total persons	221	1	100	1,509	4	100
Population density of residence						
Urban	84	(Z)	38	626	3	41
Rural	137	1	62	883	8	59
Population size of residence						
MSA	*102	*(Z)	*46	734	3	49
1,000,000 or more	25	(Z)	11	261	2	17
250,000 - 999,999	28	(Z)	13	286	3	19
50,000 - 249,999	48	1	22	187	5	12
Outside MSA	120	1	54	775	9	51
Census geographic division						
New England	*5	*(Z)	*2	40	2	3
Middle Atlantic	*18	*(Z)	*8	90	2	6
East North Central	*33	*1	*15	285	5	19
West North Central	29	1	13	210	8	14
South Atlantic	43	1	20	215	4	14
East South Central	25	1	11	190	8	13
West South Central	*29	*1	*13	276	6	18
Mountain	25	1	11	108	5	7
Pacific	*15	*(Z)	*7	94	2	6
Age						
6 to 8 years	*13	*(Z)	*6	153	1	10
9 to 11 years	35	(Z)	16	342	3	23
12 to 15 years	174	1	78	1,013	7	67
Sex						
Male, total	188	1	85	1,357	7	90
6 to 8 years	*9	*(Z)	*4	128	2	9
9 to 11 years	30	1	13	303	5	20
12 to 15 years	149	2	67	925	13	61
Female, total	34	(Z)	15	152	1	10
6 to 8 years	...	...	...	25	(Z)	2
9 to 11 years	*5	*(Z)	*2	39	1	3
12 to 15 years	24	(Z)	11	88	1	6
Race						
White	210	1	95	1,460	5	97
Black	...	...	...	29	1	2
All others	*4	*(Z)	*2	21	1	1
Annual household income						
Under $10,000	*16	*(Z)	*7	60	2	4
$10,000 to $19,999	29	1	13	191	4	13
$20,000 to $24,999	*13	*(Z)	*6	131	5	9
$25,000 to $29,999	37	1	17	172	5	11
$30,000 to $49,999	63	1	28	459	5	30
$50,000 to $74,999	*20	*(Z)	*9	246	5	16
$75,000 or more	*20	*1	*9	123	5	8
Not reported	*24	*1	*11	127	4	8

Note: Percent who participated shows the percent of each row's population who participated in the activity named by the column (the percent of those living in urban areas who fished only, etc.). Percent columns show the percent of each column's participants who are described by the row heading (the percent of those who fished only who lived in urban areas, etc.). Data reported are from screening interviews in which one adult household member responded for all household members 6 to 15 years old. The screening interview required the respondent to recall 12 months worth of activity.

* Estimate based on a small sample size.

... Sample size too small to report data reliably.

(Z) Less than .5 percent.

Table C-7. Selected Characteristics of Primary Nonconsumptive Participants 6 to 15 Years Old: 1990

(Population 6 to 15 years old. Numbers in thousands)

Characteristic	U.S. population		Primary participants								
			Total			Nonresidential			Residential		
	Number	Percent	Number	Percent who participated	Percent	Number	Percent who participated	Percent	Number	Percent who participated	Percent
Total persons	35,530	100	17,136	48	100	7,311	21	100	15,406	43	100
Population density of residence											
Urban	24,720	70	10,964	44	64	4,792	19	66	9,678	39	63
Rural	10,810	30	6,172	57	36	2,519	23	34	5,728	53	37
Population size of residence											
MSA	26,817	75	12,479	47	73	5,352	20	73	11,143	42	72
1,000,000 or more	14,355	40	6,094	42	36	2,618	18	36	5,431	38	35
250,000 - 999,999	8,642	24	4,280	50	25	1,805	21	25	3,838	44	25
50,000 - 249,999	3,819	11	2,106	55	12	929	24	13	1,874	49	12
Outside MSA	8,713	25	4,657	53	27	1,959	22	27	4,263	49	28
Census geographic division											
New England	1,645	5	924	56	5	406	25	6	854	52	6
Middle Atlantic	4,893	14	2,135	44	12	900	18	12	1,930	39	13
East North Central	6,088	17	3,451	57	20	1,488	24	20	3,174	52	21
West North Central	2,611	7	1,577	60	9	720	28	10	1,400	54	9
South Atlantic	5,906	17	2,834	48	17	1,064	18	15	2,604	44	17
East South Central	2,307	6	1,029	45	6	364	16	5	946	41	6
West South Central	4,258	12	1,744	41	10	613	14	8	1,592	37	10
Mountain	2,196	6	1,161	53	7	637	29	9	972	44	6
Pacific	5,626	16	2,282	41	13	1,119	20	15	1,933	34	13
Age											
6 to 8 years	11,194	32	5,523	49	32	2,505	22	34	4,928	44	32
9 to 11 years	10,824	30	5,468	51	32	2,431	22	33	4,912	45	32
12 to 15 years	13,512	38	6,145	45	36	2,374	18	32	5,565	41	36
Sex											
Male, total	18,185	51	9,077	50	53	3,871	21	53	8,240	45	53
6 to 8 years	5,692	16	2,872	50	17	1,309	23	18	2,596	46	17
9 to 11 years	5,582	16	2,960	53	17	1,310	23	18	2,683	48	17
12 to 15 years	6,911	19	3,244	47	19	1,253	18	17	2,961	43	19
Female, total	17,345	49	8,060	46	47	3,439	20	47	7,166	41	47
6 to 8 years	5,501	15	2,651	48	15	1,196	22	16	2,332	42	15
9 to 11 years	5,242	15	2,507	48	15	1,122	21	15	2,229	43	14
12 to 15 years	6,601	19	2,901	44	17	1,122	17	15	2,604	39	17
Race											
White	28,936	81	15,309	53	89	6,692	23	92	13,765	48	89
Black	4,453	13	1,110	25	6	309	7	4	1,016	23	7
All others	2,141	6	717	33	4	310	14	4	624	29	4
Annual household income											
Under $10,000	3,623	10	1,130	31	7	423	12	6	976	27	6
$10,000 to $19,999	5,401	15	2,122	39	12	809	15	11	1,932	36	13
$20,000 to $24,999	2,828	8	1,314	46	8	548	19	7	1,164	41	8
$25,000 to $29,999	3,706	10	1,803	49	11	792	21	11	1,591	43	10
$30,000 to $49,999	9,186	26	5,153	56	30	2,256	25	31	4,609	50	30
$50,000 to $74,999	4,869	14	2,778	57	16	1,274	26	17	2,554	52	17
$75,000 or more	2,539	7	1,483	58	9	700	28	10	1,357	53	9
Not reported	3,379	10	1,353	40	8	509	15	7	1,223	36	8

Note: Detail does not add to total because of multiple responses. Percent who participated shows the percent of each row's population who participated in the activity named by the column (the percent of those living in urban areas who were residential participants, etc.). Percent columns show the percent of each column's participants who are described by the row heading (the percent of those who were residential participants who lived in urban areas, etc.). Data reported on this table are from screening interviews in which one adult household member responded for all household members 6 to 15 years old. The screening interview required the respondent to recall 12 months worth of activity.

Table C-8. Participants in Wildlife-Associated Recreation 6 to 15 Years Old, by Participant's State of Residence: 1990

(Population 6 to 15 years old. Numbers in thousands)

Participant's state of residence	Population	Total participants		Sportsmen		Primary nonconsumptive participants	
		Number	Percent of population	Number	Percent of population	Number	Percent of population
U.S., total	35,530	21,784	61	14,011	39	17,136	48
Alabama	621	374	60	274	44	257	41
Alaska	85	70	83	61	72	56	66
Arizona	543	312	57	188	35	243	45
Arkansas	369	242	66	185	50	172	47
California	4,274	2,003	47	1,252	29	1,478	35
Colorado	475	359	76	252	53	282	59
Connecticut	409	271	66	147	36	232	57
Delaware	95	58	61	35	37	48	50
Florida	1,591	956	60	595	37	807	51
Georgia	1,013	557	55	335	33	442	44
Hawaii	157	86	55	50	32	65	42
Idaho	181	147	81	105	58	115	64
Illinois	1,619	949	59	620	38	757	47
Indiana	824	609	74	390	47	469	57
Iowa	411	321	78	225	55	247	60
Kansas	377	279	74	195	52	232	61
Kentucky	545	372	68	264	48	267	49
Louisiana	704	367	52	266	38	259	37
Maine	171	132	77	90	53	109	64
Maryland	630	366	58	169	27	323	51
Massachusetts	706	448	63	249	35	361	51
Michigan	1,354	982	73	587	43	887	65
Minnesota	644	535	83	394	61	424	66
Mississippi	433	231	53	177	41	165	38
Missouri	725	520	72	388	54	401	55
Montana	125	99	79	73	59	74	59
Nebraska	242	197	81	140	58	154	64
Nevada	162	97	60	53	33	82	51
New Hampshire	155	120	77	73	47	97	63
New Jersey	981	569	58	295	30	479	49
New Mexico	257	148	57	92	36	111	43
New York	2,341	1,091	47	649	28	845	36
North Carolina	903	514	57	330	37	382	42
North Dakota	101	81	81	64	63	56	56
Ohio	1,577	1,101	70	632	40	909	58
Oklahoma	477	354	74	231	48	286	60
Oregon	406	298	73	190	47	239	59
Pennsylvania	1,572	1,018	65	628	40	811	52
Rhode Island	125	84	67	44	35	72	58
South Carolina	536	279	52	206	38	201	38
South Dakota	111	83	74	63	57	63	57
Tennessee	708	440	62	279	39	340	48
Texas	2,708	1,449	54	1,008	37	1,027	38
Utah	376	255	68	165	44	208	55
Vermont	79	65	82	47	59	53	68
Virginia	804	566	70	328	41	480	60
Washington	704	519	74	337	48	444	63
West Virginia	262	177	68	119	45	135	52
Wisconsin	714	551	77	416	58	428	60
Wyoming	77	63	81	49	64	46	60

Note: Detail does not add to total because of multiple responses. U.S. totals include responses from participants residing in the District of Columbia, as described in the statistical reliability appendix. Data reported on this table are from screening interviews in which one adult household member responded for household members 6 to 15 years old. The screening interview required the respondent to recall 12 months worth of activity.

Table C-9. Anglers and Hunters 6 to 15 Years Old, by Sportsman's State of Residence: 1990

(Population 6 to 15 years old. Numbers in thousands)

Sportsman's state of residence	Population	Fished or hunted		Fished only		Hunted only		Fished and hunted	
		Number	Percent of population	Number	Percent of population	Number	Percent of population	Number	Percent of population
U.S., total	35,530	14,011	39	12,281	35	221	1	1,509	4
Alabama	621	274	44	220	35	...	...	50	8
Alaska	85	61	72	52	61	...	...	8	10
Arizona	543	188	35	171	31	...	...	*13	*2
Arkansas	369	185	50	125	34	...	...	58	16
California	4,274	1,252	29	1,211	28	...	...	*37	*1
Colorado	475	252	53	227	48	...	...	*20	*4
Connecticut	409	147	36	140	34	...	...	*6	*2
Delaware	95	35	37	33	34	...	...	*2	*2
Florida	1,591	595	37	556	35	...	...	*29	*2
Georgia	1,013	335	33	288	28	...	...	39	4
Hawaii	157	50	32	48	30	...	...	*2	*1
Idaho	181	105	58	84	47	*5	*3	16	9
Illinois	1,619	620	38	575	36	...	...	42	3
Indiana	824	390	47	328	40	...	...	60	7
Iowa	411	225	55	186	45	...	...	35	8
Kansas	377	195	52	162	43	...	...	28	7
Kentucky	545	264	48	207	38	*8	*2	48	9
Louisiana	704	266	38	202	29	*14	*2	50	7
Maine	171	90	53	77	45	...	...	12	7
Maryland	630	169	27	154	24	...	...	*11	*2
Massachusetts	706	249	35	238	34	...	...	*11	*2
Michigan	1,354	587	43	514	38	...	...	59	4
Minnesota	644	394	61	334	52	...	...	54	8
Mississippi	433	177	41	123	28	*7	*2	46	11
Missouri	725	388	54	325	45	...	...	58	8
Montana	125	73	59	54	43	*3	*3	16	13
Nebraska	242	140	58	119	49	...	...	18	8
Nevada	162	53	33	47	29	...	...	*4	*3
New Hampshire	155	73	47	69	44	...	...	*3	*2
New Jersey	981	295	30	285	29	...	...	...	...
New Mexico	257	92	36	77	30	*4	*2	*11	*4
New York	2,341	649	28	624	27	...	...	*23	*1
North Carolina	903	330	37	273	30	...	...	47	5
North Dakota	101	64	63	51	50	*2	*2	11	11
Ohio	1,577	632	40	570	36	...	...	58	4
Oklahoma	477	231	48	206	43	...	...	24	5
Oregon	406	190	47	169	42	...	...	*15	*4
Pennsylvania	1,572	628	40	554	35	...	...	59	4
Rhode Island	125	44	35	43	34	...	...	...	...
South Carolina	536	206	38	178	33	...	...	27	5
South Dakota	111	63	57	53	48	*3	*3	*7	*6
Tennessee	708	279	39	229	32	...	...	46	6
Texas	2,708	1,008	37	852	31	...	...	144	5
Utah	376	165	44	142	38	...	...	20	5
Vermont	79	47	59	38	48	...	...	7	9
Virginia	804	328	41	299	37	...	...	*24	*3
Washington	704	337	48	302	43	...	...	31	4
West Virginia	262	119	45	76	29	*8	*3	35	13
Wisconsin	714	416	58	341	48	...	...	66	9
Wyoming	77	49	64	40	52	...	...	8	11

Note: U.S. totals include responses from participants residing ''in the District of Columbia, as described in the statistical'' reliability appendix. Data reported on this table are from screening interviews in which one adult household member responded for household members 6 to 15 years old. The screening interviews required the respondent to recall 12 months worth of activity.

* Estimate based on a small sample size.

... Sample size too small to report data reliably.

Table C-10. Anglers 6 to 15 Years Old, by State Where Fishing Took Place: 1990

(Population 6 to 15 years old. Numbers in thousands)

State where fishing took place	Anglers					
	Total anglers, residents and nonresidents		Residents		Nonresidents	
	Number	Percent	Number	Percent	Number	Percent
U.S., total	13,790	100	12,080	88	3,232	23
Alabama	327	100	246	75	81	25
Alaska	83	100	56	67	27	33
Arizona	270	100	171	63	99	37
Arkansas	290	100	161	56	129	44
California	1,179	100	1,108	94	71	6
Colorado	344	100	217	63	127	37
Connecticut	156	100	123	79	33	21
Delaware	63	100	27	43	*36	*57
Florida	876	100	542	62	334	38
Georgia	314	100	260	83	54	17
Hawaii	61	100	47	77	*14	*23
Idaho	149	100	93	62	56	38
Illinois	532	100	468	88	64	12
Indiana	426	100	357	84	69	16
Iowa	255	100	209	82	46	18
Kansas	183	100	151	83	32	17
Kentucky	315	100	237	75	78	25
Louisiana	290	100	229	79	61	21
Maine	156	100	85	54	71	46
Maryland	198	100	138	70	60	30
Massachusetts	273	100	209	77	64	23
Michigan	631	100	514	81	117	19
Minnesota	521	100	371	71	150	29
Mississippi	231	100	153	66	78	34
Missouri	466	100	360	77	106	23
Montana	108	100	65	60	43	40
Nebraska	153	100	130	85	23	15
Nevada	65	100	37	57	*28	*43
New Hampshire	137	100	66	48	71	52
New Jersey	353	100	244	69	109	31
New Mexico	131	100	74	56	57	44
New York	643	100	547	85	96	15
North Carolina	407	100	276	68	131	32
North Dakota	59	100	45	76	*14	*24
Ohio	619	100	536	87	83	13
Oklahoma	272	100	213	78	59	22
Oregon	264	100	169	64	95	36
Pennsylvania	651	100	542	83	109	17
Rhode Island	75	100	38	51	37	49
South Carolina	287	100	186	65	101	35
South Dakota	93	100	53	57	40	43
Tennessee	320	100	242	76	78	24
Texas	879	100	798	91	81	9
Utah	205	100	144	70	61	30
Vermont	70	100	41	59	29	41
Virginia	357	100	280	78	77	22
Washington	366	100	305	83	61	17
West Virginia	124	100	98	79	*26	*21
Wisconsin	574	100	370	64	204	36
Wyoming	97	100	47	48	50	52

Note: For the U.S. row, detail does not add to total because of multiple responses. U.S. totals include responses from participants residing in the District of Columbia, as described in the statistical reliability appendix. Data reported on this table are from screening interviews in which one adult household member responded for household members 6 to 15 years old. The screening interview required the respondent to recall 12 months worth of activity.

* Estimate based on a small sample size.

Table C-11. Participants in Nonconsumptive Activities 6 to 15 Years Old, by Participant's State of Residence: 1990

(Population 6 to 15 years old. Numbers in thousands)

Participant's state of residence	Population	Primary participants					
		Total		Nonresidential		Residential	
		Number	Percent of population	Number	Percent of population	Number	Percent of population
U.S., total	35,530	17,136	48	7,311	21	15,406	43
Alabama	621	257	41	90	14	237	38
Alaska	85	56	66	34	40	47	55
Arizona	543	243	45	113	21	203	37
Arkansas	369	172	47	58	16	163	44
California	4,274	1,478	35	741	17	1,216	28
Colorado	475	282	59	154	32	245	52
Connecticut	409	232	57	80	20	214	52
Delaware	95	48	51	20	21	43	45
Florida	1,591	807	51	398	25	697	44
Georgia	1,013	442	44	142	14	406	40
Hawaii	157	65	41	29	18	58	37
Idaho	181	115	64	73	40	91	50
Illinois	1,619	757	47	304	19	685	42
Indiana	824	469	57	180	22	440	53
Iowa	411	247	60	110	27	219	53
Kansas	377	232	62	110	29	203	54
Kentucky	545	267	49	107	20	236	43
Louisiana	704	259	37	72	10	245	35
Maine	171	109	64	58	34	99	58
Maryland	630	323	51	131	21	302	48
Massachusetts	706	361	51	173	25	332	47
Michigan	1,354	887	66	386	29	837	62
Minnesota	644	424	66	207	32	366	57
Mississippi	433	165	38	51	12	155	36
Missouri	725	401	55	167	23	365	50
Montana	125	74	59	48	38	61	49
Nebraska	242	154	64	81	33	138	57
Nevada	162	82	51	53	33	64	40
New Hampshire	155	97	63	41	26	92	59
New Jersey	981	479	49	196	20	449	46
New Mexico	257	111	43	53	21	93	36
New York	2,341	845	36	406	17	741	32
North Carolina	903	382	42	102	11	365	40
North Dakota	101	56	55	21	21	52	51
Ohio	1,577	909	58	399	25	824	52
Oklahoma	477	286	60	122	26	255	53
Oregon	406	239	59	126	31	211	52
Pennsylvania	1,572	811	52	298	19	740	47
Rhode Island	125	72	58	28	22	69	55
South Carolina	536	201	38	48	9	193	36
South Dakota	111	63	57	24	22	57	51
Tennessee	708	340	48	116	16	318	45
Texas	2,708	1,027	38	362	13	929	34
Utah	376	208	55	115	31	175	47
Vermont	79	53	67	25	32	49	62
Virginia	804	480	60	168	21	457	57
Washington	704	444	63	189	27	401	57
West Virginia	262	135	52	46	18	127	48
Wisconsin	714	428	60	218	31	388	54
Wyoming	77	46	60	28	36	39	51

Note: Detail does not add to total because of multiple responses. U.S. totals include responses from participants residing in the District of Columbia, as described in the statistical reliability appendix. Data reported on this table are from screening interviews in which one adult household member responded for all household members 6 to 15 years old. The screening interview required the respondent to recall 12 months worth of activity.

Appendix D

Appendix D Sample Design and Statistical Accuracy

This appendix is partitioned into two parts. The second part, tables D-1 to D-4, reports approximate standard errors and 95-percent confidence intervals for selected measures of participation and expenditures for wildlife-related recreation.

Except for minor style changes, the first part of this appendix is the U.S. Bureau of the Census 'Source and Accuracy Statement' for the survey. This statement describes the sampling design for the 1991 survey and highlights the steps that were taken to produce estimates from the completed questionnaires. The statement explains the use of standard errors and confidence intervals. Finally, it provides comprehensive information about errors that are characteristic of surveys, and it provides the formulas and parameters that can be used to calculate an approximate standard error or confidence interval for each number published in this report.

Source and Accuracy Statement for the 1991 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation

Source of Data

The estimates shown in this report are based on the data collected in the 1991 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (FHWAR).

The 1991 FHWAR survey was designed to provide state-level estimates of the number of people who participated in recreational hunting and fishing, and other forms of wildlife-related activities (e.g., wildlife observation) referred to as nonconsumptive use. Information was collected on the number of people engaged in the activities, where and how often they went to pursue them, the type of wildlife encountered, and the amounts of money spent for these activities.

The survey was conducted in two stages: an initial screening of households to identify likely sportsmen and nonconsumptive participants, and a series of followup interviews of selected persons to collect detailed data about their wildlife-related recreation during 1991.

The 1991 FHWAR sample was selected from expired samples from the Current Population Survey (CPS). As such, it is a multistage stratified sample of the U.S. population.

Sample Design

A. CPS-Current Population Survey

The expired CPS samples used for the 1991 FHWAR survey had been selected initially from the 1980 census files with coverage in all 50 states and the District of Columbia. The samples, while active, had been continually updated to reflect new construction. The sample addresses were located in more than 729 areas comprising more than 1,973 counties, independent cities, and minor civil divisions in the nation.

B. The FHWAR Screening Sample

The total screening sample consisted of roughly 128,700 households identified from previously interviewed CPS households. These households were last contacted for CPS sometime between November 1986 and March 1990. Beginning with March 1990 and working back, expired CPS sample households were accumulated until the designated sample size for each state was obtained. On the average, about 2,600 households per state

were contacted. Of these roughly 15.9 percent were found to be vacant or otherwise not to be enumerated. Of the remaining households roughly 5.5 percent could not be enumerated because the occupants were not found at home after repeated calls or were unavailable for some other reason. Overall, about 102,400 completed household interviews were obtained for a national response rate of approximately 94.5 percent. Roughly 68 percent of the interviewed households were contacted by telephone and the remaining interviewed households were contacted by personal visit. The field representatives asked the screening questions for all household members 6 years old and older. Interviewing for the screening sample was conducted during January and February of 1991.

The screening sample was split into two groups: self-respondent and proxy-respondent. Seventy five percent of the households were designated as proxy-respondents where a household respondent answered for all household members. The household respondent was a knowledgeable household member at least 18 years old. The remaining 25 percent of the sample households were self-respondents where each household member age 16 or older responded for himself or herself. A household respondent answered for persons less than 16 years old. Splitting the sample into two respondent types will allow us to see if the respondent type has an effect on the screener data.

C. The Detailed Samples

1. Sportsmen

The sportsmen detail sample was selected based on information reported during the screening phase. Every person 16 years of age and older was assigned to a category based on time devoted to hunting/fishing in the past or time expected to be devoted to hunting/fishing in the future. The three sportsmen categories are:

Active – a person who participated in hunting/fishing in 1990, already had participated in 1991 or intended to participate in 1991.

Inactive – a person who did not participate in hunting/fishing in 1990, participated in 1986- 1989, and did not intend to participate in 1991.

Nonparticipant – a person who did not participate in hunting/fishing in 1986-1990, and did not intend to participate in 1991.

The active and inactive groups were eligible for interview in the sportsmen detail sample.

The active sportsmen category included two groups, those who hunted/fished in 1990 and those who did not participate in 1990 but planned to or already had in 1991. Sportsmen who hunted/fished in 1990 were stratified into two substrata based on expenditures on hunting or fishing and the number of days of participation in hunting or fishing. The two substrata are:

Avid – a person who hunted or fished at least 30 days or spent at least $600 on either hunting or fishing.

Nonavid – a person who hunted or fished at least 1 day but not more than 29 days and did not spend more than $600 on either hunting or fishing.

All avid sportsmen and sportsmen who already had participated in 1991 were interviewed. About 18,000 avid sportsmen and sportsmen who already had participated in 1991 were identified from the screening sample. Nonavid sportsmen and those sportsmen who did not participate in 1990 were subsampled to yield the desired number of active sportsmen in each state.

Active sportsmen selected for the detail sample were contacted three times: May 1991, September 1991, and January 1992. The reference period was the preceding 4 months. If we were not able to obtain an interview, we attempted to interview the person in the next interviewing period. The recall period for these persons was longer. After the last interview, we had obtained data on the person's activities for the entire year of 1991. Inactive sportsmen selected for interview were contacted one time in January or February of 1992. The reference period was the preceding year.

About 42,500 persons were designated for interviews. The detailed sportsmen sample sizes varied considerably by state, ranging from about 24 persons for the District of Columbia to 1,217 persons for Michigan. During each interview period about 5 percent of the designated people were not found at home or were unavailable for some other reason. Overall, about 40,100 detailed sportsmen interviews were completed for a national response rate of about 95.2 percent.

2. Nonconsumptive Users

The nonconsumptive user detail sample was also selected based on information reported during the screening phase. Every person 16 years of age and older was assigned to a category based on time devoted to nonconsumptive activities in the past or time expected to be devoted to nonconsumptive activities in the future. The two categories are:

Active – a person who participated in a nonconsumptive activity in 1990, already had participated in 1991 or intended to participate in 1991.

Nonparticipant – a person who did not participate in a nonconsumptive activity in 1990, and did not intend to participate in 1991.

The active group was eligible for interview in the nonconsumptive user detail sample.

The active nonconsumptive user category included two groups, those who participated in 1990 and those who did not participate in 1990 but planned to or already had in 1991. Nonconsumptive users who participated in 1990 were stratified into two strata based on the distance traveled by the individual to participate in the nonconsumptive activity. The two strata are:

Primary Nonresidential – a person who took a trip of 1 mile or more to participate in a nonconsumptive activity.

Primary Residential – a person who participated in a nonconsumptive activity less than 1 mile from home.

The first stratum, primary nonresidential, was further categorized into two substrata based on expenditures on nonconsumptive activities and the number of days of participation in nonconsumptive activities. The two substrata are:

Avid – a person who participated at least 30 days or spent at least $300 on nonconsumptive activities.

Nonavid – a person who participated between 1 and 29 days and spent less than $300 on nonconsumptive activities.

Of the 8,400 avid nonconsumptive users and persons who already had participated in nonresidential activities in 1991 identified from the screening sample 6,500 were selected for interview in the detail sample. The rest of the active group was subsampled to get the desired sample size in each state.

The nonconsumptive user sample was interviewed at the same time as the active sportsmen detail sample.

About 28,000 persons were designated for interviews. During each interview period about 4 percent were not found at home or were unavailable for some other reason. Overall, about 26,700 interviews were completed for a national response rate of about 96.0 percent.

Estimation Procedure

Several stages of adjustments were involved in the estimation procedure used to derive the final 1991 FHWAR person weights. A brief description of the major components of the weights by sample is given below.

All statistics for the population 6 to 15 years of age were derived from the screening interview. Statistics for the population 16 and over come from both the screening and the detailed interviews. Estimates which come from the screening sample are presented in appendix C.

A. Screening Sample

Every interviewed person in the screening sample received a weight that was the product of the following factors:

1. **Base Weight.** The base weight is the inverse of the household's probability of selection.
2. **Household Noninterview Adjustment.** The noninterview adjustment inflates the weight assigned to interviewed households to account for households eligible for interview but for which no interview was obtained.
3. **First-Stage Adjustment.** The 729+ areas designated for our samples were selected from roughly 1,900 such areas of the United States. Some of our sample areas represent only themselves, and are referred to as self-representing. The remaining areas represent other areas similar in selected characteristics, and are thus designated nonself-representing. The first-stage factor reduces the component of variation arising out of sampling the nonself- representing areas.
4. **Second-Stage Adjustment.** This adjustment brings the estimates of the total population in each state into agreement with census-based estimates of the civilian noninstitutional and nonbarrack military populations for each state.

B. Sportsmen Sample

Every interviewed person in the sportsmen detail sample received a weight that was the product of the following factors:

1. **Screening Weight.** This is the person's final weight from the screening sample.
2. **Stratum Adjustment.** This factor inflates the weights of persons selected for the detail sample to account for the subsampling done within each sportsmen stratum.
3. **Sportsmen Noninterview Adjustment.** This factor

adjusts the weights of the interviewed sportsmen to account for sportsmen selected for the detail sample for which no interview was obtained. A person was considered a noninterview if he/she was not interviewed in the third wave of interviewing.

4. **Sportsmen Ratio Adjustment Factor.** This is a ratio adjustment of the detail sample to the screening sample within sportsmen sampling strata. This adjustment brings the population estimates of persons age 16 or older from the detail sample into agreement with the same estimates from the screening sample, which was a much larger sample.

5. **Long-Time Inactive Adjustment.** This is an adjustment designed to reduce the bias caused by not sampling unlikely participants.

   The survey sample was drawn from categories of potential participants in wildlife-related recreation activities identified by a screening of households in January 1991. Persons with a low probability of participating - i.e., persons who said they had not gone hunting or fishing in the last 5 years and who had no intention of going in 1991 - were omitted from the detailed interviews for efficiency. There is no standard statistical method of adjusting for the persons in that group who participated in 1991. An adjustment for their participation was made based on data collected from the detailed and screening interviews.

   Persons who said in the screener that they had not hunted in the previous five years and did not intend to hunt in 1991 were not eligible for selection for the detail sample as hunters. Some of these people were selected because of their fishing activity or plans. We adjusted the weights of the hunters in the sample for these people by assuming same participation rates for the people who did hunt and who were selected into the sample because of their fishing activity and those that were not selected into the sample.

   We made a similar adjustment for persons who fished in 1991 but in the screener said they had not fished in the previous 5 years and did not intend to fish in 1991.

C. Nonconsumptive User Sample

Every interviewed person in the nonconsumptive user detail sample received a weight that was the product of the following factors:

1. **Screening Weight.** This is the person's final weight from the screening sample.

2. **Nonconsumptive User Stratum Adjustment.** This factor inflates the weights of the persons selected for the detail sample to account for the subsampling done within each nonconsumptive user stratum.

3. **Nonconsumptive User Noninterview Adjustment.** This factor adjusts the weights of the interviewed nonconsumptive users to account for nonconsumptive users selected for the detail sample for which no interview was obtained. A person was considered a noninterview if he/she was not interviewed in the third wave of interviewing.

4. **Nonconsumptive User Ratio Adjustment Factor.** This is a ratio adjustment of the detail sample to the screening sample within nonconsumptive user sampling strata. This adjustment brings the population estimates of persons age 16 or older from the detail sample into agreement with the same estimates from the screening sample, which was a much larger sample.

An adjustment for long time inactive nonconsumptive users similar to the sportsmen long time inactive adjustment was not made because there were no inactives included in the nonconsumptive users sample upon which an adjustment could be based.

Accuracy of the Estimates

Since the 1991 estimates come from a sample, they may differ from figures from a complete census using the same questionnaires, instructions, and enumerators. A sample survey estimate has two possible types of error: sampling and nonsampling. The accuracy of an estimate depends on both types of error, but the full extent of the nonsampling error is unknown. Consequently, one should be particularly careful when interpreting results based on a relatively small number of cases or on small differences between estimates. The standard errors for the 1991 FHWAR estimates primarily indicate the magnitude of sampling error. They also partially measure the effect of some nonsampling errors in responses and enumeration, but do not measure systematic biases in the data. (Bias is the average over all possible samples of the

differences between the sample estimates and the actual value).

Nonsampling Variability

Let us suppose that a comparable complete enumeration was conducted, that is, an interview is attempted for every person 16 years old and over in the United States. Chances are we will not correctly estimate every parameter (for example, the proportion of people who fished) under consideration. In this instance the difference is due solely to nonsampling errors. Nonsampling errors also occur in sample surveys and can be attributed to several sources including the following:

- The inability to obtain information about all cases in the sample.
- Definitional difficulties.
- Differences in the interpretation of questions.
- Respondents' inability or unwillingness to provide correct information.
- Respondents' inability to recall information.
- Errors made in data collection such as in recording or coding the data.
- Errors made in processing the data.
- Errors made in estimating values for missing data.
- Failure to represent all units with the sample (undercoverage).

There were three particular undercoverage problems in this survey: sample attrition, i.e., loss of the original sample due to nonreturns from the field, processing, etc.; failure to represent new construction in the sampling frame for the period roughly between November 1986 and March 1990; and failure to give all potential participants a chance of selection for the detail sample.

Sportsmen and nonconsumptive users in 1991 who were either participating for the first time or were participating after a period of inactivity are somewhat underrepresented in the 1991 survey estimates. Unless at the time of the screening interview they had intentions of participating during 1991, they were not given a chance of selection for the detail sample. We tried to partially adjust for the missed long-time inactive participants with the long-time inactive sportsmen weighting adjustment.

Overall CPS undercoverage as compared to the level of the 1980 decennial census is about 7 percent. Generally, undercoverage is larger for males than for females and larger for Blacks and other races combined than for Whites. Ratio estimation to independent population controls, as described previously, partially corrects for the bias due to survey undercoverage. However, biases exist in the estimates to the extent that missed persons in missed households or missed persons in interviewed households have different characteristics from those of interviewed persons in the same age group. Further, the independent population controls used have not been adjusted for undercoverage in the 1980 census.

Comparability of Data. Data obtained from the 1991 FHWAR and other sources are not entirely comparable. This results from differences in field interviewer training and experience and in differing survey processes. This is an example of nonsampling variability not reflected in the standard errors. Use caution when comparing results from different sources. (See appendix B.)

Note When Using Small Estimates. Because of the large standard errors involved, summary measures (such as medians and percentage distributions) would probably not reveal useful information when computed on a smaller base than 65,000 for sportsmen and 105,000 for nonconsumptive users. Take care in the interpretation of small differences. For instance, even a small amount of nonsampling error can cause a borderline difference to appear significant or not, thus distorting a seemingly valid hypothesis test.

Sampling Variability

The particular sample used for the 1991 Survey is one of a large number of all possible probability samples of the same size that could have been selected using the same sample design. Estimates derived from the different samples would differ from each other. This sample-to-sample variability is referred to as sampling variability and is generally measured by the standard error. The exact sampling error is unknown. However, guides to the potential size of the sampling error are provided by the standard error of the estimate.

Since the standard error of a survey estimate attempts to provide a measure of the variation among the estimates from the possible samples, it is a measure of the precision with which an estimate from a particular sample approximates the average result of all possible samples. Standard errors, as calculated by methods described next in "*Standard Errors and Their Use,*" are primarily measures of sampling variability, although they may include some nonsampling error.

The sample estimate and its standard error enable one to construct a confidence interval, a range that would include the average result of all possible samples with a known probability. For example, if all possible samples were surveyed under essentially the same general conditions and using the same sample design, and if an estimate and its standard error were calculated from each sample, then approximately 90 percent of the intervals from 1.645 standard errors below the estimate to 1.645 standard errors above the estimate would include the average result of all possible samples.

A particular confidence interval may or may not contain the average estimate derived from all possible samples. However, one can say with specified confidence that the interval includes the average estimate calculated from all possible samples.

Standard errors may also be used to perform hypothesis testing, a procedure for distinguishing between population parameters using sample estimates. One common type of hypothesis is that the population parameters are different. An example of this would be comparing the proportion of anglers to the proportion of hunters.

Tests may be performed at various levels of significance, where a significance level is the probability of concluding that the characteristics are different when, in fact, they are the same. To conclude that two parameters are different at the 0.10 level of significance, for example, the absolute value of the estimated difference between characteristics must be greater than or equal to 1.645 times the standard error of the difference.

The Census Bureau uses 90-percent confidence intervals and 0.10 levels of significance to determine statistical validity. Consult standard statistical textbooks for alternative criteria.

Standard Errors and Their Use. A number of approximations are required to derive, at a moderate cost, standard errors applicable to all the estimates in this report. Instead of providing an individual standard error for each estimate, parameters are provided to calculate standard errors for each type of characteristic. These parameters are listed in tables D-5 – D-10. Methods for using the parameters to calculate standard errors of various estimates are given in the next sections.

Standard Errors of Estimated Numbers. The approximate standard error, s_x, of an estimated number shown in this report can be obtained using the following formulas. Formula (1) is used to calculate the standard errors of levels of sportsmen, anglers, and nonconsumptive users.

$$s_x = \sqrt{ax^2 + bx}$$

Here, x is the size of the estimate and a and b are the parameters in the tables associated with the particular characteristic.

Formula (2) is used for standard errors of aggregates, i.e., trips, days, and expenditures.

$$s_x = \sqrt{ax^2 + bx + \frac{cx^2}{y}}$$

Here, x is again the size of the estimate; y is the base of the estimate; and a, b, and c are the parameters in the tables associated with the particular characteristic.

Illustration of the Computation of the Standard Error of an Estimated Number.

Table 1 in this report shows that 39,979,000 persons 16+ either fished or hunted in the United States in 1991. Using formula (1) with the parameters a = –0.000032 and b = 4,395 from table D-6, the approximate standard error on the estimated number of 39,979,000 sportsmen 16+ is

$$s_x = \sqrt{-0.000032x39{,}979{,}000^2 + 4{,}395x39{,}979{,}000} = 352{,}900$$

The 90-percent confidence interval for the estimated number of sportsmen 16+ is from 39,398,500 to 40,559,500, i.e., 39,979,000 + 1.645X352,900. Therefore, a conclusion that the average estimate derived from all possible samples lies within a range computed in this way would be correct for roughly 90 percent of all possible samples.

Table 1 shows that 14,063,000 hunters 16+ engaged in 235,806,000 days of participation in 1991. Using formula (2) with the parameters a = 0.000069, b = 9,445, and c = 5,567 from table D-8, the approximate standard error on 235,806,000 estimated days on an estimated base of 14,063,000 hunters is

$$s_x = \sqrt{0.000069x235{,}806{,}000^2 + 9{,}445x235{,}806{,}000 + \frac{5{,}567x235{,}806{,}000^2}{14{,}063{,}000}} = 5{,}298{,}600$$

The 90-percent confidence interval on the estimate of 235,806,000 days is from 227,098,800 to 244,522,200, i.e., 235,806,000 + 1.645X5,298,600. Again, a conclusion that the average estimate derived from all possible samples lies within a range computed in this way would be correct for roughly 90 percent of all possible samples.

Standard Errors of Estimated Percentages. The reliability of an estimated percentage, computed using sample data for both numerator and denominator, depends on the size of the percentage and its base. Estimated percentages are relatively more reliable than the corresponding estimates of the numerators of the percentages, particularly if the percentages are 50 percent or more. When the numerator and denominator of the percentage are in different categories, use the parameter in the tables indicated by the numerator.

The approximate standard error of an estimated percentage, $s_{x,p}$, can be obtained by use of the formula

$$s_{x,p} = \sqrt{bp(100-p)/x}$$

Here, x is the total number of sportsmen, hunters, etc., which is the base of the percentage; p is the percentage ($0 \leq p \leq 100$); and b is the parameter in the tables associated with the characteristic in the numerator of the percentage.

Illustration of the Computation of the Standard Error of an Estimated Percentage.

Table 16 in this report shows that of the 14,063,000 hunters 16+, 2.1 percent were Black. From table D-6 the appropriate b parameter is 2,872. Using formula (3), the approximate standard error on the estimate of 2.1 percent is

$$s_{x,p} = \sqrt{2{,}872 \times 2.1 \times 97.9 / 14{,}063{,}000} = 0.20$$

Consequently, the 90-percent confidence interval for the estimated percentage of Black hunters 16+ is from 1.8 percent to 2.4 percent, i.e., 2.1 + 1.645X0.20.

Standard Error of a Difference. The standard error of the difference between two sample estimates is approximately equal to

$$s_{x-y} = \sqrt{s_x^2 + s_y^2}$$

where s_x and s_y are the standard errors of the estimates x and y. The estimates can be numbers, percentages, ratios, etc. This will represent the actual standard error quite accurately for the difference between estimates of the same characteristic in two different areas, or for the difference between separate and uncorrelated characteristics in the same area. However, if there is a high positive (negative) correlation between the two characteristics, the formula will overestimate (underestimate) the true standard error.

Illustration of the Computation of the Standard Error of a Difference.

Table 16 shows that of the 14,063,000 hunters, 3,930,000 were in the age group 25-34, and 3,369,000 were in the age group 35-44. The corresponding percents are 28.0 percent and 24.0 percent, respectively. The apparent difference between the percent of hunters 25-34 and hunters 35-44 is 4.0 percent. Using formula (3) and the appropriate b parameter from table D-6, the approximate standard errors of 28.0 percent and 24.0 percent are 0.64 and 0.61, respectively. Using formula (4), the approximate standard error of the estimated difference of 4.0 percent is

$$s_{x-y} = \sqrt{0.64^2 + 0.61^2} = 0.88$$

The 90-percent confidence interval on the difference between hunters aged 25-34 and hunters aged 35-44 is from 2.6 to 5.4 percent, i.e., 4.0 + 1.645X0.88. Since this interval does not contain zero, we can conclude with 90 percent confidence that the percentage of hunters aged 25-34 is larger than the percentage of hunters aged 35-44.

Standard Errors of Estimated Averages. Certain mean values for sportsmen, anglers, etc., shown in the report were calculated as the ratio of two numbers. For example, average days per angler is calculated as:

$$\frac{x}{y} = \frac{\text{total days}}{\text{total anglers}}$$

Standard errors for these averages may be approximated by the use of formula (5) below.

$$s_{x/y} = \frac{x}{y}\sqrt{\left[\frac{s_x}{x}\right]^2 + \left[\frac{s_y}{y}\right]^2 - 2r\frac{s_x s_y}{xy}}$$

In formula (5), r represents the correlation coefficient between the numerator and the denominator of the estimate. In the above formula, use 0.7 as an estimate of r.

Illustration of the Computation of the Standard Error of an Estimated Average.

Table 8 shows that the average days per hunter 16+ for all hunting was 16.8 days. Using formulas (1) and (2) above, we compute the standard error on total days, 235,806,000, and total hunters, 14,063,000, to be 5,298,600 and 194,000, respectively. The approximate standard error on the estimated average of 16.8 days is

$$s_{x/y} = \frac{235{,}806{,}000}{14{,}063{,}000}\sqrt{\left[\frac{5{,}298{,}600}{235{,}806{,}000}\right]^2 + \left[\frac{194{,}000}{14{,}063{,}000}\right]^2 - 2x0.7x\frac{5{,}298{,}600x194{,}000}{235{,}806{,}000x14{,}063{,}000}} = 0.27$$

Therefore, the 90-percent confidence interval on the estimated average of 16.8 days is from 16.4 to 17.2, i.e., 16.8 + 1.645X0.27.

Table D-1. **Approximate Standard Errors and 95-Percent Confidence Intervals for Selected Fishing Estimates: 1991**

Anglers, days, and expenditures	Estimate	Standard error	Lower 95 percent	Upper 95 percent
Anglers (thousands)				
Total	35,578	340	34,911	36,246
Freshwater	31,041	325	30,404	31,679
Freshwater, except Great Lakes	30,186	322	29,555	30,817
Great Lakes	2,552	105	2,346	2,758
Saltwater	8,885	191	8,510	9,260
Days of fishing (thousands)				
Total	511,329	8,910	493,866	528,792
Freshwater	439,536	8,433	423,008	456,064
Freshwater, except Great Lakes	430,922	8,435	414,390	447,454
Great Lakes	25,335	1,921	21,569	29,101
Saltwater	74,696	2,884	69,044	80,348
Average days per angler				
Total	14.4	0.18	14.0	14.7
Freshwater	14.2	0.20	13.8	14.5
Freshwater, except Great Lakes	14.3	0.20	13.9	14.7
Great Lakes	9.9	0.55	8.8	11.0
Saltwater	8.4	0.24	7.9	8.9
Fishing expenditures (thousands)				
Total	$23,990,125	$841,502	$22,340,782	$25,639,468
Freshwater	$15,148,591	$547,155	$14,076,167	$16,221,015
Freshwater, except Great Lakes	$13,811,713	$501,667	$12,828,445	$14,794,981
Great Lakes	$1,336,879	$113,063	$1,115,275	$1,558,483
Saltwater	$4,991,952	$257,366	$4,487,514	$5,496,390
Average expenditure per angler				
Total	$674	$20	$636	$713
Freshwater	$488	$15	$460	$516
Freshwater, except Great Lakes	$458	$14	$431	$484
Great Lakes	$524	$33	$459	$589
Saltwater	$562	$22	$518	$605

Table D-2. **Approximate Standard Errors and 95-Percent Confidence Intervals for Selected Hunting Estimates: 1991**

Hunters, days, and expenditures	Estimate	Standard error	Lower 95 percent	Upper 95 percent
Hunters (thousands)				
Total	14,063	194	13,683	14,444
Big Game	10,745	171	10,410	11,081
Small Game	7,642	145	7,357	7,927
Migratory Bird	3,009	92	2,828	3,190
Other animals	1,411	63	1,287	1,535
Days of hunting (thousands)				
Total	235,806	5,299	225,421	246,191
Big Game	128,411	3,301	121,942	134,880
Small Game	77,132	2,339	72,547	81,717
Migratory Bird	22,235	1,076	20,125	24,345
Other animals	19,340	1,298	16,796	21,884
Average days per hunter				
Total	16.8	0.27	16.2	17.3
Big Game	12.0	0.22	11.5	12.4
Small Game	10.1	0.22	9.7	10.5
Migratory Bird	7.4	0.26	6.9	7.9
Other animals	13.7	0.66	12.4	15.0
Expenditures (thousands)				
Total	$12,336,435	$381,945	$11,587,822	$13,085,048
Big Game	$5,090,443	$186,564	$4,724,778	$5,456,108
Small Game	$1,549,816	$70,042	$1,412,533	$1,687,099
Migratory Bird	$686,025	$49,958	$588,107	$783,943
Other animals	$254,681	$29,508	$196,846	$312,516
Average expenditures per hunter				
Total	$877	$21	$837	$918
Big Game	$474	$13	$448	$500
Small Game	$203	$7	$189	$217
Migratory Bird	$228	$13	$203	$253
Other animals	$180	$16	$149	$212

Table D-3. **Approximate Standard Errors and 95-Percent Confidence Intervals for Selected Fishing and Hunting Expenditure Estimates: 1991**

(Numbers in thousands)

Expenditures	Estimate	Standard error	Lower 95 percent	Upper 95 percent
Fishing and hunting expenditures				
Total	$40,923,429	$1,403,026	$38,173,497	$43,673,361
Trip-related	$15,288,354	$527,743	$14,253,979	$16,322,729
Food and Lodging	$6,777,500	$239,692	$6,307,704	$7,247,296
Transportation	$4,138,593	$145,388	$3,853,632	$4,423,554
Other trip costs	$4,372,262	$158,364	$4,061,868	$4,682,656
Equipment	$18,935,652	$684,814	$17,593,416	$20,277,888
Fishing/hunting	$7,634,336	$279,193	$7,087,119	$8,181,553
Auxiliary	$1,806,862	$84,859	$1,640,539	$1,973,185
Special	$9,494,454	$699,479	$8,123,475	$10,865,433
Other	$6,699,422	$243,419	$6,222,320	$7,176,524
Magazine subscriptions	$255,892	$13,523	$229,387	$282,397
Membership dues and contributions	$402,610	$25,110	$353,394	$451,826
Land leasing and ownership	$5,142,431	$492,758	$4,176,626	$6,108,236
Licenses, stamps, tags and permits	$898,489	$33,659	$832,517	$964,461
Fishing expenditures				
Total	$23,990,125	$841,502	$22,340,782	$25,639,468
Trip-related	$11,847,750	$418,008	$11,028,454	$12,667,046
Food and Lodging	$4,953,383	$179,708	$4,601,155	$5,305,611
Transportation	$2,799,922	$101,083	$2,601,799	$2,998,045
Other trip costs	$4,094,445	$148,815	$3,802,768	$4,386,122
Equipment	$9,365,188	$354,899	$8,669,585	$10,060,791
Fishing	$3,740,104	$143,213	$3,459,407	$4,020,801
Auxiliary	$619,433	$38,115	$544,728	$694,138
Special	$5,005,651	$443,650	$4,136,096	$5,875,206
Other	$2,777,186	$106,231	$2,568,973	$2,985,399
Magazines subscriptions	$88,468	$6,661	$75,413	$101,523
Membership dues and contributions	$73,399	$7,772	$58,166	$88,632
Land leasing and ownership	$2,128,619	$339,553	$1,463,096	$2,794,142
Licenses, stamps, tags and permits	$486,700	$19,241	$448,987	$524,413
Hunting expenditures				
Total	$12,336,435	$381,945	$11,587,822	$13,085,048
Trip-related	$3,440,604	$112,361	$3,220,376	$3,660,832
Food and Lodging	$1,824,117	$65,367	$1,695,998	$1,952,236
Transportation	$1,338,671	$44,968	$1,250,534	$1,426,808
Other trip costs	$277,817	$30,207	$218,611	$337,023
Equipment	$5,168,524	$182,751	$4,810,331	$5,526,717
Hunting	$3,283,413	$118,891	$3,050,387	$3,516,439
Auxiliary	$635,334	$38,671	$559,539	$711,129
Special	$1,249,777	$230,182	$798,621	$1,700,933
Other	$3,727,307	$125,657	$3,481,019	$3,973,595
Magazines subscriptions	$41,892	$4,360	$33,347	$50,437
Membership dues and contributions	$138,856	$14,267	$110,893	$166,819
Land leasing and ownership	$3,013,812	$516,512	$2,001,448	$4,026,176
Licenses, stamps, tags and permits	$532,747	$18,470	$496,545	$568,949

Table D-4. **Approximate Standard Errors and 95-Percent Confidence Intervals for Selected Nonconsumptive Estimates: 1991**

Participants and expenditures	Estimate	Standard error	Lower 95 percent	Upper 95 percent
Nonconsumptive Participants (thousands)				
Total primary participants	76,111	480	75,171	77,051
Primary nonresidential	29,999	475	29,068	30,930
Observe wildlife	28,812	469	27,893	29,731
Photograph wildlife	14,225	358	13,523	14,927
Feed wildlife	13,306	348	12,624	13,988
Primary residential	73,904	488	72,948	74,860
Observe wildlife	54,653	518	53,637	55,669
Photograph wildlife	16,990	374	16,257	17,723
Feed wildlife	65,423	509	64,425	66,421
Maintain natural areas	9,547	291	8,976	10,118
Maintain plantings	7,647	263	7,131	8,163
Visit public parks	15,525	360	14,819	16,231
Days of participation in primary nonresidential activities (thousands)				
Total	342,406	17,360	308,380	376,432
Observe wildlife	296,456	15,162	266,739	326,173
Photograph wildlife	81,600	5,133	71,539	91,661
Feed wildlife	102,104	6,744	88,886	115,322
Average days of participation in primary nonresidential activities				
Total	11.4	0.47	10.5	12.3
Observe wildlife	10.3	0.43	9.5	11.1
Photograph wildlife	5.7	0.28	5.2	6.3
Feed wildlife	7.7	0.39	6.9	8.4
Expenditures (thousands)				
Total	$18,103,887	$807,033	$16,522,101	$19,685,673
Trip-related	$7,482,073	$396,063	$6,705,790	$8,258,356
Food and lodging	$4,424,825	$245,389	$3,943,862	$4,905,788
Transportation	$2,609,341	$138,142	$2,338,584	$2,880,098
Other trip costs	$447,907	$34,491	$380,305	$515,509
Equipment	$9,559,774	$436,641	$8,703,957	$10,415,591
Nonconsumptive	$5,703,557	$259,713	$5,194,519	$6,212,595
Auxiliary	$349,986	$45,193	$261,408	$438,564
Special	$3,506,231	$684,200	$2,165,199	$4,847,263
Magazines	$320,900	$20,468	$280,783	$361,017
Membership dues and contributions	$741,140	$51,613	$639,979	$842,301

Table D-5. **a and b Parameters for Calculating Approximate Standard Errors of Sportsmen, Anglers, Hunters, and Nonconsumptive Users**[1]

State	6 years old and over		6-15 year olds only	
	a	b	a	b
United States	−0.0000118	2,669	−0.0000673	2,391
Alabama	−0.0006116	2,282	−0.0031691	1,968
Alaska	−0.0013864	629	−0.0045765	389
Arizona	−0.0006194	2,013	−0.0025525	1,386
Arkansas	−0.0007403	1,611	−0.0036775	1,357
California	−0.0001953	5,202	−0.0011774	5,032
Colorado	−0.0005021	1,501	−0.0030379	1,443
Connecticut	−0.0003050	887	−0.0022934	938
Delaware	−0.0004916	306	−0.0030632	291
Florida	−0.0002670	3,180	−0.0017448	2,776
Georgia	−0.0004358	2,551	−0.0022912	2,321
Hawaii	−0.0004746	474	−0.0024268	381
Idaho	−0.0008082	749	−0.0032099	581
Illinois	−0.0002717	2,858	−0.0013644	2,209
Indiana	−0.0003748	1,908	−0.0020777	1,712
Iowa	−0.0005406	1,392	−0.0029781	1,224
Kansas	−0.0004502	1,017	−0.0027162	1,024
Kentucky	−0.0004634	1,562	−0.0027266	1,486
Louisiana	−0.0005713	2,208	−0.0024716	1,740
Maine	−0.0007030	790	−0.0037719	645
Maryland	−0.0004325	1,855	−0.0026079	1,643
Massachusetts	−0.0002129	1,138	−0.0015340	1,083
Michigan	−0.0003476	2,909	−0.0019313	2,615
Minnesota	−0.0005451	2,154	−0.0028866	1,859
Mississippi	−0.0007184	1,686	−0.0035566	1,540
Missouri	−0.0004485	2,092	−0.0021324	1,546
Montana	−0.0008103	588	−0.0036880	461
Nebraska	−0.0007032	1,021	−0.0037975	919
Nevada	−0.0005222	562	−0.0027778	450
New Hampshire	−0.0004595	468	−0.0028000	434
New Jersey	−0.0002130	1,488	−0.0014061	1,378
New Mexico	−0.0007202	996	−0.0026031	669
New York	−0.0002120	3,423	−0.0012354	2,892
North Carolina	−0.0003168	1,903	−0.0018173	1,641
North Dakota	−0.0006465	374	−0.0030495	308
Ohio	−0.0002246	2,220	−0.0013278	2,094
Oklahoma	−0.0006190	1,788	−0.0029140	1,390
Oregon	−0.0004238	1,114	−0.0026995	1,096
Pennsylvania	−0.0003050	3,348	−0.0020045	3,151
Rhode Island	−0.0003436	310	−0.0021600	270
South Carolina	−0.0004618	1,469	−0.0025578	1,371
South Dakota	−0.0007407	471	−0.0039279	436
Tennessee	−0.0004086	1,849	−0.0022994	1,628
Texas	−0.0002984	4,553	−0.0016448	4,454
Utah	−0.0006587	998	−0.0027660	1,040
Vermont	−0.0006589	346	−0.0039241	310
Virginia	−0.0004226	2,335	−0.0021343	1,716
Washington	−0.0004833	2,133	−0.0033565	2,363
West Virginia	−0.0007768	1,307	−0.0040573	1,063
Wisconsin	−0.0005539	2,445	−0.0033165	2,368
Wyoming	−0.0011709	494	−0.0057532	443

[1]These parameters are to be used only to calculate estimates of standard errors for characteristics developed from the screening sample.

Table D-6. **a and b Parameters for Calculating Approximate Standard Errors of Levels for the Detail Sportsmen Sample**

State	Sportsmen and anglers 16+		Hunters 16+	
	a	b	a	b
United States	−0.000032	4,395	−0.000014	2,872
Alabama	−0.001284	3,350	−0.000452	2,028
Alaska	−0.001049	534	−0.000533	389
Arizona	−0.001024	2,542	−0.000653	2,057
Arkansas	−0.000984	1,874	−0.000688	1,555
California	−0.000726	9,809	−0.000284	5,976
Colorado	−0.000802	1,936	−0.000729	1,830
Connecticut	−0.001130	1,585	−0.000381	951
Delaware	−0.001214	459	−0.000350	276
Florida	−0.000757	5,471	−0.000570	4,598
Georgia	−0.000638	3,018	−0.000469	2,627
Hawaii	−0.001467	824	−0.000381	441
Idaho	−0.000969	835	−0.001275	998
Illinois	−0.000965	5,509	−0.000668	4,374
Indiana	−0.000983	3,220	−0.000534	2,252
Iowa	−0.000905	1,826	−0.000729	1,616
Kansas	−0.000644	1,217	−0.000592	1,163
Kentucky	−0.000899	2,232	−0.000514	1,640
Louisiana	−0.001103	3,073	−0.000360	1,864
Maine	−0.000958	916	−0.000833	854
Maryland	−0.001090	2,776	−0.000521	1,979
Massachusetts	−0.000910	2,189	−0.000462	1,513
Michigan	−0.000525	3,538	−0.000218	2,451
Minnesota	−0.000661	2,415	−0.000415	1,860
Mississippi	−0.001820	2,905	−0.000585	1,538
Missouri	−0.000949	3,179	−0.000611	2,445
Montana	−0.001371	819	−0.001189	744
Nebraska	−0.001090	1,273	−0.000671	1,000
Nevada	−0.001357	958	−0.001135	853
New Hampshire	−0.001420	861	−0.000653	547
New Jersey	−0.000873	2,822	−0.000369	1,804
New Mexico	−0.001087	1,210	−0.001122	1,230
New York	−0.000931	6,658	−0.000354	4,061
North Carolina	−0.000888	3,274	−0.000502	2,347
North Dakota	−0.000911	455	−0.000562	348
Ohio	−0.000837	4,486	−0.000490	3,202
Oklahoma	−0.000696	1,898	−0.001058	2,412
Oregon	−0.000966	1,836	−0.000681	1,456
Pennsylvania	−0.001028	5,797	−0.000520	4,077
Rhode Island	−0.001104	517	−0.000219	276
South Carolina	−0.001248	2,463	−0.000621	1,670
South Dakota	−0.001170	607	−0.000779	483
Tennessee	−0.000861	2,723	−0.000331	1,700
Texas	−0.000808	7,823	−0.000442	5,473
Utah	−0.000631	979	−0.000986	1,226
Vermont	−0.001037	444	−0.000786	379
Virginia	−0.000685	2,917	−0.000469	2,439
Washington	−0.000981	3,234	−0.001141	3,590
West Virginia	−0.000793	1,318	−0.001212	1,596
Wisconsin	−0.001093	3,578	−0.000559	2,455
Wyoming	−0.001606	603	−0.001019	456

Table D-7. **a, b, and c Parameters for Calculating Approximate Standard Errors for Expenditures for the Detail Sportsmen Sample**

State	Sportsmen and anglers 16+			Hunters 16+		
	a	b	c	a	b	c
United States	0.000745	34,470	16,835	−0.000274	17,643	16,954
Alabama	0.028530	−38,534	6,557	0.030372	−54,158	4,026
Alaska	0.018611	−1,076	384	0.004880	7,829	623
Arizona	0.013489	−3,777	4,390	0.042530	−68,524	3,446
Arkansas	0.009865	−1,423	3,087	0.004490	−89,190	6,649
California	0.027217	273,355	7,227	0.031160	−168,238	12,140
Colorado	0.007850	−4,466	3,093	0.009625	−47,715	4,096
Connecticut	0.021108	−7,442	2,286	0.020330	−12,693	1,932
Delaware	0.017594	−3,713	889	0.029927	−3,775	425
Florida	0.023619	30,561	7,698	0.046200	−176,405	8,906
Georgia	0.017015	6,534	5,515	0.022700	−130,448	11,910
Hawaii	0.022298	−846	1,288	0.077950	−5,020	467
Idaho	0.007513	−3,331	1,367	0.009691	−6,013	1,457
Illinois	0.005565	−9,417	11,598	0.018169	−87,947	6,690
Indiana	0.008574	−43,203	8,233	0.024170	−124,142	5,444
Iowa	0.002365	−15,013	3,719	0.034476	−42,093	2,366
Kansas	0.013822	−7,587	1,872	0.039090	−54,605	2,611
Kentucky	0.023614	11,585	3,464	0.020540	−27,324	3,376
Louisiana	0.030260	−28,497	5,042	0.025550	−115,743	7,292
Maine	0.012997	−9,830	1,612	0.010974	−8,335	1,284
Maryland	0.023826	−686	3,308	0.011030	−20,197	4,064
Massachusetts	0.013047	−31,394	5,442	0.013405	13,784	2,105
Michigan	0.014449	−96,888	11,103	0.004782	−37,776	8,038
Minnesota	0.010570	−23,060	5,043	0.001701	−13,909	4,092
Mississippi	0.002090	−74,387	10,961	0.011080	−102,074	6,251
Missouri	0.009317	−24,336	5,227	0.013525	−67,063	4,390
Montana	0.007344	−1,738	1,323	0.005268	114	1,279
Nebraska	0.009074	−5,195	2,139	0.018807	−18,565	1,790
Nevada	0.014154	−15,238	2,314	0.013870	−6,060	1,161
New Hampshire	0.001028	−17,581	2,364	0.018435	−9,120	948
New Jersey	0.007586	−36,453	6,828	0.018993	7,371	2,363
New Mexico	0.018114	−1,548	1,491	0.031320	−10,448	1,732
New York	0.001665	−34,650	16,464	0.002663	112,661	6,318
North Carolina	0.011615	−24,756	6,173	0.018443	−47,032	5,470
North Dakota	0.008821	−2,124	666	0.009315	−6,902	569
Ohio	0.004213	−35,115	8,926	0.012912	−62,926	7,384
Oklahoma	0.009985	−14,260	3,595	0.043804	−834	1,963
Oregon	0.005453	−11,903	4,228	0.007854	−1,130	2,479
Pennsylvania	0.000416	−83,888	20,828	0.015999	7,428	7,478
Rhode Island	0.020288	−5,285	689	0.054010	−3,549	392
South Carolina	0.010860	−28,489	4,734	0.014430	−45,449	3,850
South Dakota	0.015625	−1,308	673	0.010036	−12,819	972
Tennessee	0.012744	−18,120	4,952	0.006234	−59,874	4,533
Texas	0.013120	−32,602	9,846	0.004451	17,951	10,125
Utah	0.016880	−6,103	1,982	0.009898	−14,696	1,820
Vermont	0.001944	−15,681	1,579	0.053670	−11,001	718
Virginia	0.013836	6,730	4,561	0.023587	−26,835	3,063
Washington	0.005950	−19,151	5,965	0.053290	−94,821	3,905
West Virginia	−0.000448	−5,976	2,586	0.008732	−9,638	1,901
Wisconsin	0.009191	−19,263	5,304	0.006010	−93,592	9,429
Wyoming	0.017028	−1,035	1,010	0.018940	−9,791	1,193

Table D-8. **a, b, and c Parameters for Calculating Approximate Standard Errors for Days or Trips for the Detail Sportsmen Sample**

State	Sportsmen and anglers 16+			Hunters 16+		
	a	b	c	a	b	c
United States	−0.000144	−28,529	17,917	0.000069	9,445	5,567
Alabama	−0.002322	−8,057	10,284	0.013585	−3,849	3,113
Alaska	0.017254	−433	344	0.007475	−775	572
Arizona	0.014448	121	2,357	0.017234	−8,222	3,986
Arkansas	0.013145	−1,560	2,761	−0.000013	468	3,079
California	0.019127	8,300	4,057	0.015920	−5,272	11,342
Colorado	0.004447	−7,501	5,350	0.027855	−2,709	2,302
Connecticut	0.006748	−1,650	2,102	0.045472	660	1,069
Delaware	0.014386	−1,429	879	0.022828	−451	376
Florida	0.004190	−7,941	9,726	0.060620	−2,325	4,311
Georgia	−0.004071	−9,819	11,283	0.018543	5,055	2,474
Hawaii	0.030213	−1,267	1,390	0.107950	−226	383
Idaho	0.001369	−1,642	2,166	0.011626	−331	1,456
Illinois	0.004376	−10,396	13,001	0.008279	−563	5,853
Indiana	−0.005679	−17,955	10,407	0.011527	−9,519	3,795
Iowa	0.002951	−2,071	4,109	0.007895	−6,046	3,143
Kansas	0.007352	−604	1,497	−0.002003	−8,016	3,489
Kentucky	−0.003142	−2,893	4,370	0.007808	−3,893	3,484
Louisiana	0.013202	−16,559	6,777	0.012199	2,044	2,135
Maine	−0.011035	−3,485	4,005	0.007157	−2,867	1,806
Maryland	0.045450	−1,164	1,915	0.035718	−1,442	2,437
Massachusetts	0.004395	−3,357	4,018	0.006853	−2,991	2,303
Michigan	−0.001452	−16,536	14,076	0.004264	−10,292	5,610
Minnesota	0.008364	−7,130	5,743	0.005830	−9,272	4,802
Mississippi	−0.017627	−10,434	11,811	−0.001552	−2,439	2,916
Missouri	0.012202	−4,169	5,187	0.006883	2,284	2,840
Montana	0.004255	−1,379	1,718	0.002052	−1,580	1,417
Nebraska	0.002607	−2,690	3,064	0.005199	−1,921	1,554
Nevada	0.003045	−1,649	1,798	0.115390	−242	411
New Hampshire	0.000214	−1,570	1,633	0.009654	640	627
New Jersey	0.010017	−4,620	5,660	0.008681	11,245	1,642
New Mexico	0.017088	−1,424	1,838	0.047235	127	827
New York	0.005934	43,758	8,137	0.000654	−10,622	7,656
North Carolina	0.002948	−6,843	6,520	0.001450	−2,510	3,978
North Dakota	0.014352	−279	583	0.004591	−486	621
Ohio	0.002097	−14,149	9,795	0.005342	−10,571	6,469
Oklahoma	−0.000714	−5,313	6,427	0.037022	−8,855	4,250
Oregon	0.028740	−2,964	3,304	0.006202	−4,366	2,940
Pennsylvania	0.017015	38,935	1,385	0.000078	−4,935	7,128
Rhode Island	0.030402	−466	557	0.049018	−158	295
South Carolina	0.006928	28,696	1,559	0.002727	−2,574	2,846
South Dakota	0.005192	−725	1,179	0.003239	−2,324	1,152
Tennessee	0.007245	1,883	2,263	0.001422	−5,173	3,626
Texas	0.001997	−17,658	19,396	0.022648	−4,099	6,813
Utah	0.003485	370	1,570	0.017024	−1,801	1,444
Vermont	0.002760	−57	890	0.000718	−2,381	887
Virginia	0.001179	−18,439	10,318	0.037767	−3,002	3,410
Washington	0.000425	−7,499	9,611	0.102630	−12,596	5,122
West Virginia	−0.010583	−5,227	4,180	0.021073	−4,218	2,077
Wisconsin	0.013691	−9,186	7,120	0.006278	−12,752	5,707
Wyoming	−0.004748	−1,159	1,555	−0.002873	−917	949

Table D-9. **a and b Parameters for Calculating Approximate Standard Errors of Levels of Nonconsumptive Users for the Detail Nonconsumptive User Sample**

State	Primary nonresidential users		All nonconsumptive users[1]	
	a	b	a	b
United States	−0.000094	10,345	−0.000088	9,722
Alabama	−0.000691	2,398	−0.001069	2,946
Alaska	−0.002091	817	−0.002814	1,010
Arizona	−0.002184	4,125	−0.002653	4,757
Arkansas	−0.001418	2,248	−0.002136	2,922
California	−0.002838	28,828	−0.002973	30,038
Colorado	−0.001952	3,708	−0.002368	4,342
Connecticut	−0.001824	2,789	−0.002321	3,411
Delaware	−0.001447	549	−0.001863	655
Florida	−0.002349	13,284	−0.002524	14,134
Georgia	−0.001212	4,275	−0.001975	5,970
Hawaii	−0.000971	633	−0.001289	735
Idaho	−0.001659	1,156	−0.002100	1,367
Illinois	−0.001728	8,929	−0.002028	10,182
Indiana	−0.001708	5,021	−0.001959	5,607
Iowa	−0.001686	2,878	−0.002792	4,312
Kansas	−0.001952	2,592	−0.002742	3,420
Kentucky	−0.001451	3,024	−0.001980	3,807
Louisiana	−0.001014	2,775	−0.001824	3,813
Maine	−0.001892	1,517	−0.002362	1,804
Maryland	−0.001963	4,595	−0.001950	4,572
Massachusetts	−0.001912	5,006	−0.002247	5,768
Michigan	−0.002008	9,330	−0.002276	10,367
Minnesota	−0.002043	5,423	−0.002594	6,625
Mississippi	−0.001392	2,284	−0.001461	2,346
Missouri	−0.001834	5,297	−0.002590	7,047
Montana	−0.002077	1,092	−0.002716	1,346
Nebraska	−0.001555	1,654	−0.002729	2,527
Nevada	−0.001814	1,178	−0.002228	1,375
New Hampshire	−0.001682	1,109	−0.002220	1,391
New Jersey	−0.001732	5,466	−0.002117	6,472
New Mexico	−0.001757	1,581	−0.002017	1,727
New York	−0.001824	12,284	−0.002377	15,325
North Carolina	−0.001231	4,225	−0.001367	4,572
North Dakota	−0.001537	605	−0.002130	759
Ohio	−0.001857	9,338	−0.002332	11,413
Oklahoma	−0.002464	4,517	−0.002751	4,942
Oregon	−0.001941	3,217	−0.002337	3,766
Pennsylvania	−0.001747	10,161	−0.002241	12,498
Rhode Island	−0.001822	930	−0.002427	1,184
South Carolina	−0.001428	2,505	−0.002508	3,662
South Dakota	−0.001219	612	−0.001646	738
Tennessee	−0.002210	5,527	−0.002570	6,262
Texas	−0.001836	12,634	−0.002091	13,972
Utah	−0.001964	1,871	−0.003083	2,619
Vermont	−0.001677	665	−0.001786	699
Virginia	−0.002110	6,539	−0.003464	9,915
Washington	−0.002340	6,783	−0.002322	6,739
West Virginia	−0.001790	1,985	−0.001623	1,873
Wisconsin	−0.001793	5,306	−0.002414	6,742
Wyoming	−0.002136	717	−0.002535	809

[1]Use these parameters for: total nonconsumptive users and primary residential users.

Table D-10. **a, b, and c Parameters for Calculating Approximate Standard Errors for Expenditures and Days or Trips for Nonconsumptive Users**

State	Expenditures			Days or trips		
	a	b	c	a	b	c
United States	0.001215	−282,226	45,885	0.000987	−60,563	52,811
Alabama	0.024139	−9,379	4,098	0.018332	−1,449	3,778
Alaska	0.026812	−8,153	1,170	0.014523	−805	1,206
Arizona	0.023064	−20,364	5,437	0.013842	−6,283	8,922
Arkansas	0.030419	−27,113	3,108	0.021343	−3,154	3,606
California	0.062820	−40,744	20,464	0.083140	−37,154	43,490
Colorado	0.070850	−18,657	5,204	0.056430	−6,763	7,756
Connecticut	0.019390	−11,363	4,382	0.016898	−6,496	6,367
Delaware	0.023965	−4,782	935	0.009040	−629	1,084
Florida	0.020540	−30	29,437	0.001485	−25,490	24,770
Georgia	0.013762	−16,567	9,698	0.058840	−3,549	6,485
Hawaii	0.045890	−2,820	878	0.022950	−735	1,391
Idaho	0.014826	−4,670	1,827	0.009063	−3,202	3,010
Illinois	0.031830	−69,745	17,258	0.003981	−13,077	17,614
Indiana	0.015877	15,202	9,997	0.002404	−6,885	10,423
Iowa	0.016991	−22,437	4,615	0.018967	−2,973	5,811
Kansas	0.025093	−9,399	3,851	0.002322	−3,201	4,962
Kentucky	0.016727	−47,093	7,655	0.023920	−4,865	8,041
Louisiana	0.023500	−32,823	5,830	0.059580	−4,383	5,780
Maine	0.010085	−16,556	3,017	0.001313	−2,978	3,563
Maryland	0.005947	26,331	9,024	0.047920	−7,463	8,233
Massachusetts	0.009778	−4,391	10,512	0.005279	−11,297	12,718
Michigan	0.048560	−69,873	12,523	0.009817	−14,832	19,522
Minnesota	0.022050	−40,965	10,643	0.044920	−7,952	9,931
Mississippi	0.031680	37,625	2,650	0.031717	−2,263	3,602
Missouri	0.043330	−17,567	11,392	0.013076	−24,564	14,369
Montana	0.025931	−3,917	1,783	0.005356	−2,059	2,364
Nebraska	0.024994	54,614	1,058	0.018741	−2,335	3,580
Nevada	0.033870	−16,308	2,314	0.013184	−1,504	2,185
New Hampshire	0.011799	−8,549	2,135	0.012387	−1,752	2,449
New Jersey	0.010069	−45,658	10,664	0.011673	−3,259	8,525
New Mexico	0.038710	15,720	2,553	0.058800	−1,872	2,196
New York	0.018378	−93,452	24,061	0.017948	−6,374	16,002
North Carolina	0.007832	−65,772	9,255	0.013342	−6,894	10,406
North Dakota	0.024253	434	593	0.023215	−734	1,129
Ohio	0.014133	59,639	10,783	0.009514	−29,385	23,110
Oklahoma	0.043254	−43,610	6,312	0.054340	−37,951	13,662
Oregon	0.028490	14,151	5,638	0.010153	−5,199	7,825
Pennsylvania	0.013522	−32,299	17,430	0.019134	−12,423	21,369
Rhode Island	0.033382	−203	1,218	0.009271	−1,475	1,704
South Carolina	0.025928	−9,766	3,216	0.067680	−2,369	4,161
South Dakota	0.045880	−13,835	1,422	0.015271	−3,894	2,242
Tennessee	0.036348	−10,592	5,006	0.011982	−27,873	11,873
Texas	0.036702	−277,947	23,888	0.009839	−31,816	33,326
Utah	0.034840	−2,067	2,771	0.003765	−2,307	3,918
Vermont	0.011607	−5,393	1,249	0.008395	−2,664	1,666
Virginia	0.010021	3,592	8,595	0.016696	−10,043	10,862
Washington	0.019285	59,681	7,549	0.008059	−6,772	12,897
West Virginia	0.017676	894	1,702	0.087620	−2,413	2,289
Wisconsin	0.014365	40,476	8,693	−0.001194	−15,463	13,311
Wyoming	0.014594	−9,350	1,442	0.002206	−1,753	2,011