U.S. Fish & Wildlife Service

Birding in the United States: A Demographic and Economic Analysis

Addendum to the 2016 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation

Report 2016-2

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This report is intended to complement the National report from the 2016 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation. The conclusions are the author's and do not represent official positions of the U.S. Fish and Wildlife Service.The author thanks Sylvia Cabrera and Richard Aiken for their input into this report.

Included photos are courtesy of USFWS.

Contents

Introduction

The following report provides up-to-date information so birders and policy makers can make informed decisions regarding the management of birds and their habitats. This report identifies who birders are, where they live, how avid they are, and what kinds of birds they watch. In addition to demographic information, this report also provides an economic measure of birding. It estimates how much birders spend on their hobby and the economic impact of these expenditures.

By understanding who birders are, they can be more easily reached and informed about pressures facing birds and bird habitats. Conversely, by knowing who is likely *not* a birder, or who is potentially a birder, information can be more effectively tailored. The economic values presented here can be used by resource managers and policy makers to demonstrate the economic might of birders, the impact of birding – and by extension, the value of birds.

All data presented here are from the wildlife-watching section of the 2016 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (FHWAR). It is the most comprehensive survey of wildlife recreation in the United States. Overall, about 4,000 detailed wildlife-watching interviews were completed with a response rate of 66 percent. The Survey focused on 2016 participation and expenditures by U.S. residents 16 years of age and older.

Who is a Birder?

In 2016, there were 45 million birdwatchers (birders), 16 years of age and older, in the United States – about 18 percent of the population. Who is a birder? The National Survey uses a conservative definition. To be counted as a birder, an individual must have either taken a trip one mile or more from home for the primary purpose of observing birds and/or closely observed or tried to identify birds around the home. Thus, people who happened to notice birds while they were mowing the lawn or picnicking at the beach were not counted as birders. Trips to zoos and observing captive birds also did not count.

Backyard birding or watching birds around the home is the most common form of bird-watching. Eighty-seven percent (39 million) of birders are backyard birders. The more active form of birding, taking trips away from home, is less common with 36 percent (16 million) of birders partaking.

The average birder is 52 years old and more than likely has a better than average income and education. He is more likely to be male and highly likely to be white. There is also a good chance that this birder lives in the south in an urban area. Does this paint an accurate picture of a birder? Like all generalizations, the description of an "average" birder does not reflect the variety of people who bird, with millions falling outside this box. The following tables and charts show numbers and participation rates (the percentage of people who participate) of birders by various demographic breakdowns.

The tendency of birders to be middle-age or older is reflected in both the number of birders and participation rates. Looking at the different age categories in Table 1, the greatest number of birders were in the 55 plus age group. People over the age of 55 had the highest participation rates while the participation rate was particularly low for people ages 25 to 34.

Chart 1. Birders in the United States: 2016

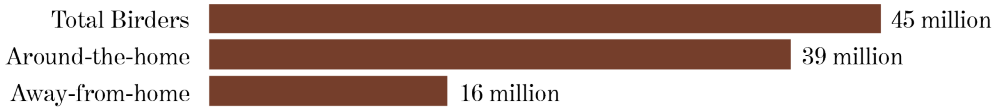
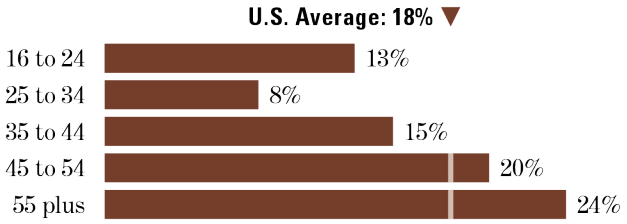


Table 1. Age Distribution of the U.S. Population and Birders: 2016

(Population 16 years of age and older. Numbers in thousands.)

Age	*U.S. Population*	*Number of Birders*	*Participation Rate*
16 to 24	36,892	4,689	13%
25 to 34	43,977	3,672	8%
35 to 44	40,455	6,127	15%
45 to 54	42,969	8,588	20%
55 plus	90,394	22,028	24%

Chart 2. Birders' Participation Rate by Age: 2016



The higher the income and education level the more likely a person is to be a birder. With the exception of birders with income between $50,000 and $74,999, birders with incomes above the median participated at a higher rate than the average birder while birders with incomes below the median participated at a lower rate. Fifty percent of birders had an income greater than $75,000. Education, which is often highly correlated with income, shows the same trend. People with less than high school education participated at 12 percent – far below the national average of 18 percent – while people with a college degree had the highest participation rate at 26 percent. See Tables 2 and 3 for more information.

Table 2. Income Distribution of the U.S. Population and Birders: 2016
(Population 16 years of age and older. Numbers in thousands.)

Income	*U.S. Population*	*Number of Birders*	*Participation Rate*
Less than $20,000	22,269	3,604	16%
$20,000 to $29,999	17,710	2,701	15%
$30,000 to $49,999	34,525	6,990	20%
$50,000 to $74,999	36,512	4,724	13%
$75,000 or more	90,111	18,526	21%

Chart 3. Birders' Participation Rate by Income: 2016

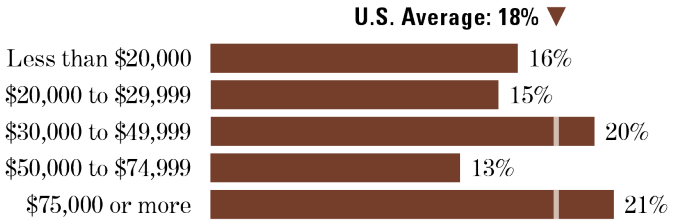
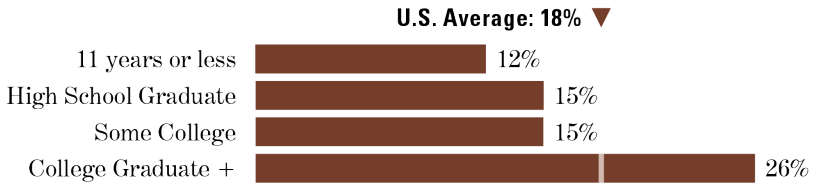


Table 3. Educational Distribution of the U.S. Population and Birders: 2016
(Population 16 years of age and older. Numbers in thousands.)

Education	*U.S. Population*	*Number of Birders*	*Participation Rate*
11 years or less	33,987	4,067	12%
High School Graduate	72,726	11,160	15%
Some College	75,352	11,290	15%
College Graduate +	72,621	18,588	26%

Chart 4. Birders' Participation Rate by Education: 2016



Similar to hunting and fishing, males are the overwhelmingly majority for birders – 56 percent in 2016 (See Chart 5).

Excluding people that categorize their race as "Other", birders are not a racially or ethnically diverse group. Eighty-two percent of birders identified themselves as white. The scarcity of minority birders is not just a reflection of their relatively low numbers in the population at large; it's also a function of low participation rates. The participation rates of Hispanics, African-Americans, and Asians were all 10 percent or lower while the rates for whites and "Other" were 21 percent and 28 percent, respectively, which were above the 18 percent national average.

The more sparsely populated an area, the more likely its residents were to watch birds. The participation rate for people living in small cities and rural areas was 19 and 23 percent – slightly above the national average. Whereas large metropolitan areas (1 million residents or more) had the greatest number of birders, their residents had the lowest participation rate, 9 percent. See Table 5.

Chart 5. Percent of Birders by Gender: 2016
(Population 16 years of age and older.)

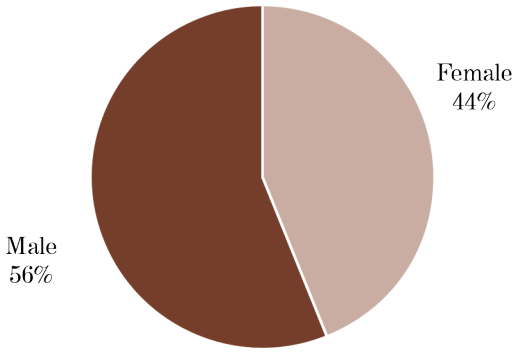


Table 4. Racial and Ethnic Distribution of the U.S. Population and Birders: 2016
(Population 16 years of age and older. Numbers in thousands.)

Race	*U.S. Population*	*Number of Birders*	*Participation Rate*
Hispanic	42,603	4,454	10%
White	199,086	40,889	21%
African American	33,358	2,136	6%
Asian	16,153	444	3%
All Others	6,089	1,692	28%

Chart 6. Birders' Participation Rate by Race and Ethnicity: 2016

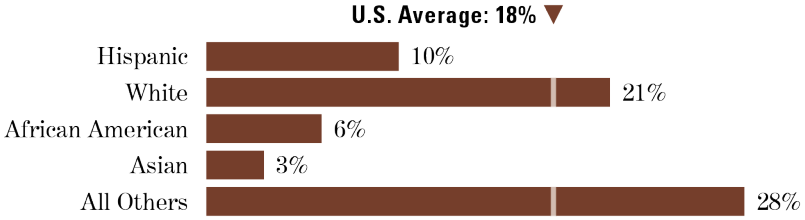


Table 5. Percent of U.S. Population Who Birded by Residence: 2016
(Population 16 years of age and older. Numbers in thousands.)

Metropolitan Statistical Area	*U.S. Population*	*Number of Birders*	*Participation Rate*
1,000,000 or more	144,070	13,197	9%
250,000 to 999,999	49,208	9,178	19%
Less than 249,000	46,443	8,722	19%
Outside MSA	14,964	3,481	23%

Participation rates are varied across the United States. The highest participation rates are prevalent in the Middle Atlantic (25 percent (New Jersey, New York, and Pennsylvania), followed by New England (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont) and the West North Central (North Dakota, South Dakota, Nebraska, Kansas, Minnesota, Iowa, and Missouri), both with 20 percent participation rate. See Chart 7 for more details.

Chart 7. Birding Participation Rates by Census Division Residents: 2016
(Population 16 years of age and older.)

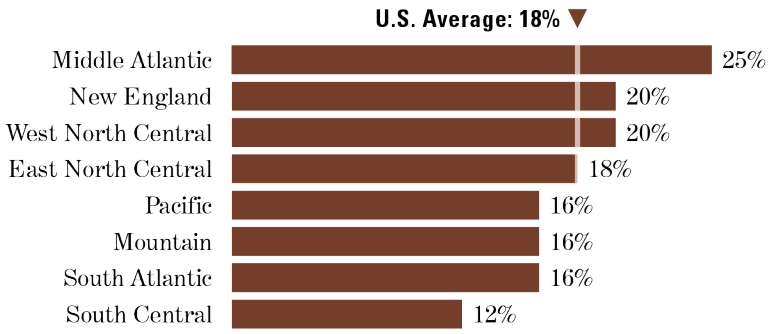


Figure 1. Distribution of Birders by Region of Residence: 2016
(Population 16 years of age and older.)

By sheer numbers, most birders were concentrated in the Middle Atlantic, South Atlantic (Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, and Florida), and Pacific (Washington, Oregon, California, Alaska, and Hawaii), with approximately 8.3 million birders or 17 percent of birders each (see Figure 1). Conversely, New England had the least number of birders (2.6 million birders or 5 percent).

Bird watching by residents tells only part of the story. Many people travel out-of-regions to watch birds, and some regions are natural birding destinations. The Mountain region (Montana, Idaho, Wyoming, Nevada, Utah, Colorado, Arizona, and New Mexico)) reaped the benefits of this tourism with 29 percent of their total birders coming from other regions. (See Table 6.)

Table 6. Birding by Residents and Non-residents: 2016
(Population 16 years of age and older. Numbers in thousands).

Region	*Total Birders*	*Percent State Residents*	*Percent Non-residents*
New England	2,568,000	92%	-
Middle Atlantic	8,347,000	98%	2%*
East North Central	7,021,000	97%	-
West North Central	3,774,000	86%	14%*
South Atlantic	8,543,000	94%	6%*
South Central[1]	6,829,000	80%	20%*
Mountain	4,132,000	71%	29%
Pacific	8,168,000	83%	17%

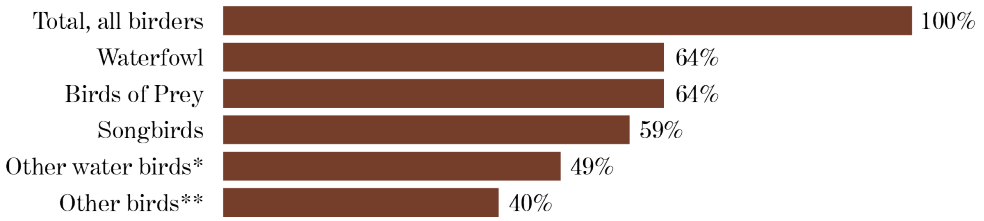
Notes: [1]Due to small sample sizes, the South Central region combines the West South Central and East South Central divisions. A hyphen (-) denotes sample sizes that are too small to report reliably (9 or less). An asterisk (*) denotes an estimate based on a sample size of 10 to 29. This sample size criteria is consistent with the "2016 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation."

Where and What are They Watching?

Backyard birding is the most prevalent form of birding with 86 percent of participants watching birds from the comfort of their homes. Thirty-six percent of birders travel more than a mile from home to bird, visiting both private and public lands.

What kinds of birds are they looking at? Sixty-four percent of away-from-home birders reported observing waterfowl (ducks, geese, etc.) and birds of prey (hawks, eagles, etc.), making those the most watched type of birds. Songbirds (e.g., cardinals and robins) were also popular with 59 percent of birders watching them, followed in popularity by other water birds such as herons and shorebirds (49 percent) and other birds such as pheasants and turkeys (40 percent). See Chart 8.

Chart 8. Types of Birds Observed by Away-From-Home Birders: 2016



** shorebirds, herons, etc.*
***pheasants, turkeys, etc.*

Birder Avidity

All people identified as birders in this report said that they took an active interest in birds – defined as trying to closely observe or identify different species. But what is the extent of their interest? In order to determine their "avidity" the number of days spent bird watching was considered.

Presumably because of the relative ease of backyard birding, birders around the home spent five times as many days watching birds as did people who traveled more than a mile from home to bird watch. In 2016, the mean number of days for all birders was 88, for backyard birders it was 105, and for away-from-home birders it was 16. Avidity for all birders is shown in Chart 9. Avidity is varied across the country. Most notably, South Central (Kentucky, Tennessee, Alabama, Mississippi, Texas, Oklahoma, Arkansas, and Louisiana) averaged 130 days per birder.

Table 7 shows how avidity has changed from 2011 to 2016. None of the changes are significant at the 95 percent level, which is nearly 50 percent higher than the national average.

Chart 9. Birding Avidity by State: 2016
(Population 16 years of age and older.)

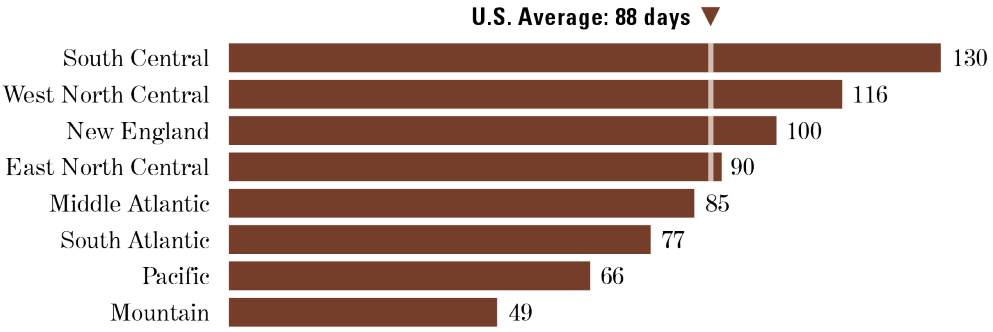


Table 7. National Birding Trends
(Population 16 years of age and older. Numbers in thousands.)

	2011	*2016*	*Percent Change**
Total Birders	46,741	45,104	-4%
Around-the-home	41,346	38,741	-6%
Away-from-home	17,818	16,275	-9%
Total Days	5,161,909	4,324,668	-16%
Around the home	4,923,873	4,067,994	-17%
Away-from-home	238,036	256,673	8%

Note: None of the "percent changes" are statistically significant.

The Economics of Birdwatching

Birders spend money on a variety of goods and services for their trip-related and equipment-related purchases. Trip-related expenditures include food, lodging, transportation, and other incidental expenses. Equipment expenditures consist of binoculars, cameras, camping equipment, and other costs. By having ripple effects throughout the economy, these direct expenditures are only part of the economic impact of birding. The effect on the economy in excess of direct expenditures is known as the multiplier effect. For example, an individual may purchase a bird house to enhance birding at home. Part of the purchase price will stay with the local retailer. The local retailer, in turn, pays a wholesaler who in turn pays the manufacturer of the bird houses. The manufacturer then spends a portion of this income to pay businesses supplying the manufacturer. In this sense, each dollar of local retail expenditures can affect a variety of businesses. Thus, expenditures associated with birding can ripple through the economy by impacting economic activity, employment, and household income. To measure these effects, a regional input-output modeling method[1] is utilized to derive estimates for total industry output, employment, employment income, and tax revenue associated with birding.

Table 8. Trip and Equipment Expenditures for Birding by Category: 2016

Total Trip and Equipment Expenditures	**$39,178,523,000**
Trip-Related Expenditures*, total	**$10,329,485,000**
Food	$3,504,765,000
Lodging	$2,016,299,000
Transportation	$3,829,277,000
Other	$979,144,000
Equipment, total**	**$28,849,038,000**
Wildlife-watching equipment	$8,874,978,000
Auxiliary equipment	$487,570,000
Special Equipment	$12,626,291,000
Other Items	$6,860,199,000

**Trip-related expenditures include food, drink, lodging; public and private transportation; and other trip-related costs such as guide fees, pack trip or package fees, public and private land use access fees, equipment rental, boating costs, and heating and cooking fuel.*

***Wildlife-watching equipment expenditures include: bird food, nest boxes, bird houses, bird baths, binoculars, cameras and camera equipment, photo processing, day packs, carrying cases, special clothing and other wildlife-watching items such as field guides and maps.*

Auxiliary equipment includes tents, tarps, frame packs, and backpacking equipment, and other camping equipment, and other auxiliary equipment such as blinds and GPS devices.

Special Equipment includes big ticket items such as boats and boat accessories, campers, trucks, and cabins.

Other items include land leasing and ownership, plantings, membership dues and contributions, magazines, books, and DVDs.

[1] The estimates for total industry output, employment, employment income, and federal and state taxes were derived using IMPLAN, a regional input-output model and software system.

Table 8 highlights birders' trip-related and equipment-related expenditures[2] in 2016. Birders spent an estimated $10 billion on their trips and $29 billion on equipment in 2016. For trip expenditures, 53 percent was food and lodging, 37 percent was transportation, and 9 percent was other costs such as guide fees, user fees, and equipment rental (Chart 10). Most expenditures (44 percent) for equipment were for special equipment such as boats, campers, and trucks. These were followed by wildlife-watching equipment (31 percent), other items (24 percent), and auxiliary equipment (2 percent).

Chart 10. Trip-Related Expenditures
(Total Expenditures: $14.9 billion)

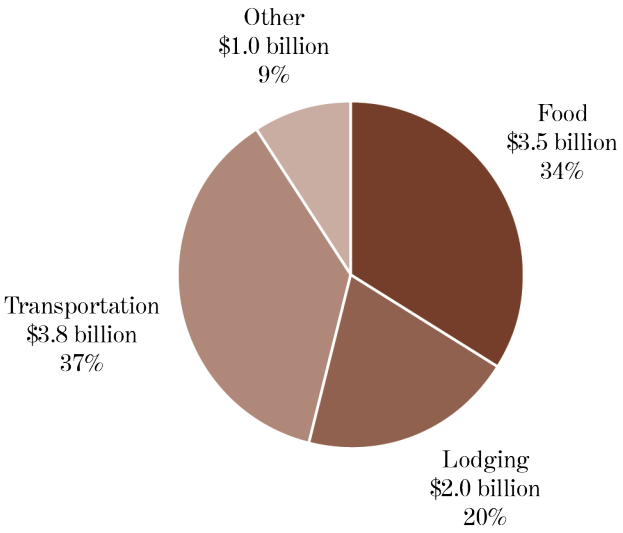
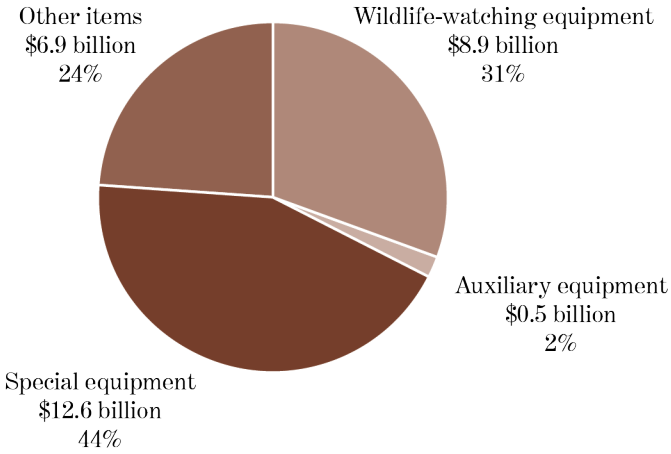


Chart 11. Equipment Expenditures
(Total expenditures: $26.1 billion)



[2] The Survey does not have an expenditure category for birding. Therefore, expenditures are prorated by multiplying wildlife watching expenditures by a ratio to derive birding expenditures. For trip-related expenditures, the ratio includes only away-from-home birders and is (total number of away-from-home days watching birds)/(total number of away-from-home days watching wildlife). For equipment-related expenditures, the ratio includes both away-from-home birders and around-the-home birders. The equipment-related expenditure ratio is (total number of days watching birds)/(total number of days watching wildlife).

Total Industry Output

Table 9 lists the economic effect of bird watching expenditures in 2016. The trip and equipment expenditures of $39 billion in 2016 generated approximately $96 billion in total industry output across the United States. Total industry output includes the direct, indirect, and induced effects of the expenditures associated with bird watching.

Direct effects are the initial effects or impacts of spending money; for example, an individual purchasing a bird house is an example of a direct effect. An example of an indirect effect would be the purchase of the bird house by a retailer from the manufacturer. Finally, induced effects refer to the changes in production associated with changes in household income (and spending) caused by changes in employment related to both direct and indirect effects. More simply, people who are employed by the retailer, by the wholesaler, and by the birdhouse manufacturer spend their income on various goods and services which in turn generate a given level of output (induced effects).

Employment and Employment Income

Table 9 shows that birding expenditures in 2016 created 782,000 jobs and $35 billion in employment income. Jobs include both full-time and part-time jobs, with a job defined as one person working for at least part of the calendar year. Employment income consists of both employee compensation and proprietor income.

Federal and State Taxes

Federal and State tax revenue are derived from birding-related recreational spending. In 2016, approximately $8 billion in State tax revenue and $9 billion in Federal tax revenue were generated.

Table 9. Summary of Economic Impacts

Birders	45,104,000
Total Expenditures	$39,178,523,000
Total Output	$95,916,601,000
Jobs	782,000
Employment Income	$34,882,326,000
State Tax Revenue	$7,512,755,000
Federal Tax Revenue	$8,683,737,000

Conclusion

This report presented information on the participation and expenditure patterns of 45 million birders in 2016. Trip-related and equipment-related expenditures associated with birding generated nearly $96 billion in total industry output, 782,000 jobs, and $16 billion in local, state, and federal tax revenue. This impact was distributed across local, state, and national economies.

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U.S. Department of the Interior, U.S. Fish and Wildlife Service, and U.S. Department of Commerce, U.S. Census Bureau. *2016 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation*.

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