

U.S. Fish & Wildlife Service

Birding in the United States: A Demographic and Economic Analysis

*Addendum to the 2006 National
Survey of Fishing, Hunting, and
Wildlife-Associated Recreation*

Report 2006-4



Birding in the United States: A Demographic and Economic Analysis

*Addendum to the 2006 National
Survey of Fishing, Hunting, and
Wildlife-Associated Recreation*

Report 2006-4



June 2009, Amended July 2009

Erin Carver
U.S. Fish and Wildlife Service
Division of Economics
Arlington VA

This report is intended to complement the National and State reports from the 2006 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.

Contents

Introduction	3
Birders	4
Where and What are They Watching?	10
Avidity.....	10
The Economics of Bird Watching	11
Total Industry Output	13
Employment and Employment Income.....	13
Federal and State Taxes	13
Conclusion	14
References	15

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 impact estimates presented here can be used by resource managers and policy makers to demonstrate the economic might of birders and, by extension, the economic impact of birds.

All data presented here are from the wildlife-watching section of the 2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (FHWAR). It is the most comprehensive survey of wildlife recreation in the United States. Overall, 11,300 detailed wildlife-watching interviews were completed with a response rate of 78 percent. The Survey focused on 2006 participation and expenditures by U.S. residents 16 years of age and older.



Erin Carver/USFWS

Birders

In 2006, there were 48 million birdwatchers or birders, 16 years of age and older, in the United States—about 21 percent of the population. What 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-eight percent (42 million) of birders are backyard birders. The more active form of birding, taking trips away from home, is less common with 42 percent (20 million) of birders partaking.

The average birder is 50 years old and more than likely has a better than average income and education. She is slightly more likely to be female 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 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 16 to 24.

Chart 1. Birders in the United States: 2006
(16 years of age and older.)

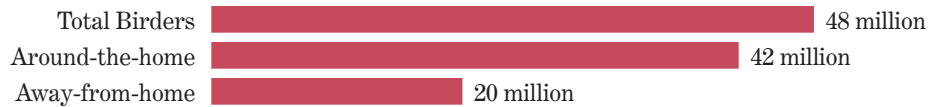
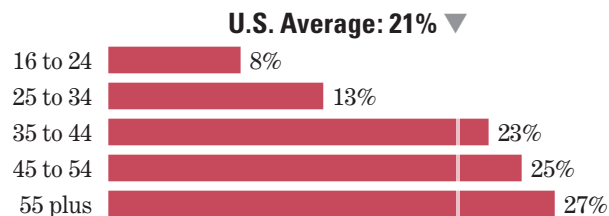


Table 1. Age Distribution of the U.S. Population and Birders: 2006
(Population 16 years of age and older. Numbers in thousands.)

Age	U.S. Population	Number of Birders	Participation Rate
16 to 24	31,564	2,607	8%
25 to 34	37,468	4,825	13%
35 to 44	45,112	10,168	23%
45 to 54	44,209	11,088	25%
55 plus	70,891	19,097	27%

Chart 2. Birders' Participation Rate by Age



The higher the income and education level the more likely a person is to be a birder. Twenty-nine percent of people who live in households that earn \$75,000 or more were bird-watchers—8 percent above the national average of 21 percent. 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—while people with at least a college degree had the highest participation rate at 28 percent. See Tables 2 and 3 for more information.

Unlike hunting and fishing where men were overwhelmingly in the majority, a larger percent of birders were women—54 percent in 2006 (See Chart 5).



Dave Menke/USFWS

Table 2. Income Distribution of the U.S. Population and Birders: 2006

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

Income	U.S. Population	Number of Birders	Participation Rate
Less than \$20,000	26,046	3,942	15%
\$20,000 to \$29,999	21,898	3,680	17%
\$30,000 to \$49,999	39,209	8,691	22%
\$50,000 to \$74,999	33,434	9,000	27%
\$75,000 or more	50,678	14,749	29%

Chart 3. Birders' Participation Rate by Income

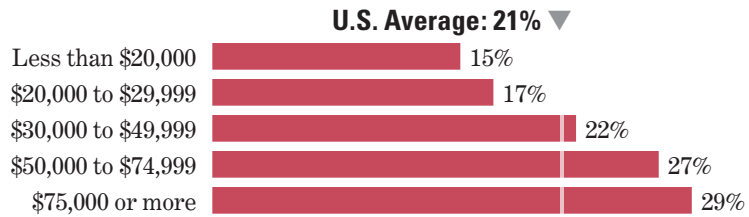


Table 3. Educational Distribution of the U.S. Population and Birders: 2006

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

Education	U.S. Population	Number of Birders	Participation Rate
11 years or less	34,621	4,300	12%
High School Graduate	78,073	13,279	17%
Some College	53,019	12,369	23%
College Graduate +	63,531	17,837	28%

Chart 4. Birders' Participation Rate by Education

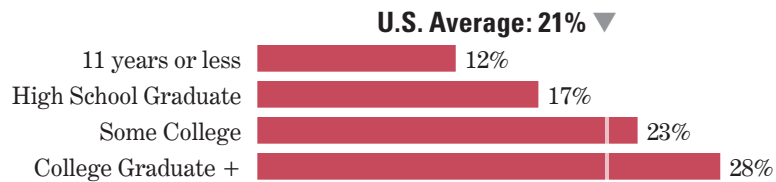


Chart 5. Percent of Birders by Gender: 2006

(Population 16 years of age and older.)



Excepting people that categorize their race as “Other,” birders are not a racially or ethnically diverse group. Eighty-eight 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 8 percent or lower while the rate for whites, 24 percent, was slightly above the 21 percent national average. Those that chose “Other,” however, had a participation rate (21 percent) the same as the national average.

The sparser 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 27 percent—6 percent above the national average. Whereas large metropolitan areas (1 million residents or more) had the greatest number of birders, their residents had a low participation rate of 17 percent. See Table 5.

Table 4. Racial and Ethnic Distribution of the U.S. Population and Birders: 2006

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

<i>Race</i>	<i>U.S. Population</i>	<i>Number of Birders</i>	<i>Participation Rate</i>
Hispanic	29,218	2,428	8%
White	189,255	44,497	24%
African American	25,925	1,625	6%
Asian	10,104	734	7%
Other	3,960	837	21%

Chart 6. Birders’ Participation Rate by Race and Ethnicity: 2006

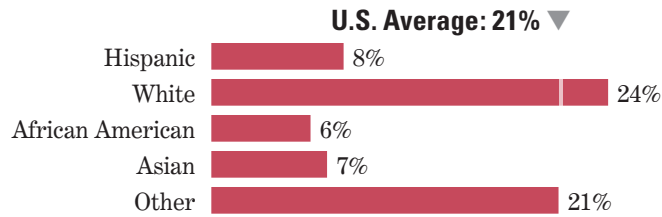


Table 5. Percent of U.S. Population Who Birded by Residence: 2006

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

<i>Metropolitan Statistical Area</i>	<i>U.S. Population</i>	<i>Number of Birders</i>	<i>Participation Rate</i>
1,000,000 or more	120,356	20,545	17%
250,000 to 999,999	46,506	6,779	15%
Less than 249,000	23,562	4,295	18%
Outside MSA	38,820	10,597	27%

Participation rates are varied across the United States. However, the highest participation rates are prevalent in the northern half of the country, where the top 5 States include Montana, Maine, Vermont, Minnesota, and Iowa. See Chart 7 for more details.

Chart 7. Birding Participation Rates by State Residents: 2006

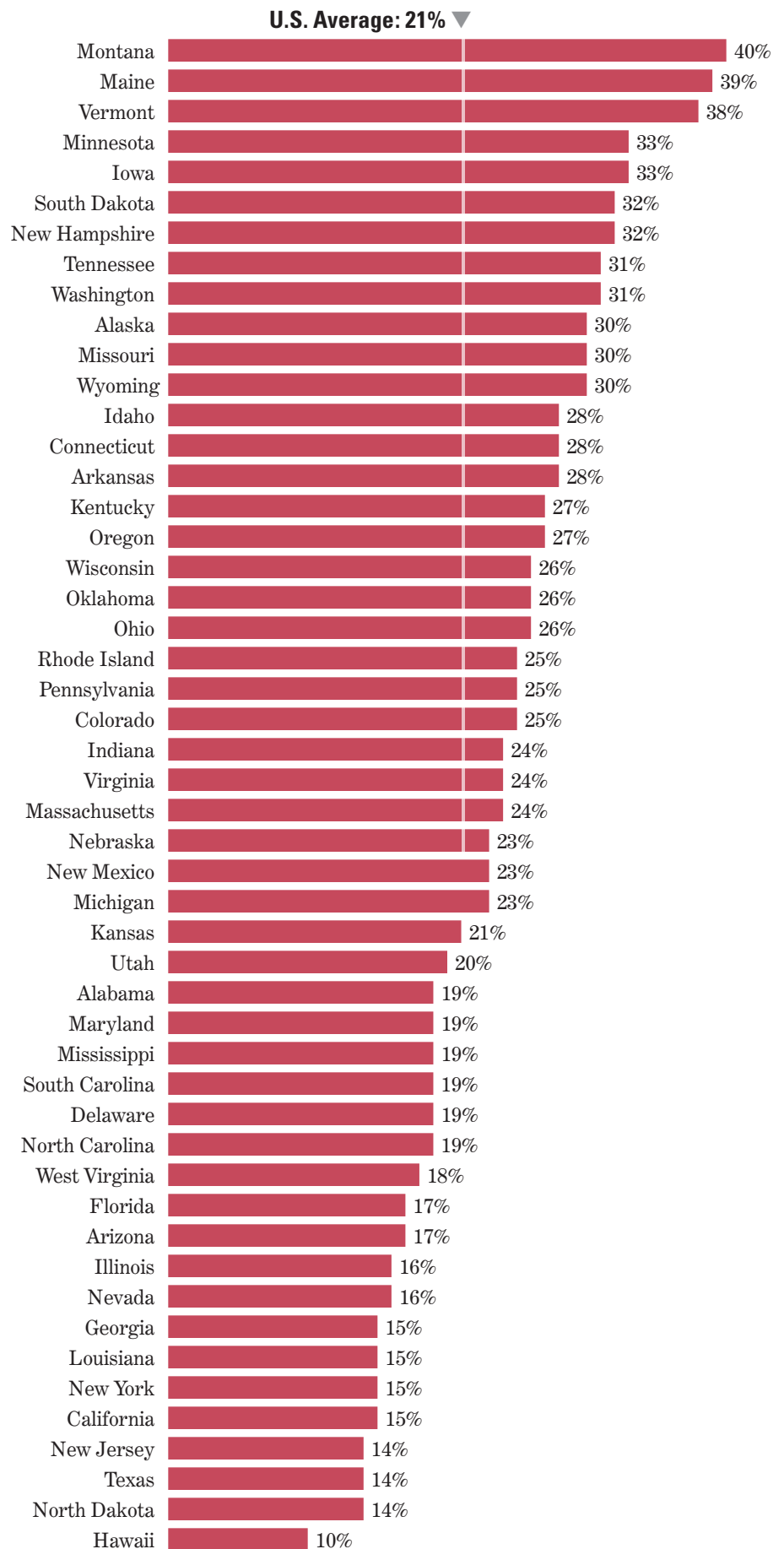
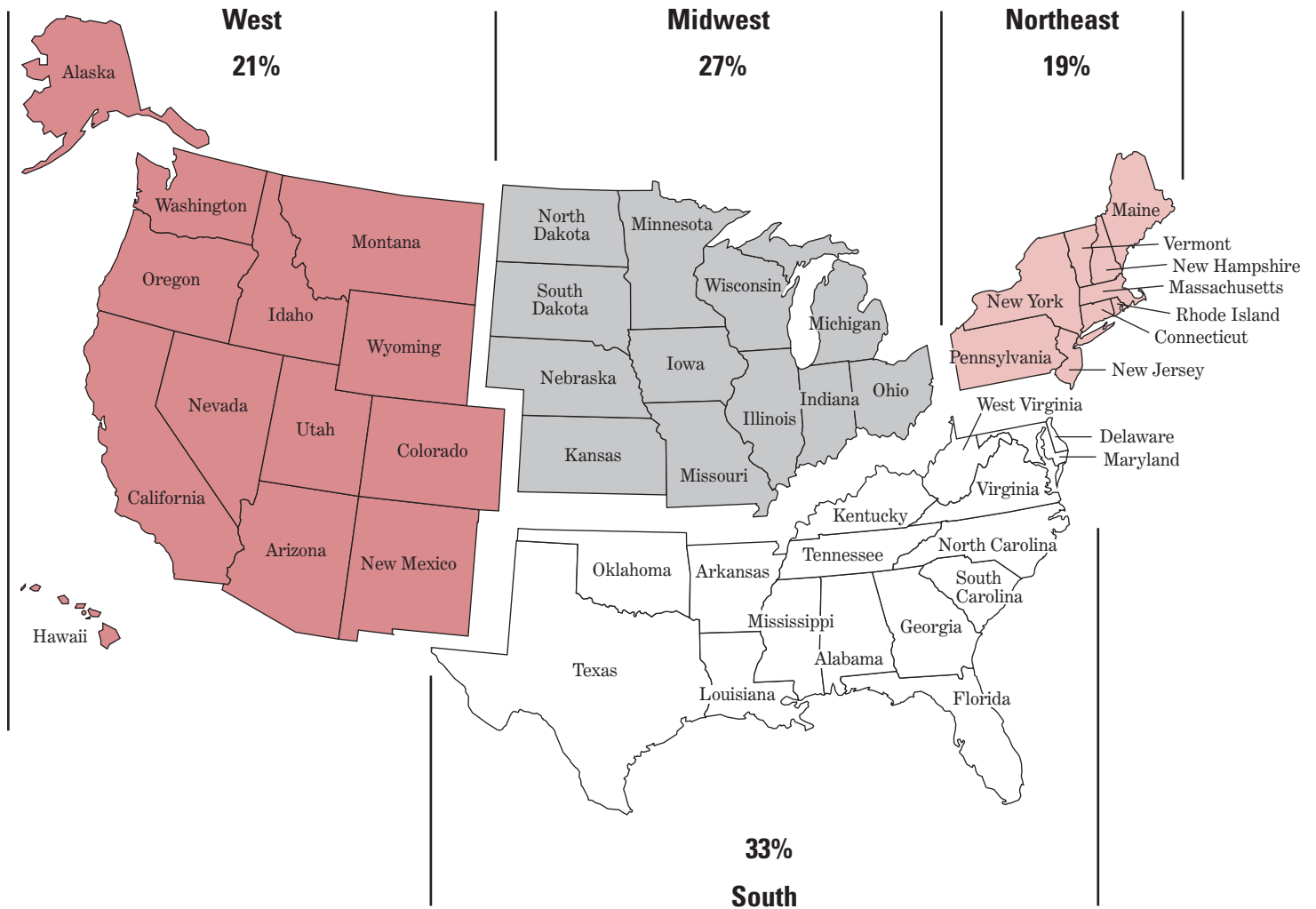


Figure 1. Participation by Region of Residence: 2006

(Population 16 years of age and older.)



There were more participants in the South region (33%) compared to the rest of the United States (see Figure 1). The Midwest had the second highest participation at 27 percent. The West and Northeast had lower participation of 21 percent and 19 percent, respectively.

Bird watching by state residents tells only part of the story. Many people travel out-of-state to watch birds and some states are natural birding destinations. Wyoming reaped the benefits of this tourism with 73 percent of their total birders coming from other states. Four other states (Hawaii, Vermont, Montana, and New Mexico) had more than 45 percent of their total birders coming from other states. (See Table 6.)



Donna Dewhurst/USFWWS

Table 6. Birding by State Residents and Nonresidents: 2006

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

<i>State</i>	<i>Total Birders</i>	<i>Percent State Residents</i>	<i>Percent Nonresidents</i>
Alabama	828	83%	17%
Alaska	429	34%	66%
Arizona	1,038	74%	26%
Arkansas	764	79%	21%
California	4,493	88%	12%
Colorado	1,229	73%	27%
Connecticut	857	91%	9%
Delaware	189	66%	34%
Florida	3,101	79%	21%
Georgia	1,210	88%	12%
Hawaii	205	49%	51%
Idaho	557	56%	44%
Illinois	1,784	87%	13%
Indiana	1,345	86%	14%
Iowa	842	93%	7%
Kansas	493	92%	–
Kentucky	1,041	84%	16%
Louisiana	552	94%	–
Maine	622	68%	32%
Maryland	980	84%	16%
Massachusetts	1,377	86%	14%
Michigan	1,997	89%	11%
Minnesota	1,448	93%	7%
Mississippi	535	79%	21%
Missouri	1,576	87%	13%
Montana	571	53%	47%
Nebraska	364	87%	–
Nevada	518	57%	43%
New Hampshire	548	60%	40%
New Jersey	1,132	83%	17%
New Mexico	641	54%	46%
New York	2,517	87%	13%
North Carolina	1,586	79%	21%
North Dakota	83	83%	–
Ohio	2,405	95%	5%
Oklahoma	765	94%	–
Oregon	1,046	74%	26%
Pennsylvania	2,669	91%	9%
Rhode Island	297	71%	–
South Carolina	809	78%	22%
South Dakota	283	68%	32%
Tennessee	1,838	79%	21%
Texas	2,476	94%	6%
Utah	639	57%	43%
Vermont	364	52%	47%
Virginia	1,572	89%	11%
Washington	1,853	83%	17%
West Virginia	398	67%	33%
Wisconsin	1,454	79%	21%
Wyoming	448	27%	73%

Note: A hyphen (–) denotes sample sizes that are too small to report reliably (9 or less). This sample size criteria is consistent with the “2006 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 88 percent of participants watching birds from the comfort of their homes. Forty-two percent of birders travel more than a mile from home to bird watch, visiting both private and public lands.

What kinds of birds are they looking at? Seventy-seven percent reported observing waterfowl, making them the most watched type of bird. Birds of prey were also popular with 71 percent of birders watching them, followed in popularity by songbirds (69 percent) and other water birds such as herons and shorebirds (58 percent). See Chart 8.

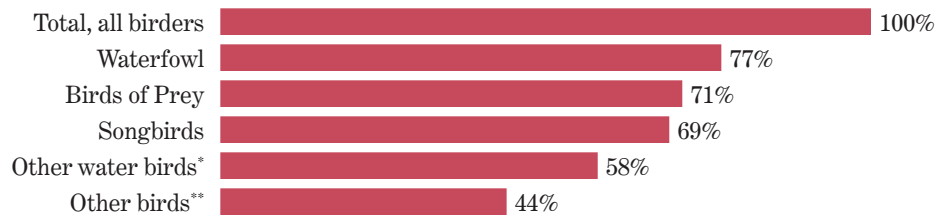
Avidity

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 nine times as many days watching birds as did people who traveled more than a mile from home to bird watch. In 2006, the mean number of days for backyard birders was 124 and for away-from-home birders it was 14.

Table 7 shows how avidity has changed from 2001 to 2006. The only change that is significant at the 95 percent level is “Total Away-from-Home Birders.” As shown, the number of away-from-home birders has increased 8 percent as more birders are traveling to observe birds.

Chart 8. Types of Birds Observed by Away-From-Home Birders: 2006



* shorebirds, herons, etc.

**pheasants, turkeys, etc.

Table 7. National Birding Trends

	2001	2006	Percent Change*
Total Birders	45,951	47,693	4%
Around-the-home	40,306	41,821	4%
Away-from-home	18,342	19,860	8%*
Total Days	5,467,841	5,473,398	0%
Around the home	5,159,259	5,202,536	1%
Away-from-home	308,583	270,861	-12%

Note: An asterisk denotes the change is significant at the 95% level. All other “percent changes” are not statistically significant.

The Economics of Bird Watching

Birders spend money on a variety of goods and services for 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 method¹ is utilized to derive estimates for total industry output, employment, employment income, and tax revenue associated with birding.



Maslowski/USFWS

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 in 2006². Birders spent an estimated \$12 billion on trip expenditures and \$24 billion on equipment expenditures in 2006. For trip expenditures, 57 percent was allocated for food and lodging, 35 percent was spent on transportation, and 7 percent was spent on other costs such as guide fees, user fees, and equipment rental. Equipment expenditures were relatively evenly distributed among wildlife watching equipment (29 percent), special equipment (35 percent), and other items (33 percent). Auxiliary equipment accounted for only 3 percent of all equipment expenditures.

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 backyard birders. The equipment-related expenditure ratio is (total number of days watching birds)/(total number of days watching wildlife).

Table 8. Trip and Equipment Expenditures for Birding by Category: 2006

Trip-Related Expenditures*, total	\$12,068,182,000
Food	\$4,008,032,000
Lodging	\$2,948,366,000
Transportation	\$4,218,433,000
Other	\$893,351,000
Equipment**, total	\$23,659,542,000
Wildlife-watching equipment	\$6,869,054,000
Auxilliary equipment	\$742,276,000
Special Equipment	\$8,240,519,000
Other Items	\$7,807,693,000

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

**Equipment expenditures consist of binoculars, cameras, bird food, nest boxes, day packs, and other wildlife-watching equipment. Auxiliary equipment includes tents, backpacking equipment, other camping equipment, and other auxilliary equipment. Special equipment purchases include boats, campers, trucks, and cabins while Other Items includes magazines, land leasing and ownership, membership dues, and plantings.

Total Industry Output

Table 9 depicts the economic effect of bird watching expenditures in 2006. The trip and equipment expenditures of \$36 billion in 2006 generated \$82 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 2006 created 671,000 jobs and \$28 billion in employment income. Thus, each job had an average annual salary of \$41,000. Jobs include both full 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 revenues are derived from birding-related recreational spending. In 2006, \$6 billion in State tax revenue and \$4 billion in Federal tax revenue were generated.

Table 9. Summary of Economic Impacts

Birders	47,693,000
Total Expenditures	\$35,727,724,000
Total Output	\$82,176,751,000
Jobs	671,000
Employment Income	\$27,695,934,000
State Tax Revenues	\$6,157,252,000
Federal Tax Revenues	\$4,375,932,000



Conclusion

This report presented information on the participation and expenditure patterns of 48 million birders in 2006. Trip-related and equipment-related expenditures associated with birding generated over \$82 billion in total industry output, 671,000 jobs, and \$11 billion in local, state, and federal tax revenue. This impact was distributed across local, state, and national economies.



John and Karen Hollingsworth/USFWS

References

MIG, Inc. *IMPLAN System (2004 Data and Software)*. 1940 South Greeley Street, Suite 101, Stillwater, MN 55082. 2004.

U.S. Department of the Interior, Fish and Wildlife Service and U.S. Department of Commerce, Bureau of the Census. *2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation*. Washington DC: U.S. Government Printing Office, October 2007.



Vernon Byrd/USFWS

U.S. Department of the Interior
U.S. Fish & Wildlife Service
<http://wsfrprograms.fws.gov>

