



A Research Report From the Southern Research Station

National Survey on Recreation and the Environment: Bird Watching Trends in the United States, 1994 – 2006 August 10, 2007 USDA Forest Service, Athens, Georgia

The National Survey on Recreation and the Environment (NSRE) is an on-going survey of the outdoor activities of Americans 16 years or older. Bird watching (observing, studying, photographing, identifying wild birds) is one of the activities studied by the NSRE. Bird watching as used here includes casual bird watching, and also highly committed birding, by people keeping life lists. It is an activity cutting across all of American society. Our recent estimates from the NSRE (up to 2006) put bird watching in the U.S. at 81.4 million participants. Our survey asked whether a person did or did not participate in any bird watching activity in the last several months, whether it was the primary outdoor activity, or whether it was associated with some other activity. The NSRE also tracks birding days (number of days annually on which a person was bird watching all day or for a few minutes). The most recent estimate is 8.2 billion birding days per year during 2006 (Baicich & Petersen 2007).

Current and previous estimates are as follows:

Years	Participants	Days
1994-1995	54.4 million	4.8 billion days
1999-2000	71.0 million	5.8 billion days
2001-2003	69.7 million	6.5 billion days
2004-2006	81.5 million	8.2 billion days

Birding is seen in some professional circles as an entree for connectivity to the natural environment, and ultimately its conservation. Using the NSRE, a national study has been launched to look at who participates in birding, how much bird watching they do, and how those

who do participate are connected with the natural environment. The hypothesis is that participation in birding increases environmental awareness and ultimately leads to behaviors that are more conservation oriented. Greater understanding of birders and birding will benefit federal natural resource conservation agencies, non-profit organizations, the vast birding industry, and conservation education programs. A critical basic output from this research will be a close examination of trends and the factors driving those trends. Birding participants from the most avid life-list participants to those who occasionally pay attention to wild birds will be included.

Below are a number of tables showing the first rounds of analysis of the NSRE data for this national study. The NSRE dates back to 1960 when it was called the National Recreation Survey. Bird watching was first asked in the 1982-83 application of the National Recreation Survey. Then an estimated 12 percent of the U.S. population participated either occasionally or as devoted birders (Cordell et al 2004). The name of the survey has since been modified to reflect a broader array of questions that includes attitudes toward the natural environment.

The tables within this report are self interpreting. No explanatory text is offered. Additional reports will be posted at this web site as new analyses are completed. Topics may include birding by youth, avid birders and who they are, and environmental attitudes of birders.

**Percentages of people 16 or older participating
in Birding in the United States, 1994 - 2006**

Years	Percent Participating	Sample Size	Mean Annual Birding Days	Sample Size Birding Days	Number of Birding Participants (1,000s)	Total Number of Annual Birding Days (millions)
1994-1995	27.0	17,216	87.7	3,626	54,416.0	4,774.9
1999-2000	33.2	28,327	81.9	8,602	70,993.6	5,811.0
2001-2003	31.6	41,822	92.9	11,423	69,652.2	6,469.8
2004-2006	35.3	11,469	101.1	3,894	81,470.8	8,238.2

Source: National Survey on Recreation and the Environment (NSRE) 1994-1995, NSRE 2000-2004, NSRE 2005-2006 is a collaborative study between the USDA Forest Service and the Universities of Georgia and Tennessee.

Estimates of total number of participants are based on the following national populations age 16 or older.--1994-1995: 201.3 million (1995 Woods & Poole, Inc.). 1999-2000: 214.0 million (2000 Census). 2001-2003: 220.1 million (2002 Census estimate). 2004-2006: 230.9 million (2006 Census estimate). No birding days data were collected in 2004.

Percent of people 16 or older participating in birding and mean annual number of days on which these people participated in birding by year

Birding Measure	Full Sample	Version & Month/Year Survey Began & Ended								
		1	2	3	4	5	6	7	8	9
		7-99 to 12-99	11-99 to 2-00	3-00 to 6-00	2-00 to 7-00	6-00 to 10-00	9-00 to 1-01	10-00 to 3-01	2-01 to 7-01	2-01 to 7-01
% Participating	32.7	33.6	34.4	34.3	32.3	32.5	32.6	31.9	29.2	31.4
Mean annual days	90.0	74.0	80.8	93.8	78.5	88.3	83.6	85.6	96.1	90.7

Birding Measure	Full Sample	Version & Month/Year Survey Began & Ended							
		10	11	13	14	15	16	2005-1	2005-2
		7-01 to 11-01	7-01 to 11-01	1-02 to 8-02	7-02 to 3-03	3-03 to 8-03	9-03 to 2-04	1-05 to 7-05	8-05 to 6-06
% Participating	32.7	28.8	29.4	31.5	34.7	34.1	38.8	37.4	31.7
Mean annual days	90.0	98.1	76.4	78.7	.	109.1	.	107.8	93.7

Source: NSRE 2000-2004, NSRE 2005-2006.

Note: Annual days not asked in Versions 14 and 16.

Percent of people 16 or older participating in birding by age group and gender

Gender	Age 16-19	Age 20-24	Age 25-34	Age 35-44	Age 45-54	Age 55-64	Age 65+	All Ages
Male	19.1	19.1	25.6	32.8	35.4	35.9	30.7	29.1
Female	22.4	21.3	28.2	36.6	40.4	42.7	36.9	33.9
Total	20.6	20.2	26.9	34.7	38.0	39.5	34.4	31.6

Source: NSRE 2000-2004, NSRE 2005-2006. Note: The participation rate for both genders, all ages does not match that of the full sample because age was missing for some respondents.

Number included in sample for estimating percent of people age 16 or older participating in birding by age group and gender

Gender	Age 16-19	Age 20-24	Age 25-34	Age 35-44	Age 45-54	Age 55-64	Age 65+	All Ages
Male	2,631	2,432	6,168	7,425	7,190	4,944	4,610	35,400
Female	2,725	2,817	7,516	8,783	8,935	6,427	7,498	44,701
Total	5,356	5,249	13,684	16,208	16,125	11,371	12,108	80,101

Source: NSRE 2000-2004, NSRE 2005-2006.

95% confidence intervals around estimates of percent of population participating in birding by age group and gender (with point estimates highlighted in blue)

Gender	Lower conf. limit	Age 16-19	Upper conf. limit	Lower conf. limit	Age 20-24	Upper conf. limit	Lower conf. limit	Age 25-34	Upper conf. limit
Male	17.6	19.1	20.6	17.5	19.1	20.6	24.5	25.6	26.6
Female	20.8	22.4	23.9	19.8	21.3	22.9	27.2	28.2	29.3
Total	19.6	20.6	21.7	19.1	20.2	21.3	26.2	26.9	27.7

Gender	Lower conf. limit	Age 35-44	Upper conf. limit	Lower conf. limit	Age 45-54	Upper conf. limit
Male	31.7	32.8	33.8	34.3	35.4	36.5
Female	35.6	36.6	37.6	39.4	40.4	41.4
Total	33.9	34.7	35.4	37.2	38.0	38.7

Gender	Lower conf. limit	Age 55-64	Upper conf. limit	Lower conf. limit	Age 65+	Upper conf. limit	Lower conf. limit	All Ages	Upper conf. limit
Male	34.5	35.9	37.2	29.4	30.7	32.1	28.6	29.1	29.6
Female	41.5	42.7	43.9	35.8	36.9	38.0	33.4	33.9	34.3
Total	38.6	39.5	40.4	33.5	34.4	35.2	31.3	31.6	31.9

Source: NSRE 2000-2004, NSRE 2005-2006.

Estimates of mean annual days of birding by age group and gender

Gender	Age 16-19	Age 20-24	Age 25-34	Age 35-44	Age 45-54	Age 55-64	Age 65+	All Ages
Male	44.3	55.3	49.1	64.7	79.6	103.8	130.3	78.3
Female	42.2	51.2	58.0	73.6	97.1	122.5	169.9	98.7
Total	43.2	53.1	54.0	69.4	89.1	114.6	155.0	89.6

Source: NSRE 2000-2004, NSRE 2005-2006.

Number of sampled individuals supporting estimates of mean annual birding days by age group and gender

Gender	Age 16-19	Age 20-24	Age 25-34	Age 35-44	Age 45-54	Age 55-64	Age 65+	All Ages
Male	375	380	1,362	2,183	2,310	1,653	1,337	9,600
Female	453	485	1,865	2,838	3,290	2,465	2,477	13,873
Total	828	865	3,227	5,021	5,600	4,118	3,814	23,473

Source: NSRE 2000-2004, NSRE 2005-2006.

95% confidence intervals around estimates of mean annual days of birding by age group and gender (with point estimates highlighted in blue)

Gender	Lower conf. limit	Age 16-19	Upper conf. limit	Lower conf. limit	Age 20-24	Upper conf. limit	Lower conf. limit	Age 25-34	Upper conf. limit
Male	33.5	44.3	55.0	44.1	55.3	66.4	43.6	49.1	54.6
Female	32.8	42.2	51.7	41.4	51.2	60.9	52.8	58.0	63.2
Total	36.2	43.2	50.3	45.7	53.1	60.4	50.2	54.0	57.8

Gender	Lower conf. limit	Age 35-44	Upper conf. limit	Lower conf. limit	Age 45-54	Upper conf. limit
Male	59.7	64.7	69.7	74.3	79.6	84.8
Female	69.0	73.6	78.2	92.3	97.1	101.8
Total	66.0	69.4	72.8	85.6	89.1	92.6

Gender	Lower conf. limit	Age 55-64	Upper conf. limit	Lower conf. limit	Age 65+	Upper conf. limit	Lower conf. limit	All Ages	Upper conf. limit
Male	96.9	103.8	110.7	122.0	130.3	138.6	75.7	78.3	80.9
Female	116.5	122.5	128.5	163.6	169.9	176.3	96.3	98.7	101.1
Total	110.0	114.6	119.1	149.9	155.0	160.1	87.9	89.6	91.4

Source: NSRE 2000-2004, NSRE 2005-2006.

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Forest Service Goals Addressed: Goal 4--Sustain and Enhance Outdoor Recreation Opportunities and Goal 6--Engage Urban America with Forest Service Programs

Key Research Partners: University of Tennessee and University of Georgia

References:

Cordell, H. Ken, et al. 2004. Outdoor Recreation for 21st Century America. Table 2.1, page 40.

Baicich, Paul J. & Wayne R. Petersen. 2007. Birding Community E-Bulletin.

<http://www.refugenet.org/birding/birding5.html> or <http://www.steiner-birding.com/bulletin.html>