

1996 National and State Economic Impacts of Wildlife Watching

*Based on the 1996 National
Survey of Fishing, Hunting and
Wildlife-Associated Recreation*



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Introduction

Observing, feeding, and photographing wildlife in the United States is an important pastime for millions of Americans and contribute significantly to the national and state economies. In 1996, more than 60 million people 16 years of age and older spent over \$29 billion on trips and equipment in pursuit of these activities. Wildlife-watching expenditures have contributed substantially to Federal and state tax revenues, jobs, earnings, and industry output.

The 1996 National Survey of Fishing, Hunting and Wildlife-Associated Recreation (FHWAR) (U.S. Department of the Interior et al.) is the most comprehensive survey of wildlife-related recreation in the U.S. Over 34,000 interviews were completed with anglers, hunters, and wildlife watchers. The survey focuses on 1996 participation and expenditures by U.S. residents 16 years of age or older.

Two other reports used the 1996 FHWAR to address the national and state economic impacts of hunting and fishing.¹ In this report, estimates of national and state economic impacts of wildlife watching based on the 1996 FHWAR are reported. The following topics are addressed: (1) national participation in wildlife watching; (2) expenditures associated with participation in wildlife watching; (3) estimates of the total economic activity generated by these expenditures; (4) total employment and employment income associated with these expenditures; and (5) estimates of associated state and federal tax revenue.

Summary of National Economic Impacts of Wildlife Watching: 1996

Participation	62.9 million
Total Expenditures	\$29.2 billion
Total Industry Output	\$85.4 billion
Employment	1,010,590 jobs
Employment Income	\$24.2 billion
State Sales Tax	\$1.04 billion
State Income Tax	\$323.5 million
Federal Income tax	\$3.8 billion

¹ See *The Economic Importance of Hunting: Economic data on hunting throughout the entire United States.*, Southwick Associates, Arlington, VA, 1998; and *The Economic Importance of Sport Fishing: Economic data on sport fishing throughout the entire United States*, American Sportfishing Association, Alexandria, VA., 1998.

Participation in Wildlife Watching

Wildlife-related recreation is one of the most popular forms of recreation in the United States. In 1996, 77 million people participated in hunting, fishing and wildlife watching. By comparison, total attendance in 1996 for all major league baseball and football games numbered about 73.8 million (Carter and Sloan, 1997a,b).

Over 62 million people participated in some form of wildlife watching, which refers to nonharvesting activities such as observing, feeding and photographing wildlife. The figure of 62 million includes only primary participants in wildlife watching. Primary means that the principal motivation for the trip, activity or expenditure is wildlife related. Primary participation is further categorized as residential or nonresidential. Primary residential participants include those whose activities² are within one mile of home and primary nonresidential participants refers to people who take trips or outings of at least one mile for the primary purpose of observing, feeding, or photographing wildlife. For the purposes of the survey, trips to zoos, circuses, aquariums, museums and for scouting game are not considered wildlife watching.



USFWS Photo by Nan Rollison

² These activities include 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 one mile of home for the primary purpose of observing, feeding, or photographing wildlife (p. 3, U.S. Department of the Interior et al. 1997).

The Economic Impacts of Wildlife Watching

Spending associated with wildlife watching generates a substantial amount of economic activity across the U.S. Participants spend money on a wide variety of goods and services. Trip-related expenditures for nonresidential participants include expenses for food, lodging, and transportation. Both residential and nonresidential participants also buy equipment and related goods for the primary purpose of engaging in wildlife watching such as binoculars, cameras, wild bird food, membership in wildlife organizations, camping equipment, motor homes, campers, and off-road vehicles.

Because this spending directly benefits towns and communities where these purchases are made, wildlife watching can have a significant impact on local economies, especially in small towns and rural areas. For example, the town of High Island, near Galveston, Texas, is a prime bird watching site each spring as migrating songbirds concentrate in the area after their journey across the Gulf of Mexico. In 1992, 6,000 birdwatchers from across the U.S. and several foreign countries spent about \$2.5 million dollars in the area, despite there being only one restaurant and one hotel in the area (Eubanks et al. as summarized in Dickinson and Edmondson).

These direct expenditures are only part of the total picture, however. Businesses and industries that supply the local retailers where the purchases are made also benefit from wildlife-watching expenditures. For example, a family may decide to purchase a pair of binoculars to use primarily for birdwatching on an upcoming vacation. Part of the total purchase price will go to the local retailer, say a sporting goods store. The sporting goods store in turn pays a wholesaler that in turn pays the manufacturer of the binoculars. The manufacturer then spends a portion of this income to pay businesses supplying the manufacturer.



USFWS Photo

In this fashion, each dollar of local retail expenditures can affect a variety of businesses at the local, regional and national level. Consequently, consumer spending associated with wildlife watching can have a significant impact on economic activity, employment, and household income across the nation.

Methods

The 1996 FHVAR contains estimates of annual travel and equipment expenditures by wildlife-watching participants. Travel expenditures were obtained only for nonresidential participants³ while equipment expenditures were obtained for both residential and nonresidential participants. These expenditures were used in conjunction with an economic modeling method known as *input-output analysis*⁴ to estimate total industry output, employment and employment income associated with these expenditures.

State sales tax impacts were estimated using sales tax rates obtained from the Federation of Tax Administrators (1998). State income tax rates were estimated by dividing state individual income tax revenues by state wage and salary plus proprietors' income (U.S. Department of Commerce, 1997a,d). Federal income tax rates were derived similarly (U.S. Department of Commerce, 1997b).

³ Theoretically, residential participants would not have any travel expenses since all wildlife-associated activity took place within one mile of their home.

⁴ The estimates of total economic activity, employment and employment income in this report were derived using IMPLAN, a regional input-output model and software system. For additional information, see MIG, Inc. IMPLAN System (1994 data and software) and Olson and Lindall, IMPLAN Professional Software, Analysis and Data Guide. For additional information on input-output modeling, see Miller and Blair *Input-Output Analysis*.

Direct Expenditures

Figures 1 and 2 summarize major expenditure categories for 1996. In Figure 1, the category “Other” includes books and magazines, dues and contributions, expenses associated with owning or leasing land for wildlife watching and plantings. In Figure 2, the “Other” category includes guide fees, pack trips, public and private land use and access fees, equipment rental, boat fuel, other boating costs and heating and cooking fuel.

Total direct expenditures by participants was \$29.2 billion in 1996. Trip-related expenditures accounted for about \$9.4 billion (32.3 percent of total expenditures). Food and drink accounted for 36.5 percent of total trip-related expenditures and transportation and lodging accounted for 31.2 and 20.2 percent, respectively.

Equipment and other expenditures accounted for \$19.8 billion (67.7 percent of total expenditures). Off-road vehicles, tent trailers, motor homes and pick-up trucks accounted for 31.4 percent of total equipment and other expenditures. Packaged and bulk wild bird food accounted for 13.9 percent of equipment and related expenditures, while film purchases (including developing) and photographic equipment accounted for 5.6 and 8.8 percent, respectively.

Table 1 summarizes nationwide expenditures for wildlife watching in 1996.

Total Industry Output

The direct expenditures of \$29.2 billion in 1996 generated \$85.4 billion in total industrial output (TIO) across the U.S. TIO includes the direct, indirect and induced effects⁵ of wildlife-watching expenditures. The ratio of TIO to direct expenditures, 2.92, means that for each \$1 of direct spending associated with wildlife watching, an additional \$1.92 of economic activity is generated. Major sectors affected include manufacturing which accounted for \$27.0 billion (31.7 percent); service sector \$16.4 billion (19.3 percent); trade (both wholesale and retail) \$16.1 billion (18.8 percent); and finance-insurance-real estate which accounted for \$12.1 billion (14.1 percent) of output.

Figure 1. Wildlife Watching Expenditures by Major Category, 1996

\$29.2 billion

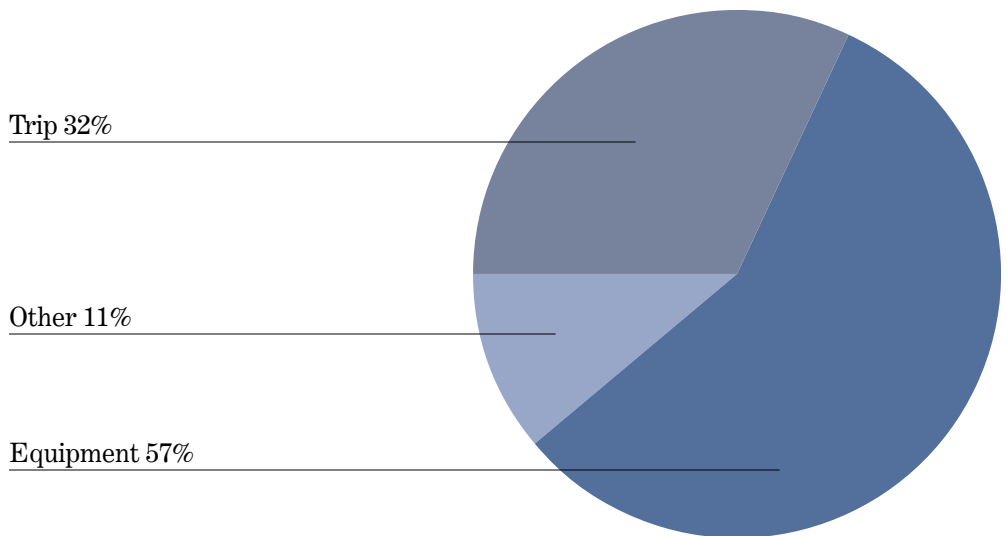
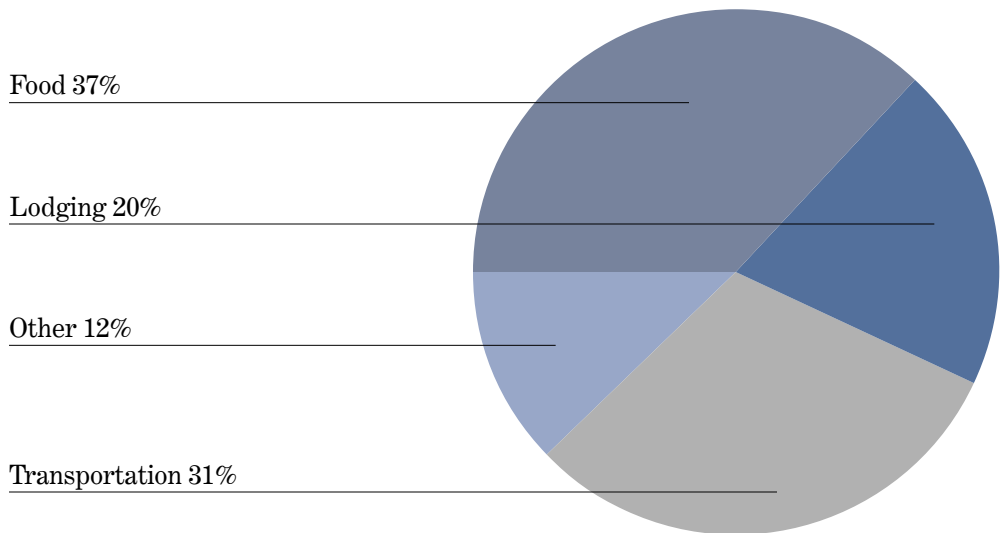


Figure 2. Trip Expenditures for Wildlife Watching, 1996

\$9.4 billion



Employment and Employment Income

The total industrial output of \$85.4 billion resulted in 1,010,590 jobs (full and part time) with total wages and salaries of \$24.2 billion. This results in a national average of \$23,931 per job per year. With respect to employment, major industrial sectors affected include trade with over 357,000 jobs (35.6 percent); services with 301,000 jobs (30.0 percent); manufacturing with 131,000 jobs (13.1 percent) and agriculture with over 70,000 jobs (7.0 percent).

The service sector accounted for the largest portion of employment income at \$6.9 billion (28.4 percent); trade accounted for \$6.8 billion (28.1 percent);

manufacturing with \$5.5 billion (22.8 percent) and finance-insurance-real estate at \$1.7 billion (7.1 percent). Table 2 summarizes economic impacts by major business sector (column sums may not equal column totals due to rounding).

⁵ Direct effects are production changes associated with the immediate effects of changes in final demand (in this case, changes in wildlife-associated expenditures); indirect effects are production changes in those industries which supply the inputs to industries directly affected by final demand; induced effects are changes in regional household spending patterns caused by changes in regional employment (generated from the direct and indirect effects) (Taylor et al. 1993, Appendix E, p. E-1).

Table 1. National Expenditures for Wildlife Watching: 1996

<i>Expenditure item</i>	<i>Total Expenditures (in millions)</i>	<i>Percent of Category Expenditures</i>	<i>Percent of Total Expenditures</i>
(1) Travel-related			
Food	\$3,446.7	36.5 %	11.8 %
Lodging	\$1,904.9	20.2 %	6.5 %
Public Transportation	\$810.9	8.6 %	2.8 %
Private Transportation	\$2,131.6	22.6 %	7.3 %
Guide fees, pack trip or package fees	\$310.5	3.3 %	1.1 %
Public land use/access fees	\$173.7	1.8 %	0.6 %
Private land use/access fees	\$106.6	1.1 %	0.4 %
Equipment rental	\$121.8	1.3 %	0.4 %
Boat fuel	\$101.0	1.1 %	0.3 %
Other boat costs	\$271.5	2.9 %	0.9 %
Heating and cooking fuel	\$64.6	0.7 %	0.2 %
	<i>Total, Travel-related</i>	<i>100.0 %</i>	<i>32.3 %</i>
(2) Equipment and other items			
<i>a. Wildlife-Watching Equipment and related items</i>			
Binoculars, spotting scopes	\$635.6	3.2 %	2.2 %
Cameras, video cameras, special lenses and other photographic equipment	\$1,748.2	8.8 %	6.0 %
Film and developing	\$1,103.8	5.6 %	3.8 %
Packaged wild bird food	\$2,129.5	10.8 %	7.3 %
Bulk wild bird food	\$603.7	3.1 %	2.1 %
Feed for other wildlife	\$456.8	2.3 %	1.6 %
Nest boxes, bird houses, feeders, baths	\$831.6	4.2 %	2.8 %
Other wildlife-watching equipment	\$167.1	0.8 %	0.6 %
Day packs, carrying cases, and special clothing	\$553.4	2.8 %	1.9 %
	<i>Wildlife-watching, sub-total</i>	<i>41.6 %</i>	<i>28.2 %</i>
<i>b. Auxiliary Equipment</i>			
Tents and tarps	\$285.9	1.4 %	1.0 %
Frame packs and backpacking equipment	\$134.8	0.7 %	0.5 %
Other camping equipment	\$334.4	1.7 %	1.1 %
Other auxiliary equipment	\$103.2	0.5 %	0.4 %
	<i>Auxiliary, sub-total</i>	<i>4.3 %</i>	<i>2.9 %</i>
<i>c. Special Equipment</i>			
Off-the-road vehicles	\$3,970.4	20.1 %	13.6 %
Travel or tent trailer, pick-up, camper, van, motor home	\$2,247.3	11.4 %	7.7 %
Boats	\$435.8	2.2 %	1.5 %
Boat Accessories	\$101.3	0.5 %	0.3 %
Cabins*	—	—	—
Other equipment	\$108.6	0.5 %	0.4 %
	<i>Special, sub-total</i>	<i>38.2 %</i>	<i>25.9 %</i>
<i>d. Other items</i>			
Magazines and books	\$395.0	2.0 %	1.4 %
Membership dues and contributions	\$861.8	4.4 %	2.9 %
Land leasing and ownership	\$1,338.2	6.8 %	4.6 %
Plantings	\$536.6	2.7 %	1.8 %
	<i>Other items, sub-total</i>	<i>15.8 %</i>	<i>10.7 %</i>
	<i>Total, equipment and other items</i>	<i>100 %</i>	<i>67.7 %</i>
	<i>National Total</i>	<i>—</i>	<i>100.0 %</i>

*Sample size is too small to report data reliably.

Table 2. National Economic Impacts of Wildlife Watching by Major Industrial Sector, 1996*(all dollar amounts in millions)*

<i>Sector</i>	<i>Total Industrial Output</i>	<i>Sector as Percent of Total</i>	<i>Employment</i>	<i>Sector as Percent of Total</i>	<i>Employment Income</i>	<i>Sector as Percent of Total</i>
Agriculture	\$3,136.4	3.7 %	70,591	7.0 %	\$498.2	2.1 %
Mining	\$842.0	1.0 %	3,169	0.3 %	\$140.3	0.6 %
Construction	\$2,213.7	2.6 %	25,314	2.5 %	\$694.3	2.9 %
Manufacturing	\$27,042.5	31.7 %	131,301	13.1 %	\$5,493.7	22.8 %
TCPU (1)	\$6,396.2	7.5 %	45,102	4.5 %	\$1,396.1	5.8 %
Trade	\$16,091.2	18.8 %	357,748	35.6 %	\$6,778.1	28.1 %
FIRE (2)	\$12,079.8	14.1 %	57,464	5.7 %	\$1,703.3	7.1 %
Services	\$16,441.5	19.3 %	301,415	30.0 %	\$6,863.1	28.4 %
Government	\$1,142.0	1.3 %	12,172	1.2 %	\$565.2	2.3 %
Other	\$52.6	0.1 %	6,312	0.6 %	\$52.7	0.2 %
<i>Totals</i>	<i>\$85,437.9</i>	<i>100.0 %</i>	<i>1,010,590</i>	<i>100.0 %</i>	<i>\$24,184.9</i>	<i>100.0 %</i>

(1) TCPU: Transportation, Communications, Public Utilities

(2) FIRE: Finance, Insurance, Real Estate

Federal and State Taxes

Wildlife-watching expenditures generate taxes at both the state and federal level in two ways. First, direct and indirect expenditures generate state sales tax (except in those states without sales tax). Second, employment earnings are taxed at both the state (with the exception of states which do not tax income) and federal levels. Based on 1996 expenditures on wildlife watching, associated total industrial output and associated employment and employment income, 1996 tax revenue is estimated as follows:

(1) total state sales tax revenue: \$1.04 billion;

(2) total state income tax revenue: \$323.5 million; and

(3) total federal individual income tax revenue: \$3.82 billion.

State Impacts

Table 3 shows the economic impacts of wildlife-watching expenditures by state for 1996 (special equipment expenditures were not included in the state models because of the small number of observations for this category; therefore the numbers reported here will not match state expenditure totals in other reports). U.S. totals are shown at the bottom of Table 3. With the exception of state sales and income tax revenue totals for the U.S., state totals do not add up to U.S. totals. The state impact figures show only those impacts which occur within the state. For example, a Boise, Idaho sporting goods store may carry a brand of fishing tackle that is manufactured in Salt Lake City, Utah. When an angler purchases the fishing tackle, only a portion of the money is kept by the retailer. Part of the total selling price goes to the Salt Lake City manufacturer. This transaction between the sporting goods store and the manufacturer (or wholesaler, depending on the situation) will not appear in the Idaho state totals. The U.S. totals capture these interstate impacts, however.

To help put these numbers in context, Table 4 shows the estimated impacts as a percentage of commensurate state totals for 1996. The first column shows total industry output as a percentage of Gross State Product (GSP).⁶ The second column shows estimated employment as a

percentage of total (annual) state employment. Finally, the third column shows estimated employment income as a percentage of total state wage and salary disbursements (U.S. Department of Commerce, 1997c,d). Ten states derive more than 1 percent of their gross state product from wildlife-watchers' activities. Almost 5 percent of Alaska employment is derived from wildlife watching.

An additional way to help place wildlife-watching expenditures in context is to think of these expenditures as the 1996 annual sales revenue of a particular company. With a total of \$29.2 billion in sales, this company would rank 23rd on the Fortune 500 list for 1996, just behind Citicorp (\$32.6 billion), PepsiCo, Inc. (\$31.6 billion), and Kmart Corporation (\$31.4 billion) (Fortune).

⁶ Gross state product (GSP) is the sum of gross state products originating in all industries in a particular state. An industry's GSP is equivalent to its gross output (sales or receipts and other operating income, commodity taxes, and inventory change) minus its intermediate inputs (consumption of goods and services purchased from other industries or imported). GSP is sometimes referred to as the State counterpart of the nation's gross domestic product (GDP) (U.S. Department of Commerce, 1997c).

Table 3. Wildlife-watching Expenditures and Economic Impacts, State and National Totals: 1996*All dollar amounts in millions*

<i>State</i>	<i>Expenditures/ Sales</i>	<i>Output</i>	<i>Jobs</i>	<i>Job Income</i>	<i>State Sales Tax Revenue</i>	<i>State Income Tax Revenue</i>	<i>Federal Income Tax</i>
Alabama	\$207.3	\$336.4	5,536	\$94.6	\$8.3	\$2.7	\$14.9
Alaska	\$727.9	\$994.3	14,311	\$279.8	\$0.0	\$0.0	\$44.1
Arizona	\$426.9	\$692.5	10,230	\$200.3	\$21.3	\$5.0	\$31.6
Arkansas	\$183.7	\$301.6	5,162	\$75.9	\$8.5	\$2.9	\$12.0
California	\$2,123.6	\$3,677.5	47,716	\$1,131.9	\$127.4	\$45.1	\$178.6
Colorado	\$786.2	\$1,368.9	19,784	\$402.5	\$23.6	\$13.9	\$63.5
Connecticut	\$199.0	\$318.1	4,282	\$110.6	\$11.9	\$4.3	\$17.4
Delaware	\$59.2	\$90.1	1,571	\$32.0	\$0.0	\$1.4	\$5.0
Florida	\$1,259.5	\$2,141.8	31,271	\$659.9	\$75.6	\$0.0	\$104.1
Georgia	\$793.4	\$1,265.9	13,883	\$280.3	\$31.7	\$10.2	\$44.2
Hawaii	\$286.2	\$451.0	5,197	\$131.8	\$11.4	\$6.8	\$20.8
Idaho	\$120.3	\$196.2	4,126	\$58.0	\$6.0	\$2.5	\$9.1
Illinois	\$667.9	\$1,220.2	16,663	\$381.1	\$41.7	\$10.6	\$60.1
Indiana	\$263.8	\$454.7	7,511	\$129.5	\$13.2	\$5.2	\$20.4
Iowa	\$174.3	\$298.2	5,164	\$81.1	\$8.7	\$3.1	\$12.8
Kansas	\$102.4	\$175.9	3,048	\$46.3	\$5.0	\$1.7	\$7.3
Kentucky	\$181.8	\$275.0	4,839	\$79.0	\$10.9	\$3.3	\$12.5
Louisiana	\$184.5	\$299.0	5,136	\$85.6	\$7.4	\$1.9	\$13.5
Maine	\$212.8	\$335.2	5,800	\$98.6	\$12.8	\$4.5	\$15.6
Maryland	\$374.0	\$610.9	8,709	\$193.6	\$18.7	\$8.6	\$30.5
Massachusetts	\$468.6	\$793.4	11,448	\$275.8	\$23.4	\$15.4	\$43.5
Michigan	\$724.2	\$1,173.0	17,779	\$353.8	\$43.5	\$13.6	\$55.8
Minnesota	\$360.0	\$645.1	10,613	\$200.4	\$23.4	\$10.0	\$31.6
Mississippi	\$117.8	\$193.5	3,558	\$53.6	\$8.2	\$1.3	\$8.5
Missouri	\$394.8	\$738.8	11,637	\$218.8	\$16.7	\$8.0	\$34.5
Montana	\$212.4	\$328.5	5,962	\$82.5	\$0.0	\$3.2	\$13.0
Nebraska	\$80.8	\$138.3	2,457	\$37.6	\$4.0	\$1.2	\$5.9
Nevada	\$143.6	\$219.6	3,029	\$68.8	\$9.3	\$0.0	\$10.8
New Hampshire	\$281.2	\$413.1	4,836	\$91.2	\$0.0	\$0.0	\$14.4
New Jersey	\$646.3	\$1,053.7	13,556	\$366.7	\$38.8	\$11.7	\$57.9
New Mexico	\$223.2	\$366.3	6,093	\$100.2	\$11.2	\$3.2	\$15.8
New York	\$868.7	\$1,403.1	18,058	\$494.9	\$34.7	\$25.3	\$78.1
North Carolina	\$502.7	\$852.1	13,425	\$242.8	\$20.1	\$10.9	\$38.3
North Dakota	\$33.1	\$52.1	1,045	\$14.1	\$1.7	\$0.2	\$2.2
Ohio	\$454.6	\$748.9	11,872	\$220.4	\$22.7	\$7.6	\$34.8
Oklahoma	\$201.4	\$345.1	6,302	\$91.6	\$9.1	\$3.5	\$14.5
Oregon	\$406.7	\$710.6	11,759	\$216.1	\$0.0	\$12.6	\$34.1
Pennsylvania	\$688.2	\$1,216.6	18,435	\$371.2	\$41.3	\$11.0	\$58.6
Rhode Island	\$48.4	\$71.7	1,065	\$22.6	\$3.4	\$0.9	\$3.6
South Carolina	\$247.0	\$393.0	6,623	\$114.2	\$12.3	\$4.4	\$18.0
South Dakota	\$137.8	\$216.6	4,183	\$56.4	\$5.5	\$0.0	\$8.9
Tennessee	\$439.3	\$741.0	11,486	\$212.6	\$26.4	\$0.0	\$33.5
Texas	\$1,103.9	\$1,963.7	29,071	\$556.4	\$69.0	\$0.0	\$87.8
Utah	\$225.8	\$381.1	6,749	\$115.7	\$10.7	\$4.8	\$18.3
Vermont	\$187.1	\$270.2	3,408	\$52.3	\$9.4	\$1.8	\$8.3
Virginia	\$583.4	\$953.0	15,438	\$300.7	\$20.4	\$12.2	\$47.4
Washington	\$875.3	\$1,452.2	21,454	\$426.9	\$56.9	\$0.0	\$67.4
West Virginia	\$112.9	\$159.0	2,913	\$45.7	\$6.8	\$1.8	\$7.2
Wisconsin	\$1,159.6	\$1,830.6	26,441	\$462.0	\$58.0	\$24.9	\$72.9
Wyoming	\$217.5	\$316.7	6,193	\$82.8	\$8.7	\$0.0	\$13.1
United States	\$29,227.9	\$85,437.9	1,010,590	\$24,184.9	\$1,039.8	\$323.5	\$3,815.2

Table 4. Economic Impacts as Percentage of State Totals, 1996

<i>State</i>	<i>Total Output as Percentage of Gross State Product</i>	<i>Generated Employment as Percentage of Total State Employment</i>	<i>Generated Employment Income as Percentage of Total State Wage and Salary Disbursements</i>
Alabama	0.36 %	0.28 %	0.20 %
Alaska	4.01 %	4.89 %	3.02 %
Arizona	0.69 %	0.51 %	0.38 %
Arkansas	0.56 %	0.45 %	0.30 %
California	0.39 %	0.34 %	0.26 %
Colorado	1.28 %	0.97 %	0.70 %
Connecticut	0.27 %	0.26 %	0.19 %
Delaware	0.32 %	0.39 %	0.27 %
Florida	0.63 %	0.47 %	0.39 %
Georgia	0.65 %	0.37 %	0.28 %
Hawaii	1.16 %	0.84 %	0.78 %
Idaho	0.76 %	0.77 %	0.47 %
Illinois	0.34 %	0.28 %	0.21 %
Indiana	0.31 %	0.26 %	0.17 %
Iowa	0.41 %	0.35 %	0.24 %
Kansas	0.27 %	0.23 %	0.15 %
Kentucky	0.29 %	0.27 %	0.18 %
Louisiana	0.28 %	0.27 %	0.19 %
Maine	1.22 %	1.01 %	0.73 %
Maryland	0.43 %	0.36 %	0.27 %
Massachusetts	0.40 %	0.36 %	0.26 %
Michigan	0.46 %	0.39 %	0.25 %
Minnesota	0.49 %	0.42 %	0.28 %
Mississippi	0.36 %	0.30 %	0.21 %
Missouri	0.54 %	0.43 %	0.31 %
Montana	1.83 %	1.53 %	1.01 %
Nebraska	0.31 %	0.28 %	0.18 %
Nevada	0.47 %	0.34 %	0.27 %
New Hampshire	1.31 %	0.84 %	0.58 %
New Jersey	0.39 %	0.36 %	0.28 %
New Mexico	0.90 %	0.81 %	0.57 %
New York	0.23 %	0.22 %	0.16 %
North Carolina	0.43 %	0.35 %	0.25 %
North Dakota	0.36 %	0.32 %	0.20 %
Ohio	0.26 %	0.21 %	0.15 %
Oklahoma	0.49 %	0.44 %	0.27 %
Oregon	0.90 %	0.75 %	0.52 %
Pennsylvania	0.39 %	0.33 %	0.24 %
Rhode Island	0.28 %	0.23 %	0.18 %
South Carolina	0.46 %	0.37 %	0.27 %
South Dakota	1.17 %	1.14 %	0.75 %
Tennessee	0.55 %	0.43 %	0.31 %
Texas	0.38 %	0.33 %	0.23 %
Utah	0.86 %	0.67 %	0.47 %
Vermont	1.91 %	1.17 %	0.75 %
Virginia	0.50 %	0.45 %	0.31 %
Washington	0.95 %	0.82 %	0.55 %
West Virginia	0.42 %	0.41 %	0.27 %
Wisconsin	1.36 %	0.97 %	0.67 %
Wyoming	1.82 %	2.61 %	1.53 %
United States	1.17 %	0.79 %	0.67 %

Summary

Wildlife based recreation in the U.S. has significant economic impacts at the local, regional, state and national levels. Hunting, fishing and wildlife watching together generated over \$254 billion in total economic output in 1996 (American Sportfishing Association; and Southwick Associates). Wildlife watching is a significant portion of this total and its continued popularity gives evidence to the importance that people attach to diverse, accessible and robust fish and wildlife populations.



USFWS Photo by Barbara Ely

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