

The 2006 Economic Benefits of Hunting, Fishing and Wildlife Watching in



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Executive Summary

The purpose of this project was to help resource managers and the public develop a better understanding of the economic contributions of hunting, sportfishing and wildlife watching activities in Utah in 2006. When used effectively, economic data can help increase legislative, public, business and media awareness of the importance of fish and wildlife, and as a result, help boost conservation efforts and public recreational opportunities.

In 2006, 1.1 million residents and non-residents participated in some form of fish and wildlife-related recreation in Utah. These anglers, hunters and wildlife viewers spent \$1.24 billion in retail sales creating \$651.9 million in salaries and wages, and supporting more than 24,000 jobs. The total economic effect (multiplier effect) from fish and wildlife-related recreation was estimated at \$2.3 billion.

Table E-1: Executive Summary

	RETAIL SALES	OUTPUT	SALARIES, WAGES & BUSINESS PROPRIETOR'S INCOME	JOBs	FEDERAL TAX REVENUE	STATE & LOCAL TAX REVENUE
All Freshwater Fishing:	\$393,073,441	\$708,127,210	\$199,856,376	7,001	\$42,182,205	\$39,779,016
Residents Only:	\$316,944,843	\$572,823,594	\$159,756,136	5,529	\$33,677,878	\$31,715,115
Non-Residents Only:	\$76,128,599	\$135,303,616	\$40,100,240	1,472	\$8,504,327	\$8,063,901
All Hunting:	\$293,808,223	\$523,147,919	\$163,059,714	6,487	\$34,094,522	\$31,107,632
Residents Only:	\$270,144,597	\$481,287,093	\$148,082,648	5,955	\$31,002,365	\$28,687,797
Non-Residents Only: *	\$23,663,626	\$41,860,826	\$14,977,066	532	\$3,092,157	\$2,419,835
All Wildlife Watching Activities:	\$554,968,432	\$1,026,335,049	\$288,987,500	10,569	\$61,026,806	\$55,780,041
Residents Only:	\$116,786,725	\$208,850,484	\$61,644,144	2,361	\$13,064,345	\$12,260,642
Non-Residents Only: *	\$438,181,707	\$817,484,565	\$227,343,356	8,208	\$47,962,461	\$43,519,399
All Fish and Wildlife Related Recreation (combined):	\$1,241,850,096	\$2,257,610,179	\$651,903,590	24,056	\$137,303,533	\$126,666,689
Residents Only:	\$703,876,164	\$1,262,961,171	\$369,482,928	13,844	\$77,744,588	\$72,663,554
Non-Residents Only:	\$537,973,932	\$994,649,008	\$282,420,662	10,212	\$59,558,945	\$54,003,135

* = data based on a small sample size

Introduction

Expenditures made for fish and wildlife-related recreation support significant industries. Unlike traditional industries which are often easily recognized by large factories, the hunting, fishing and wildlife viewing industries are comprised of widely scattered retailers, manufacturers, wholesalers and support services that, when considered together, become quite significant. Given that outdoor recreation dollars are often spent in rural or lightly populated areas, the economic contributions of fish and wildlife resources can be especially important to rural economies.

This project assesses the 2006 economic contributions of fish and wildlife-based recreation in Utah. The purpose was to provide resource managers with the economic information necessary to better conserve and manage wildlife and other natural resources. Only the effects of recreation expenditures that occurred within Utah are considered.

This report contains sections devoted to demographic, participation, and economic impact information that provide the reader with a better understanding of the activities undertaken by outdoor recreationists. Definitions of several terms used in this report are provided in Appendix A. Appendix B provides methodological descriptions. Appendix C presents detailed expenditures for hunting, and Appendices D and E provide detailed expenditures for fishing and wildlife watching respectively.

Methods

Data on demographics, participation and expenditures were obtained from the 2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (Survey), which is conducted approximately every five years by the U.S. Fish and Wildlife Service and the U.S. Bureau of the Census. The Survey provides data required by natural resource management agencies, industry and private organizations at state and national levels to assist in optimally managing natural resources. The Survey is funded through excise taxes on hunting and fishing equipment through the Federal Aid in Sport Fish and Wildlife Restoration Acts. The expenditure data were analyzed using economic models to quantify economic impacts. A more detailed description of the methods used to generate the economic estimates is presented in Appendix B.

Demographics

Hunter Demographics

Participants (Table 1) are approximately 37 years old, are predominantly male, and are likely to be married. The average household income for Utah resident hunters is approximately \$69,747, significantly higher than the \$55,179 state average (U.S. Census Bureau). About 50 percent of hunters in Utah have at least some college experience. Non-resident hunters typically have higher income and more education. Big Game and deer hunters have a slightly higher income. Only a small percentage of hunters in Utah report they are non-white.

Table 1 does not necessarily represent the most popular types of game in Utah. The species presented are those most often cited by hunters as targets of their activity, which may be driven by availability rather than preference. In other words, hunters may often pursue species based on the higher likelihood of hunting success rather than the species they actually desire.

Angler Demographics

Anglers (Table 2) are approximately 40 years old, are predominantly male, and are likely to be married. The average household income for anglers participating in freshwater fishing in Utah is approximately \$66,000. About 54 percent of freshwater anglers in Utah have some college experience. Only a small percentage of freshwater anglers in Utah report they are non-white.

The table below does not necessarily represent the most popular species in Utah. The species presented are those most often cited by anglers as targets of their activity, which may be driven by availability rather than preference. In other words, anglers may often fish for the species that is more likely to bite on a given day rather than the species they would actually prefer to catch.

Table 1. Demographic Background of Hunters by Species Hunted in Utah in 2006 (Participants 16 years old and older)

ALL HUNTERS	Big Game	Small Game	Upland Game Bird	Migratory Bird	Deer	Rabbit	Pheasant	All Hunting
Race (non-white)	2.1%	5.7%	2.3% *	0.0% *	2.5%	8.5% *	0.0% *	4.0%
Average age	37.5	36.1	34.8 *	35.8 *	36.8	36.9 *	30.7 *	36.9
Gender (male)	83.7%	89.4%	90.9% *	96.8% *	80.0%	89.4% *	91.5% *	87.7%
Marital Status (married)	79.1%	76.8%	73.3% *	75.9% *	77.5%	83.5% *	70.3% *	78.0%
Average household income	\$74,927	\$65,018	\$66,664 *	\$69,696 *	\$72,911	\$58,506	\$69,357 *	\$72,093
Education								
No High School	0.7%	4.4%	0.0% *	0.0% *	0.0%	8.5% *	0.0% *	2.7%
Some High School	15.9%	12.4%	20.3% *	11.2% *	17.8%	2.2% *	21.6% *	16.0%
High School Diploma	33.8%	31.3%	25.5% *	46.7% *	39.2%	41.1% *	30.6% *	31.8%
College Graduate	32.1%	29.6%	30.1% *	17.3% *	28.0%	25.7% *	31.5% *	31.8%
Post-graduate	17.4%	22.2%	24.1% *	24.8% *	15.0%	22.6% *	16.4% *	18.2%
RESIDENT								
Race (non-white)	2.5%	5.7%	2.3% *	0.0% *	2.9%	8.5%	6.6% *	4.6%
Average age	38.2	36.1	34.8 *	35.8 *	37.9	36.9	30.7 *	37.2
Gender (male)	84.1%	89.4%	90.9% *	96.8% *	81.3%	89.4%	82.8% *	88.6%
Marital Status (married)	83.0%	76.8%	73.3% *	75.9% *	83.5%	83.5%	61.5% *	80.8%
Average household income	\$72,312	\$65,018	\$66,664 *	\$69,696 *	\$72,488	\$58,506	\$69,357 *	\$69,747
Education								
No High School	0.9%	4.4%	0.0% *	0.0% *	0.0%	8.5%	0.0% *	2.8%
Some High School	12.9%	12.4%	20.3% *	11.2% *	13.1%	2.2%	21.6% *	13.9%
High School Diploma	37.6%	31.3%	25.5% *	46.7% *	41.8%	41.1%	30.6% *	34.3%
College Graduate	28.4%	29.6%	30.1% *	17.3% *	28.5%	25.7%	31.5% *	28.5%
Post-graduate	20.3%	22.2%	24.1% *	24.8% *	16.6%	22.6%	16.4% *	20.5%

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* = sample size is small and results should be interpreted with caution.

** = sample size is too small to report reliably

NOTE: a hunter may target multiple species and can be included in more than one species above.

Table 1. (Continued) Demographic Background of Hunters by Species Hunted in Utah in 2006 (Participants 16 years old and older)

<u>NONRESIDENT</u>	Big Game	Small Game	Upland Game Bird	Migratory Bird	Deer	Rabbit	Pheasant	All Hunting
Race (non-white)	**	**	**	**	**	**	**	0.0% *
Average age	**	**	**	**	**	**	**	35.1 *
Gender (male)	**	**	**	**	**	**	**	81.8% *
Marital Status (married)	**	**	**	**	**	**	**	60.2% *
Average household income	**	**	**	**	**	**	**	\$90,460 *
Education	**							
No High School	**	**	**	**	**	**	**	1.9% *
Some High School	**	**	**	**	**	**	**	29.5% *
High School Diploma	**	**	**	**	**	**	**	15.9% *
College Graduate	**	**	**	**	**	**	**	48.7% *
Post-graduate	**	**	**	**	**	**	**	4.0% *

* = sample size is small and results should be interpreted with caution.

** = sample size is too small to report reliably

NOTE: a hunter may target multiple species and can be included in more than one species above.

Table 2. Utah Angler Demographics by Species Fished, 2006 (Participants 16+ years old)

<u>ALL ANGLERS</u>	All Freshwater	Panfish	White Bass	Black Bass	Catfish	Walleye	Trout	Any species	
Race (non-white)	5.4%	0.0% *	2.0%	12.6%	7.5%	6.6%	*	5.1%	3.9% *
Average age	39.9	44.3 *	41.4	39.9	36.8	42.1	*	40.3	30.5 *
Gender (male)	78.9%	67.4% *	69.4%	92.1%	76.6%	85.0%	*	80.0%	75.8% *
Marital Status (married)	75.3%	92.7% *	78.8%	72.5%	68.8%	77.3%	*	77.8%	52.1% *
Average household income	\$66,069	\$63,209	\$68,764	\$62,924	\$67,428	\$62,647	*	\$66,860	\$70,555 *
Education							*		
No High School	2.4%	0.0% *	0.0%	8.9%	5.8%	0.0%	*	1.9%	0.0% *
Some High School	10.2%	7.3% *	10.5%	1.4%	18.8%	12.7%	*	9.8%	11.5% *
High School Diploma	33.3%	24.6% *	24.5%	20.6%	25.8%	39.2%	*	33.1%	51.3% *
College Graduate	26.8%	16.5% *	31.1%	20.6%	16.8%	6.2%	*	29.1%	21.1% *
Post-graduate	27.2%	51.6% *	33.9%	48.6%	32.8%	41.9%	*	26.1%	16.0% *
RESIDENT ANGLERS									
Race (non-white)	5.9%	0.0%*	2.0%*	12.6%	9.2%	9.2%	*	5.1%	3.9%*
Average age	38.8	42.0*	39.8*	40.4	36.9	39.3	*	39.7	30.5*
Gender (male)	76.9%	85.1%*	64.1%*	91.1%	73.6%	91.6%	*	78.3%	75.8%*
Marital Status (married)	74.4%	9217%*	77.2%*	72.8%	64.9%	68.4%	*	76.8%	52.1%*
Average household income	\$63,372	\$65,964*	\$68,027*	\$56,969	\$60,100*	\$63,437	*	\$63,452	\$70,555*
Education									
No High School	3.1%	0.0% *	0.0% *	12.8%	7.1%	0.0%	*	2.4%	0.0% *
Some High School	10.2%	7.9% *	13.3% *	1.9%	23.1%	17.6%	*	8.9%	11.5% *
High School Diploma	34.4%	26.7% *	22.6% *	29.5%	25.7%	42.1%	*	3361%	51.3% *
College Graduate	29.9%	17.9% *	31.4% *	22.1%	20.6%	8.7%	*	31.7%	21.1% *
Post-graduate	22.4%	47.5% *	32.7% *	33.7%	23.5%	31.6%	*	23.4%	16.0% *

* = sample size is small and results should be interpreted with caution.

** = sample size is too small to report reliably

Note: an angler may fish for multiple species and can be included in more than one species above.

Table 2. (Continued) Utah Angler Demographics by Species Fished, 2006 (Participants 16+ years old)

<u>NONRESIDENT</u>	All Freshwater	Panfish	White Bass	Black Bass	Catfish	Walleye	Trout	Any species
Race (non-white)	4.0%	**	**	**	**	**	4.0%	**
Average age	43.8	**	**	**	**	**	43.8	**
Gender (male)	85.5%	**	**	**	**	**	85.5%	**
Marital Status (married)	78.1%	**	**	**	**	**	78.1%	**
Average household income	\$73,931	**	**	**	**	**	\$78,329	**
Education								
No High School	0.0%	**	**	**	**	**	0.0%	**
Some High School	1042%	**	**	**	**	**	1042%	**
High School Diploma	29.6%	**	**	**	**	**	29.6%	**
College Graduate	16.6%	**	**	**	**	**	16.6%	**
Post-graduate	43.3%	**	**	**	**	**	43.3%	**

* = sample size is small and results should be interpreted with caution.

** = sample size is too small to report reliably

Note: an angler may fish for multiple species and can be included in more than one species above.

Wildlife Viewer Demographics

Wildlife watching is divided into two major categories: Residential--activities that occur within one mile of the home; and Non-Residential--activities that occur one mile or further from home. Non-Residential activity can be divided into two: *residents* and *non-residents*. Residents are people who reside in Utah, and non-residents represent out-of-state visitors. As a result of these definitions, terms will arise such as “resident non-residential participation” meaning state residents who participate in wildlife viewing one mile or more from their home.

Participants (Table 3) tend to be older than hunters and anglers, are split fairly evenly between male and female, and are likely to be married. Only a small percentage of wildlife viewers in Utah report they are non-white.

Table 3. Utah Wildlife Watching Demographics, 2006 (Participants 16 years+)

	Nonresidential Activity		Residential	All Participants:
	Resident	Nonresident *	Activity	
Race (non-white)	11.9%	12.8%	6.5%	13.0%
Average age	43.0	51.7	47.7	48.4
Gender (male)	50.5%	69.0%	50.2%	62.1%
Marital Status (married)	74.8%	73.8%	71.1%	74.2%
Average Household Income	\$60,113	\$90,323	\$60,412	\$79,653
<u>Education</u>				
No High School	0.0%	0.0%	1.9%	0.0%
Some High School	5.0%	3.7%	4.9%	4.2%
High School Diploma	38.3%	14.6%	32.4%	23.5%
College Graduate	20.0%	22.8%	32.9%	21.7%
Post-graduate	36.7%	59.0%	27.9%	50.6%

* = data based on a small sample size

The average household incomes for residents participating in non-residential and residential activities are approximately the same. Non-residents (out-of-state visitors) have, on average, a household income higher than resident participants. Just like hunters and anglers, wildlife watchers tend to have incomes higher than the 2006 state average (\$55,179, U.S. Census Bureau). As with income levels, the education levels of residents who participate in residential and non-residential activities are similar.

Participation

Hunter Participation

In 2006, there were 166,000 hunters (residents and nonresidents), hunting a total of 1.7 million days in Utah (Table 4). Of the total hunters in Utah, 144,000 were state residents and 23,000 were nonresidents. Upland game bird hunting was the most popular in terms of hunters and days, surpassing the second-ranked category of big game hunting.

Table 4. Hunting Participation by Residential Status and Species Hunted in Utah in 2006 (Participants 16+ years)

Number of participants	All Hunting	Big Game	Small Game	Migratory Bird	Pheasant	Rabbit	Upland Game Bird	Deer	Elk
Resident	143,659	103,035	70,535	26,419	32,736	36,908	93,643	87,439	38,877
Nonresident	22,714	22,275	-	-	-	-	36,814	14,945	8,163
Total	166,374	125,310	70,535	26,419	32,736	36,908	130,457	102,384	47,040
Number of days									
Resident	1,623,889	969,601	650,920	189,364	144,082	298,349	1,139,250	733,311	299,354
Nonresident	91,067	89,749	-	-	-	-	180,663	67,758	24,488
Total	1,714,957	1,059,350	650,920	189,364	144,082	298,349	1,319,913	801,069	323,843
Avg Days of Participation									
Resident	11.3	9.4	9.2	7.2	4.4	8.1	12.2	8.4	7.7
Nonresident	4.0	4.0	-	-	-	-	4.9	4.5	3.0
Total	10.3	8.5	9.2	7.2	4.4	8.1	10.1	7.8	6.9
Number of observations									
Resident	111	82	48	24	20	26	70	69	29
Nonresident	10	9	-	-	-	-	15	8	2
Total	121	91	48	24	20	26	85	77	31

NOTE: a hunter may target multiple species and can be included in more than one species above.

NOTE: Each category above is not exclusive of others. The Definitions appendix explains each category.

* = sample size is small and results should be interpreted with caution.

** = sample size is too small to report reliably

Angler Participation

In 2006, there were 375,000 freshwater anglers (residents and nonresidents), fishing a total of 3.8 million days in Utah (Table 5). Of the total freshwater anglers in Utah, 288,334 were state residents and 86,977 were nonresidents. Most fishing effort was directed at trout.

Wildlife Watching Participation

Participation information is divided into two subsections. The first subsection explores non-residential activities by state residents and visitors (non-residents). The second subsection examines residential activities (activities occurring within one mile of home).

Non-Residential Participation (activity occurring one or more miles from home):

In 2006, there were 518,437 watchable wildlife recreationists (residents and non-residents) participating in non-residential activities in Utah (Table 6). Of the total recreationists in Utah participating in activities more than one mile from home, 194,000 were state residents and 324,000 were non-residents. Altogether, these recreationists spent 3.9 million days in non-residential activities in Utah.

The primary watchable wildlife activity, measured in terms of number of participants, was observing wildlife, with photographing wildlife the second preferred activity. In terms of days of activity, feeding wildlife ranked higher than photographing wildlife. Please note one participant may engage in two or more activities per trip as these activities are not exclusive of one another.

Participation by resident and non-resident recreationists in terms of type of land used and wildlife observed, fed, or photographed is presented in Table 7. Note that the results presented in Table 7 do not necessarily imply that recreationists prefer a certain site type or prefer to observe a certain wildlife type. This is because the results in Table 7 reflect participants' preferences *and* the availability of sites and wildlife.

Residential Participation (activity occurring within one mile of home):

In 2006, there were 491,000 residential watchable wildlife participants in Utah (Table 8). This number represents Utah residents participating in watchable wildlife recreation within one mile of their home. Compared to non-residential activity, there are nearly three times more residents who participate within one mile of their homes than those who travel away from home. However, the bulk of expenditures associated with wildlife viewing are made for activities away from home.

Table 5. Fishing Participation by Residential Status and Species Fished in Utah in 2006 (Participants 16+ years)

<u>Number of participants</u>	<u>All Freshwater</u>	<u>Panfish</u>	<u>White Bass</u>	<u>Black Bass</u>	<u>Catfish</u>	<u>Trout</u>	<u>Any Freshwater</u>
Resident	288,334	21,674	35,677	41,783	43,797	258,434	20,828
Nonresident	86,977	1,863	9,214	18,064	9,924	69,169	-
Total	375,311	23,537	44,891	59,847	53,721	327,603	20,828
<u>Number of days</u>							
Resident	3,387,324	120,401	340,976	309,924	381,163	2,693,768	106,996
Nonresident	434,220	3,725	67,431	121,443	57,663	309,700	-
Total	3,821,544	124,126	408,407	431,367	438,826	3,003,468	106,996
<u>Avg Days of Participation</u>							
Resident	13.3	5.6	9.6	7.4	8.7	10.4	5.1
Nonresident	5.0	2.0	7.3	6.7	5.8	4.5	-
Total	11.3	66.6	44.3	23.9	44.2	43.4	5.1
<u>Number of observations</u>							
Resident	225	16	27	32	32	204	13
Nonresident	56	1	7	8	5	45	-
Total	281	17	34	40	37	249	13

**Table 6. Participation in Non-Residential Watchable Wildlife Recreation in Utah in 2006
(Participants 16+ years)**

	Resident	Nonresident *	Total
Number of participants	194,237	324,200	518,437
observing wildlife	143,980	278,298	422,278
photographing wildlife	72,928	219,922	292,850
feeding wildlife	50,935	21,388	72,323
Number of days	2,409,031	1,517,507	3,926,538
observing wildlife	2,282,626	1,261,628	3,544,254
photographing wildlife	833,801	826,889	1,660,690
feeding wildlife	1,185,132	41,814	1,226,946
Number of trips	2,217,110	644,792	2,861,902
Average Days Participation	12.4	4.7	7.6
observing wildlife	15.9	4.5	8.4
photographing wildlife	11.4	3.8	5.7
feeding wildlife	23.3	2.0	17.0

* = data based on a small sample size

Table 7. Participation in Non-residential Watchable Wildlife Recreation by Site Visited and Wildlife Observed, Fed, or Photographed in Utah in 2006 (Participants 16+ years; Ranked by number of participants per activity)

	Resident	Nonresident *	Total
Number of participants	194,237	324,200	518,437
Number of recreationists visiting:			
Public land	162,708	270,145	432,853
Private land	58,985	51,833	110,818
Number of recreationists observing, feeding, photographing:			
Birds	146,853	271,911	418,764
waterfowl	110,428	102,234	212,661
songbirds	82,440	145,169	227,609
birds of prey	120,294	218,019	338,313
other birds	82,722	138,554	221,276
shorebirds	54,235	86,769	141,005
mammals	136,153	238,880	375,033
small land mammals	98,069	219,097	317,166
large land mammals	114,517	200,611	315,128
ocean mammals	0	0	0
other wildlife	55,865	101,732	157,597
Fish	39,826	23,347	63,174

* = data based on a small sample size

Table 8. Participation in Residential Watchable Wildlife Recreation in Utah in 2006 (Participants 16+ years)

Number of participants	491,058
feeding birds & wildlife	364,503
birds	353,358
other wildlife	46,672
observing wildlife	335,440
photographing wildlife	185,295
visiting parks near home	79,692
maintaining natural areas around home	45,111
maintaining plantings around home	32,776
Number of days	
observing wildlife	31,243,980
photographing wildlife	1,170,670

The primary residential watchable wildlife activity, measured in terms of number of participants, was feeding wildlife. Observing wildlife was the second most popular residential watchable wildlife activity. This is in contrast to the ranking of the non-residential activities, where observing wildlife was the most popular activity. Of those who participate in feeding birds and wildlife, most feed wild birds.

Given the manner in which the survey questions were asked, we cannot determine the number of days spent feeding wildlife. However, we can determine the number of days spent observing and photographing wildlife around the home. In terms of days spent in watchable wildlife activities, observing wildlife again was the most popular activity. Residents spent approximately 32.4 million days observing and photographing wildlife around their home.

The number one type of wildlife observed by residential recreationists in Utah was birds (Table 9). The second most prominent category to be observed by residents was small mammals. The results in Table 9 do not necessarily imply that recreationists prefer to observe a certain wildlife type because the results reflect participants' preferences and the availability of wildlife types.

Table 9. Participation in Residential Watchable Wildlife Recreation by Wildlife Observed in Utah in 2006 (Participants 16+ years)

Number of recreationists	
birds	304,061
mammals	196,230
large mammals	166,193
small mammals	148,238
insects or spiders	98,766
amphibians or reptiles	51,939
fish & other insects	24,985

Economic Impacts

Retail Sales

Tables 10, 11 and 12 present retail sales and resulting economic impacts in Utah associated with hunting, fishing and wildlife watching, and Table 13 presents combined expenditures and impacts for all fish and wildlife-related recreation in total. Altogether, these activities generated \$1.24 billion in consumer expenditures for equipment and services consumed as part of their outdoor activities. Most of these were made by residents (\$704 million), while nonresidents contributed \$538 million. Tables detailing the expenditures and economic impacts of each activity and by species are provided in Appendices C-E.

Total Economic Effect (Output)

Original expenditures made by hunters, anglers and wildlife watchers generate rounds of additional spending throughout the economy. For example, a retailer buys more inventory and pays bills, wholesalers buy more from manufacturers, and all these pay employees who then spend their paychecks. The sum of these impacts is the total economic impact resulting from the original expenditures (Appendix B includes methods and sources). The total economic effect from 2006 fish and wildlife-related recreation in Utah was estimated to be \$2.26 billion. In other words, if hunters, anglers and wildlife watchers were to stop spending money in Utah and not spend these dollars on other in-state items, the state economy would shrink by \$2.26 billion. Sportfishing accounted for \$708 million, with \$523 million and \$1.0 billion from hunting and wildlife-watching, respectively.

Table 10. Economic Activity Generated by Utah Anglers, 2006 (Participants 16+ years)

	RETAIL SALES	OUTPUT	EARNINGS	JOBs	FEDERAL TAX REVENUE	STATE & LOCAL TAX REVENUE
All Freshwater Fishing:						
Residents Only:	\$393,073,441	\$708,127,210	\$199,856,376	7,001	\$42,182,205	\$39,779,016
Non-Residents Only:	\$316,944,843	\$572,823,594	\$159,756,136	5,529	\$33,677,878	\$31,715,115
	\$76,128,599	\$135,303,616	\$40,100,240	1,472	\$8,504,327	\$8,063,901
Black Bass Fishing:						
Residents Only:	\$31,036,965	\$54,635,440	\$16,719,352	607	\$3,524,703	\$3,359,205
Non-Residents Only:	\$18,943,692	\$33,450,671	\$10,021,085	372	\$2,123,455	\$2,128,220
	\$12,093,273	\$21,184,769	\$6,698,267	236	\$1,401,248	\$1,230,985
Trout Fishing:						
Residents Only:	\$266,880,338	\$484,830,723	\$134,357,650	4,638	\$28,317,371	\$26,617,807
Non-Residents Only*:	\$232,148,099	\$422,874,895	\$115,857,624	3,931	\$24,364,938	\$22,754,976
	\$34,732,238	\$61,955,829	\$18,500,026	707	\$3,952,433	\$3,862,831
Walleye Fishing:						
Residents Only:	\$5,418,211	\$9,628,240	\$2,748,340	107	\$586,483	\$597,062
Non-Residents Only*:	\$1,194,923	\$2,083,834	\$655,544	26	\$139,669	\$134,945
	\$4,223,289	\$7,544,406	\$2,092,795	81	\$446,814	\$462,117
Panfish Fishing:						
Residents Only:	\$11,211,948	\$19,283,884	\$5,746,590	212	\$1,219,355	\$1,113,643
Non-Residents Only*:	\$10,774,224	\$18,501,569	\$5,501,893	203	\$1,168,672	\$1,067,792
	\$437,724	\$782,315	\$244,697	9	\$50,683	\$45,851
White Bass Fishing:						
Residents Only:	\$17,647,301	\$31,197,796	\$9,136,370	346	\$1,944,394	\$1,930,212
Non-Residents Only**:	\$10,947,941	\$19,290,322	\$5,776,497	215	\$1,225,236	\$1,190,849
	6699360.48	\$11,907,475	\$3,359,872	131	719158	739363
Catfish Fishing:						
Residents Only:	\$20,054,617	\$35,135,987	\$10,686,788	387	\$2,256,498	\$2,140,512
Non-Residents Only*:	\$13,992,633	\$24,591,854	\$7,175,542	268	\$1,527,067	\$1,542,124
	\$6,061,984	\$10,544,134	\$3,511,246	119	\$729,431	\$598,388
Any Fish:						
Residents Only:	\$5,115,731	\$9,202,914	\$2,797,708	98	\$581,595	\$506,422
Non-Residents Only**:	\$5,115,731	\$9,202,914	\$2,797,708	98	\$581,595	\$506,422
	\$0	\$0	\$0	0	\$0	\$0

* = data based on a small sample size

** = sample size too small to report results reliably

Table 11. Economic Activity Generated by Utah Hunters, 2006 (Participants 16+ years)

	RETAIL SALES	OUTPUT	EARNINGS	JOBs	FEDERAL TAX REVENUE	STATE & LOCAL TAX REVENUE
All Hunting:	\$293,808,223	\$523,147,919	\$163,059,714	6,487	\$34,094,522	\$31,107,632
Residents Only:	\$270,144,597	\$481,287,093	\$148,082,648	5,955	\$31,002,365	\$28,687,797
Non-Residents Only*:	\$23,663,626	\$41,860,826	\$14,977,066	532	\$3,092,157	\$2,419,835
Big Game Hunting:	\$166,408,983	\$295,338,013	\$95,570,122	3,465	\$19,968,344	\$35,665,012
Residents Only:	\$146,525,497	\$259,596,424	\$82,609,033	3,031	\$17,326,489	\$15,613,876
Non-Residents Only*:	\$19,883,486	\$35,741,589	\$12,961,089	434	\$2,641,855	\$20,051,136
Deer Hunting:	\$110,901,719	\$196,381,469	\$62,756,949	2,376	\$13,083,910	\$11,476,420
Residents Only:	\$104,475,360	\$185,039,514	\$57,864,746	2,226	\$12,097,972	\$10,822,965
Non-Residents Only*:	\$6,426,359	\$11,341,955	\$4,892,203	150	\$985,938	\$653,455
Upland Game Hunting*:	\$10,407,825	\$18,316,889	\$5,926,223	216	\$1,247,188	\$1,151,526
Residents Only**:	\$10,407,825	\$18,316,889	\$5,926,223	216	\$1,247,188	\$1,151,526
Non-Residents Only**:	0	0	0	0	0	0
Migratory Bird Hunting:	\$41,898,192	\$75,547,317	\$21,603,716	877	\$4,546,603	\$4,246,904
Residents Only*:	\$41,898,192	\$75,547,317	\$21,603,716	877	\$4,546,603	\$4,246,904
Non-Residents Only**:	0	0	0	0	0	0
Small Game Hunting:	\$52,089,971	\$91,209,094	\$28,660,211	1,183	\$6,058,416	\$5,897,616
Residents Only:	\$52,089,971	\$91,209,094	\$28,660,211	1183	\$6,058,416	\$5,897,616
Non-Residents Only**:	0	0	0	0	0	0
Elk Hunting:	\$46,440,009	\$82,748,734	\$28,401,271	1,144	\$5,848,581	\$5,035,242
Residents Only:	\$34,625,655	\$61,347,775	\$21,199,166	882	\$4,377,449	\$3,851,688
Non-Residents Only**:	\$11,814,353	\$21,400,959	\$7,202,105	262	\$1,471,132	\$1,183,554
Pheasant Hunting:	\$6,170,827	\$10,826,890	\$3,567,688	156	\$740,998	\$678,416
Residents Only*:	\$6,170,827	\$10,826,890	\$3,567,688	156	\$740,998	\$678,416
Non-Residents Only**:	0	0	0	0	0	0
Rabbit Hunting:	\$14,509,757	\$25,630,327	\$8,500,923	324	\$1,768,658	\$1,737,452
Residents Only*:	\$14,509,757	\$25,630,327	\$8,500,923	324	\$1,768,658	\$1,737,452
Non-Residents Only**:	0	0	0	0	0	0

* = data based on a small sample size

** = sample size too small to report results reliably

Table 12. Economic Activity Generated by Utah Wildlife Watchers, 2006 (Participants 16+ years)

	RETAIL SALES	OUTPUT	EARNINGS	JOBs	FEDERAL TAX REVENUE	STATE & LOCAL TAX REVENUE
All Wildlife Watching Activities:	\$554,968,432	\$1,026,335,049	\$288,987,500	10,569	\$61,026,806	\$55,780,041
Residents Only:	\$116,786,725	\$208,850,484	\$61,644,144	2,361	\$13,064,345	\$12,260,642
Non-Residents Only*:	\$438,181,707	\$817,484,565	\$227,343,356	8,208	\$47,962,461	\$43,519,399

* = data based on a small sample size

Table 13: Combined Economic Impacts of Fishing, Hunting and Wildlife-Watching Recreation in Utah, 2006 (Participants 16+ years)

	RETAIL SALES	OUTPUT	EARNINGS	JOBs	FEDERAL TAX REVENUE	STATE & LOCAL TAX REVENUE
All Fish and Wildlife Related Recreation:	\$1,241,850,096	\$2,257,610,179	\$651,903,590	24,056	\$137,303,533	\$126,666,689
Residents Only:	\$703,876,164	\$1,262,961,171	\$369,482,928	13,844	\$77,744,588	\$72,663,554
Non-Residents Only*:	\$537,973,932	\$994,649,008	\$282,420,662	10,212	\$59,558,945	\$54,003,135

Earnings

The business activity stimulated throughout the Utah economy by outdoorsmen and women generate salaries and wages. In addition, many of the businesses supporting these individuals pay dividends. Altogether, these represent earnings created for Utah as a result of hunting, fishing and wildlife watching activities. Total earnings in 2006 in Utah from fish and wildlife related activities were estimated at \$652 million, with \$369 million from residents and nearly \$282 million from non-residents.

Employment

Expenditures made for hunting, fishing and wildlife watching activities support jobs throughout the state. Many of these are in companies that directly serve recreationists such as retailers, restaurants, and more. Others are in companies that support the first companies and employees such as wholesalers, utilities, manufacturers, grocers and more. Total jobs, full and part time, supported in Utah in 2006 from fish and wildlife related activities were estimated at 24,100, with 6,500, 7,000 and 10,600 from hunting, fishing and wildlife watching respectively.

Tax Revenues

State and local tax revenues generated from 2006 fish and wildlife-related recreation in Utah were estimated to be \$126.7 million (\$72.7 million by residents and \$54.0 million by non-residents). Anglers accounted for \$39.8 million, while hunters and wildlife watchers generated \$31.1 million, and \$55.8 million of the total, respectively.

Per Participant and Per Day Expenditures

Table 14 presents estimates of the amount spent by recreationists per person and per day. These estimates can be used to approximate changes in economic activity when it is known how specific management or other actions may affect participation in fish and wildlife recreation.

Table 14. Per Day and Per Person Expenditures, 2006 (Participants 16+ years)

HUNTING										
	Big Game	Small Game	Upland Game	Migratory Bird		Deer	Elk	Rabbit	Pheasant	All Hunting
All Hunters:										
Average daily expenditures	\$157.09	\$80.03	\$7.89	\$221.26	\$138.44	\$143.40	\$48.63	\$42.83	\$171.32	
Average annual expenditures	\$1,327.98	\$738.50	\$79.78	\$1,585.91	\$1,083.19	\$987.25	\$393.13	\$188.50	\$1,765.95	
Resident Hunters:										
Average daily expenditures	\$151.12	\$80.03	\$9.14	\$221.26	\$142.47	\$115.67	\$48.63	\$42.83	\$166.36	
Average annual expenditures	\$1,422.09	\$738.50	\$111.14	\$1,585.91	\$1,194.84	\$890.65	\$393.13	\$188.50	\$1,880.46	
Non-Resident Hunters*:										
Average daily expenditures	\$221.55	**	**	**	\$94.84	\$482.45	**	**	\$259.85	
Average annual expenditures	\$892.64	**	**	**	\$430.00	\$1,447.31	**	**	\$1,041.81	
FISHING										
	Panfish	White Bass	Black Bass	Catfish	Trout	Any other species	All Freshwater Species¹			
All Anglers:										
Average daily expenditures	\$90.33	\$43.21	\$71.95	\$45.70	\$88.86	\$8.27	\$102.86			
Average annual expenditures	\$476.35	\$393.11	\$518.61	\$373.31	\$814.65	\$55.69	\$1,047.33			
Resident Anglers:										
Average daily expenditures	\$89.49	\$32.11	\$61.12	\$36.71	\$86.18	\$7.89	\$93.57			
Average annual expenditures	\$497.10	\$306.86	\$453.38	\$319.49	\$898.29	\$56.65	\$1,099.23			
Non-Resident Anglers:										

Average daily expenditures	\$117.51	\$99.35	\$99.58	\$105.13	\$112.15	\$9.69	\$175.32
Average annual expenditures	\$234.96	\$727.08	\$669.47	\$610.84	\$502.14	\$52.76	\$875.27

¹ These figures present the average expenditures for all anglers, regardless of species targeted. These figures include big-ticket items such as vehicles, boats, and other items that anglers could not assign to any specific species. Many of these big-ticket items are left out of the species specific expenditure estimates, thus the “All Freshwater Species” expenditure averages are generally higher than reported for any other species in the above table.

Table 14. (Continued) Per Day and Per Person Expenditures, 2006 (Participants 16+ years)

WILDLIFE WATCHING:

<u>Average per participant, annually</u>	Residents	Non-Residents*	All Participants
On residential activities, annually	\$44.02	----	----
On non-residential activities, annually	\$601.26	\$1,351.58	\$434.01
Avg. per day, per participant			
For non-residential activities, including equipment items:	\$48.48	\$288.75	\$141.34
For non-residential activities, travel expenses only (food, hotel, etc):	\$18.09	\$177.24	\$79.60

* Non-resident expenditures only includes money spent in Utah. Expenditures made in other states are not included. Data based on a small sample size.

** Many expenditures made by state residents were for vehicles and boats. Even though efforts were made to only include vehicles and boats purchased for the primary purpose of viewing wildlife, some of these items may also be used for non-related activities. If these items were moved from the equation, the average annual expense would be \$208.48 per resident annually, while the average amount spent per day for residents would be \$9.16.

Travel-Related Expenditures:

Table 15 presents travel-related expenditures made by Utah anglers, hunters and wildlife viewers. Through travel, participants help distribute wealth to rural areas where economic opportunities may be limited compared to urban and suburban regions. These expenditures include food, transportation costs (mostly fuel), lodging, guide fees, equipment rental, etc. While not all of these dollars may be spent in rural areas, many are. In addition to travel expenses, many participants will spend money on equipment and services in rural areas. Such equipment and service expenditures are not included in the table below.

Table 15. Travel-Related Expenditures, Utah 2006 (Participants 16+ years)

Hunting:	
Big Game	\$47,383,116
Small Game	\$16,224,906
Upland Game	\$38,485,503
Migratory Bird	\$6,491,942
Deer	\$26,973,091
Elk	\$21,775,857
Rabbit	\$6,819,370
Pheasant	\$27,003,820
<i>All Hunting, all species</i>	<i>\$71,574,508</i>
Fishing:	
Trout	\$110,437,622
Black Bass	\$24,177,174
Catfish	\$14,975,698
White Bass	\$13,320,036
Walleye	\$4,749,915
Panfish	\$3,659,930
Any other	\$3,133,617
<i>All Fishing, All Species</i>	<i>\$183,377,785</i>
Wildlife Viewing:	
(Non-residential only)	\$268,961,179

Public and Private Land Activity, Expenditures and Impacts

Use of Public Lands

Hunters and wildlife viewers depend on a combination of public and private lands. With urban and suburban populations increasing, it is likely that public lands will play an increasing role in supplying residents and visitors alike with opportunities to experience Utah's wildlife resources. Table 16, using data from the 2006 National Survey, presents the percentage of Utah wildlife viewers using public and private lands for non-residential activities (those occurring more one or more miles from home). Table 17, also using data from the 2006 National Survey, presents the percentage of Utah hunters using public and private lands. The 2006 National Survey does not ask anglers about activities on public and/or private waters. Therefore, estimates regarding fishing on public waters are not possible.

Comparing the two tables, wildlife viewers are much more dependent on public lands. One reason among several for this difference might be related to a higher percentage of participants living in non-rural regions and therefore less likely to have access to private lands.

Table 16. Percentage of Non-Residential[†] Activity and Days Occurring on Public and Private Land (participants 16+ years)

	Residents	Nonresidents	Total
Public Land Exclusively			
Participants	67.6%	76.6%	73.2%
Days of Participation	47.3%	76.7%	58.6%
Private Land Exclusively			
Participants	9.1%	7.4%	8.1%
Days of Participation	37.3%	7.8%	25.9%

[†] “Non-Residential” describes people who watch, photograph and/or feed wildlife *one mile or more* from their place of residence.

* = data based on a small sample size

** = sample size too small to report results reliably

Table 17. Percentage of Hunters and Hunting Days on Public and Private Land (participants 16+ years)

	<u>All Hunting</u>		<u>Big Game</u>		<u>Small Game</u>		<u>Upland Game *</u>		<u>Migratory Bird*</u>	
<u>NUMBER OF HUNTERS WHO USE:</u>										
All Types of Land:	166,374	-	125,310	-	70,535	-	39,203	-	26,419	-
Residents:	143,659	-	103,035	-	70,535	-	39,203	-	26,419	-
Non-residents*:	22,714	-	22,275	-	0**	0**	0**	0**	0**	0**
Public Lands Exclusively:	98,643	59.3%	69,611	55.6%	39,846	56.5%	18,016	46.0%	8,855	33.5%
Residents:	94,440	65.7%	65,408	63.5%	39,846	56.5%	18,016	46.0%	8,855	33.5%
Non-residents*:	4,203	18.5%	4,203	18.9%	0**	0**	0**	0**	0**	0**
Private Lands Exclusively:	47,340	28.5%	32,651	26.1%	12,803	18.2%	25,255	64.4%	9,675	36.6%
Residents:	29,699	20.7%	15,011	14.6%	12,803	18.2%	25,255	64.4%	9,675	36.6%
Non-residents*:	17,640	77.7%	17,640	79.2%	0**	0**	0**	0**	0**	0**
<u> DAYS OF HUNTING:</u>										
Using All Types of Land	1,714,957	-	1,059,350	-	650,920	-	272,541	-	189,364	-
Residents:	1,623,889	-	969,601	-	650,920	-	272,541	-	189,364	-
Non-residents*:	91,067	-	89,749	-	0**	0**	0**	0**	0**	0**
Using Public Lands Exclusively:	1,107,728	64.6%	580,936	54.8%	377,886	58.1%	170,357	62.5%	75,408	39.8%
Residents:	1,085,021	66.8%	558,230	57.6%	377,886	58.1%	170,357	62.5%	75,408	39.8%
Non-residents*:	22,707	24.9%	22,707	25.3%	0**	0**	0**	0**	0**	0**
Using Private Lands Exclusively:	438,400	25.6%	171,454	16.2%	61,567	9.5%	235,442	86.4%	45,668	24.1%
Residents:	372,653	22.9%	105,707	10.9%	61,567	9.5%	235,442	86.4%	45,668	24.1%
Non-residents*:	65,747	72.2%	65,747	73.3%	0**	0**	0**	0**	0**	0**

* = data based on a small sample size

** = no responses were received in the survey from non-resident hunters using this type of land. The results do not mean that non-residents did not use these types of lands. The results do imply that such use by non-residents is infrequent.

Expenditures (Retail Sales) and Economic Impacts Associated with Activities on Public and Private Lands

Significant public funds go into managing fish and wildlife on all lands, public and private. Additional funds are used to acquire and manage habitat on public lands. To help gain an understanding of the return from public lands, Table 18 *estimates* the expenditures and economic impacts created by wildlife viewers associated with their activity occurring on public and private lands. Just the impacts from non-residential activities (more than one mile from home) are included in these estimates. Table 19 presents the same information for hunters, and Table 20 presents the combined impacts by type of land used. These estimates are based on the number of days each spends on public and private lands respectively. The 2006 National Survey does not ask anglers about activities on public and/or private waters. Therefore, such estimates are not possible here.

**Table 18. Economic Activity Generated by Wildlife Viewers, by Type of Land Used, 2006
(Participants 16+ years)**

	RETAIL SALES	OUTPUT	EARNINGS	JOBs	FEDERAL TAX REVENUE	STATE & LOCAL TAX REVENUE
Public Land Exclusively						
Residents*	\$409,239,506	\$763,262,073	\$207,730,647	7,132	\$43,807,562	\$77,861,697
Non-Residents**	\$69,790,990	\$126,412,205	\$37,295,125	1,340	\$7,896,677	\$74,633,742
	\$339,448,516	\$636,849,868	\$170,435,522	5,792	\$35,910,885	\$3,227,955
Private Land Exclusively*						
Residents**	\$24,636,333	\$45,073,527	\$14,218,861	560	\$3,030,286	\$2,832,373
Non-Residents**	\$1,780,822	\$3,195,208	\$830,604	26	\$174,055	\$191,704
	\$22,855,511	\$41,878,319	\$13,388,256	534	\$2,856,231	\$2,640,669
Both Public and Private Lands						
Residents	\$554,968,432	\$1,026,335,049	\$288,987,500	10,569	\$61,026,956	\$55,780,041
Non-Residents*	\$116,786,725	\$208,850,484	\$61,644,144	2,361	\$13,064,345	\$12,260,642
	\$438,181,707	\$817,484,565	\$227,343,356	8,208	\$47,962,611	\$43,519,399

* = data based on a small sample size

** = sample size too small to report results reliably

Table 19. Economic Activity Generated by Utah Hunters, by Type of Land Used, 2006

(Participants 16+ years)	RETAIL SALES	OUTPUT	EARNINGS	JOBs	FEDERAL TAX REVENUE	STATE & LOCAL TAX REVENUE
All Types of Hunting:	\$293,808,223	\$523,147,919	\$163,059,714	6,487	\$34,094,522	\$31,107,632
Residents Only:	\$270,144,597	\$481,287,093	\$148,082,648	5,955	\$31,002,365	\$28,687,797
Non-Residents Only:	\$23,663,626	\$41,860,826	\$14,977,066	532	\$3,092,157	\$2,419,835
Big Game Hunting:	\$166,408,983	\$295,338,013	\$95,570,122	3,465	\$19,968,344	\$35,665,012
Residents Only:	\$146,525,497	\$259,596,424	\$82,609,033	3,031	\$17,326,489	\$15,613,876
Non-Residents Only:	\$19,883,486	\$35,741,589	\$12,961,089	434	\$2,641,855	\$20,051,136
Migratory Bird Hunting:	\$41,898,192	\$75,547,317	\$21,603,716	877	\$4,546,603	\$4,246,904
Residents Only:	\$41,898,192	\$75,547,317	\$21,603,716	877	\$4,546,603	\$4,246,904
Non-Residents Only:	0	0	0	0	0	0
Small Game Hunting:	\$52,089,971	\$91,209,094	\$28,660,211	1,183	\$6,058,416	\$5,897,616
Residents Only:	\$52,089,971	\$91,209,094	\$28,660,211	1,183	\$6,058,416	\$5,897,616
Non-Residents Only:	0	0	0	0	0	0

Hunters Who Use Private Lands Exclusively:

(Participants 16+ years)	RETAIL SALES	OUTPUT	EARNINGS	JOBs	FEDERAL TAX REVENUE	STATE & LOCAL TAX REVENUE
All Types of Hunting:	\$80,682,785	\$143,435,623	\$47,701,703	1,899	\$9,879,945	\$8,741,981
Residents Only:	\$66,093,770	\$117,132,396	\$38,111,601	1,576	\$7,931,936	\$7,297,735
Non-Residents Only:	\$14,589,015	\$26,303,227	\$9,590,102	323	\$1,948,009	\$1,444,246
Big Game Hunting:	\$30,303,272	\$53,979,907	\$19,350,527	663	\$3,981,563	\$3,310,292
Residents Only:	\$15,714,257	\$27,676,680	\$9,760,425	339	\$2,033,554	\$1,866,046
Non-Residents Only:	\$14,589,015	\$26,303,227	\$9,590,102	323	\$1,948,009	\$1,444,246
Migratory Bird Hunting:	\$3,288,534	\$5,840,170	\$1,863,263	66	\$392,070	\$376,098
Residents Only:	\$3,288,534	\$5,840,170	\$1,863,263	66	\$392,070	\$376,098
Non-Residents Only:	\$0	\$0	\$0	0	\$0	\$0
Small Game Hunting:	\$11,480,873	\$19,724,532	\$6,314,563	229	\$1,338,991	\$1,263,955
Residents Only:	\$11,480,873	\$19,724,532	\$6,314,563	229	\$1,338,991	\$1,263,955
Non-Residents Only:	\$0	\$0	\$0	0	\$0	\$0

Hunters Who Use Public Lands Exclusively:

(Participants 16+ years)	RETAIL SALES	OUTPUT	EARNINGS	JOBs	FEDERAL TAX REVENUE	STATE & LOCAL TAX REVENUE
All Types of Hunting:	\$156,141,080	\$274,896,102	\$84,928,394	3,294	\$17,877,550	\$16,707,601
Residents Only:	\$153,494,460	\$270,226,128	\$83,182,912	3,230	\$17,520,718	\$16,422,299
Non-Residents Only:	\$2,646,620	\$4,669,974	\$1,745,482	64	\$356,832	\$285,302
Big Game Hunting:	\$83,299,450	\$145,885,248	\$44,782,741	1,640	\$9,469,804	\$8,735,824
Residents Only:	\$80,652,830	\$141,222,968	\$43,070,894	1,583	\$9,116,912	\$8,448,755
Non-Residents Only:	\$2,646,620	\$4,662,280	\$1,711,847	57	\$352,892	\$287,069
Migratory Bird Hunting:	\$7,468,535	\$12,893,962	\$4,393,700	164	\$926,608	\$914,352
Residents Only:	\$7,468,535	\$12,893,962	\$4,393,700	164	\$926,608	\$914,352
Non-Residents Only:	\$0	\$0	\$0	0	\$0	\$0
Small Game Hunting:	\$26,325,362	\$46,274,022	\$14,007,279	657	\$2,966,189	\$2,920,674
Residents Only:	\$26,325,362	\$46,274,022	\$14,007,279	657	\$2,966,189	\$2,920,674
Non-Residents Only:	\$0	\$0	\$0	0	\$0	\$0

Table 20. Economic Activity Generated by Hunters and Wildlife Viewers Combined, by Type of Land Used, 2006 (Participants 16+ years)

	RETAIL SALES	OUTPUT	EARNINGS	JOBs	FEDERAL TAX REVENUE	STATE & LOCAL TAX REVENUE
Public Land Exclusively	\$565,380,586	\$1,038,158,175	\$292,659,042	10,426	\$61,685,112	\$94,569,298
Residents	\$223,285,450	\$396,638,333	\$120,478,037	4,570	\$25,417,395	\$91,056,041
Non-Residents	\$342,095,136	\$641,519,842	\$172,181,005	5,856	\$36,267,717	\$3,513,257
Private Land Exclusively	\$105,319,118	\$188,509,150	\$61,920,564	2,459	\$12,910,231	\$11,574,354
Residents	\$67,874,592	\$120,327,604	\$38,942,205	1,601	\$8,105,991	\$7,489,439
Non-Residents	\$37,444,526	\$68,181,546	\$22,978,358	857	\$4,804,240	\$4,084,915
Use Both Public and Private Lands	\$848,776,655	\$1,549,482,969	\$452,047,214	17,056	\$95,121,478	\$86,887,673
Residents	\$386,931,322	\$690,137,577	\$209,726,792	8,315	\$44,066,710	\$40,948,439
Non-Residents	\$461,845,333	\$859,345,391	\$242,320,422	8,740	\$51,054,768	\$45,939,234

Conclusion

Fish and wildlife provide numerous recreation opportunities for Utah residents. The recreation expenditures benefit Utah with significant jobs, income and other economic activity. These benefits are particularly important in rural or remote areas where other sources of income are limited. Anglers, hunters and wildlife viewers spend dollars that, in turn, benefit many other industries throughout the state. The resulting economic benefits reach every corner of the State and its economy. Every resident and tourist of Utah benefits from fish and wildlife recreation spending. It is clear that fish and wildlife generates significant economic impacts that must be considered in policy-making.

APPENDIX A

DEFINITIONS

Economic benefits can be estimated by two types of economic measures: economic impacts and economic values. An **economic impact** addresses the business and financial activity resulting from the use of a resource. **Economic value**, on the other hand, measures the difference between what an individual would be willing to pay and what they actually pay for a commodity or activity. This concept is also known as “consumer surplus”. Only economic impacts are addressed in this report.

There are three types of economic impacts: direct, indirect and induced. A **direct impact** is defined as the economic impact of the initial purchase made by the consumer. For example, when a person buys a rod and reel for \$50 there is a direct impact to the retailer of \$50. **Indirect impacts** are the secondary effects generated from a direct impact. Indirect impacts indicate that sales in one industry affect not only that industry, but also the industries that supply the first industry. For example, the retail store must purchase additional rods and reels; the rod and reel manufacturers must purchase additional materials for production; materials manufacturers must buy inputs, and so on. Therefore, the original expenditure of \$50 for the rod and reel benefits a host of other industries. An **induced impact** results from the salaries and wages paid by the directly and indirectly impacted industries. The employees of these industries spend their income on various goods and services. These expenditures are induced impacts which, in turn, create a continual cycle of indirect and induced effects.

The sum of the direct, indirect and induced impact effects equals the **total economic impact**. As the original retail purchase (direct impact) goes through round after round of indirect and induced effects, the economic impact of the original purchase is multiplied, benefiting many industries and individuals. Likewise, the reverse is true. If a particular item or industry is removed from the economy, the economic loss is greater than the original retail sale. Once the original retail purchase is made, each successive round of spending is smaller than the previous round. When the economic benefits are no longer measurable, the economic examination ends.

Species Included in this Study:

“Big Game” – deer, turkey, bear and elk

“Small Game” – rabbit/hare, quail, grouse, squirrel and pheasant

“Upland Game Birds” – quail, pheasant, and grouse

“Migratory Birds” – geese, ducks and dove.

APPENDIX B

METHODS

The methods used to generate the economic impact estimates for Utah are separated into four stages:

- 1) tabulate the expenditures made by recreationists (16 years old and older) from the 2006 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (Survey);
- 2) allocate the detailed expenditures to the appropriate sectors of the economy that are directly impacted the spending;
- 3) estimate the indirect and induced effects of the consumer spending with through the use of an input-output model of the Utah economy and the IMPLAN economic modeling software;
- 4) estimate federal and state/local tax revenues with the IMPLAN economic modeling software.

1. Tabulating Expenditures

Hunters, anglers and wildlife watchers' expenditures were obtained from the 2006 National Survey of Fishing, Hunting and Wildlife-Associated Recreation (Survey). This Survey is conducted approximately every five years by the U.S. Fish and Wildlife Service and U.S. Bureau of the Census. The Survey provides data required by natural resource management agencies, industry and private organizations at the local, state, and national levels to assist in optimally managing natural resources. The Survey is funded through excise taxes on hunting and fishing equipment through the Federal Aid in Sport Fish and Wildlife Restoration Acts.

To generate the statewide economic results, expenditures were categorized into resident and nonresident files. Both included information on trip-related and equipment expenditures. Together, the resident and nonresident files represent all expenditures made in Utah during 2006 for hunting, fishing and wildlife viewing.

The Survey contains data on trip-related expenditures (such as food, lodging, fuel) made by participants where the primary purpose of each purchase was for fishing, hunting and/or wildlife viewing. The Survey also contains data on equipment expenditures (such as rods and firearms), and contains data on equipment expenditures (such as boats, camping equipment) made by sportsmen that can be used for both hunting and fishing. Anglers were able to specify their angler-related equipment expenditures to either Great Lakes fishing, freshwater (non-Great Lakes) fishing, saltwater fishing, or unspecified fishing. Anglers were able to specify their hunting and fishing related expenditures to one of five fishing categories: Great Lakes fishing, freshwater fishing, saltwater fishing, unspecified fishing, and unspecified hunting and fishing. (Please note: the Survey is a national survey. Therefore "Great Lakes" and saltwater categories were included though they had no bearing on this state's study).

Survey respondents reported expenditures for dozens of categories of product and services. In most cases – except the indices – expenditures for individual categories are not reported due to small sample sizes. When using the data from the appendices, do so with caution. Aggregated, the expenditure estimates are reliable.

For individuals who indicated their equipment expenditures were for non-Great Lakes freshwater fishing, we allocated the relevant expenditures to Utah fishing. For individuals who indicated their equipment expenditures were for unspecified fishing, we allocated expenditures based on the number of days of reported. For individuals who indicated their equipment expenditures were for unspecified fishing and hunting purposes, we allocated these expenditures evenly across hunting and fishing. The U.S. Fish and Wildlife Service does not attempt to allocate unspecified angler expenditures. Therefore, the equipment expenditures reported here are slightly higher than those reported by the U.S. Fish and Wildlife Service.

Data Adjustments and Assumptions

The Survey does not have separate expenditure categories for activity related to specific species, such as deer hunting or black bass fishing. Therefore, these had to be estimated. To do this, we used two different methods - one for the trip-related expenditure data and another for the equipment expenditure data. Freshwater fishing will be used as the example here to explain methods:

To allocate the freshwater trip-related expenditures to three categories of interest, we first calculated the following ratio for each observation:

$$\text{Ratio 1} = \text{DFS/DFFW}$$

where DFS = days spent fishing for the species of interest, and DFFW = total days spent freshwater fishing. We then multiplied each trip-related expenditure reported by survey respondents by its corresponding ‘Ratio 1’. We could not apply this method to the equipment expenditures because some individuals purchased angling equipment in 2006, but did not take any freshwater fishing trips that year. Applying the above method would underestimate the equipment expenditures to each subcategory. To allocate angling equipment expenditures to pan fish, black bass, trout, etc., we multiplied the total expenditures spent on each equipment category by the corresponding average ‘Ratio 1’.

Statistical analyses such as those reported here are based upon samples of the population contacted through the U.S. Fish and Wildlife Service’s Survey. Because the primary purpose of the Survey was not to specifically contact anglers fishing for specific species but rather hunters, anglers and other wildlife recreationists in general, some species categories have small samples of respondents. Small samples can lead to results that are influenced by a single, unusual observation or results that are not representative of the population at large. Results dependent on small samples are footnoted in the tables and should be interpreted with extra caution.

2. Disaggregating Expenditures

Retail sales (angler expenditures) were separated into manufacturing, wholesale and retail subcategories because economic impact analysis treats each segment as separate industries. The amount of each retail sale attributed to each segment is known as a trade margin. A trade margin is the percentage (mark-up) of a sale attributable to either the retail, wholesale or manufacturing sector. A gross margin is the revenue remaining after the cost of the goods sold is subtracted. Data used to calculate gross margins are from the U.S. Department of Commerce (census of wholesale and retail trade). These sources contain national sales figures for most retail and wholesale industry sectors. To derive margins, each wholesale and retail industry's gross margin was divided by its total sales. This produces the typical price mark-up for that industry. Next, two formulas are applied to estimate the value added (price mark-up) for each sector:

$$R/(1+R) = \text{retail margin, where } R = \text{retail mark-up}$$

$$W/[(1+W)(1+R)] = \text{wholesale margin, where } W = \text{wholesale mark-up.}$$

These formulas estimate the percentage of a product's final selling price that accrue to each sector. The manufacturing margin is derived by summing the retail and wholesale margins and subtracting the total from 100 percent. Since there are no wholesale or manufacturing activities in the service sector, services are not subjected to the above process.

3. Applying the Economic Model

To estimate the economic impacts, the data were analyzed with the IMPLAN input-output model. The IMPLAN model was developed by MIG, Inc. of Stillwater, Minnesota originally for use by the U.S. Forest Service. Input-output models describe how sales in one industry impact other industries. For example, once a sportsman makes a purchase, the retailer buys more merchandise from wholesalers, who buy more from manufacturers, who, in turn, purchase new inputs and supplies. In addition, the salaries and wages paid by these businesses stimulate more benefits. Simply, the first purchase creates numerous rounds of purchasing. Input-output analysis tracks how the various rounds of purchasing benefits other industries and generates economic benefits.

The relationships between industries are explained through multipliers. For example, an income multiplier of .09 for industry X would indicate that for every dollar received by the industry under study, nine cents would be paid to the employees of industry X for its products or services. The IMPLAN model provides multipliers for all major industries in the U.S. and for each state. The IMPLAN model includes output, earnings and employment multipliers. The **output** multiplier measures the total economic effect created by the original retail sale. The **earnings** multiplier measures the total salaries and wages generated by the original retail sale. The **employment** multiplier estimates the number of jobs supported by the original retail sale. IMPLAN also estimates federal, state and local tax revenues.

To apply the IMPLAN model, angler expenditures are each matched to the appropriate output, earnings and employment multipliers. For example, dollars attributed to gasoline refining are multiplied separately by the earnings, output and employment multipliers specific to gasoline refinement. The resulting estimates describe the salaries and wages, total economic effects, and jobs supported by the refining industry as a result of fuel purchases made by anglers. This same process is repeated for all reported expenditures. After all expenditures and multipliers have been applied together, the retail, wholesale and manufacturing results for each category are summed together.

APPENDIX C

DETAILED HUNTING EXPENDITURES AND IMPACTS

Survey respondents reported expenditures for dozens of categories of product and services. For many of the categories below, the estimates are based on small sample sizes and should be used with caution. Aggregated, the expenditure estimates are reliable.

DETAILED EXPENDITURES BY ALL HUNTERS IN UTAH, 2006.			
	RESIDENTS	NONRESIDENTS	TOTAL
Food	\$20,364,488	\$1,978,042	\$22,342,530
Lodging	\$2,307,856	\$1,264,599	\$3,572,454
Airplane fare	\$810,044	\$1,003,390	\$1,813,434
Public transport	\$1,673	\$0	\$1,673
Automobile	\$31,168,114	\$4,271,621	\$35,439,734
Guide fees	\$179,533	\$0	\$179,533
Pulic land fees	\$1,450,195	\$1,567,431	\$3,017,626
Private land fees	\$164,890	\$0	\$164,890
Heat/cook fuel	\$2,714,546	\$17,241	\$2,731,787
Equip rentals	\$20,017	\$0	\$20,017
Boat fuel	\$0	\$0	\$0
Boat launch fee	\$18,030	\$0	\$18,030
Boat mooring	\$2,216,377	\$56,422	\$2,272,799
Rifles	\$16,228,873	\$752,195	\$16,981,068
Shotguns	\$10,318,209	\$0	\$10,318,209
Muzzle loader	\$1,689,052	\$0	\$1,689,052
Handgun	\$6,600,112	\$0	\$6,600,112
Bows	\$5,122,524	\$446,294	\$5,568,818
Scopes - guns	\$8,211,145	\$588,239	\$8,799,384
Decoys	\$1,878,285	\$45,787	\$1,924,072
Ammo	\$13,324,736	\$204,736	\$13,529,472
Handloading equip.	\$1,239,979	\$175,327	\$1,415,306
Dogs	\$16,015,108	\$406,692	\$16,421,800
Other hunt equip	\$9,177,914	\$0	\$9,177,914
Camping gear	\$2,988,586	\$143,873	\$3,132,459
Binoculars	\$13,377,140	\$207,767	\$13,584,907
Foul weather gear	\$6,396,397	\$299,243	\$6,695,641
Taxidermy	\$6,243,212	\$1,466,021	\$7,709,233
Other items	\$1,478,219	\$118,451	\$1,596,670
Bass boat	\$0	\$0	\$0
Boat	\$0	\$0	\$0
Canoe	\$0	\$0	\$0
Boat motor	\$0	\$0	\$0
Van	\$31,954,357	\$0	\$31,954,357
Cabin	\$0	\$0	\$0
Off-road vehicle	\$40,090,869	\$3,390,064	\$43,480,933
Other special equip	\$1,255,517	\$0	\$1,255,517
Books	\$1,143,903	\$767,876	\$1,911,779
Dues	\$6,328,728	\$0	\$6,328,728
License	\$6,597,114	\$4,492,316	\$11,089,430
Land purchase	\$650,547	\$0	\$650,547
Land lease	\$418,308	\$0	\$418,308
TOTAL	\$270,144,597	\$23,663,626	\$293,808,223

ECONOMIC SECTORS STIMULATED BY NONRESIDENT HUNTER SPENDING

	Total Output (Sales)	Employment	Income
Ag, Forestry, Fish & Hunting	539,967	13.6	84,533
Mining	443,808	1.1	81,245
Utilities	414,477	0.8	75,517
Construction	229,033	2.6	100,917
Manufacturing	8,337,957	26.3	1,191,149
Wholesale Trade	1,193,259	10.2	508,476
Transportation & Warehousing	4,168,958	16.5	1,203,301
Retail trade	5,193,585	127.3	2,613,052
Information	1,245,396	6.6	258,058
Finance & insurance	1,217,186	10.1	372,709
Real estate & rental	1,237,336	11.6	201,798
Professional- scientific & tech svcs	1,422,629	14.1	650,319
Management of companies	417,895	3.3	168,953
Administrative & waste services	704,250	14.6	311,812
Educational svcs	178,673	4.2	92,492
Health & social services	1,442,019	22.1	756,922
Arts- entertainment & recreation	3,718,098	82.6	1,129,036
Accomodation & food services	3,022,213	61.9	944,896
Other services	749,027	16.4	331,849
Government & non NAICs	5,971,148	86.2	3,900,033
TOTAL	41,846,914	532	14,977,067

ECONOMIC SECTORS STIMULATED BY RESIDENT HUNTER SPENDING

	Total Output (Sales)	Employment	Income
Ag, Forestry, Fish & Hunting	14,867,221	438.8	2,137,527
Mining	4,060,150	10.2	759,004
Utilities	4,546,258	8.8	827,066
Construction	2,384,483	26.7	1,055,454
Manufacturing	165,620,736	640.7	26,480,232
Wholesale Trade	16,250,468	139.3	6,924,707
Transportation & Warehousing	38,921,448	163.9	10,883,398
Retail trade	84,815,048	2,094.70	43,990,828
Information	9,114,147	47.7	1,984,248
Finance & insurance	13,254,924	109.9	4,073,302
Real estate & rental	13,851,358	131.4	2,281,731
Professional- scientific & tech svcs	18,958,190	191.1	9,360,929
Management of companies	6,040,024	48.1	2,441,960
Administrative & waste services	6,555,062	143.3	3,078,546
Educational svcs	1,821,812	43	944,252
Health & social services	14,288,755	218.9	7,500,699
Arts- entertainment & recreation	11,842,924	295.3	3,532,019
Accomodation & food services	20,195,250	458.8	6,343,501
Other services	11,905,750	594.8	6,526,223
Government & non NAICs	21,593,400	149.4	6,957,028
TOTAL	480,887,408	5,955	148,082,654

ECONOMIC SECTORS STIMULATED BY RESIDENT+NONRESIDENT HUNTER SPENDING

	Total Output (Sales)	Employment	Income
Ag, Forestry, Fish & Hunting	15,407,188	452	2,222,060
Mining	4,503,958	11	840,249
Utilities	4,960,735	10	902,583
Construction	2,613,516	29	1,156,371
Manufacturing	173,958,693	667	27,671,381
Wholesale Trade	17,443,727	150	7,433,183
Transportation & Warehousing	43,090,406	180	12,086,699
Retail trade	90,008,633	2,222	46,603,880
Information	10,359,543	54	2,242,306
Finance & insurance	14,472,110	120	4,446,011
Real estate & rental	15,088,694	143	2,483,529
Professional- scientific & tech svcs	20,380,819	205	10,011,248
Management of companies	6,457,919	51	2,610,913
Administrative & waste services	7,259,312	158	3,390,358
Educational svcs	2,000,485	47	1,036,744
Health & social services	15,730,774	241	8,257,621
Arts- entertainment & recreation	15,561,022	378	4,661,055
Accomodation & food services	23,217,463	521	7,288,397
Other services	12,654,777	611	6,858,072
Government & non NAICs	27,564,548	236	10,857,061
TOTAL	522,734,322	6,487	163,059,721

APPENDIX D

DETAILED FISHING EXPENDITURES AND IMPACTS

Survey respondents reported expenditures for dozens of categories of product and services. For many of the categories below, the estimates are based on small sample sizes and should be used with caution. Aggregated, the expenditure estimates are reliable.

DETAILED EXPENDITURES BY ALL ANGLERS IN UTAH, 2006.	RESIDENTS	NONRESIDENTS	TOTAL
Food	\$37,074,618	\$15,012,998	\$52,087,615
Lodging	\$6,148,242	\$6,845,060	\$12,993,302
Airfare	\$1,094,452	\$1,770,016	\$2,864,469
Public transportation	\$1,625	\$427,784	\$429,410
Private transportation	\$43,689,776	\$15,891,837	\$59,581,614
Boat fuel	\$12,091,206	\$3,749,173	\$15,840,379
Guides	\$3,013,473	\$2,070,330	\$5,083,803
Public land use fees	\$2,615,234	\$632,413	\$3,247,647
Private land use fees	\$228,388	\$55,472	\$283,860
Boat launching	\$1,351,252	\$179,993	\$1,531,245
Boat mooring	\$7,775,901	\$1,193,982	\$8,969,883
Equipment rental	\$948,792	\$6,469,246	\$7,418,037
Bait (live, cut, prepared)	\$5,417,882	\$1,993,396	\$7,411,278
Ice	\$1,961,534	\$1,383,738	\$3,345,272
Heating & cooking fuel	\$1,500,400	\$789,570	\$2,289,970
Rods, reels & components	\$20,290,015	\$3,255,895	\$23,545,910
Lines & leaders	\$5,021,659	\$331,209	\$5,352,869
Lures, flies & artificial bait	\$11,632,383	\$935,588	\$12,567,971
Hooks, sinkers, other terminal tackle	\$3,117,072	\$250,335	\$3,367,406
Tackle boxes	\$1,944,276	\$6,402	\$1,950,678
Creels, strings, landing nets, etc.	\$1,241,477	\$48,537	\$1,290,014
Bait buckets, minnow traps, etc.	\$31,705	\$0	\$31,705
Depth finder, fish finders, other electronics	\$2,478,141	\$0	\$2,478,141
Ice fishing equipment	\$1,552,791	\$0	\$1,552,791
Other fishing equipment	\$1,618,960	\$93,412	\$1,712,372
Camping gear	\$10,377,088	\$675,676	\$11,052,765
Binoculars	\$545,658	\$69,002	\$614,660
Special fishing clothing, foul weather gear	\$6,026,759	\$296,575	\$6,323,334
Bass boats	\$1,372,059	\$0	\$1,372,059
Other motorized boats	\$17,702,909	\$0	\$17,702,909
Canoes, non-motorized boats	\$1,199,499	\$0	\$1,199,499
Boat motors, trailers, hitches, etc.	\$540,268	\$0	\$540,268
Pick-ups, campers, motor homes, etc.	\$87,333,924	\$4,835,478	\$92,169,403
Cabins	\$0	\$0	\$0
4x4 and off-road vehicles	\$11,375,704	\$5,333,596	\$16,709,299
Other special equipment	\$0	\$725,600	\$725,600
Taxidermy & processing	\$222,076	\$0	\$222,076
Books & magazines	\$1,566,628	\$9,992	\$1,576,620
Dues and contributions	\$2,849,715	\$469,697	\$3,319,412
Other misc. fishing expenditures	\$1,480,040	\$326,596	\$1,806,636
Land purchased for fishing	\$511,261	\$0	\$511,261
Land leased for fishing	\$0	\$0	\$0

TOTAL	\$316,944,843	\$76,128,599	\$393,073,441
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ECONOMIC SECTORS STIMULATED BY NONRESIDENT ANGLER SPENDING

	Total Output (Sales)	Employment	Income
Ag, Forestry, Fish & Hunting	2,760,386	67.7	437,083
Mining	1,938,886	4.8	354,843
Utilities	1,488,297	2.9	269,522
Construction	902,126	10.2	402,480
Manufacturing	32,706,798	75.9	4,125,384
Wholesale Trade	4,611,280	39.5	1,964,975
Transportation & Warehousing	15,319,053	57.1	4,170,890
Retail trade	17,364,124	395.8	8,429,026
Information	2,398,955	12.5	517,971
Finance & insurance	3,825,254	31.7	1,187,096
Real estate & rental	10,792,842	101.3	3,298,423
Professional- scientific & tech svcs	4,593,074	44.2	1,972,862
Management of companies	1,419,639	11.3	573,955
Administrative & waste services	2,280,562	49	1,049,756
Educational svcs	496,010	11.7	256,602
Health & social services	3,876,353	59.4	2,034,924
Arts- entertainment & recreation	3,976,143	75	1,418,369
Accomodation & food services	16,598,759	342.6	5,175,825
Other services	3,062,374	58.3	1,399,157
Government & non NAICs	4,896,081	21.3	1,061,097
TOTAL	135,306,996	1,472	40,100,240

ECONOMIC SECTORS STIMULATED BY RESIDENT ANGLER SPENDING

	Total Output (Sales)	Employment	Income
Ag, Forestry, Fish & Hunting	7,673,359	186.8	1,214,396
Mining	6,138,555	15.3	1,144,544
Utilities	5,336,691	10.3	963,308
Construction	3,366,474	37.9	1,499,661
Manufacturing	216,138,464	622.2	29,858,312
Wholesale Trade	21,315,890	182.8	9,083,202
Transportation & Warehousing	52,008,464	196.1	13,887,752
Retail trade	85,134,664	1,878.20	42,330,428
Information	10,502,085	55.2	2,259,371
Finance & insurance	15,338,983	127.8	4,739,936
Real estate & rental	16,735,653	154.3	2,923,646
Professional- scientific & tech svcs	19,407,896	185.1	8,169,706
Management of companies	6,415,732	51.1	2,593,857
Administrative & waste services	7,907,179	174.6	3,755,277
Educational svcs	2,041,436	47.9	1,057,846
Health & social services	15,400,977	236	8,084,696
Arts- entertainment & recreation	14,485,832	275.7	5,150,296
Accomodation & food services	33,251,096	741.1	10,405,598
Other services	15,572,593	276.1	7,029,483
Government & non NAICs	18,659,936	74.2	3,604,820
TOTAL	572,831,959	5,529	159,756,135

ECONOMIC SECTORS STIMULATED BY RESIDENT+NONRESIDENT ANGLER SPENDING

	Total Output (Sales)	Employment	Income
Ag, Forestry, Fish & Hunting	10,433,745	255	1,651,479
Mining	8,077,441	20	1,499,387
Utilities	6,824,988	13	1,232,830
Construction	4,268,600	48	1,902,141
Manufacturing	248,845,262	698	33,983,696
Wholesale Trade	25,927,170	222	11,048,177
Transportation & Warehousing	67,327,517	253	18,058,642
Retail trade	102,498,788	2,274	50,759,454
Information	12,901,040	68	2,777,342
Finance & insurance	19,164,237	160	5,927,032
Real estate & rental	27,528,495	256	6,222,069
Professional- scientific & tech svcs	24,000,970	229	10,142,568
Management of companies	7,835,371	62	3,167,812
Administrative & waste services	10,187,741	224	4,805,033
Educational svcs	2,537,446	60	1,314,448
Health & social services	19,277,330	295	10,119,620
Arts- entertainment & recreation	18,461,975	351	6,568,665
Accomodation & food services	49,849,855	1,084	15,581,423
Other services	18,634,967	334	8,428,640
Government & non NAICs	23,556,017	96	4,665,917
TOTAL	708,138,955	7,001	199,856,375

APPENDIX E

DETAILED FISHING EXPENDITURES AND IMPACTS

Survey respondents reported expenditures for dozens of categories of product and services. For many of the categories below, the estimates are based on small sample sizes and should be used with caution. Aggregated, the expenditure estimates are reliable.

DETAILED EXPENDITURES BY ALL WILDLIFE WATCHING.*

	NONRESIDENTS		TOTAL
	RESIDENTS		
Food	\$14,211,476	\$115,715,617	\$129,927,093
Lodging	\$8,095,439	\$90,141,202	\$98,236,641
Public transportation	\$314,983	\$8,127,583	\$8,442,566
Private transportation	\$17,689,196	\$47,405,020	\$65,094,216
Guide fees	\$226,032	\$1,256,339	\$1,482,371
Public land access fees	\$803,802	\$1,924,556	\$2,728,358
Private land access fees	\$0	\$398,704	\$398,704
Equipment rental	\$850,881	\$2,270,555	\$3,121,435
Boat fuel	\$764,235	\$619,795	\$1,384,030
Other boat costs	\$0	\$464,846	\$464,846
Heating & cooking fuel	\$631,144	\$636,963	\$1,268,107
Cameras	\$8,797,106	\$0	\$8,797,106
Film & developing	\$20,008,469	\$3,803,441	\$23,811,910
Binoculars & spotting scopes	\$4,005,102	\$0	\$4,005,102
Commercial bird food	\$9,143,392	\$0	\$9,143,392
Other bird food	\$2,833,672	\$0	\$2,833,672
Food for other wildlife	\$437,230	\$0	\$437,230
Nest boxes, feeders	\$3,079,109	\$0	\$3,079,109
Other special equipment	\$1,169,483	\$207,021	\$1,376,504
Tents, tarps	\$3,795,062	\$307,173	\$4,102,235
Backpacking equipment	\$785,388	\$1,501,302	\$2,286,690
Other camping equipment	\$776,579	\$0	\$776,579
Day packs	\$2,190,853	\$80,970	\$2,271,824
Magazines & books	\$2,179,457	\$0	\$2,179,457
Membership dues, contributions	\$1,471,850	\$10,772,738	\$12,244,588
Other equipment	\$52,497	\$1,196,394	\$1,248,891
Off-road vehicles	\$10,919,411	\$0	\$10,919,411
Pickup, camper, motor home	\$0	\$151,351,488	\$151,351,488
Boat	\$0	\$0	\$0
Trailer, boat accessories	\$251,147	\$0	\$251,147
Cabin	\$0	\$0	\$0
Other equipment	\$0	\$0	\$0
Land purchases	\$629,966	\$0	\$629,966
Land leases	\$0	\$0	\$0
Plantings	\$673,763	\$0	\$673,763
TOTAL	\$116,786,725	\$438,181,707	\$554,968,432

*Does not include residential activities.

ECONOMIC SECTORS STIMULATED BY NONRESIDENT WILDLIFE WATCHING SPENDING

	Total Output (Sales)	Employment	Income
Ag, Forestry, Fish & Hunting	8,253,571	119.1	1,567,145
Mining	6,084,898	15.4	1,159,338
Utilities	9,167,604	18	1,682,726
Construction	5,424,961	59.8	2,354,352
Manufacturing	257,149,440	559.3	29,921,238
Wholesale Trade	31,849,058	273.1	13,571,633
Transportation & Warehousing	58,382,972	287.4	17,453,748
Retail trade	79,291,624	1,451.40	37,604,264
Information	14,013,391	73	3,012,178
Finance & insurance	22,162,790	184.8	6,854,892
Real estate & rental	29,008,336	269.7	5,171,916
Professional- scientific & tech svcs	25,520,134	247.7	10,890,340
Management of companies	8,933,797	71.1	3,611,902
Administrative & waste services	12,388,444	258.6	5,583,287
Educational svcs	2,963,164	69.3	1,532,332
Health & social services	21,899,390	335.5	11,495,615
Arts- entertainment & recreation	5,363,538	132.1	2,140,317
Accomodation & food services	160,763,440	3,141.50	50,050,408
Other services	30,622,442	515.1	14,965,063
Government & non NAICs	28,251,912	126.1	6,720,664
TOTAL	817,494,906	8,208	227,343,358

ECONOMIC SECTORS STIMULATED BY RESIDENT WILDLIFE WATCHING SPENDING

	Total Output (Sales)	Employment	Income
Ag, Forestry, Fish & Hunting	11,417,728	337.9	1,764,311
Mining	2,212,334	5.5	407,587
Utilities	2,220,210	4.3	405,557
Construction	1,287,959	14.5	575,283
Manufacturing	57,346,032	189.3	8,473,534
Wholesale Trade	7,610,912	65.3	3,243,189
Transportation & Warehousing	20,340,700	76.1	5,364,662
Retail trade	34,000,172	725.2	17,185,978
Information	6,033,263	32.1	1,261,900
Finance & insurance	5,910,361	48.6	1,816,623
Real estate & rental	8,301,646	75.6	1,503,916
Professional- scientific & tech svcs	7,837,272	76.8	3,613,245
Management of companies	2,613,678	20.8	1,056,701
Administrative & waste services	3,135,552	69.1	1,485,465
Educational svcs	752,372	17.8	388,710
Health & social services	5,942,936	91.1	3,119,756
Arts- entertainment & recreation	1,152,653	29	468,513
Accomodation & food services	18,483,702	377	5,772,033
Other services	4,924,559	77	2,366,103
Government & non NAICs	7,252,939	27.5	1,371,077
TOTAL	208,776,980	2,361	61,644,143

ECONOMIC SECTORS STIMULATED BY RESIDENT+NONRESIDENT WILDLIFE WATCHING SPENDING

	Total Output (Sales)	Employment	Income
Ag, Forestry, Fish & Hunting	19,671,299	457	3,331,456
Mining	8,297,232	21	1,566,925
Utilities	11,387,814	22	2,088,283
Construction	6,712,920	74	2,929,635
Manufacturing	314,495,472	749	38,394,772
Wholesale Trade	39,459,970	338	16,814,822
Transportation & Warehousing	78,723,672	364	22,818,410
Retail trade	113,291,796	2,177	54,790,242
Information	20,046,654	105	4,274,078
Finance & insurance	28,073,151	233	8,671,515
Real estate & rental	37,309,982	345	6,675,832
Professional- scientific & tech svcs	33,357,406	325	14,503,585
Management of companies	11,547,475	92	4,668,603
Administrative & waste services	15,523,996	328	7,068,752
Educational svcs	3,715,536	87	1,921,042
Health & social services	27,842,326	427	14,615,371
Arts- entertainment & recreation	6,516,191	161	2,608,830
Accomodation & food services	179,247,142	3,519	55,822,441
Other services	35,547,001	592	17,331,166
Government & non NAICs	35,504,851	154	8,091,741
TOTAL	1,026,271,886	10,569	288,987,501