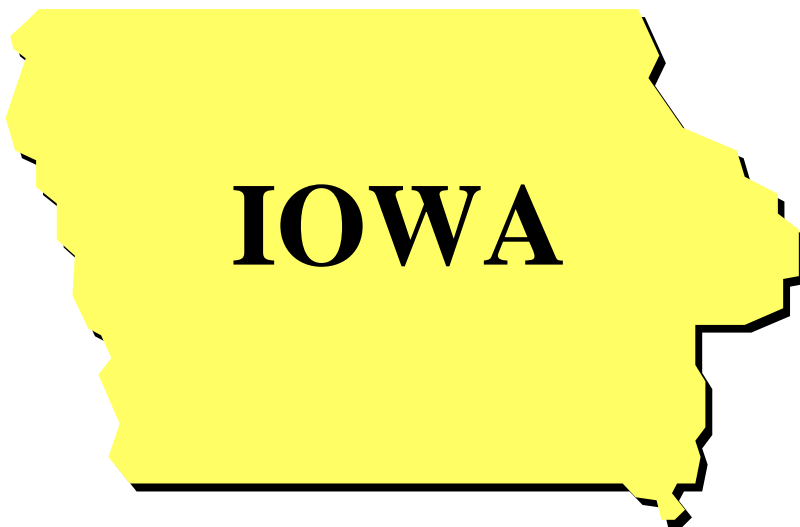


The 2006 Economic Benefits of Hunting, Fishing and Wildlife Watching in



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Iowa Department of Natural Resources

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Table of Contents

Acknowledgments		ii
List of Tables		iv
Executive Summary		v
Introduction		1
Methods		1
Demographics		2
Participation		7
Economic Impacts		14
Retail Sales		14
Total Economic Effect (Output)		14
Earnings		17
Employment		17
Tax Revenues		18
Per Participant and Per Day Expenditures		18
Travel-Related Expenditures		20
Public and Private Land Activity, Expenditures and Impacts		21
Conclusion		27
Appendix A	Definitions	28
Appendix B	Methods	29
Appendix C	Detailed Hunting Expenditures and Impacts	33
Appendix D	Detailed Fishing Expenditures and Impacts	37
Appendix E	Detailed Wildlife Watching Expenditures and Impacts	41

List of Tables

Table E-1. Executive Summary	v
Table 1. Demographic Background of Hunters by Species Hunted in Iowa in 2006	3
Table 2. Iowa Angler Demographics by Species Fished, 2006	5
Table 3. Iowa Wildlife Watching Demographics, 2006	7
Table 4. Hunting Participation by Residential Status and Species Hunted in Iowa in 2006	8
Table 5. Fishing Participation by Residential Status and Species Fished in Iowa in 2006	10
Table 6. Participation in Non-Residential Watchable Wildlife Recreation in Iowa in 2006	11
Table 7. Participation in Non-residential Watchable Wildlife Recreation by Site Visited and Wildlife Observed, Fed, or Photographed in Iowa in 2006	12
Table 8. Participation in Residential Watchable Wildlife Recreation in Iowa in 2006	12
Table 9. Participation in Residential Watchable Wildlife Recreation by Wildlife Observed in Iowa in 2006	13
Table 10. Economic Activity Generated by Iowa Anglers, 2006	15
Table 11. Economic Activity Generated by Iowa Hunters, 2006	16
Table 12. Economic Activity Generated by Iowa Wildlife Watchers, 2006	17
Table 13. Combined Economic Impacts of Fishing, Hunting and Wildlife-Watching Recreation, 2006	17
Table 14. Per Day and Per Person Expenditures, 2006	19
Table 15. Travel-Related Expenditures, 2006	21
Table 16. Percentage of Non-Residential* Activity and Days Occurring on Public and Private Land	22
Table 17. Percentage of Hunters and Hunting Days on Public and Private Land	23
Table 18. Economic Activity Generated by Wildlife Viewers, by Type of Land Used, 2006	24
Table 19. Economic Activity Generated by Iowa Hunters, by Type of Land Used, 2006	25
Table 20. Economic Activity Generated by Hunters and Wildlife Viewers Combined, by Type of Land Used, 2006	26

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 Iowa 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, 1.45 million residents and non-residents participated in some form of fish and wildlife-related recreation in Iowa. These anglers, hunters and wildlife viewers spent \$974.2 million in retail sales (\$854.6 million by residents and \$119.7 million by nonresidents), creating \$453.9 million in salaries and wages, and supporting more than 17,800 jobs. The total economic effect (multiplier effect) from fish and wildlife-related recreation was estimated at \$1.54 billion.

Table E-1: Executive Summary

	RETAIL SALES	TOTAL ECONOMIC EFFECT (OUTPUT)	EARNINGS	JOBS	STATE SALES TAX REVENUES	STATE INCOME TAX REVENUES
All Freshwater Fishing:	\$362,300,139	\$580,355,622	\$173,159,565	6,369	\$38,652,520	\$35,120,447
Residents Only:	\$335,808,186	\$536,805,017	\$160,429,031	5,960	\$35,882,632	\$32,772,677
Non-Residents Only:	\$26,491,954	\$43,550,606	\$12,730,535	409	\$2,769,888	\$2,347,770
All Hunting:	\$299,398,609	\$468,399,517	\$149,086,117	6,137	\$33,377,530	\$32,021,981
Residents Only:	\$239,291,515	\$374,366,200	\$118,761,135	4,888	\$26,614,440	\$25,656,052
Non-Residents Only:	\$60,107,093	\$94,033,317	\$30,324,982	1,249	\$6,763,090	\$6,365,929
All Wildlife Watching Activities:	\$312,545,812	\$494,131,000	\$131,619,081	5,340	\$30,554,787	\$29,689,431
Residents Only:	\$279,451,101	\$440,283,443	\$115,839,366	4,640	\$27,020,489	\$26,358,956
Non-Residents Only:	\$33,094,711	\$53,847,557	\$15,779,715	700	\$3,534,298	\$3,330,475
All Fish and Wildlife Related Recreation (combined):	\$974,244,560	\$1,542,886,139	\$453,864,763	17,846	\$102,584,837	\$96,831,859
Residents Only:	\$854,550,802	\$1,351,454,659	\$395,029,531	15,488	\$89,517,561	\$84,787,685
Non-Residents Only:	\$119,693,758	\$191,431,480	\$58,835,232	2,358	\$13,067,276	\$12,044,174

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 Iowa. 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 Iowa 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 43 years old, are predominantly male, and are likely to be married. The average household income for Iowa hunters is approximately \$59,389, significantly higher than the \$47,489 state average (U.S. Census Bureau). About 54 percent have some college experience. Only a small percentage of hunters in Iowa report they are non-white.

Table 1 does not necessarily represent the most popular types of game in Iowa. 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 42 years old, are predominantly male, and are likely to be married. The average household income for anglers participating in freshwater fishing in Iowa is approximately \$57,330. About 53 percent of freshwater anglers in Iowa have some college experience. Only a small percentage of freshwater anglers in Iowa report they are non-white.

The table below does not necessarily represent the most popular species in Iowa. 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 Iowa in 2006 (Participants 16 years old and older)

ALL HUNTERS	Big Game	Small Game	Upland Game	Migratory Bird	Deer	Turkey	Rabbit	Pheasant	All Hunting
Race (non-white)	0.0%	0.0%	0.0%	0.0% *	0.0%	0.0%	0.0% *	0.0%	0.0%
Average age	41.2	42.0	41.3	37.4 *	41.1	43.2	40.2 *	41.3	43.0
Gender (male)	93.6%	96.5%	96.1%	100.0%*	93.1%	100.0%	95.9% *	96.1%	93.5%
Marital Status (married)	73.4%	69.7%	67.7%	78.3% *	73.2%	87.8%	59.9% *	67.7%	73.1%
Average household income	\$56,714	\$64,368	\$67,012	\$55,251	\$57,345	\$55,036	\$50,748	\$67,012	\$59,389
Education									
No High School	4.3%	0.8%	0.9%	0.0% *	4.6%	0.0%	0.0% *	0.9%	3.0%
Some High School	4.8%	10.6%	9.8%	12.1% *	8.3%	2.4%	27.8% *	9.8%	8.6%
High School Diploma	36.8%	34.8%	35.2%	11.6% *	39.2%	36.0%	36.0% *	35.2%	35.5%
College Graduate	35.2%	30.3%	31.3%	43.1% *	31.7%	41.1%	12.0% *	31.3%	32.5%
Post-graduate	15.9%	23.5%	22.8%	33.3% *	16.2%	20.5%	24.2% *	22.8%	20.4%
<u>RESIDENT</u>									
Race (non-white)	0.0%	0.0%	0.0%	0.0% *	0.0%	0.0%	0.0% *	0.0%	0.0%
Average age	41.2	38.3	36.7	37.1 *	41.2	43.2	40.2 *	36.7	41.3
Gender (male)	93.4%	95.3%	94.6%	100.0%*	92.9%	100.0%	95.9% *	94.6%	92.2%
Marital Status (married)	72.6%	67.6%	64.5%	80.3% *	72.3%	87.8%	59.9% *	64.5%	72.0%
Average household income	\$54,864	\$59,942	\$62,799	\$55,251	\$55,450	\$55,036	\$50,748	\$62,799	\$54,652
Education									
No High School	4.5%	1.1%	1.3%	0.0% *	4.8%	0.0%	0.0% *	1.3%	3.7%
Some High School	8.1%	14.3%	13.6%	12.4% *	8.6%	2.4%	27.8% *	13.6%	10.4%
High School Diploma	34.7%	35.6%	36.3%	11.9% *	37.1%	36.0%	36.0% *	36.3%	34.6%
College Graduate	36.4%	29.8%	31.1%	44.2% *	32.8%	41.1%	12.0% *	31.1%	33.7%
Post-graduate	16.4%	19.3%	17.7%	31.5% *	16.7%	20.5%	24.2% *	17.7%	17.8%

(Continued – next page)

* = 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 Iowa in 2006 (Participants 16 years old and older)

<u>NONRESIDENT</u>	<u>Big Game</u>	<u>Small Game</u>	<u>Upland Game</u>	<u>Migratory Bird</u>	<u>Deer</u>	<u>Turkey</u>	<u>Rabbit</u>	<u>Pheasant</u>	<u>All Hunting</u>
Race (non-white)	**	0.0% *	0.0% *	**	**	**	**	0.0% *	0.0% *
Average age	**	52.8 *	52.8 *	**	**	**	**	52.8 *	51.2 *
Gender (male)	**	100% *	100.0%	**	**	**	**	100.0% *	100.0% *
Marital Status (married)	**	75.9% *	75.9% *	**	**	**	**	75.9% *	78.4% *
Average household income	**	\$78,670	\$78,670	**	**	**	**	\$78,670	\$83,046 *
Education									
No High School	**	0.0% *	0.0% *	**	**	**	**	0.0% *	0.0% *
Some High School	**	0.0% *	0.0% *	**	**	**	**	0.0% *	0.0% *
High School Diploma	**	32.5% *	32.5% *	**	**	**	**	32.5% *	40.2% *
College Graduate	**	31.8% *	31.8% *	**	**	**	**	31.8% *	26.9% *
Post-graduate	**	35.7% *	35.7% *	**	**	**	**	35.7% *	32.9% *

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

ALL ANGLERS	Crappie	Panfish	White Bass	Black Bass	Catfish	Walleye	Trout	Any species	All species
Race (non-white)	0.7%	3.2%	1.9%	2.5%	1.0%	1.2%	0.0% *	1.1%	1.6%
Average age	41.2	41.5	40.4	40.8	38.3	38.6	44.4 *	48.3	41.8
Gender (male)	87.6%	71.9%	80.2%	81.5%	80.3%	84.1%	77.6% *	55.4%	76.8%
Marital Status (married)	74.9%	72.0%	61.1%	75.4%	69.3%	55.8%	70.4% *	74.7%	73.8%
Average household income	67,268	61,826	64,433	58,705	52,302	52,745	60,418*	53,173	57,331
Education									
No High School	0.0%	2.2%	0.0%	1.4%	0.65	0.0%	0.0% *	0.0%	0.9%
Some High School	10.8%	15.5%	9.3%	7.9%	9.6%	12.1%	4.1% *	9.6%	8.9%
High School Diploma	32.4%	29.6%	50.4%	39.6%	42.2%	37.5%	28.2% *	26.5%	35.6%
College Graduate	36.9%	30.6%	16.4%	26.7%	32.6%	35.6%	24.2% *	40.1%	31.3%
Post-graduate	20.1%	22.2%	23.9%	24.4%	15.0%	14.8%	43.3% *	23.9%	23.4%
RESIDENT									
Race (non-white)	0.7%	3.2%	2.1% *	2.6%	1.1%	1.2%	0.0% *	0.0% *	1.7%
Average age	40.8	41.5	39.0 *	40.6	38.6	38.7	44.7 *	48.8 *	41.8
Gender (male)	87.2%	71.7%	77.6% *	80.9%	79.5%	84.1%	78.6% *	58.2% *	76.2%
Marital Status (married)	74.0%	72.1%	60.8% *	75.8%	71.6%	55.6%	69.2% *	79.4% *	75.3%
Average household income	65,945	61,823	59,331*	57,776	53,328	52,043	58,154*	52,604*	56,426
Education									
No High School	0.0%	2.2%	0.0% *	1.5%	0.7%	0.0%	0.0% *	0.0% *	1.0%
Some High School	11.5%	15.6%	10.5% *	8.0%	10.2%	12.1%	4.3% *	11.7% *	9.6%
High School Diploma	33.7%	29.4%	55.7% *	40.1%	43.7%	38.0%	29.3% *	30.9% *	38.0%
College Graduate	37.3%	30.8%	18.6% *	27.1%	29.5%	34.4%	21.4% *	34.9% *	29.8%
Post-graduate	17.6%	22.0%	15.2% *	23.3%	15.9%	15.5%	45.0% *	22.5% *	21.6%

* = 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) Iowa Angler Demographics by Species Fished, 2006 (Participants 16+ years old)

NONRESIDENT

	<u>Crappie</u>	<u>Panfish</u>	<u>White Bass</u>	<u>Black Bass</u>	<u>Catfish</u>	<u>Walleye</u>	<u>Trout</u>	<u>Any species</u>	<u>All species</u>
Race (non-white)	**	**	**	**	**	**	**	**	1.4% *
Average age	**	**	**	**	**	**	**	**	41.9 *
Gender (male)	**	**	**	**	**	**	**	**	83.3% *
Marital Status (married)	**	**	**	**	**	**	**	**	58.6% *
Average household income	**	**	**	**	**	**	**	**	-
Education									
No High School	**	**	**	**	**	**	**	**	0.0% *
Some High School	**	**	**	**	**	**	**	**	1.3% *
High School Diploma	**	**	**	**	**	**	**	**	11.6% *
College Graduate	**	**	**	**	**	**	**	**	46.0% *
Post-graduate	**	**	**	**	**	**	**	**	41.1% *

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** = 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 activities can be divided into two categories: *residents* and *non-residents*. Residents are people who reside in Iowa, 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 Iowa report they are non-white.

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

	Nonresidential Activity		Residential Activity
	Resident	Nonresident *	
Race (non-white)	1.1%	0.0% *	3.5%
Average age	49.9	52.3 *	52.0
Gender (male)	54.6%	68.3% *	53.9%
Marital Status (married)	67.7%	71.8% *	69.9%
Average HH Income	\$52,318	\$78,152 *	\$56,092
Education			
No High School	0.0%	0.0% *	1.85
Some High School	11.6%	0.0% *	9.3%
High School Diploma	28.5%	13.3% *	38.6%
College Graduate	35.6%	17.2% *	29.7%
Post-graduate	24.1%	69.4% *	20.4%

* = 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 (\$47,489, U.S. Census Bureau). Non-resident participants tend to have higher incomes and higher levels of education than do Iowa resident wildlife watchers..

Participation

Hunter Participation

In 2006, there were 251,000 hunters (residents and nonresidents), hunting a total of 3.8 million days in Iowa (Table 4). Of the total hunters in Iowa, 208,000 were state residents and 44,000 were nonresidents. Deer hunting was the most popular in terms of hunters and days, surpassing the second-ranked category of pheasant hunting.

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

<u>Number of participants</u>	<u>BigGame</u>	<u>Small Game</u>	<u>Upland Game</u>	<u>Migratory Bird</u>	<u>Deer</u>	<u>Turkey</u>	<u>Rabbit</u>	<u>Pheasant</u>	<u>All</u>
Resident	169,889	106,810	93,643	21,013 *	159,009	51,052	32,131 *	93,643	207,866
Nonresident	-- **	36,814 *	36,814 *	-- **	-- **	-- **	-- **	36,814 *	43,519 *
Total	175,413	143,624	130,457	21,562 *	164,533	51,052	32,131 *	130,457	251,386
 <u>Number of days</u>									
Resident	2,304,911	1,260,654	1,139,250	154,064 *	2,043,364	335,411	327,756 *	981,550	3,626,917
Nonresident	-- **	165,847 *	180,663 *	-- **	-- **	-- **	-- **	143,078 *	222,101 *
Total	2,332,531	1,426,501	1,319,913	182,066 *	2,070,984	335,411	327,756 *	1,124,628	3,849,018
 <u>Average Days of Participation</u>									
Resident	13.6	11.8	12.2	7.3 *	12.9	6.6	10.2 *	10.5	17.4
Nonresident	-- **	4.5 *	4.9 *	-- **	-- *	-- **	-- **	3.9 *	5.1 *
Total	13.3	9.9	10.1	8.4 *	12.6	6.6	10.2 *	8.6	15.3

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. For example, deer and turkey are also part of "Big Game." 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 437,532 freshwater anglers (residents and nonresidents), fishing a total of 6.2 million days in Iowa (Table 5). Of the total freshwater anglers in Iowa, 397,330 were state residents and 40,202 were nonresidents. Most fishing effort was directed at catfish and black bass.

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 403,967 watchable wildlife recreationists (residents and non-residents) participating in non-residential activities in Iowa (Table 6). Of the total recreationists in Iowa participating in activities more than one mile from home, 291,618 were state residents and 112,349 were non-residents. Altogether, these recreationists spent 4 million days in non-residential activities in Iowa.

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, observing 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 sites visited 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 over 1 million residential watchable wildlife participants in Iowa (Table 8). This number represents Iowa residents participating in watchable wildlife recreation within one mile of their home. Compared to non-residential activity, there are three times the number of 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 Iowa in 2006 (Participants 16+ years)

<u>Number of participants</u>	<u>Crappie</u>	<u>Panfish</u>	<u>White Bass</u>	<u>Black Bass</u>	<u>Walleye</u>	<u>Catfish</u>	<u>Trout</u>	<u>Any other</u>	<u>All species</u>
Resident	148,547	169,497	49,202*	166,758	84,743	201,863	32,768*	8,763*	397,330
Nonresident**	--	--	--	--	--	--	--	--	40,202*
Total	158,460	170,663	55,626	175,713	88,770	213,861	34,084*	18,393	437,532
<u>Number of days</u>									
Resident	1,953,959	1,662,981	602,590	1,950,105	1,307,662	2,424,705	210,900	277,659	6,062,657
Nonresident**	--	--	--	--	--	--	--	--	151,933*
Total	1,991,291	1,668,943	659,766	1,998,433	1,319,588	2,471,204	214,847	298,964	6,214,590
<u>Avg Days of Participation</u>									
Resident	13.2	9.8	12.2	11.7	15.4	12.0	6.4	31.7	15.3
Nonresident**	--	--	--	--	--	--	--	--	3.8*
Total	12.6	9.8	11.9	11.4	14.9	11.6	6.3	16.3	14.2
<u>Number of observations</u>									
Resident	91	110	28	105	52	113	18	7	238
Nonresident	5	2	4	9	6	6	2	1	24
Total	96	112	32	114	58	119	20	8	262

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

** = sample size is too small to report reliably

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

	Resident	Nonresident*	Total
Number of participants	291,618	112,349	403,967
observing wildlife	251,068	53,780	304,848
photographing wildlife	112,971	19,064	132,035
feeding wildlife	51,009	27,288	78,297
Number of days	3,654,862	358,102	4,012,964
observing wildlife	3,333,922	267,395	3,601,318
photographing wildlife	783,789	57,160	840,949
feeding wildlife	751,912	36,956	788,868
Number of trips	3,236,471	419,407	3,655,878
Average Days Participation	12.5	3.2	9.9

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

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

	<u>Resident</u>	<u>Nonresident*</u>	<u>Total</u>
Number of participants	291,618	112,349	403,967
Number of recreationists visiting:			
private land	85,778	33,774	119,553
public land	226,897	52,057	278,954
Number of recreationists observing, feeding, photographing			
Birds	265,255	62,525	327,779
Birds of prey	228,664	48,567	277,231
Waterfowl	240,022	33,833	273,856
Shorebirds	129,632	42,330	171,962
Songbirds	208,686	36,963	245,649
Other birds	142,895	56,294	199,190
Mammals	221,798	54,283	276,081
Large land mammals	188,455	54,283	242,738
Small land mammals	176,936	42,673	219,609
Ocean mammals	0	0	0
Fish	38,093	29,259	67,352
Other wildlife	138,563	32,471	171,034

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

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

Number of participants	1,059,405
observing wildlife	803,847
photographing wildlife	240,223
feeding birds & wildlife	921,820
birds	874,358
other wildlife	301,006
visiting parks near home	129,817
maintaining natural areas around home	70,334
maintaining plantings around home	104,297
Number of days	
observing wildlife	99,670,298
photographing wildlife	4,418,330

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.

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 99.6 million days observing wildlife around their home.

The number one type of wildlife observed by residential recreationists in Iowa 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 Iowa in 2006 (Participants 16+ years)

Number of recreationists	
birds	727,096
mammals	660,766
large mammals	368,533
small mammals	601,318
amphibians or reptiles	123,820
insects or spiders	314,241
fish & other insects	106,333

Economic Impacts

Retail Sales

Tables 10, 11 and 12 present retail sales and resulting economic impacts in Iowa 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 \$974.2 million in consumer expenditures for equipment and services consumed as part of their outdoor activities. Most of these were made by residents (\$854.5 million), while nonresidents contributed \$119.7 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 Iowa was estimated to be \$1.54 billion. In other words, if hunters, anglers and wildlife watchers were to stop spending money in Iowa and not spend these dollars on other in-state items, the state economy would shrink by \$1.54 billion. Sportfishing accounted for \$580.4 million, with \$494.3 million from wildlife-watching and \$468.4 million from hunting.

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

	RETAIL SALES	OUTPUT	EARNINGS	JOBS	FEDERAL TAX REVENUE	STATE & LOCAL TAX REVENUE
All Freshwater Fishing:	\$362,300,139	\$580,355,622	\$173,159,565	6,369	\$38,652,520	\$35,120,447
Residents Only:	\$335,808,186	\$536,805,017	\$160,429,031	5,960	\$35,882,632	\$32,772,677
Non-Residents Only:*	\$26,491,954	\$43,550,606	\$12,730,535	409	\$2,769,888	\$2,347,770
Black Bass Fishing:	\$49,206,145	\$77,208,718	\$23,024,675	874	\$5,182,029	\$5,011,993
Residents Only:	\$46,648,156	\$73,787,708	\$21,907,314	829	\$4,932,023	\$4,755,947
Non-Residents Only:**	--	--	--	--	--	--
White Bass Fishing:	\$18,649,113	\$77,208,718	\$8,686,024	343	\$1,963,937	\$1,868,887
Residents Only:	\$18,056,509	\$28,566,960	\$8,439,587	332	\$1,908,203	\$1,811,038
Non-Residents Only:**	--	--	--	--	--	--
Trout Fishing:	\$7,648,962	\$12,337,972	\$3,740,024	152	\$826,746	\$748,083
Residents Only:	\$7,600,465	\$12,261,957	\$3,716,667	151	\$821,630	\$743,483
Non-Residents Only:**	--	--	--	--	--	--
Crappie Fishing:	\$41,636,131	\$64,968,030	\$19,675,378	786	\$4,482,083	\$4,425,400
Residents Only:	\$40,609,456	\$63,307,242	\$19,212,703	764	\$4,376,363	\$4,319,773
Non-Residents Only:**	--	--	--	--	--	--
Panfish Fishing:	\$36,388,173	\$57,152,649	\$16,405,777	637	\$3,763,135	\$3,707,020
Residents Only:	\$36,344,620	\$57,085,959	\$16,387,937	636	\$3,759,092	\$3,702,801
Non-Residents Only:**	--	--	--	--	--	--
Catfish Fishing:	\$67,758,106	\$107,041,176	\$31,067,141	1,219	\$7,034,464	\$6,733,455
Residents Only:	\$64,252,934	\$101,767,214	\$29,492,111	1,153	\$6,670,627	\$6,367,806
Non-Residents Only:**	--	--	--	--	--	--
Any Other Fish:	\$13,207,215	\$20,937,151	\$6,230,053	233	\$1,399,620	\$1,268,777
Residents Only:	\$12,717,029	\$20,147,060	\$6,008,866	222	\$1,348,790	\$1,218,086
Non-Residents Only:**	--	--	--	--	--	--

* = data based on a small sample size

** = sample size too small to report results reliably

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

	RETAIL SALES	OUTPUT	EARNINGS	JOBS	FEDERAL TAX REVENUE	STATE & LOCAL TAX REVENUE
All Hunting	\$299,398,609	\$468,399,517	\$149,086,117	6,137	\$33,377,530	\$32,021,981
Residents Only	\$239,291,515	\$374,366,200	\$118,761,135	4,888	\$26,614,440	\$25,656,052
Non-Residents Only*	\$60,107,093	\$94,033,317	\$30,324,982	1,249	\$6,763,090	\$6,365,929
Big Game Hunting	\$159,720,784	\$250,191,500	\$83,075,431	4,107	\$18,312,522	\$16,877,560
Residents Only	\$142,376,985	\$223,524,023	\$74,349,368	3,786	\$16,402,062	\$15,202,508
Non-Residents Only**	--	--	--	--	--	--
Deer Hunting	\$137,366,321	\$213,831,121	\$67,270,545	2,838	\$15,192,545	\$14,746,888
Residents Only	\$120,597,609	\$188,066,069	\$58,858,597	2,529	\$13,352,158	\$13,138,729
Non-Residents Only**	--	--	--	--	--	--
Upland Game Hunting	\$85,879,189	\$134,885,021	\$44,010,393	1,802	\$9,807,955	\$9,308,285
Residents Only	\$60,668,407	\$94,818,336	\$31,979,846	1,302	\$7,123,307	\$6,830,059
Non-Residents Only*	\$25,210,782	\$40,066,685	\$12,030,547	500	\$2,684,648	\$2,478,226
Migratory Bird Hunting*	\$31,174,299	\$48,811,557	\$16,747,003	685	\$3,737,035	\$3,583,804
Residents Only*	\$14,972,953	\$23,533,539	\$7,430,446	286	\$1,644,649	\$1,470,995
Non-Residents Only**	--	--	--	--	--	--
Small Game Hunting	\$88,333,131	\$138,740,972	\$45,424,620	1,843	\$10,111,081	\$9,549,500
Residents Only	\$63,848,739	\$99,856,916	\$33,684,857	1,356	\$7,489,805	\$7,120,987
Non-Residents Only*	\$24,484,392	\$38,884,055	\$11,739,764	487	\$2,621,276	\$2,428,513
Turkey Hunting	\$23,351,139	\$36,157,975	\$11,089,847	449	\$2,442,659	\$2,317,613
Residents Only	\$23,351,139	\$36,157,975	\$11,089,847	449	\$2,442,659	\$2,317,613
Non-Residents Only**	--	--	--	--	--	--
Pheasant Hunting	\$69,561,417	\$109,216,509	\$35,831,771	1,470	\$7,994,458	\$7,615,151
Residents Only	\$53,061,384	\$82,946,222	\$27,754,907	1,145	\$6,203,641	\$6,024,585
Non-Residents Only*	\$16,500,033	\$26,270,288	\$8,076,864	325	\$1,790,817	\$1,590,566
Rabbit Hunting*	\$8,389,173	\$13,087,638	\$4,511,183	176	\$988,937	\$956,661
Residents Only*	\$8,389,173	\$13,087,638	\$4,511,183	176	\$988,937	\$956,661
Non-Residents Only**	--	--	--	--	--	--

* = data based on a small sample size

** = sample size too small to report results reliabl

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

	RETAIL SALES	OUTPUT	EARNINGS	JOBS	FEDERAL TAX REVENUE	STATE & LOCAL TAX REVENUE
All Fish and Wildlife Related Recreation:	\$312,545,812	\$494,313,674	\$131,619,081	5,340	\$30,554,787	\$29,689,421
Residents Only	\$279,451,101	\$440,395,322	\$115,839,366	4,640	\$27,020,489	\$26,358,946
Non-Residents Only*	\$33,094,711	\$53,918,351	\$15,779,715	700	\$3,534,298	\$3,330,475

* = data based on a small sample size

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

	RETAIL SALES	OUTPUT	EARNINGS	JOBS	FEDERAL TAX REVENUE	STATE & LOCAL TAX REVENUE
All Fish and Wildlife Related Recreation:	\$974,244,560	\$1,543,068,813	\$453,864,763	17,846	\$102,584,837	\$96,831,849
Residents Only:	\$854,550,802	\$1,351,566,539	\$395,029,532	15,488	\$89,517,561	\$84,787,675
Non-Residents Only:	\$119,693,758	\$191,502,274	\$58,835,232	2,358	\$13,067,276	\$12,044,174

Earnings

The business activity stimulated throughout the Iowa 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 Iowa as a result of hunting, fishing and wildlife watching activities. Total earnings in 2006 in Iowa from fish and wildlife related activities were estimated at \$453.9 million, with \$395.0 million from residents and \$58.8 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 Iowa in 2006 from fish and wildlife related activities were estimated at 17,846, with 6,137, 6,369 and 5,340 from hunting, fishing and wildlife watching, respectively.

Tax Revenues

State and local tax revenues generated from 2006 fish and wildlife-related recreation in Iowa were estimated to be \$96.8 million (\$84.7 million by residents and \$12.0 million by non-residents). Anglers accounted for \$35.1 million, while hunters and wildlife watchers generated \$32.0 million and \$29.7 million of the total, respectively. Fish and wildlife generated another \$102.6 million in federal tax revenues.

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	Turkey	Rabbit	Pheasant	All Hunting
All Hunters:									
Average daily expenditures	\$68.48	\$61.92	\$65.06	\$171.23*	\$66.33	\$69.62	\$25.60*	\$61.85	\$77.79
Average annual expenditures	\$910.54	\$615.03	\$658.29	\$1,445.82*	\$834.89	\$457.40	\$261.09*	\$533.21	\$1,190.99
Resident Hunters:									
Average daily expenditures	\$61.77	\$50.65	\$53.25	\$97.19*	\$59.02	\$69.62	\$25.60*	\$54.06	\$65.98
Average annual expenditures	\$838.06	\$597.78	\$647.87	\$712.57*	\$758.43	\$457.40	\$261.09*	\$566.64	\$1,151.18
Non-Resident Hunters*:									
Average daily expenditures	**	\$147.63*	\$139.55*	**	**	**	**	\$115.32*	\$270.63*
Average annual expenditures	**	\$665.08*	\$684.81*	**	**	**	**	\$448.20*	\$1,381.16*

FISHING									
	Crappie	Panfish	White Bass	Black Bass	Catfish	Walleye	Trout	Any other species	All Freshwater Species¹
All Anglers:									
Average daily expenditures	\$20.91	\$21.80	\$28.27	\$24.62	\$30.01	\$27.42	\$35.60*	\$44.18	\$58.30
Average annual expenditures	\$262.75	\$213.22	\$335.26	\$280.04	\$446.03	\$316.83	\$224.42*	\$718.06	\$828.05
Resident Anglers:									
Average daily expenditures	\$20.78	\$21.86	\$29.96	\$23.92	\$30.15	\$26.50	\$36.04*	\$45.80	\$55.39
Average annual expenditures	\$273.38	\$214.43	\$366.99	\$279.74	\$465.26	\$318.30	\$231.95*	\$1,451.22	\$845.16
Non-Resident Anglers:									
Average daily expenditures	**	**	**	**	**	**	**	**	**
Average annual expenditures	**	**	**	**	**	**	**	**	**

Comment [MSOffice2]: Is an estimate with less precision available?? These licenses are restricted by quota each year and the legislature has been reluctant to increase the quota though increased license sales would benefit the DNR.

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	\$150.32		
On non-residential activities, annually	\$958.28	\$294.57	\$773.69
 <u>Avg. per day, per participant</u>			
For non-residential activities, including equipment items:	\$76.46	\$92.42	\$77.88
For non-residential activities, travel expenses only (food, hotel, etc):	\$5.74	\$78.09	\$12.20

* Non-resident expenditures only includes money spent in Iowa. 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 Iowa 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, Iowa 2006 (Participants 16+ years)

Hunting:	
Big Game	\$66,807,348
Small Game	\$37,647,301
Upland Game	\$38,485,503
Migratory Bird*	\$2,237,249
Deer	\$51,557,740
Turkey	\$16,105,225
Rabbit*	\$2,753,311
Pheasant	\$27,003,820
<i>All Hunting, all species</i>	\$110,755,935
Fishing:	
Catfish	\$29,983,182
Black Bass	\$25,701,884
Crappie	\$23,034,518
Walleye	\$21,476,330
Panfish	\$14,596,716
White Bass	\$7,091,865
Trout	\$6,589,500
Any other	\$4,247,268
<i>All Fishing, All Species</i>	\$139,533,078
Wildlife Viewing:	\$48,950,833

* = data based on a small sample size

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 Iowa’s wildlife resources. Table 16, using data from the 2006 National Survey, presents the percentage of Iowa 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 Iowa 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. Plus, facilities, programs, and events are often provided at public locations to enhance wildlife viewing opportunities.

Table 16. Percentage of Non-Residential¹ Activity and Days Occurring on Public and Private Land (participants 16+ years)

	Residents	Nonresidents	Total
Public Land Exclusively			
Participants	62.7%*	23.8%*	51.9%
Days of Participation	41.8%*	21.0%*	40.0%
Private Land Exclusively			
Participants*	**	**	**
Days of Participation*	**	**	**
Use Both Public and Private Lands			
Participants	15.1%*	**	17.2%*
Days of Participation	15.7%*	**	18.4%*

¹ “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)

NUMBER OF HUNTERS											
WHO USE:	All Hunting		Big Game		Small Game		Upland Game *		Migratory Bird*		
All Types of Land:	251,386	-	175,413	-	143,624	-	130,457	-	21,562	-	
Residents:	207,866	-	169,889	-	106,810	-	93,643	-	21,013*	-	
Non-residents:	43,519*	-	**	-	36,814*	-	36,814*	-	**	-	
Public Lands Exclusively:	**	**	**	**	**	**	**	**	**	**	
Residents:	**	**	**	**	**	**	**	**	**	**	
Non-residents:	**	**	**	**	**	**	**	**	**	**	
Private Lands Exclusively:	**	**	137,895	78.6%	112,358	78.2%	45,163	34.6%	**	**	
Residents:	**	**	132,371	77.9%	76,622	71.7%	45,163	48.2%	**	**	
Non-residents*:	**	**	**	**	35,736*	97.1%	**	**	**	**	
Private and Public Lands:	40,287	16.0%	22,213*	26.1%	23,213	16.2%	23,213*	17.8%	**	**	
Residents:	38,660*	18.6%	22,213*	14.6%	22,135*	20.7%	22,135*	23.6%	**	**	
Non-residents:	**	**	**	**	**	**	**	**	**	**	
DAYS OF HUNTING:											
All Hunters, All Types of Land	3,849,018	-	2,332,531	-	1,426,501	-	1,319,913	-	182,066	-	
Residents:	3,626,917	-	2,304,911	-	1,260,654	-	1,139,250	-	154,064*	-	
Non-residents:	222,101*	-	**	-	165,847	-	180,663	-	**	-	
Public Lands Exclusively:	**	**	**	**	**	**	**	**	**	**	
Residents:	**	**	**	**	**	**	**	**	**	**	
Non-residents:	**	**	**	**	**	**	**	**	**	**	
Private Lands Exclusively:	**	**	1,851,788	79.4%	965,818	67.7%	582,878	44.2%	**	**	
Residents:	**	**	1,824,168	79.1%	805,360	63.9%	582,878	51.2%	**	**	
Non-residents:	**	**	**	100.0%	160,458*	96.8%	**	**	**	**	
Private and Public Lands:	1,115,121	28.5%	422,478	18.1%	341,728	24.0%	319,002*	24.2%	**	**	
Residents:	1,081,730*	20.7%	422,478	18.3%	336,339*	26.7%	312,534*	27.4%	**	**	
Non-residents:	**	77.7%	**	**	**	**	**	**	**	**	

* = 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	STATE SALES TAX RECEIPTS	STATE INCOME TAX RECEIPTS	FEDERAL INCOME TAXES
Public Land							
Exclusively	\$113,411,105	\$186,728,790	\$50,112,718	1,661	\$10,976,145	\$9,148,031	\$113,411,105
Residents*	\$108,521,560	\$178,746,986	\$47,607,496	1,561	\$10,431,811	\$8,684,662	\$108,521,560
Non-Residents*	\$4,889,545	\$7,981,804	\$2,505,222	100	\$544,334	\$463,369	\$4,889,545
Private Land							
Exclusively*	**	**	**	**	**	**	**
Residents**	**	**	**	**	**	**	**
Non-Residents**	**	**	**	**	**	**	**
Use Both							
Public and							
Private Lands*	\$20,780,647	\$32,501,881	\$8,573,051	399	\$1,954,090	\$1,942,709	\$20,780,647
Residents*	\$14,175,583	\$21,998,114	\$5,574,361	266	\$1,279,381	\$1,275,380	\$14,175,583
Non-Residents*	**	**	**	**	**	**	**

* = data based on a small sample size

** = sample size too small to report results reliably

Table 19. Economic Activity Generated by Iowa 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:	\$299,398,609	\$468,399,517	\$149,086,126	6,138	\$33,377,530	\$32,021,981
Residents Only:	\$239,291,515	\$374,366,200	\$118,761,142	4,888	\$26,614,440	\$25,656,052
Non-Residents Only*:	\$60,107,093	\$94,033,317	\$30,324,984	1,249	\$6,763,090	\$6,365,929
Big Game Hunting:	\$159,720,784	\$250,191,500	\$83,075,433	4,107	\$18,312,522	\$16,877,560
Residents Only:	\$142,376,985	\$223,524,023	\$74,349,370	3,786	\$16,402,062	\$15,202,508
Non-Residents Only:	**	**	**	**	**	**
Migratory Bird Hunting:	\$31,174,299	\$48,811,557	\$16,747,003	685	\$3,737,035	\$3,583,804
Residents Only*:	\$14,972,953	\$23,533,539	\$7,430,446	286	\$1,644,649	\$1,470,995
Non-Residents Only:	**	**	**	**	**	**
Small Game Hunting:	\$88,333,131	\$138,740,972	\$45,424,620	1,843	\$10,111,081	\$9,549,500
Residents Only:	\$63,848,739	\$99,856,916	\$33,684,857	1,356	\$7,489,805	\$7,120,987
Non-Residents Only*:	\$24,484,391	\$38,884,055	\$11,739,764	487	2621276	2428513

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:	**	**	**	**	**	**
Residents Only:	**	**	**	**	**	**
Non-Residents Only*:	**	**	**	**	**	**
Big Game Hunting:	\$245,291,429	\$471,220,660	\$103,864,703	4,377	\$9,443,532	\$3,986,476
Residents Only:	\$198,343,856	\$384,652,955	\$83,337,469	3,513	\$7,610,516	\$3,199,903
Non-Residents Only:	**	**	**	**	**	**
Migratory Bird Hunting:	**	**	**	**	**	**
Residents Only:	**	**	**	**	**	**
Non-Residents Only:	**	**	**	**	**	**
Small Game Hunting:	\$31,900,154	\$62,236,475	\$15,120,966	644	\$1,486,842	\$576,845
Residents Only:	\$28,420,800	\$54,693,209	\$13,326,198	571	\$1,314,645	\$511,722
Non-Residents Only*:	\$3,479,353	\$7,387,250	\$1,737,517	68	\$164,384	\$61,234

* = data based on a small sample size

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	\$113,411,105	\$186,728,790	\$50,112,718	1,661	\$10,976,145	\$9,148,031
Residents	\$108,521,560	\$178,746,986	\$47,607,496	1,561	\$10,431,811	\$8,684,662
Non-Residents	\$4,889,545	\$7,981,804	\$2,505,222	100	\$544,334	\$463,369
Private Land						
Exclusively	\$15,299,543	\$23,392,763	\$6,836,808	254	\$1,508,160	\$1,430,743
Residents	\$14,135,591	\$21,639,327	\$6,382,129	236	\$1,407,693	\$1,322,027
Non-Residents	\$1,163,951	\$1,753,436	\$454,680	18	\$100,467	\$108,716
Use Both Public and Private Lands	\$97,769,291	\$155,569,185	\$46,969,888	2,001	\$10,328,830	\$9,471,404
Residents	\$90,213,914	\$143,560,066	\$43,458,099	1,850	\$9,542,889	\$8,722,166
Non-Residents	\$7,555,377	\$12,009,119	\$3,511,789	150	\$785,941	\$749,238

Conclusion

Fish and wildlife provide numerous recreation opportunities for Iowa residents. The recreation expenditures benefit Iowa 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 Iowa 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 Iowa 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) disaggregate the expenditures into retail, wholesale, and manufacturer portions;
- 3) generate economic impact estimates by applying the multipliers from the RIMS model to the adjusted expenditures;
- 4) calculate state sales and federal income tax revenues.

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 Iowa 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" 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 fishing, we allocated the relevant expenditures to Iowa fishing. For individuals who indicated their equipment expenditures were for unspecified fishing, we allocated expenditures based on the number of days of activity reported for freshwater and marine fishing. In the few instances where days of fishing were not available, expenditures were then evenly allocated one-half to freshwater and one-half to marine fishing. 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 striped bass, black bass, and trout, 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:

$R/(1+R)$ = retail margin, where R = retail mark-up

$W/\{(1+W)(1+R)\}$ = wholesale margin, where W = 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 IOWA, 2006.

	RESIDENTS	NONRESIDENTS	TOTAL
Food	\$23,883,056	\$6,366,676	\$30,249,732
Lodging	\$2,355,619	\$11,289,531	\$13,645,151
Airplane fare	\$1,863	\$1,919,721	\$1,921,584
Public transport	\$0	\$351,059	\$351,059
Automobile	\$37,279,964	\$10,029,479	\$47,309,442
Guide fees	\$291,831	\$7,163,160	\$7,454,990
Pulic land fees	\$0	\$0	\$0
Private land fees	\$196,412	\$0	\$196,412
Heat/cook fuel	\$223,789	\$0	\$223,789
Equip rentals	\$0	\$0	\$0
Boat fuel	\$3,498,310	\$0	\$3,498,310
Boat launch fee	\$87,294	\$0	\$87,294
Boat mooring	\$5,818,171	\$0	\$5,818,171
Rifles	\$12,642,800	\$0	\$12,642,800
Shotguns	\$18,441,861	\$12,605,635	\$31,047,496
Muzzle loader	\$1,947,454	\$0	\$1,947,454
Handgun	\$3,056,362	\$0	\$3,056,362
Bows	\$12,902,692	\$274,437	\$13,177,128
Scopes - guns	\$2,235,682	\$0	\$2,235,682
Decoys	\$2,516,773	\$682,276	\$3,199,049
Ammo	\$14,512,441	\$226,741	\$14,739,182
Handloading	\$3,107,365	\$0	\$3,107,365
Dogs	\$6,986,342	\$2,910,652	\$9,896,994
Other hunt equip	\$4,030,216	\$167,848	\$4,198,065
Camping gear	\$405,429	\$0	\$405,429
Binoculars	\$1,668,199	\$0	\$1,668,199
Foul weather gear	\$6,707,056	\$2,470,557	\$9,177,613
Taxidermy	\$14,562,023	\$0	\$14,562,023
Other items	\$0	\$0	\$0
Bass boat	\$0	\$0	\$0
Boat	\$0	\$0	\$0
Canoe	\$0	\$0	\$0
Boat motor	\$0	\$0	\$0
Van	\$8,075,114	\$0	\$8,075,114
Cabin	\$0	\$0	\$0
Off-road vehicle	\$8,489,455	\$0	\$8,489,455
Other special equip	\$1,466,965	\$0	\$1,466,965
Books	\$1,370,369	\$24,510	\$1,394,879
Dues	\$7,570,335	\$8,395	\$7,578,730
License	\$10,448,403	\$3,566,048	\$14,014,452
Land purchase	\$20,266,340	\$50,369	\$20,316,710
Land lease	\$2,245,528	\$0	\$2,245,528
TOTAL	\$239,291,515	\$60,107,093	\$299,398,609

ECONOMIC SECTORS STIMULATED BY NONRESIDENT HUNTER SPENDING

	Total Output (Sales)	Employment	Income
Ag, Forestry, Fish & Hunting	2,895,805	35.8	227,760
Mining	1,014	0	362
Utilities	1,320,902	2.9	268,182
Construction	770,616	9	334,391
Manufacturing	20,568,302	79.1	3,621,815
Wholesale Trade	2,420,184	21.7	1,031,107
Transportation & Warehousing	11,959,795	51.8	2,731,801
Retail trade	15,302,765	445.9	7,661,542
Information	1,241,441	7.3	314,254
Finance & insurance	2,557,805	17.6	821,206
Real estate & rental	2,213,329	19.5	369,845
Professional- scientific & tech svcs	2,902,756	32.9	1,570,024
Management of companies	523,828	3.7	226,357
Administrative & waste services	1,618,605	34	677,752
Educational svcs	292,284	7.3	144,906
Health & social services	2,894,086	44.4	1,525,500
Arts- entertainment & recreation	349,455	9.3	142,748
Accomodation & food services	16,072,137	319.8	4,878,845
Other services	1,469,431	30.2	548,125
Government & non NAICs	6,572,301	77.3	3,228,463
TOTAL	93,946,841	1,250	30,324,985

ECONOMIC SECTORS STIMULATED BY RESIDENT HUNTER SPENDING

	Total Output (Sales)	Employment	Income
Ag, Forestry, Fish & Hunting	7,806,642	92.5	640,730
Mining	36,370	0.2	13,285
Utilities	4,417,019	9.8	894,840
Construction	2,509,682	28.7	1,073,389
Manufacturing	103,357,816	428.5	21,237,668
Wholesale Trade	9,988,637	89.4	4,255,606
Transportation & Warehousing	31,999,104	123.5	7,462,196
Retail trade	65,957,060	1,943.60	33,819,976
Information	5,808,234	33.5	1,503,864
Finance & insurance	10,173,325	70.1	3,281,352
Real estate & rental	30,451,654	279.2	4,892,211
Professional- scientific & tech svcs	11,510,674	130.9	6,234,215
Management of companies	2,081,210	14.8	899,335
Administrative & waste services	5,464,298	127.1	2,507,978
Educational svcs	1,143,835	28.5	567,295
Health & social services	11,362,299	174.1	5,988,563
Arts- entertainment & recreation	22,167,014	440	5,640,145
Accomodation & food services	20,162,568	496	5,929,736
Other services	5,866,111	146.7	2,265,492
Government & non NAICs	21,847,050	231	9,653,260
TOTAL	374,110,602	4,888	118,761,136

ECONOMIC SECTORS STIMULATED BY RESIDENT+NONRESIDENT HUNTER SPENDING

	Total Output (Sales)	Employment	Income
Ag, Forestry, Fish & Hunting	10,702,447	128	868,490
Mining	37,384	0	13,647
Utilities	5,737,921	13	1,163,022
Construction	3,280,298	38	1,407,780
Manufacturing	123,926,118	508	24,859,483
Wholesale Trade	12,408,821	111	5,286,713
Transportation & Warehousing	43,958,899	175	10,193,997
Retail trade	81,259,825	2,390	41,481,518
Information	7,049,675	41	1,818,118
Finance & insurance	12,731,130	88	4,102,558
Real estate & rental	32,664,983	299	5,262,056
Professional- scientific & tech svcs	14,413,430	164	7,804,239
Management of companies	2,605,038	19	1,125,692
Administrative & waste services	7,082,903	161	3,185,730
Educational svcs	1,436,119	36	712,201
Health & social services	14,256,385	219	7,514,063
Arts- entertainment & recreation	22,516,469	449	5,782,893
Accommodation & food services	36,234,705	816	10,808,581
Other services	7,335,542	177	2,813,617
Government & non NAICs	28,419,351	308	12,881,723
TOTAL	468,057,443	6,138	149,086,121

**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 IOWA, 2006.

	RESIDENTS	NONRESIDENTS	TOTAL
Food	\$32,615,691	\$1,604,444	\$34,220,135
Lodging	\$10,724,549	\$1,326,188	\$12,050,737
Airfare	\$463,804	\$0	\$463,804
Public transportation	\$4,080,456	\$0	\$4,080,456
Private transportation	\$32,227,746	\$2,750,544	\$34,978,290
Boat fuel	\$9,130,157	\$233,028	\$9,363,184
Guides	\$730,295	\$1,770,355	\$2,500,650
Public land use fees	\$743,046	\$31,632	\$774,678
Private land use fees	\$17,406	\$0	\$17,406
Boat launching	\$446,578	\$0	\$446,578
Boat mooring	\$21,984,954	\$10,977	\$21,995,931
Equipment rental	\$864,525	\$0	\$864,525
Bait (live, cut, prepared)	\$11,746,271	\$255,067	\$12,001,338
Ice	\$3,581,537	\$165,959	\$3,747,495
Heating & cooking fuel	\$2,018,868	\$9,001	\$2,027,869
Rods, reels & components	\$23,027,389	\$2,995,556	\$26,022,945
Lines & leaders	\$5,264,336	\$454,455	\$5,718,791
Lures, flies & artificial bait	\$12,021,416	\$515,459	\$12,536,875
Hooks, sinkers, other terminal tackle	\$3,774,178	\$316,082	\$4,090,260
Tackle boxes	\$1,579,709	\$30,218	\$1,609,927
Creels, strings, landing nets, etc.	\$816,882	\$0	\$816,882
Bait buckets, minnow traps, etc.	\$662,265	\$0	\$662,265
Depth finder, fish finders, other electronics	\$3,857,332	\$205,916	\$4,063,248
Ice fishing equipment	\$1,497,929	\$6,445	\$1,504,374
Other fishing equipment	\$732,169	\$53,466	\$785,635
Camping gear	\$10,272,358	\$125,609	\$10,397,967
Binoculars	\$826,655	\$0	\$826,655
Special fishing clothing, foul weather gear	\$1,097,820	\$46,197	\$1,144,017
Bass boats	\$0	\$0	\$0
Other motorized boats	\$15,204,817	\$0	\$15,204,817
Canoes, non-motorized boats	\$0	\$0	\$0
Boat motors, trailers, hitches, etc.	\$14,522,623	\$68,544	\$14,591,168
Pick-ups, campers, motor homes, etc.	\$18,543,555	\$12,890,318	\$31,433,873
Cabins	\$0	\$0	\$0
4x4 and off-road vehicles	\$11,780,261	\$0	\$11,780,261
Other special equipment	\$3,816,229	\$0	\$3,816,229
Taxidermy & processing	\$1,731,611	\$0	\$1,731,611
Books & magazines	\$1,770,801	\$7,431	\$1,778,232
Dues and contributions	\$1,010,397	\$0	\$1,010,397
Other misc. fishing expenditures	\$31,210	\$45,676	\$76,886
Land purchased for fishing	\$10,869,930	\$0	\$10,869,930
Land leased for fishing	\$0	\$0	\$0
TOTAL	\$276,087,753	\$25,918,567	\$302,006,320

ECONOMIC SECTORS STIMULATED BY NONRESIDENT ANGLER SPENDING

	Total Output (Sales)	Employment	Income
Ag, Forestry, Fish & Hunting	499,669	5.1	46,070
Mining	368	0	132
Utilities	444,085	1	90,186
Construction	287,298	3.3	123,308
Manufacturing	18,736,550	60.2	3,694,388
Wholesale Trade	1,386,466	12.4	590,697
Transportation & Warehousing	3,301,530	13.5	795,852
Retail trade	5,975,686	132.1	2,970,605
Information	514,147	3	129,876
Finance & insurance	1,075,206	7.4	346,408
Real estate & rental	765,170	6.6	129,465
Professional- scientific & tech svcs	996,953	10.5	442,769
Management of companies	305,357	2.2	131,951
Administrative & waste services	515,484	11.6	231,401
Educational svcs	120,148	3	59,632
Health & social services	1,162,081	17.8	612,523
Arts- entertainment & recreation	1,716,887	27.7	606,801
Accomodation & food services	2,753,624	59.6	827,907
Other services	763,867	14.5	274,933
Government & non NAICs	1,173,454	1.8	87,742
TOTAL	42,494,030	393	12,192,646

ECONOMIC SECTORS STIMULATED BY RESIDENT ANGLER SPENDING

	Total Output (Sales)	Employment	Income
Ag, Forestry, Fish & Hunting	13,534,757	160	1,135,185
Mining	4,761	0	1,697
Utilities	5,151,870	11.5	1,047,714
Construction	3,575,046	41.1	1,531,253
Manufacturing	131,683,656	448.4	25,402,422
Wholesale Trade	13,175,738	117.9	5,613,454
Transportation & Warehousing	41,948,884	177	9,941,793
Retail trade	73,959,152	1,949.60	36,834,136
Information	6,928,393	39.8	1,788,966
Finance & insurance	11,819,567	81.6	3,823,622
Real estate & rental	20,644,750	188.2	3,569,202
Professional- scientific & tech svcs	10,672,675	114.1	4,826,388
Management of companies	2,750,567	19.5	1,188,579
Administrative & waste services	5,892,613	136.2	2,693,895
Educational svcs	1,260,452	31.3	624,520
Health & social services	12,380,565	189.7	6,525,538
Arts- entertainment & recreation	24,080,084	394.8	8,229,772
Accomodation & food services	33,644,112	773.5	9,997,098
Other services	7,691,586	150.2	2,817,680
Government & non NAICs	14,206,240	46.2	2,083,264
TOTAL	435,005,468	5,071	129,676,178

ECONOMIC SECTORS STIMULATED BY RESIDENT+NONRESIDENT ANGLER SPENDING

	Total Output (Sales)	Employment	Income
Ag, Forestry, Fish & Hunting	14,034,426	165	1,181,255
Mining	5,129	0	1,829
Utilities	5,595,955	13	1,137,900
Construction	3,862,344	44	1,654,561
Manufacturing	150,420,206	509	29,096,810
Wholesale Trade	14,562,204	130	6,204,151
Transportation & Warehousing	45,250,414	191	10,737,645
Retail trade	79,934,838	2,082	39,804,741
Information	7,442,540	43	1,918,842
Finance & insurance	12,894,773	89	4,170,030
Real estate & rental	21,409,920	195	3,698,667
Professional- scientific & tech svcs	11,669,628	125	5,269,157
Management of companies	3,055,924	22	1,320,530
Administrative & waste services	6,408,097	148	2,925,296
Educational svcs	1,380,600	34	684,152
Health & social services	13,542,646	208	7,138,061
Arts- entertainment & recreation	25,796,971	423	8,836,573
Accomodation & food services	36,397,736	833	10,825,005
Other services	8,455,453	165	3,092,613
Government & non NAICs	15,379,694	48	2,171,006
TOTAL	477,499,498	5,464	141,868,824

**APPENDIX E
DETAILED WILDLIFE WATCHING 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 IN IOWA, 2006.*

	RESIDENTS	NONRESIDENTS	TOTAL
Food	\$6,437,327	\$17,266,268	\$23,703,595
Lodging	\$1,236,142	\$1,809,587	\$3,045,729
Public transportation	\$0	\$1,731,895	\$1,731,895
Private transportation	\$13,041,128	\$6,007,294	\$19,048,423
Guide fees	\$0	\$1,040,866	\$1,040,866
Public land access fees	\$0	\$64,000	\$64,000
Private land access fees	\$0	\$0	\$0
Equipment rental	\$174,660	\$0	\$174,660
Boat fuel	\$0	\$0	\$0
Other boat costs	\$0	\$0	\$0
Heating & cooking fuel	\$95,982	\$45,682	\$141,664
Cameras	\$2,665,474	\$1,236,581	\$3,902,055
Film & developing	\$20,178,204	\$0	\$20,178,204
Binoculars & spotting scopes	\$8,403,709	\$1,402,207	\$9,805,916
Commercial bird food	\$64,972,305	\$404,860	\$65,377,165
Other bird food	\$5,730,574	\$218,816	\$5,949,390
Food for other wildlife	\$7,698,451	\$0	\$7,698,451
Nest boxes, feeders	\$16,873,995	\$464,332	\$17,338,327
Other special equipment	\$436,161	\$406,925	\$843,085
Tents, tarps	\$1,328,801	\$0	\$1,328,801
Backpacking equipment	\$267,739	\$0	\$267,739
Other camping equipment	\$575,894	\$130,913	\$706,807
Day packs	\$1,119,113	\$0	\$1,119,113
Magazines & books	\$4,110,323	\$864,485	\$4,974,808
Membership dues, contributions	\$9,550,074	\$0	\$9,550,074
Other equipment	\$0	\$0	\$0
Off-road vehicles	\$0	\$0	\$0
Pickup, camper, motor home	\$59,671,912	\$0	\$59,671,912
Boat	\$5,002,994	\$0	\$5,002,994
Trailer, boat accessories	\$0	\$0	\$0
Cabin	\$0	\$0	\$0
Other equipment	\$0	\$0	\$0
Land purchases	\$34,553,644	\$0	\$34,553,644
Land leases	\$0	\$0	\$0
Plantings	\$15,326,491	\$0	\$15,326,491
TOTAL	\$279,451,101	\$33,094,711	\$312,545,812

*Does not include residential activities.

**ECONOMIC SECTORS STIMULATED BY NONRESIDENT WILDLIFE WATCHING
SPENDING**

	Total Output (Sales)	Employment	Income
Ag, Forestry, Fish & Hunting	1,654,225	14.6	152,563
Mining	682	0	242
Utilities	720,497	1.6	146,327
Construction	384,605	4.5	166,607
Manufacturing	10,832,897	33.4	1,525,956
Wholesale Trade	2,247,098	20.1	957,364
Transportation & Warehousing	6,522,981	33.7	1,640,711
Retail trade	7,793,802	180.5	3,639,177
Information	1,687,141	8.6	455,423
Finance & insurance	1,543,241	10.6	502,316
Real estate & rental	1,323,842	11.4	221,098
Professional- scientific & tech svcs	1,327,190	14.4	614,285
Management of companies	336,434	2.4	145,381
Administrative & waste services	710,943	16.4	324,875
Educational svcs	153,662	3.8	76,198
Health & social services	1,505,476	23.1	793,520
Arts- entertainment & recreation	1,133,695	20.4	410,344
Accomodation & food services	11,286,610	275.2	3,301,719
Other services	800,609	15.8	290,304
Government & non NAICs	1,885,163	9.6	415,307
TOTAL	53,850,793	700	15,779,717

ECONOMIC SECTORS STIMULATED BY RESIDENT WILDLIFE WATCHING SPENDING

	Total Output (Sales)	Employment	Income
Ag, Forestry, Fish & Hunting	69,945,512	901.6	6,746,068
Mining	5,662	0	2,013
Utilities	5,178,792	11.7	1,065,718
Construction	2,861,885	32.3	1,202,268
Manufacturing	116,488,608	423.6	22,513,132
Wholesale Trade	11,988,499	107.3	5,107,637
Transportation & Warehousing	30,632,556	137.6	7,617,285
Retail trade	68,697,000	1,443.40	33,026,038
Information	8,014,913	41.6	2,239,581
Finance & insurance	11,388,162	77.8	3,656,181
Real estate & rental	43,883,052	404.4	7,034,079
Professional- scientific & tech svcs	9,617,959	106.1	4,541,931
Management of companies	2,587,163	18.3	1,117,969
Administrative & waste services	6,120,258	136.5	2,707,879
Educational svcs	1,179,946	29	580,379
Health & social services	11,075,839	169.7	5,836,794
Arts- entertainment & recreation	1,317,846	34.4	535,993
Accomodation & food services	10,474,679	254.9	3,126,458
Other services	16,226,409	289.7	6,127,656
Government & non NAICs	12,599,889	20	1,054,311
TOTAL	440,284,629	4,640	115,839,370

**ECONOMIC SECTORS STIMULATED BY RESIDENT+NONRESIDENT WILDLIFE
WATCHING SPENDING**

	Total Output (Sales)	Employment	Income
Ag, Forestry, Fish & Hunting	71,599,737	916	6,898,631
Mining	6,344	0	2,255
Utilities	5,899,289	13	1,212,045
Construction	3,246,490	37	1,368,875
Manufacturing	127,321,505	457	24,039,088
Wholesale Trade	14,235,597	127	6,065,001
Transportation & Warehousing	37,155,537	171	9,257,996
Retail trade	76,490,802	1,624	36,665,215
Information	9,702,054	50	2,695,004
Finance & insurance	12,931,403	88	4,158,497
Real estate & rental	45,206,894	416	7,255,177
Professional- scientific & tech svcs	10,945,149	121	5,156,216
Management of companies	2,923,597	21	1,263,350
Administrative & waste services	6,831,201	153	3,032,754
Educational svcs	1,333,608	33	656,577
Health & social services	12,581,315	193	6,630,314
Arts- entertainment & recreation	2,451,541	55	946,337
Accomodation & food services	21,761,289	530	6,428,177
Other services	17,027,018	306	6,417,960
Government & non NAICs	14,485,052	30	1,469,618
TOTAL	494,135,422	5,340	131,619,087