

Economic Contributions of Wildlife Viewing to the Arizona Economy: A County-Level Analysis

Tucson Audubon Society



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INTRODUCTION

This report assesses the 2011 economic contributions of watchable wildlife recreation in Arizona, statewide, by county and by specific types of activity. Direct spending by both residents and non-residents for wildlife watching was analyzed, along with the multiplier effects of that spending. Only watchable wildlife activities that occurred within Arizona were considered.

This report updates an earlier study produced by Southwick Associates that estimated the economic contributions of wildlife watching in 2001.¹ This updated study is based on raw survey data from the 2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation.² The national survey provides detailed state-level spending estimates. The statewide impacts in this report are allocated to individual counties according to county distributions in the 2001 study. The 2001 county estimates were based in part on a separate survey designed specifically to estimate county-level participation in wildlife watching. A detailed description of the methodology used to estimate the impacts in this report is provided in Appendix B.

STATEWIDE RESULTS

Wildlife-related recreation includes activities that occur around the home (residential) and away from home (nonresidential). In 2011, there were 732,343 watchable wildlife recreationists (residents and non-residents) who participated in non-residential (away from home) activities in Arizona. In addition, there were 1,221,654 residents participating in residential activities (around the home) in Arizona. Non-residential activities are those performed at least one mile from an individual's home. Conversely, residential activities are those performed within one mile of an individual's home. Overall, 1.6 million people participated in some form of residential or non-residential watchable wildlife recreation in Arizona in 2011.

Demographics

Only a small percentage of watchable wildlife recreationists in Arizona, both non-residential and residential, report they are non-white (Table 1). Participants are near fifty, are split fairly evenly between male and female, though more nonresidents are male. Resident participants are more likely to be married than nonresident participants. The average household income for residents participating in non-residential and residential activities is similar. Non-residents have, on average, a household income higher than resident participants. Both have incomes higher than the 2011 state average (\$48,621, per U.S. Census Bureau). As with income levels, the education levels of residents who participate in residential and non-residential activities are similar, however non-residents have, on average, a higher level of education.

¹ Southwick Associates, "Economic Impact Analysis of Non-consumptive Wildlife-Related Recreation in Arizona", May 2003.

² U.S. Department of the Interior, U.S. Fish and Wildlife Service, and U.S. Department of Commerce, U.S. Census Bureau, 2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation.

Table 1. Demographic background of watchable wildlife recreationists in Arizona in 2011
(Participants 16 years old and older)

	Nonresidential Activity		Residential Activity
	Resident	Nonresident	
Average age	46.2	52.0	51.0
Gender (male)	53.8%	49.8%	44.5%
Marital Status (married)	56.7%	43.4%	56.8%
Average household Income	\$62,364	\$68,469	\$58,721
Race			
White	91.9%	100.0%	90.7%
Black	2.7%	0.0%	1.0%
Other race	5.5%	0.0%	8.3%
Hispanic	11.1%	0.4%	19.1%
Education			
8 years or less	1.3%	0.0%	3.1%
9-11 years	0.0%	5.9%	3.1%
12 years	24.1%	20.0%	22.1%
1-3 years college	30.1%	24.6%	25.7%
4 years college or more	44.5%	49.6%	46.0%
Sample size	65	31	164

Participation

Watchable wildlife recreation includes a broad range of activities. To help describe the types of activities undertaken by residents and non-residents, and to better understand the types of wildlife they enjoy and the surroundings preferred, we present the following participation information. Participation information is divided into two subsections. The first subsection explores non-residential activities by residents and non-residents. The second subsection examines residential activities.

Non-Residential Participation

In 2011, there were 732,343 watchable wildlife recreationists (residents and non-residents) participating in non-residential activities in Arizona (Table 2). Of the total recreationists in Arizona, 443,111 were state residents and 289,232 were non-residents. The total number of watchable wildlife recreation days in Arizona was 11.9 million.

Table 2. Participation in Non-residential Watchable Wildlife Recreation by Site Visited and Wildlife Observed, Fed, or Photographed in Arizona in 2011 (Participants 16 years old and older, ranked)

	Resident	Nonresident	Total
Number of participants	443,111	289,232	732,343
Number of recreationists visiting:			
private land	106,473	193,431	299,904
public land	428,913	225,482	654,395
Number of recreationists observing, feeding, photographing:			
<u>birds</u>	<u>367,282</u>	<u>202,876</u>	<u>570,159</u>
birds of prey	351,201	187,311	538,512
waterfowl	198,230	111,916	310,146
shorebirds	96,607	70,538	167,145
songbirds	272,038	125,088	397,126
other birds	206,745	168,141	374,887
<u>mammals</u>	<u>304,485</u>	<u>165,620</u>	<u>470,105</u>
large land mammals	232,326	161,664	393,990
small land mammals	209,487	137,946	347,433
<u>fish</u>	<u>100,571</u>	<u>79,066</u>	<u>179,637</u>
<u>other wildlife</u>	<u>168,746</u>	<u>141,346</u>	<u>310,092</u>

Note = a participant may be counted towards more than one category above

Residential Participation

In 2011, there were 1,221,654 residential watchable wildlife participants in Arizona (Table 3). This number represents Arizona residents participating in watchable wildlife recreation within one mile of their home. Compared to non-residential activity, there are nearly three times as many residents who participate in wildlife watching within one mile of their homes than those who travel away from home.

Table 3. Participation in Residential Watchable Wildlife Recreation in Arizona in 2011 (Participants 16 years old and older, ranked)

Number of participants	1,221,654	(100.0%)
observing wildlife	907,209	(74.3%)
photographing wildlife	533,627	(43.7%)
feeding birds & wildlife	796,116	(65.2%)
birds	772,679	(63.2%)
other wildlife	197,697	(16.2%)
visiting parks near home	226,818	(18.6%)
maintaining natural areas around home	94,558	(7.7%)
maintaining plantings around home	203,450	(16.7%)
Number of days		
observing wildlife	103,891,759	
photographing wildlife	8,504,168	

Note = a participant may enjoy more than one type of wildlife listed above

The primary residential watchable wildlife activity, measured in terms of number of participants in Table 3, was observing wildlife. Feeding wildlife was the second most popular residential watchable wildlife activity. This is in similar to the ranking of the non-residential activities, where observing wildlife was also the most popular activity away from home.

The number one type of wildlife observed by residential recreationists in Arizona was birds (Table 4). The second most prominent category to be observed by residents was mammals, with most of these being small mammals. These results 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 4. Participation in Residential Watchable Wildlife Recreation by Wildlife Observed in Arizona in 2011 (Number of Participants 16 years old and older, ranked)

Number of recreationists		
birds	840,241	(68.8%)
mammals	565,885	(46.3%)
large mammals	213,858	(17.5%)
small mammals	520,203	(42.6%)
amphibians or reptiles	374,283	(30.6%)
insects or spiders	393,060	(32.2%)
fish & other wildlife	99,121	(8.1%)

Note = a participant may enjoy more than one type of wildlife listed above

Retail Sales

The expenditure figures in Table 5 describe the total statewide retail sales generated from 2011 watchable wildlife recreation within specific categories of goods and services. Regarding trip expenditures, residents spent the largest amount on private transportation (\$90.5 million) followed by food, drink and refreshments (\$78.2 million). Non-residents, on the other hand, spent the most on food, drink and refreshments (\$63.9 million), followed private transportation (\$47.1 million).

The largest equipment expenditures by Arizona residents were for pickups, campers or motor homes (\$121.7 million), followed by cameras (\$58.5 million) and plantings for wildlife (\$56.6 million). Note that equipment expenditures are comprised of expenditures that may have been made for residential activities (i.e., those activities that are undertaken within one mile of home) and/or non-residential activities (i.e., those activities that are undertaken farther than one mile from home).

In total residents spent \$665.0 million for watchable wildlife recreation. Non-residents spent \$183.7 million, which represents new dollars brought into the state economy by out-of-state visitors³.

³ Total expenditures reported here differ from amounts reported by the US Fish and Wildlife Service due to the exclusion in this analysis of outlier values for selected expenditures.

Table 5. Expenditures Made by Residents and Non-Residents Participating in Watchable Wildlife Recreation Statewide in 2011 (Participants 16 Years Old and Older)

	Residents	Non-Residents	Total
Trip Expenditures			
Food	\$78,153,917	\$63,878,294	\$142,032,210
Lodging	\$23,123,662	\$29,769,379	\$52,893,041
Airfare	\$13,168,740	\$16,584,545	\$29,753,285
Public transportation	\$366,577	\$8,916,201	\$9,282,778
Private transportation	\$90,461,935	\$47,077,825	\$137,539,760
Guide fees	\$483,658	\$336,805	\$820,464
Public land access fees	\$7,371,829	\$2,822,598	\$10,194,427
Private land access fees	\$304,796	\$1,879,837	\$2,184,632
Equipment rental	\$20,633	-	\$20,633
Boat fuel	\$225,771	-	\$225,771
Other boat costs	\$104,750	-	\$104,750
Heating & cooking fuel	\$846,387	\$698,245	\$1,544,632
Equipment Expenditures			
Binoculars, scopes	\$9,413,959	\$454,805	\$9,868,765
Cameras	\$58,499,953	\$1,888,503	\$60,388,457
Film and developing	\$4,036,528	\$287,634	\$4,324,162
Commercially prepared bird food	\$39,702,752	\$681,994	\$40,384,747
Other bird food	\$11,943,461	\$432,123	\$12,375,583
Food for other wildlife	\$1,916,346	-	\$1,916,346
Nest boxes, feeders	\$7,340,252	\$173,686	\$7,513,938
Other special equipment	\$1,863,785	\$335,911	\$2,199,697
Tents, tarps	\$2,042,435	\$257,974	\$2,300,408
Backpacking equipment	\$3,495,475	\$172,498	\$3,667,973
Other camping equipment	\$1,055,845	-	\$1,055,845
Day packs, special clothing	\$12,671,489	-	\$12,671,489
Magazines and books	\$5,949,804	\$117,362	\$6,067,166
Membership dues, contributions	\$31,549,858	\$1,836,419	\$33,386,277
Other equipment	\$2,599,378	-	\$2,599,378
Off-road & 4WD vehicles	\$23,055,325	-	\$23,055,325
Pickups, campers, motor homes	\$121,720,366	-	\$121,720,366
Boats	\$14,758,985	-	\$14,758,985
Trailer, boat accessories	\$7,741,403	-	\$7,741,403
Cabin	-	-	\$0
Other equipment	\$5,467,590	-	\$5,467,590
Land purchases	\$27,035,758	-	\$27,035,758
Land leases	-	\$5,054,923	\$5,054,923
Plantings	\$56,539,744	-	\$56,539,744
Total Trip and Equipment Expenditures	\$665,033,147	\$183,657,562	\$848,690,708

Table 6 shows the average amount spent per day by recreationists on residential (within one mile of home) and non-residential (farther than one mile from home) activities, as well as the average amount spent annually per participant. Because the *National Survey* does not collect total days of participation broken down into residential and non-residential activities, the residential per day figure is estimated based on the number of days that the individual spent observing wildlife. The non-residential per day figure is estimated by totaling the travel expenses plus several equipment items that would be used away from home: binoculars, clothing, camping gear, backpacks and daypacks, film and developing, one-half of cameras and vehicles. The residential per day figure is estimated by totaling the remaining equipment items. Also, because purchased land may be used for visiting or as a homesite, 50% of its value was assigned to both the residential and non-residential activity estimates.

Table 6. Average Expenditures for Watchable Wildlife Recreationists in Arizona in 2011 (Participants 16 Years Old and Older)

	Residents	Non-Residents	Total
Avg. per Participant, Annually			
Residential activities	\$157.09	NA	NA
Non-residential activities	\$1,067.73	\$613.88	\$888.49
Avg. per Day, per Participant			
Non-residential activities	\$61.47	\$42.17	\$54.65
Total Spent by Recreationists			
Residential activities	\$191.9 million	\$7.1 million	\$198.0 million
Non-residential activities	\$473.1 million	\$177.6 million	\$650.7 million
Total	\$665.0 million	\$183.7 million	\$848.7 million

Total Economic Effect (Output)

Original expenditures made by watchable wildlife recreationists generate rounds of additional spending throughout the economy. This results in additional indirect and induced impacts that are commonly called the multiplier effect. Economic activity associated with both the direct spending and multiplier effects impacts is the total economic contribution resulting from the original expenditures. The economic figures in Table 7 show the total economic effect from 2011 watchable wildlife activities in Arizona to be \$1.4 billion (\$1.1 billion by residents and \$314.6 million by non-residents).

Earnings

Total personal income (salaries and wages) supported by watchable wildlife recreation in Arizona was estimated at \$463.6 million (\$356.6 million by residents and \$106.9 million by non-residents).

Table 7. Economic Impacts of Watchable Wildlife Recreation in Arizona in 2011 (Participants 16 Years Old and Older)

	Resident	Non-Resident	Total
Retail sales	\$665.0 million	\$183.7 million	\$848.7 million
Salaries & wages	\$356.6 million	\$106.9 million	\$463.6 million
Full & part-time jobs	9,894	2,998	12,892
Tax revenues:			
Federal taxes	\$81.6 million	\$24.2 million	\$105.8 million
State and local taxes	\$71.7 million	\$22.2 million	\$94.0 million
Total economic output	\$1,123.6 million	\$314.6 million	\$1,438.2 million

Employment

During 2011, watchable wildlife recreation supported approximately 12,900 full and part-time jobs in Arizona (approximately 9,900 related to residents' spending and approximately 3,000 related to non-residents' spending). These are jobs that are associated with direct spending by wildlife watchers plus the jobs in industries that are indirectly affected by wildlife watching through the multiplier effect.

Tax Revenues

The economic activity related to wildlife watching by residents and non-residents generates sales tax revenues for the state and local governments. Total state and local tax revenues generated by watchable wildlife recreation are estimated at \$71.7 million by residents and \$22.2 million by non-residents. Total federal tax revenues generated by watchable wildlife recreation are estimated at \$105.8 million.

COUNTY-SPECIFIC IMPACTS

Table 8 presents the total statewide impacts of watchable wildlife recreation generated by activity in each county for all forms of wildlife watching. Table 9 shows the economic impacts from residential activities (activities within one mile of home). These include impacts stimulated by expenditures made by county residents and residents from neighboring counties. By definition, residential impacts created by non-residents are rarely possible, because these people usually must travel more than one mile from home. Table 10 presents the economic impacts from non-residential activities (activities farther than one mile from home). These include only impacts of wildlife watching and impacts stimulated by county residents, residents from neighboring counties within the state, and from non-residents.

Table 8. Economic Contributions of All Watchable Wildlife Recreation in Arizona, by County where the Activity Occurred in 2011

		County Residents	Residents From Other Counties	Non-Residents	TOTAL
Apache	Retail Sales	\$1,516,602	\$10,192,062	\$11,705,256	\$25,731,350
	Total Multiplier Effect	\$2,582,271	\$17,256,020	\$20,050,835	\$44,061,142
	Salaries and Wages	\$787,700	\$5,497,478	\$6,813,184	\$14,004,624
	Full & Part-Time Jobs	26	150	191	419
	State & Local Tax Revenue	\$165,367	\$1,097,295	\$1,417,057	\$2,848,490
	Federal Tax Revenue	\$198,526	\$1,237,996	\$1,543,713	\$3,208,139
Cochise	Retail Sales	\$7,357,921	\$3,546,665	\$3,227,150	\$14,190,743
	Total Multiplier Effect	\$12,470,790	\$6,031,619	\$5,528,034	\$24,130,389
	Salaries and Wages	\$3,830,269	\$1,913,801	\$1,878,401	\$7,651,115
	Full & Part-Time Jobs	127	56	53	234
	State & Local Tax Revenue	\$816,778	\$359,172	\$390,684	\$1,570,931
	Federal Tax Revenue	\$929,261	\$408,610	\$425,603	\$1,769,276
Coconino	Retail Sales	\$14,634,215	\$14,715,256	\$16,536,864	\$48,192,790
	Total Multiplier Effect	\$24,592,699	\$24,925,679	\$28,327,271	\$82,007,844
	Salaries and Wages	\$7,790,260	\$7,937,568	\$9,625,480	\$26,255,976
	Full & Part-Time Jobs	207	218	270	747
	State & Local Tax Revenue	\$1,541,970	\$1,623,076	\$2,001,980	\$5,334,997
	Federal Tax Revenue	\$1,754,246	\$1,846,604	\$2,180,916	\$6,008,591
Gila	Retail Sales	\$6,326,998	\$2,695,908	\$2,826,036	\$11,940,372
	Total Multiplier Effect	\$10,706,715	\$4,572,961	\$4,840,933	\$20,282,515
	Salaries and Wages	\$3,404,113	\$1,454,388	\$1,644,927	\$6,537,975
	Full & Part-Time Jobs	94	41	46	183
	State & Local Tax Revenue	\$686,208	\$286,822	\$342,124	\$1,321,813
	Federal Tax Revenue	\$781,074	\$325,935	\$372,703	\$1,488,704
Graham	Retail Sales	\$4,446,570	\$1,447,610	\$1,440,366	\$7,283,288
	Total Multiplier Effect	\$7,455,617	\$2,457,967	\$2,467,315	\$12,292,101
	Salaries and Wages	\$2,378,423	\$781,026	\$838,383	\$3,977,764
	Full & Part-Time Jobs	61	22	24	105
	State & Local Tax Revenue	\$475,759	\$159,869	\$174,373	\$806,268
	Federal Tax Revenue	\$541,824	\$181,325	\$189,958	\$908,067

Table 8 (continued). Economic Contributions of All Watchable Wildlife Recreation in Arizona, by County where the Activity Occurred in 2011

		County Residents	Residents From Other Counties	Non-Residents	TOTAL
Greenlee	Retail Sales	sample size too small - data not available			
	Total Multiplier Effect	sample size too small - data not available			
	Salaries and Wages	sample size too small - data not available			
	Full & Part-Time Jobs	sample size too small - data not available			
	State & Local Tax Revenue	sample size too small - data not available			
	Federal Tax Revenue	sample size too small - data not available			
La Paz	Retail Sales	\$195,651	\$805,056	\$765,765	\$1,900,347
	Total Multiplier Effect	\$267,605	\$1,368,061	\$1,311,737	\$3,193,114
	Salaries and Wages	\$56,066	\$434,383	\$445,722	\$991,087
	Full & Part-Time Jobs	2	13	12	30
	State & Local Tax Revenue	\$13,971	\$93,945	\$92,705	\$210,371
	Federal Tax Revenue	\$15,971	\$106,804	\$100,991	\$236,932
Maricopa	Retail Sales	\$269,590,809	\$62,775,548	\$57,815,213	\$380,888,578
	Total Multiplier Effect	\$454,501,909	\$106,736,884	\$99,036,135	\$643,549,679
	Salaries and Wages	\$144,276,858	\$33,873,403	\$33,652,037	\$208,165,875
	Full & Part-Time Jobs	3934	982	943	5653
	State & Local Tax Revenue	\$29,064,717	\$6,777,655	\$6,999,204	\$42,164,798
	Federal Tax Revenue	\$33,087,860	\$7,689,759	\$7,624,789	\$47,488,506
Mohave	Retail Sales	\$16,506,713	\$7,753,748	\$7,548,249	\$32,040,791
	Total Multiplier Effect	\$27,966,849	\$13,170,746	\$12,929,978	\$54,473,740
	Salaries and Wages	\$8,811,774	\$4,183,517	\$4,393,549	\$17,480,101
	Full & Part-Time Jobs	259	120	123	505
	State Income Tax Revenues	\$1,796,626	\$819,621	\$913,803	\$3,546,952
	Federal Income Tax	\$2,044,352	\$932,134	\$995,479	\$3,994,788
Navajo	Retail Sales	\$8,480,498	\$7,460,158	\$8,259,316	\$25,255,072
	Total Multiplier Effect	\$14,233,664	\$12,640,452	\$14,148,019	\$42,928,305
	Salaries and Wages	\$4,484,231	\$4,024,202	\$4,807,434	\$13,730,682
	Full & Part-Time Jobs	116	111	135	387
	State & Local Tax Revenue	\$881,628	\$837,411	\$999,886	\$2,795,765
	Federal Tax Revenue	\$1,003,084	\$952,655	\$1,089,256	\$3,148,757

Table 8 (continued). Economic Contributions of All Watchable Wildlife Recreation in Arizona, by County where the Activity Occurred in 2011

		County Residents	Residents From Other Counties	Non- Residents	TOTAL
Pima	Retail Sales	\$95,440,007	\$40,537,825	\$42,208,205	\$179,459,718
	Total Multiplier Effect	\$161,002,669	\$68,771,763	\$72,301,688	\$304,368,133
	Salaries and Wages	\$51,012,094	\$21,869,589	\$24,567,791	\$97,947,943
	Full & Part-Time Jobs	1406	614	688	2736
	State & Local Tax Revenue	\$10,252,806	\$4,411,036	\$5,109,794	\$19,866,395
	Federal Tax Revenue	\$11,666,952	\$5,016,001	\$5,566,505	\$22,374,716
Pinal	Retail Sales	\$23,141,009	\$13,572,187	\$14,677,151	\$52,631,795
	Total Multiplier Effect	\$39,067,381	\$23,007,700	\$25,141,624	\$89,450,156
	Salaries and Wages	\$12,384,663	\$7,321,508	\$8,543,012	\$28,733,395
	Full & Part-Time Jobs	341	203	239	812
	State & Local Tax Revenue	\$2,490,479	\$1,468,670	\$1,776,840	\$5,826,399
	Federal Tax Revenue	\$2,833,792	\$1,670,505	\$1,935,653	\$6,562,038
Santa Cruz	Retail Sales	\$958,583	\$4,863,188	\$5,469,746	\$12,347,956
	Total Multiplier Effect	\$1,662,908	\$8,237,448	\$9,369,549	\$21,168,665
	Salaries and Wages	\$518,639	\$2,623,253	\$3,183,731	\$6,737,809
	Full & Part-Time Jobs	17	72	89	202
	State & Local Tax Revenue	\$119,913	\$507,906	\$662,176	\$1,366,933
	Federal Tax Revenue	\$136,289	\$577,977	\$721,361	\$1,539,521
Yavapai	Retail Sales	\$26,400,590	\$7,293,267	\$7,147,134	\$40,250,711
	Total Multiplier Effect	\$44,442,211	\$12,387,064	\$12,242,877	\$68,016,033
	Salaries and Wages	\$14,165,765	\$3,935,022	\$4,160,075	\$22,027,630
	Full & Part-Time Jobs	376	112	117	592
	State Income Tax Revenues	\$2,834,296	\$799,248	\$865,244	\$4,455,799
	Federal Income Tax	\$3,226,544	\$907,314	\$942,579	\$5,018,387
Yuma	Retail Sales	\$9,255,619	\$2,208,050	\$1,695,621	\$12,757,115
	Total Multiplier Effect	\$15,626,569	\$3,765,045	\$2,904,560	\$21,569,417
	Salaries and Wages	\$4,886,749	\$1,191,762	\$986,956	\$6,911,740
	Full & Part-Time Jobs	142	36	27	196
	State & Local Tax Revenue	\$1,007,081	\$229,161	\$205,275	\$1,412,227
	Federal Tax Revenue	\$1,146,921	\$259,542	\$223,622	\$1,590,534

Table 9. Economic Contributions of Residential Wildlife Watching Activities, by County where the Activity Occurred in 2011

		County Residents	Residents From Other Counties	TOTAL
Apache	Retail Sales	\$437,646	\$2,941,125	\$3,378,771
	Total Multiplier Effect	\$745,166	\$4,979,573	\$5,724,739
	Salaries and Wages	\$227,307	\$1,586,408	\$1,813,715
	Full & Part-Time Jobs	8	43	51
	State & Local Tax Revenue	\$47,720	\$316,647	\$364,367
	Federal Tax Revenue	\$57,289	\$357,249	\$414,537
Cochise	Retail Sales	\$2,123,277	\$1,023,462	\$3,146,738
	Total Multiplier Effect	\$3,598,698	\$1,740,545	\$5,339,243
	Salaries and Wages	\$1,105,301	\$552,266	\$1,657,567
	Full & Part-Time Jobs	37	16	53
	State & Local Tax Revenue	\$235,698	\$103,646	\$339,344
	Federal Tax Revenue	\$268,157	\$117,913	\$386,069
Coconino	Retail Sales	\$4,222,998	\$4,246,384	\$8,469,382
	Total Multiplier Effect	\$7,096,719	\$7,192,807	\$14,289,527
	Salaries and Wages	\$2,248,037	\$2,290,545	\$4,538,582
	Full & Part-Time Jobs	60	63	122
	State & Local Tax Revenue	\$444,967	\$468,371	\$913,338
	Federal Tax Revenue	\$506,223	\$532,875	\$1,039,098
Gila	Retail Sales	\$1,825,783	\$777,959	\$2,603,742
	Total Multiplier Effect	\$3,089,639	\$1,319,620	\$4,409,259
	Salaries and Wages	\$982,325	\$419,693	\$1,402,018
	Full & Part-Time Jobs	27	12	39
	State & Local Tax Revenue	\$198,019	\$82,768	\$280,787
	Federal Tax Revenue	\$225,395	\$94,055	\$319,450
Graham	Retail Sales	\$1,283,147	\$417,737	\$1,700,885
	Total Multiplier Effect	\$2,151,469	\$709,296	\$2,860,765
	Salaries and Wages	\$686,342	\$225,381	\$911,723
	Full & Part-Time Jobs	18	6	24
	State & Local Tax Revenue	\$137,290	\$46,133	\$183,423
	Federal Tax Revenue	\$156,354	\$52,325	\$208,679

Table 9 (continued). Economic Contributions of Residential Wildlife Watching Activities, by County where the Activity Occurred in 2011

		County Residents	Residents From Other Counties	TOTAL
Greenlee	Retail Sales	sample size too small - data not available		
	Total Multiplier Effect	sample size too small - data not available		
	Salaries and Wages	sample size too small - data not available		
	Full & Part-Time Jobs	sample size too small - data not available		
	State & Local Tax Revenue	sample size too small - data not available		
	Federal Tax Revenue	sample size too small - data not available		
La Paz	Retail Sales	\$56,459	\$232,315	\$288,774
	Total Multiplier Effect	\$77,223	\$394,782	\$472,005
	Salaries and Wages	\$16,179	\$125,350	\$141,529
	Full & Part-Time Jobs	1	4	4
	State & Local Tax Revenue	\$4,032	\$27,110	\$31,141
	Federal Tax Revenue	\$4,609	\$30,821	\$35,429
Maricopa	Retail Sales	\$77,795,866	\$18,115,151	\$95,911,016
	Total Multiplier Effect	\$131,155,693	\$30,801,081	\$161,956,774
	Salaries and Wages	\$41,633,997	\$9,774,854	\$51,408,851
	Full & Part-Time Jobs	1,135	283	1,419
	State & Local Tax Revenue	\$8,387,210	\$1,955,829	\$10,343,039
	Federal Tax Revenue	\$9,548,169	\$2,219,035	\$11,767,205
Mohave	Retail Sales	\$4,763,345	\$2,237,501	\$7,000,845
	Total Multiplier Effect	\$8,070,398	\$3,800,684	\$11,871,083
	Salaries and Wages	\$2,542,815	\$1,207,238	\$3,750,053
	Full & Part-Time Jobs	75	35	109
	State Income Tax Revenues	\$518,453	\$236,518	\$754,971
	Federal Income Tax	\$589,939	\$268,986	\$858,925
Navajo	Retail Sales	\$2,447,219	\$2,152,779	\$4,599,998
	Total Multiplier Effect	\$4,107,411	\$3,647,657	\$7,755,068
	Salaries and Wages	\$1,294,015	\$1,161,265	\$2,455,280
	Full & Part-Time Jobs	33	32	66
	State & Local Tax Revenue	\$254,412	\$241,652	\$496,064
	Federal Tax Revenue	\$289,460	\$274,908	\$564,368

Table 9 (continued). Economic Contributions of Residential Wildlife Watching Activities, by County where the Activity Occurred in 2011

		County Residents	Residents From Other Counties	TOTAL
Pima	Retail Sales	\$27,541,139	\$11,698,007	\$39,239,146
	Total Multiplier Effect	\$46,460,567	\$19,845,479	\$66,306,047
	Salaries and Wages	\$14,720,569	\$6,310,911	\$21,031,480
	Full & Part-Time Jobs	406	177	583
	State & Local Tax Revenue	\$2,958,654	\$1,272,893	\$4,231,548
	Federal Tax Revenue	\$3,366,734	\$1,447,468	\$4,814,203
Pinal	Retail Sales	\$6,677,805	\$3,916,528	\$10,594,333
	Total Multiplier Effect	\$11,273,681	\$6,639,336	\$17,913,017
	Salaries and Wages	\$3,573,844	\$2,112,769	\$5,686,613
	Full & Part-Time Jobs	98	59	157
	State & Local Tax Revenue	\$718,678	\$423,814	\$1,142,492
	Federal Tax Revenue	\$817,748	\$482,058	\$1,299,806
Santa Cruz	Retail Sales	\$276,619	\$1,403,371	\$1,679,990
	Total Multiplier Effect	\$479,866	\$2,377,082	\$2,856,947
	Salaries and Wages	\$149,664	\$756,992	\$906,656
	Full & Part-Time Jobs	5	21	26
	State & Local Tax Revenue	\$34,603	\$146,567	\$181,170
	Federal Tax Revenue	\$39,329	\$166,787	\$206,116
Yavapai	Retail Sales	\$7,618,423	\$2,104,619	\$9,723,042
	Total Multiplier Effect	\$12,824,696	\$3,574,537	\$16,399,234
	Salaries and Wages	\$4,087,817	\$1,135,530	\$5,223,347
	Full & Part-Time Jobs	109	32	141
	State Income Tax Revenues	\$817,893	\$230,639	\$1,048,532
	Federal Income Tax	\$931,084	\$261,824	\$1,192,908
Yuma	Retail Sales	\$2,670,895	\$637,177	\$3,308,073
	Total Multiplier Effect	\$4,509,362	\$1,086,480	\$5,595,841
	Salaries and Wages	\$1,410,170	\$343,907	\$1,754,077
	Full & Part-Time Jobs	41	10	51
	State & Local Tax Revenue	\$290,613	\$66,129	\$356,742
	Federal Tax Revenue	\$330,967	\$74,896	\$405,863

Table 10. Economic Contributions of Non-Residential Wildlife Watching Activities, by County where the Activity Occurred in 2011

		County Residents	Residents From Other Counties	Non- Residents	TOTAL
Apache	Retail Sales	\$1,078,956	\$7,250,937	\$8,327,468	\$16,657,361
	Total Multiplier Effect	\$1,837,104	\$12,276,448	\$14,264,762	\$28,378,314
	Salaries and Wages	\$560,393	\$3,911,070	\$4,847,102	\$9,318,566
	Full & Part-Time Jobs	19	107	136	261
	State & Local Tax Revenue	\$117,647	\$780,648	\$1,008,137	\$1,906,432
	Federal Tax Revenue	\$141,237	\$880,747	\$1,098,244	\$2,120,228
Cochise	Retail Sales	\$5,234,645	\$2,523,204	\$2,295,891	\$10,053,739
	Total Multiplier Effect	\$8,872,092	\$4,291,074	\$3,932,808	\$17,095,974
	Salaries and Wages	\$2,724,968	\$1,361,535	\$1,336,351	\$5,422,853
	Full & Part-Time Jobs	90	40	38	168
	State & Local Tax Revenue	\$581,080	\$255,526	\$277,944	\$1,114,550
	Federal Tax Revenue	\$661,104	\$290,697	\$302,787	\$1,254,588
Coconino	Retail Sales	\$10,411,217	\$10,468,872	\$11,764,819	\$32,644,908
	Total Multiplier Effect	\$17,495,980	\$17,732,872	\$20,152,865	\$55,381,717
	Salaries and Wages	\$5,542,224	\$5,647,023	\$6,847,854	\$18,037,100
	Full & Part-Time Jobs	147	155	192	494
	State & Local Tax Revenue	\$1,097,003	\$1,154,704	\$1,424,268	\$3,675,976
	Federal Tax Revenue	\$1,248,023	\$1,313,729	\$1,551,569	\$4,113,321
Gila	Retail Sales	\$4,501,215	\$1,917,950	\$2,010,526	\$8,429,691
	Total Multiplier Effect	\$7,617,076	\$3,253,341	\$3,443,984	\$14,314,401
	Salaries and Wages	\$2,421,788	\$1,034,695	\$1,170,250	\$4,626,733
	Full & Part-Time Jobs	67	29	33	128
	State & Local Tax Revenue	\$488,189	\$204,053	\$243,398	\$935,640
	Federal Tax Revenue	\$555,679	\$231,880	\$265,152	\$1,052,712
Graham	Retail Sales	\$3,163,423	\$1,029,873	\$1,024,719	\$5,218,015
	Total Multiplier Effect	\$5,304,149	\$1,748,671	\$1,755,321	\$8,808,141
	Salaries and Wages	\$1,692,081	\$555,645	\$596,451	\$2,844,177
	Full & Part-Time Jobs	43	16	17	76
	State & Local Tax Revenue	\$338,469	\$113,735	\$124,054	\$576,259
	Federal Tax Revenue	\$385,470	\$129,000	\$135,142	\$649,612

Table 10 (continued). Economic Contributions of Non-Residential Wildlife Watching Activities, by County where the Activity Occurred in 2011

		County Residents	Residents From Other Counties	TOTAL
Greenlee	Retail Sales	sample size too small - data not available		
	Total Multiplier Effect	sample size too small - data not available		
	Salaries and Wages	sample size too small - data not available		
	Full & Part-Time Jobs	sample size too small - data not available		
	State & Local Tax Revenue	sample size too small - data not available		
	Federal Tax Revenue	sample size too small - data not available		
La Paz	Retail Sales	\$56,459	\$232,315	\$288,774
	Total Multiplier Effect	\$77,223	\$394,782	\$472,005
	Salaries and Wages	\$16,179	\$125,350	\$141,529
	Full & Part-Time Jobs	1	4	4
	State & Local Tax Revenue	\$4,032	\$27,110	\$31,141
	Federal Tax Revenue	\$4,609	\$30,821	\$35,429
Maricopa	Retail Sales	\$77,795,866	\$18,115,151	\$95,911,016
	Total Multiplier Effect	\$131,155,693	\$30,801,081	\$161,956,774
	Salaries and Wages	\$41,633,997	\$9,774,854	\$51,408,851
	Full & Part-Time Jobs	1,135	283	1,419
	State & Local Tax Revenue	\$8,387,210	\$1,955,829	\$10,343,039
	Federal Tax Revenue	\$9,548,169	\$2,219,035	\$11,767,205
Mohave	Retail Sales	\$4,763,345	\$2,237,501	\$7,000,845
	Total Multiplier Effect	\$8,070,398	\$3,800,684	\$11,871,083
	Salaries and Wages	\$2,542,815	\$1,207,238	\$3,750,053
	Full & Part-Time Jobs	75	35	109
	State Income Tax Revenues	\$518,453	\$236,518	\$754,971
	Federal Income Tax	\$589,939	\$268,986	\$858,925
Navajo	Retail Sales	\$2,447,219	\$2,152,779	\$4,599,998
	Total Multiplier Effect	\$4,107,411	\$3,647,657	\$7,755,068
	Salaries and Wages	\$1,294,015	\$1,161,265	\$2,455,280
	Full & Part-Time Jobs	33	32	66
	State & Local Tax Revenue	\$254,412	\$241,652	\$496,064
	Federal Tax Revenue	\$289,460	\$274,908	\$564,368

Table 10 (continued). Economic Contributions of Non-Residential Wildlife Watching Activities, by County where the Activity Occurred in 2011

		County Residents	Residents From Other Counties	Non- Residents	TOTAL
Pima	Retail Sales	\$67,898,868	\$28,839,818	\$30,028,176	\$126,766,862
	Total Multiplier Effect	\$114,542,101	\$48,926,283	\$51,437,577	\$214,905,962
	Salaries and Wages	\$36,291,526	\$15,558,678	\$17,478,259	\$69,328,463
	Full & Part-Time Jobs	1,000	437	490	1,926
	State & Local Tax Revenue	\$7,294,152	\$3,138,143	\$3,635,260	\$14,067,555
	Federal Tax Revenue	\$8,300,217	\$3,568,533	\$3,960,178	\$15,828,928
Pinal	Retail Sales	\$16,463,204	\$9,655,659	\$10,441,763	\$36,560,625
	Total Multiplier Effect	\$27,793,700	\$16,368,364	\$17,886,501	\$62,048,565
	Salaries and Wages	\$8,810,819	\$5,208,739	\$6,077,753	\$20,097,311
	Full & Part-Time Jobs	243	144	170	557
	State & Local Tax Revenue	\$1,771,801	\$1,044,856	\$1,264,097	\$4,080,754
	Federal Tax Revenue	\$2,016,044	\$1,188,447	\$1,377,081	\$4,581,572
Santa Cruz	Retail Sales	\$681,965	\$3,459,817	\$3,891,340	\$8,033,122
	Total Multiplier Effect	\$1,183,042	\$5,860,366	\$6,665,777	\$13,709,185
	Salaries and Wages	\$368,975	\$1,866,260	\$2,265,001	\$4,500,236
	Full & Part-Time Jobs	12	51	63	127
	State & Local Tax Revenue	\$85,310	\$361,340	\$471,092	\$917,742
	Federal Tax Revenue	\$96,960	\$411,190	\$513,198	\$1,021,348
Yavapai	Retail Sales	\$18,782,167	\$5,188,648	\$5,084,685	\$29,055,499
	Total Multiplier Effect	\$31,617,515	\$8,812,527	\$8,709,948	\$49,139,990
	Salaries and Wages	\$10,077,948	\$2,799,492	\$2,959,601	\$15,837,041
	Full & Part-Time Jobs	268	80	83	430
	State Income Tax Revenues	\$2,016,403	\$568,609	\$615,560	\$3,200,572
	Federal Income Tax	\$2,295,460	\$645,490	\$670,579	\$3,611,528
Yuma	Retail Sales	\$6,584,723	\$1,570,873	\$1,206,316	\$9,361,912
	Total Multiplier Effect	\$11,117,207	\$2,678,565	\$2,066,391	\$15,862,164
	Salaries and Wages	\$3,476,579	\$847,855	\$702,150	\$5,026,584
	Full & Part-Time Jobs	101	25	19	146
	State & Local Tax Revenue	\$716,467	\$163,032	\$146,039	\$1,025,538
	Federal Tax Revenue	\$815,954	\$184,646	\$159,091	\$1,159,691

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, is a non-business measure that estimates the value people receive from an activity after subtracting for their costs and expenditures. This concept is also known as consumer surplus.

There are three types of economic impact: direct, indirect and induced. A **direct impact** is defined as the economic impact of the initial purchase made by the consumer (the original retail sale). **Indirect impacts** are the secondary effects generated from a direct impact, such as the retailer buying additional inventory, and the wholesaler and manufacturers buying additional materials. Indirect impacts affect not only the industry being studied, but also the industries that supply the first industry. 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 direct, indirect and induced impact effects sum together to provide the overall economic impact of the activity under study. 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 lost 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.

This study presents several important measures:

Retail Sales – these include the expenditures made by wildlife viewers for equipment, travel expenses and services related to their wildlife viewing activities over the course of the year. The initial retail sale is the *direct impact*.

Total Multiplier Effect – also known as the “total economic effect” or “output,” this measure reports the sum of the direct, indirect and induced impacts resulting from the original retail sale. This figure explains the total activity in the economy generated by a retail sale. Another way to look at this figure is, if the activity in question were to disappear and participants did not spend their money elsewhere, the economy would contract by this amount.

Salaries and Wages – this figure reports the total salaries and wages paid in all sectors of the economy as a result of the activity under study. These are not just the paychecks of those employees directly serving recreationists or manufacturing their goods, it also includes portions of the paychecks of, for example, the truck driver who delivers food to the restaurants serving recreationists and the accountants who manage the books for companies down the supply chain, etc. This figure is based on the direct, indirect and induced effects, and is essentially a portion of the total economic effect figure reported in this study.

Jobs – much like Salaries and Wages, this figure reports the total jobs in all sectors of the economy as a result of the activity under study. These are not just the employees directly serving recreationists or manufacturing their goods, they also include, for example, the truck driver who delivers food to the restaurants serving recreationists and the accountants who manage the books for companies down the supply chain, etc. This figure is based on direct, indirect and induced effects.

Watchable wildlife recreation is defined here as the primary purpose of observing, photographing or feeding of fish or other wildlife. **Wildlife** is defined as animals that are living in natural or wild environments. Animals in museums, zoos and aquariums are not included. Domestic and farm animals also are not included as wildlife. Watchable wildlife recreation is divided into two types of activity: residential and non-residential. According to the 2011 USFWS Survey, **residential activities** are those activities that occur within one mile of one's home for the primary purpose of observing, photographing or feeding wildlife. In contrast, according to the Survey, **non-residential activities** are trips or outings that occur at least one mile from home for the primary purpose of observing, photographing or feeding wildlife. Given the definitions, residential activities are made by Arizona residents, whereas, non-residential activities are made by both Arizona residents and non-residents.

APPENDIX B

Methods

The county-level estimates provided in this report represent each county's contribution to total economic activity in Arizona as a result of spending by people who participate in wildlife watching. The economic contributions were estimated first at the statewide level, and the statewide economic contributions were then allocated to each county on the basis of estimated wildlife watching activity that occurs in each county.

The methods used to generate the economic impact estimates of watchable wildlife recreation activities in Arizona are separated into five stages. The stages entailed:

- 1) Tabulating the expenditures made by recreationists (16 years old and older) from raw data provided by the 2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (Survey);
- 2) Allocating the detailed expenditures to the appropriate sectors of the economy that were directly impacted by the spending;
- 3) Estimating the direct, indirect and induced effects of the spending by recreationists through the use of an input-output model of the Arizona economy and the IMPLAN economic modeling software;
- 4) Estimating federal and state/local tax revenues with the IMPLAN economic modeling software;
- 5) Allocating the expenditures and impacts to each county, for each type of activity.

1. Tabulating Expenditures

Wildlife watchers' expenditures were obtained from the 2011 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.

Expenditures by wildlife watchers were categorized into resident and non-resident files. Both included information on travel-related categories such as food and lodging, and equipment expenditures such as guidebooks and binoculars. Together, the resident and non-resident files represent all expenditures made in Arizona in 2011.

2. 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 consumer 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 put, the first purchase creates numerous rounds of purchasing. Input-output analysis tracks how the various rounds of purchasing flow throughout an economy and generate economic benefits.

The relationships between industries are explained through multipliers. For example, an income multiplier of 1.29 for industry X would indicate that for every dollar of income generated by the industry under study, \$0.29 would be paid to the employees of industries impacted by the indirect and induced effects. 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, wildlife watching expenditures are matched to the appropriate industry sector. The resulting estimates describe the salaries and wages, total economic effects, and jobs supported by the purchases made by wildlife watchers. This same process is repeated for all reported expenditures.

3. Estimating Tax Revenues

The IMPLAN model estimates detailed tax revenues at the state, local and federal levels. The summary estimates provided in this report represent the total taxes estimated by the IMPLAN model including all income, sales, property and other taxes and fees that accrue to the various local, state and federal taxing authorities.

APPENDIX C

Economic Impacts in Arizona, by Economic Sector

ECONOMIC SECTORS STIMULATED BY RESIDENT WILDLIFE WATCHING SPENDING

	Total Output (Sales)	Employment	Income
Ag, Forestry, Fish & Hunting	75,849,154	1,353	15,002,669
Mining	25,453,166	213	4,006,661
Utilities	11,937,582	20	2,456,890
Construction	7,468,583	56	2,914,889
Manufacturing	225,216,903	528	35,359,024
Wholesale Trade	91,255,211	555	41,254,431
Retail trade	163,673,074	2,475	77,587,725
Transportation & Warehousing	45,423,765	318	17,692,684
Information	29,208,711	110	6,276,495
Finance & insurance	67,791,634	369	18,720,422
Real estate & rental	110,811,017	465	9,302,987
Professional- scientific & tech svcs	32,546,147	298	17,723,935
Management of companies	9,274,207	60	4,517,757
Administrative & waste services	21,294,726	340	11,220,113
Educational svcs	5,962,271	91	3,467,879
Health & social services	43,388,094	445	24,532,831
Arts- entertainment & recreation	5,619,815	115	2,427,574
Accommodation & food services	80,276,963	1,228	28,013,176
Other services	48,405,737	677	21,819,877
Government & non NAICs	22,731,107	178	12,321,909
TOTAL	1,123,587,867	9,894	356,619,928

ECONOMIC SECTORS STIMULATED BY NONRESIDENT WILDLIFE WATCHING SPENDING

	Total Output (Sales)	Employment	Income
Ag, Forestry, Fish & Hunting	3,372,639	49	462,162
Mining	13,230,740	111	2,079,527
Utilities	3,888,657	7	808,940
Construction	2,906,580	22	1,129,831
Manufacturing	24,256,793	46	2,829,889
Wholesale Trade	26,937,459	164	12,177,820
Retail trade	28,004,880	388	12,884,384
Transportation & Warehousing	33,976,172	202	12,181,750
Information	7,285,665	27	1,545,708
Finance & insurance	18,369,969	101	5,181,190
Real estate & rental	30,783,641	116	2,444,444
Professional- scientific & tech svcs	10,227,836	95	5,654,969
Management of companies	2,731,776	18	1,330,734
Administrative & waste services	7,290,126	112	3,682,416
Educational svcs	1,661,209	25	967,560
Health & social services	13,003,474	133	7,353,102
Arts- entertainment & recreation	1,814,602	37	805,606
Accomodation & food services	67,863,268	971	23,469,975
Other services	9,013,278	308	5,327,525
Government & non NAICs	7,990,972	67	4,632,265
TOTAL	314,609,736	2,998	106,949,797

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

	Total Output (Sales)	Employment	Income
Ag, Forestry, Fish & Hunting	79,221,793	1,402	15,464,831
Mining	38,683,906	324	6,086,188
Utilities	15,826,239	27	3,265,830
Construction	10,375,163	77	4,044,720
Manufacturing	249,473,696	574	38,188,913
Wholesale Trade	118,192,670	719	53,432,251
Retail trade	191,677,954	2,864	90,472,109
Transportation & Warehousing	79,399,937	521	29,874,434
Information	36,494,376	137	7,822,203
Finance & insurance	86,161,603	470	23,901,612
Real estate & rental	141,594,658	581	11,747,431
Professional- scientific & tech svcs	42,773,983	392	23,378,904
Management of companies	12,005,983	78	5,848,491
Administrative & waste services	28,584,852	452	14,902,529
Educational svcs	7,623,480	116	4,435,439
Health & social services	56,391,568	578	31,885,933
Arts- entertainment & recreation	7,434,417	152	3,233,180
Accomodation & food services	148,140,231	2,199	51,483,151
Other services	57,419,015	985	27,147,402
Government & non NAICs	30,722,079	245	16,954,174
TOTAL	1,438,197,603	12,892	463,569,725