

The 2001 Economic Benefits of Watchable Wildlife Recreation in



Prepared by:

Southwick Associates, Inc

P.O. Box 6435

Fernandina Beach, FL 32035

(904) 277 9765

Email: Rob@southwickassociates.com

For the:

Florida Fish and Wildlife Conservation Commission

February 10, 2003

Acknowledgments

This report examines the contributions of watchable wildlife recreation to the Florida economy. Rob Southwick and Thomas Allen are the authors. This project was funded by the Florida Fish and Wildlife Conservation Commission. The authors wish to thank Judy Gillan, David Harding, and Geoff Brown, and all others who contributed for their input and suggestions regarding this report.

Table of Contents

Acknowledgments	ii
List of Tables	iv
Executive Summary	v
Introduction	1
I. Data Sources & Methods	1
II. Demographics & Participation	2
Demographics	2
Participation	2
III. Economic Impacts	6
Three Forms Of Retail Sales And Economic Impact	6
Retail Sales	7
Total Multiplier Effect (Output)	9
Earnings	9
Employment	9
Tax Revenues	9
Appendix A Definitions	12
Appendix B Methods	14
Appendix C Economic Impact Tables for Specific Expenditure Items	17
Appendix D Watchable Wildlife Recreation Facts	20

List of Tables

Table E-1. The 2001 Economic Impacts of Watchable Wildlife Recreation in Florida	vi
Table 1. Demographic Background of Watchable Wildlife Recreationists in Florida in 2001	2
Table 2. Participation in Non-residential Watchable Wildlife Recreation in Florida in 2001	3
Table 3. Participation in Non-residential Watchable Wildlife Recreation by Site Visited and Wildlife Observed, Fed, or Photographed in Florida in 2001	4
Table 4. Participation in Residential Watchable Wildlife Recreation in Florida in 2001	5
Table 5. Participation in Residential Watchable Wildlife Recreation by Wildlife Observed in Florida in 2001	6
Table 6. Expenditures made by Residents and Non-Residents Participating in Watchable Wildlife Recreation in Florida in 2001	8
Table 7. Average Expenditures for Watchable Wildlife Recreationists in Florida in 2001	9
Table 8. Economic Impacts of Watchable Wildlife Recreation in Florida in 2001	11

Executive Summary

This project was conducted by Southwick Associates for the Florida Fish and Wildlife Conservation Commission. The purpose of this project was to quantify the 2001 economic benefits of watchable wildlife recreation in Florida. The data used in this project were obtained from the 2001 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (Survey). The Survey is conducted by the U.S. Fish and Wildlife Service and the U.S. Census Bureau. The Survey consists of a wide range of hunting, fishing, and watchable wildlife recreation participation, expenditure, and demographic information. The data were analyzed using the RIMS-II economic model (U.S. Bureau of Economic Analysis) to generate economic impact estimates for each activity.

In 2001, there were 1.5 million watchable wildlife recreationists (residents and non-residents) participating in non-residential activities in Florida. In addition, there were nearly 2.6 million residents participating in residential activities in Florida. 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. The non-residential activity cited most often by recreationists was observing wildlife, whereas the primary residential activity was feeding wildlife. Overall, 3.24 million people participated in some form of residential or non-residential watchable wildlife recreation in Florida in 2001.

The total economic effect from 2001 watchable wildlife recreation in Florida was estimated at \$1.6 billion (\$1.2 billion by residents and \$402.1 million by non-residents). Since 1991, when the economy was likewise mired with recessionary and wartime concerns, expenditures in Florida for watchable wildlife recreation have increased 30 percent (\$1.212 billion in 1991), but are down slightly from 1996 levels when consumers were much more open with travel and equipment purchases (\$1.677 billion in 1996). The 2001 economic impact of watchable wildlife recreation in Florida is summarized below.

Table E-1. 2001 Economic Impacts of Watchable Wildlife Recreation in Florida

	Resident	Non-Resident	Total
Retail sales	\$1.173 billion	\$402.1 million	\$1.575 billion
Salaries & wages	\$494.3 million	\$224.5 million	\$718.8 million
Full & part-time jobs	19,487	8,940	28,427
Tax revenues:			
State sales tax	\$65.4 million	\$14.2 million	\$79.6 million
Federal income tax	\$80.5 million	\$36.9 million	\$117.4 million
Total economic effect	\$2.079 billion	\$782.1 million	\$2.861 billion

Introduction

Watchable wildlife recreational activities, popular among residents and non-residents alike, produce significant economic benefits for many individuals and businesses in Florida. Unlike manufacturing industries which are easily identified by large factories, the watchable wildlife industry is comprised of widely scattered retailers, manufacturers, and wholesalers and support services that, when considered together, form an important industry. Given that watchable wildlife dollars are often spent in rural or lightly populated areas, the economic contributions of watchable wildlife recreation can be especially important to the rural economic base.

This project assesses the 2001 economic contributions of watchable wildlife recreation in Florida. The project was designed to provide resource managers with the economic information necessary to better conserve and manage wildlife and other natural resources. Only the economic effects of watchable wildlife activities occurring within Florida are considered. This report measures the impact of watchable wildlife recreation expenditures on Florida industries and individuals (in dollar terms) to produce estimates of the total economic benefits created in 2001.

This report is divided into several sections to provide the reader with a better understanding of the activities undertaken by watchable wildlife recreationists, and the economic effects of their activities. The first section briefly describes data sources and methodology. The second section, participation, is divided into two subsections. The first subsection explores non-residential participation by residents and non-residents. Non-residential activities are those that occur more than one mile from home. The second subsection examines residential participation. Given the definitions, non-residential recreation is enjoyed by both Florida residents and non-residents visiting the state, while residential recreation only includes residents. The next section presents the economic impacts of watchable wildlife recreation in Florida. Definitions of several terms used in this report are provided in Appendix A. Appendix B provides methodological descriptions. Appendix C presents tables detailing the economic impacts of watchable wildlife recreation. Appendix D is a list of “factoids” comparing watchable wildlife recreation to well-known activities.

I. Data Sources & Methods

Data on recreationists’ demographics, participation and expenditures were obtained from the 2001 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 the 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 was analyzed using economic models to quantify the economic impacts. A more detailed description of the methods used to generate the economic estimates is presented in Appendix B.

II. Demographics & Participation Characteristics of Recreationists

Demographics

Only a small percentage of watchable wildlife recreationists in Florida, both non-residential and residential, report they are non-white (Table 1). Participants are in their forties, are split almost evenly between male and female, and are likely to be married.

Table 1. Demographic background of watchable wildlife recreationists in Florida in 2001 (Participants 16 years old and older)

	Nonresidential Activity		Residential Activity
	Resident	Nonresident	
Race (non-white)	8%	0%	11%
Average age	44 years	47 years	49 years
Gender (male)	60%	48%	47%
Marital Status (married)	66%	78%	68%
Average household income	\$45,149	\$72,596	\$44,961
Education			
8 years or less	2%	0%	1%
9-11 years	7%	2%	7%
12 years	29%	9%	32%
1-3 years college	28%	19%	29%
4 years college or more	34%	70%	31%

The average household income for residents participating in non-residential and residential activities is approximately the same. Non-residents have, on average, a household income higher than resident participants. Both have incomes higher than the 2001 state average (\$36,421, 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.

Participation

Watchable wildlife recreation includes a broad category 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 2001, there were 1.5 million watchable wildlife recreationists (residents and non-residents) participating in non-residential activities in Florida (Table 2). Of the total recreationists in Florida, 1 million were state residents and 490,000 were non-residents (Table 3). The total number of watchable wildlife recreation days in Florida was 21.4 million.

Table 2. Participation in Non-residential Watchable Wildlife Recreation in Florida in 2001 (Participants 16 years old and older)

	Resident	Nonresident	Total
Number of participants¹	1,012,962	489,942	1,502,904
observing wildlife	844,322	400,346	1,244,668
photographing wildlife	494,531	303,385	797,916
feeding wildlife	416,121	61,587	477,708
Number of days	17,725,390	3,662,569	21,387,959
observing wildlife	16,039,174	3,129,965	19,169,138
photographing wildlife	4,421,800	1,745,393	6,167,193
feeding wildlife	8,786,721	752,817	9,539,538
Number of trips	7,523,638	1,021,943	8,545,581

The primary watchable wildlife activity, measured in terms of number of participants and number of activity days, was observing wildlife, with photographing wildlife the second preferred activity. 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 3. Note that the results presented in Table 3 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 3 reflects participants' preferences *and* the availability of sites and wildlife.

¹ Compared to numbers reported directly by the USFWS through its National Survey of Fishing, Hunting and Wildlife-Associated Recreation reports (Survey), the number of participants reported here is lower. The Survey reports the number of people who indicated they participated in some form of watchable wildlife recreation. Many of these people reported zero days of activity in 2001, therefore we deflated the number of participants by those who reported zero days of activity.

Table 3. Participation in Non-residential Watchable Wildlife Recreation by Site Visited and Wildlife Observed, Fed, or Photographed in Florida in 2001 (Participants 16 years old and older, ranked)

	Resident	Non-Resident	Total
Number of participants	1,012,962	489,942	1,502,904
Number of recreationists visiting (ranked by total number of users):			
1. public land	793,351	444,424	1,237,775
2. wetlands	692,661	349,373	1,042,034
3. ocean	509,218	386,760	895,978
4. woodlands	660,697	229,731	890,428
5. brush-covered areas	533,083	276,685	809,768
6. lakes and/or streams	553,802	228,880	782,682
7. open fields	425,124	136,832*	561,956
8. man-made areas	284,194*	215,311	499,506
9. private land	280,799	111,235	392,034
10. other sites	75,429*	44,976*	120,404*
Number of recreationists observing, feeding, or photographing (ranked by major species):			
1. <u>birds</u>	<u>917,318</u>	<u>468,001</u>	<u>1,385,318</u>
shorebirds	795,744	431,513	1,227,258
waterfowl	662,058	345,877	1,007,935
birds of prey	686,582	260,934	947,516
songbirds	478,532	218,914	697,447
other birds	142,349	33,833*	176,182
2. <u>mammals</u>	<u>655,293</u>	<u>228,426</u>	<u>883,719</u>
small land mammals	585,347	210,836	796,183
ocean mammals	408,326	299,226	707,552
large land mammals	351,334	47,748*	399,082
3. <u>other wildlife</u>	<u>653,730</u>	<u>327,377</u>	<u>981,107</u>
4. <u>fish</u>	<u>498,717</u>	<u>269,935</u>	<u>768,652</u>

* = estimates are based on small sample sizes and should be used with caution

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

Residential Participation

In 2001, there were 2.6 million residential watchable wildlife participants in Florida (Table 4). This number represents Florida residents participating in watchable wildlife recreation within one mile of their home. Compared to non-residential activity, there are nearly 2.5 times more residents who participate within one mile of their homes than those who travel away from home.

Table 4. Participation in Residential Watchable Wildlife Recreation in Florida in 2001
(Participants 16 years old and older, ranked)

Number of participants		2,634,756	
1.	feeding birds & wildlife	2,092,415	(79.4%)
	birds	1,951,260	(74.1%)
	other wildlife	881,112	(33.4%)
2.	observing wildlife	1,662,801	(63.1%)
3.	photographing wildlife	716,153	(27.2%)
4.	visiting parks near home	684,961	(26.0%)
5.	maintaining plantings around home	356,205	(13.5%)
6.	maintaining natural areas around home	324,055	(12.3%)
Number of days			
	observing wildlife	162,652,420	
	photographing wildlife	11,264,134	

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

Given the manner in which the survey questions were asked, we cannot determine the number of days spent feeding wildlife. However, we can determine the number of days spent observing and photographing wildlife around the home. In terms of days spent in watchable wildlife activities, observing wildlife again was the most popular activity. Residents spent approximately 162.7 million man-days observing wildlife around their home compared with only 17.7 million days spent observing wildlife on trips away from home.

The number one type of wildlife observed by residential recreationists in Florida was birds (Table 5). The second most prominent category to be observed by residents was mammals. As with the results presented in Table 3, the Table 5 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 5. Participation in Residential Watchable Wildlife Recreation by Wildlife Observed in Florida in 2001 (Number of Participants 16 years old and older, ranked)

Number of recreationists		
1. birds	1,616,958	(61.4%)
2. mammals	1,297,458	(49.2%)
<i>large mammals</i>	386,305*	(14.7%)
<i>small mammals</i>	1,270,482	(48.2%)
3. insects or spiders	744,226	(28.2%)
4. amphibians or reptiles	668,246	(25.4%)
5. fish & other wildlife	610,093	(23.2%)

* = estimate is based on a small sample size and should be used with caution

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

III. Economic Impacts

Three Forms Of Retail Sales And Economic Impact:

Retail sales, and economic impacts overall, can be reported in several forms. None is superior to the others, the choice of method used depends on the situation at hand. The three forms reported in this text are:

Option #1: Overall expenditures – this option provides the total retail sales as reported by the U.S. Fish and Wildlife Service’s 2001 National Survey of Fishing, Hunting and Wildlife-Associated Recreation (FWS Survey). Included are travel and equipment expenses, including big-ticket items such as vehicles and real estate. This number should be considered the upper-end estimate of the actual expenditures made in-state for wildlife viewing.

Option #2: Overall expenditures minus some equipment items – the FWS Survey reports expenditures reported by participants made primarily for the purpose of wildlife viewing. However, even if the item’s primary purpose was for wildlife viewing, it may be safe to say some of these items are used partly or mostly for non-wildlife viewing purposes. Examples include a camper which may also be used for general vacations in addition to wildlife viewing activities, or binoculars which may be used for sporting events in addition to bird watching. Including the full cost of these items may overestimate the true impact of wildlife viewing. Therefore, adjustments are made to discount these items. This estimate may be considered the lower range of the actual expenditures made in-state for wildlife viewing. This option excludes expenditures for binoculars, cameras, other miscellaneous special equipment, tents and tarps, vehicles, camping equipment and one-half of backpacks, daypacks and clothing - all items that may be used for other activities besides wildlife viewing.

Option #3: Often travel expenses are the major item of interest. This is especially true when considering tourism and local economic impacts. This option is offered to help explain the economic impacts of wildlife-related travel and tourism. This option excludes all equipment expenditures. Only travel related items are included such as transportation costs, food and beverages, lodging, etc.

Which option to use depends on the situation. If wildlife-viewing is to be compared to other recreation-based industries, especially those that report the full range of related consumer purchases, then Option #1 is correct. If the ramifications to the state economy from diminished wildlife resources or their related recreation is being considered, then Option #2 may be the best option. When comparing the tourism contributions of wildlife, Option #3 may be best. Users are advised to carefully examine all issues when selecting the best data option to apply.

Retail Sales

The expenditure figures (Table 6) describe the *total* retail sales generated from 2001 watchable wildlife recreation by specific categories of goods and services. Adjustments for Options #2 and #3 are first made in Table 7. Regarding trip expenditures, residents spent the largest amount on food, drink and refreshments (\$103.0 million) followed by private transportation (mostly gasoline, \$63.2 million). Non-residents spent the most on lodging (\$138.5 million), but food/drink/refreshments was second (\$114.8 million). The largest equipment expenditures by Florida residents were for off-road and four wheel drive vehicles (\$532.7 million)², followed by cameras (\$60.6 million) and commercially-prepared bird feed (\$57.5 million). Note that equipment expenditures are comprised of expenditures that may have been made for residential and/or non-residential activities.

Before any adjustments are made for Options #2 and #3, total resident expenditures for watchable wildlife recreation were \$1.17 billion. Nonresident expenditures were \$402.1 million and represent new dollars brought into the state economy by out-of-state visitors.

Table 7 shows figures for the average amount spent per day by recreationists for residential activities and non-residential activities, as well as the average spent annually. Adjustments are made in Table 7 to present Options #2 and #3 as described in the beginning of this section.

Since the Survey does not collect total days of residential participation, the residential per day figures in Table 7 are estimated based on the number of days spent observing wildlife. The non-residential per day figures are estimated by totaling the travel expenses plus several equipment items that would be used away from home: binoculars, clothing, camping gear, backpacks and daypacks, vehicles and one-half of cameras, film and developing (unless a specific item is deleted for a specific option). The residential per day figure is estimated by totaling the remaining equipment items. Also, since purchased land may be used for recreation or to build a home, 50 percent of its value was assigned to both the residential and non-residential estimates.

² Caution – the estimate for offroad and 4-wheel drive vehicles is based on a small sample size and must be used with caution. There is a wide range around this estimate in which the real expenditure is located.

Table 6. Expenditures made by Residents and Non-Residents Participating in Watchable Wildlife Recreation in Florida in 2001 (Participants 16 years old and older)

	Residents	Non-Residents	Total
Trip Expenditures			
Food	\$103,026,040	\$114,846,047	\$217,872,087
Lodging	\$43,606,097	\$138,519,978	\$182,126,075
Public transportation	\$78,246	\$75,229,192	\$75,307,438
Private transportation	\$63,213,957	\$32,609,628	\$95,823,584
Guide fees	\$5,117,794	\$11,249,002	\$16,366,796
Public land access fees	\$7,959,156	\$1,930,812	\$9,889,968
Private land access fees	\$4,763,711	\$2,071,130	\$6,834,841
Equipment rental	\$13,952,426	\$10,746,882	\$24,699,307
Boat fuel	\$22,867,873	\$1,000,572	\$23,868,446
Other boat costs	\$19,583,966	\$338,053	\$19,922,019
Heating and cooking fuel	\$2,664,008	\$9,295	\$2,673,302
Equipment Expenditures			
Binoculars, scopes	\$15,094,465	\$1,458,461	\$16,552,926
Film and developing	\$49,471,112	\$2,173,531	\$51,644,643
Cameras	\$60,616,932	\$6,853,270	\$67,470,203
Day packs, special clothing	\$11,332,754	\$0	\$11,332,754
Commercially prepared bird food	\$57,538,654	\$57,041	\$57,595,695
Other bird food	\$18,578,795	\$0	\$18,578,795
Food for other wildlife	\$23,814,535	\$0	\$23,814,535
Nest boxes, feeders	\$22,335,805	\$1,327,158	\$23,662,963
Other special equipment	\$4,594,408	\$292,888	\$4,887,296
Tents, tarps	\$9,871,775	\$0	\$9,871,775
Backpacking equipment	\$5,350,147	\$253,807	\$5,603,954
Other camping equipment	\$6,929,788	\$161,653	\$7,091,441
Magazines and books	\$10,978,591	\$382,695	\$11,361,286
Membership dues, contributions	\$19,773,741	\$597,109	\$20,370,850
Other equipment	\$7,246,600	\$0	\$7,246,600
Off-road & 4WD vehicles, campers, motor homes	\$532,687,570	\$0	\$532,687,570
Boats	\$0	\$0	\$0
Trailer, boat accessories	\$0	\$0	\$0
Cabin	\$0	\$0	\$0
Other equipment	\$0	\$0	\$0
Land purchases	\$4,529,125	\$0	\$4,529,125
Land leases	\$0	\$0	\$0
Plantings	\$25,795,128	\$0	\$25,759,128
Total Trip & Equipment Expenditures	\$1,173,373,201	\$402,108,203	\$1,575,481,403

Table 7. Average Expenditures for Watchable Wildlife Recreationists in Florida in 2001 (Participants 16 years old and older)

	<u>Residents</u>	<u>Nonresidents</u>	<u>Average</u>
Avg. per participant, annually			
<i>Option #1:</i>			
Residential activities	\$74.07	----	----
Nonresidential activities	\$966	\$821	\$917
<i>Option #2:</i>			
Nonresidential activities, minus equipment used possibly for non-recreational activities ¹	\$348.00	\$803	\$495
<i>Option #3:</i>			
Nonresidential activities, travel expenses only ²	\$283.00	\$793	\$449
Avg. per day, per participant			
<i>Option #1:</i>			
Nonresidential activities	\$55.19	\$109.05	\$64.41
<i>Option #2:</i>			
Nonresidential activities, minus equipment used possibly for non-recreational activities ¹	\$19.91	\$106.74	\$34.78
<i>Option #3:</i>			
Nonresidential activities, travel expenses only ²	\$16.18	\$106.07	\$31.58
Total spent by recreationists			
			<u>Total</u>
<i>Option #1:</i>			
Residential activities	\$195.2 million	\$2.7 million *	\$197.8 million
Nonresidential activities (<i>includes ALL equipment</i>)	<u>\$978.2 million</u>	<u>\$399.5 million</u>	<u>\$1.38 billion</u>
Total:	\$1.17 billion	\$402.1 million	\$1.58 billion
<i>Option #2:</i>			
Residential activities	\$183.3 million	\$2.4 million *	\$185.7 million
Nonresidential activities, <i>minus equipment used possibly for non-recreational activities</i> ¹	<u>\$353.0 million</u>	<u>\$391.0 million</u>	<u>\$744.0 million</u>
Total:	\$536.3 million	\$393.3 million	\$929.7 million
<i>Option #3:</i>			
Residential activities	n/a	n/a	n/a
Nonresidential activities, <i>travel expenses only</i> ²	<u>\$286.8 million</u>	<u>\$388.6 million</u>	<u>\$675.4 million</u>
Total:	\$286.8 million	\$388.6 million	\$675.4 million

¹ = this figure excludes expenditures for binoculars, cameras, other miscellaneous special equipment, tents and tarps, vehicles, camping equipment and 1/2 of backpacks, daypacks and clothing - all items that may be used for other activities besides wildlife viewing.

² = travel expenses include fuel, transportation, food, beverages, restaurants, lodging, and related expenses.

* Includes bird seed, other wildlife feed, nest boxes, membership dues and other items typically purchased in one's state of residence, but reported purchased in FL by out-of-state residents.

Once boats and vehicles are removed from the equation, residents on average spend one-third the amount per day of activity than non-residents when they travel away from home to view, feed or photograph wildlife. Residents spend more annually, but that most likely reflects a higher proportion of their overall annual activities occurring in Florida compared to non-residents.

Total Economic Effect (Output)

Expenditures made by watchable wildlife recreationists generate rounds of additional spending through the economy. For example, once a sale is made, the retailer buys additional inventory from the wholesaler, who in turn buys more from a manufacturer. These are indirect impacts. Each of these businesses also pay their employees (known as “induced” impacts). The sum of these multiple rounds of spending is the *total economic effect* resulting from the original retail sale. Additional descriptions of direct, indirect and induced impacts are provided in Appendix A. The economic figures in Table 8 show the total economic effect from 2001 watchable wildlife activities in Florida ranges from \$1.7 billion upwards to \$2.9 billion (\$2.1 billion by residents and \$782.1 million by non-residents). Travel expenses alone generate \$1.3 billion in total economic effects. Tables detailing the economic impacts of watchable wildlife recreation for each specific category of goods and services are provided in Appendix C.

Earnings

Total household income (salaries and wages) generated during 2001 from wildlife watchable recreation in Florida was estimated upwards of \$718.8 million (\$494.3 million by residents and \$224.5 million by non-residents).

Employment

During 2001, watchable wildlife recreation supported a minimum of 19,361 full and part-time jobs and a maximum of 28,427 full and part-time jobs in Florida (19,487 generated by resident spending and 8,940 generated by non-resident spending) in 2001. These are jobs that are directly associated with watchable wildlife use, in addition to jobs in industries that indirectly support these activities. Travel-related expenses alone supported 14,095 jobs.

Tax Revenues

Expenditures by residents and non-residents generate sales tax revenues for the State. Likewise, the jobs generated by wildlife watching activities creates additional federal income tax revenues. Total state tax revenues generated by watchable wildlife recreation is estimated at a minimum of \$40.3 million up to \$79.6 million. Total federal income tax revenues generated by watchable wildlife recreation ranges up to \$117.4 million.

Table 8. Economic Impacts of Watchable Wildlife Recreation in Florida in 2001
(Population 16 years old and older)

Option #1 - Impacts Generated from ALL Travel and Equipment Expenditures			
	<u>Resident</u>	<u>Nonresident</u>	<u>All Participants</u>
Retail sales	\$1,173,373,201	\$402,108,203	\$1,575,481,403
Total economic effect ¹	\$2,078,692,323	\$782,080,664	\$2,860,772,987
Salaries & wages	\$494,286,893	\$224,520,613	\$718,807,506
Full & part-time jobs	19,487	8,940	28,427
Tax revenues:			
State sales tax	\$65,363,233	\$14,238,537	\$79,601,770
Federal income tax	\$80,454,477	\$36,910,076	\$117,364,553
 Option #2 - Impacts Generated From All Expenditures EXCLUDING Equipment Possibly Used Part of the Year for Non -Wildlife Viewing Activities			
	<u>Resident</u>	<u>Nonresident</u>	<u>All Participants</u>
Retail sales	\$536,331,662	\$393,341,931	\$929,673,593
Total economic effect ¹	\$955,620,992	\$766,089,103	\$1,721,710,095
Salaries & wages	\$257,963,900	\$220,187,790	\$478,151,691
Full & part-time jobs	10,589	8,772	19,361
Tax revenues:			
State sales tax	\$26,640,253	\$13,704,946	\$40,345,200
Federal income tax	\$42,002,573	\$34,795,321	\$76,797,893
 Option #3 - Impacts Generated From Travel Related Expenditures Only			
	<u>Resident</u>	<u>Nonresident</u>	<u>All Participants</u>
Retail sales	\$286,833,274	\$388,550,589	\$675,383,864
Total economic effect ¹	\$514,425,918	\$757,222,409	\$1,271,648,327
Salaries & wages	\$132,110,848	\$217,439,167	\$349,550,015
Full & part-time jobs	5,434	8,661	14,095
Tax revenues:			
State sales tax	\$13,357,262	\$13,460,907	\$26,818,168
Federal income tax	\$21,708,979	\$34,599,609	\$56,308,588

¹ Total economic effect = the rounds of additional spending throughout the state economy stimulated by the original retail sale. For example, once a sale is made, the retailer buys additional inventory from the wholesaler, who in turn buys more from a manufacturer. These are indirect impacts. Each of these businesses also pay their employees (known as "induced" impacts), and pay other bills. The sum of these transactions is the total economic effect, also known as the output or multiplier effect.

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 Economic Effect – also known as the “total multiplier 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 that delivers food to the restaurants serving recreationists and the accountants that 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 that delivers food to the restaurants serving recreationists and the accountants that 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** are 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 2001 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 Florida residents, whereas, non-residential activities are made by both Florida residents and non-residents.

APPENDIX B METHODS

The methods used to generate the economic impact estimates of watchable wildlife recreation activities in Florida are separated into three stages:

- 1) tabulate the expenditures made by watchable wildlife recreationists (age 16 and older) from the 2001 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation (Survey),
- 2) disaggregate the expenditures into retail, wholesale, and manufacturer portions,
- 3) generate the economic impact estimates by applying the multipliers from the RIMS model to the adjusted expenditures,
- 4) calculate state sales tax and federal income tax revenues.

Source of Expenditure Data

Recreationists' expenditures were obtained from the Survey (which 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.

Recreationists' expenditures 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 Florida in 2001.

Margins

Retail sales were separated into manufacturing, wholesale and retail sub-categories because economic impact analyses treats each segment as separate industries. The amount of each retail sale attributed to each segment is known as a margin.

A margin is the percentage, or mark-up, of a sale attributable to either the retail, wholesale or manufacturing sector. For example, 70 percent of the final retail dollar value of a spotting scope sale may be attributed to the manufacturer, five percent to the wholesaler and 25 percent to the retailer. This means that the manufacturing industry has earned 70 percent of the final retail price, the wholesaler accrued five percent of the sale, and the retailer received 25 percent. Since there are no wholesale or manufacturing activities in the service sector, services are not subjected to the above process.

Data used to calculate trade margins are from the U.S. Department of Commerce Census of Trade series surveys (1999). These data sources contain national sales figures for most retail and wholesale industry sectors as well as gross margins. A gross margin is the revenue remaining after the cost of the goods sold is subtracted. 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 accrues to each sector. The manufacturing margin is derived by summing the retail and wholesale margins and subtracting the total from 100 percent.

The Input-Output Model

To estimate the economic impacts the data were analyzed with the Regional Input-Output model (RIMS-II). RIMS-II was developed by the U.S. Dept. of Commerce, Bureau of Economic Analysis for primary use by the Federal government.

Input-output models, such as RIMS-II, describe how sales in one industry impact other industries. For example, once a recreationist 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 industry X for its products or services. The RIMS-II model provides multipliers for all major industries in the U.S. The multipliers include direct, indirect and induced effects.

The RIMS-II model includes output, earnings and employment multipliers. The **output** multiplier measures the total economic effect from economic activity created by the original retail sale. The **earnings multiplier** measures the total salaries and wages generated from the economic activity created by the original retail sale. The **employment** multiplier estimates the number of jobs supported by the economic activity resulting from the original retail sale.

To apply the RIMS-II model, 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 during watchable wildlife recreational activities. 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.

Calculation of Tax Revenues

State sales tax estimates are based on state general and fuel sales tax rates. Sales tax revenues are calculated by multiplying all retail purchases, except fuel, by the 2001 state tax rate (excluding local and city taxes). Sales taxes were not calculated for excluded items (guide fees, public land access fees, memberships and dues to organizations). This was added to fuel tax revenues which were determined by multiplying total fuel purchases by the 2001 state fuel tax rate. Since the Survey does not include detailed information on food purchases, it was assumed that residents purchased food from both restaurants and grocery stores with one-third assigned to restaurants, whereas nonresidents purchased most of their food at restaurants within the state. As groceries are exempt from sales taxes, sales taxes were not applied to grocery sales estimated in this report.

Federal income tax revenues were calculated by dividing the total income generated by recreationists' expenditures by the total number of jobs supported by recreationists' expenditures. The result was the average income per job. From this, a standard deduction of \$3,980 was subtracted. The applicable tax rate was then applied according to the 2001 IRS tax schedule for single filers to determine the average tax paid per job. Finally, the average tax paid per job was multiplied by the total number of jobs to determine the total Federal income tax revenue generated by recreationists during 2001.

APPENDIX C

Economic Impact Tables for Specific Expenditure Items

2001 Economic Impacts:

RESIDENTS: Florida

<u>Category:</u>	Retail Sales: (direct impacts)	Total Multiplier Effect: (direct, indirect & induced impacts)	Salaries and Wages	Jobs (FT & PT)	State Sales Taxes	Federal Income Tax
Food	\$103,026,040	\$201,022,260	\$52,411,359	2,137	\$2,060,500	\$8,824,302
Lodging	\$43,606,097	\$89,575,644	\$28,230,587	1,215	\$2,616,366	\$5,014,250
Public transportation	\$78,246	\$157,150	\$47,942	2	n/a	\$6,417
Private transportation	\$63,213,957	\$92,696,355	\$17,138,279	623	\$3,792,837	\$2,571,786
Guide fees	\$5,117,794	\$9,657,790	\$2,834,234	130	n/a	\$537,946
Public land access fees	\$7,959,156	\$12,869,160	\$3,677,130	198	n/a	\$816,799
Private land access fees	\$4,763,711	\$8,989,599	\$2,638,143	121	\$285,823	\$500,727
Equipment rental	\$13,952,426	\$25,061,347	\$7,365,486	258	\$837,146	\$1,065,267
Boat fuel	\$22,867,873	\$33,533,235	\$6,199,833	225	\$2,429,712	\$930,353
Other boat costs	\$19,583,966	\$36,956,903	\$10,845,600	499	\$1,175,038	\$2,058,527
Heating & cooking fuel	\$2,664,008	\$3,906,476	\$722,254	26	\$159,840	\$108,382
Cameras	\$60,616,932	\$106,836,991	\$27,549,231	1,099	\$3,637,016	\$4,535,801
Film & developing	\$49,471,112	\$93,310,384	\$30,192,368	1,179	\$2,968,267	\$4,866,667
Commercial bird food	\$57,538,654	\$100,451,275	\$25,261,866	981	\$3,452,319	\$4,051,601
Other bird food	\$18,578,795	\$32,434,955	\$8,156,865	317	\$1,114,728	\$1,308,231
Food for other wildlife	\$23,814,535	\$41,575,537	\$10,455,573	406	\$1,428,872	\$1,676,907
Nest boxes, feeders	\$22,335,805	\$40,971,265	\$11,839,057	448	\$1,340,148	\$1,849,425
Other special equipment	\$4,594,408	\$8,427,667	\$2,435,259	92	\$275,665	\$380,421
Tents, tarps	\$9,871,775	\$18,877,226	\$5,689,552	239	\$592,306	\$987,308
Backpacking equipment	\$5,350,147	\$10,230,778	\$3,083,533	130	\$321,009	\$535,085
Other camping equipment	\$6,929,788	\$13,251,433	\$3,993,952	168	\$415,787	\$693,070
Day packs	\$11,332,754	\$21,670,971	\$6,531,581	275	\$679,965	\$1,133,425
Magazines & books	\$10,978,591	\$20,542,542	\$5,711,383	208	\$658,715	\$857,758
Binoculars & spotting scopes	\$15,094,465	\$29,223,797	\$9,279,337	323	\$905,668	\$1,334,876
Membership dues, contributions	\$19,773,741	\$42,199,140	\$13,954,329	710	n/a	\$2,931,102
Other equipment	\$7,246,600	\$13,857,255	\$4,176,545	176	\$434,796	\$724,756
Off-road vehicles	\$0	\$0	\$0	0	\$0	\$0
Pickup, camper, motor home (small sample caution)	\$532,687,570	\$916,646,086	\$178,391,560	6,600	\$31,961,254	\$27,247,464
Boat	\$0	\$0	\$0	0	\$0	\$0
Trailer, boat accessories	\$0	\$0	\$0	0	\$0	\$0
Cabin	\$0	\$0	\$0	0	\$0	\$0
Other equipment	\$0	\$0	\$0	0	\$0	\$0
Land purchases	\$4,529,125	\$7,479,850	\$1,320,240	53	\$271,748	\$219,724
Land leases	\$0	\$0	\$0	0	\$0	\$0
Plantings	\$25,795,128	\$46,279,251	\$14,153,815	651	\$1,547,708	\$2,686,099
TOTALS:	\$1,173,373,201	\$2,078,692,323	\$494,286,893	19,487	\$65,363,233	\$80,454,477
<i>ratio to retail sales:</i>		1.772	0.421	25,365	0.056	0.069
<i>Per Resident, annual:</i>	\$410.84	\$727.83	\$173.07	0.0068	\$22.89	\$28.17

2001 Economic Impacts:
NON - RESIDENTS: FLORIDA

	Retail Sales:	Total Multiplier Effect:	Salaries and Wages	Jobs (FT & PT)	State Sales Taxes	Federal Income Tax
<u>Category:</u>						
Food	\$114,846,047	\$224,085,211	\$58,424,428	2,383	\$2,296,898	\$9,836,699
Lodging	\$138,519,978	\$284,547,739	\$89,677,834	3,858	\$8,311,199	\$15,928,363
Public transportation	\$75,229,192	\$151,090,308	\$46,092,926	1,494	n/a	\$6,169,192
Private transportation	\$32,609,628	\$47,818,453	\$8,840,973	321	\$1,956,578	\$1,326,685
Guide fees	\$11,249,002	\$21,227,991	\$6,229,697	286	n/a	\$1,182,415
Public land access fees	\$1,930,812	\$3,121,930	\$892,035	48	n/a	\$198,147
Private land access fees	\$2,071,130	\$3,908,429	\$1,146,992	53	\$124,268	\$217,702
Equipment rental	\$10,746,882	\$19,303,549	\$5,673,279	199	\$644,813	\$820,524
Boat fuel	\$1,000,572	\$1,467,230	\$271,271	10	\$106,311	\$40,707
Other boat costs	\$338,053	\$637,940	\$187,214	9	\$20,283	\$35,534
Heating & cooking fuel	\$9,295	\$13,629	\$2,520	0	\$558	\$378
Cameras	\$6,853,270	\$12,078,849	\$3,114,680	124	\$411,196	\$512,812
Film & developing	\$2,173,531	\$4,099,625	\$1,326,512	52	\$130,412	\$213,819
Commercial bird food	\$57,041	\$99,583	\$25,043	1	\$3,422	\$4,017
Other bird food	\$0	\$0	\$0	0	\$0	\$0
Food for other wildlife	\$0	\$0	\$0	0	\$0	\$0
Nest boxes, feeders	\$1,327,158	\$2,434,448	\$703,458	27	\$79,629	\$109,890
Other special equipment	\$292,888	\$537,253	\$155,245	6	\$17,573	\$24,251
Tents, tarps	\$0	\$0	\$0	0	\$0	\$0
Backpacking equipment	\$253,807	\$485,340	\$146,280	6	\$15,228	\$25,384
Other camping equipment	\$161,653	\$309,120	\$93,168	4	\$9,699	\$16,167
Day packs	\$0	\$0	\$0	0	\$0	\$0
Magazines & books	\$382,695	\$716,078	\$199,089	7	\$22,962	\$29,900
Binoculars & spotting scopes	\$1,458,461	\$2,823,668	\$896,590	31	\$87,508	\$128,979
Membership dues, contributions	\$597,109	\$1,274,290	\$421,380	21	n/a	\$88,511
Other equipment	\$0	\$0	\$0	0	\$0	\$0
Off-road vehicles	\$0	\$0	\$0	0	\$0	\$0
Pickup, camper, motor home (small sample caution)	\$0	\$0	\$0	0	\$0	\$0
Boat	\$0	\$0	\$0	0	\$0	\$0
Trailer, boat accessories	\$0	\$0	\$0	0	\$0	\$0
Cabin	\$0	\$0	\$0	0	\$0	\$0
Other equipment	\$0	\$0	\$0	0	\$0	\$0
Land purchases	\$0	\$0	\$0	0	\$0	\$0
Land leases	\$0	\$0	\$0	0	\$0	\$0
Plantings	\$0	\$0	\$0	0	\$0	\$0
TOTALS:	\$402,108,203	\$782,080,664	\$224,520,613	8,940	\$14,238,537	\$36,910,076
<i>ratio to retail sales:</i>		1.945	0.558	25,114	0.035	0.092
<i>Per Non-Resident, annually:</i>	\$820.63	\$1,596.08	\$458.21	0.02	\$29.06	\$75.33

2001 Economic Impacts:
NON-RESIDENTS + RESIDENTS: FLORIDA

	Retail Sales:	Total Multiplier Effect:	Salaries and Wages	Jobs (FT & PT)	State Sales Taxes	Federal Income Tax
<u>Category:</u>						
Food	\$217,872,087	\$425,107,471	\$110,835,787	4,520	\$4,357,398	\$18,661,001
Lodging	\$182,126,075	\$374,123,383	\$117,908,421	5,073	\$10,927,564	\$20,942,613
Public transportation	\$75,307,438	\$151,247,458	\$46,140,867	1,496	n/a	\$6,175,609
Private transportation	\$95,823,584	\$140,514,807	\$25,979,252	944	\$5,749,415	\$3,898,471
Guide fees	\$16,366,796	\$30,885,781	\$9,063,932	417	n/a	\$1,720,361
Public land access fees	\$9,889,968	\$15,991,089	\$4,569,165	246	n/a	\$1,014,946
Private land access fees	\$6,834,841	\$12,898,028	\$3,785,135	174	\$410,090	\$718,430
Equipment rental	\$24,699,307	\$44,364,896	\$13,038,764	457	\$1,481,958	\$1,885,792
Boat fuel	\$23,868,446	\$35,000,465	\$6,471,104	235	\$2,536,022	\$971,060
Other boat costs	\$19,922,019	\$37,594,843	\$11,032,814	507	\$1,195,321	\$2,094,061
Heating & cooking fuel	\$2,673,302	\$3,920,106	\$724,774	26	\$160,398	\$108,760
Cameras	\$67,470,203	\$118,915,841	\$30,663,911	1,223	\$4,048,212	\$5,048,613
Film & developing	\$51,644,643	\$97,410,009	\$31,518,881	1,231	\$3,098,679	\$5,080,486
Commercial bird food	\$57,595,695	\$100,550,858	\$25,286,910	982	\$3,455,742	\$4,055,618
Other bird food	\$18,578,795	\$32,434,955	\$8,156,865	317	\$1,114,728	\$1,308,231
Food for other wildlife	\$23,814,535	\$41,575,537	\$10,455,573	406	\$1,428,872	\$1,676,907
Nest boxes, feeders	\$23,662,963	\$43,405,712	\$12,542,515	475	\$1,419,778	\$1,959,315
Other special equipment	\$4,887,296	\$8,964,920	\$2,590,503	98	\$293,238	\$404,673
Tents, tarps	\$9,871,775	\$18,877,226	\$5,689,552	239	\$592,306	\$987,308
Backpacking equipment	\$5,603,954	\$10,716,118	\$3,229,813	136	\$336,237	\$560,470
Other camping equipment	\$7,091,441	\$13,560,553	\$4,087,120	172	\$425,486	\$709,238
Day packs	\$11,332,754	\$21,670,971	\$6,531,581	275	\$679,965	\$1,133,425
Magazines & books	\$11,361,286	\$21,258,620	\$5,910,472	215	\$681,677	\$887,658
Binoculars & spotting scopes	\$16,552,926	\$32,047,465	\$10,175,927	355	\$993,176	\$1,463,855
Membership dues, contributions	\$20,370,850	\$43,473,430	\$14,375,708	731	n/a	\$3,019,612
Other equipment	\$7,246,600	\$13,857,255	\$4,176,545	176	\$434,796	\$724,756
Off-road vehicles	\$0	\$0	\$0	0	\$0	\$0
Pickup, camper, motor home (small sample caution)	\$532,687,570	\$916,646,086	\$178,391,560	6,600	\$31,961,254	\$27,247,464
Boat	\$0	\$0	\$0	0	\$0	\$0
Trailer, boat accessories	\$0	\$0	\$0	0	\$0	\$0
Cabin	\$0	\$0	\$0	0	\$0	\$0
Other equipment	\$0	\$0	\$0	0	\$0	\$0
Land purchases	\$4,529,125	\$7,479,850	\$1,320,240	53	\$271,748	\$219,724
Land leases	\$0	\$0	\$0	0	\$0	\$0
Plantings	\$25,795,128	\$46,279,251	\$14,153,815	651	\$1,547,708	\$2,686,099
TOTALS:	\$1,575,481,403	\$2,860,772,987	\$718,807,506	28,427	\$79,601,770	\$117,364,553
<i>ratio to retail sales:</i>		1.816	0.456	25,286	0.051	0.074
<i>Per Participant: Resident or Non-Resident, annually:</i>	\$486.26	\$882.95	\$221.85	0.0088	\$24.57	\$36.22

APPENDIX D

Florida Watchable Wildlife Recreation Facts

1. Watchable wildlife recreation supports more jobs in-state than employed by Burdines or Florida Power & Light, two of Florida's largest employers (*source: Miami Herald, Miami.com*).
2. Wildlife watching, photography and feeding is enjoyed by 2.86 million Florida residents – nearly twenty percent more than the population of the Tampa/St. Petersburg/Clearwater metropolitan area (*U.S. Fish and Wildlife Service, U.S. Census Bureau*).
3. One of every six Florida residents participates in some form of wildlife watching activities (*16.4 million state residents in 2001 per U.S. Census Bureau, and 2.86 million wildlife watching participants residing in FL*).
4. Florida ranks as the fourth highest state (after California, New York and Pennsylvania, tied with Texas) in the number of people participating in watchable-wildlife recreation (*U.S. Fish and Wildlife Service's 2001 National Survey of Fishing, Hunting and Wildlife-Associated Recreation*).
5. With 490,000 visitors per year, more people travel to Florida to view wildlife than any other state, and 22 percent more than the second-place state, Oregon (*source: U.S. Fish and Wildlife Service's 2001 National Survey of Fishing, Hunting and Wildlife-Associated Recreation*).
6. In 2001, all state residents who participated in Florida's watchable wildlife recreation could fill FSU's Doak Campbell Stadium nearly 41 times and UF's Ben Hill Griffin Stadium at Florida Field nearly 39 times (*source: ballparks.com, stadium capacities = 80,000 and 84,000 respectively*).
7. In 2001, state residents who participated in Florida's watchable wildlife recreation could fill:
 - a. Tampa's Raymond James Stadium over 43 times,
 - b. Miami's Pro Player Stadium over 38 times, and
 - c. Jacksonville's Alltel Stadium over 39 times.(*source: ballparks.com, and the U.S. Fish and Wildlife Service's 2001 National Survey of Fishing, Hunting and Wildlife-Associated Recreation*).
8. In 2001, out-of-state visitors to Florida equaled the population of Wyoming, bringing \$402 million into the state economy (*source: U.S. Fish and Wildlife Service's 2001 National Survey of Fishing, Hunting and Wildlife-Associated Recreation; U.S. Census Bureau; 490,000 non-residents viewing wildlife in 2001 and 494,000 residents in Wyoming*).
9. The number of people participating in watchable wildlife recreation in Florida approximates the population of Connecticut (*source: U.S. Fish and Wildlife Service and U.S. Census Bureau, 3.24 million watchable wildlife participants in Florida (residents and non-residents) compared to 3.425 million residents of Connecticut*).

10. Approximately the same number of people participated in watchable wildlife recreation in Florida than voted for either candidate in the 2000 presidential election (*2.86 million residents participated in watchable wildlife recreation, 2.913 million people voted for Bush and 2.912 million voted for Gore; source: U.S. Federal Elections Commission*).
11. The annual sales tax revenues generated from wildlife watching activities in Florida could pay the yearly tuition for up to 34,300 state residents to the University of Florida and Florida State University (*based on 2001 data, \$79.6 million state tax revenues, average annual tuition to UF and FSU reported by Information Please Almanac to be \$2,318*).
12. The amount spent on wildlife watching in Florida in 2001 was five times larger than the tolls collected by the Florida Turnpike System (*Based on Option #1 expenditures, \$1.575 billion versus \$311 million; source: Florida Dept of Transportation*).
13. If the jobs supported by wildlife watching expenditures were to disappear, the state unemployment rate would jump from 5.3 percent to 5.7 percent (*as of September, 2002; data source: U.S. Bureau of Labor Statistics, based on Option #1 expenditures*).
14. The total jobs supported by Florida wildlife watchers is greater than the unemployed workforce in the Jacksonville metropolitan area (*26,000 unemployed as of September, 2001; 28,427 employed in state by wildlife watchers' dollars; data source: U.S. Bureau of Labor Statistics*).
15. The total spent annually in Florida for watchable wildlife recreation is twice as much as the value of the state's annual orange crop harvest (*\$786 million in 2001, per the USDA Economic Research Service; \$1.575 billion spent on watchable wildlife recreation, source: U.S. Fish and Wildlife Service's 2001 National Survey of Fishing, Hunting and Wildlife-Associated Recreation, based on Option #1 expenditures*).
16. The total spent annually in Florida for watchable wildlife recreation is slightly larger than the value of "nursery and greenhouse" products – the State's largest agricultural commodity (*\$1.518 billion in 2001 compared to \$1.575 billion spent on watchable wildlife recreation; sources: USDA Economic Research Service (2001) and the U.S. Fish and Wildlife Service's 2001 National Survey of Fishing, Hunting and Wildlife-Associated Recreation, based on Option #1 expenditures*).
17. Watchable wildlife recreation in Florida generates enough jobs to employ the residents of Key West, or Fort Walton Beach (*data source: U.S. Bureau of the Census, <http://eire.census.gov>, based on Option #1 expenditures*).
18. The economic activity generated in Florida by wildlife viewing activities is greater than the gross national product of Sierra Leone (*data source: CIA 2000 World Factbook and the U.S. Census Bureau, as reported in the 2002 Information Please Almanac*).
19. Wildlife viewing-related expenditures in Florida are greater than all sales of camping equipment nationally, and half as large as all sales of golf equipment nationally (*source: National Sporting Goods Association and the U.S. Fish and Wildlife Service; \$1.575 billion for watchable wildlife in Florida based on Option #1, and \$1.37 billion for camping equipment and \$3.874 billion for golf equipment*).
20. In 2001, up to five times more was spent in Florida for watchable wildlife recreation than spent at box offices nationally for "Harry Potter and the Sorcerer's Stone" – the top

grossing film in the U.S. in 2001 (\$1.575 billion million (Option #1) v. \$318 million total box office receipts; data source: *The Movie Times*).

21. The total state tax revenues produced by watchable wildlife recreation is enough to purchase up to 106,000 personal computers, internet-ready, for public schools (source: *Dell online, education price of \$745 each, as advertised December, 2002*).
22. The federal income tax revenues generated by Florida watchable wildlife recreation is enough to pay the annual wages for up to 6,770 U.S. Army troops (source: *Office of the Under Secretary of Defense for Personnel and Readiness, January 2002 pay rate of \$1,443.60 per month for enlisted level E-4*).
23. The state sales tax revenue generated by watchable wildlife activity in Florida could fund the annual salaries for up to 2,200 more teachers (source: *National Center for Education Statistics*).