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ECONOMIC CONTRIBUTION OF  
RECREATING VISITORS TO  
THE FLORIDA KEYS/KEY WEST

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THE FLORIDA KEYS & KEY WEST  
*Come as you are*

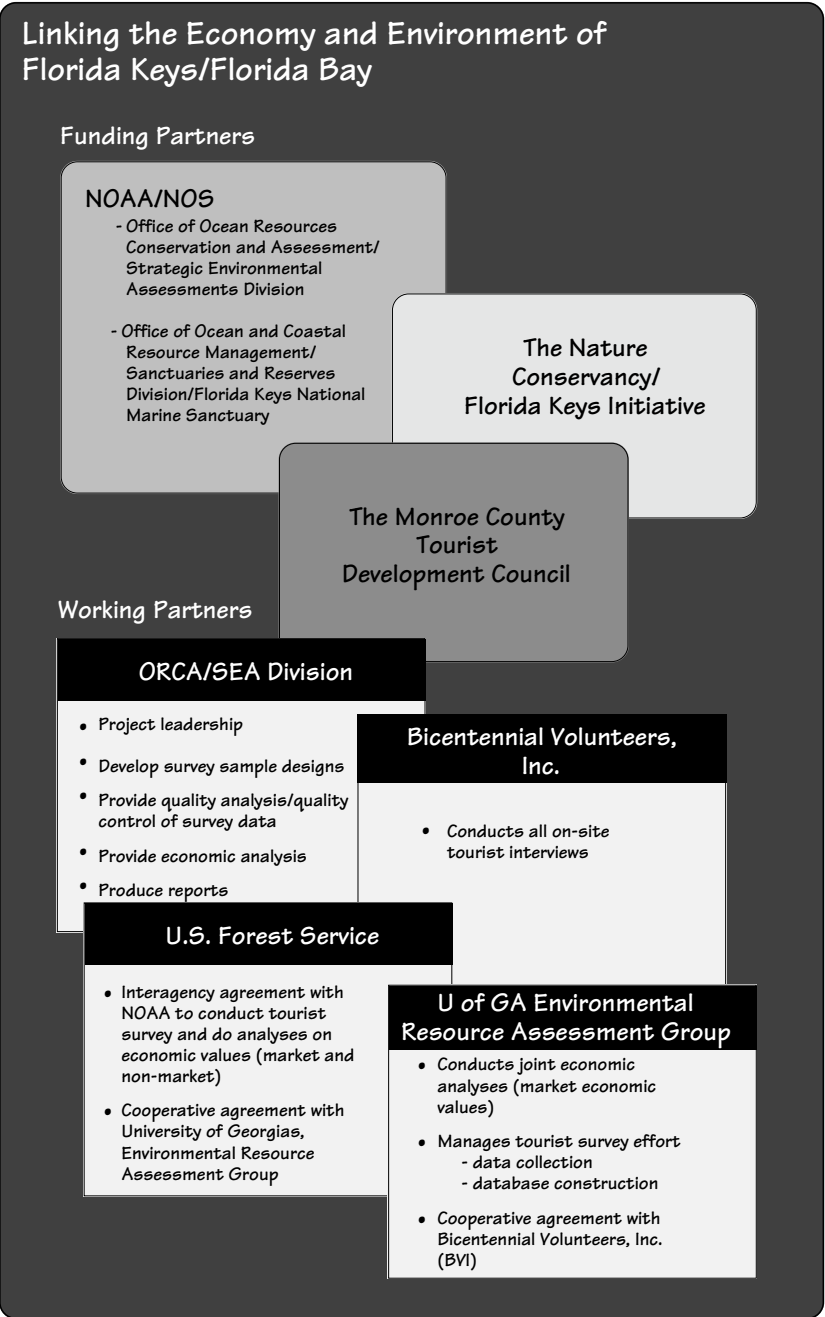
Monroe County Tourist Development Council

The  
Nature  
Conservancy  
Florida Keys Initiative



# Linking the Economy and Environment of Florida Keys/Florida Bay

## ECONOMIC CONTRIBUTION OF RECREATING VISITORS TO THE FLORIDA KEYS/KEY WEST



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# Table of Contents

**List of Tables** ..... i

**List of Figures** ..... i

**List of Appendix Tables** ..... i

**Introduction** ..... 1

**Baseline Economy** ..... 2

    Special Features ..... 2

    Historical Perspective ..... 4

**Definitions** ..... 5

**Summary of Results** ..... 6

    Monroe County ..... 6

    South Florida ..... 7

**Methods** ..... 9

    Background Concepts ..... 9

    Survey Design ..... 10

    Expenditures ..... 10

**References** ..... 14

## List of Tables

Table	Page
1	Income by Place of Work as a Percentage of Income by Place of Residence for the U.S., Florida and Monroe County ..... 2
2	Inter-county Commuting Patterns ..... 2
3	Proprietors' Employment as a Percentage of Total Employment for the U.S., Florida and Monroe County ..... 3
4	Historical Data for Sales, Income and Employment for Monroe County ..... 4
5	Estimated Economic Contribution of Tourist/Recreational Activities ..... 6
6	Summary of Average Trip Expenditures Per Person ..... 11
7	Summary of Selected Annual Expenditures Per Person Per Trip ..... 12
8	Summary of Total Trip Expenditures Per Person ..... 13

## List of Figures

Figure	Page
1	Monthly Non-proprietor Employment in Monroe County: 1989 - 1992 ..... 4
2	Impact Process Due to Visitor Spending in Monroe County ..... 6
3	Impact Process Due to Visitor Spending in South Florida ..... 7

## List of Appendix Tables

<b>Appendix Tables</b>		16
Table A.1.a	Detailed Direct Expenditure Impact (millions of \$): June - November, 1995	17
Table A.1.b	Detailed Direct Expenditure Impact (millions of \$): December 1995 - May 1996	19
Table A.1.c	Detailed Direct Expenditure Impact, Selected Annual Expenditures	21
Table A.2	Wages-to-Sales and Wages-to-Employment Ratios by SIC	21
Table A.3	Estimate of the Economic Effects Resulting from Visitor Expenditures to South Florida	22
Table A.4	Economic Impact Multipliers	22
Table A.5	Total Economic Impacts from Visitor Spending in the 3-County Region, Industrial Groups Aggregated to the 1-digit SIC Level.	23

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## Introduction

This research is part of a project examining economic issues related to recreation visitation in the Florida Keys. The project is the result of a community meeting held in Key Largo in September 1993. Many members of the Keys community attended, including representatives of local government, Chambers of Commerce, private businesses, local nonprofit organizations, and state and federal officials. The meeting was organized by Duncan Mathewson of the Center for Shipwreck Research and Ken Vrana and Ed Mahoney from Michigan State University's Center for Maritime and Underwater Resources Management (CMURM) at the request of Spencer Slate, Chairman of the Keys Association of Dive Operators (KADO). Various information needs and objectives were discussed and each of the attendees was asked to submit how they thought the organizations they represent could support a research effort. In October 1994, The National Oceanic and Atmospheric Administration (NOAA), The Nature Conservancy (TNC) and The Monroe County Tourist Development Council (TDC) jointly submitted a proposal for funding to NOAA's National Ocean Service (NOS) Partnership Project. This project was one of six funded by NOS in 1994.

The project has five overall goals, which are to: 1. estimate of the number of residents and visitors to the Florida Keys and Florida Bay by type of use, along with an estimate of the extent of use by geographic areas (Upper Keys, Middle Keys, Lower Keys and Key West); 2. develop from survey data profiles of residents and visitors including information on age, race, sex, income, education, place of residence, activity participation, spending in the local and

regional economy, and satisfaction ratings with respect to facilities and the quality of the natural environment; 3. estimate the economic contribution (sales, employment and income) of both resident and visitor recreational uses of the Florida Keys and Florida Bay to the Monroe County economy and the South Florida regional economy; 4. estimate the net economic user value of marine resources in the Florida Keys and Florida Bay; and 5. assess the importance of water quality and abundance and diversity of sea life as attractions for visitors engaged in water-based activities in the Florida Keys and Florida Bay.

This report, an economic impact analysis, addresses the third of these five goals. It is submitted in partial fulfillment of an interagency agreement between the University of Georgia, the Southern Forest Research Station, and NOAA.

Economic impact analyses of recreation sites are designed to answer the question: How much does an activity contribute to the local economy? Impacts are determined by three different factors: the structure of the local economy, the amount and type of spending visitors do while on trips to the recreation site, and the total level of visitation. Depending on the assumptions about the site and its visitation, spending by residents of the local economy may be excluded from the analysis. Although visitation to the Florida Keys/Florida Bay may contribute to the economies of many nearby counties, our analysis is limited to two small impact areas: one includes Monroe County only; the second includes Monroe, Dade and Broward counties. For flexibility in examining results of possible policy changes, we do separate analyses for summer (June - November 1995) and winter (December 1995 - May 1996) visitors. An overview

of the baseline economy is discussed in the next section, followed by definitions of the various concepts used in the analysis, a summary of results, and an explanation of the methodology used in the analysis.

## Baseline Economy

### Special Features

There are several special features of the Monroe County economy that make analysis of the contribution of one sector (tourists) more difficult. Two key sectors of the economy, "tourism" and "retirement," account for most income in the county. Special attention is required in order to avoid overestimating the contribution of tourists. Monroe County is also connected to the larger South Florida economy in so many ways that it is difficult to analyze the separate contribution of tourism to Monroe County alone. In doing so, we utilized several pieces of information about the special features of the Monroe County economy to aid in selecting appropriate methods and checking our results. Each of these special features is discussed below.

**Place of Work versus Place of Residence.** Compared to Florida as a whole, Monroe County's income by place of work as a percentage of income by place of residence is much lower. Table 1 shows the percentages for 1989 through 1994. In 1994, Monroe County's income by place of work as a percentage of income by place of residence was 50.52 percent while the percentage for Florida as a whole was 61.32 percent. This is due in large part to the amount of income in transfer payments flowing into the county. There are a high number of retired people living in the Keys who are drawing pensions, retirement pay, dividends and interest on investments, and social security. This creates a base of income in Monroe County that is independent of employment. Retirement in Florida and Monroe County is what economists call a "basic industry." Basic industries

Table 1. Income by Place of Work as a Percentage of Income by Place of Residence for the U.S., Florida and Monroe County

	Income by Place of Residence <sup>1</sup>	Income by Place of Work	Percentage
1989			
Florida	228,024.443	139,640.381	61.24%
Monroe County	1,549.638	795.473	51.33%
1990			
Florida	244,604.378	149,094.249	60.95%
Monroe County	1,673.438	855.311	51.11%
1991			
Florida	255,028.668	154,627.756	60.63%
Monroe County	1,735.216	883.311	50.90%
1992			
Florida	265,729.633	164,550.621	61.92%
Monroe County	1,793.998	939.366	52.36%
1993			
Florida	285,248.059	175,169.736	61.41%
Monroe County	1,976.637	1,013.430	51.27%
1994			
Florida	302,099.041	185,236.774	61.32%
Monroe County	2,068.322	1,044.824	50.52%

1. Dollars in Thousands

Source: Regional Economic Information System, Bureau of Economic Analysis, U.S. Department of Commerce

Table 2. Inter-county Commuting Patterns

Residents that work in the County	<b>38,139</b>
Residents that commute to work outside the county	<b>2,172</b>
Further Breakdown	
Broward County	227
Collier County	31
Dade County	1,727
Orange County	20
Palm Beach County	31
Sarasota County	5
Other Counties	2,041
Other States	131
Outside the Country	546
Non-residents that work inside the County	<b>2,046</b>
Further Breakdown	
Broward County	186
Collier County	20
Dade County	1,801
Palm Beach County	39
Net	<b>-126</b>

Source: Regional Economic Information System, Bureau of Economic Analysis, U.S. Department of Commerce

derive their demand from outside the area of location. Sometimes they are referred to as "export industries" because they export goods and services to other areas (this term wouldn't apply to retirement). However, retirement is basic in that the income that flows into the local economy results in demand for local goods and services. It is "new money" arriving in the economy that becomes a driving force in the economy, creating income and employment. The same is true of the tourist industry.

Another explanation for the significant difference between income by place of work and income by place of residence is intercounty commuters. There are a significant number of residents of Monroe County working outside the county and non-residents working inside the county. Table 2 shows the number of commuters coming into (going out of) the county and where they are coming from (going to). The net transfer of commuters is -126. In other words, there are 126 more commuters leaving Monroe County than there are coming in. In 1994, net income to Monroe County was about \$67 million. Residents of Monroe County that work outside the county brought in \$116.5 million, and non-residents of Monroe County that work in Monroe County took out \$49.5 million. The Keys as a "bedroom community" for other counties in South Florida is also a basic industry.

**Proprietors' Employment as a Percentage of Total Employment.** Another important issue to consider is the proportion of proprietors' income in relation to the total. The percentage for Monroe County is considerably higher than for both Florida and the country as a whole. Table 3 shows proprietors' employment as

Table 3. Proprietors' Employment as a Percentage of Total Employment for the U.S., Florida and Monroe County

	Proprietors' Employment	Total Employment	Percentage
1989			
U.S.	19,979,800	136,413,800	14.65%
Florida	913,369	6,629,138	13.78%
Monroe County	7,696	42,546	18.09%
1990			
U.S.	20,995,300	138,981,300	15.11%
Florida	995,624	6,832,045	14.57%
Monroe County	8,492	44,276	19.18%
1991			
U.S.	21,685,500	137,737,500	15.74%
Florida	1,046,386	6,784,758	15.42%
Monroe County	9,154	44,344	20.64%
1992			
U.S.	21,730,400	138,473,400	15.69%
Florida	1,064,441	6,874,166	15.48%
Monroe County	9,560	44,746	21.37%
1993			
U.S.	21,989,500	140,817,500	15.62%
Florida	1,079,813	7,103,222	15.20%
Monroe County	9,911	46,632	21.25%
1994			
U.S.	22,341,500	144,390,500	15.47%
Florida	1,100,782	7,362,288	14.95%
Monroe County	10,163	46,784	21.72%

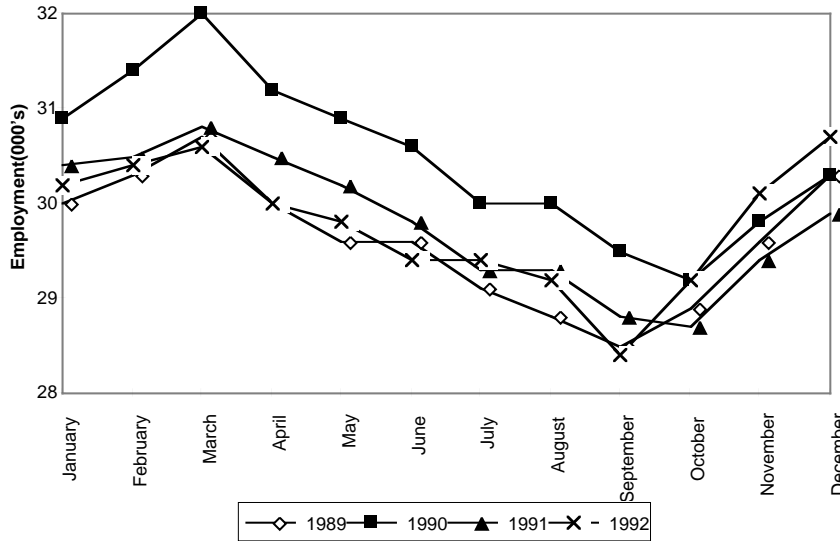
Source: Regional Economic Information System, Bureau of Economic Analysis, U.S. Department of Commerce

a percentage of total employment for the U.S., Florida and Monroe County. In 1994, proprietors' employment as a percentage of total employment in Monroe County was 21.72 percent, while in Florida it was 14.95 percent and in the U.S. as a whole it was 15.47 percent. The high proportion of proprietors' to wage employment reflects the dominance of the many small businesses in the tourist industry.

**Seasonality.** In a region like the Florida Keys where tourism dominates the economic activity, an important aspect is the ups and downs of the economy during the year, i.e., seasonality. Figure 1 shows monthly non-proprietor

employment in Monroe County for 1989 through 1992. Employment is at its highest level from December - April (the heart of the winter tourist season), declines steadily from May-October, then begins increasing in November, signaling the beginning of the winter tourist season. From 1989-1992, 1990 was the year with the highest degree of employment change. Employment reached a high of 32,040 in March and a low of 29,209 in October (an 8.8 percent change). Even this amount of change is not that extreme. A possible reason for this low level of change is the dampening effect that transfer payments have on the seasonality pattern. As discussed above, transfer pay-

Figure 1. Monthly Non-proprietor Employment in Monroe County: 1989 - 1992



Source: Mulkey, David and Charles Adams, 1994. *Monroe County: An Economic Overview* Final Report of a Component Study (Volume II) for the Economic Adjustment Assistance Development Grant for Monroe County (UF Acct., No. 7306186-13) University of Florida, Gainesville, FL.

ments form a base of income in Monroe County that is independent of employment (as a source of income), but is an important driving force in creating income and employment.

### Historical Perspective

In economic impact analyses it is important to know if the year during which you surveyed is a "typical" year. By this we mean, was this a good or bad year, was there a recession in the U.S. economy, and if so, how might it have affected the local economy? In Table 4, gross sales, income (by place of work) and employment data were compiled for the years 1989 through 1995. Sales, after increasing slightly between 1989 and 1990, then decreasing slightly in 1991, had robust growth in 1992 and 1993 (8.13 percent and 11.24 percent, respectively), then slowed in 1994 (to an increase of 3.56 percent). During our survey period (June 1995 - May 1996) sales picked up again to **\$2.203 billion** (an increase of 9.51 percent). Income showed fairly consistent growth between 1989 and 1995 ranging between 3.31 percent in 1991 to 7.88 percent in 1993. In our survey period income was **\$1.123 billion** (a growth of 7.55 percent from 1994). Employment had fairly slow growth in general with two years of growth over 4 percent (1990 and 1993). During our survey period, employment was **47,000**, an increase of 0.4 percent from 1994. In our judgment, the period of study (June 1995 - May 1996) was a little better than average, so our conclusions about the economic contribution of tourism to the local economy are not significantly over- or underestimated.

Table 4. Historical Data for Sales, Income and Employment for Monroe County

	(\$000's)/ Employment	% Change
1989 Sales	1,594,096	
Income	795,473	
Employment	42,546	
1990 Sales	1,636,212	2.64%
Income	855,311	7.52%
Employment	44,276	4.07%
1991 Sales	1,615,442	-1.27%
Income	883,614	3.31%
Employment	44,344	0.15%
1992 Sales	1,746,707	8.13%
Income	939,366	6.31%
Employment	44,746	0.91%
1993 Sales	1,942,961	11.24%
Income	1,013,430	7.88%
Employment	46,632	4.21%
1994 Sales	2,012,035	3.56%
Income	1,044,824	3.10%
Employment	46,784	0.33%
1995/1996 <sup>1</sup>		
Sales	2,203,305	9.51%
Income	1,123,686	7.55%
Employment	47,000	0.46%

1. Survey period: June 1995 - May 1996

Source: Florida Department of Revenue and Regional Economic Information System, Bureau of Economic Analysis, U.S. Department of Commerce



## Definitions

When a local economy experiences an increase in spending by visitors, residents of that economy benefit by more than just the dollar amount of the goods and services purchased. This is because the businesses serving tourists must increase the amount of labor, goods and services they buy in order to produce the additional goods and services. Thus, the businesses that have experienced increased tourist spending will have a ripple effect on the other businesses that supply them, and those businesses, in turn, affect others on down the supply chain. Economists call the initial spending activity the "direct effect," and the subsequent ripples are the "indirect" and "induced" effects. The indirect and induced effects are also called the multiplier impacts. See the box at right for detailed definitions of these and related terms.

- **Direct Effects:** The amount of the increased purchase of inputs used to manufacture or produce the final goods and services purchased by visitors.
- **Indirect Effects:** The value of the inputs used by firms that are called upon to produce additional goods and services for those firms first impacted directly by recreational spending.
- **Induced effects:** Result from the direct and indirect effects of recreation spending. Induced effects are related to persons and businesses that receive added income as a result of local spending by employees and managers of the firms and plants that are impacted by the direct and indirect effects of recreational spending. This added income results in increased demand for goods and services and, in turn, increased production and sales of inputs.
- **Total Effect:** The sum of direct, indirect, and induced effects (Walsh et al. 1987). Typically, the total effects are between 1.5 to 2 times more than the amount that the visitors originally spent in the local economy.
- **Total Output:** The value of all goods and services produced by the industries in a sector. For an economy as a whole, total output double-counts the value of production because it accounts for all sales; intermediate outputs are counted every time they are sold. In terms of direct impacts, the additional total output caused by visitor expenditures is equal to the increased final demand, and the increased final demand will roughly equal the dollar value of visitor expenditures, minus the value of items that have to be imported into the region.
- **Value Added:** Total output minus the value of inputs to a sectors' production. As such, value added is the net benefit to an economy, and it contains the sum of employee compensation, indirect business taxes, and property income.
- **Total Income:** The sum of property income and employee compensation.
- **Employment:** The number of full-time job equivalents or the sum of full-time and part-time employees, depending on the context of analysis (this is explained in greater detail in the "Summary of Results.")

## Summary of Results

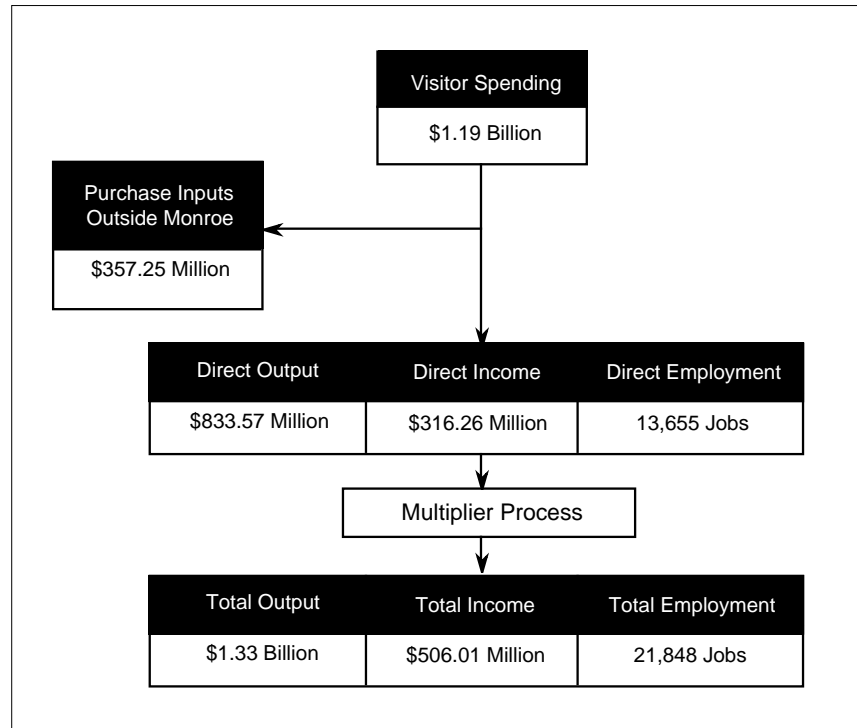
### Monroe County

Figure 2 summarizes the estimated economic contribution of recreating visitors to the Florida Keys/Key West. During the survey period (June 1995 - May 1996), visitors spent an estimated \$1.19 billion. Of these expenditures \$357.25 million, or about 30 percent, was spent to purchase inputs outside Monroe County. An example of this may be telephone service. When a merchant sends his phone bill outside the county, only a portion of this money remains in the county to support operations. So the direct impact on the local economy is less than the total initial spending.

The direct effects are the amount of the increased purchase of inputs used to manufacture or produce the final goods and services purchased by visitors. In the case of Monroe County, this translated to \$833.57 million in direct output (sales), \$316.26 million in direct income, and 13,655 jobs in direct employment.

As mentioned previously, businesses that have experienced increased tourist spending will have a ripple effect on the other businesses that supply them. This is represented in Figure 2 by the multiplier effect, which yields the total effects shown at the bottom of the figure. The total estimated output is \$1.33 billion, the total

Figure 2. Impact Process Due to Visitor Spending in Monroe County



estimated income is \$506.01 million and the estimated total employment is 21,848 jobs.

For these numbers to be meaningful, we must be able to compare them to the Monroe County baseline economy. Table 5 shows the official reported output (sales), income and employment for the survey period in Monroe County. The official reported output for the survey period was about \$2.20 billion. The estimated total tourist contribution was \$1.33 billion or about 60.53 percent. The total estimated tourist contribution to income, \$506.01 million, was

about 45.03 percent of the official reported income of \$1.12 billion. The official reported employment was 47,000 jobs. The estimated total tourist contribution to employment was 21,848 jobs, or about 46.49 percent. As we can see, tourist contribution to the economy of Monroe County is very significant. For details by season see appendix tables A.3 and A.4 (p. 22).

Table 5. Estimated Economic Contribution of Tourist/Recreational Activities

	Official Reported <sup>1,2</sup>	Estimated Tourist Contribution		
		Direct	Total	% of Economy
Output	\$2,203,305,357	\$833,574,666	\$1,333,719,466	60.53%
Income	\$1,123,685,732	\$316,257,815	\$506,012,504	45.03%
Employment	47,000	13,655	21,848	46.49%

1. Source (Output): Florida Department of Revenue

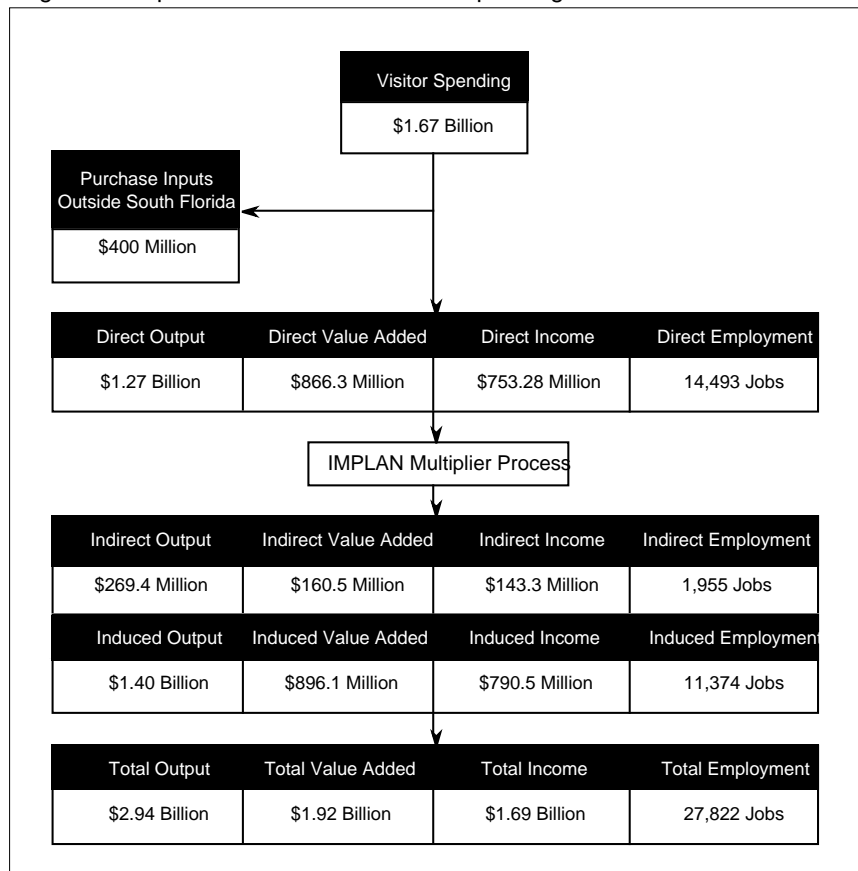
2. Source (Income and Employment): Regional Economic Information System, Bureau of Economic Analysis, U.S. Department of Commerce

## South Florida

Tourist visitation to the Florida Keys/Key West has economic impacts beyond Monroe County. One direct impact is that visitors traveling through other counties on their way may stop and purchase something. Many visitors fly to other South Florida airports and rent vehicles on their way to the Florida Keys/Key West. Also, visitors are defined as non-residents of Monroe County that participated in at least one recreation activity in the Florida Keys/Key West. Thus, many South Florida residents are visitors and spend money in their home counties in preparation for their trips to the Florida Keys/Key West. All of these types of spending were included in our analysis. Still, the impacts go further. Monroe County businesses are highly connected to other businesses throughout South Florida. Much of the inputs for producing goods and services in the Florida Keys/Key West are supplied by businesses in other South Florida counties, including such basics as water and electricity and solid waste disposal. And, as shown in the discussion of Monroe County's baseline economy, the Florida Keys/Key West is dependent on workers from outside Monroe County. Therefore, the economic contribution by recreating visitors goes beyond Monroe County. We have extended the analysis to include the contributions to Dade and Broward Counties. The South Florida economic contribution of recreating visitors includes the contribution to the three-county area (Dade, Broward and Monroe Counties).

Figure 3 summarizes the estimated economic contribution of recreating visitors to the Florida Keys/Key West. During the survey period (June 1995 - May 1996), visitors spent an estimated \$1.67 billion. Of these expendi-

Figure 3. Impact Process Due to Visitor Spending in South Florida



tures, \$400 million, or about 24 percent was spent to purchase inputs outside South Florida.

The direct effects are the amount of the increased purchase of inputs used to manufacture or produce the final goods and services purchased by visitors. In the case of South Florida, this translated to \$1.27 billion in direct output (sales), \$866.3 million in value-added, \$753.28 million in direct income, and 14,493 jobs in direct employment. These employment numbers are different from those reported for Monroe County. Employment here is in terms of full-time equivalent employment.

Again, businesses that have experienced increased tourist spending will have a ripple effect on the other businesses that supply them. This is represented in Figure 3 by the multiplier effect,

which yields two separate impacts: the indirect and induced impacts (see "Definitions" on p. 5).

**Output.** The indirect impact was \$269.4 million, while the induced impact was \$1.4 billion. These figures, added to the direct output of \$1.27 billion, yield a total output impact of \$2.94 billion on South Florida.

**Value added.** The indirect impact was \$160.5 million, while the induced impact was \$896.1 million. These figures added to the direct value-added of \$866.3 million, yield a total value-added impact of \$1.92 billion.

**Income.** The indirect impact was \$143.3 million, while the induced impact was \$790.5 million. These figures added to the direct income of \$753.28 million, yield a total income impact of \$1.69 billion.

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**Employment.** The indirect impact was 1,955 jobs, while the induced impact was 11,374 jobs. These figures, added to the direct impact of 14,493 jobs, yield a total impact of 27,822 full-time equivalent jobs.

For greater details by season and by sector for South Florida see appendix tables A.3 and A.5 (pp. 22-23).

**Net contribution to Dade and Broward Counties.** Visitors to the Florida Keys/Key West made an economic contribution to Dade and Broward Counties of about \$1.61 billion in output (sales), \$1.37 billion in income, and about 8,300 full-time equivalent jobs. Thus, the economies of Dade and Broward Counties are somewhat connected to recreation/tourism in the Florida Keys/Key West, and these activities are highly dependent on the quality of the natural resources and environment of the Florida Keys/Key West. As a result, Dade and Broward Counties also have an economic stake in the protection of the environment of the Florida Keys/Key West.

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## Methods

### Background Concepts

According to export base theory, economic growth in an economy is due to growth in exports. Purchases of local goods by nonresidents are exports, as they bring outside dollars into the local region. Thus, impacts in an economy attributable to recreation are traceable to nonresidents who spend money for locally sold goods and services while on recreation trips (English and Bergstrom 1994). In essence, food, lodging, and similar items purchased during a recreation trip are "exported" to people living outside the local economy.

This study used two different methods of regional economic analysis. For the three-county model we used input-output analysis, which is one of the most widely applied methods in regional economic analysis (Miller and Blair, 1985). Input-output models basically consist of a system in which linear equations are used to describe the linkages among production sectors in a given economy. The I-O component of our model is the IMPLAN model. Through IMPLAN, one can construct a tailor-made I-O model for any group of counties or states (Alward et al. 1985). IMPLAN has 528 industrial sector categories that can account for a variety of recreation purchase patterns (Alward and Lofting 1985). Software modules calculate the direct, indirect and induced effects of recreational spending or other final demand vectors. Interindustry linkages in the local economy determine the total output, value added, personal income, and employment impacts. The advantages and disadvantages of IMPLAN are discussed elsewhere

(Alward and Lofting 1985; Alward et al. 1985; Propst 1985; Hotvedt et al. 1988).

Expenditure items included in our mailback questionnaire were developed specifically to provide visitor expenditure data that are compatible with the economic sectors in the IMPLAN model. Expenditures are reported for the purchase of specific recreation-related commodities, i.e., goods and services. However, these commodities often affect multiple industrial sectors, and must be allocated as such. Thus, expenditures reported by visitors are often allocated to a larger number of economic sectors. The process of allocating expenditures to various sectors requires a series of transformations that establish the relationship between visitor expenditures and the sectors of the economy modeled by IMPLAN. The allocations are based on information from the Bureau of Economic Analysis (BEA) on commodity and service production costs and the relationship between national average purchase prices, production costs, transportation costs, and retail and wholesale margins. The allocations used in this report can be found in English et al. (1995).

Once expenditures are allocated to the IMPLAN sectors, the mean expenditure per person per trip for each sector is calculated. The mean expenditure per person per trip in each sector has been multiplied by our estimate of total visitation, and this is entered as a final demand vector for impact analysis in IMPLAN. The IMPLAN software calculates the effect of recreation expenditures on the impact area economy. Economic effects are reported as total output, value-added, total income and employment.

For a market area with the small size and unique characteristics of Monroe County, using IMPLAN was not feasible. When attempting the analysis with IMPLAN it was discovered that there was a tendency for overestimation of impacts. Monroe County has many links to the surrounding South Florida economy. Properly calibrating an IMPLAN model for Monroe County would require additional research to specify and net-out transfers outside Monroe County. We decided that a more simplified approach would be more appropriate.

This approach uses Census of Business wages-to-sales ratios and wages-to-employment ratios specific to Monroe County, and applies them to spending estimates (Bell and Leeworthy 1986). Spending categories are matched to Standard Industrial Classifications (SICs). This approach also uses relationships from BEA between income from wages and salaries and from proprietors to estimate total direct impacts. In this case, we calculated estimated expenditures (mean expenditures per person per trip multiplied by estimated person-trips) and applied the wages-to-sales ratio by SIC based on the 1992 Census of Business (see appendix table A.2) to get estimated wages by spending category. We then divided estimated wages by the wages-to-employment ratio by SIC to get estimated employment by spending category. We then applied a multiplier of 1.6 (Kearney/Centaur 1990; Bell 1991) to the three direct measures to derive total impact measures (see appendix table A.4). Note that under this approach, we cannot estimate value-added, nor can we separately estimate indirect or induced effects.

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## Survey Design

**Research Methods.** Because of the many and varied goals of this project, a split sample design was developed. There were two components of the survey: an onsite survey and a mailback survey. This design allows the pursuit of multiple objectives without overburdening any one sample of respondents. The survey was conducted in two time periods. The first was in July and August of 1995. In this time period, 1,334 onsite exit interviews were completed. Of these respondents, 505 also completed expenditure mailback questionnaires. The second time period in which data was collected was January through April of 1996. In this time period, 2,250 onsite exit interviews were completed, with 1,036 of these respondents also completing expenditure mailback questionnaires.

The onsite survey is a stratified random sample of all visitors to the Florida Keys, and is stratified by mode of travel (air, auto, cruise ship) and by season. By tying this sample to data on car counts, air enplanement counts, and cruise ship passenger counts, estimates of the number of person-trips can be developed. This can be further broken down into estimates of the number of person-trips by activity (for all activities) and by broad geographic regions within the Florida Keys (Upper Keys, Middle Keys, Lower Keys, Key West). This sample is also used to obtain overall profiles of the visitor population in terms of age, sex, race, income, and place of residence. The onsite sample was used here to weight the expenditure mailback data to account for possible non-response bias, and to provide the estimates of total visitation, which were used to extrapolate the expenditure mailback sample to total visitor expenditures for each season.

Detailed visitor profiles can be found in Leeworthy and Wiley (1996); the methods for sample weighting and estimation of total visitation are in Leeworthy (1996).

The expenditure mailback component obtains information on types of accommodations, modes of transportation and expenditures made on the entire trip to the Florida Keys. Spending estimates are obtained for equipment and travel and activities. Spending is broken down by spending in the Florida Keys versus areas outside the Keys while traveling to the Keys, as well as related spending at home prior to the trip.

**Mailback Response Rates.** As mentioned above, in the summer survey, 1,334 visitors were interviewed in the onsite exit survey. Each of these individuals received an expenditure questionnaire to fill out and mail back. After a reminder postcard and second questionnaire mailing, 505, or 37.86 percent, responded to the mailback expenditure survey. In the winter survey, 2,250 onsite visitors were interviewed during January-April 1996. Second questionnaires were mailed to non-respondents in March (234 were mailed), April (365) and May (571). A total of 1,036 people, or 46.04 percent of the onsite contacts, responded to the mailback expenditure survey.

Response rates to the expenditure survey varied according to several factors, the most significant of which was income. The analysis of response rates indicates the potential for non-response bias in the expenditure mailback. Overall low response rates, or low response rates for certain socioeconomic groups, do not necessarily lead to non-response bias in expenditure amounts. For non-response bias to exist, there must

be a relationship between the amount spent during the recreation trip and socioeconomic characteristics that are related to survey response. We tested for non-response bias using simple univariate non-parametric tests for differences by socioeconomic factors and with a multivariate test using linear regressions. Based on the results of these tests, we concluded that the socioeconomic groups for which we had relatively low response rates do not generally appear to have significantly different expenditures. For a more detailed explanation of response rates, the problem of non-response bias and our testing procedures, refer to the Technical Appendix (Leeworthy 1996).

**Weighting.** We took a multivariate approach to sample weighting. We first constructed a matrix of the sample by age, race/ethnicity, income, foreign versus domestic visitors, and mailback respondents and non-respondents. The samples were first weighted for the distribution by mode of travel according to the population estimates derived from our onsite exit survey. We then created a matrix based on combinations of the other four attributes to weight for non-response. Again, for a more detailed explanation of weighting, please refer to the Technical Appendix (Leeworthy 1996).

### Expenditures.

**Per Person Per Trip.** Expenditure information was collected on a per group, per trip basis. When respondents were interviewed onsite, they were asked if they paid their own expenses, shared expenses with others, or if someone else paid their expenses. If they paid their own expenses or shared expenses, they were given a mailback survey. If someone else paid their expenses, that person was identified and given a

mailback survey. In each case, the respondent was asked how many people's expenses they paid on the trip. The purpose was to get an estimate of spending per person, per trip. The purpose was to extrapolate to total spending by multiplying our estimates of person-trips by spending per person per trip.

We obtained expenditure information for 47 different trip-related expenditure items via the mail survey. These can be aggregated into 5 general types of expenditures: lodging (5 items), food (3 items), transportation (9 items), activities (21 items), and miscellaneous (9 items). For each item, the survey obtained data in three categories pertaining to where the expenditures were made: the total amount spent on the trip regardless of spending location, the

amount spent in South Florida (Dade, Broward and Monroe Counties), and the amount spent in the Florida Keys (Monroe County). We included not only trip-related expenditures, but also annual spending on space rental for boat storage and marina fees, condo/time-share fees, and annual RV site rentals in Monroe County. Our feeling was that these items must be related to trips to the Keys, as they serve as substitutes for lodging and boat storage spending made on a per-trip basis. Other annual purchase data on durable equipment was insufficient to be usable, and not clearly linked to trips solely to the Keys. Annual boat and lodging purchases made in Monroe County were divided by the number of people in the group and by annual trips to the Keys. This was done to obtain an estimate of purchases per person

per trip, thus making the figures compatible with the trip-related expenditure items.

Table 6 shows average expenditures per person per trip for the June through November 1995 season, and for the December 1995 through May 1996 season. In column one, total trip expenditures are reported. In columns two and three, the amount spent in South Florida and the percentage of total expenditures are reported respectively. In columns four and five, the amount spent in the Florida Keys and the percentage of total expenditures are reported, respectively. In the June through November season, the average per person expenditure was \$877.63. The average summer trip to the Keys entails almost \$257 in lodging costs, \$239 for transportation, and \$167 for food. Of this

Table 6. Summary of Average Trip Expenditures Per Person

Season/Type of Expenditure	Total Trip	In S. FL	% in S. FL	In Monroe County	% in Monroe County
<u>June - November 1995</u>					
Lodging	256.73	195.06	76.0%	150.4	58.6%
Food and Beverages	166.58	141.99	85.2%	112	67.2%
Transportation	238.66	98.25	41.2%	39.53	16.6%
Boating	78.38	76.75	97.9%	28.32	36.1%
Fishing	11.21	10.75	95.9%	10.14	90.5%
Scuba Diving/Snorkeling	19.75	19.08	96.6%	18.51	93.7%
Sightseeing	22.52	14.74	65.5%	9.84	43.7%
Other Activity Expenditures	9.58	7.47	78.0%	5.36	55.9%
Miscellaneous Expenditures	66.58	48.69	73.1%	33.62	50.5%
Services	7.64	6.74	88.2%	5.29	69.2%
<b>Total</b>	<b>877.63</b>	<b>619.52</b>	<b>70.6%</b>	<b>413.00</b>	<b>47.1%</b>
<u>December 1995 - May 1996</u>					
Lodging	306.98	243.03	79.2%	187.38	61.0%
Food and Beverages	216.84	174.10	80.3%	138.93	64.1%
Transportation	224.02	104.13	46.5%	52.42	23.4%
Boating	26.72	24.47	91.6%	15.88	59.4%
Fishing	17.51	16.84	96.2%	16.36	93.4%
Scuba Diving/Snorkeling	7.18	6.90	96.1%	6.72	93.6%
Sightseeing	26.81	19.22	71.7%	13.04	48.6%
Other Activity Expenditures	16.73	12.85	76.8%	7.34	43.9%
Miscellaneous Expenditures	60.39	48.96	81.1%	38.99	64.6%
Services	19.29	16.67	86.4%	12.98	67.3%
<b>Total</b>	<b>922.47</b>	<b>667.17</b>	<b>72.3%</b>	<b>490.04</b>	<b>53.1%</b>

total expenditure amount, 70.6 percent (about \$620) was spent in South Florida, including \$195 for lodging, \$142 for food, and \$128 for activity-related items. About 47 percent (about \$413) of all trip expenses were made in the Florida Keys, including about \$150 for lodging, \$112 for food, \$72 for activities, and \$40 for transportation.

On average, winter visitors spend about \$922.47 per person for a trip to the Keys. Included in this total is about \$307 for lodging, \$224 for transportation, and \$217 for food. Of the total trip spending, 72.3 percent was spent in South Florida, while 53.1 percent was spent in the Florida Keys. Of the money spent in South Florida, lodging (\$243) is the largest expenditure category, followed by food and beverages (\$174) and transportation (\$104). Of the money spent in Monroe County, nearly 40 percent (about \$187) is for lodging, and almost 29 percent (\$139) is for food.

Table 7 shows average selected annual expenditures per person per trip. This includes boat storage and marina fees, condo and time share fees, and RV or trailer park fees. In the summer season, recreating visitors spent an average of \$9.50 per person per trip on these items, while winter visitors spent an average of \$18.26 per person per trip.

Expenditure patterns for winter visitors are not greatly different from summer visitors, although the amount spent is slightly higher for lodging and food, but lower for activities. Visitors in the winter season spent 5.1 percent more in total, 7.8 percent more in South Florida and 18.7 percent more in the Keys than did summer season visitors. For detailed average trip expenditures, please refer to Leeworthy and Wiley (1996).

Table 7. Summary of Selected Annual Expenditures Per Person Per Trip

Season/Type of Expenditure	In Monroe County
<u>June - November 1995</u>	
Boat Storage and Marina Fees	0.33
Cono and Time Share Fees	4.36
RV or Trailer Park Fees	4.82
<b>Total</b>	<b>9.51</b>
<u>December 1995 - May 1996</u>	
Boat Storage and Marina Fees	1.76
Cono and Time Share Fees	13.78
RV or Trailer Park Fees	2.72
<b>Total</b>	<b>18.26</b>

**Total Expenditures.** Table 8 is a summary of total expenditures. These numbers are derived by multiplying the mean expenditures per person per trip by visitation (the number of person trips). The visitation was 1,172,004 and 1,368,484 for the summer and winter seasons, respectively. These numbers are the interim step between expenditures from the survey data and the multiplier process. Once we have calculated these numbers, we deduct the inputs that are not purchased locally and calculate the multiplier effect.

Before proceeding with the multiplier analysis, we conducted several consistency checks to ensure that we had not overestimated expenditures. Remember, total expenditures are a function of estimated average expenditures from a survey and are multiplied by a visitor estimate. Either of these measures could contain error, so consistency checks are vital. We conducted consistency checks on lodging, food and beverage expenditures in Monroe County against actual reported sales from the State of Florida's Department of Revenue. Our estimates of private lodging

expenditures (public would be recorded under government revenue, not lodging) were 93.41 percent, and food and beverage expenditures were 66.65 percent, of the total reported sales in Monroe County. Therefore we believe our estimates of visitation and average expenditures are consistent with the total Monroe County economy. For detailed total expenditures, please refer to appendix tables A.1.a, A.1.b and A.1.c (pp. 17-21).



Table 8. Summary of Total Trip Expenditures Per Person<sup>1</sup>

Season/Type of Expenditure	Total Trip	In S. FL	% in S. FL	In Monroe County	% in Monroe County
<u>June - November 1995</u>					
Lodging	300.89	228.61	76.0%	176.25	58.6%
Food and Beverages	195.23	166.42	85.2%	131.28	67.2%
Transportation	279.71	115.15	41.2%	46.33	16.6%
Boating	91.87	90.18	98.2%	33.20	36.1%
Fishing	13.14	12.60	95.9%	11.88	90.4%
Scuba Diving/Snorkeling	23.15	22.36	96.6%	21.70	93.7%
Sightseeing	26.40	17.27	65.4%	11.53	43.7%
Other Activity Expenditures	11.22	8.75	78.0%	6.29	56.1%
Miscellaneous Expenditures	78.03	57.07	73.1%	39.40	50.5%
Services	8.95	7.91	88.4%	6.20	69.3%
<b>Total</b>	<b>\$1,028.59</b>	<b>\$726.32</b>	<b>70.6%</b>	<b>\$484.06</b>	<b>47.1%</b>
<u>December 1995 - May 1996</u>					
Lodging	420.10	332.58	79.2%	256.43	61.0%
Food and Beverages	296.74	238.25	80.3%	190.12	64.1%
Transportation	306.57	142.50	46.5%	71.74	23.4%
Boating	36.57	33.49	91.6%	21.74	59.4%
Fishing	23.97	23.05	96.2%	22.39	93.4%
Scuba Diving/Snorkeling	9.83	9.44	96.0%	9.20	93.6%
Sightseeing	36.69	26.30	71.7%	17.84	48.6%
Other Activity Expenditures	22.90	17.59	76.8%	10.04	43.8%
Miscellaneous Expenditures	82.64	67.00	81.1%	53.36	64.6%
Services	26.40	22.81	86.4%	17.77	67.3%
<b>Total</b>	<b>\$1,262.39</b>	<b>\$913.02</b>	<b>72.3%</b>	<b>\$670.62</b>	<b>53.1%</b>

1. Dollars in Millions

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# Appendix



Table A.1.a Detailed Direct Expenditure Impact (Millions of \$): June - November, 1995

Type of Expenditure	Total Trip	In S. FL	% in S. FL	In Monroe County	% in Monroe County
Lodging	300.89	228.61	76.0	176.25	58.6
Publicly Owned					
Hotel/motel/bed & breakfast/cabin, etc.	33.63	28.41	84.5	23.04	84.5
Camping site (RV/tent/camper)	9.44	6.67	70.6	2.46	26.1
Privately Owned					
Hotel/motel/bed & breakfast/cabin, etc.	197.41	145.85	73.9	106.77	54.1
Rental home, cottage, cabin, condo	49.70	38.55	77.6	35.37	71.2
Camping site (RV/tent/camper)	10.71	9.14	85.3	8.61	80.4
Food and Beverages	195.23	166.42	85.2	131.28	67.2
Food & drinks consumed at restuarants & bars	142.28	120.76	84.9	95.65	67.2
Beverages purchased at a store for carry-out	18.77	16.01	85.3	12.07	64.3
Food purchased at a store for carry-out	23.57	29.65	86.7	23.57	68.9
Transportation	279.71	115.15	41.2	46.33	16.6
Rental automobile, motor home, trailer, motor-cycle or other recreation vehicle	57.27	41.26	72.1	10.15	17.7
Gas & Oil - auto or RV	14.82	21.24	59.9	14.82	41.7
Repair & Service - auto or RV	1.70	1.29	75.9	1.06	62.3
Parking fees & tolls	6.09	5.00	82.2	2.13	35.0
Taxi fare	0.74	0.54	73.3	0.45	61.2
Bus Fare					
a) Package tour	0.69	0.69	100.0	0.67	96.1
b) Any other bus fare	0.33	0.33	100.0	0.33	100.0
Airline fares					
a) Package tours	90.12	27.78	30.8	6.07	6.7
b) Any other airline fare	87.27	17.00	19.5	10.66	12.2
Boating	91.87	90.18	98.2	33.20	36.1
Boat, jet ski, and wave runner rental	64.14	63.70	99.3	12.16	19.0
Boat fuel and oil	17.94	17.15	95.6	11.79	65.7
Boat repairs	3.46	3.40	98.2	3.35	97.0
Boat launch fees	0.56	0.56	100.0	0.56	100.0
Boat slip or marina fees (this trip only)	0.39	0.39	100.0	0.39	100.0
Sailing charters or sunset cruises	5.37	4.98	92.8	4.94	92.0
Fishing	13.14	12.60	95.9	11.88	90.5
Cut bait	2.10	1.93	91.8	1.87	88.9
Live bait	0.58	0.58	100.0	0.55	94.4
Daily or special fishing permits	1.41	1.14	80.9	0.83	58.8
Fishing lines, fly lines, fish nets, traps	2.02	1.92	95.2	1.65	81.6
Charter/party boat/guide service	7.03	7.03	100.0	6.99	99.5

Table A.1.a Detailed Direct Expenditure Impact (Millions of \$): June - November, 1995 (Continued)

Type of Expenditure	Total Trip	In S. FL	% in S. FL	In Monroe County	% in Monroe County
Scuba Diving/Snorkeling	23.15	22.36	96.6	21.70	93.7
Rental fee for equipment	9.50	9.17	96.5	8.75	92.1
Charter/party boat/guide service	13.65	13.19	96.6	12.95	94.9
Sightseeing	26.40	17.27	65.4	11.53	43.7
Sightseeing tours	6.48	4.52	69.8	3.94	60.7
Glass-bottom boat rides	2.16	2.01	93.0	2.00	92.7
Backcountry excursions, kayak tours	0.58	0.51	88.2	0.40	68.4
Park entrance fees	4.35	2.90	66.6	1.22	28.0
Admission to tourist, amusement, festivals and other commercial attractions	12.84	7.34	57.2	3.98	31.0
Other Activity Expenditures	11.22	8.75	78.0	6.29	56.0
Rental fee for recreation equipment (bicycles, golf carts or others not listed above)	3.42	3.39	99.1	3.11	91.1
Guide service, tour, or outfitters (not listed above,like parasailing)	3.15	1.77	56.2	1.46	46.4
Admission to motion pictures, theaters, museums, etc.	4.66	3.60	77.2	1.71	36.8
Miscellaneous Expenditures	78.03	57.07	73.1	39.40	50.5
Film purchases	3.28	2.84	86.4	2.02	61.5
Film development	2.05	1.20	58.4	0.68	33.2
Footware	11.47	3.46	30.2	2.27	19.8
Clothing	34.18	27.68	81.0	17.66	51.7
Souvenirs and gifts (not clothing)	27.05	21.89	80.9	16.77	62.0
Services	8.95	7.91	88.3	6.20	69.3
Barber, laundry, and other personal services	1.16	0.96	82.6	0.76	65.8
Telephone,fax, and other business services	2.97	2.35	79.2	1.49	50.0
Physician, dentist, and other medical services	4.08	4.08	100.0	3.47	85.1
Other Services	0.75	0.52	69.5	0.49	65.1
Total	1,028.59	726.32	70.6	484.06	47.1

Table A.1.b Detailed Direct Expenditure Impact (Millions of \$): December 1995 - May 1996

Type of Expenditure	Total Trip	In S. FL	% in S. FL	In Monroe County	% in Monroe County
Lodging	420.10	332.58	79.2	256.43	61.0
Publicly Owned					
Hotel/motel/bed & breakfast/cabin, etc.	49.58	37.35	75.3	25.61	75.3
Camping site (RV/tent/camper)	9.68	7.42	76.7	5.20	53.7
Privately Owned					
Hotel/motel/bed & breakfast/cabin, etc.	254.41	199.27	78.3	151.31	59.5
Rental home, cottage, cabin, condo	62.00	53.21	85.8	46.66	75.3
Camping site (RV/tent/camper)	44.43	35.34	79.5	27.64	62.2
Food and Beverages	296.74	238.25	80.3	190.12	64.1
Food & drinks consumed at restuarants & bars	224.84	178.74	79.5	142.44	63.4
Beverages purchased at a store for carry-out	21.95	17.51	79.8	13.70	62.4
Food purchased at a store for carry-out	33.98	42.00	84.1	33.98	68.0
Transportation	306.57	142.50	46.5	71.74	23.4
Rental automobile, motor home, trailer, motor-cycle or other recreation vehicle	73.90	49.93	67.6	22.02	29.8
Gas & Oil - auto or RV	17.79	31.32	52.2	17.79	29.6
Repair & Service - auto or RV	12.87	10.76	83.6	4.31	33.5
Parking fees & tolls	7.26	4.82	66.4	1.75	24.1
Taxi fare	2.17	1.87	86.4	1.49	68.8
Bus Fare					
a) Package tour	2.23	1.24	55.4	0.78	34.9
b) Any other bus fare	1.37	0.63	45.9	0.56	40.7
Airline fares					
a) Package tours	47.66	13.83	29.0	7.89	16.6
b) Any other airline fare	99.07	28.10	28.4	15.15	15.3
Boating	36.57	33.49	91.6	21.74	59.4
Boat, jet ski, and wave runner rental	5.43	5.36	98.7	5.00	92.1
Boat fuel and oil	7.63	7.52	98.6	3.91	51.3
Boat repairs	15.20	12.43	81.8	5.58	36.7
Boat launch fees	0.13	0.13	100.0	0.13	100.0
Boat slip or marina fees (this trip only)	1.72	1.72	100.0	1.72	100.0
Sailing charters or sunset cruises	6.45	6.32	98.0	5.38	83.4
Fishing	23.97	23.05	96.2	22.39	93.4
Cut bait	1.74	1.67	95.6	1.60	91.6
Live bait	1.30	1.11	85.4	1.06	82.2
Daily or special fishing permits	1.21	1.12	92.9	0.99	82.2
Fishing lines, fly lines, fish nets, traps	0.90	0.90	99.8	0.84	93.3
Charter/party boat/guide service	18.83	18.26	97.0	17.90	95.1

Table A.1.b Detailed Direct Expenditure Impact (Millions of \$): December 1995 - May 1996 (Continued)

Type of Expenditure	Total Trip	In S. FL	% in S. FL	In Monroe County	% in Monroe County
Scuba Diving/Snorkeling	9.83	9.44	96.1	9.20	93.6
Rental fee for equipment	2.31	2.14	92.4	2.02	87.3
Charter/party boat/guide service	7.51	7.30	97.2	7.18	95.5
Sightseeing	36.69	26.30	71.7	17.84	48.6
Sightseeing tours	10.05	7.81	77.7	6.54	65.1
Glass-bottom boat rides	3.61	3.43	94.9	3.27	90.6
Backcountry excursions, kayak tours	1.21	1.19	98.5	0.63	51.7
Park entrance fees	4.27	3.20	74.8	1.89	44.2
Admission to tourist, amusement, festivals and other commercial attractions	17.54	10.68	60.9	5.52	31.4
Other Activity Expenditures	22.90	17.59	76.8	10.04	43.8
Rental fee for recreation equipment (bicycles, golf carts or others not listed above)	13.70	10.77	78.6	4.38	32.0
Guide service, tour, or outfitters (not listed above, like parasailing)	4.32	3.43	79.3	2.99	69.1
Admission to motion pictures, theaters, museums, etc.	4.87	3.39	69.5	2.67	54.9
Miscellaneous Expenditures	82.64	67.00	81.1	53.36	64.6
Film purchases	3.55	2.50	70.3	1.84	51.8
Film development	2.25	1.18	52.3	0.82	36.4
Footware	7.03	4.94	70.3	3.31	47.1
Clothing	38.68	32.16	83.1	25.93	67.0
Souvenirs and gifts (not clothing)	31.13	26.23	84.3	21.47	69.0
Services	26.40	22.81	86.4	17.77	67.3
Barber, laundry, and other personal services	4.01	3.32	82.9	2.51	62.6
Telephone, fax, and other business services	7.91	6.43	81.3	4.96	62.7
Physician, dentist, and other medical services	3.75	3.65	97.3	2.53	67.5
Other Services	10.73	9.41	87.7	7.77	72.4
<b>Total</b>	<b>1,262.39</b>	<b>913.02</b>	<b>72.3</b>	<b>670.62</b>	<b>53.1</b>

Table A.1.c. Detailed Direct Expenditure Impact, Selected Annual Expenditures

Season/Type of Expenditure	In Monroe County (\$)
<u>June - November 1995</u>	
Boat Storage and Marina Fees	386,761.32
Cono and Time Share Fees	5,109,937.44
RV or Trailer Park Fees	5,649,059.28
<b>Total</b>	<b>11,145,758.04</b>
<u>December 1995 - May 1996</u>	
Boat Storage and Marina Fees	2,408,531.84
Cono and Time Share Fees	18,857,709.52
RV or Trailer Park Fees	3,722,276.48
<b>Total</b>	<b>24,988,517.84</b>

Table A.2. Wages-to-Sales and Wages-to-Employment Ratios by SIC

SIC	Industry	Wages-to-Sales	Wages-to-Employment
70	Hotels and Motels	0.2418	14,874
72	Personal Services	0.2673	10,083
73	Business Services	0.3077	14,416
80	Health Services	0.3689	24,081
89	Other Services	0.3556	48,643
75	Automotive repair, services and parking	0.2213	18,036
751	Automotive rental and leasing	0.1542	19,577
753	Automotive repair	0.2191	19,188
54	Food Stores	0.1024	12,492
554	Gasoline Service Stations	0.0644	13,951
58	Eating and drinking places	0.2415	8,902
56	Apparel and accessory stores	0.1413	12,621
53	General Merchandise Stores	0.1116	10,636
591	Drug and proprietary Stores	0.1023	16,197
59	Miscellaneous retail stores	0.1666	13,528
78,79,84	Amusement and recreation services including motion pictures and museums	0.2806	14,398
79 ex.792, 793, 84	Commercial sports and other recreation services, including museums	0.2927	15,273



Table A.3 Estimates of the Economic Effects Resulting from Visitor Expenditures to South Florida

	Monroe Impact Region			3-County Impact Region		
	Summer	Winter	Annual	Summer	Winter	Annual
<b>Total output (Millions \$)</b>						
Direct	346.64	486.93	833.57	555.84	713.78	1,269.62
Indirect	n/a	n/a	n/a	120.45	148.97	269.42
Induced	n/a	n/a	n/a	612.73	790.55	1,403.28
Total	554.63	779.09	1,333.72	1,289.02	1,653.30	2,942.32
<b>Income (Millions \$)</b>						
Direct	130.52	185.73	316.26	328.89	424.39	753.28
Indirect	n/a	n/a	n/a	64.29	78.98	143.27
Induced	n/a	n/a	n/a	345.18	445.36	790.54
Total	208.84	297.17	506.01	738.36	948.73	1,687.09
<b>Value Added (Millions \$)</b>						
Direct	n/a	n/a	n/a	377.15	489.19	866.34
Indirect	n/a	n/a	n/a	72.02	88.53	160.55
Induced	n/a	n/a	n/a	391.26	504.81	896.07
Total	n/a	n/a	n/a	840.43	1,082.53	1,922.96
<b>Employment<sup>1</sup></b>						
Direct	9,620	13,655	13,655	11,156	14,493	14,493
Indirect	n/a	n/a	n/a	1,592	1,955	1,955
Induced	n/a	n/a	n/a	8,815	11,374	11,374
Total	15,392	21,848	21,848	21,563	27,822	27,822

1. For Monroe County, number of full and part-time employees. For South Florida, number of full-time equivalent employees. Employees are not additive across seasons.

Table A.4 Economic Impact Multipliers

	Monroe County		3-County Region	
	Summer	Winter	Summer	Winter
<b>Total/Direct (Type III)</b>				
Total Output	1.6	1.6	2.319	2.316
Income	1.6	1.6	2.245	2.236
Value Added	n/a	n/a	2.228	2.213
Employment	1.6	1.6	1.933	1.920
<b>Total Output/Spending (Type i)</b>				
	1.12	1.12	1.748	1.763

Table A.5 Total Economic Impacts from Visitor Spending in the 3-County Region,  
Industrial Groups Aggregated to the 1-Digit SIC Level.

Business Sector	Total Output <sup>1</sup>	Total Employment <sup>2</sup>	Total Income <sup>1</sup>	Value Added <sup>1</sup>
Summer				
Ag.,Forestry & Fisheries	6.26	153	3.62	3.69
Mining	0.40	1	0.06	0.07
Construction	20.45	247	10.53	10.76
Manufacturing	75.14	700	30.18	30.84
Transp.,Comm & Utilities	87.15	641	39.17	45.36
Retail Trade	334.00	8,427	200.22	236.43
F.I.R.E	183.76	942	84.24	111.26
Services	549.00	10,002	350.64	382.32
Government	32.28	450	19.70	19.70
Summer Total	1,289.02	21,564	738.36	840.43
Winter				
Ag.,Forestry & Fisheries	7.96	192	4.54	4.63
Mining	0.50	1	0.07	0.09
Construction	26.17	316	13.48	13.77
Manufacturing	96.29	887	38.65	39.50
Transp.,Comm & Utilities	108.28	804	49.54	57.29
Retail Trade	446.52	11,411	265.16	312.37
F.I.R.E	243.62	1,260	111.80	148.37
Services	684.04	12,378	441.43	482.43
Government	39.92	574	24.06	24.07
Winter Total	1,653.30	27,822	948.73	1,082.53
Annual Total	2,942.32	27,822	1,687.09	1,922.97

1. Figures are in millions of 1996 dollars

2. Figures are number of full-time equivalent jobs.