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The Economic Impact of Florida's Recreational Boating Industry in 1985

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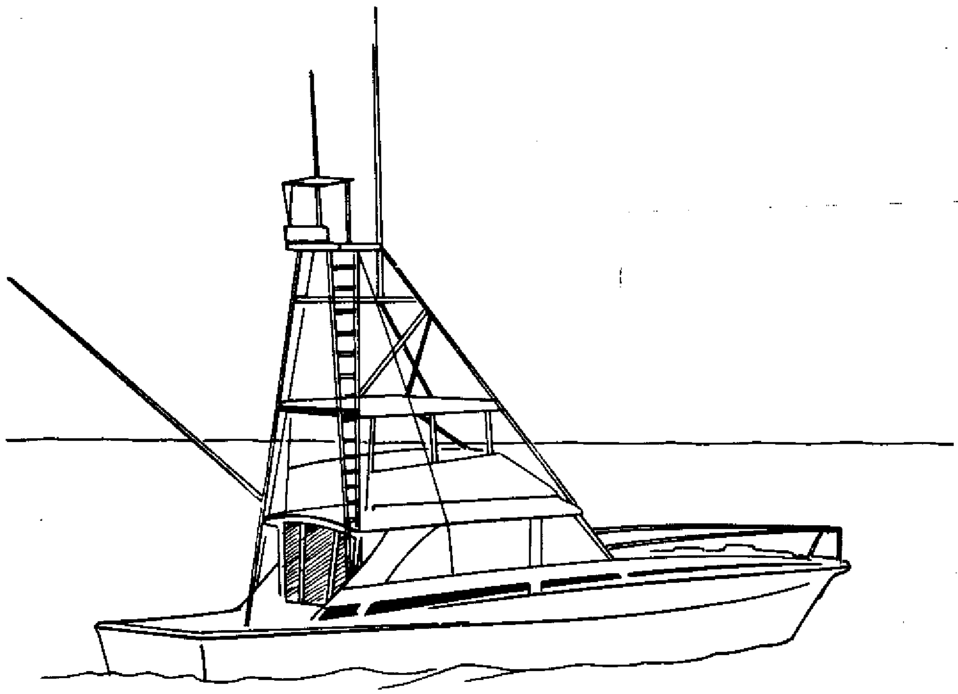

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INTRODUCTION

The recreational boating industry is an important component of Florida's economy. Previous Florida Sea Grant College supported research has documented this economic importance to the state's economy in 1980 (see Milon and Riddle, 1983, and Milon et al. 1983). Since that initial research, the manufacturing, retailing, and service sectors comprising the industry have continued to grow and prosper as the state's resident and tourist populations increased. This report is an update on the economic significance of the recreational boating industry in Florida since 1980 based on economic indicators of change within the industry.

Analyses such as those undertaken to initially assess the economic importance of the recreational boating industry in Florida are costly and time consuming. This results from collecting primary financial, economic, and structural data which meaningfully describe the various industry sectors. Utilizing the findings and relationships from these previous studies, this report presents key descriptive measures of the 1985 economic impact of the recreational boating industry using secondary data available from industry associations and state and federal agencies. The use of these secondary data as economic indicators is the only available method of assessing growth in Florida's recreational boating industry without resorting to new primary data collection efforts.

This report provides an overview of activity associated with the five sectors of the recreational boating industry in Florida. The first section describes trends in recreational boat registrations and estimated changes in total retail sales, employment, and output by sector. The second section provides an estimate of the 1985 economic activity for each sector using alternative estimation techniques. These sections are followed by concluding remarks. Definitions of terms and concepts associated with economic impact analysis are provided in a glossary at the back of this report. The reader is advised to refer to the previous report by Milon et al. (1983) for a detailed treatment of these terms and concepts (an order blank for this and other related publications is found at the end of this paper). Reference to this previous study will also provide a necessary understanding of the original analysis, for which this report is only an update.

GROWTH IN FLORIDA'S RECREATIONAL BOATING INDUSTRY

Recreational Boat Registrations

The number of registered pleasure craft in Florida has increased steadily over the past two decades. From 1964 to 1985, the number of registered recreational boats increased from 120,854 to 554,675, an increase of 359 percent (Table 1). During the two decade period, 1964 to 1985, population and nominal per capita personal income increased by 95 and 509 percent, respectively (Florida Statistical Abstract, 1964-85). According to recent analysis, population and income play a significant role in determining the number of recreational boat registrations in Florida (Bell and Leeworthy, 1984).

As an indication of the growing popularity of recreational boating activities, the number of registered recreational boats per one hundred residents has also been increasing, with 2.1 registrations per one hundred residents in 1964, 4.7 in 1980, and 4.9 in 1985. Recreational boat registrations are projected to reach 583,000 by 1990 and 671,000 by year 2000 (Bell and Leeworthy, 1984).

Table 1. Recreational boats, total boats, households per boat, and boat registrations in per hundred residents in Florida, 1964 to 1985

	Recreational boats[a]	Total boats[b]	Number of recreational boats per hundred residents[c]	Households per boat[c]
1964	120,854	148,884	2.1	
1965	128,723	156,349	2.2	
1966	136,706	169,633	2.2	
1967	149,663	181,521	2.4	
1968	164,875	191,634	2.5	
1969	177,323	204,445	2.6	
1970	192,554	221,619	2.8	
1971	208,096	234,093	2.9	
1972	229,426	254,388	3.0	
1973	249,219	273,032	3.1	
1974	254,352	276,134	3.0	
1975	347,306	369,872	4.0	
1976	390,681	417,465	4.5	
1977	403,054	425,722	4.5	8.2
1978	410,174	431,742	4.5	8.4
1979	453,500	473,977	4.8	8.0
1980	460,611	491,727	4.7	8.1
1981	480,864	518,756	4.8	N/A
1982	480,384	N/A	4.6	8.4
1983	499,364	526,495	4.7	8.3
1984	529,436	558,637	4.8	8.1
1985	554,675	585,264	4.9	8.0

[a]Prior to 1975 recreational boats using less than 10 horsepwer were not registered. Boats that do not use engines (sailboats, rowboats, etc.) are not included.

[b]Includes commercial fishing vessels, charter boats, and rental boats.

[c]Based on annual population and household estimates from the Bureau of Business and Economic Research, University of Florida. Annual household data not available prior to 1977.

SOURCE: Florida Department of Natural Resources unpublished recreational boat registration data and Bureau of Business and Economics Research, University of Florida, Florida Statistical Abstracts.

Retail Sales

Total Florida retail sales for all marine recreation, including sales for recreational boating activities, have increased steadily since 1980 (Table 2). Total retail sales in nominal dollars increased from $796 million in 1980 to $1.32 billion in 1985. This represents an increase of 65 percent in six years. Except for a slight decrease during the recession period 1981-1982, total retail sales in real dollars (i.e. constant 1980 dollars) have also increased steadily.

Retail sales specifically attributed to the sale of boats, outboard motors, boat trailers, and marine accessories have likewise increased during the 1980-85 period (Table 3). On a national basis, the retail sales of these items increased from $3.2 billion in 1980 to $6.0 billion in 1985, an increase of 89 percent. The percentage increase was larger in Florida, where total retail sales of these items increased from $334 million in 1980 to $720 million in 1985, an increase of 116 percent. Sales of outboard motors represented the largest percentage increase on both a national and state basis. This is due in part to the change in boat fuel availability and price that reduced outboard motor sales in the late 1970's and early 1980's. Boat sales demonstrated the second largest percentage increase at both the national and state level. Sales of marine accessories were relatively stable. Florida's share of the U.S. market for boats, motors, trailers, and accessories increased from 10.5 percent in 1980 to 12 percent in 1985. Among the four categories, the change in Florida's share of the total U.S. market was greatest for boat trailers, which increased from 7.1 percent in 1980 to 8.8 percent in 1985. Florida's share of the U.S. market for boats increased from 12.5 to 14.5 percent.

Table 2. Total Florida retail sales for recreational[1] boating, 1980-85.

Year	Total Retail Sales (Current $)	Total Retail Sales (Constant 1980 $)
1980	$ 796,406,772	$ 796,406,772
1981	845,300,878	775,505,393
1982	901,895,006	791,135,970
1983	941,018,457	818,276,919
1984	1,198,650,843	1,015,890,545
1985	1,315,373,795	1,105,356,130

[1]Includes all new and used boats and watercraft, motors, trailers, fuel, marine accessories, and equipment sold by retail boat dealers and brokers.

SOURCE: Florida Department of Revenue.

Table 3. U.S. and Florida retail sales of boats[1], outboard motors, boat trailers, and marine accessories, 1980 and 1985 (in thousands)

	1980	1985	Percent Change
U.S.			
Boats	$1,933,780	$3,742,569	93
Outboard motors	544,400	1,293,828	138
Boat trailers	96,448	146,800	53
Marine accessories	591,900	818,265	38
Total	$3,166,528	$6,001,462	89
Florida			
Boats	$ 240,949	$ 543,916	126
Outboard motors	51,228	115,885	127
Boat trailers	6,857	12,919	88
Marine accessories	34,804	47,296	36
Total	$ 333,838	$ 720,017	116

[1]Includes outboard boats, inboard/cruisers, inboard/outdrives, runabouts, non-powered sailboats, and auxiliary powered sailboats.

SOURCE: National Marine Manufacturers Association.

Direct Contribution of Recreational Boating Sectors

The five major recreational boating sectors in the Florida economy are boat and trailer manufacturing, boat equipment manufacturing, marinas and boatyards, marine trade, and marine services. An extensive discussion of the basis for this breakdown of the industry is provided in Milon et al., 1983. Estimates of the direct contribution of these five recreational boating sectors to the Florida economy were estimated for 1985 and compared to previous estimates for 1980 (Table 4). The direct contribution or impact of each sector on the Florida economy is given only in terms of direct employment and total output. Total output of each sector is defined as the sum of in-state sales and exports, measured in terms of the dollar value of final retail sales. Direct employment is defined as the number of employees who produced the total output of each sector. Estimates of total economic activity for each sector and the total industry are given in the following section.

The direct employment and total output in 1985 from production activity in the five sectors were estimated to be 23,225 employees and $1.36 billion in output, respectively. This represented an increase of 52 and 81 percent in direct employment and total output from 1980. The largest share of employment and output resulted from activity in the boat and trailer manufacturing sector. Direct employment and total output in boat and trailer manufacturing increased from 6,910 and $389 million, respectively, in 1980, to 11,903 and $798 million, respectively, in 1985. Marine trade was the second most important sector in Florida's recreational boating industry. Boat equipment manufacturing, marinas and boatyards, and marine service sectors also increased in direct employment and total output from 1980 to 1985.

Table 4. Comparison of the direct contribution of recreational boating sectors to the Florida economy for 1980 and 1985

Sector	1980		1985	
	Direct Employment	Total Output	Direct Employment	Total Output
Boat and trailer manufacturing	6,910	$389,337,652	11,903	$798,125,496
Boat equipment manufacturing	1,662	49,416,464	1,916	67,802,209
Marinas and boatyards	3,100	110,973,911	4,298	153,871,389
Marine trade	3,130	188,522,615	4,340	311,062,314
Marine services	472	13,729,404	768	29,262,927
Total industry	15,274	$751,980,046	23,225	$1,360,124,335

SOURCE: See Appendix 1.

TOTAL ECONOMIC ACTIVITY BY SECTOR, 1980 and 1985

The appropriate measure of the economic impact an industry has on a state's economy is not just the initial or direct impacts of employment, income, and output, but also the impacts that occur in other sectors of the economy. These direct, indirect, and induced impacts provide a measure of the total economic activity resulting from production and export sales associated with the various sectors of the recreational boating industry in Florida. Total economic activity is defined as the sum of the total output and the output generated in other sectors of the state's economy due to indirect and induced effects. These cumulative impacts are captured through the use of multipliers that measure the additional output created by direct output within a sector.

Three sets of economic impact multipliers were used to provide estimates of the total economic activity associated with the five industry sectors (Table 5). The multipliers developed in the initial study by Milon et al. 1983, referred to as the "original survey multipliers" in Table 5, generated an estimate for total industry economic activity in 1985 of $2.7 billion. This represents an increase of 83 percent from the estimate of $1.48 billion for 1980. These original survey multipliers were derived from the primary data collected as part of the initial study and used to construct an input-output model of the marine recreation sectors. These multipliers are the most precise, but expensive, estimates of economic impacts. The "unadjusted model multipliers" reported in Table 5 are multipliers from a 57 sector model of the Florida economy that was not adjusted with primary data specific to the Florida recreational boating industry (see Gordon, Mulkey, and

Table 5. Alternative estimates of the total economic activity attributable to the five recreational boating sectors in the Florida economy using alternative output multipliers, 1985

Sector	Original Survey Multipliers	Unadjusted Model Multipliers	Water Resources Council Multipliers
Boat and trailer manufacturing	$1,687,693,584	$1,621,579,792	$1,442,286,815
Boat equipment manufacturing	121,621,227	147,780,451	124,429,140
Marinas and boatyards	395,733,344	384,361,602	308,070,166
Marine trade	457,758,681	485,515,704	484,568,520
Marine services	37,769,100	39,854,784	34,818,335
Total industry	$2,700,575,936	$2,679,092,333	$2,374,172,975

SOURCE: See Appendix 1.

Goggin, 1980). The "Water Resources Council multipliers" also used for Table 5 were taken from an input-output model previously estimated by the Water Resources Council for 56 sectors and 173 regions throughout the U.S. More details on the basis for these different multipliers are provided in Milon, Mulkey, and Ellerbrock, 1982.

Note the relative consistency of the estimated total economic activity for each sector and the industry reported in Table 5. While the total activity attributed to each sector may be smaller or larger depending on the set of multipliers used for the analysis, in general the total picture of the industry is very similar. These results suggest that detailed survey methods such as those employed in the original Milon et al. (1983) study of the Florida recreational boating industry add limited additional information in relation to the extra time and cost required. Given the difficulty of defining and identifying the broad array of businesses that make up the recreational boating industry in Florida, these estimates are the best available measures of economic growth in the industry from 1980 to 1985.

SUMMARY AND CONCLUSIONS

This report updates a previous study of the economic impact of Florida's recreational boating industry in 1980 using secondary data for 1985 from industry trade associations and government agency sources. Recreational boat registrations in Florida increased to 554,675 in 1985, with 4.9 registrations per one hundred Florida residents. Total retail sales of marine recreation products in Florida increased from $796 million in 1980 to $1.32 billion in 1985. Sales of boats, outboard motors, boat trailers, and marine accessories increased from $334 million in 1980 to $720 million in 1985. Boat sales represented the largest share of this market but the largest percentage increase in sales was in the outboard motor market. Direct employment in the recreational boating industry increased from 15,274 to 23,225 and total output increased from $752 million in 1980 to $1.36 billion in 1985. Total economic activity also increased from 1980 to 1985. Using the multipliers employed in the original study by Milon et al., 1983, total economic activity increased by approximately 80 percent during the 1980-85 period. Similar findings resulted from the use of other multipliers.

The recreational boating industry is an important component of the overall Florida economy. Given Florida's growing coastal population, strong tourist industry, and projected increases in recreational boat registrations, this industry will likely continue to be an important source of jobs and income for Floridians. In light of this economic contribution, industry and state officials should consider ways to improve the collection of employment and sales data that would permit more detailed evaluation of economic activity and trends in this industry.

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GLOSSARY

Direct employment is the number of employees who produce the total output in each sector.

Direct impacts are the wages, rents and other income in all stages of production within the industry.

Direct income is the wages and salaries earned by employees within the sector.

Impact multiplier is a measure of the direct and indirect impacts caused by purchases of raw materials and labor due to changes in final demand for a sector's products. Generally, the greater a sector's dependence on other state industries for raw materials and services, the larger the impact multiplier.

Imports are a measure of the goods and services purchased by Florida firms or households from businesses outside Florida.

Indirect impacts are created through the sale of materials and services to the industry by other state industries.

Induced impacts are due to spending by employees in a primary or support industry and are distributed throughout the state economy by way of retail purchases, checking and savings accounts, and other sales of goods and services.

Total economic activity for a sector is the sum of total output and the output generated in other sectors of the state economy due to indirect and induced effects.

Total employment is the sum of direct employment and the employment generated in other sectors due to indirect and induced effects.

Total income is the sum of direct income earned by each sector's employees and the income generated in other sectors due to indirect and induced effects.

Total output for a sector is the sum of in-state sales and exports. This is measured in terms of the dollar value of each sector's sales to final demand.

Value added provides a measure of the wages, interest, rent, and profit earned by employees and owners of firms within each sector.

APPENDIX 1: NOTES ON CALCULATIONS

This appendix gives a brief description of the calculations used to estimate the 1985 output and employment results reported in Tables 4 and 5. For these calculations it was assumed that: a) the intersectoral transactions coefficients remained the same as those used in constructing the 1980 input-output model reported in Milon et al., 1983; and, b) the distribution of total sales between in-state and export sales in 1985 was the same as the distribution identified from survey data for 1980 and reported in Milon et al., 1983. Specific estimation procedures were as follows:

- Table 4: Instate sales by boat and trailer manufacturers and boat equipment manufacturers were increased by the 1980-85 Florida growth rates for these products reported in Table 3. Instate sales by marinas and boatyards, marine trade, and marine services were increased by the 1980-85 total Florida sales growth rate from Table 2. Export sales by boat and trailer manufacturers and boat equipment manufacturers were increased by the 1980-85 U.S. growth rates for these products reported in Table 3. Export sales by the remaining sectors were increased by the 1980-85 total Florida sales growth rate from Table 2 since most export sales are services rendered to tourists and there is no way to distinguish resident and tourist sales in the Florida sales reporting system. Direct employment in each sector was estimated by dividing the 1985 total output estimate (adjusted for inflation using the U.S. Bureau of Labor Statistics Producers' Price Index) by the 1980 output per employee ratio for each sector. This procedure assumes no change in labor productivity between 1980 and 1985.

- Table 5: Estimated 1985 export sales for each sector were increased by the sectoral multiplier from the three sources cited in the text. The product of this multiplication was then added to 1985 instate sales for each sector to determine total economic activity. The specific multipliers used in the calculations were:

	Original Survey	Unadjusted Model	Water Resources Council
Boat manufacturing	2.96	2.82	2.38
Eqpmt. manufacturing	2.31	2.95	2.37
Marinas & boatyards	3.36	3.24	2.39
Marine trade	2.63	2.93	2.92
Marine services	2.90	3.37	2.24