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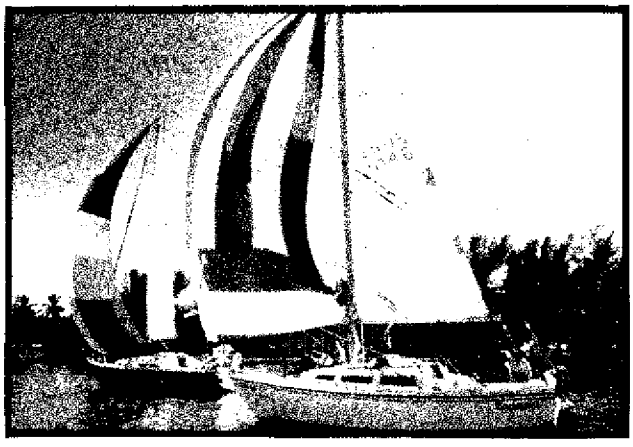
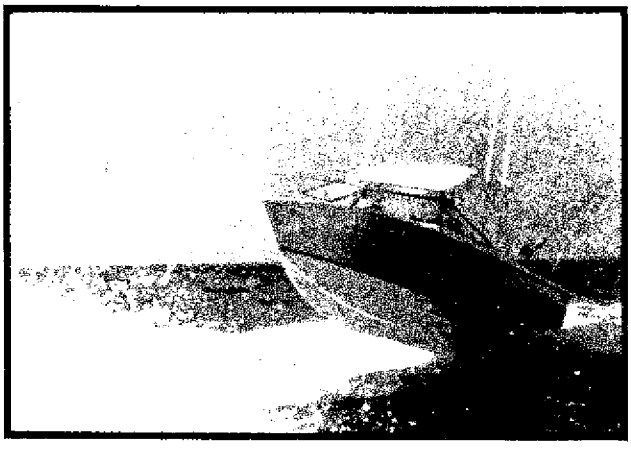
EMPLOYMENT AND SALES CHARACTERISTICS OF FLORIDA'S RECREATIONAL BOATING INDUSTRY





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PREFACE

This is the first in a series of reports from a research project on Florida's marine recreation industry funded under a grant from the U.S. Oceanic and Atmospheric Administration, Office of Sea Grant (NA80AA-D-00038-R/CD-3). The research project examined the economic characteristics of the five sectors in the marine recreation industry:

-Boat manufacturing

-Marine equipment manufacturing

-Marinas and boatyards

-Marine trade

-Marine services

This report describes the growth of boat manufacturing and boating retail trade in Florida during the period 1970-1981. Trends in sales, employment and the number of firms in the sector are presented. In addition, more detailed socioeconomic information on the boating retail market in Florida and the wage structure in the sector are also reported.

Data for this report were collected from the National Marine Manufacturer's Association, the U.S. Department of Labor, the Florida Department of Labor and Employment Security, the Florida Department of Natural Resources, and the Florida Department of Revenue. In addition, Florida boat manufacturers were surveyed, first by a mail survey in October 1981 and again in personal interviews by the authors during the period March to October, 1982. Complete details of the questionnaire and results are available from the authors on request.

Subsequent reports from this project will present information on the marina and boatyard sector ("Financial Structure and Performance of Florida's

Recreational Marinas and Boatyards," Florida Sea Grant Report Number 53) and the direct and indirect economic impact of the total industry on the Florida economy ("The Economic Impact of Marine Recreation on the Florida Economy," Florida Sea Grant Report Number 54).

ACKNOWLEDGEMENTS

Many individuals kindly shared their time and information to make this publication possible. First of all, we thank the boat manufacturers who participated in our survey especially George Good of Bertram Yachts, Ed Atchley of Cobia Boats, Brad Lazzara of Gulfstar, and Bob Long of Wellcraft. We are grateful to the individuals who provided data from government agency records, in particular, Pat Nielson, Bureau of Labor Statistics, Atlanta, Ralph Sperling, Department of Natural Resources, Tallahassee, and, Ed Stalvey, Department of Revenue, Tallahassee. We also thank George Rounds, National Marine Manufacturers Association, Chicago, and Doug Crane, Marine Industries Association of Florida, for sharing their knowledge of the recreational boating industry with us. Finally, special thanks to Bobbie Stewart and Millie Pfeifler for their adroit typing of the manuscript.

EXECUTIVE SUMMARY

The purpose of this report is to provide economic information on Florida's marine recreation industry with particular emphasis on the characteristics of employment and sales in recreational boating.

During 1981, Florida was ranked number one in the dollar value of boat and motor sales in the U.S. The number of recreational boats registered in Florida increased by 360,010 (298 percent) from 1964 to 1981. During that same time span, the number of recreational boats per thousand residents increased from 21.4 boats to 47.6 boats.

Florida's market accounted for 10.5 percent of the national market for retail sales of boats, motors, trailers and marine accessories during 1980. The 1979-1981 period experienced a decline in the retail market for boats, motors and trailers in Florida, as well as in the U.S. Retail sales for marine recreation were $204,729,866 during 1970; sales increased to $845,300,878 by 1981, a 313 percent increase. Less than one percent ($5,006,661) of the sales tax collections in the state during 1981 were from recreational marine product sales. The boat building and repairing sector employed 7,788 persons during 1980 with a payroll of nearly $100,000,000.

Wages of employees in the boat building and repairing sector have been considerably higher than the minimum wage but lower wages than in total manufacturing. On average, employees in the boat building and repairing sector earned $6.81 per hour during 1980 compared to $7.27 per hour in total manufacturing and the $3.10 per hour minimum wage. Employees in ship building and repairing earned $8.55 per hour during 1980.

Labor turnover rates in the boat building and repairing sector and ship building and repairing sector were high compared to labor turnover rates for

total manufacturing. In 1980, the separation rate (quits plus layoffs) in manufacturing was 4.0 percent compared to 5.7 percent in ship building and 7.8 percent in boat building. The accession rates (new hires plus recalls) were 3.5, 5.7 and 6.2 percent, respectively. Cyclical volatility in the retail boat market and the fact that most occupations in the sector require a minimal amount of formal training are reasons for high labor turnover rates in the industry.

During 1981, there were 480,864 boats registered in Florida or one boat per 21.4 residents. Approximately 55 percent of the registered boats were less than 16 feet in length. Only 4.9 percent of the registered boats in Florida were over 26 feet. Boat registration data in the ten largest boating counties reflect differences in the types of recreational boating enjoyed around Florida. For example, in Dade County, nearly 61 percent of registered boats are in the 16 to 26 foot class. Similar statistics occurred in Broward and Palm Beach Counties. These three counties accounted for eighteen percent of the registered boats in Florida. Orange County, by contrast, with its numerous fresh water lakes had 58.4 percent of registered boats in the under 16 feet class.

Florida's recreational boating industry is virtually assured of real growth in the future due to continuing population and income growth, as well as the increasing leisure of tourists and residents. The retail market will continue to be affected by cyclical fluctuations in the national market. These fluctuations will not be as severe as fluctuations in the national market due to the large number of retirees with guaranteed incomes in Florida who have made boating an integral part of their lifestyle. Future expansion of the recreational boating industry is expected in the major growth areas such as Southwest Florida (Lee and Charlotte Counties) and the Tampa Bay area (Pinellas, Hillsborough, Manatee, and Sarasota Counties).

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EMPLOYMENT AND SALES CHARACTERISTICS OF FLORIDA'S RECREATIONAL BOATING INDUSTRY

INTRODUCTION

The growth of personal income and leisure time for the average American worker during the past two decades has led to a dramatic increase in expenditures for recreational activities. During the period 1960 to 1979, total recreation expenditures increased from $17.9 billion in nominal dollars to $101.1 billion. This represented an increase in the share of total personal consumption from 5.5 percent in 1960 to 6.7 percent in 1979 [10, p. 245].

Personal expenditures for recreational boating have grown at a comparable pace. Retail expenditures for recreational boating products[1] increased from $2.5 billion in 1960 to $8.25 billion in 1981, a 230 percent increase [7]. The number of boats in use increased from 7.2 million in 1960 to 11.8 million in 1980 while annual boat sales jumped from 322,500 units in 1964 to 594,500 units in 1981 [6;7].

The growth of the recreational boating market in Florida has been even more dramatic. The number of registered pleasure boats increased from 120,854 in 1964 [2] to 480,864 in 1981 [4], an annual growth rate of 8.4 percent . In 1981, Florida was the nation's fifth largest state in boat registrations. This represents approximately 6 percent of the total U.S. registered boats while Florida's population was approximately 4 percent of the total U.S. population[2] [7]. In addition, the Florida market ranked number one in the dollar value of 1981 boat and motor sales in the U.S.

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[1]Boating products include all boats (power and sail), motors, accessories, fuel docking and insurance.

[2]The reader should be aware that state regulations differ across the U.S. Several states with larger numbers of registered boats include sailboats and other watercraft in their registration data whereas Florida does not.

This report describes the growth of the Florida recreational boating market and boat manufacturing sector during the period 1970-1981. The first section is an overview of trends in pleasure boat registrations, retail sales by boat and motor dealers, and employment in boat manufacturing during the period. The second section provides more detailed information on the wage structure within the boat manufacturing labor market and a comparison of Florida wages with national average wages in manufacturing industries. The last section gives a description of the retail boating market in Florida through data on the composition of boat sales, the sales volume in the population centers, and a profile of the Florida boating consumer.

THE GROWTH OF RECREATIONAL BOATING IN FLORIDA

Boat Registrations

The tremendous growth of recreational boating in Florida is due to both population growth and rising real personal income. During the period 1964 to 1981, population changed from 5,776,820 to 10,098,144, an increase of 134 percent [1]. At the same time, personal income per capita increased 307 percent [1]. The number of registered recreational boats increased from 120,854 in 1964[3] to 480,864 in 1981, a rise of 298 percent (Table 1).

The increasing interest in recreational boating is apparent in the number of registered boat per thousand residents (Table 1). In 1964, there were 21.4 boats per thousand residents; by 1981 the ratio increased to 47.6. During the period 1964-1972, the ratio of boats to residents increased rapidly reflecting larger increases in the number of boats relative to population growth. Since 1975, however, the ratio has changed less rapidly even though the number of registered boats increased 162 percent in the period 1975-1981 compared to a

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[3]Information on boat ownership prior to 1964 is not available.

110 percent increase in the 1964-1974 period. This reflects a basic change in Florida boat registration requirements in 1975.[4]

Table 1. Recreational boats, total boats, and boat registrations in per thousand residents Florida, 1964 to 1981.

	Recreational boats[a]	Total boats[b]	Number of recreational boats per thousand residents[c]
1964	120,854	148,884	21.4
1965	128,723	156,349	21.6
1966	136,706	169,633	22.3
1967	149,663	181,521	23.8
1968	164,875	191,634	25.4
1969	177,323	204,445	26.4
1970	192,554	221,619	28.4
1971	208,096	234,093	29.0
1972	229,426	254,388	30.3
1973	249,219	273,032	31.0
1974	254,352	276,134	30.1
1975	347,306	369,872	40.3
1976	390,681	417,465	44.7
1977	403,054	425,722	45.2
1978	410,174	431,742	44.8
1979	453,500	473,977	48.0
1980	460,611	491,727	47.3
1981	480,864	518,756	47.6

[a]Prior to 1975 recreational boats using less than 10 horsepower 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 estimates from [1].
Source: [4]

Retail Sales

Recreational boating retail sales have had a difficult time during recent years. At the national level, the Iranian oil crisis in 1979 and subsequent gasoline price increases combined with sluggish growth in the domestic economy

[4]Data for the two periods 1964-1974 and 1975-1981 are not directly comparable due to a change in the registration requirements for power driven boats. The number presented for the pre-1975 period understates the actual number of pleasure craft that were in Florida.

have restricted sales growth. Recreational boat sales decreased from $2,224,752,000 in 1979 to $2,116,280,000 in 1981 and sales of boats, motors, and trailers declined from $2,965,552,000 in 1979 to $2,913,280,000 in 1981 (Table 2).

Table 2. U.S. and Florida retail sales of boats,[a] outboard motors, boat trailers, and marine accessories, 1979-1981.

	1979	1980	1981
U.S.			
Boats	$2,224,752,000	$1,933,780,000	$2,116,280,000
Outboard motors	596,600,000	544,400,000	698,010,000
Boat trailers	144,200,000	96,448,000	98,990,000
Marine accessories	NA	591,900,000	NA
U.S. Total	$2,965,552,000	$3,166,528,000	$2,913,280,000
Florida			
Boats	$277,204,100	$240,948,988	$263,688,488
Outboard motors	46,140,060	51,228,040	65,682,741
Boat trailers	10,252,620	6857,453	7,038,189
Marine accessories	NA	34,803,720	NA
Florida Total	$343,596,780	$333,838,201	$336,409,418

NA - not available.

[a]Includes outboard boats, runabouts, inboard/cruisers, inboard/outdrives, non-powered sailboats, and auxiliary powered sailboats.
Source: [6,7]

The Florida market has closely followed the national market. Boat sales decreased from $277,204,100 in 1979 to $263,688,488 in 1981; sales of boats, motors, and trailers declined from $343,596,780 in 1979 to $336,409,418 in 1981 (Table 2), a decline of 2.1 percent. In 1980 retail sales of boats, motors, trailers, and marine accessories in Florida accounted for 10.5 percent of the national market. This makes Florida the largest state retail boating market in the U.S.

In unit sales of outboard boats and inboard/outdrive boats, Florida accounted for 30,870 units in 1980 or about 8.9 percent of the U.S. total (Table 3). Unit sales represented a smaller fraction of the total than the fraction based on retail sales because Florida has a greater share of the higher valued large (over 26 feet) powerboat and sailboat market than most other states. At the present time, however, it is not possible to define these market shares or average unit values with any precision. Unit sales for outboard motors and trailers accounted for 9.3 and 7.4 percent of the national market, respectively; these unit shares are consistent with the market shares based on dollar sales. In 1980, Florida was the largest state market for outboard motor and trailer sales.

Table 3. U.S. and Florida unit sales of boats,[a] outboard motors, and boat trailers, 1980.

	Boats	Outboard motors	Boat trailers
		(Units)	
U.S.	346,000	315,000	176,000
Florida	30,870	29,295	13,024

[a]Includes outboard boats and inboard/outdrive boats.
Source: [6,7]

In addition to sales of boats, motors, trailers, and boat accessories, the retail recreational boating market also includes sales of marine accessories (hardware, paints, etc.), docking and storage, repairs, safety equipment and other items sold by marine dealers and brokers.[5] The retail sales by marine dealers and brokers rose from $204,729,866 in 1970 to $845,300,878 in

[5]The classification 'marine dealers and brokers' applies to businesses principally engaged in the retail sale of boating related products as defined by the Florida Department of Revenue. The retail sales figures presented in Table 4 do not include boating products sold by department and variety stores that are not primarily engaged in marine related sales.

1981 (Table 4), an increase of 313 percent. These sales closely follow the overall trends in the Florida economy. During the 1971-1973 expansion, retail sales increased 78 percent; the 1974-1975 recession reduced retail sales by 8.5 percent. Retail sales growth has been sluggish since 1979. In real terms (adjusted for inflation), retail sales increased 77.8 percent during the 1970-81 period.

Sales taxes collected from recreational marine product sales increased from $5,006,661 in 1970 to $16,801,232 in 1981 (Table 4). During the 1970-1981 time span, sales taxes collected for marine recreation increased nearly 236 percent. This increase was less than the overall retail sales growth of 313 percent reflecting the fact that a growing portion of Florida retail sales are made to out-of-state customers and hence are not subject to the sales tax. Sales taxes on boating products accounted for 0.72 percent of total sales and use tax collection in 1980.

Number of Retail Firms

The number of retail firms primarily engaged in marine recreation product sales has increased along with the volume of sales. The number of firms increased from 1,081 in 1970 to 2,265 in 1981, a 110 percent increase (Table 5). The average sales volume of a retail firm increased from $189,390 in 1970 to $373,201 in 1981.

Table 4. Total Florida retail sales for marine recreation[a] and sales tax collected,[b] 1970-1981.

Year	Retail sales	Net sales tax collected
1970	$204,729,866	$5,006,661
1971	208,902,507	5,136,425
1972	288,274,501	7,100,775
1973	372,801,782	9,562,387
1974	411,566,284	10,530,240
1975	376,589,979	9,391,039
1976	443,970,919	10,576,837
1977	507,657,128	11,785,274
1978	621,054,980	14,112,900
1979	762,675,473	14,849,267
1980	796,406,772	16,159,748
1981	845,300,878	16,801,232

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

[b]Net sales tax collections do not equal the percentage sales tax charge due to dealer commissions from the tax proceeds to cover administrative and handling expenses. In addition, not all retail sales are taxable.
Source: [5]

Table 5. Number of firms primarily engaged in retail sales of recreational boating products, 1970-1981.

Year	Number of firms
1970	1,081
1971	1,020
1972	1,327
1973	1,465
1975	1,695
1976	1,801
1977	1,944
1978	1,962
1979	1,990
1980	2,208
1981	2,265

Source: [5]

Boat and Accessory Manufacturing

As the volume of recreational boat sales expanded, the number of manufacturing firms engaged in boat building and repairing[6] (Standard Industrial Classification Code 3732) in Florida also increased. From 1970 to 1980 the number of manufacturing firms increased from 224 to 342 (Table 6). There are no available data on the number or composition of units manufactured in Florida during this time. Based on a survey by the authors of 1980 operating results for Florida boat manufacturers,[7] it is estimated that 17,926 units

Table 6. Annual employment and wage earnings in recreational boat building and repairing (SIC 3732) in Florida, 1970-1980.

Year	Number of firms	Average annual employment	Annual wage earnings
1970	224	6,432	$44,887,739
1971	223	6,458	46,441,644
1972	205	7,560	54,831,436
1973	218	9,252	72,863,721
1974	214	6,959	60,766,949
1975	225	5,577	53,866,992
1976	240	5,910	83,229,662
1977	269	6,244	83,845,962[a]
1978	293	7,730	84,462,262
1979	281	7,889	95,065,831
1980	342	6,813	91,342,226

[a]Estimate based on 1976 and 1978 annual payroll.
Source: [3,9]

[6]The classification 'boat building and repairing' applies to business primarily engaged in manufacturing and assembling wood and fiberglass recreational boats. Businesses that manufacture boating accessories such as hardware, electronics, etc. but are not primarily engaged in boat manufacturing are not included in this classification. Employment in these related manufacturing activities will be described in subsequent reports.

[7]Of 41 firms contacted, 30 provided information on 1980 results. The firms sampled accounted for 4,476 employees or 57.5 percent of total sector employment. The total wholesale value of the 11,773 units manufactured by the sample firms was $250,918,675.

were manufactured having an average wholesale price of $21,313. The total estimated wholesale value of units manufactured in Florida is $382,056,838 (Table 7) of which 39 percent are sold by retail dealers in Florida, 53 percent are shipped to retail dealers in other parts of the U.S., and 8 percent are exported. The wholesale value of $147,102,326 for shipments to dealers in Florida accounts for 61.5 percent of Florida retail sales in 1980 (Table 2) and the total wholesale value of $350,748,041 for total U.S. shipments accounts for 18.1 percent of total U.S. retail boat sales (Table 2). The $31,308,797 in export shipments accounts for 20.2 percent of the $154,842,274 U.S. boat export market in 1980 [7].

Table 7. Wholesale distribution of boats manufactured in Florida, 1980.

Market	Number of units shipped	Total value of shipments
Florida	6,902	$147,102,326
U.S.	9,555	203,645,715
Export	1,469	31,308,797
Total	17,926	$382,056,838

Source: Estimated from survey data collected by the authors.

Manufacturing Employment and Earnings

Employment in recreational boat manufacturing in Florida has followed the cyclical pattern of retail boat sales. Average annual employment in boat building and repairing (Standard Industrial Classification Code 3732) increased from 6,432 in 1970 to 9,252 in the peak year of 1973 (Table 6). Employment subsequently declined to 5,577 in the recession year 1975 and increased again to 7,889 in 1979 before falling slightly to 7,788 in 1980.

The number of firms engaged in boat building and repairing has fluctuated also but not always in the same direction as employment. The number of firms

increased from 224 in 1970 to 342 in 1980 (Table 6). Even though employment increased in the 1970-1973 period, the number of firms actually declined in the same period. This volatility in the number of firms and the number of employees is due in part to the flexibility the larger boat manufacturers have in adding employees to their assembly lines and the erratic nature of small 'mom and pop' boat builders.

Annual earnings for employees in boat building and repairing have grown from $44,887,739 in 1970 to $91,342,226 in 1980 (Table 6) but have exhibited considerable variability. Earnings rose to $72,863,721 in 1973, only to decline to $53,866,992 in the 1975 recession; since 1975 annual earnings have steadily increased each year except 1980. Average annual earnings per employee increased from $6,979 in 1970 to $13,407 in 1980.

Based on 1980 survey results for 30 manufacturing firms, labor expenses averaged 24.3 percent of net sales compared with material expenses which averaged 68.8 percent of net sales. There was considerable variability, however, with labor expenses ranging from as low as 8.0 percent of sales to 55.0 percent.

THE BOAT MANUFACTURING LABOR MARKET

Wages

Table 8 lists the federal minimum wages, average wages in U.S. manufacturing and wages paid in ship building and repairing (SIC 3731) and boat building and repairing (SIC 3732) in the U.S. from 1970 through 1980.[7] On the

[7]Ship building and repairing (SIC 3731) includes firms primarily engaged in large commercial vessels such as cargo vessels, tankers, ships, etc.; yachts, either for commercial or recreational use, are also included in this sector. Boat building and repairing (SIC 3732) applies principally to smaller vessels used for recreational purposes.

average, persons employed in ship building and repairing earned more per hour than persons in boat building and repairing or total manufacturing.

Table 8. Minimum wage and average U.S. manufacturing wages and wages paid to employees in ship building and repairing (SIC 3731) and boat building and repairing (SIC 3732), 1970-1980.

Year	Minimum wage	Total manufacturing	Ship building and repairing (SIC 3731)	Boat building and repairing (SIC 3732)
1970	$1.60	$3.35	$3.96	$3.09
1971	1.60	3.57	4.12	3.21
1972	1.60	3.82	4.40	3.36
1973	1.60	4.09	4.63	3.59
1974	2.00	4.42	4.99	3.93
1975	2.10	4.83	5.47	4.26
1976	2.30	5.22	5.97	4.50
1977	2.30	5.68	6.35	4.78
1978	2.65	6.17	6.98	5.29
1979	2.90	6.70	7.67	5.90
1980	3.10	7.27	8.55	6.81

Soure: [11]

The total manufacturing category is comprised of all products produced from raw materials through a manufacturing process, e.g. textiles, chemicals, autos, leather goods, machinery, etc. Although employees in boat building and repairing earned less per hour than those in total manufacturing or ship building and repairing, those employees received wages substantially greater than the minimum wage each year since 1970. For example, even though the minimum wage increased from $1.60 per hour in 1970 to $3.10 per hour in 1980, (a 93.8 percent increase), the average wage in boat building and repairing was $3.09 per hour during 1970. This average wage increased over 120 percent to $6.81 per hour by 1980.

Table 9 lists the average weekly hours worked and the average hourly earnings for workers employed in total manufacturing and transportation equipment manufacturing in Florida during the period 1972-1980. The transportation equipment industry is reported due to the lack of detailed

information on hours worked in ship building and repairing and boat building and repairing during the 1972-1980 period; but, those sectors are included in transportation equipment.

Table 9. Weekly hours worked and hourly wages in Florida manufacturing and transportation equipment, 1972-1980.

	Total Manufacturing		Transportation Equipment	
Year	Weekly hours worked	Hourly earnings	Weekly hours worked	Hourly earnings
1972	41.2	$3.20	41.2	$4.08
1973	41.0	3.45	41.4	4.34
1974	40.2	3.76	40.4	4.55
1975	40.0	4.11	40.1	5.10
1976	40.4	4.36	40.4	5.22
1977	40.7	4.63	40.8	5.60
1978	40.9	5.07	41.6	6.36
1979	N/A	N/A	N/A	N/A
1980	40.8	5.98	42.5	7.40

Source: [12]

Comparison of the data from Tables 8 and 9 shows that Florida employees in manufacturing industries earn slightly less per hour on average than employees in the U.S. in boat building and repairing and ship building and repairing. Florida's employees in transportation equipment manufacturing were paid $7.40 per hour compared to the national average of $8.55 per hour in ship building and repairing and $6.81 per hour in boat building and repairing.

To obtain more detailed information on wages and position classifications in Florida's boat building and repairing sector, a statewide labor market survey was conducted during October 1981. The survey included only hourly wage employees and not management. The survey identified thirty-eight specific occupations ranging from the lowest paid occupation, a glass cutter, to the highest paid, a purchasing agent. The occupations, as well as the average hourly wage ranges are listed on Table 10. Appendix I gives definitions of the thirty-eight specific occupations.

Fringe benefits identified in the survey varied from company to company. Table 11 lists the average number of sick days, vacation days, holidays, as well as insurance benefits received by Florida employees in boat building and repairing.

Labor Turnover

Labor turnover is a major problem in boat and ship building. Labor turnover is described as the movement of workers into and out of employment in a business or agency. Hires, layoffs, recalls and quits are all forms of labor turnover. At any given time, five to nine percent of the workforce is entering or leaving the labor market. Based on information from the U.S. Department of Labor Statistics, employees in the ship building and repairing and boat building and repairing sectors have a very high labor turnover rate compared to labor turnover rates for employees in total manufacturing. Table 12 lists separation (quits plus layoffs) and accession (hires plus recalls) rates for employees in U.S. ship building and repairing and boat building and repairing. In 1980, the separation rate in manufacturing was 4.0 percent compared to 5.7 percent in ship building and 7.8 percent in boat building. Similarly, the accession's rates were 3.5, 5.7, and 6.2, respectively.

Table 10. Florida labor market survey of wages paid in various occupations to employees in the boat building and repairing sector, October 1981.

Occupations[a]	Average hourly salary range
Boat cleaner	$4.25 - $6.08
Bonder	4.18 - 6.32
Cabinet marker	4.39 - 7.09
Carpenter, component	4.39 - 7.09
Carpenter, finish	4.66 - 7.33
Carpenter, frame	4.23 - 7.00
Decker	4.03 - 7.10
Electrician	4.36 - 6.95
Expeditor	4.29 - 6.41
Fork lift operator	4.33 - 6.32
Glass chopper operator	5.82 - 7.47
Glass cutter	4.01 - 6.73
Glass coat sprayer	5.49 - 7.14
Glass grinder	4.32 - 6.47
Glass laminator	4.49 - 7.51
Glass mold repairer and finisher	4.20 - 7.29
Glass parts assembler	5.08 - 6.50
Glass prep and parts puller	4.20 - 7.14
Glass refinisher and repairer	4.83 - 6.84
HPL Man	5.18 - 8.00
Janitor/boat mover	4.16 - 6.90
Machinist	4.60 - 6.96
Maintenance - plant	4.22 - 7.11
Maintenance - tool	4.92 - 7.13
Mechanic	4.49 - 6.97
Mill Man	4.61 - 7.45
Painter/varnisher	4.12 - 5.92
Plug builder	5.78 - 8.07
Purchasing agent	7.01 - 8.93
Receiving clerk	4.39 - 6.46
Rigger	4.33 - 6.75
Seamstress	4.18 - 6.22
Spar mechanic	4.75 - 6.22
Storekeeper	4.38 - 7.13
Upholsterer	4.13 - 6.12
Utility man	4.25 - 5.91
Boat Welder	4.58 - 5.87

[a]Occupational class descriptions may be found in the Appendix I.

Table 11. Florida boat manufacturing employee fringe benefits, October 1981.

Over 76 percent of the boat manufacturing firms surveyed had company paid insurance benefits paid for the company.
Average number of sick days - five days per year
Average number of vacation days - nine days per year
Average number of holidays - eight days per year

The major reasons for the high labor turnover rates in ship and boat building is the cyclical volatility in the retail boat market and the fact most occupations in the sector require little formal training. The majority of firms use assembly line processes that enable management to replace individual workers with little disruption or to shut down the line if retail product sales are down.

In general, layoffs increase during cyclical contractions whereas quits tend to move in the opposite direction. The effects of these forces on employment in boat building in Florida can be seen by referring back to Table 6. During the cyclical expansion phase, 1970-1973, annual employment increased from 6,432 to 9,252. During the subsequent contraction, 1974-1975, employment fell to 5,577. Given the nature of the retail boating market, it is very likely that employment in the boat manufacturing sector will continue to exhibit considerable fluctuations from year to year.

THE FLORIDA BOATING MARKET

Geographic Features

Recreational boating in Florida is as diverse as the variety of water resources available in the state. From the open ocean cruisers that characterize South Florida and the Keys to the lake runabouts in Central Florida,

Table 12. U.S. labor separation and assession rates for employees in manufacturing, ship building and repairing, and boat building and repairing, 1970-1980.

Year	Total manufacturing		Ship building and repairing		Boat building and repairing	
	Separations	Accessories	Separations	Accessions	Separations	Accessions
	% of labor force					
1970	4.8	4.0	8.1	7.3	N/A	N/A
1971	4.2	3.9	8.6	8.6	N/A	N/A
1972	4.3	4.2	7.8	8.1	8.3	9.0
1973	4.7	4.8	7.5	7.9	9.2	8.6
1974	4.9	4.2	6.5	7.4	8.7	7.8
1975	4.2	3.7	5.8	6.3	5.8	5.7
1976	3.8	3.9	6.4	7.0	5.6	6.7
1977	3.8	4.0	6.7	7.2	5.7	5.4
1978	3.9	4.1	7.2	6.9	5.7	6.5
1979	4.0	4.0	6.6	7.1	6.8	5.7
1980	4.0	3.5	5.7	5.7	7.8	6.2

Source: [11].

there are boating opportunities for virtually anyone who enjoys boating. This diversity is clearly reflected in the pattern of boat registrations around the state. In 1981, there were 480,864 boats registered in Florida or 47.6 boats per thousand residents (Table 13). Nearly 55 percent were less than 16 feet in length. Boats ranging from 16 to 26 feet in length comprised the second largest group with 38.8 percent of the boats in Florida. Boats over 26 feet comprised only 4.9 percent of Florida boat registration.

A different pattern emerges when one looks at registrations within the ten largest boating counties (Table 13). For example, in Dade County nearly 61 percent of registered boats are in the 16 to 26 foot class while only 27.2 percent were less than 16 feet. In addition, boats over 26 feet accounted for 10.9 percent of the registered boats. Similar patterns appeared in Broward and Palm Beach counties where a great deal of the recreational boating occurs in the Atlantic Ocean. These three counties alone account for 18 percent of the registered boats in Florida but they contain nearly 33 percent of the

Table 13. Pleasure boat registration data by length, statewide and ten largest counties, 1980-1981.

	Less than 12'	12' to 16'	16' to 26'	26' to 40'	40' to 65'	over 65'	Total	Number of boats per thousand resident
Statewide	40,792	224,704	186,545	20,573	3,291	111	480,864	47.6
Ten Largest Counties								
Dade	2,638	7,773	23,241	3,536	609	30	37,827	22.0
Pinellas	2,457	10,185	14,449	1,950	253	3	29,741	40.0
Broward	2,013	7,628	15,369	3,393	711	34	29,638	28.3
Hillsborough	3,801	14,397	9,795	668	95	3	29,041	43.9
Duval	1,463	13,909	8,182	815	146	1	24,735	42.9
Orange	2,029	11,195	8,837	359	30	0	22,652	47.0
Polk	2,263	12,278	4,766	183	22	0	19,612	59.3
Lee	925	7,028	10,089	966	152	3	19,345	90.1
Palm Beach	1,241	6,029	10,185	1,403	282	18	19,337	31.4
Brevard	2,237	7,459	6,539	865	97	3	17,849	63.4

Source: [4]

state's population. In 1981, there were 22.0, 28.3, and 31.4 boats per thousand residents in Dade, Broward, and Palm Beach counties, respectively. The Dade-Broward-Palm Beach area had the largest concentration of boats 26 feet and over; in 1981 the three counties accounted for 41.8 percent of total boat registrations over 26 feet.

On the other hand, Orange County with its numerous fresh water lakes is a small boater's haven with 58.4 percent of registered boats under 16 feet in length. Only 1.7 percent of the registered boats were over 26 feet. Since boating on fresh water lakes is a lower cost activity than salt water boating and it is readily accessible in Orange County, the number of boats per thousand residents was 47.0.

Among the ten largest boating counties, Lee County had the highest boat to residents ratio (90.1) indicating the tremendous popularity of recreational boating in Southwest Florida. Although, not among the top ten counties, Charlotte County which adjoins Lee County had the highest boat to resident ratio at 122.2 boats per thousand residents. Due to both counties proximity to the Gulf of Mexico, boats in the 16 to 26 foot class were more common than any other size boat.

The geographic diversity of recreational boating in Florida is also reflected in the distribution of boat sales in the major retail markets around Florida (Table 14). In the outboard boat class (which is generally limited to boats under 26 feet) the markets with the largest share of Florida sales were the Tampa Bay area (12.74 percent), Ft. Myers (8.46 percent), Miami (8.35 percent), and Orlando (7.58 percent).

In the inboard/outdrive class (boats which are typically over 16 feet in length), the Miami area was the single largest market at 22.9 percent. Combined with Ft. Lauderdale and West Palm Beach, the Southeast Florida area

accounted for almost 38 percent of total sales. The Ft. Myers area is also an important market with 12.39 percent of inboard/outdrive sales. The other major market is the Tampa Bay area at 9.26 percent. Note the relative importance of the larger inboard/outdrive boats in these markets where salt water boating is most common. In comparison, markets where fresh water boating is the most common such as Lakeland, Orlando, and Tallahassee tend to have a larger share of outboard boat sales than inboard/outdrive sales.

Table 14. Distribution of retail sales of outboard and inboard/outboard boats in Florida, year ending April 30, 1980.

Area	Outboard boats	Inboard/outdrive boats
	-------Percent of Florida retail sales-------	
Lakeland - Winter Haven, Polk	3.18	.25
Daytona - Volusia	3.62	2.62
Ft. Lauderdale - Hollywood, Broward	5.71	11.88
Ft. Myers - Lee	8.46	12.39
Gainesville - Alachua	.65	-
Jacksonville - Baker, Clay, Duval, Nassau, St. Johns	5.71	4.13
Melbourne - Titusville, Cocoa, Brevard	3.73	2.00
Miami - Dade	8.35	22.90
Orlando, Orange, Osceola, Seminole	7.58	6.63
Panama City, Bay	.98	.75
Pensocola, Escambia, Santa Rosa	3.29	1.25
Sarasota	3.95	5.13
Tallahassee, Leon, Wakaulla	1.09	-
Tampa, Hillsborough, Pasco, Pinellas	12.74	9.26
West Palm Beach, Boca Raton, Palm Beach	5.16	2.87
Other Areas	25.80	17.94
Total	100.00	100.00%

Source: [6]

Socioeconomic Features

The Florida retail boat consumer is very similar to the national boat consumer in terms of age, sex, marital status, and occupation (Tables 15 and 16). Outboard boat consumers in Florida who previously owned boats were, in the majority of purchases (75.0 percent), previous owners of outboard boats (Table 17). This pattern is consistent with the national market where 78.3 percent had previously owned outboard boats.

Table 15. The typical 1981 new boat buyer in Florida and the U.S. by age, sex and marital status.

	Age						Sex		Marital Status	
	Under 21	20-29	30-39	40-49	50-59	60 +	Male	Female	Married	Single, Separated Widow, Divorced
Florida	2%	9%	26%	18%	20%	22%	93%	3%	85%	15%
U.S.	1%	12%	30%	22%	18%	13%	92%	3%	82%	17%

Percentages may not add to 100 due to no response on survey form.
Source: [8]

Table 16. The typical 1981 new boat buyer in Florida and the U.S. by occupation

	Florida	U.S.
Male	93%	92%
Married	85	82
Occupation:		
Skilled laborer	8	16
Service technician	3	3
Professional	12	11
Clerical	1	2
Manager	19	24
Business owner	24	17
Police, fire, etc.	2	2
Farmer	1	1
Teacher	1	3
Student	2	1
Retired	20	10
Other	6	7
Median household income	N/A	$21,503

Source: [18]

Table 17. Distribution of previous boat ownership by outboard boats in Florida and the U.S., year ending April 30, 1980.

	Percent of previous boat ownership		
	Outboard	Inboard/outdrive	Other
Florida	75.0%	11.0%	14.0%
U.S.	78.3%	6.4%	15.3%

Source: [6]

A slightly different pattern emerges among inboard/outdrive boat consumers (Table 18). In both the Florida and U.S. markets, the majority of consumers previously owned outboard boats (52.3 and 55.0 percent, respectively). Repeat purchases of inboard/outdrive boats were not as common

Table 18. Distribution of previous boat ownership by inboard/outdrive consumers in Florida, year ending April 30, 1980.

	Percent of previous boat ownership		
	Outboard	Inboard/outdrive	Other
Florida	52.3%	35.9%	11.8%
U.S.	55.0%	33.2%	11.8%

Source: [6]

as with outboard boat consumers. This reflects, in part, the fact that inboard/outdrive boats carry a higher price and are more specialized than outboard boats.

The major difference between Florida and national boat consumers is in the number of persons in the consumers household. Florida has a considerably larger percentage of outboard boat consumers in two person households (49.7 percent) than the U.S. (35.8 percent) (Table 19). Due to Florida's large retirement community, the Florida outboard boat consumer is less interested in family oriented boats than the average U.S. consumer. This same pattern holds

Table 19. Number of persons in outboard boat purchaser's household in Florida and the U.S., year ending April 30, 1980.

	Number of persons in household					
	1	2	3	4	5	6 and over
Florida	4.9	49.7	15.3	15.6	9.3	7.0
U.S.	5.6	35.8	16.8	21.4	11.7	8.7

Source [6]

true for inboard/outdrive boats (Table 20) where 40.0 percent of Florida consumers were in two person households compared with 28.0 percent in the U.S.

Table 20. Number of persons in inboard/outdrive purchaser's household in Florida and the U.S., year ending April 30, 1980.

	Number of persons in household					
	1	2	3	4	5	6 and over
Florida	5.3	40.0	17.3	21.6	7.8	8.0
U.S.	5.8	28.0	15.9	25.5	14.4	10.4

Source: [6]

CONCLUSIONS

Florida's recreational boating industry has experienced considerable growth over the past decade but the growth path has been highly variable at times. The retail market has reflected the ups and downs of the national and state economies; however, increasing population and real income growth in Florida has insulated the retail market during the down turns.

The boat manufacturing sector has responded to the overall growth of the retail market with more firms and employees producing recreational boats in Florida. This sector has been especially affected by cyclical trends since most Florida firms ship to dealers across the U.S. Wages for employees in boat manufacturing have increased with inflation but remain relatively low

compared to other manufacturing industries due to the relatively unskilled and labor intensive nature of most boat manufacturing processes.

Future growth of Florida's recreational boating industry is virtually assured by continuing population and income growth and the increasing leisure time of tourists and residents. The retail market will continue to be affected by cyclical fluctuations but this variability should be less severe than in the national market. This is due to the large number of retirees with guaranteed incomes in Florida and the integral role that boating plays in the Florida lifestyle. Future growth is most likely in the major growth centers such as Southwest Florida (Lee and Charlotte Counties) and the Tampa Bay area.

With continued growth in the retail market, future growth of boat manufacturing is highly probable. While existing firms will continue to grow with the market, it is most likely that new firms will locate in Florida to supply the popular 16 to 26 foot boat market. Growth of large boat manufacturers (over 40 feet) will also continue but at a slower rate due to the wide geographic distribution of large boat dealers around the U.S. Future growth for large boat manufacturers is most likely to come from increasing export trade.

A growing number of employees in boat manufacturing is likely to occur with expansion of the market. Since it is unlikely that major changes in boat manufacturing techniques will occur within the next decade, the boat manufacturing process is likely to remain labor intensive and employee wages are likely to remain below other manufacturing industries.

With the development of these trends, the recreational boating industry is likely to become an increasingly important component of the Florida economy. While uncertainty about gasoline prices could have a negative effect on the growth of recreational boating, Florida boaters will try to continue

their boating activities as an active part of their lifestyle. With improvement in the national economy and stable gasoline prices, it seems likely that the Florida market will recapture some of the vigor it lost during the economic recessions and gasoline crises of the 1970's.

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APPENDIX

JOB CLASSIFICATION DESCRIPTIONS

Boat Cleaner - cleans decks and interior of dust, chips, shavings, and smudges. Cleans and polishes all surfaces prior to delivery to customer, and other duties incidental to the jobs and those assigned from time to time temporarily or permanently.

Bonder - bonds deck to hull, cabinets, bulkheads, components, engine sheds, frames, sole and etc. with fiberglass materials, and other duties incidental to the job and those assigned from time to time temporarily or permanently.

Cabinet Maker - sets up and operates variety of wood working machines to surface, cut, fabricate and assemble wooden components, and other duties incidental to the job and those assigned from time to time temporarily or permanently. Operates table saw, router and work from blueprints.

Carpenter, Component - fits and installs pre-assembled components, bulkheads, etc., and other duties incidental to the job and those assigned from time to time temporarily or permanently.

Carpenter, Frame - fabricates frames, reinforcing, tank covers, frame soles, cradles, battery boxes, etc. May be done in or out of a boat, and other duties incidental to the job and those assigned from time to time temporarily or permanently.

Decker - installs and assembles on the deck wood, metal and hardware, such as winches, stanchions, and bases, bow and stern rails, anchor windlass, stemhead, open and fixed ports, "J" molding, and etc. Also installs anchor platform, swim platform and ladder, hatches, S/S safety rails, genoa tracks, and etc., and other duties incidental to the job and those assigned from time to time temporarily or permanently.

Electrician - makes harnesses and installs all electrical systems and outlets in assembled boats, and other duties incidental to the job and those assigned from time to time temporarily or permanently.

Expeditor - fills and delivers orders to the boat lines and other parts of the plant. Also may fill kits and fill requisitions at the window, and other duties incidential to the job and those assigned from time to time temporarily or permanently.

Fork Lift Operator - operates fork lift to perform duties, such as boat moving, emptying trash dumpsters, loading of boats for delivery, and etc., and other duties incidental to the job and those assigned from time to time temporarily or permanently.

Glass Chopper Operator - operates spray gun with chopper attachment to spray mixture of chopped fiberglass resign and catalyst on molds to form lamination, and other duties incidental to the job and those assigned from time to time temporarily or permanently.

Glass Cutter - cuts fiberglass fabric to required length or pattern according to specification for use in lay up of laminated parts, and other duties incidental to the job and those assigned from time to time temporarily or permanently.

Glass Gel Coat Sprayer - mixes gel coat and catalyst and sprays surface of mold or plug using spray gun, and other duties incidental to the job and those assigned from time to time temporarily or permanently.

Glass Grinder - grinds and chips cast boat parts using portable grinder, chisel and mallet to remove ragged edges and excess fiberglass prior to assembly, and other duties incidental to the job and those assigned from time to time temporarily or permanently.

Glass Laminator - applies fiberglass fabric and resin catalyst mixture in alternating layers to mold or plug to build up to design thickness using brush, rollers and squeezes, and other duties incidental to the job and those assigned from time to time temporarily or permanently.

Glass Mold Repair and Finisher - repairs and modifies fiberglass mold using hand tools, gel coat, laminates, etc. to recondition molds for use, and other duties incidental to the job and those assigned from time to time temporarily or permanently.

Glass Parts Assembler - assembles fiberglass parts, such as fuel and water tanks, and other duties incidental to the job and those assigned from time to time temporarily or permanently.

Glass Prep and Parts Puller - removes hull, decks and other parts from molds and positions on cradles or staging. Cleans, smooths, buffs and waxes molds to prepare for gel coat, and other duties incidental to the job and those assigned from time to time temporarily or permanently.

Glass Refinisher and Repairer - gel coat refinisher to bring parts to standard quality, and other duties incidental to the job and those assigned from time to time temporarily or permanently.

HPL Man - lays out and glues hard pressure laminates to wood for bulkheads, doors, drawer fronts, furniture and etc., and other duties incidental to the job and those assigned from time to time temporarily or permanently.

Janitor/Boat Mover - sweeps and cleans the plant. Moves boats through production and loads boats for delivery, and other duties incidental to the job and those assigned from time to time temporarily or permanently.

Machinist - sets up and operates variety of machine tools, such as milling machine, lathe, drill press, and surface grider to machine parts to blue prints or specifications, and other duties incidental to the job and those assigned from time to time temporarily or permanently.

Maintenance, Plant - maintains all plant equipment, electrical, plumbing, machines and mechanical equipment, and other duties incidental to the job and those assigned from time to time temporarily or permanently.

Maintenance, Tool - maintains and repairs all small tools, and other duties incidental to the job and those assigned from time to time temporarily or permanently.

Mechanic - installs and underwater gear, engineers, tanks and plumbing, and other duties incidental to the job and those assigned from time to time temporarily or permanently.

Mill Man -set up and operates variety of wood working machines to surface, cut, and fabricate teak and mahogany wood for components, trim, doors, etc., and other duties incidental to the job and those assigned from time to time temporarily or permanently.

Painter/Varnisher - brush or spray paints, varnish, lacquer, rust proofing, or other agents into wood, metal and other fabricated parts and components, and other duties incidental to the job and those assigned from time to time temporarily or permanently.

Plug Builder - lofts, lays out, and constructs wooden plugs used in making molds for parts, such as hulls, decks, and cabins according to blue prints, line drawings, and specifications, and other duties incidental to the job and those assigned from time to time temporarily or permanently.

Receiving Clerk - receives all incoming material. May use fork lift truck to stack incoming material. Also may ship outgoing material, and other duties incidental to the job and those assigned from time to time temporarily or permanently.

Rigger - fabricates, fits and assembles all rigging for masts, spars and lifelines, and other duties incidental to the job and those assigned from time to time temporarily or permanently.

Seamstress - sews fabrics for cushions, pads, drapes, and etc., and other duties incidental to the job and those assigned from time to time temporarily or permanently.

Spar Mechanic - fabricates, fits and assembles all spars, stem heads, sail track, winches, and etc. to mast, and other duties incidental to the job and those assigned from time to time temporarily or permanently.

Store Keeper - responsible for inventory control. Also may fill kits and requisitions and other duties incidental to the job and those assigned from time to time temporarily or permanently.

Upholsterer - cuts fabric to required length, size or pattern according to specifications for use on cushions and etc. Fabricates and assembles in boats seat backs, cushions, pads and etc. Installs headliner and cut rugs to fit boats, and other duties incidental to the job and those assigned from time to time temporarily or permanently.

Utility Man - performs variety of unskilled and semi-skilled tasks in various departments on temporary or permanent basis as assigned by plant management, and other duties incidential to the job and those assigned from time to time temporarily or permanently.

Welder - burns and welds metal parts together as specified by layout, blue prints and diagrams, and other duties incidental to the job and those assigned from time to time temporarily or permanently.

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