ECONOMIC IMPACT OF THE RECREATIONAL BOATING INDUSTRY IN TEXAS

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Texas A&M University **Sea Grant College Program**

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EXECUTIVE SUMMARY

Recreational boating is a use of leisure time enjoyed by many people in the state of Texas. Besides providing recreational enjoyment, the recreational boating industry contributes to the growth and maintenance of the state economy. The results of a study conducted by Texas A&M University researchers of the economic impact of the recreational boating industry upon the Texas economy are summarized here.

The study, completed in January, 1985, was jointly funded by the Boating Trades Association of Texas and the Texas A&M University Sea Grant College Program.

Economic Impacts

The recreational boating industry in Texas is composed of four primary sectors: boat and trailer manufacturing; boat equipment manufacturing; marinas and boatyards; and marine trade. The type and estimated number of establishments in each sector in 1983 are shown in Table I. The total number of frims for each sector was estimated at 184 for boat and trailer manufacturing, 147 for boat equipment manufacturing, 320 for marina and boatyard, and 636 for marina trade. The total number of firms involved in recreational boating in the state of Texas in 1983 was thus estimated at 1287 firms.

The direct impact of each sector on the Texas economy is summarized in Table II. In 1983, the recreational boating industry employed approximately 10,220 people, had an estimated total value of output over $610 million, and paid out almost $184 million in income to Texas households. Of the approximately $610 million total output, more than $209 million was value added in the form of income, interest, and tax

Table I. Estimates of Recreational Boating Industry Size

Primary	Estimated # of Establishments (B-1 Primary Activity)	General Sector	Estimated # of Establishments (General Total)
1. Boat Manf.	71	1) Boat and Trailer Manufacturing	184
2. Trailer manf.	21		
3. Boat Repair	92		
4. Boat Accessories Mfg.	129	2) Boat Equipment Manufacturing	147
5. Sports/Rec Equip. Mfg.	18		
6. Marina or Boatyard	237	3) Marina Boatyard	320
7. Engine Repair	83		
8. Retail Boat and Trailer Dealer	438	4) Marine Trade	636
9. Wholesale Dealer for Boats and Trailers	48		
10. Retail Sales of Boat Products	72		
11. Other	78		
12. Aggregate Industry Size			1,287

payments. This indicates that almost 35 percent of the recreational boating industry's direct output value is in turn paid out as returns to resources (land, labor, capital, and management) employed within the state. Another implication is that a portion of the industry's output value goes to support government activities. Specifically, 1983 tax payments by the recreational boating industry to federal, state, and local governments were estimated at approximately $62 million, $28 million, and $15 million, respectively.

The total economic impact of the recretional boating industry on the Texas economy includes the direct impacts shown in Table II, plus indirect and induced economic impacts. Indirect and induced impacts are the values of income and employment in other industries within the state economy which are supported by direct production activity in the recreational boating industry. These impacts were estimated using an input-output model of the Texas economy.

The combined economic impacts (direct, indirect, and induced) of each sector in the recreational boating industry are shown in Table III. The total combined economic impacts of the recreational boating industry on the Texas economy in 1983 were estimated to exceed $1.7 billion. The industry supported 28,141 man-years of employment and paid over $398 million in household income. The boat and trailer manufacturing sector had the largest impact on total economic activity of all sectors (44 percent) followed closely by the marine trade sector (31 percent). The boat and trailer manufacturing and marine trade sectors also accounted for a substantial portion of the total employment generated by the recreational boating industry (36 and 41 percent, respectively).

Table II. Estimated Direct Economic Impact of the Recreational Boating Industry, 1983.

Sector	Employment	Direct Output	Direct Income	Value Added
	(Man-years)	$	$	$
Boat & Trailer Manufacturing	3,515	264,005,360	63,381,420	65,387,625
Boat Equipment Manufacturing	962	58,899,708	16,411,318	18,291,947
Marinas and Boatyards	1,284	83,805,717	23,046,588	30,397,620
Marine Trade	4,459	204,059,765	80,782,100	95,196,980
Total	10,220	610,770,550	183,621,426	209,274,172

Table III. Summary of Total Economic Impacts of the Recreational Boating Sectors on the Texas Economy, 1983.

	Total Employment	Total Income	Total Economic Activity
Boat & Trailer	(Man-years)	$	$
Manufacturing	10,077	169,278,000	757,695,400
Boat Equipment Manufacturing	2,213	27,899,200	135,469,300
Marinas and Boatyards	4,210	44,478,800	274,864,000
Marine Trade	11,641	156,717,100	532,594,000
Total Industry	28,141	398,373,100	1,700,622,700

Industry Profile

A further objective of the study was to examine the general profile of recreational boating firms in Texas. A variety of information was collected to gain a better understanding of the industry itself. For instance, the industry appears to be relatively well established with 50 percent of all firms being in operation for 12 or more years. Most firms in the recreational boating industry are organized as sole proprietorships and private corporations. Many firms also were engaged in activities not related to recreational boating. On the average, approximately 20 percent of a typical firm's annual revenue is due to non-recreational boating activities.

The most common type of advertisement used by firms in the recrational boating industry appears to be "word of mouth". Telephone directories, direct mail, and newspapers are frequently used also. Recreational boating firms face many types of management problems. The most severe problems appear to be the inability to obtain high quality labor and the seasonal nature of the boating business.

The use of "high technology" (e.g., personal computers, microcomputers, robotics, electronic information processing) by recreational boating firms was examined also. About 30 percent of firms in the industry employ some form of electronic information processing system. It is estimated that of those firms not currently using such systems, 50 percent will do so in the future. An estimated 24 percent of the high technology currently being used by recreational boating firms is provided by contract firms.

In terms of average output, typical firms which are largest in size appear to be those that are involved in boat manufacturing, trailer manufacturing, manufacturing of sports and recreational equipment for boating, retail boat and trailer sales, and wholesale boat and trailer sales as primary activities.

Most of the output from a typical recreational boating firm appears to remain in state. With respect to employment, firms involved in manufacturing as a primary activity employ more labor on average than firms involved in other primary activities. However, total salaries and commissions paid are similar for typical firms having manufacturing, retail sales, or wholesale sales as primary activities.

The majority of expenditures by a typical firm in the recreational boating industry are on non-labor items. The major areas of expenditures for a typical firm across all sectors are freight, advertising, rent, general maintenance, non-mortgage interest, insurance and utilities. With the exception of freight, most of the expenditures for a typical firm in the recreational boating industry are expended in Texas.

There is considerable variability in average value of fixed assets (lands, building, and equipment), average value of inventory, average tax payments, and average net income (before taxes)for firms engaging in different primary activities.

ABSTRACT

Recreational boating is a use of leisure time enjoyed by many people but which also forms the basis for a dynamic industry. The recreational boating industry in Texas is composed of four primary sectors: boat and trailer manufacturing; boat equipment manufacturing; marinas and boatyards; and marine trade. A study of the economic impact of the recreational boating industry in Texas was initiated in 1984. The study utilized primary (mail survey) and secondary data sources. The mail survey received a 52.5 percent response rate.

It is estimated that there are 1,287 recreational boating related firms in Texas. These firms engage in the manufacture of boats, trailer and accessories, provide marina facilities and repair services, and engage in the wholesale or retail sale of boats and boating related products. Profile information regarding firm ownership, length of industry tenure, marina activities, advertising, management problems, financial structure, and expectations regarding future effects of "high technology" was collected and examined.

Industry direct employment in 1983 accounts for approximately 10,220 jobs. Total value of direct output is estimated to be over $610 million with $184 million paid to Texas households. More than $209 million was value added in the form of income, interest, and tax payments. The combined annual direct, indirect, and induced impact of the recreational boating industry in the Texas economy was estimated to be $1.7 billion with employment of 28,141 man-years. More detailed and disaggregated results are presented in the report.

INTRODUCTION

Recreational boating is a popular leisure activity. For this reason the industry which supports the pastime has often been shown to have a significant role within state economies. A recent study of the Michigan boating industry indicated that more than $1 billion was spent on boating in 1981 [Stynes, et al.]. A typical boater spent an estimated $469 per year on craft-related items and $39 per day boating (approximately 33 days per year). In Rhode Island it was estimated that the boating industry produced $95 to $110 million in direct sales and $210 to $240 million in total business activity when multiplier effects are accounted for [Rorholm and Burrage]. In Florida, retail sales for marine boating increased 313 percent between 1970 and 1981 (from $204.7 to $845.3 million) and accounted for 10.5 percent of U.S. retail marine boating sales [Milon and Riddle]. The magnitude of the boating industry in Texas, however, has not been examined previously.

The Texas recreational boating industry is suspected to have a fairly significant impact upon the Texas economy. Recreation and tourism within the Texas Gulf Coast were examined by Ingram (1974) in the early 1970's. This was followed by a study of Texas Gulf Coast marinas which focused primarily upon management problems but also generated some information on economic impacts (Crompton and Ditton, 1975). These authors estimated that 88 Gulf Coast marinas employed 597 persons who received approximately $5 million in personal income. In a more recent study of a twenty-three county area in East Texas there were 117,066 registered boats in 1980 [Sellar, Stoll, and Chavas, 1982]. These East Texas boaters travelled approximately 42 one-way miles to engage in boating at lakes Conroe, Livingston, Somerville, and Houston during 1980. They also spent about $27 per trip (excluding entrance fees and gasoline) and derived a residual value in excess of expenditures (consumer's surplus) which averaged $29 to 43 per boating group during the year [Sellar, Stoll, and Chavas, 1985]. These expenditures are net of fixed costs incurred for equipment, e.g., boats and trailers. In addition, it has been projected that there will be 7 million boating activity days in 1985 and 12 million by the year 2000 [Texas Parks and Wildlife Department, p. 65].

The purpose of this study was to examine the size of the recreational boating industry in Texas and its economic impact upon the Texas economy. Ancillary purposes were to examine the composition of the firms which make up the total recreational boating industry, their typical economic profiles, management problems which they must confront now and in the future, the role they anticipate "high technology" will play in their future, and to collect a variety of other information to better understand the industry itself.

Initially, the problem of defining the recreational boating industry had to be confronted. The industry is composed of many types of firms with their common link being that they are all involved in some aspect of the recreational boating industry. In a previous study of this industry in Florida, Milon et al. (1983) divided the industry into five primary sectors: 1) boat and trailer manufacturing, 2) boat equipment manufacturing, 3) marinas and boatyards, 4) marine trade, and 5) marine services. These sectors could be defined by the Standard Industrial Classification Codes (SIC's) which are used by the federal government to define business activities and report information. Much of the secondary data which is available concerning the boating industry is reported according to these categories. Yet, as can be seen (Table 1), these categories are much to aggregated in many instances to be useful for assessing the economic impact of the recreational boating industry. For example, many marinas sell gasoline for boats but they are lumped into the SIC 5541 category which includes all service stations. For this reason, an attempt was made to identify firms which were legitimate members of the recreational boating industry. These efforts will be briefly described later in this report.

Once the industry population was identified, a carefully designed survey instrument was mailed to a sample of the overall population. Upon receiving responses to the questionnaire, the industry size estimates were again revised to present an accurate assessment of industry size and economic impact. All sectors listed in Table 1 were surveyed except marine services. This latter sector was judged impossible to identify accurately. It was believed a more reliable estimate of its economic impact would be obtained through the input-output analysis conducted to measure indirect (or secondary) impacts of the entire industry.

The remainder of this report is organized into four primary sections. First the data collection effort is described in detail. It is followed in the second section by a description of survey response rates and preliminary estimates of industry size based upon these response rates. In the third section a general profile of the recreational boating industry is presented. The profile includes information concerning primary firm activity, type of ownership, marina activities, and management problems. The fourth section is used to discuss the economic

Table 1. Five sectors comprising the recreational boating industry with primary products and Standard Industrial Classifications Codes for each sector.

Sector	Primary Products	Standard Industrial Code Classification
Boat and Trailer Manufacturing	Recreational Boast Boat Trailers	3732-Boat Building and Repairing 3799-Miscellaneous Transport Equipment
Boat Equipment Manufacturing	Hardware Accessories	3069-Miscellaneous Rubber Products 3079-Miscellaneous Plastics Products 3429-Miscellaneous Hardware
	Navigation Equipment	3662-Transmitting and Detection Eqmt.
Marinas and Boatyards	Storage, Repairs Fuel, and Supplies	4459-Miscellaneous Local Water Trans. Ser. 4469-Miscellaneous Water Trans. Ser.
Marine Trade	Retail Sales of Boats and Boating Products	5311-Department Stores 5541-Gasoline Service Stations 5551-Boat Dealers 5941-Sporting Goods Stores & Bicycle Shops
		5041-Sporting & Recreational Goods & Sup. 5088-Transportation Eqmt. & Supplies except motor vehicles 5099-Durable goods, not elsewhere classified
Marine Services	Publishing Financing	2721-Periodical Publishing 6000-Banking 6300-Insurance 6331-Marine Insurance
	Chartering	7999-Miscellaneous Recreation Services

Sources: U.S. Bureau of the Budget, Standard Industrial Classification Manual, 1958 (Washington, D.C.: Government Printing Office).

Milon, W.J., D. Mulkey, P.H. Riddle, and G.W. Wilkowske, "Economic Impact of Marine Recreational Boating on the Florida Economy," Sea Grant Report No. 54, March 1983.

characteristics of firms in the recreational boating industry in Texas. Information concerning direct employment, expenditures, output, and revised estimates of industry size are presented. Secondary or indirect impacts are provided in section five. The procedures for derivation of these estimates using the Texas input-output model are discussed and their limitations pointed out. A final section is used to summarize the results of the study.

DATA COLLECTION

Primary data used to assess the economic impact of the recreational boating industry on the Texas economy were collected with a statewide mail survey. The conduct of the survey was based on the Dillman total design method [1978]. Previous studies have demonstrated that the method leads to substantial increases in response rates.

The first task for administering the mail survey was to develop a sampling frame for recreational boating firms in Texas. This sampling frame represented a best estimate of all establishments in Texas involved in boat and trailer manufacturing, boat equipment manufacturing, operation of a marina or boatyard, or marine trade. A sample of establishments was drawn randomly from the sampling frame. Sample establishments were then sent a mail questionnaire. The questionnaire was designed to collect detailed information on each sample firm's basic industry profile and economic position.

Development of Sampling Frame

The recreational boating industry in Texas was divided into five basic sectors for development of the sampling frame. These groups were:

1) boat manufacturing; 2) trailer manufacturing; 3) boat equipment manufacturing; 4) marinas and boatyards; and 5) marine trade. An attempt was made to develop a list of all establishments in Texas falling into each of these categories. Sources which contained names and addresses of firms which fell into one or more of the five sectors are shown in Table 2. These sources are referenced by number in Table 2 and are listed on the bottom of the table.

Sources for the boat and trailer manufacturing sectors included the 1984 Directory of Texas Manufacturers (4), a United States Coast Guard listing of boat manufacturers (7), a computer listing of boating firms from the Texas Comptroller of Public Accounts (8), Boat Owner's 1980 Buyers Guide (1), Boat and Motor Market Manual 1982-83 (2), 23rd Marine Buyers' Guide (3), and the 1983 Directory of the Boating Trades Association of Texas (5). Sources for the boat equipment manufacturing sector included the 1984 Directory of Texas Manufacturers (4), Boat Owners 1980 Buyers Guide (1), Boat and Motor Dealer Market Manual 1982-83 (2), 23rd Marine Buyers Guide (3), and the 1983 Directory of the Boating Trades Association of Texas (5). Sources for the marinas and boatyards sector included a listing of marinas and boatyards from the Texas Agricultural Extension Service (11), Marinas Along the Texas Gulf Coast - A Directory (9), a computer listing of boating firms from the Texas Comptroller of Public Accounts (8), the 1983-84 Yearbook of the Marina Association of Texas (6), and the Boat Buyers' Annual (10). Sources for the marine trade sector included a computer listing of boating firms from the Texas Comptroller of Public Accounts (8), and the 1983 Directory of the Boating Trades Association of Texas (4).

Table 2. Population List Sources by Sector

Sector	Source										
	1	2	3	4	5	6	7	8	9	10	11
Boat Manufacturing	X	X	X	X	X		X	X			
Trailer Manufacturing	X	X	X	X	X		X	X			
Boat Equipment Manufacturing	X	X	X	X	X						
Marinas and Boatyards					X	X		X	X	X	X
Marine Trade					X			X			

1. Martha M. Lostrom, editor. *Boat Owners 1980 Buyers Guide,* Ziff-Davis Publishing Co., New York, NY,(1979).

2. *Boat and Motor Dealer - Market Manual 1982-83,* Boat and Motor Dealer Magazine, Volume 25, Number 13, December, (1982).

3. *23rd Marine Buyers' Guide Issue,* Boating Industry Magazine, December, (1982).

4. *1984 Directory of Texas Manufacturers,* Volumes 1 and 2, Bureau of Business Research, The University of Texas, Austin(1984).

5. *1983 Directory,* Boating Trades Association of Texas, Dallas, TX (1983).

6. *Yearbook - Membership 1983-84,* Marina Association of Texas, Kemp, Texas (1983).

7. List of Texas Recreational Boat Builders, provided by the United States Coast Guard, F. Edward Hebert Bldg., 600 South ST., Room 1017, New Orleans, LA. (1983).

8. List of Texas Boat and Trailer Manufacturers, Boat Equipment Manufactures, Boat Dealers, and Marinas provided by the Comptroller of Public Accounts, State of Texas, Austin, TX (1983).

9. Scogin, M. and D. Hollin, *Marinas Along the Texas Gulf Coast - A Directory,* TAMU-56-81-502 Sea Grant College Program, Texas A&M University, College Station, TX (1981).

10. *1969 Boat Buyers Annual,* BUC International Corporation, Fort Lauderdale, FL (1968).

11. List of Texas Marinas and Boatyards, provided by The Texas Agricultural Extension Service, Rt 2, Box 589, Corpus Christi, TX (1983).

After examining and cross referencing all sources, a list of firm names and addresses were compiled for each sector. The list for the boat manufacturing sector contained 289 firms, the trailer manufacturing list contained 21 firms, the boat equipment manufacturing list contained 54 names, the marinas and boatyards list contained 460 firms and the marine trade list contained 935 firms. The sampling frame thus was composed of a total of 1,759 firms.

Development of the Sample

A sample of boating firms was selected randomly from the five sampling frame lists. The marina and boatyards and marine trade sectors were sampled at 50 percent. The boat manufacturing, trailer manufacturing and boat equipment manufacturing groups were sampled at 100 percent. The final sample consisted of 289 firms for the boat manufacturing group, 21 firms for the trailer manufacturing group, 54 firms for the boat equipment manufacturing group, 230 firms for the marinas and boatyards sector, and 448 firms for the marine trade sector. Thus, the total sample to which the questionnaire was distributed consisted of 1,042 firms.

Mail Survey Procedures

Each firm in the sample was mailed a packet in the summer of 1984 which contained two cover letters, a questionnaire and a postage paid return envelope. One of the cover letters in the packet was from the research team at Texas A&M University and the other was from the Boating Trades Association of Texas. The cover letters introduced the boating industry study, described its purpose and overall importance and emphasized the value of each respondent's contribution to the study. The primary objectives of the cover letters were to interest the sample firms in completing the questionnaire and to answer any general questions they had concerning the study. Sample firms having specific questions were instructed to call the project director at Texas A&M University.

One week after the initial mailing, all sample firms were sent a post card reminder. The post card encouraged sample firms to complete and return the questionnaire if they had not done so already, and asked them to call the project director if they never received the initial questionnaire. Sample firms not responding within three weeks were sent a follow up letter with a replacement questionnaire. The follow up letter encouraged them to complete and return the questionnaire by re-emphasizing the importance of the study and the value of each respondent's responses to the questionnaire. Sample firms not responding within six weeks were sent a second follow up letter and replacement questionnaire by certified mail. Certified mail was used to insure delivery. The second follow up letter encouraged sample firms to complete the questionnaire by once again emphasizing the importance of the study and the value of each respondent's contribution to the quality of results. The cover letters, post card reminder, and first and second follow up letters are shown in Appendix A.

The study was also announced immediately prior to survey administration in newsletters published by the Boating Trades Association of Texas and also by the Marina Association of Texas. The public announcement was made to inform members of the recreational boating industry of study purposes and to enlist the support of the membership of these organizations to improve survey response rates.

Questionnaire Structure

The initial questionnaire was designed by considering previous mail survey studies performed by the present authors and work by other researchers at Florida [Milon, et al., 1983a,b], Michigan [Stynes, et al.], and Rhode Island [Rorholm and Burrage]. The initial survey instrument was presented to co-workers, students, Sea Grant personnel and a steering committee of Boating Trades Association of Texas members to obtain suggestions for revision. After the initial revision, a pretest was conducted. The pretest cosisted of a mail-out of 100 questionnaires to a separate subset of the 1759 identified recreational boating firms. The pretest questionnaire was mailed out concurrently to approximately 10 other researchers who specialize in the areas of recreation and survey design research. After responses from both aspects of the pretest were received, the survey instrument was again redesigned to obtain the final version of the survey instrument for use in the study.

The final questionnaire sent to sample firms contained three major sections. The first section asked questions pertaining to the general industry profile of the sample firm. For instance, in this section respondents indicated their type of business, their location(s), years in business, and so forth. The second section of the questionnaire contained questions related to the sample firm's economic position. Sample firms were asked to provide information on such items as total employment, wages, salaries, and commissions paid, value of sales, value of capital, tax payments, utility payments, and payments for other typical business expenditure categories. The questions in the third section of the questionnaire focused on management issues such as common management problems and the use of high technology in the recreational boating industry. The questions were designed primary to elicit sample firms' attitudes toward these issues. (A copy of the questionnaire is shown in Appendix A.)

SURVEY RESPONSE AND INITIAL INDUSTRY SIZE ESTIMATE

Of the 1042 survey instruments mailed there were 164 bad addresses (Table 3). These bad addresses occurred because firms were no longer located at the address the research team obtained during the population identification phase of the research. Most likely this was because these firms were no longer in existence. First class mail was used and should have been forwarded otherwise. The forwarding orders for some firms may also have expired. If prior verification of the mailing list had been conducted, these firms would have been deleted from the population list prior to drawing the sample. After removing these firms from the mailing list, the revised sample frame was 878 firms.

Returned questionnaires were 52.5 percent (461 firms) of the revised sample frame. Of these 461 firms, 42.3 percent (195 firms) were nonuseable for a variety of reasons listed in Table 3. Useable responses for the data analysis were obtained from 57.7 percent (266) of the responding firms (30.1 percent of the revised sample frame).

Response rates for each component sector of the sample frame ranged from 47.7 percent to 59.6 percent (Table 4). The number of questionnaires mailed and useable responses received are also presented in Table 4. Two estimates of industry size were calculated based upon the sample proportions of bad addresses, firms reporting they had gone out of business, and firms reporting that they were not a part of the recreational boating industry. The midpoint of these two estimates is

Table 3. Response Summary for the Total Recreational Boating Industry

	Total Number		Percent of Returned Questionnaires	Percent of Revised Sample Frame
Total Questionnaires Mailed		1042		
Bad Addresses	164			
Revised Sample Frame		878		100.0%
Returned Questionnaires		461	100.0%	52.5%
Unusable questionnaires		195	42.3%	
Not part of industry	145		31.5%	
Out of business	39		8.5%	
New business (data not available)	3		.7%	
Not willing to provide data	8		1.7%	
Usable questionnaires		266	57.7%	30.1%

Table 4. Survey Response and Industry Size Estimate Summary

Industry Sector	Questionnaires Mailed	Response Rate[1]	Usable Responses	Industry Size Estimate[2]
				(# of establishments)
Boating Manufacturing	289	47.7%	58	211
Trailer Manufacturing	21	52.6%	5	15
Boat Equipment Manufacturing	54	48.0%	20	48
Marine Trade (e.g., Dealers & Accessories)	448	52.3%	115	670
Marinas and Boatyards	230	59.6%	68	343
Total Industry	1042	52.5%	266	1287

[1] Response rate is calculated as a percent of the revised sample frame, i.e., after removal of bad addresses (see Appendix B).

[2] Used midpoint of size estimate ranges presented in Appendix B.

reported in column 4 of Table 4 and was used for adjusted calculations to obtain final industry size estimates presented later. (For a breakdown of these aggregate calculations for the industry and unadjusted calculations for each segment of the population in Table 4, see Appendix B.) The aggregate industry population was estimated to be 1287 firms.

GENERAL PROFILE OF RECREATIONAL BOATING INDUSTRY FIRMS

Primary and Secondary Firm Activity

Early in the survey instrument each responding firm was queried regarding its primary recreational boating related activity. Ten predetermined activities were provided from which to choose and an option to provide an alternative activity was also given. These activities are listed across the row headings of Table 5 and were developed from consultation with members of the Boating Trades Association of Texas (BTAT). The row headings correspond to the firm identification made when the research team constructed the sample frame for drawing the sample.

Examination of Table 5 reveals that a fairly large number of the firms had primary boating related activites outside the category in which they were originally listed (this information will be used later to adjust the industry sector size estimates previously given in Table 4). For instance, 25 percent of the firms identified as boat manufacturers listed their primary activity as boat accessory manufacturing. Although a majority of the responding firms were consistent with the preclassification category, many were not. Thus, reclassification was necessary for the economic impact analyses discussed later. It should also be noted that the percentage distribution of firms within any sector

Table 5. Primary Boating-Related Activity of Sample Firms

Sectors	Primary Activity: Boat Mfg.	Trailer Mfg.	Boat Acces. Mfg.	Sports/Rec. Equip. Mfg.	Retail Dealer for Boats & Trls.	Wholesale Dealer for Boats & Trls.	Retail Sales of Boat Products	Marina or Boatyard	Boat Repair	Engine Repair	Other	Total
Boat Manufacturing	15 (.29)	1 (.02)	13 (.25)	1 (.02)	3 (.06)	1 (.02)	1 (.02)	1 (.02)	9 (.18)	4 (.08)	2 (.04)	51
Trailer Manufacturing	0	5 (.71)	0	0	1 (.14)	0	0	0	0	0	1 (.14)	7
Boat Equipment Manufacuring	0	0	9 (.69)	0	0	0	1 (.08)	0	0	0	13 (.23)	
Marine Trade	1 (.01)	1 (.01)	5 (.05)	0	62 (.59)	6 (.06)	7 (.07)	3 (.03)	6 (.06)	11 (.10)	3 (.03)	105
Marinas and Boatyards	1 (.01)	0	2 (.03)	3 (.04)	6 (.08)	1 (.01)	4 (.05)	46 (.62)	3 (.04)	0	8 (.11)	74

row is an estimate of the survey category distribution among the primary boating related activities but the total column is not. The total column in this table is based upon a summation of information from sector categories sampled in different proportions and, for this reason, is not an estimate of the percentage breakdown of the entire industry among the different industry components. A breakdown which accounts for these sampling differences will be provided later in Table 12.

Information concerning secondary activities of recreational boating industry firms was also collected. Each firm was given the opportunity to list all other activities in which they engaged. (The information is summarized in Appendix Table C-1.) Most secondary activities conformed with prior expectations in that they were related to primary activities. For instance, 29 percent of boat manufacturers were also trailer manufacturers and and 83 percent of retail boat dealers also engaged in the retail sale of boating products. Many marinas and boatyards also engaged in a variety of other complementary activities including retail dealer for boats(18 percent), retail sales of boating products(40 percent), boat repair services(34 percent), and engine repair services(28 percent). This all around character of marinas is not surprising given their immediacy to the point of industry product use. It is also evident from the secondary activities data that many firms operate marinas even though they do not consider this to be their primary activity.

Firm Ownership and Industry Tenure

The average length of time which boating related firms had operated was 15 years (Table 6). The average number of years varied among the 10 industry sectors, ranging from 8 to 24 years. Fifty percent (median) of

Table 6. Ownership, Tenure, and Involvement in Boating-Related Activities (Range in brackets)

Sector	Average Years in Business	Average Years of Operation by Present Owners	Average Proportion of Total Annual Revenue Due to Recreational Boating
1. Boat Manuf.	11 N=16 (.75-47)	11 N=16 (.75-47)	75% N=16 (1-100)
2. Trailer Manf.	-- -- --	-- -- --	89% N=6 (50-100)
3. Boat Access. Manf.	14 N=29 (75.50)	13 N=27 (1-38)	60% N=17 (5-100)
4. Sports/Rec. Equip. Manf. for Boating	24 N=4 (14-30)	9 N=4 (1-27)	65% N=1 (-)
5. Retail Dealer for Boats	17 N=71 (1-58)	12 N=71 (.82-38)	88% N=69 (0-100)
6. Wholesale Dealer for Boats	8 N=8 (15-22)	8 N=8 (1.5-16)	100% N=3 (100-100)
7. Retail Sales of Boating Products	13 N=13 (.5-53)	12 N=13 (.5-53)	67% n=11 (10-100)
8. Marina or Boatyard	20 N=48 (3-58)	9 N=48 (.5-44)	67% N=41 (8-100)
9. Boat Repair Service	12 N=18 (.5-52)	10 N=17 (.5-24)	76% N=9 (25-100)
10. Engine Repair Service	9 N=15 (1-28)	6 N=15 (1-17)	96% N=15 (48-100)
Industry Total	15 N=222 (.75-58)	11 N=219 (.5-53)	78% N=188 (0-100)

the firms had a length of life of 12 years. This indicates that the mean length of life is being pulled upwards by several firms having a longer term of existence. Five firms with the longest length of life had existed between 50 and 58 years. The five firms with shortest term of existence had lives of one year or less. The average length of operation by present owners was 11 years and this four year difference from the average length of time in business is largely attributable to the marina and boatyard category. This category indicates operation by the present ownership for slightly less than one-half the firm's length of time in business. Although most recreational boating businesses appear not to change ownership very frequently, the marina category seems to be an exception. Clearly, volatility of industry structure is an issue with many involved in the boating industry. Yet, whether this industry is significantly different from others in this regard is an issue which needs to be addressed in future studies of comparative industry structure. In this study 8.5 percent of the firms surveyed had gone out of business (Table 3) while 50 percent of the remaining firms had existed for 12 years or more.

The type of firm ownership varied among industry categories (Appendix Table C-2). Most predominant were sole proprietorships and private corporations. Engine repair services, boat repair services, and sports/equipment manufacturing tended more towards sole propietorships while the predominant form of ownership for other categories was private corporations. Ten percent of the marinas surveyed were publicly owned.

Since many firms engage in activities which are not related to recreational boating, data on the degree of involvement in the boating industry was necessary. The responding firms reported that 78 percent of their annual revenue was due to recreational boating related activities. Variation in this average figure ranged from a low of 60 percent for boat accessories manufacturers to a high of 100 percent for wholesale boat dealers (the range for each category is shown in brackets). These figures were used later to adjust expenditure data to the proportion of expenditures due to boating related activities under the assumption of a one-to-one correspondence between expenditures for production and revenues from sales.

Marina Activities and Characteristics

As mentioned above, many firms which did not indicate their primary recreational boating activity to be a marina operated and provided marina services (Table 7). The average firm which reported operating a marina could moor 216 boats having an average length of 23 feet. The range of the number of boats which could be moored extended up to 2,738 and variation in boat length was from 6 feet to 80 feet.

Payments for moorage were based upon five options: daily, weekly, monthly, yearly, or by foot. No respondents reported weekly rates for moorage. For the remaining options average rates were $4 per day, $79 per month, $300 per year, and $3 per foot (although there were few observations for these latter two categories). In a previous study of the Texas Gulf Coast Marina sector, Crompton and Ditton (1975) found monthly and annual rates to be $42 and $504, respectively.

Advertising Media

The methods of advertising which could be used by firms were ranked by each on a scale of 1 to 5, where 1 indicated frequent use and 5 indicated no use at all (Appendix Table C-3). Almost all firms ranked

Table 7. Characteristics of Recreational Boating Industry Sample Marinas

Sector	Firm classifies itself as a marina		Avg. Number of Boats which feet of moored	Avg. Length in can be moored	Avg. Moorage Rate (Range In brackets)				
	Yes	No	(Range)	(Range)	Boats	Day	Month	Year	Week Foot
1. Boat Manuf.	1 (6.25%)	15 (93.8)	--	--	--	--	--	--	--
2. Trailer Manuf. Mfg.	1 (-)	25 (100%)	20 --	15 --	-- --	-- --	-- --	-- --	-- --
3. Boat Access. Manuf.	1 (38%)	25 (96.2%)	20 N=1 (-)	15 N=1 (-)	-- -- --	-- -- --	-- -- --	-- -- --	-- -- --
4. Sports/Rec. Eq. Manuf.	3 (75%)	1 (25%)	67 N=3 (0-92)	21 N=3 (16-27)	-- (-)	-- (-)	-- (-)	-- (-)	-- (-)
5. Retail Dealer for Boats	4 (6.2%)	60 (93.8%)	251 N=4 (70-650)	25 N=5 (16-32)	-- --	-- --	-- --	-- --	-- --
6. Wholesale Dealer for Boats	1 (12.5%)	7 (87.5%)	-- (-)	-- (-)	-- (-)	-- (-)	-- (-)	-- (-)	-- (-)
7. Retail Sales of Boating Products	5 (45%)	6 (55%)	37 N=4 (6-80)	17 N=4 (6-80)	--	--	--	--	--
8. Marina or Boatyard	48 (98%)	1 (2%)	256 * N=42 (15-2738)	24 N=49 (16-40)	--	--	--	--	--
9. Boat Repair Service	2 (11.8%)	15 (88.2%)	17 N=1 (-)	35 N=2 (20-50)	--	--	--	--	--
10. Engine Repair Service	1 (6.7%)	14 (93.3%)	15 N=1 (-)	--	--	--	--	--	--
11. Other	2 (40%)	3 (60%)	170 N=1 (-)	-- -- --	4 N=1 (-)	--	--	--	--
Industry Avg.			216 N=57	23 N=66	4 N=19	79 N=38	300 N=2	-- --	3 N=3

* Research of one observation changes the average to 196 boats and the range to 15 - 610.

"word of mouth" as the most frequently used, which reflects the age old adage that a satisfied customer is the best way to get new business. The telephone directory was ranked as the second most frequently used, followed by direct mail and newspapers. Least frequently used appear to be outdoor signs, radio, and television. There is slightly more variation among industry categories for these latter media. (A detailed breakdown of the responses is provided in Appendix Table C-3.)

<u>Management Problems Confronting the Industry</u>

Management problems confronting the industry were broken into seventeen categories for respondents to rank on a scale of 1 to 5. A rank of 1 indicated the most severe for firm performing the ranking. The rankings of these seventeen management problems are summarized in Table 8 using the following alphabetic column headings to indicate each problem.

A = obtaining high quality labor
B = obtaining good quality service
C = vandalism
D = burglary and theft
E = seasonality of business
F = lack of marina design information
G = uncertainty about weather
H = uncertain legal information
I = need for information on regulations
J = water quality
K = obtaining tax information
L = need for management information
M = inflation
N = government regulation
O = securing good business financing
P = securing good consumer financing
Q = other

In addition to the industry summary in Table 8, a detailed summary by problem rank and industry sector is provided in Appendix Tables C-4 through C-8.

The most severe industry problems appear to be seasonality of

Table 8. Percentage of Firms in Boating Industry Ranking Typical Management Problems From Highest to Lowest (Sample Frequency)

Rank of Problem	Type of Management Problem																
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	28% (55)	5% (10)	.52% (1)	3% (5)	31% (61)	.52% (1)	4% (7)	.52% (1)	-- (-)	.52% (1)	-- (-)	2% (4)	8% (15)	3% (5)	3% (6)	3% (5)	9% (17)
2	13% (24)	6% (12)	2% (4)	4% (7)	24% (44)	.54% (1)	10% (19)	2% (3)	1% (2)	1% (2)	-- (-)	5% (9)	11% (21)	6% (11)	6% (12)	3% (5)	4% (8)
3	8% (14)	4% (6)	2% (4)	4% (6)	12% (21)	1% (2)	9% (15)	3% (5)	4% (6)	4% (5)	3% (5)	5% (9)	16% (27)	9% (16)	8% (14)	4% (6)	4% (7)
4	12.5% (19)	6% (9)	3% (4)	5% (8)	10% (15)	-- (-)	5% (8)	2% (3)	3% (4)	2% (3)	6% (9)	3% (5)	12% (18)	16% (24)	5% (7)	9% (12)	3% (4)
5	4% (5)	2% (2)	7% (9)	4% (6)	7% (9)	-- (-)	10% (14)	2% (3)	6% (8)	2% (3)	4% (5)	11% (15)	15% (20)	8% (11)	10% (13)	4% (6)	4% (5)

business, obtaining high quality labor, inflation, uncertainty about weather and government regulations. Four of these problems are not subject to much influence by firm management. Obtaining high quality labor can be influenced by firms and, to some extent, management practices can address problems resulting from business seasonality.

Influence of "high technology" in the Boating Industry

In a series of final questions, firms were asked whether they felt "high technology" was likely to influence the way their firm operates in the future. "High technology" was phrased in the form of personal computers, microcomputers or other electronic information processing system and robotics to assist with business management procedures. (The results of these questions are presented in Appendix Table C-9 by industry sector.) Thirty-four percent of the firms responding indicated that they used some form of electronic information processing systems currently. Of those not currently using such procedures, 58 percent said they expected to in the future. Contracting with other firms or individuals to provide such services was currently being done by 24 percent of the responding firms. When queried regarding whether "high technology" would affect firm operating procedures in the future, only 39 percent said yes. A higher response to this query was expected but it may be that the current adoption of electronic information processing systems has already brought about many of the major changes which are envisioned by these firms; future adoption may be thought of as more marginal changes rather than full-scale changes.

ECONOMIC CHARACTERISTICS

The economic characteristics and impacts of the recreational boating industry in Texas are discussed is this section. A general economic profile of recreational boating firms is presented first. Following this discussion, a profile of typical expenditures incurred by recreational boating firms is presented. Then, the average and total tax payments by recreational boating firms are shown.

General Economic Profile

An economic profile of Texas recreational boating firms by primary product or service produced is shown in Table 9. The figures in Table 9 provide a general indication of the output, labor and nonlabor expenditures, employment, value of capital, value of inventory and net income of typical firms in each sector listed across the columns of the table. In terms of average output, the figures indicate that a typical firm in the boat manufacturing, trailer manufacturing, manufacturing of sports/recreational equipment for boating, retail boat dealer, and wholesale boat dealer sectors tends to be quite a bit larger than typical firms in the other sectors. The average output figures also indicate that aside from the wholesale boat dealer sector, the majority of output generated from a typical firm in the recreational boating industry remains in state.

With respect to employment, the figures in Table 9 indicate that boat manufacturing, trailer manufacturing, and sports/recreational equipment manufacturing sectors tend to employ more labor on average than a typical firms in the other sectors. Average wages paid to labor also tend to follow this general pattern. Average salaries and commissions

Table 9. Economic Profile of Recreational Boating Industry Sector.

Category	Boat Manuf.	Trailer Manuf.	Boat Access Manuf.	Sports/Rec Eq. Manuf.	Retail Boat Dealer	Wholesale Boat Dealer	Retail Sales Boating Products	Marina or Boatyard	Boat Repair Service	Engine Repair Service
1. 1983 Avg. Total Output[1]	$1,517,117	3,733,305	99,507	2,188,875	1,163,292	3,990,986	326,017	287,038	174,794	202,666
Instate	1,016,468	2,949,311	56,708	1,050,660	500,216	878,017	163,008	249,723	134,591	137,813
Out of State	500,649	783,994	42,799	1,138,215	663,076	3,112,969	163,009	37,315	40,203	64,853
2. 1983 Avg. Wages	$301,075	557,156	16,921	400,000	63,832	52,499	16,412	52,606	40,717	35,421
3. 1983 Avg. Salaries and Commissions	$72,770	260,509	13,186	195,000	83,021	104,332	30,883	20,217	29,062	33,388
4. 1983 Avg. All Other Expend (excluding labor)	$1,143,342	2,915,640	69,380	1,593,875	1,016,439	3,834,155	278,722	214,215	105,015	133,857
5. 1983 Avg. Total Employment	22	42	4	23	9	13	2	4	4	3
Administ.	4.18	4.62	.90	2.38	1.49	5.41	.59	1.16	.86	-
Sales	1.32	2.10	.50	2.56	2.08	3.09	1.04	1.10	.53	-
Production	15.18	34.44	2.50	16.74	4.12	4.25	.61	.79	2.50	-
Maintenance	1.32	1.26	.10	1.08	1.16	.14	.14	1.30	.09	-
6. Avg. Value of Lands, Buildings, And Equipment	$273,768	1,098,358	2,118,676	497,500	314,619	535,355	105,107	1,199,163	215,150	90,590
7. Avg. Value of Inventory	$171,705	686,537	1,905,414	365,000	442,732	1,457,405	175,601	52,570	66,400	45,584
8. Avg. Net Pre-tax Income [2]	$92,986	79,385	30,588	-108,600	54,738	2,831,059	44,118	92,074	11,355	4,876

[1] Goods purchased for resale have not been accounted for in this category.

[2] Net income for sports equipment manufacturing and wholesale boat dealers are suspect due to the small number of respondents upon which this number is based.

paid to labor, however, do not appear to follow a general pattern. Firm averages of total salaries and commissions are highest for typical firms in the trailer and sports/recreational equipment manufacturing sectors. Salaries and commmissions paid by typical firms in the boat manufacturing, retail boat dealer, and wholesale boat dealer sectors follow closely behind.

A comparison of total labor expenditures (Table 9, row two and row three) to average non-labor expenditures (row four) indicates that the typical firm in all sectors spends two to four times more on non-labor expenses than labor expenses. The figures in the table indicate that non-labor expenses are highest for typical firms in the boat manufacturing, trailer manufacturing, sports/recreational equipment manufacturing, retail boat dealer, and wholesale boat dealer sectors.

Average value of land, buildings, and equipment, average value of inventory, and average net income are shown in the last three rows of Table 9. Typical firms in the trailer manufacturing, boat accessories manufacturing, and marina and boatyards sectors have over one million dollars worth of fixed assets (lands, buildings, equipment). Fixed assets held by typical firms in the other sectors are somewhat lower. Typical firms in the boat accessories manufacturing and wholesale boat dealer sectors hold considerably more inventory than typical firms in the other sectors. The figures in Table 9 suggest also that there is substantial variation in the net incomes of typical firms across the various sectors.

Expenditure Profile

A detailed expenditure profile of typical firms in the recreational boating industry is presented in Table 10. The first column shows the

Table 10. Expenditure Profile of Recreational Boating Sectors

Expenditure Category[1]	Boat Manuf.	Boat Trailer Manuf.	Boat Access Manuf.	Sports/Rec Eq. Manuf.	Retail Boat Dealer	Wholesale Boat Dealer	Retail Sales of Boating Products	Marina or Boatyard	Boat Repair Service	Engine Repair Service
1. 1983 Avg. Travel Expend.	$3,698	26,977	1,454	16,250	3,816	5,761	585	1,070	758	557
In state	1,812	17,265	843	4,063	2,480	2,304	198	567	660	368
Out of State	1,886	9,712	611	12,187	1,336	3,457	385	503	98	189
2. 1983 Avg. Freight Expend.	$10,465	22,540	909	66,000	16,941	30,751	5,844	808	571	2,186
In state	5,651	19,384	509	9,900	10,334	13,838	4,617	493	468	1,946
Out of State	4,814	3,156	400	56,100	6,607	16,913	1,227	315	103	240
3. 1983 Avg. Boat Shows Expend.	$2,706	11,614	557	9,750	6,382	2,822	464	783	800	829
In State	1,705	6,736	479	2,437	5,425	2,822	278	399	264	414
Out of State	1,001	4,878	78	7,313	957	0	186	384	536	415
4. 1983 Avg. Advertising Expend.	$11,288	26,791	1,615	37,000	15,029	720	2,205	3,556	2,631	3,528
In State	8,805	18,218	1,454	18,500	13,076	0	1,808	2,951	2,105	3,528
Out of State	2,483	8,573	161	18,500	1,953	720	397	605	526	0
5. 1983 Avg. Rent Expend. (Land,Bldg,Equip)	$5,230	62,981	4,031	48,000	18,364	15,464	9,840	7,403	5,450	7,317
In State	2,249	49,125	3,467	24,000	14,324	15,464	3,936	5,182	4,088	5,268
Out of State	2,981	13,856	564	24,000	4,040	0	5,904	2,221	1,362	2,049
6. 1983 Avg. All Other Rent Expend.	$294	200	284	3,600	779	793	0	1,626	1,321	101
In State	86	200	142	2,700	405	262	0	959	1,321	25
Out of State	208	0	142	900	374	531	0	667	0	76
7. 1983 Avg. Maintenance Expend.	$3,607	74,865	364	19,450	6,420	13,910	3,137	46,851	5,089	885
In State	2,561	73,368	291	19,450	5,265	9,320	1,568	46,851	5,038	691
Out of State	1,046	1,497	73	0	1,155	4,590	1,569	0	51	194
8. 1983 Avg. Interest Expend.(Mortgage)	$3,266	6,750	180	8,125	12,300	3,950	0	43,155	10,024	900
In State	1,078	4,522	0	8,125	7,257	0	0	28,482	6,716	198
Out of State	2,188	2,228	180	0	5,043	3,950	0	14,673	3,308	702
9. 1983 Avg. All Other Interest Expend.	$7,630	34,724	1,116	81,520	29,302	12,750	2,180	30,676	1,856	4,682
In State	3,281	26,043	558	81,520	25,493	638	1,090	20,860	1,392	2,950
Out of State	4,349	8,681	558	0	3,809	12,112	1,090	9,816	464	1,732
10. 1983 Avg. Consulting Expend.	$1,920	12,574	964	12,475	3,476	1,932	3,452	6,898	1,731	2,235
In State	960	12,574	800	12,475	2,955	908	2,865	6,208	1,385	1,989
Out of State	960	0	164	0	521	1,024	587	690	346	246
11. 1983 Avg. Insurance Expend.	$21,730	103,324	2,063	36,500	12,078	9,196	9,412	10,547	7,161	9,401
In State	12,169	99,191	1,650	36,500	10,266	2,115	7,812	9,492	7,161	6,957
Out of State	9,561	4,133	412	0	1,812	7,081	1,600	1,055	0	2,444
12. 1983 Avg. Raw Material Expend.	$219,660	1,362,790	28,851	1,430,000	0	0	0	0	0	0
In State	169,138	1,158,371	13,849	143,000	0	0	0	0	0	0
Out of State	50,522	204,419	15,002	1,287,000	0	0	0	0	0	0
13. 1983 Avg. Misc. Expend.	$563	12,257	0	25,000	8,893	40,000	0	0	0	83,000
In State	563	12,257	0	25,000	8,715	40,000	0	0	0	83,000
Out of State	0	0	0	0	178	0	0	0	0	0
14. 1983 Avg. Utility Expend.	$10,869	58,465	2,160	46,250	11,085	21,106	6,256	14,916	5,168	6,398
In State	10,869	58,465	2,160	46,250	11,085	21,106	6,256	14,916	5,168	6,398
Out of State	0	0	0	0	0	0	0	0	0	0

1 Several expenditure categories are based upon a small number of reporting respondents, e.g., insurance expenditures for boat manufacturing, trailer manufacturing and sports equipment manufacturing. However, this information does provide an illustration of the differences between the disaggregated sectors for specific expenditure items.

amount of money spent in 1983 by a typical firm in the boat manufacturing sector on fourteen expenditure categories, the second column shows expenditures by a typical firm in the boat trailer manufacturing sector, and so forth. For the manufacturing sectors (boat, trailer, boat accessories, and sports/recreational equipment), the single largest category of expenditures for the typical firm is raw materials. Freight, advertising, insurance, and utilities account also for a large proportion of expenditures by a typical firm in the *boat manufacturing sector.* A typical *trailer manufacturer* also devotes a major share of its expenditures to travel, freight, advertising, rent, insurance, and utilities. In the *boat accessories manufacturing sector,* travel, advertising, rent, insurance, and utilities account for a large proportion of expenditures by the typical firm. A typical *sports/recreational equipment manufacturer* also devotes a large share of its budget to freight, advertising, rent, insurance, and utilities.

The major areas of expenditures for a typical firm in the *retail boat dealer sector* are non-mortgage interest, freight, advertising, rent, mortgage interest, and utilities. The major areas of expenditures for a typical firm in the *wholesale boat dealer sector* are freight, rent, maintenance, insurance, and utilities. A typical firm in the *retail sales of boating products sector* devotes a major proportion of its expenditures to freight, rent, insurance, and utilities. For the *marinas and boatyards sector,* major categories of expenditures for the typical firm are maintenance, interest, rent, insurance, and utilities. Mortagage interest, advertising, rent, maintenance, insurance, and utilities are major areas of expenditures for a typical *boat repair* firm. A major proportion of expenditures for a typical *engine repair service* firm is devoted to rent, insurance, freight, advertising, and non-mortgage interest.

In summary, major areas of expenditures for a typical firm across all sectors in the recreational boating industry are freight, advertising, rent, maintenance, mortgage and non-mortgage interest, insurance, and utilities. With the exception of freight, the figures in Table 10 indicate that a large proportion of a typical recreational boating firm's expenditures occur in state. Thus, expenditures made by typical firms in the recreational boating industry support other industries within the Texas economy. These indirect benefits generated by the recreational boating industry are discussed in more detail in the next section.

Tax Payments

Average and estimated total tax payments by the recreational boating industry are presented in Table 11 (Totals are calculated using the revised estimates of industry size calculated below). There is considerable variability in the amount of taxes paid by firms in the different recreational boating sectors. For the manufacturing sectors (boat, trailer, boat accessories, and sports/recreational equipment), the largest single category of tax payments is clearly payroll (includes unemployment compensation and social security). The major category of tax payments for retail boat dealers is sales. For the other sectors, inventory, payroll, sales, and income taxes constitute the majority of tax payments.

Total tax payments by the recreational boating industry as a whole are shown in column 12. Sales, corporation franchise, and title and

Table 11. Recreational Boating Industry Average Tax Payments for Sample Firms and Estimated Aggregate State Totals.

Type Of Tax	Boat Manuf.	Trailer Manuf.	Boat Access. Manuf.	Sports/Rec. Eq. Manuf.	Retail Boat Dealer	Wholesale Boat Dealer	Retail Sales of Boating Products	Marina or Boatyard	Boat Repair Service	Engine Repair Service	Other	Total
1. Inventory Tax												
Average	6,014	11,797	415	4,750	4,214	10,685	3,941	10,209	7,719	39,028	15,759	--
Total	426,994	259,534	53,950	85,500	1,845,732	512,880	283,752	2,419,533	710,148	3,278,352	1,244,961	11,121,336
2. Property Tax												
Average	1,569	31,498	216	4,075	3,108	16,307	0	4,153	753	748	1,288	--
Total	111,399	692,956	28,080	87,750	1,361,304	782,736	0	984,261	69,276	62,832	101,752	4,282,346
3. Payroll Tax												
Average	28,812	116,162	2,976	34,825	9,079	27,026	3,593	7,022	7,782	3,836	862	--
Total	2,045,652	2,555,564	386,880	626,850	3,976,602	1,297,248	258,696	1,664,214	715,944	322,224	68,098	13,917,972
4. Sales Tax												
Average	162	1,724	1,073	12,438	53,880	2,533	2,400	5,446	5,529	9,004	1,522	--
Total	11,502	37,928	139,490	223,884	23,599,440	121,584	172,800	1,290,702	508,668	756,336	120,238	26,982,572
5. Corporation Franchise Tax												
Average	1,243	4,951	61	1,161	1,927	1,158	0	270	128	211	275	--
Total	88,253	108,922	7,930	20,898	844,026	55,584	0	63,990	11,776	17,724	21,725	1,240,828
6. Title and ID Tax												
Average	256	0	0	0	0	0	0	0	0	0	0	--
Total	18,176	0	0	0	0	0	0	0	0	0	0	18,176
7. Income Tax												
Average	6,101	7,521	763	0	10,776	878,000	13,699	813	3,532	842	150	--
Total	433,171	165,462	99,190	0	4,719,888	42,144,000	986,328	192,681	324,944	70,728	11,850	49,148,242
8. Other Tax												
Average	118	3,081	895	--	4,180	0	0	3,082	742	101	--	--
Total	8,378	67,782	116,350	--	1,830,840	0	0	730,434	68,264	8,484	--	2,830,532

identification tax payments provide revenues for the state government treasury. Property (including inventory) tax payments provide revenues for local government treasuries while income and payroll tax payments provide revenues for the federal government treasury. Total tax payments by the recreational boating industry to the state treasury were approximately $28 million in 1983 (Table 11, Rows 4 - 6). Total tax payments to local government treasuries by the recreational boating industry were approximately $15 million in 1983 (Table 11, Rows 1 and 3). Total payments of the recreational boating industry to the federal government treasury were approximately $62 million in 1983 (Table 11, Rows 3 and 7).

Industry Size

A preliminary estimate of industry size (number of establishments) was provided from the sampling frame estimates of the number of firms involved in five basic sectors: boat manufacturing; trailer manufacturing; boat accessories manufacturing; marina or boatyards; and marine trade. These preliminary, unadjusted estimates of industry size are given in Table 4 (and Appendix B).

The preliminary estimates of industy size were based entirely on secondary sources (see Table 2). In some cases, the primary sector a firm belonged to was not completely clear from the secondary sources. The ambiguity is attributed to the fact that many firms in the recreational boating industry are involved in the production of several boating-related products or services, as shown in Table C-1 (Appendix C). A reclassification of firms in the sample mailing lists using firm identification information obtained in the mail survey was therefore conducted.

In the questionnaire sent to sample firms, respondents indicated the primary boating-related activity (e.g., contributes most to total revenue) in which they engaged. Responses to this question are summarized in Table 5. The figures in Table 5 provided the basis for adjusting the prelimary industry size estimates given in Table 4. First, the number of establishments identifying each of the activities listed down the rows of Table 12 as their primary boating-related activity were estimated.

For example, consider the process for estimating the number of establishments involved in boat manufacturing as a primary activity. The figures in column one of Table 5 show that approximately 29 percent of firms in the original sample of boat manufacturers identified boat manufacturing as their primary activity. Approximately 1 percent of the original sample of marine trade firms identified boat manufacturing as their primary activity. Approximately 1 percent of the original marinas and boatyards sample identified boat manufacturing as their primary activity. No firms in the original sample of trailer manufacturers and boat equipment manufacturers identified boat manufacturing as their primary activity.

The total number of firms involved in boat manufacturing as their primary activity was therefore estimated by summing the products of .29 times the preliminary estimate of the total number of boat manufacturers (211 from Table 4), .01 times the preliminary estimate of the total number of firms in marine trade (670 from Table 4), .01 times the preliminary estimate of the total number of marinas and boatyards (343 from Table 4), and 0 times the preliminary estimates of the total number of trailer and

Table 12. Estimates of Recreational Boating Industry Size

Primary	Estimated # of Establishments (B-1 Primary Activity)	General Sector	Estimated # of Establishments (General Total)
1. Boat Manf.	71	1) Boat and Trailer Manufacturing	184
2. Trailer manf.	21		
3. Boat Repair	92		
4. Boat Accessories Mfg.	129	2) Boat Equipment Manufacturing	147
5. Sports/Rec Equip. Mfg.	18		
6. Marina or Boatyard	237	3) Marina Boatyard	320
7. Engine Repair	83		
8. Retail Boat and Trailer Dealer	438	4) Marine Trade	636
9. Wholesale Dealer for Boats and Trailers	48		
10. Retail Sales of Boat Products	72		
11. Other	78		
12. Aggregate Industry Size			1,287

boat accessories manufactures (15 and 48 from Table 4, respectively). The sum of these products is 71. This number, given in Table 12, represents an estimate of the total number of establishments involved in boat manufacturing as a primary activity in the state of Texas.

The procedure for estimating the total number of establishments involved in boat manufacturing as a primary activity was repeated for each of the primary activities listed down the rows of Table 12.

The estimated number of establishments by primary activity are shown in column two of Table 12. These estimates were aggregated to form the the four general recreational boating sectors shown in column three of Table 12. Establishments in the boat manufacturing, trailer manufacturing, and boat repair categories were aggregated to form the boat and trailer manufacturing sector. Establishments in boat accessories manufacturing and sports/recreational equipment manufacturing for boating were aggregated to form the boat equipment manufacturing sector. Establishments in the marinas, boatyards, and engine repair categories were aggregated to form the marina and boatyard sector. Establishments in retail boat and trailer sales, wholesale boat and trailer sales, retail sales of boating producsts, and other boating trade related firms were aggregated to form the marine trade sector.

The final estimates for the number of establishments in 1984 was 184 for the boat and trailer manufacturing sector, 147 for the boat equipment manufacturing sector, 320 for the marina and boatyards sector, and 636 for the marine trade sector. The total size of the recreational boating industry in Texas was thus estimated at 1287 firms.

ECONOMIC IMPACT OF MAJOR BOATING SECTORS

For purposes of estimating the size of the Texas recreational boating industry and its impact on the Texas economy, all recreational boating related firms were aggregated into four major boating sectors. These are: (1) boat and trailer manufacturing, (2) boat equipment manufacturing, (3) marinas and boatyards and (4) marine trade. In this section, economic indicators of the size of each of these sectors and the economic impact of each on the Texas economy are presented. Indications of the size include each sector's total value of output, employment, payments to personal income and value added.

The economic impact of each sector was estimated by constructing a "special" boating input-output model for Texas firms from which business activity, income and employment multipliers were obtained.[1] These multipliers indicate the degree of interdependence between the boating sectors and the remaining sectors of the Texas economy.

Business activity multipliers for each of the sectors included in the input-output model are presented in Table 13. These multipliers indicate the total business activity generated in Texas for each one dollar of sales to final consumers by an individual sector. For instance, it is estimated that for each one dollar of sales to final consumers by the boat and trailer manufacturing sector, total business activity in the Texas economy amounts to $2.88. Similarly, the multipliers for boat equipment manufacturing, marinias and boatyards, and marine trade are estimated to

[1]The complete input-output model is not presented in this report. It is available from the authors.

Table 13. Business Activity Multipliers for Recreational Boating and Other Sectors of the Texas Economy, 1979.

Economic Sector	Business Activity Multiplier
1. Boat and Trailer Man.	2.88
2. Boat Equipment Man.	2.30
3. Marinas and Boatyards	3.28
4. Marine Trade	2.61
5. Crops & Livestock	3.11
6. Mining	2.65
7. Construction	2.98
8. Food Products	2.72
9. Textiles & Apparel	2.44
10. Lumber & Wood Products	2.72
11. Furniture & Fixtures	2.78
12. Paper Products	2.52
13. Printing & Publishing	2.59
14. Chemical Products	2.79
15. Petroleum & Petro. Products	2.46
16. Glass, Stone & Clay Products	2.84
17. Primary Metal Products	2.63
18. Fabricated Metal Products	2.58
19. Non-electrical Machinery	2.62
20. Electric & Electronic Equipment	2.67
21. Transportation Equipment	2.34
22. Instruments & Related Products	2.77
23. Transportation	2.97
24. Communication & Utilities	2.81
25. Wholesale & Retail Trade	2.86
26. F.I.R.E.	2.92
27. Business Services	3.20
28. Other Man. & Services	3.14
29. Households	2.85

be $2.30, $3.28 and $2.61, respectively (Table 13).

It is clear from Table 13 that the impact multipliers of the recreational boating sectors compare favorably in magnitude with other producing sectors of the Texas economy, indicating that changes in the output of these sectors result in changes similar to the changes produced by other sectors of the economy. These multipliers are used in the following sections to estimate the total economic impacts of the recreational boating sector's output on the remaining economy in terms of business activity, employment and personal income.

Boat and Trailer Manufacturing

This sector includes those firms that are engaged primarily in manufacturing boat, boat trailers or both. Although it has fewer firms than some other boating sectors, it is the largest of the four sectors in terms of sales.

Distribution of Sales. The distribution of final sales for the boat and trailer manufacturing sector for 1983 was estimated to be:

In-state sales	$130,246,105
Out-of-state sales	$133,759,255
Total value of output	$264,005,360

Slightly over half (51 percent) of boat and trailers manufactured in Texas are exported from the state. This means that this sector is producing for both the national as well as the Texas recreational boating market. Most sales within the state are made through dealers rather than directly to consumers. Out-of-state sales indicated that boat manufacturing is a fairly large source of new income transferred into Texas from other states. This adds to the sector's contribution to the Texas economy.

<u>Direct Purchases.</u> The direct contribution of the boating sector to the Texas economy is indicated by its purchases of locally produced goods and services and by the local resources employed. For the boat and trailer manufacturing sector this contribution in 1983 was estimated as follows:

In-state Purchases	$203,166,260
Imports	$ 60,839,100
Direct Employment	3,515 man years[a]
Direct Income	$ 63,381,420
Value added	$ 65,387,625

[a] One man year of employment is equal to one person working full-time for one year. Employment is expressed in this way to account for part-time workers.

Boat and trailer manufacturers purchased more than 75 percent of all resources used in production from within Texas. Only about $61 million of all inputs were purchased from other states or foreign countries. This sector employed 3,515 man-years of employment in 1983 and paid out just under $64 million directly to Texas households. Total value added, which indicates the value of the contribution of all resources employed by this sector, was estimated to be over $65 million in 1983.

<u>Sector Economic Impact.</u> Taken together, the above economic indicators show that the boat and trailer manufacturing sector uses a high proportion of local resources in its production process and is closely tied with the rest of the Texas economy. This interrelation means that economic activity in this sector will affect the entire economy of Texas. Using

the input-output model developed for this study, the following economic impacts on Texas business activity, household income and employment were estimated.

Total Business Activity	$757,695,400
Total Income	$169,278,000
Total Employment	10,077

The estimated total business activity of just over $757 million indicates the value of output in the Texas economy that can be attibuted to the direct production activity of the boat and trailer manufacturing sector. It includes the direct, indirect and induced output by all sectors of the economy required to support the boat and trailer manufacturing sector. Likewise, total employment of 10,077 and total income of $169 million is the estimated total man-years of employment and income paid to households in Texas as a result of business activity stimulated by boat and trailer manufacturers. These measures indicate a significant degree of interaction of this sector with other sectors of the economy.

Boat Equipment Manufacturing

The boat equipment manufacturing sector is composed of firms engaged in the production of a wide variety of boat related products such as; hardware, electronics equipment, accessories, rubber products, plastic products, boat seats, skis, boat cushions, life preservers, etc. Manufacturing in this sector is critical to the completion of recreational boats and attendant equipment.

Distribution of Sales. The distribution of sales for this sector in 1983 was estimated to be:

In-state Sales	$15,769,992
Out-of-state sales	$43,129,716
Total Value of Output	$58,899,708

Of the total sales of nearly $59 million estimated for this sector in 1983, more than 73 percent were exported to out-of-state purchasers. The percentage of out-of-state sales is the highest of the four boating sectors included in this study. This sector is composed of boat accessory manufacturers and sports and recreational equipment manufacturers who produce such products as boat seats, canvas covers, etc. An examination of survey response summaries for the average typical firm in this sector indicates that boat accessary manufacturers sell about 70 percent of their output out-of-state, while sports and recreation equipment manufacturers sell over 75 percent out-of-state. This implies the existence of a national market for these products within which Texas manufacturers are important participants. In-state sales were made primarily to boat and trailer manufacturers or to recreational boaters through boating equipment retailers.

Direct Purchases. Input purchases, employment, payments to income and value added in 1983 were estimated to be:

In-state Purchases	$31,788,180
Imports	$27,111,528
Direct Employment	962 man years
Direct Income	$16,411,318
Value added	$18,291,947

The majority of total purchases of about $59 million made by boat equipment manufacturers (54 percent) were made within Texas. Of these in-state purchases, about 52 percent were direct income to employees with the remainder made from other sectors of the Texas economy, chiefly primary and fabricated metals and electronics. Significant purchases were also made from the transportation sector, communications and business services.

Sector Economic Impact. The economic impact of the boat equipment manufacturing sector in the state's economy in terms of total business activity, total income and total employment in 1983 were estimated as follows:

Total Business activity	$135,469,300
Total Income	$ 27,899,200
Total Employment	2,213

Marinas and Boatyards

Firms in the marina and boatyard sector are primarily engaged in the provision of services to recreational boaters. They provide rental storage and moorage services as well as a variety of auxiliary services such as boat and engine repairs, fuel, bait and tackle and other goods. Firms in this sector primarily purchase and resell goods that are produced by another sector. Hence, the output of this sector is the service that it provides to recreational boaters. The value of this service is calculated as its total sales less its cost of goods sold. As such, the measure of value of output or sales is the "margin" earned on total sales.

Distribution of Sales. The distribution of sales by the marina and boatyard sector in 1983 were estimated as follows:

In-state Sales	$75,988,083
Out-of-State sales	$ 7,817,634
Total Value of Output	$83,805,717

As expected over 90 percent of sales by firms in the marina and boatyard sector were made to in state customers. The remaining sales, just under 10 percent, were made to customers from out-of-state, primarily tourists requiring goods and services while boating in Texas waters.

Direct Purchases. Direct purchases by Texas marinas and boatyards in 1983 were estimated as follows:

In-state Purchases	$71,175,330
Imports	$12,840,000
Direct Employment	1,284 man years
Direct Income	$23,046,588
Value Added	$30,397,620

Of the total purchases of almost $84 million, only about 15 percent were made from out-of-state firms by this sector. When coupled with the distribution of sales data presented earlier, this indicates that firms in this sector both buy and sell chiefly within Texas. Since it is a labor intensive sector, the income and value added estimates indicate that a relatively large proportion of this sector's payments for inputs are earned by in-state resources. In 1983, this sector employed an estimated 1,284 man-years of employment and paid out more than $23 million in income directly to Texas households.

Sector Economic Impact. The low percentage of out-of-state purchases and relatively large payments to in-state resources has significance for the impact of this sector in the remainder of the Texas economy. The business activity multiplier for the marina and boatyard sector is estimated to be 3.28 -- the largest of all the boating sectors included in this study (Table 13). Using this multiplier, and those for income and employment, the following economic impact estimates were obtained for 1983:

Total Business Activity	$274,864,000
Total Employment	4,210
Total Income	$ 44,478,800

<u>Marine</u> <u>Trade</u>

The marine trade sector as used here includes those firms engaged in wholesale and retail activities for products of the recreational boating industry. Like the marina and boatyard sector, marine trade is a "margins sector". This means that it produces no goods directly, but instead provides a service in the purchase, handling and resell of marine products. The value of this service is measured as the gross margin of the sector (again, total sales less cost of goods sold). Firms in this sector may provide wholesale and retail service for a variety of products. For purposes of this study, only the marine related services are counted in the sectors value of output.

<u>Distribution</u> <u>of</u> <u>Sales.</u> The estimated value of output by this sector in 1983 was as follows:

In-State Sales	$186,911,725
Out-of-State Sales	$ 17,148,040
Toal Value of Output	$204,059,765

The in-state sales component of the marine trade sector is almost 92 percent of total sales -- the largest of all four marine sectors. The magnitude of value of output in this sector is second only to the boat and trailer manufacturing sector. It is important to remember that the $204 million value of output does not represent the total value of wholesale and retail sales, but only the total value of sales margins. Data collected and analyzed in this study indicates that Texas marine trade dealers handle a large quantity of boats and equipment that are produced out of state.

Direct Purchases. Purchases of inputs used in business by the marine trades sector in 1983 were estimated as follows:

In-state Purchases	$186,911,725
Imports	$ 17,148,040
Direct Employment	4,459 man years
Direct Income	$ 80,782,100
Value Added	$ 95,176,980

Direct income and value added in the marine trade sector are the largest of all four boating sectors. This reflects the fact that this sector is both labor intensive and uses a high percentage of local resources in its business activity. It is also the largest direct employer of the four sectors as it provides 4,459 man-years of employment and pays out over $80 million in direct income to Texas households.

Sector Economic Impact. The estimated total impact on the Texas economy by the marine trades sector in 1983 was estimated as follows:

Total Business Activity	\$532,594,000
Total Personal Income	\$156,717,100
Total Employment	11,641 man years

SUMMARY OF ECONOMIC IMPACTS

The recreational boating industry, which is here aggregated into boat and trailer manufacturing, boat equipment manufacturing, marinas and boatyards and marine trade, is a productive component of the Texas economy. In table 14, the direct contribution of each sector of the industry is summarized. In 1983, the recreational boating industry provided 10,220 man-years of employment, had a total value of output of over \$610 million and paid out almost \$184 million in income to Texas households. Of the \$610 million in total output, more than \$209 million was value added in the form of income, interest and tax payments. This indicates that almost 35 percent of this industry's direct output value is in turn paid out as returns to resources (land, labor, capital and management) employed within the state.

A summary of the total economic impacts of each sector in 1983 are presented in Table 15. These estimates indicate the total output, employment and income impacts on the Texas economy stimulated by the direct production activity of each individual boating sector. Combined industry sector economic impacts are also shown in Table 15 (last row). The direct, indirect and induced economic impacts stimulated by the recreational boating industry in 1983 estimated to exceed \$1.7 billion. Further, the industry provided 28,141 man-years of employment and paid over \$398 million in household income.

Table 14. Estimated Direct Economic Impact of the Recreational Boating Industry, 1983.

Sector	Employment	Direct Output	Direct Income	Value Added
	(Man-years)	$	$	$
Boat & Trailer Manufacturing	3,515	264,005,360	63,381,420	65,387,625
Boat Equipment Manufacturing	962	58,899,708	16,411,318	18,291,947
Marinas and Boatyards	1,284	83,805,717	23,046,588	30,397,620
Marine Trade	4,459	204,059,765	80,782,100	95,196,980
Total	10,220	610,770,550	183,621,426	209,274,172

Table 15. Summary of Total Economic Impacts of the Recreational Boating Sectors on the Texas Economy, 1983.

	Total Employment	Total Income	Total Economic Activity
	(Man-years)	$	$
Boat & Trailer Manufacturing	10,077	169,278,000	757,695,400
Boat Equipment Manufacturing	2,213	27,899,200	135,469,300
Marinas and Boatyards	4,210	44,478,800	274,864,000
Marine Trade	11,641	156,717,100	532,594,000
Total Industry	28,141	398,373,100	1,700,622,700

The boat and trailer manufacturing sector had the largest impact on total economic activity (44 percent) of all sectors followed by the marine trade sector which accounted for 31 percent of the industry's total impact. However, the greatest amount of employment impact was created by economic activity of the marine trade sector, which attests to the labor intensive nature of this sector.

In sum, the estimated economic indicators presented herein indicate a Texas recreational boating industry which is widely diverse and closely integrated with the remainder of the state's economy. The recreational boating industry in Texas makes a contribution to the state's economic viability and general welfare.

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APPENDIX A

Survey Instrument and Cover Letters

BOATING INDUSTRY SURVEY

CONDUCTED BY

Texas A&M University
Department of Agricultural Economics

You have been randomly selected to receive this questionnaire as part of a University research study. All information is confidential. The questionnaire has an identification number for mailing purposes only. This is so that we may check your name off our mailing list when your questionnaire is returned. Your name will never be placed on the questionnaire.

Please return the completed questionnaire to Dr. John R. Stoll in the self-addressed envelope provided.

In the initial section of this questionnaire we would like to obtain some general information about you and your business.

Q-1. Does your business engage in <u>any</u> <u>recreational</u> <u>boating-related</u> <u>activities</u> as part of its normal business operation; e.g., <u>manufacturing</u>, <u>sales</u> or <u>distribution</u> of boats, motors, trailers or boating accessories and products, <u>marina</u> <u>operation</u>, or <u>any</u> <u>other</u> <u>related</u> <u>services</u>?

1. YES
2. NO → Since this questionnaire is concerned with the recreational boating industry, it won't be necessary for you to complete the rest of the questions. However, we would appreciate your checking this box ☐ and returning the questionnaire. Then we can take your name off the mailing list. Thank you very much.

Q-2. Is your business a: (Circle <u>one</u> number)

1. SOLE PROPRIETORSHIP
2. PARTNERSHIP
3. PRIVATE CORPORATION
4. PUBLICLY OWNED ENTERPRISE (municipal ownership, etc.)
5. OTHER (please specify) ______________________

____

Q-3. What is your position with this business? (Circle <u>one</u> number)

1. OWNER BUT NOT OPERATOR
2. OWNER AND OPERATOR
3. MANAGER
4. OTHER (please specify) ______________________

____

Q-4. Does your business have branch locations in more than one county or state? (Please circle number)

1. YES
2. NO

Q-4a. In which Texas county in your business located?

_____________ County

Q-4b. In how many Texas counties is your business located?

____ Number of counties

Q-4c. Where is your business headquarters located?

_______________ City

_______________ County

_______________ State

Q-4d. In which Texas county is this branch of your business located?

_______________ County

Please answer all remaining questions for this branch of your business only.

Q-5. How many years has this business been in operation? __________ Years

Q-6. How many years have the present owners operated this business? _______ Years

Q-7. What proportion of the total annual revenue of this business is due to recreational boating-related activities? (Please specify percent)

________%

Q-8. Which of the following categories best indicates the primary boating-related activity (contributes most to total revenue) in which this business engages? (Circle only one number)

1. BOAT MANUFACTURING
2. BOAT TRAILER MANUFACTURING
3. BOAT ACCESSORIES MANUFACTURING (e.g., hardware, electronics, accessories, rubber products, plastic products, boat seats, etc.)
4. SPORTS/RECREATIONAL EQUIPMENT MANUFACTURER FOR BOATING (e.g., water skis, boat cushions, life preservers and vests, etc.)
5. RETAIL DEALER FOR BOATS, TRAILERS OR MOTOR SALES
6. WHOLESALE DEALER FOR BOATS, TRAILERS OR MOTOR SALES
7. RETAIL SALES OF BOATING PRODUCTS
8. MARINA OR BOATYARD
9. BOAT REPAIR SERVICES
10. ENGINE REPAIR SERVICES
11. OTHER (please specify) ________________________

____

Q-9. Using the list below, please indicate all boating-related activities in which your business engages. (Circle all numbers which apply)

1. BOAT MANUFACTURING
2. BOAT TRAILER MANUFACTURING
3. BOAT ACCESSORIES MANUFACTURING (e.g., hardware, electronics, accessories, rubber products, plastic products, boat seats, etc.)
4. SPORTS/RECREATIONAL EQUIPMENT MANUFACTURER FOR BOATING (e.g., water skis, boat cushions, life preservers and vests, etc.)
5. RETAIL DEALER FOR BOATS, TRAILERS OR MOTOR SALES
6. WHOLESALE DEALER FOR BOATS, TRAILERS OR MOTOR SALES
7. RETAIL SALES OF BOATING PRODUCTS
8. MARINA OR BOATYARD
9. BOAT REPAIR SERVICE
10. ENGINE REPAIR SERVICE
11. OTHER (please specify) ________________________

____

Q-10. Did you circle response number 8 (marina or boatyard) in Question Q-9?

1. YES
2. NO → Go to Question Q-16

→ Q-10a. Is your marina located on saltwater? (Circle number)

1. YES
2. NO

Q-11. For each of the following, please indicate the number of boats which can be moored at one time in your marina. (Give one number on each blank, including zeros where applicable.)

_______ BOATS IN OPEN SLIPS

_______ BOATS IN COVERED SLIPS

_______ BOATS AT BUOYS

_______ BOATS AT LONG RUNNING DOCK

_______ BOATS IN STORAGE

_______ BOATS IN OTHER STORAGE FACILITIES (Please specify) _______

____

Q-12. What is the average length of the boats which are moored at your marina?

_______ FEET

Q-13. What is the average moorage rate at your marina? (Please fill in both blanks, e.g., $20 per day per boat.)

_________ DOLLARS PER _________ PER BOAT

Q-14. How do you typically determine moorage (slip) rates? (Circle one number)

1. BOAT LENGTH
2. SLIP LENGTH
3. SLIP LENGTH TIMES WIDTH (i.e., square feet)
4. FLAT FEE (Regardless of size)
5. OTHER (Please specify) _______________________________

Q-15. What other moorage services are provided at your marina? (Circle all numbers that apply.)

1. IN-THE-SLIP BOAT LIFT
2. ELECTRICITY
3. TV HOOKUPS
4. SEWAGE PUMPOUT
5. OTHER (Please specify) ______________________

____

The following section of this questionnaire is designed to obtain revenue and expense information for your business. In some instances you will need to consult your financial records to complete certain questions accurately. Accurate information is important. We appreciate any help you can give us in this section. Remember, any information you provide will remain confidential.

Q-16. Including yourself, how many people were employed on a full-time or equivalent basis by your business during 1983? (NOTE: An employee working full time for six months or one working four hours per day all year should be counted as 1/2 full time employee.)

______________ FULL TIME EMPLOYEES

Q-17. Please divide the total number of full time or equivalent employees stated in Q-16 into the following categories, including zero where applicable. Use fractions if necessary. (State number of employees in each category.)

______________ ADMINISTRATIVE EMPLOYEES

______________ SALES EMPLOYEES

______________ MECHANICAL AND PRODUCTION EMPLOYEES

______________ FULL TIME CUSTODIAL AND MAINTENANCE EMPLOYEES

Q-18. What proportion of the total number of employees listed in Q-16 are part-time or seasonal employees? (Please specify percent)

______________ %

Q-19. How much money did your business pay to owners and employees in the form of wages, salaries and commissions (or bonuses) during each of the past three years?

WAGES	SALARIES AND COMMISSIONS
______________ DOLLARS IN 1983	______________ DOLLARS IN 1983
______________ DOLLARS IN 1982	______________ DOLLARS IN 1982
______________ DOLLARS IN 1981	______________ DOLLARS IN 1981

Q-20. What was the total amount of all your business expenditures (including costs of goods sold) during each of the past three years, excluding wages, salaries and commissions (or bonuses) you reported in Q-19?

__________DOLLARS IN 1983

__________DOLLARS IN 1982

__________DOLLARS IN 1981

Q-21. What proportion of your total business expenditures stated in Q-20 are paid to Texas businesses during a typical year? (Please specify percent)

____________%

Q-22. What was the total revenue (gross value of sales, not net of sales) for your business during each of the past three years?

_________DOLLARS IN 1983

_________DOLLARS IN 1982

_________DOLLARS IN 1981

Q-23. What proportion of your total revenue is attributable to sales to Texas residents during a typical year? (Please specify percent)

___________%

Q-24. During 1983, how much money did your business pay for each of the following types of taxes and fees?

______________DOLLARS FOR INVENTORY AND PERSONAL PROPERTY TAXES

______________DOLLARS FOR REAL PROPERTY TAXES

______________DOLLARS FOR PAYROLL TAXES (e.g., FICA, unemployment, etc.)

______________DOLLARS FOR SALES TAXES

______________DOLLARS FOR CORPORATION FRANCHISE TAXES AND FEES

______________DOLLARS FOR BOAT TITLES AND IDENTIFICATION NUMBER FEES

______________DOLLARS FOR OTHER TAXES AND FEES (Please specify)

____

____

Q-25. During 1983, how much money did your business pay for utility expenses (e.g., telephone, electricity, gas, water, sanitation, disposal, etc.)?

__________________ DOLLARS IN 1983

Q-26. During 1983, how much money did your business pay in each of the following expense categories and what percent of each amount was paid to Texas businesses or residents?

NOTE: It is important that you do not enter the same expense in multiple categories. Also, please include payments to independent contractors but do not include wages, salaries and commissions or bonuses paid to your own employees and owners provided in Q-19.

__________ DOLLARS FOR BUSINESS TRAVEL ______% IN TEXAS

__________ DOLLARS FOR FREIGHT ______% IN TEXAS

__________ DOLLARS FOR BOATSHOWS AND OTHER SPECIAL PROMOTIONAL EVENTS ______% IN TEXAS

__________ DOLLARS FOR ADVERTISING ______% IN TEXAS

__________ DOLLARS FOR RENTAL OF LAND, BUILDINGS AND EQUIPMENT ______% IN TEXAS

__________ DOLLARS FOR OTHER RENTAL (e.g., vehicles, etc.) ______% IN TEXAS

__________ DOLLARS FOR FACILITIES MAINTENANCE AND IMPROVEMENT ______% IN TEXAS

__________ DOLLARS FOR MORTGAGE INTEREST EXPENSES ______% IN TEXAS

__________ DOLLARS FOR OTHER INTEREST EXPENSES ______% IN TEXAS

__________ DOLLARS FOR PROFESSIONAL BUSINESS CONSULTANTS AND SERVICES (e.g., financial, accounting, legal, etc.) ______% IN TEXAS

__________ DOLLARS FOR INSURANCE ______% IN TEXAS

For Manufacturers Only:

__________ DOLLARS FOR PRODUCTION RAW MATERIALS IN 1983 ______% IN TEXAS

For Retailers and Wholesalers Only:

__________ DOLLARS FOR ADDITIONS TO INVENTORY IN 1983 (e.g., purchase of goods for resale) ______% IN TEXAS

Q-27. Did your business have any major categories of expenditures during 1983 which were included in your responses to Q-20, but not identified elsewhere in this questionnaire? (Circle number)

1. YES
2. NO → GO TO QUESTION Q-28

Q-27-a. Please specify the dollar amounts and types of major expenditures which we previously overlooked.

DOLLARS IN 1983	% IN TEXAS	TYPE OF EXPENDITURE
______	______	______
______	______	______
______	______	______
______	______	______

Q-28. What is the estimated market value of land, buildings, equipment and inventory owned by your business in 1983? (NOTE: Please separate the value of your inventory?

______ DOLLAR VALUE OF LAND, BUILDINGS AND EQUIPMENT

______ DOLLAR VALUE OF INVENTORY

Q-29. During 1983, what was the net income of your business?

______ NET INCOME BEFORE TAX

______ INCOME TAX PAID

<u>This final section of the questionnaire seeks responses to management related concerns which will allow problems to be identified and confronted in the future.</u>

Q-30. Please select and <u>rank</u> the top five management problems <u>according to their significance for your business</u>. (<u>NOTE</u>: A rank of 1 indicates the greatest problem your business faces.)

____________ INABILITY TO HIRE AND RETAIN GOOD HELP
____________ INABILITY TO OBTAIN GOOD MECHANICAL SERVICE
____________ VANDALISM
____________ BURGLARY AND THEFT
____________ SEASONALITY OF BUSINESS
____________ LACK OF MARINA DESIGN INFORMATION
____________ UNCERTAINTY ABOUT WEATHER
____________ UNCERTAINTY REGARDING LEGAL INFORMATION
____________ NEED FOR INFORMATION ABOUT BUSINESS REGULATIONS
____________ WATER QUALITY PROBLEMS
____________ LACK OF INFORMATION ABOUT TAX RULES AND PROCEDURES
____________ NEED FOR BUSINESS MANAGEMENT INFORMATION
____________ COPING WITH INFLATION
____________ GOVERNMENT REGULATION OF BUSINESS ACTIVITIES
____________ ABILITY TO SECURE GOOD BUSINESS FINANCING
____________ ABILITY TO SECURE GOOD CONSUMER FINANCING
____________ OTHER (Please specify) ______________________________
____

Q-31. What types of media does your business use for advertising? (Circle a number for each item)

	Very Frequently	Frequently	Occasionally	Infrequently	Not at all
1. NEWSPAPERS	1	2	3	4	5
2. RADIO	1	2	3	4	5
3. TELEVISION	1	2	3	4	5
4. OUTDOOR SIGNS (billboards, etc.)	1	2	3	4	5
5. DIRECT MAIL	1	2	3	4	5
6. WORD OF MOUTH	1	2	3	4	5
7. TELEPHONE BOOK (Yellow Pages)	1	2	3	4	5
8. OTHER (please specify)__________ __________	1	2	3	4	5

Q-32. Do you use personal computers, microcomputers or other electronic information processing systems to assist you with business management procedures?

1. YES
2. NO

Q-32a. Do you expect to use these types of systems in the future?

1. YES
2. NO

Q-33. Do you currently contract with other businesses or individuals for computer analysis services?

1. YES
2. NO

Q-34. Is it likely that "high technology" (e.g., computer technology, robotics, etc.) will affect your business and its methods of operations in the future?

1. YES
2. NO

Q-34a. In what ways to you expect "high technology" to affect your business?

Q-35. How accurate do you feel your overall responses were to this questionnaire? (Circle one number)

1. VERY INACCURATE
2. VERY ACCURATE
3. ACCURATE IN A "BALLPARK KIND OF WAY"
4. INACCURATE

Q-36. How accurate do you feel your responses were to the financial questions (e.g., Q-19 through Q-29)?

1. VERY INACCURATE
2. VERY ACCURATE
3. ACCURATE IN A "BALLPARK KIND OF WAY"
4. INACCURATE

Q-37. Are there any other problems which you feel the Texas recreational boating industry faces? Or, do you have other boating-related concerns you would like to express? If so, please take a few minutes to write us a brief note about your concerns.

THANK YOU FOR YOUR HELP IN THIS STUDY!

TEXAS A&M UNIVERSITY

DEPARTMENT OF AGRICULTURAL ECONOMICS

COLLEGE STATION, TEXAS 77843-2124

Dear Sirs:

At this time very little information is available on the size and economic impact of the Texas boating industry. Each year, however, important decisions are made by public agencies and private individuals or groups that affect the development of this industry.

One focus of research being conducted at Texas A&M University is upon identification of the recreational boating industry's impact on the Texas economy in terms of sales, employment, personal income and other appropriate economic variables. This research will help government and industry make more efficient decisions concerning programs which affect the development of the Texas recreational boating industry: decisions which will directly affect you and other Texans.

In an effort to provide useful, high quality research, we ask you to please respond to the enclosed questionnaire. Your business was randomly selected from a list of all marine-related businesses located in Texas. Because only a relatively small number of businesses were selected, it is important for the reliability of this study that each questionnaire is completed and returned. Even if you are unable to complete the entire questionnaire, please answer all the questions you can (providing estimates when necessary) and return the questionnaire. <u>Please return the questionnaire even if you believe your business received it by mistake and indicate why; e.g., do not produce boating related products</u>.

Any information you provide will be kept in strictest confidence. The number printed on the back of the questionnaire is only to enable us to eliminate your name from our mailing list when you respond; otherwise, you would receive a reminder and additional questionnaires in the mail.

If you would like a copy of a summary report when this study is complete, please write your name and address on a separate sheet of paper. Then enclose it in the return envelope along with your questionnaire, or send it separately if you desire. This information will not be used to identify your responses later: confidentiality of your responses will be monitored under all circumstances. Completed questionnaires will be reviewed only by the research team at Texas A&M University.

Sincerely,

John Bergstrom
Research Associate

John Stoll
Assistant Professor and
Project Director

June 22, 1984

Dear Sirs:

As a prominent businessman involved in the recreational marine business, you do not need to be reminded that the health of our industry can be seriously affected by federal, state and local government legislation. When passing laws, it is often the case that lawmakers place a heavy emphasis on economic factors. That is, many times decision makers will sit up and take notice only when the economic impact of the industry has been analyzed and documented.

With this in mind, the Boating Trades Association of Texas (BTAT) and the Sea Grant College Program have contributed funds to Texas A&M University to conduct a study of the impact of our industry on the entire Texas economy. Because we expect the results of this study to benefit everyone involved in the recreational boating industry, we strongly recommend that you take the time to accurately complete and return the enclosed questionnaire. We have been assured responses from individual businesses will be strictly confidential and will be reviewed only by the research team, Dr. John R. Stoll, Dr. Lonnie L. Jones and Mr. John C. Bergstrom, all of Texas A&M University.

Upon completion of the survey and publication of the findings this December by Texas A&M University, BTAT will make the results available to all members of the marine industry.

Thank you for your concern.

Sincerely,

Franklin H. Pillsbury IV

Franklin Pillsbury IV
President
Boating Trades Association of Texas

Last week a questionnaire seeking information concerning the recreational boating industry's impact on the Texas economy was mailed to you. Your business was selected as part of a random sample of marine-related businesses in Texas.

If you have already completed and returned the questionnaire, please accept our sincere thanks. If not, please do so today. Because this questionnaire has only been sent to a sample of marine-related businesses, it is extremely important that yours also be included in the study. We would like our results to accurately reflect the economic condition of the Texas recreational boating industry.

If by some chance you did not receive the questionnaire, or it got misplaced, please call me now (713/845-2333) and I will arrange to get another one in the mail to you today.

Sincerely,

John R. Stoll
Project Director

TEXAS A&M UNIVERSITY

DEPARTMENT OF AGRICULTURAL ECONOMICS
COLLEGE STATION, TEXAS 77843-2124

Dear Sirs:

About three weeks ago we sent you a questionnaire in an effort to learn more about the recreational boating industry in Texas. As of today, we have not received your completed questionnaire.

We are conducting this study in order to determine the size and economic impact of the Texas recreational boating industry. Little information of this type is available at the present time. This means that people in government and industry may be seriously misinformed about the contribution that the recreational boating industry makes to the Texas economy, and this could lead to poor decisions regarding the development of the industry.

We are writing to you again because, if our results are to be reliable and useful to you and others, it is important that each questionnaire be completed and returned. In the event that your questionnaire has been misplaced, a replacement is enclosed.

If you would like a copy of a summary report of this study when it is completed, please tear off the form below and fill it out. Then enclose it along with your questionnaire or send it in a separate envelope to Dr. John R. Stoll. Regardless of how you return this form, your name will never be used to identify your responses. Confidentiality of all responses will be strictly maintained.

Your cooperation is greatly appreciated.

Sincerely,

Dr. John R. Stoll
Project Director

______ Yes, I would like to receive a copy of a summary report of the recreational boating industry impact study.

Name ____

Address ____

TEXAS A&M UNIVERSITY

DEPARTMENT OF AGRICULTURAL ECONOMICS
COLLEGE STATION, TEXAS 77843

August 21, 1984

Dear Sirs:

About six weeks ago we sent you a questionnaire in an effort to learn more about the recreational boating industry in Texas. We have not yet received your completed questionnaire.

So far the number of questionnaires returned is encouraging. But to accurately describe the Texas Recreational boating industry we need information from you and the others who have not yet responded. Our past experiences suggest that those of you who have not yet responded may represent significantly different portions of the industry than those who have already responded.

We are conducting this study in order to determine the size and economic impact of the Texas recreational boating industry. Little information of this type is available at the present time. This means that people in government and industry may be seriously misinformed about the contribution that the recreational boating industry makes to the Texas economy. This could lead to decisions which inadequately consider the industry of which your business is a part.

It is for this reason that I am sending this by certified mail to insure delivery. In case our other correspondence did not reach your business, a replacement questionnaire is enclosed. If your business is by chance not a part of the boating related industry (see question 9), please at least respond to question 1 and return the questionnaire in the enclosed postage-paid envelope.

If you would like a copy of the summary report for this study when it is completed, please tear off the form on the back of this sheet and fill it out. Then enclose it along with your questionnaire or send it a separate envelope to Dr. John R. Stoll. Regardless of how you return this form, your name will never be used to identify your responses. Confidentiality of all responses will be strictly maintained.

Your cooperation in making this study a success is appreciated.

Sincerely

John R. Stoll

Dr. John R. Stoll
Project Director

College of Agriculture
Texas Agricultural Experiment Station Texas Agricultural Extension Service

APPENDIX B

Survey Response Rates and Unadjusted Population Estimates

Table B-1a. Response Summary for the Total Recreational Boating Industry

		Total Number	Percent of Returned Questionnaires	Percent of Revised Sample Frame
Total Questionnaires Mailed		1042		
Bad Addresses	164			
Revised Sample Frame		878		100.0%
Returned Questionnaires		461	100.0%	52.5%
Unusable questionnaires		195	42.3%	
Not part of industry	145		31.5%	
Out of business	39		8.5%	
New business (data not available)	3		.7%	
Not willing to provide data	8		1.7%	
Useable questionnaires		266	57.7%	30.1%

Table B-1b. Unadjusted Total Recreational Boating Population Estimates.

	Percent for Estimate 1	Percent for Estimate 2	Industry size Estimate 1	Industry size Estimate 2
Pre-Survey Total Identified Recreation Boating Industry Establishments			1785	1785
Bad Address identification in sample	15.7%	--	280	--
Not part of industry	13.9%	13.9%	248	248
Out of business	3.7%	3.7%	66	66
Population Estimate (# of establishments)			1191	1471

Table B-2a. Response Summary for the Recreational Boat Manufacturing Sector

	Total Number		Percent of Returned Questionnaires	Percent of Revised Sample Frame
Total Questionnaires Mailed		289		
Bad Addresses	54			
Revised Sample Frame		235	—	100.0%
Returned Questionnaires		112	100.0%	47.7%
Unusable questionnaires		54	48.2%	
Not part of industry	41		36.6%	
Out of business	10		8.9%	
New business (data not available)	—		0%	
Not willing to provide data	3		2.7%	
Useable questionnaires		58	51.8%	24.7%

TableB-2b. Unadjusted Recreational Boat Manufacturing Population Estimates

	Percent for Estimate 1	Percent for Estimate 2	Industry size Estimate 1	Industry size Estimate 2
Pre-Survey Total Identified Recreation Boating Industry Establishments			289	289
Bad Address identification in sample	18.7%	—	54	—
Not part of industry	14.2%	14.2%	41	41
Out of business	3.5%	3.5%	10	10
Population Estimate (# of establishments)			184	238

Table B-3a. Response Summary for the Recreational Boat Trailer Manufacturing Sector

	Total Number		Percent of Returned Questionnaires	Percent of Revised Sample Frame
Total Questionnaires Mailed		21		
Bad Addresses	2			
Revised Sample Frame		19	—	100.0%
Returned Questionnaires		10	100.0%	52.6%
Unusable questionnaires		5	50.0%	
Not part of industry	2		20.0%	
Out of business	3		30.0%	
New business (data not available)	—		0%	
Not willing to provide data	—		0%	
Useable questionnaires		5	50.0%	26.3%

Table B-3b. Unadjusted Recreational Boat Trailer Manufacturing Population Estimates

	Percent for Estimate 1	Percent for Estimate 2	Industry size Estimate 1	Industry size Estimate 2
Pre-Survey Total Identified Recreation Boating				
Industry Establishments			21	21
Bad Address identification in sample	9.5%	—	2	—
Not part of industry	9.5%	9.5%	2	2
Out of business	14.3%	14.3%	3	3
Population Estimate (# of establishments)			14	16

Table B-4a. Response Summary for the Recreational Boat Equipment Manufacturing Sector

		Total Number	Percent of Returned Questionnaires	Percent of Revised Sample Frame
Total Questionnaires Mailed		54		
Bad Addresses	4			
Revised Sample Frame		50	—	100.0%
Returned Questionnaires		24	100.0%	48.0%
Unusable questionnaires		4	16.7%	
Not part of industry	2		.1%	
Out of business	2		.1%	
New business (data not available)	-		0%	
Not willing to provide data	-		0%	
Useable questionnaires		20	83.3%	40.0%

Table B-4b. Unadjusted Recreational Boat Equipment Population Estimates

	Percent for Estimate 1	Percent for Estimate 2	Industry size Estimate 1	Industry size Estimate 2
Pre-Survey Total Identified Recreation Boating Industry Establishments			54	54
Bad Address identification in sample	7.4%	—	4	—
Not part of industry	3.7%	3.7%	2	2
Out of business	3.7%	3.7%	2	2
Population Estimate (# of establishments)			46	50

Table B-5a. Response Summary for the Marine Trade (e.g., Boat Dealers and Accessories) Sector

		Total Number	Percent of Returned Questionnaires	Percent of Revised Sample Frame
Total Questionnaires Mailed		448		
Bad Addresses	77			
Revised Sample Frame		371	—	100.0%
Returned Questionnaires		194	100.0%	52.3%
Unusable questionnaires		79	40.7%	
Not part of industry	54		27.8%	
Out of business	20		10.3%	
New business (data not available)	1		.5%	
Not willing to provide data	4		2.1%	
Useable questionnaires		115	59.3%	31.0%

Table B-5b. Unadjusted Marine Trade (e.g., Boat Dealers and Accessories) Population Estimates: Number of Establishments

	Percent for Estimate 1	Percent for Estimate 2	Industry size Estimate 1	Industry size Estimate 2
Pre-Survey Total Identified Recreation Boating				
Industry Establishments			935	935
Bad Address identification in sample	17.2%	--	161	--
Not part of industry	12.1%	12.1%	113	113
Out of business	4.5%	4.5%	42	42
Population Estimate (# of establishments)			619	780

Table B-6a. Response Summary for the Recreational Marina and Boatyards Sector

	Total Number		Percent of Returned Questionnaires	Percent of Revised Sample Frame
Total Questionnaires Mailed		230		
Bad Addresses	27			
Revised Sample Frame		203	—	100.0%
Returned Questionnaires		121	100.0%	59.6%
Unusable questionnaires		53	43.8%	
Not part of industry	46		38.0%	
Out of business	4		3.3%	
New business (data not available)	2		1.7%	
Not willing to provide data	1		.8%	
Useable questionnaires		68	56.2%	33.5%

Table B-6b. Unadjusted Recreational Marinas and Boatyards Population Estimates: Number of Establishments

	Percent for Estimate 1	Percent for Estimate 2	Industry size Estimate 1	Industry size Estimate 2
Pre-Survey Total Identified Recreation Boating Industry Establishments			474	474
Bad Address identification in sample	11.7%	—	56	—
Not part of industry	20.0%	20.0%	95	95
Out of business	1.7%	1.7%	8	8
Population Estimate (# of establishments)			315	371

APPENDIX C

Supportive Tables for General Profile of Recreational Boating Industry Firms

Table C-1. Percent Involvement in Secondary Boating Related Activities by Primary Sector (sample frequency).

Primary Sector	Secondary Boating-Related Activities (Percent of Boat Activity)*										
	Boat Manf.	Boat Trailer Manuf.	Boat Access. Manuf.	Sports/ Rec. Equipmnet	Retail Dealer For Boats	Wholesale Dealer For Boats	Retail Sales Boating Products	Marina or Boatyard	Boat Repair Service	Engine Repair Service	Other
1. Boat Manuf.	-- (-)	29% (5)	18% (3)	.06% (1)	18% (3)	12% (2)	.06% (1)	.06% (1)	18% (3)	.06% (1)	.06 (1)
2. Trailer Manuf.	-- (-)	-- (-)	.17% (1)	-- (-)	-- (-)	.17% (1)	-- (-)	-- (-)	-- (-)	-- (-)	.29% (2)
3. Boat Access.	.97% (2)	-- (-)	-- (-)	.14% (4)	-- (-)	.03% (1)	.17% (5)	.07% (2)	.07% (2)	0.3% (1)	.14% (4)
4. Sports/Rec. Eqtm. Manuf.	-- (-)	-- (-)	-- (-)	-- (-)	-- (-)	-- (-)	.75% (3)	.75% (3)	-- (-)	-- (-)	-- (-)
5. Retail Dealer for boats	.03% (2)	.01% (1)	.03% (2)	.05% (4)	-- (-)	.14% (10)	.83% (59)	.07% (5)	.7% (5)	.76% (54)	.06% (4)
6. Wholesale Dlr. for Boats	-- (-)	-- (-)	.25% (2)	-- (-)	.12% (1)	-- (-)	.25% (2)	.12% (1)	12% (1)	.25% (2)	.50% (4)
7. Retail Sales of Boating Products	-- (-)	-- (-)	.08% (2)	.32% (2)	-- (4)	-- (-)	-- (-)	.38% (5)	.23% (5)	.08% (3)	(1)
8. Marina or Boatyard	-- (-)	-- (-)	.02% (1)	.08% (4)	.18% (9)	.02% (1)	.40% (20)	-- (-)	.34% (17)	.28% (14)	.20% (10)
9. Boat Repair Service	.11% (2)	.05% (1)	.05% (1)	-- (-)	.22% (4)	-- (-)	.50% (9)	.05% (1)	-- (-)	.44% (8)	.11% (2)
10. Engine Repair Serv.	-- (-)	-- (-)	-- (-)	-- (-)	.67% (10)	.07% (1)	.87% (13)	.07% (1)	.47% (7)	-- (-)	.20% (3)
11. Other	.14% (1)	-- (-)	.43% (3)	-- (-)	.14% (1)	-- (-)	.29% (2)	.29% (2)	.29% (2)	.14% (1)	-- (-)

* Row percentages do not sum to 100 because each primary sector could be involved in more than one secondary boating-related activity.

Table C-2. Type of firm ownership by Primary Sector (sample frequeney)

Sector	Sale Propretorship	Partnership	Private Corporation	Publicly Owned Enterprise	Other
1. Boat Manuf.	24% (4)	-- (-)	76% (13)	-- (1)	-- (1)
2. Boat Trailer Manuf.	71% (1)	-- (-)	14% (5)	(-)	(1)
3. Boat Access. Manuf.	28% (8)	10% (3)	59% (17)	3% (1)	-- (-)
4. Sports/Rec. Equip.Manuf.	50% (2)	-- (-)	50% (2)	-- (-)	-- (-)
5. Retail Dealer for Boats	33% (23)	6% (4)	62% (44)	-- (-)	-- (-)
6. Wholesale Dealer for Boats	-- (-)	-- (-)	75% (6)	-- (-)	25% (2)
7. Retail Sales of Boating Products	38% (5)	15% (2)	46% (6)	-- (-)	-- (-)
8. Marina or Boatyard	35% (17)	12% (6)	42% (20)	10% (5)	-- (-)
9. Boat Repair Service	56% (10)	11% (2)	33% (6)	-- (-)	-- (-)
10. Engine Repair Service	(60% (9)	13% (2)	27 (4)	-- (-)	-- (-)
Industry Total	34% (79)	9% (9)	53 (123)	3% (6)	1% (3)

Table C-3. Average Rank of Advertising Mediums by Primary Sector (Sample frequency)[1]

Primary Sector	Type of Advertising							
	Newspaper	Radio	TV	Outdoor Signs	Direct Mail	Word of Mouth	Telephone Book	Other
1. Boat Manuf.	4 (11)	4 (10)	4 (11)	4 (10)	3 (11)	2 (13)	3 (10)	4 (10)
2. Trailer Manuf.	4 (4)	4 (3)	4 (4)	3 (3)	1 (4)	1 (4)	2 (4)	1 (2)
3. Boat Access. Manuf.	4 (17)	5 (16)	5 (15)	4 (15)	3 (15)	1 (20)	2 (19)	1 (7)
4. Sports/Rec. Eq. Manuf. for Boating	3 (2)	4 (2)	4 (2)	3 (1)	3 (1)	1 (3)	2 (2)	3 (2)
5. Retail Dealer for Boats	2 (64)	3 (55)	4 (49)	4 (52)	42 (49)	2 (59)	2 (62)	-- (-)
6. Wholesale Dlr. for Boats	4 (8)	5 (7)	5 (7)	3 (7)	2 (7)	2 (7)	4 (7)	5
7. Retail Sales of Boating Products	2 (11)	4 (10)	4 (10)	3 (10)	3 (9)	1 (9)	2 (9)	2 (3)
8. Marina or Boatyard	3 (33)	4 (29)	4 (24)	3 (32)	3 (27)	1 (40)	2 (32)	-- (-)
9. Boat Repair Service	3 (9)	4 (8)	5 (7)	4 (7)	4 (9)	1 (11)	2 (14)	-- (-)
10. Engine Repair Service	3 (12)	4 (10)	5 (9)	4 (9)	4 (10)	1 (12)	2 (13)	1 (13)
Industry Average	3 (172)	4 (150)	4 (141)	4 (146)	3 (142)	1 (178)	2 (172)	2 (38)

1 Respondents' rankings varied from 1 to 5 where 1 indicated very frequent use and 5 indicated no use at all.

Table C-4. Number One Managment Problem (Sample Frequency)

Sector	Obtaining High Quality Labor	Obtaining Good Quality Service	Vandalism	Burglary and Theft	Seasonality of Business	Lack of Marina Design Info.	Uncertainty about Weather	Uncertain Legal Information	Need for Regulation Info.	Water Quality	Obtaining Tax Information	Need for Management Info.	Inflation	Government Reg.	Securing Good Business Financing	Securing Good Consumer Financing	Other
1. Boat Manuf.	40% (6)	6.7% (1)	0% (-)	6.7% (1)	13.3% (2)	0% (-)	6.7% (1)	6.7% (1)	0% (-)	0% (-)	0% (-)	0% (-)	6.7% (1)	6.7% (1)	0% (-)	0% (-)	6.7% (1)
2. Trailer Manuf.	60% (3)	0% (-)	0% (-)	0% (-)	20% (1)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	20% (1)	0% (-)	0% (-)
3. Boat Access.	47% (9)	0% (-)	0% (-)	5% (1)	37% (7)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	5% (1)	5% (1)	0% (-)	0% (-)	0% (-)	6% (3)
4. Sports/Rec. Eq. Manf. for Boating	33% (1)	0% (-)	0% (-)	33% (1)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	33% (1)
5. Retail Dealer for Boats	31% (16)	6% (3)	0% (-)	0% (-)	29% (15)	0% (-)	2% (1)	0% (-)	0% (-)	2% (1)	0% (-)	0% (-)	13% (7)	4% (2)	2% (1)	6% (3)	6% (3)
6. Wholesale Dealer for Boats	0% (-)	12% (1)	0% (-)	0% (-)	75% (6)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	12% (1)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)
7. Retail Sales of Boating Products	44% (4)	0% (-)	0% (-)	0% (-)	33% (3)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	11% (1)	0% (-)	11% (1)
8. Marina or Boatyard	11% (4)	9% (3)	3% (1)	3% (1)	26% (9)	3% (1)	9% (3)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	6% (2)	6% (2)	3% (1)	0% (-)	23% (8)
9. Boat Repair Service	46% (6)	0% (-)	0% (-)	0% (-)	46% (6)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	8% (1)
10. Engine Repair Service	7% (1)	13% (2)	0% (-)	0% (-)	67% (10)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	7% (1)	7% (1)	0% (-)	0% (-)	0% (-)	0% (-)

Table C-5. Number Two Management Problem (Sample frequency)

Sector	Obtaining High Quality Labor	Obtaining Good Quality Service	Vandalism	Burglary and Theft	Seasonality of Business	Lack of Marina Design Info.	Uncertainty about Weather	Uncertain Legal Information	Need for Regulation Info.	Water Quality	Obtaining Tax Information	Need for Management Info.	Inflation	Government Reg.	Securing Good Business Financing	Securing Good Consumer Financing	Other
1. Boat Manuf.	13% (2)	0% (-)	6.7% (1)	0% (-)	40% (6)	0% (-)	6.7% (1)	6.7% (1)	6.7% (1)	0% (-)	0% (-)	0% (-)	6.7% (1)	6.7% (1)	6.7% (1)	0% (-)	0% (-)
2. Trailer Manuf.	0% (-)	0% (-)	0% (-)	0% (-)	40% (2)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	40% (2)	0% (-)	0% (-)	20% (1)	0% (-)
3. Boat Access.	12% (2)	0% (-)	0% (-)	0% (-)	18% (3)	0% (-)	12% (2)	0% (-)	0% (-)	0% (-)	0% (-)	18% (3)	12% (2)	6% (1)	12% (2)	0% (-)	12% (2)
4. Sports/Rec. Eq. Manf. for Boating	0% (-)	0% (-)	33% (1)	0% (-)	33% (1)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	33% (1)	0% (-)	0% (-)
5. Retail Dealer for Boats	14% (7)	12% (6)	0% (-)	4% (2)	28% (14)	0% (-)	6% (3)	2% (1)	0% (-)	0% (-)	0% (-)	4% (2)	6% (3)	6% (3)	8% (4)	4% (2)	6% (3)
6. Wholesale Dealer for Boats	12.5% (1)	0% (-)	0% (-)	12.5% (1)	12.5% (1)	0% (-)	12.5% (1)	0% (-)	0% (-)	0% (-)	0% (-)	12.5% (1)	25% (2)	0% (-)	12.5% (-)	0% (-)	0% (-)
7. Retail Sales of Boating Products	0% (-)	22% (2)	0% (-)	0% (-)	0% (-)	0% (-)	22% (2)	11% (1)	0% (-)	11% (1)	0% (1)	11% (1)	22% (2)	0% (-)	0% (-)	0% (-)	0% (-)
8. Marina or Boatyard	15% (5)	6% (2)	3% (1)	12% (4)	15% (5)	3% (1)	18% (6)	0% (-)	0% (-)	0% (-)	0% (-)	3% (1)	9% (3)	9% (3)	6% (2)	0% (-)	0% (-)
9. Boat Repair Service	0% (-)	17% (2)	0% (-)	0% (-)	17% (2)	0% (-)	8% (1)	0% (-)	8% (1)	8% (1)	0% (-)	8% (1)	25% (3)	8% (1)	0% (-)	0% (-)	0% (-)
10. Engine Repair Service	46% (6)	0% (-)	0% (-)	0% (-)	8% (1)	0% (-)	8% (1)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	23% (3)	8% (1)	0% (-)	0% (-)	8% (1)

Table C-6. Number Three Management Problem (Sample frequency)

Sector	Obtaining High Quality Labor	Obtaining Good Quality Service	Vandalism	Burglary and Theft	Seasonality of Business	Lack of Marine Design Info.	Uncertainty about Weather	Uncertain Legal Information	Need for Regulation Info.	Water Quality	Obtaining Tax Information	Need for Management Info.	Inflation	Government Reg.	Securing Good Business Financing	Securing Good Consumer Financing	Other
1. Boat Manuf.	8% (1)	0% (-)	0% (-)	0% (-)	8% (1)	0% (-)	0% (-)	8% (1)	8% (1)	0% (-)	0% (-)	8% (1)	15% (2)	15% (2)	15% (2)	15% (2)	0% (-)
2. Trailer Manuf.	0% (-)	33% (1)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	33% (1)	0% (-)	33% (1)	0% (-)
3. Boat Access.	8% (1)	0% (-)	0% (-)	0% (-)	8% (1)	0% (-)	8% (1)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	46% (6)	15% (2)	8% (1)	8% (1)	0% (-)
4. Sports/Rec. Eq. Manf. for Boating	0% (-)	0% (-)	33% (1)	0% (-)	67% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)
5. Retail Dealer for Boats	10% (5)	2% (1)	2% (1)	4% (2)	20% (1.0)	0% (-)	10% (5)	0% (-)	4% (2)	4% (2)	8% (4)	4% (2)	14% (7)	4% (2)	2% (1)	4% (2)	8% (4)
6. Wholesale Dealer for Boats	14% (1)	0% (-)	14% (1)	0% (-)	14% (1)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	14% (1)	14% (1)	14% (1)	14% (1)	0% (-)	0% (-)
7. Retail Sales of Boating Products	12.5% (1)	0% (-)	0% (-)	0% (-)	12.5% (1)	0% (-)	0% (-)	12.5% (1)	12.5% (1)	0% (-)	0% (-)	0% (-)	0% (-)	12.5% (1)	38% (3)	0% (-)	0% (-)
8. Marina or Boatyard	9% (3)	9% (3)	0% (-)	9% (3)	12% (4)	6% (2)	15% (5)	3% (1)	0% (-)	6% (2)	0% (-)	3% (1)	12% (4)	12% (4)	3% (1)	0% (-)	0% (-)
9. Boat Repair Service	17% (2)	0% (-)	0% (-)	0% (-)	8% (1)	0% (-)	8% (1)	8% (1)	0% (-)	8% (1)	8% (1)	25% (3)	17% (2)	0% (-)	0% (-)	0% (-)	0% (-)
10. Engine Repair Service	0% (-)	9% (1)	9% (1)	0% (-)	0% (-)	0% (-)	18% (2)	0% (-)	0% (-)	9% (1)	0% (-)	9% (1)	27% (3)	0% (-)	9% (1)	0% (-)	9% (1)

Table C-7. Number Four Management Problem (Sample frequency)

Sector	Obtaining High Quality Labor	Obtaining Good Quality Service	Vandalism	Burglary and Theft	Seasonality of Business	Lack of Marina Design Info.	Uncertainty about Weather	Uncertain Legal Information	Need for Regulation Info.	Water Quality	Obtaining Tax Information	Need for Management Info.	Inflation	Government Reg.	Securing Good Business Financing	Securing Good Consumer Financing	Other
1. Boat Manuf.	8% (1)	8% (1)	0% (-)	0% (-)	15% (2)	0% (-)	0% (-)	0% (-)	8% (1)	0% (-)	15% (2)	0% (-)	23% (3)	23% (3)	0% (-)	0% (-)	0% (-)
2. Trailer	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	50% (1)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	50% (4)
3. Boat Access.	8% (1)	15% (2)	0% (-)	0% (-)	8% (1)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	8% (1)	8% (1)	31% (4)	15% (2)	8% (1)	0% (1)
4. Sports/Rec. Eq. Manf. for Boating	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	50% (1)	0% (-)	50% (1)	0% (-)	0% (-)
5. Retail Dealer for Boats	5% (2)	10% (4)	5% (2)	5% (2)	17% (7)	0% (-)	7% (3)	0% (-)	2% (1)	2% (1)	7% (3)	5% (2)	10% (4)	12% (5)	0% (-)	12% (5)	2% (1)
6. Wholesale Dealer for Boats	43% (3)	0% (-)	0% (-)	14% (1)	0% (-)	0% (-)	0% (-)	0% (-)	14% (1)	0% (-)	0% (-)	0% (-)	0% (-)	14% (1)	0% (-)	14% (1)	0% (-)
7. Retail Sales of Boating Products	0% (-)	0% (-)	0% (-)	12.5% (1)	12.5% (1)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	12.5% (1)	0% (-)	12.5% (1)	37.5% (3)	0% (-)	0% (-)	12.5% (1)
8. Marina or Boatyard	29% (9)	3% (1)	6% (2)	3% (1)	6% (2)	0% (-)	10% (3)	3% (1)	0% (-)	3% (1)	3% (1)	3% (1)	6% (2)	13% (4)	3% (1)	3% (1)	3% (1)
9. Boat Repair Service	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	9% (1)	9% (1)	0% (-)	0% (-)	0% (-)	9% (1)	36% (4)	18% (2)	9% (1)	0% (-)	0% (-)
10. Engine Repair Service	0% (-)	0% (-)	0% (-)	18% (2)	9% (1)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	18% (2)	0% (-)	0% (-)	9% (1)	18% (2)	27% (3)	0% (-)

Table C-8. Number Five Management Problem (Sample frequency)

Sector	Obtaining High Quality Labor	Obtaining Good Quality Service	Vandalism	Burglary and Theft	Seasonality of Business	Lack of Marina Design Info.	Uncertainty about Weather	Uncertain Legal Information	Need for Regulation Info.	Water Quality	Obtaining Tax Information	Need for Management Info.	Inflation	Government Reg.	Securing Good Business Financing	Securing Good Consumer Financing	Other
1. Boat Manuf.	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	10% (1)	0% (-)	0% (-)	0% (-)	0% (-)	20% (2)	10% (1)	10% (1)	20% (2)	30% (3)	0%
2. Trailer Manuf.	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	50% (1)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	50% (1)
3. Boat Access.	0% (-)	0% (-)	11% (1)	11% (1)	0% (-)	0% (-)	11% (1)	0% (-)	11% (1)	0% (-)	0% (-)	22% (2)	0% (-)	11% (1)	11% (1)	0% (-)	11% (1)
4. Sports/Rec. Eq. Manf. for Boating	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	50% (1)	0% (-)	0% (-)	0% (-)	0% (-)	50% (1)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)
5. Retail Dealer for Boats	5% (2)	0% (-)	10% (4)	5% (2)	5% (2)	0% (-)	10% (4)	3% (1)	8% (3)	3% (1)	3% (1)	16% (6)	13% (5)	5% (2)	8% (3)	3% (1)	3% (1)
6. Wholesale Dealer for Boats	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	17% (1)	0% (-)	17% (1)	0% (-)	17% (1)	0% (-)	17% (1)	17% (1)	0% (-)	0% (-)	0% (-)
7. Retail Sales of Boating Products	0% (-)	0% (-)	0% (-)	12.5% (1)	12.5% (1)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	0% (-)	12.5% (1)	37.5% (3)	0% (-)	25% (2)	0% (-)	0% (-)
8. Marina or Boatyard	10% (3)	3% (1)	10% (3)	7% (2)	7% (2)	0% (-)	14% (4)	7% (2)	0% (-)	3% (1)	0% (-)	7% (2)	10% (3)	10% (3)	10% (3)	0% (-)	0% (-)
9. Boat Repair Service	0% (-)	0% (-)	0% (-)	0% (-)	11% (1)	0% (-)	0% (-)	0% (-)	11% (1)	0% (-)	33% (3)	0% (-)	11% (1)	22% (2)	11% (1)	0% (-)	0% (-)
10. Engine Repair Service	0% (-)	0% (-)	10% (1)	0% (-)	10% (1)	0% (-)	10% (1)	0% (-)	10% (1)	10% (1)	0% (-)	10% (1)	20% (2)	0% (-)	10% (1)	10% (1)	0% (-)

Table C-9. High Technology Profile of Boating Industry Firms (Sample frequency)

Sector	Use High Technology Now?		Use High Technology in Future?		Contract Computer Services		Will High Technology Affect Business in Future?	
	Yes	No	Yes	No	Yes	No	Yes	No
1. Boat Manuf.	37.5% (6)	62.5% (10)	70% (7)	30% (3)	25% (4)	75% (12)	43% (6)	57% (8)
2. Trailer Manuf.	48% (3)	57% (4)	67% (2)	33% (1)	14% (1)	86% (6)	33% (1)	67% (2)
3. Boat Access. Manuf.	48% (12)	52% (13)	62% (8)	33% (5)	14% (5)	86% (20)	33% (12)	67% (12)
4. Sports/Rec. Eq. Manuf. for Boating	50% (2)	50% (2)	67 (2)	33% (1)	25% (1)	75% (3)	50% (2)	50% (2)
5. Retail Dealer for Boats	24% (16)	76% (50)	63% (32)	37% (19)	25% (17)	75% (50)	44% (27)	56% (34)
6. Wholesale Dealer for Boats	75% (6)	25% (2)	100% (3)	0% (-)	37.5% (3)	62.5% (5)	75% (6)	25% (2)
7. Retail Sales of Boating Products	18% (2)	82% (9)	62% (5)	38% (3)	9% (1)	91% (10)	30% (3)	70% (7)
8. Marina or Boatyard	44% (18)	56% (23)	46% (12)	54% (14)	30% (13)	70% (30)	28% (11)	72% (28)
9. Boat Repair Service	38% (6)	62% (10)	44% (4)	56% (5)	25% (4)	75% (12)	14% (2)	86% (12)
10. Engine Repair Service	34% (1)	66% (14)	58% (6)	42% (7)	24% (1)	76% (13)	39% (5)	61% (10)
Industry Total	34% (72)	66% (137)	58% (81)	42% (58)	24% (50)	76% (161)	39% (75)	61% (117)