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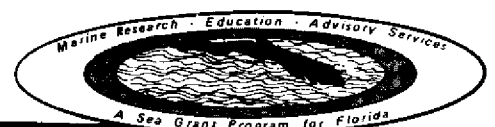
# **FLORIDA SEA GRANT PROGRAM**

## **AN ECONOMIC PROFILE OF FLORIDA COMMERCIAL FISHING FIRMS: FISHERMEN, COMMERCIAL ACTIVITIES AND FINANCIAL CONSIDERATIONS**

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## TABLE OF CONTENTS

	<u>Page</u>
List of Tables . . . . .	iii
List of Figures . . . . .	iii
Introduction . . . . .	1
Source of Data . . . . .	2
The Fishermen . . . . .	3
Major Fisheries . . . . .	6
Gear and Investments . . . . .	9
Boats, Vessels and Fuel Requirements . . . . .	10
Fishing Gear . . . . .	12
Capital Investments . . . . .	14
Loan Sources . . . . .	15
Income and Employment . . . . .	17
Summary . . . . .	20
References Cited . . . . .	23
Appendix . . . . .	24

## LIST OF TABLES

<u>Number</u>		<u>Page</u>
1	Number of fishing firms, volume and value of catch per firm for major species, 1974 . . . . .	7
2	Number and percentage of boat and vessel owners owning specified number of boats and vessels, 1974 . . . . .	10
3	Estimated fuel use per boat or vessel by type of fuel, 1974 . . . . .	12
4	Percentage of boat owners responding to questionnaires using various combinations of gear types in 1974 . . . . .	13
5	Number and percent of fishing firms reporting loans by credit sources, 1974 . . . . .	16
6	Loan source by type of gear and average value of fishing firm loan by loan source, 1974 . . . . .	17
7	Years of education completed and percent of income earned outside of the fishery by fishermen in different age classes, 1974 . . . . .	19
8	Years of education related to percent of income earned outside of the fishery, 1974 . . . . .	20
9	Percentage distribution of jobs held by commercial fishing boat owners outside of the fishery, 1974 . . . . .	21
10	Number and percent distribution of Florida commercial fishermen who responded to questionnaires by county, 1974 . . . . .	24

## LIST OF FIGURES

<u>Number</u>		<u>Page</u>
1	Age distribution of Florida commercial fishermen, 1974 . . . . .	5
2	Percentage distribution of fishermen by years fished in Florida, 1974 . . . . .	5
3	Percent of fishermen earning various levels of income outside of the fishery . . . . .	19

AN ECONOMIC PROFILE OF FLORIDA COMMERCIAL FISHING FIRMS:  
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Introduction

Commercial landings of saltwater fish and shellfish in Florida ports were 172.5 million pounds with a dockside value of \$67.6 million in 1974.<sup>1</sup> In addition, freshwater commercial fishermen landed 11.6 million pounds of fish and turtles valued at \$2.9 million. Approximately 10,000 commercial fishermen earn all or part of their livelihood landing this catch. An economic profile of these firms, fishermen, and the gear and investments employed in Florida's major fisheries is the subject of this bulletin. This profile will identify characteristics of the fishing community which are of importance to two groups. First, the industry itself and those industries that supply fishermen's gear, fuel, and investment needs will be more accurately informed of industry needs. Second, marine extension, research and government agency personnel will be able to more effectively service the industry with a better understanding of the people for whom the programs were designed. Evaluation of alternative fishery management programs, private or public

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<sup>1</sup>Unless otherwise noted statistics reported from published data are derived from (3) and (4)

requires consideration to be given to the fishing community in addition to the biological assessment of the fish stock. Information developed in this bulletin will contribute to this end as well as to the solution of related day-to-day economic problems.

#### Source of Data

Data presented in the following sections are based on 321 questionnaires completed by commercial fishing firms. Questionnaires pertaining to the 1974 fishing year were mailed in early 1975 to 9,539 fishermen (see Appendix Table 10) who owned boats or vessels which were listed with the Florida Department of Natural Resources as commercial fishing craft during 1972. The 1972 list was the latest available list at the time of the survey and was used to identify the population. Collection of 1974 data using 1972 addresses also allowed determination of the mobility of the fishing community. Of the 584 responses, 321 questionnaires were adequately completed. These 321 commercial boat owners or fishing firms represent approximately 938 fishermen because more than one boat was owned per firm in some cases and there was an average of two fishermen per boat. In this report data are presented and discussed in terms of averages for boat owners who responded. Each boat owner is considered to represent a single fishing firm and, therefore, the terms fishing firm, boat owner and commercial fisherman are used synonymously throughout the report. The term crewmen is used when data pertain to the owner and the crew.

A relatively small percent of fishermen responded to the survey. Individual boat owner characteristics are compared with other published data to insure that the data are representative before extrapolation

to the entire commercial fishery. Approximately 8 percent of the questionnaires sent were returned because fishermen no longer lived at the old address and forwarding addresses were not known. In addition approximately two percent of those sent questionnaires (included in questionnaires not used) reported that the individual had either retired or left the fishery for reasons including death. In addition, a comparison of the number of commercial fishing boats registered in 1972 with the number of boats and vessels reported as fishing in 1972 industry statistics suggested that many with commercial boat licenses do not fish commercially. Only 6,044 boats and vessels were reported to have fished in 1972 [3]. This represents only 64 percent of the 9,500 listed as commercial boats and vessels with the Florida Department of Natural Resources. Since 1.5 boats and vessels per firm were reported in this study, approximately 4,029 firms fished in Florida in 1972. The 321 usable questionnaires represent 8 percent of the population. Considerable effort is made throughout this report to compare the findings with published data to demonstrate that the survey data are representative of the industry.

Results of the survey are presented in four sections. First, selected geographic characteristics of Florida fishermen are presented. Second, the major fisheries of those responding to the survey are discussed. Third, average gear requirements and investment levels are presented and fourth, income and employment characteristics are addressed.

### The Fishermen

Commercial fishermen in Florida represented in this survey by commercial boat owners, ranged in age from 16 to 85 years old. Average

age was 48 years. There is relatively little entry of young fishermen into Florida fisheries. Four percent of the fishermen were 21 years old or younger and only 11.4 percent were less than 31 years old (Figure 1). At the other extreme, approximately 19 percent were over 60 years old. The majority (51.6 percent) of the fishermen were between 41 and 60 years of age with 27.5 percent between 41 and 50 and 24.1 percent between 51 and 60. These estimates are consistent with results of another study which found 52 percent of Louisiana fishermen ranging in age from 40 to 59 years [5].

The average commercial fisherman in Florida has fished commercially for 16.5 years of which 15.5 were in Florida waters. Most fishermen have fished between 7 and 30 years in Florida waters (Figure 2). Slightly over 30 percent have fished for six or less years. Comparing this with the 11.4 percent who were less than 31 years old and approximately 30 percent who were 40 or less (Figure 1) suggests that these commercial fishermen enter the fishery some years after the "normal" age when a person first enters the labor force.

Fishermen are relatively mobile within Florida. Change of addresses between 1972 and 1974 indicate approximately 8 percent of the owners of registered commercial fishing boats moved during the two-year period.

Fishermen responding to the survey represent 46 of the 67 Florida counties. Over 95 percent of Florida fishermen who registered their boats and vessels for commercial fishing live in these 46 counties. Distribution of fishermen by county of residence is shown in Appendix Table 10 for both the population of registered boat owners in 1972 who were sent questionnaires and fishing firms who returned questionnaires



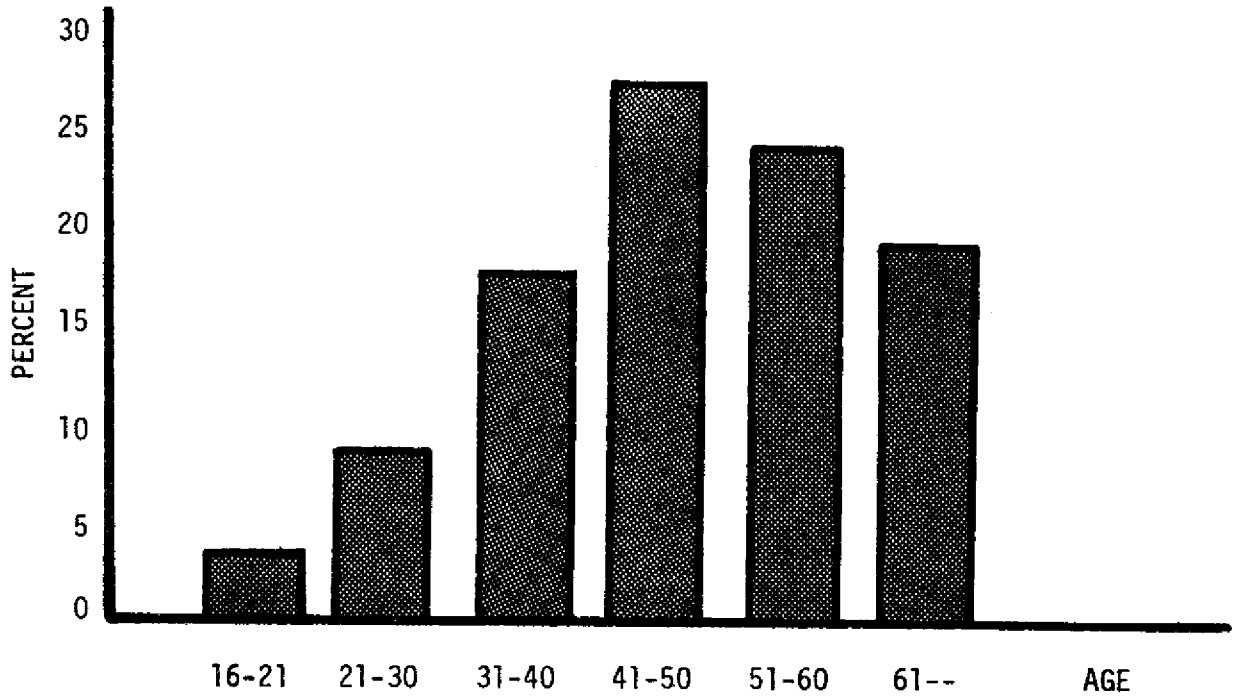


Figure 1.-Age distribution of Florida commercial fishermen, 1974.

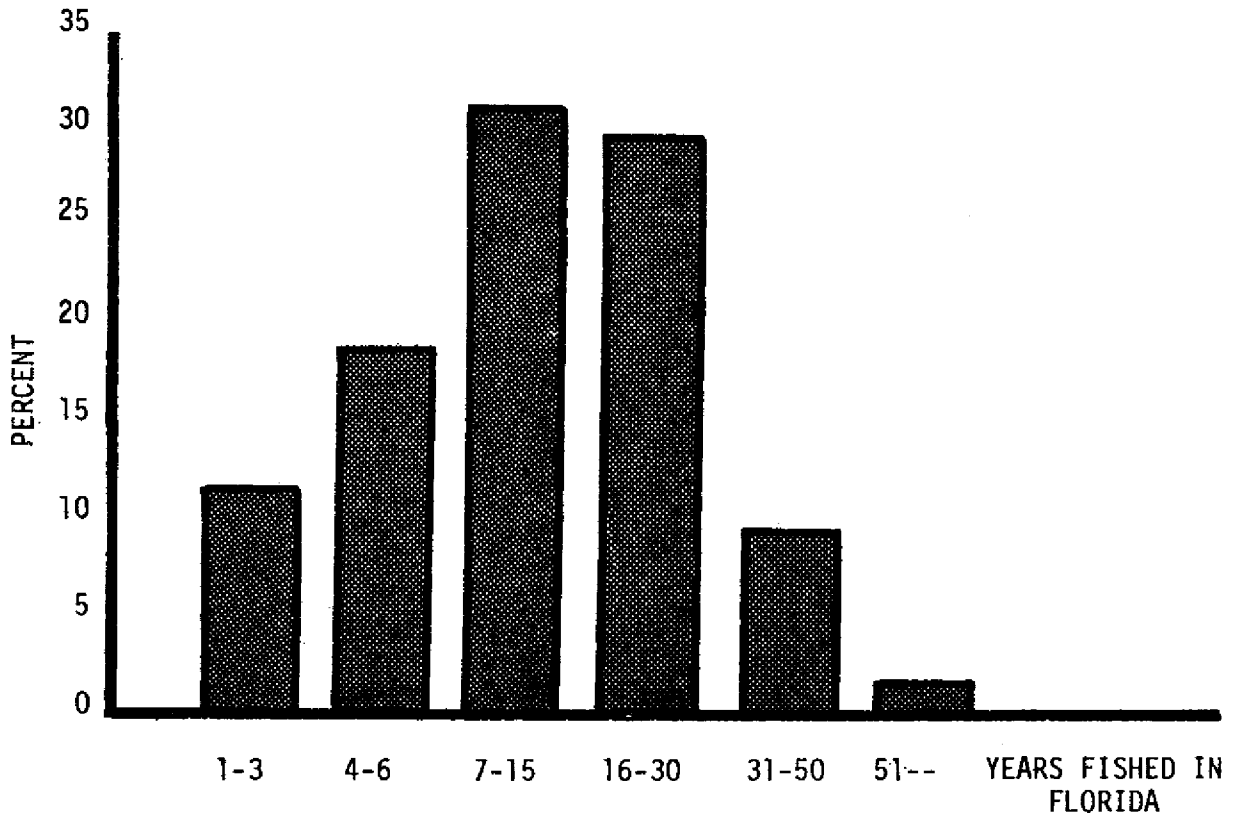


Figure 2.-Percentage distribution of fishermen by years fished in Florida, 1974.

for 1974. The percentage distribution of the respondents for many counties compares favorably with the population distribution of registered boat owners. The ten largest counties in terms of number of registered boat owners account for 47 percent of the total number. Forty-four percent of the returned surveys came from these same ten counties. With the exception of Monroe, Lee, Franklin, Dade, and Duval which have large numbers of fishermen with registered boats, the 46 counties shown have a relatively even distribution of commercial fishermen. These comparisons suggest the data proportionally represent main fishing areas.

Ninety-three percent of Florida fishermen land all or part of their catch in their home county. Only 13 percent reported landing their catch in ports or at fishhouses outside their home counties.<sup>2</sup> Most fishermen indicated that between 4 to 5 fishhouses existed in their local area where their catch could be sold although there was wider variation among some fishing communities. Most fishermen had less than 10 fishhouses where their catch could be sold, however, most indicated they sold to only a small number of dealers. The average number of fishhouses used per firm was 1.4 with 81 percent selling to only one fishhouse during the year.

#### Major Fisheries

Ninety percent of the fishing firms responding to the survey were saltwater fishermen while the remaining 10 percent fished Florida's freshwater lakes and rivers. Table 1 presents the number and percent

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<sup>2</sup>Six percent reported landing their catch in more than one county.

Table 1. Number of fishing firms, volume and value of catch per firm for major species, 1974

Species	Number of firms	Percent of firms <sup>b</sup>	Average reported catch per firm <sup>a</sup>	
			Pounds	Dollars
Freshwater fish:				
Catfish	30	9.3	11,831	6,822
Saltwater finfish:				
Groupers	53	16.5	9,337	2,941
King mackerel	43	13.4	18,220	6,179
Mullet	79	24.6	25,070	2,750
Pompano	26	8.1	3,020	3,060
Red snapper	14	4.4	6,860	3,600
Yellowtail snapper	15	4.7	2,130	1,180
Mangrove snapper	8	2.5	1,420	860
Other snapper	49	13.3	2,730	2,285
Sea trout	67	20.9	5,720	1,520
Spanish mackerel	34	10.6	8,919	3,014
Shellfish:				
Blue crab	23	7.2	18,657	2,700
Shrimp	58	18.1	46,320 <sup>c</sup>	68,880
Spiny lobster	41	12.8	11,140 <sup>d</sup>	13,080
Stone crab	21	6.5	8,710	8,240
Oysters	12	3.7	6,840	1,880
Bait:				
Shrimp	6	1.9	34,125	70,367
Other	10	3.1	35,390	1,500
Miscellaneous catch	130	40.5	22,300	21,370

<sup>a</sup>Averages are based on questionnaires where the boat owners could provide an estimate of pounds and/or dollar sales. In some cases reported 1974 average prices were used to estimate pounds or dollars when only one was reported.

<sup>b</sup>Percent is based on number of firms reporting catch in relation to the 321 completed questionnaires.

<sup>c</sup>Average landings per vessel in the Gulf of Mexico have been estimated to range from 38,000 to 59,000 depending on vessel class [2].

<sup>d</sup>An independent study of the Florida spiny lobster fishery in 1974 estimated average landings equal to 12,828 pounds for full-time lobster fishermen [6]. Only fishermen who principally fished lobsters were included in the study.

of fishermen reporting catches by species. Average pounds landed and dollar sales represent those of fishermen who reported commercial landings of the species indicated in Table 1. Individual fishermen generally market more than one species. Therefore, the averages per fishing firm reported in Table 1 do not represent average gross income per firm from fishing. Nor do they represent average landings for only firms who specialize in fishing for the individual species. In the case where a particular fishery uses a specialized type of gear, such as the shrimp trawl, landings should approximate those for specialized fishermen. In these cases comparisons with other data were made when possible.

Mullet was the most frequently reported species with almost 25 percent of the fishing firms reporting catches with an average value of \$2,750<sup>3</sup> per firm as a part of their commercial enterprise (Table 1). Sea trout was the second most frequently reported species with nearly 21 percent of the firms reporting commercial landings in 1974.

In terms of value of catch, king mackerel was the most important saltwater finfish contributing an average of \$6,179 per firm in 1974. Freshwater catfish was the most valuable finfish listed separately in the survey in terms of average value per fishing firm. The combined

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<sup>3</sup>Pounds of mullet landed per firm equals approximately 25,000 pounds. This is considerably below the expected catch per firm for full-time mullet fishing firms. For example, Cedar Keys, Florida, fishermen expect a catch of approximately 48,000 pounds [8]. This difference is not surprising since the survey includes both full- and part-time fishermen. Using the latest published data available in [3] and dividing the pounds caught in 1973 using run-around gill nets by the number of boats and vessels fishing with this type of gear gives an average catch of approximately 18,400 pounds which is slightly lower than the survey report. Thus the present estimate is reasonable, especially if occasional fishermen were less likely to respond to the survey than full-time fishermen.

landings of grouper and red snapper are approximately 16,000 pounds which is considerably less than landings for fishermen who specialize in this fishery. A recent study [7] estimates that landings per vessel range from 61,000 to 97,000 pounds in the Northern Gulf of Mexico areas. The difference between this study and the present estimates are differences in productivity among fishing areas and the incidental catch reported in the present survey.

Shellfish, because of a considerable volume of landings per fishing firm and relatively high prices, contribute substantially to gross income compared to finfish. This does not mean that shellfish producers necessarily earn more income than finfish producers because there tends to be more specialization in the shellfish fishery. In order of importance, shrimp, spiny lobsters and stone crabs are the principle types of shellfish landed.

The bait industry in Florida is another important fishery to 5 percent of the firms returning questionnaires. Live shrimp were sold for 3 to 4 cents per head by the fishermen in 1974. The average catch, based on a relatively small number of fishermen whose individual catch varied widely, was 34,125 pounds valued at \$70,367 (Table 1). Other bait catches reported in Table 1 represent items such as fish sold for crab bait.

#### Gear and Investments

Fishermen invest considerable capital in boats, vessels and gear. The type, number and value of these investments are presented in this section. In addition, the sources of loan funds and average fuel requirements are analyzed. Both of these items have become extremely

important to the fishing industry during the last few years.

### Boats, Vessels, and Fuel Requirements

Approximately 71 percent of the boat and vessel owners responding to the survey owned only one boat or vessel (Table 2). Over 18 percent owned two boats or vessels. These estimates are based on 469 boats and vessels reported by 321 fishing firms for an average of 1.5 boats or vessels per commercial fishing firm.

Table 2. Number and percentage of boat and vessel owners owning specified number of boats and vessels, 1974

Fishing firms	Number of boats and vessels				
	Total	One	Two	Three	Four or more
Number	321	227	60	19	15
Percent	100.0	70.7	18.7	5.9	4.7

Thirty-two percent of the craft were diesel while the remaining 68 percent were gasoline powered (Table 3). Considering all types of fishing operations, the average diesel craft consumed 14,993 gallons of fuel in 1974.<sup>4</sup> The average gasoline craft consumed 1,417 gallons of gasoline in 1974.<sup>5</sup>

<sup>4</sup>Grouper-red snapper vessels and shrimp trawlers are principle users of diesel fuel. A comparison with other studies shows diesel consumption ranging from approximately 8,000 to 10,000 gallons annually for the grouper-snapper vessels [7] and approximately 44,500 gallons per vessel for shrimp vessels in the Gulf of Mexico.

<sup>5</sup>Average gasoline consumption compared to diesel consumption reflects the fact that smaller craft are often powered by outboard gasoline engines which in some cases, such as the mullet and blue crab industry, consumes only 300 to 400 gallons annually. Small lobster boats, ranging in size from 16-22 feet in length are principally gasoline powered. These boats have been estimated to consume approximately 1,363 gallons of fuel annually [6].

Significance of available fuel to Florida commercial fishermen is made evident by projecting total fuel needs to be 30.1 million gallons of diesel and 6.0 million gallons of gasoline used annually by Florida commercial fishermen. This projection is based on several assumptions. These were 6,279 boats and vessels reported actually fishing in Florida in 1973 [3]. Assuming the 32 percent diesel and 68 percent gasoline powered engines distribution developed from this survey there are approximately 4,262 gasoline and 2,005 diesel powered craft in Florida. Multiplying these estimates by the estimated average fuel usage of 1,417 and 14,993 gallons of gasoline and diesel, respectively, gives the projected fuel needs for the commercial fishing industry in Florida. These estimates are probably conservative, considering that there were over 9,500 registered commercial fishing boat owners in Florida in 1972.

Estimates of total fuel used are important for estimating total fuel requirements of the industry and for demonstrating the importance of the fishing industry to the petroleum industry. Because fuel use varies widely by fisheries the survey data are grouped further by three distinct gear types in Table 3. Boats and vessels fishing with otter trawls for shrimp are mainly diesel powered craft which consumed an average of 35,056 gallons per boat or vessel in 1974. Gill and trammel net fishermen mainly use gasoline powered engines and consumed an average of 1,743 gallons in 1974. Trap fishermen who principally catch lobsters and crabs used approximately one-third diesel and two-thirds gasoline powered craft and consumed 5,216 gallons of diesel and 1,651 gallons of gasoline per craft in 1974.

Table 3. Estimated fuel use per boat or vessel by type of fuel, 1974

Craft by gear type	Diesel		Gasoline	
	Percent boats or vessels	Average number of gallons	Percent boats or vessels	Average number of gallons
Average of all types	32	14,993	68	1,417
Otter trawl	96	35,056	4	3,600
Gill and trammel nets	11	4,250	89	1,743
Traps	36	5,216	64	1,651

### Fishing Gear

Florida fishermen use a variety of gear. Specific gear listed in order of frequency of reporting are: gill nets, 34.3 percent; traps, 25.5 percent; hand lines, 24.3 percent; trammel nets, 14.3 percent; otter trawls, 7.5 percent; long lines, 5.3 percent; haul seines, 4.7 percent; and "other" gear types, 36.8 percent.

Most fishermen use several types of gear. Table 4 contains the percentage of fishing firms with specified gear (referred to as "base gear") that also use another type of gear (listed in the column headings). The column titled "Number of gear units" provides a base for comparing the use of different types of gear and represents the number of fishing firms who reported using a specific type of gear. For example, reading across the rows, 15 firms indicated that haul seines were used. Of these 15 haul seiners, 27 percent also used traps, 13 percent also used hand lines, etc. Using the next row, of the 82 who reported using traps, 5 percent also used haul seines, 24 percent used hand lines, etc. The remaining rows should be interpreted in a similar manner for the gear combinations.



Table 4. Percentage of boat owners responding to questionnaires using various combinations of gear types in 1974<sup>a</sup>

"Base" gear type	Number of gear units	Percentage of firms having "Base" gear also having additional specified gear							
		Haul seine	Traps	Hand lines	Gill nets	Long lines	Otter trawls	Trammel nets	Other
Haul seines	15	100	27	13	73	0	0	47	27
Traps	82	5	100	24	29	7	1	9	28
Hand lines	78	3	26	100	22	6	1	9	33
Gill nets	110	10	22	16	100	4	2	29	21
Long lines	17	0	35	29	24	100	6	11	35
Otter trawls	24	0	4	4	8	4	100	4	8
Trammel nets	46	15	15	15	70	4	2	100	15
Other	118	3	20	22	20	5	2	6	100

<sup>a</sup>The table should be read across the rows. The haul seine row would indicate that of the 15 fishermen who reported using haul seines, 27 percent also fished traps, 13 percent fished hand lines, 73 percent fished gill nets, etc. The remaining rows should be read in a similar manner.

Otter trawl fishermen are shown in Table 4 to be the most gear specialized which is consistent with the highly specialized nature of the shrimp fishery. Gill net and trammel net fishermen tend to be the least gear specialized which is consistent with the large number of species harvested by these fishermen. Twenty-four percent of the trap fishermen who fish other gear use hand lines while another 29 percent also use gill nets. In this case lobster fishermen often use hand lines and gill nets to fish for king mackerel in the off season while blue crab fishermen use gill nets in the mullet fishery. Ownership of several types of gear is beneficial because it allows the fishermen more flexibility to adjust to changing economic and production conditions whether these changes be induced by the market place, the marine environment or the public management authorities through season, area, or gear regulations.

### Capital Investments

Present value of capital investments by commercial fishing boat and vessel owners averaged \$26,532 per firm in 1974. This represents the total value per firm of all gear including boats and/or vessels. Average investment in shrimp vessels and gear per firm was \$125,574 with the remaining firms averaging \$20,043. Most recent statistics (1973) report 6,279 boats and vessels fishing in Florida commercial fisheries [3]. Given an average of 1.5 boats and vessels per firm, this means there are approximately 4,186 firms in the industry. If the average value of capital investments for the 4,186 firms is the same as the estimated \$26,532 from the sample, total value of investments in the fishing industry in Florida is estimated to be slightly

over \$111.0 million. This includes investment only in vessels and gear used in the actual fishing process and does not include, for example, investments in processing facilities.

Only a few empirical estimates of investments in specific fisheries are available for comparisons with the averages presented here. Estimates are available for shrimp [2], snapper-grouper [7], and spiny lobsters [6]. Average investment per shrimp vessel in this survey is \$61,177. This estimate compares favorably with estimates for Gulf of Mexico shrimp vessels which are \$56,584 and \$75,820 for 53 to 65 foot and 66 to 72 foot vessels, respectively [7]. Lobster boats and vessels in the survey reported an average investment value equal to \$29,984. This compares with an estimate of approximately \$28,000 for Florida Keys lobstermen whose main enterprise was lobster fishing [6]. Boats and vessels in the survey that reported grouper and red snapper landings to be more than incidental catches reported investments averaging \$28,000 with a range of \$7,000 to \$60,000. Recent studies of the Gulf of Mexico red snapper-grouper industry give averages ranging from \$26,526 to \$67,267. South Atlantic red snapper-grouper fishermen tend to have smaller investments than Gulf of Mexico fishermen because of more specialization and longer distances involved in the Gulf fishery and thus cause the survey average to be less than the estimates for Gulf fishermen.

#### Loan Sources

Fishermen obtain loan funds from various sources to finance their operating capital needs and capital investment requirements. Over 67 percent of the fishermen had one or more loans outstanding in 1974.

Local bank loans are by far the most important loan source accounting for 58.6 percent of all loans (Table 5). Approximately 24 percent are indebted to the local fishhouse, the second most important source of loan funds. National Marine Fisheries Service had loans outstanding to 6.1 percent. The Production Credit Association (PCA)<sup>6</sup> and the Small Business Administration, respectively, had loans outstanding to 3.4 and 2.7 percent of the commercial fishermen.

Classifying fishing firms by gear type shows local banks to be the major source of loans for the four gear types in Table 6.

Table 5. Number and percent of fishing firms reporting loans by credit sources, 1974

Loan source	Number of firms reporting loans	Percent of firms reporting loans
Local bank	174	58.6
Fishhouse	70	23.5
National Marine Fisheries Service	18	6.1
Other	17	5.7
Production Credit Association	10	3.4
Small Business Association	8	2.7
Total	297	100.0

Local banks account for between 51.9 to 72.1 percent of the loans for specific fisheries. Otter trawl fishing firms are the most specialized

<sup>6</sup>The Production Credit Association is a relatively new loan source to the fishing industry. The Farm Credit Act of 1971 made harvestors of aquatic products eligible for PCA loans. The respondents in the survey represent approximately 20 percent of the PCA fishing loans outstanding in Florida as of June 30, 1974. Total value of all outstanding PCA Florida loans was \$1.824 million.

with respect to their source of loans. Fishhouse loans are second in importance, ranging from 11.1 to 33.8 percent of the individual loans.

Table 6. Loan source by type of gear and average value of fishing firm loan by loan source, 1974

Major loan sources	Fishery classified by gear type				Average value of loan for each source (1,000 dollars)
	Pots and traps	Hand lines	Gill and trammel nets	Otter trawls	
	----- Percent -----				
Local bank	51.9	62.3	63.3	72.1	37.6
Fishhouse	33.8	23.0	28.7	11.1	19.3
NMFS	5.2	9.8	4.7	5.6	25.9
SBA	5.2	3.3	1.3	5.6	59.9
PCA	3.9	1.6	2.0	5.6	41.0
Total	100.0	100.0	100.0	100.0	33.0

The average capital value of investment of all firms by source of loan funds gives an estimate or measure of the size of firm utilizing the different loan sources. Average capital value of investments of firms obtaining fishhouse loans is the lowest at \$19.3 thousand while size of investment is largest for firms with SBA loans at \$59.9 thousand (Table 6).

#### Income and Employment

Gross sales or gross income earned from fishing by Florida commercial fishermen averaged \$28,600 per firm in 1974 for all types of fishing enterprises. Those earning at least part of their income from shrimp sales averaged \$53,100 in 1974 while all other fishing firms earned an

average of \$11,400. This, of course, does not represent net income to the owner-captain of the commercial craft because expenses including crew wages must be subtracted.<sup>7</sup>

A considerable proportion of Florida fishermen's income is earned from employment outside the fisheries. Fifty-two percent of the boat owners responding to the survey reported some income earned outside of fishing while 48 percent were full-time fishermen (Figure 3). Approximately 30 percent earn over 50 percent of their income from occupations outside of fisheries. By age groups the percent of income earned outside of fishing varies from 20.9 percent for those over 60 years of age to 47.8 percent for boat owners between 21-30 years old (Table 7). Owners of shrimp fishing firms (not shown separately) earned 21 percent of their income from sources outside of fishing while all others earned an average of 38 percent of their income from outside sources.

Boat owners responding to the survey completed from 1 to 18 years of formal education. The average level of education was 11.3 years. Years of schooling completed declined with age of the fishermen (Table 7). The level of education may in part explain the relatively large percent of outside employment and the wide range of job alternatives. Individuals with 8 or less years of education earned 16.1 percent of their income outside of the fishery (Table 8). Those with some high school (9-11 years) earned 23.7 percent of their income outside of the fishery. The percent of income earned outside of fishing for high school graduates and higher education levels was approximately 41 percent

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<sup>7</sup>To determine net income detailed budgets must be constructed by individual fisheries. These budgets are available for shrimp [2], mullet [1], spiny lobster [6], and grouper-snapper [7], and are in progress for other major fisheries.

Table 7. Years of education completed and percent of income earned outside of the fishery by fishermen in different age classes, 1974

Schooling and outside employment income	Age					
	<21	21-30	31-40	41-50	51-60	>60
Outside income (percent)	23.9	47.8	26.8	35.9	36.5	20.9
School (years)	12.7	12.5	11.8	11.2	11.6	8.7

(Table 8). It should be noted that older individuals generally had both fewer years of schooling and a smaller percent of earned outside income and thus the implied advantage of education suggested in Table 8 may be magnified.

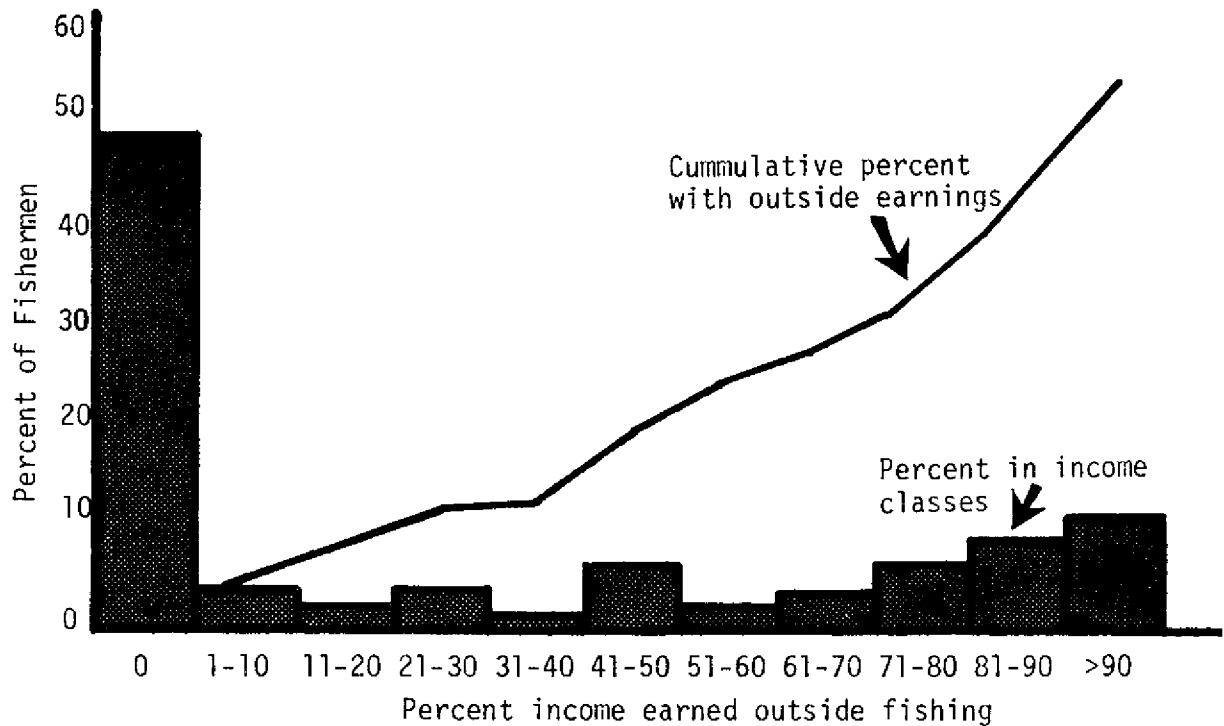


Figure 3.-Percent of fishermen earning various levels of income outside of the fishery.

Table 8. Years of education related to percent of income earned outside of the fishery, 1974

Item	Years of school completed			
	8 and less	9-11	12	More than 12
Percent income earned outside of fishing	16.1	23.7	41.3	41.2

Seventy-seven percent of those employed outside fisheries were employed within their home towns while 23 percent were employed out of town. Twenty-one percent were employed only seasonally.

Type of employment was extremely varied. Based on those who specifically reported type of employment, 28 percent were in some type of residential or commercial construction, such as brick laying and carpentry (Table 9). Seventeen percent were employed in marine related activities, such as tug boat captains, marina operators, and boat builders. Agriculture, security, and mechanics and repair were the other major categories where fishermen found outside employment. The final category, "other", was extremely varied, including school teachers, preachers, optometrists, chemists, broadcasters, and flight instructors.

#### Summary

The average age of Florida commercial fishermen is 48 with almost 52 percent between 41 and 60. Fishing experience in Florida waters averages slightly over 15 years. There appears to be little entry of young fishermen into the fishery although there is considerable entry of persons beyond the age at which a person normally enters his first occupation. Most fishermen land their catch in their home county



Table 9. Percentage distribution of jobs held by commercial fishing boat owners outside of the fishery, 1974

Job classification	Number reported holding specified outside employment	Percent
Construction	24	28
Marine oriented	15	17
Agriculture	10	12
Security and fire protection	9	10
Mechanic and repair	7	8
Other	22	25
Total	87	100

selling mainly to one fishhouse.

Ninety percent of Florida commercial boat owners fish Florida salt waters in the Gulf and/or Atlantic where they generally harvest more than one species. Freshwater commercial fishermen account for the remaining 10 percent. Mullet was the most frequently reported finfish with sea trout a close second. Freshwater catfish was the most valuable finfish reported separately. Shellfish, because of both volume and price contribute substantially more to gross income of fishermen than finfish. Five percent of the firms participated in Florida's bait fishery.

Most fishermen own only one boat. However, due to 30 percent owning more than one boat the average for all fishermen is 1.5 boats or vessels per fishing firm. Two-thirds of the engine powered craft use gasoline requiring a total of 6.0 million gallons of fuel annually. Diesel powered craft require 30.1 million gallons annually. All fishermen reported using more than one type of gear. Gill nets, traps

and hand lines were reported together most frequently. Together, the present value of gear and craft averaged \$26,322 per firm with considerable differences between shrimp firms and all others. Total investment in Florida's commercial fishing craft and gear is estimated to be over \$111.0 million. These investments and operating capital needs required 67 percent of the fishing firms to have one or more loans outstanding, mostly with local banks.

The average firm had gross sales in excess of \$28,000. In addition, 52 percent reported some income earned outside of the fishery. Both gross sales and outside income were substantially different between shrimp fishermen and other fishermen. Outside income varied with age. Those over 60 earned the least, while those between 21 and 30 years of age earned nearly 48 percent of their income outside of fishing. Percent of income earned outside of fishing was directly related to years of education completed.

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## APPENDIX

Table 10. Number and percent distribution of Florida commercial fishermen who responded to questionnaires by county, 1974

County	Questionnaires sent		Usable questionnaires returned	
	Number	Percent	Number	Percent
Alachua	73	0.77	1	0.32
Bay	390	4.09	4	1.27
Brevard	369	3.87	21	6.69
Broward	127	1.33	3	0.96
Charlotte	98	1.03	5	1.59
Citrus	209	2.19	4	1.27
Clay	137	1.44	2	0.64
Collier	254	2.66	15	4.78
Dade	594	6.23	17	5.41
DeSoto	6	0.06	1	0.32
Dixie	109	1.14	10	3.18
Duval	451	4.73	10	3.18
Escambia	256	2.68	8	2.55
Franklin	515	5.40	5	1.59
Glades	39	0.41	1	0.32
Gulf	84	0.88	1	0.32
Highlands	33	0.35	1	0.32
Hillsborough	310	3.25	6	1.91
Indian River	187	1.96	9	2.87
Jackson	36	0.38	2	0.64
Lake	88	0.92	3	0.96
Lee	585	6.13	36	11.46
Levy	173	1.81	3	0.96
Manatee	125	1.31	3	0.96
Marion	66	0.69	1	0.32
Martin	136	1.43	6	1.91
Monroe	1,340	14.05	54	17.20
Nassau	80	0.84	3	0.96
Okaloosa	128	1.34	4	1.27
Okeechobee	107	1.12	2	0.64
Orange	128	1.34	1	0.32
Osceola	61	0.66	1	0.32
Palm Beach	319	3.34	13	4.14
Pasco	131	1.37	3	0.96
Pinellas	128	1.34	1	0.32
Polk	185	1.94	2	0.64
Putnam	228	2.39	13	4.14
Santa Rosa	99	1.04	2	0.64
Sarasota	148	1.55	5	1.58
Seminole	102	1.07	2	0.64
St. John	135	1.42	9	2.87
St. Lucie	195	2.04	8	2.55
Taylor	138	1.45	2	0.64
Volusia	246	2.58	7	2.23
Wakulla	123	1.29	2	0.64
Walton	68	0.71	2	0.64
Total	9,539		314 <sup>a</sup>	

<sup>a</sup>314 of the 321 questionnaires contained information identifying the county of residence of the fisherman.

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