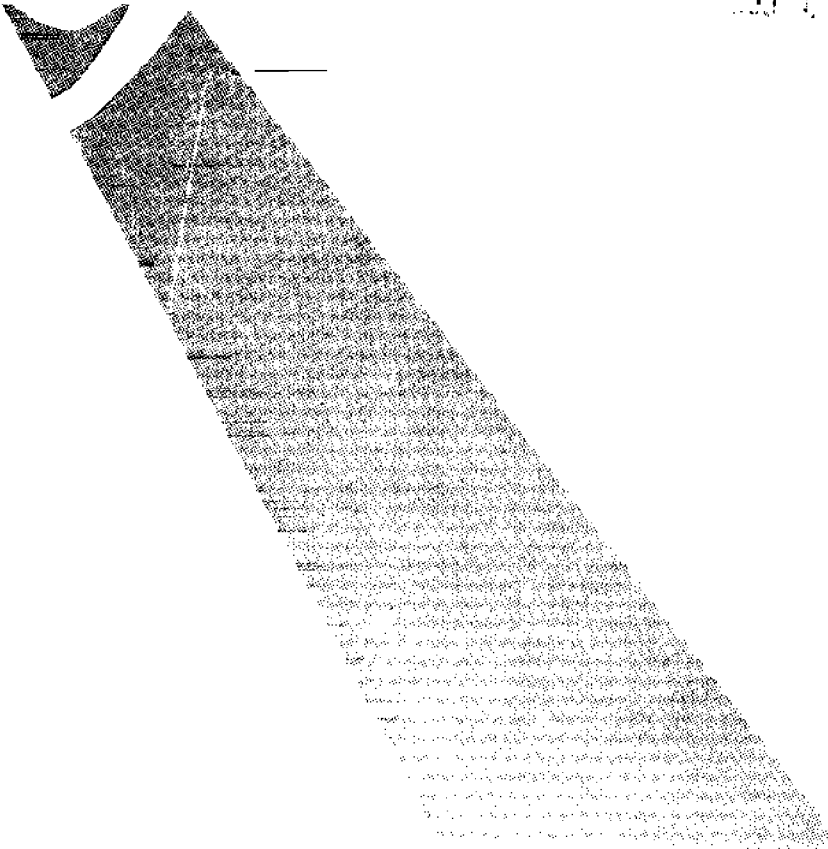


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# COMMERCIAL FISHING ACTIVITY AND FACILITY NEEDS IN FLORIDA:

Charlotte, Collier, and Lee Counties

## ABSTRACT

Information on the commercial seafood industries of Charlotte, Collier and Lee Counties was obtained from published reports and from a mail survey of commercial fishermen and seafood dealers. Total seafood landings in the three counties were valued at \$6.8 million in 1971. By 1976, landings had increased in value to \$14.9 million. About 650 people were engaged in commercial fishing and 25 firms were registered as dealers. Registrations of commercial boats declined in the three counties from 1963-64 to 1977-78, but pleasure boat registrations tripled. Fishermen and dealers noted improvements they felt were needed in facilities and services in the ports and landing areas used.

Key words: fish and shellfish landing trends, port improvements, characteristics of Florida commercial fishermen and seafood dealers.

This research was supported in part by grants from the Gulf and South Atlantic Fisheries Development Foundation, Inc. and from the State University System of Florida Sea Grant College.

COMMERCIAL FISHING ACTIVITY AND FACILITY NEEDS IN FLORIDA:

CHARLOTTE, COLLIER AND LEE COUNTIES

a report by

Kary Mathis, James C. Cato, Robert L. Degner,  
Paul D. Landrum and Fred J. Prochaska

a research project conducted for the  
Gulf and South Atlantic Fisheries  
Development Foundation, Inc. and Florida Sea Grant

The Florida Agricultural Market Research Center  
a part of  
The Food and Resource Economics Department  
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The Florida Agricultural Market Research Center

A Service of  
the Food and Resource Economics Department  
of the  
Institute of Food and Agricultural Sciences

The purpose of this Center is to provide timely, applied research on current and emerging marketing problems affecting Florida's agricultural and marine industries. The Center seeks to provide research and information to production, marketing, and processing firms, groups and organizations concerned with improving and expanding markets for Florida agricultural and marine products.

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## TABLE OF CONTENTS

	Page
LIST OF TABLES .....	iv
LIST OF APPENDIX TABLES .....	vi
LIST OF FIGURES.....	vii
ACKNOWLEDGEMENTS .....	viii
SUMMARY .....	ix
INTRODUCTION .....	1
Population Growth.....	5
COMMERCIAL FISHING INDUSTRY IN THE REGION .....	6
Boat Registrations .....	7
Landings .....	8
Charlotte County .....	8
Collier County .....	8
Lee County .....	13
SURVEY RESULTS .....	17
Characteristics of Fishermen .....	19
Volumes Handled .....	19
Distances Traveled .....	19
Landing Areas Used .....	23
Port Facilities: Use and Rating by Fishermen .....	25
Charlotte County .....	26
Collier County .....	26
Lee County .....	31
Dealer Characteristics, Facilities Provided and Ratings ....	34
Charlotte County .....	34
Collier County .....	36
Lee County .....	36
CONCLUSIONS .....	37
APPENDIX .....	40
Questionnaires .....	78
Mail Survey Procedures and Responses .....	82
Additional Information Sources .....	86
REFERENCES .....	87

## LIST OF TABLES

Table	Page
1	Florida counties with fish and shellfish landings in excess of \$1 million, 1976, and rank in state, 1976..... 2
2	Population, Charlotte, Collier and Lee Counties, 1940, 1950, 1960, 1970, 1977, and projected 1980, 1990, 2000..... 5
3	Boats registered annually in Charlotte, Collier and Lee Counties, 1963-1964 through 1977-78..... 8
4	Volume and value of landings, Charlotte County, 1971-1976... 9
5	Volume and value of landings, Collier County, 1971-1976..... 10
6	Volume and value of landings, Lee County, 1971-1976..... 14
7	Questionnaire disposition and responses, fisherman survey, Charlotte, Collier and Lee Counties..... 18
8	Questionnaire dispositions and responses, dealer survey, Charlotte, Collier and Lee Counties..... 20
9	Classification of commercial fishermen in Charlotte, Collier and Lee Counties by volume of fish and shellfish sold in 1977..... 21
10	Distance from home to port and from port to fishing grounds, Charlotte County commercial fishermen..... 22
11	Distance from home to port and from port to fishing grounds, Collier County commercial fishermen..... 22
12	Distance from home to port and from port to fishing grounds, Lee County commercial fishermen..... 23
13	Landing areas used by commercial fishermen in Charlotte, Collier and Lee Counties, 1978..... 24
14	Groups of facilities and services evaluated by port users in the central and south Florida survey, 1978..... 25
15	Current and projected use of seafood port facilities by commercial fishermen in Charlotte County, 1978..... 27
16	Ratings of seafood port facilities by commercial fishermen in Charlotte County, 1978..... 28

LIST OF TABLES - Continued

Table	Page
17 Current and projected use of seafood port facilities by commercial fishermen in Collier County, 1978.....	29
18 Ratings of seafood port facilities by commercial fishermen in Collier County, 1978.....	30
19 Current and projected use of seafood port facilities by commercial fishermen in Lee County, 1978.....	32
20 Ratings of seafood port facilities by commercial fishermen in Lee County, 1978.....	33
21 Classification of seafood dealers in Charlotte, Collier and Lee Counties by volume of fish and shellfish handled in 1977.....	34
22 Port facilities and services in Charlotte, Collier and Lee Counties: Facilities offered and those needing improvement, according to one or more dealers, 1978.....	35
23 Port facilities and services needing improvement, as rated by 50 percent or more commercial fishermen and dealers responding from Charlotte, Collier and Lee Counties, 1978...	38

LIST OF APPENDIX TABLES

Table	Page
1 Average monthly landings of fish and shellfish for Charlotte, Collier and Lee Counties from 1971-1976.....	41
2 Total landings of selected fish and shellfish species by months, Charlotte County, 1971-1976.....	42
3 Total landings of selected fish and shellfish species by months, Collier County, 1971-1976.....	54
4 Total landings of selected fish and shellfish species by months, Lee County, 1971-1976.....	66
5 Questionnaires mailed and responses or disposition, commercial fishermen, all counties and Charlotte, Collier, and Lee Counties..	83
6 Questionnaires mailed and responses or disposition, dealer survey, all counties and Charlotte, Collier and Lee Counties.....	84
7 Questionnaires sent, questionnaires returned, and estimated total active commercial fishermen, 17 central and south Florida counties, 1978.....	85



## LIST OF FIGURES

Figure		Page
1	Value of fish and shellfish landings by county in Florida, 1976.....	3
2	Central and south Florida coastal counties included in study.....	4
3	Volume and value of seafood landings, Charlotte County, 1971-1976.	11
4	Average monthly landings of fish and shellfish, Charlotte County, 1971-1976.....	11
5	Volume and value of seafood landings, Collier County, 1971-1976...	12
6	Average monthly landings of fish and shellfish, Collier County, 1971-1976.....	15
7	Volume and value of seafood landings, Lee County, 1971-1976.....	15
8	Average monthly landings of fish and shellfish, Lee County, 1971-1976.....	16

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Finally, all the Florida fishermen and seafood dealers who took the time to complete questionnaires and add comments have our thanks.

## SUMMARY

This is one of a series of four reports on published data and survey findings concerned with commercial fishing activity and needed onshore facilities and services in 17 counties of central and south Florida: Brevard, Broward, Charlotte, Collier, Dade, Hillsborough, Indian River, Lee, Manatee, Martin, Monroe, Palm Beach, Pasco, Pinellas, St. Lucie, Sarasota, and Volusia.

The three counties discussed here, Charlotte, Collier and Lee, have experienced very rapid population growth since 1960 and further increases are projected for the future.

The number of pleasure boats registered in these three counties has increased from 5,980 in 1963-64 to 26,331 by 1976-77. Commercial boat numbers declined from 2,341 to 2,206 during the same period.

Landings in the three counties declined from 1971 to 1976 in volume but values are greater than in 1971. Total landings in all three counties were valued at \$14.9 million in 1976, with shellfish making up 70 percent of that value.

Landings are highly seasonal in the region, averaging highest in the winter, and dropping substantially during the summer months.

It is estimated there are about 650 commercial boat owners actively fishing and 25 dealers operating in the three counties. About half of all fishermen responding catch 5,000 pounds or less, with 20 percent of Collier and Lee County fishermen landing 25,000 pounds or more. About 35 percent of Charlotte County fishermen handled over 25,000 pounds.

Most fishermen returning questionnaires from Charlotte County said they landed at Placida, while the majority from Collier County landed at Naples or Everglades City. About a third of Lee County fishermen used Ft. Myers Beach, with a number of others landing at Bokeelia, St. James City, Pine Island and Matlacha.

Fishermen use a variety of facilities and services at these landing sites, but fish houses, ice and fuel sales and docks are used by the greatest number of boat owners. Also, a sizeable number of Lee County fishermen use repair and supply services.

Dealers offer most facilities for handling the catch and provide consumable supplies such as bait, ice and fuel. Charlotte and Collier County dealers offer very few repair facilities, but gear, engine, electronics and hull repair services are offered by Lee County dealers.

Fishermen feel docking needs improvement in most landing sites, along with gear and electronics repair freezer and cold storage, and waste disposal facilities. Dealers also would like improved docking and said they would like improved fish, shrimp and lobster houses, ice plants, and freezer and cold storage facilities.

Information and assistance is available to groups or individuals interested in improving commercial seafood facilities and services in this region. The County Extension Office and other agencies should be contacted by those desiring help.

COMMERCIAL FISHING ACTIVITY AND FACILITY NEEDS IN FLORIDA:  
CHARLOTTE, COLLIER AND LEE COUNTIES

Kary Mathis, James C. Cato, Robert L. Degner,  
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INTRODUCTION

The commercial seafood industry is an important source of income and employment along Florida's extensive coastline. Values of marine landings for coastal counties are shown in Figure 1. Of the 35 coastal counties in Florida, 18 had seafood landings of \$1 million or more in 1976. There are however, relatively few major seafood ports, and all of these are in counties with \$1 million or more in landings values (Table 1). Urban and recreational development in most coastal areas of central and north Florida has put great pressure on commercial fishermen and seafood dealers operating there. Counties with seafood landings under \$1 million have significant number of fishermen but port and landing facilities are often limited. Even though the remaining counties have substantial volumes of seafood and significant numbers of fishermen, port and landing facilities are often limited. These limitations and other restrictions may hamper the seafood industry in these areas.

This publication is one of a series of four which reports analysis of data from published sources and from surveys of commercial fishermen and seafood dealers in 17 counties of central and south Florida. Counties included are: Brevard, Broward, Charlotte, Collier, Dade, Hillsborough, Indian River, Lee, Manatee, Martin, Monroe, Palm Beach, Pasco, Pinellas, Saint Lucie, Sarasota, and Volusia (Figure 2). The

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Kary Mathis, James C. Cato and Fred J. Prochaska are associate professors, Robert L. Degner is assistant professor and Paul D. Landrum is assistant in food and resource economics, University of Florida.

Table 1.--Florida counties with fish and shellfish landings in excess of \$1 million, and rank in state, 1978.

County	Value of landings			Rank in state
	Fish	Shellfish	Total	
	----- \$1,000 -----			
Bay	3,247	1,790	5,037	5
Brevard	1,120	1,496	2,616	9
Citrus-Pasco	471	1,018	1,489	14
Collier	666	732	1,398	15
Dade	520	2,463	2,984	7
Duval	687	1,702	2,388	10
Escambia	927	1,752	2,679	8
Franklin	431	7,837	8,268	3
Gulf	305	865	1,170	17
Hillsborough	107	2,933	3,103	6
Lee	3,434	9,284	12,718	2
Manatee	1,350	298	1,648	13
Martin	1,013	3	1,016	18
Monroe	3,640	19,965	23,605	1
Nassau	213	1,733	1,946	12
Pinellas	2,169	3,070	5,239	4
St. Lucie	2,353	12	2,365	11
Volusia	662	592	1,254	16

Source: Florida Department of Natural Resources, Summary of Commercial Marine Landings, 1976.

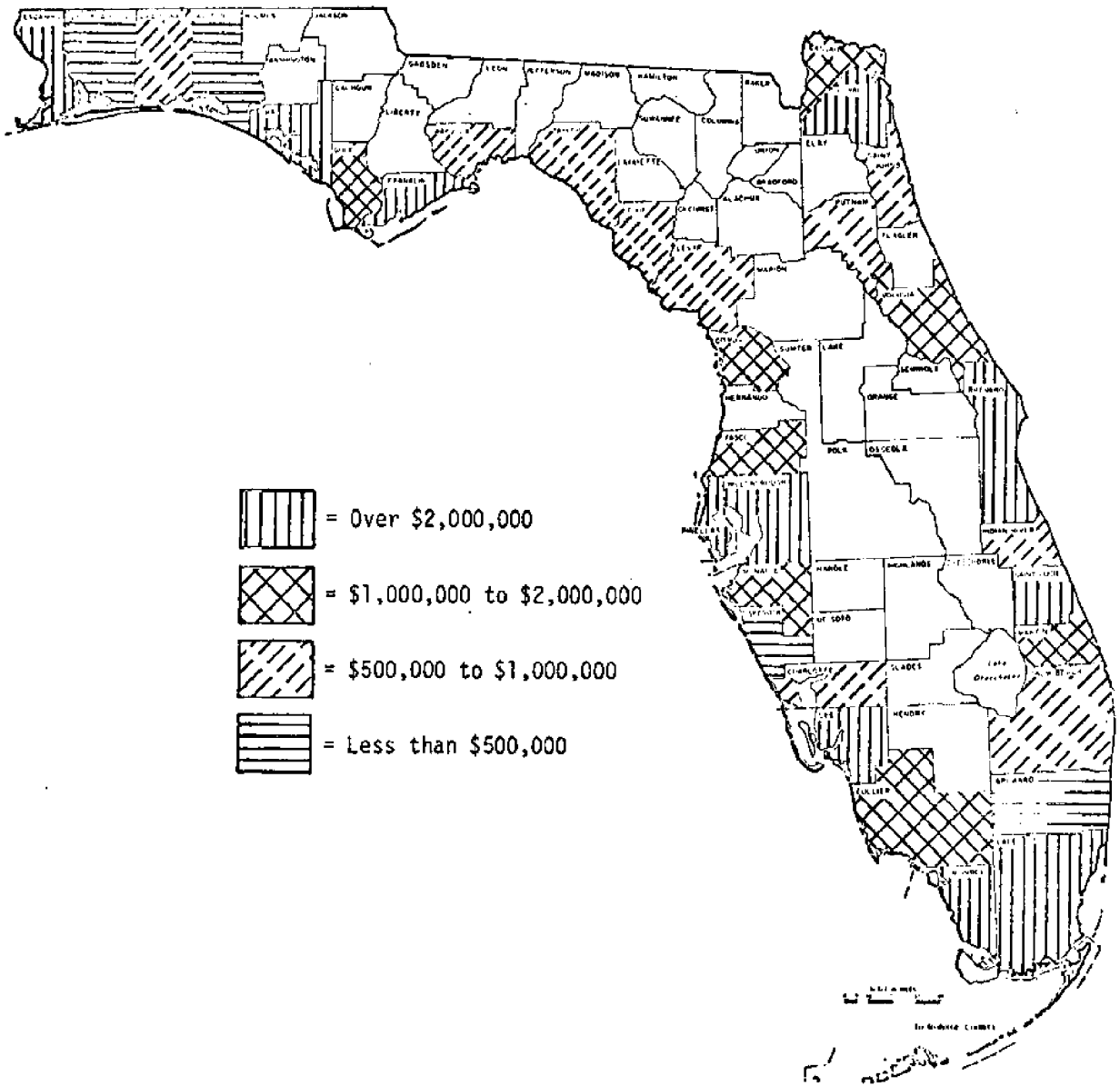


Figure 1.--Value of fish and shellfish landings by county in Florida, 1976.

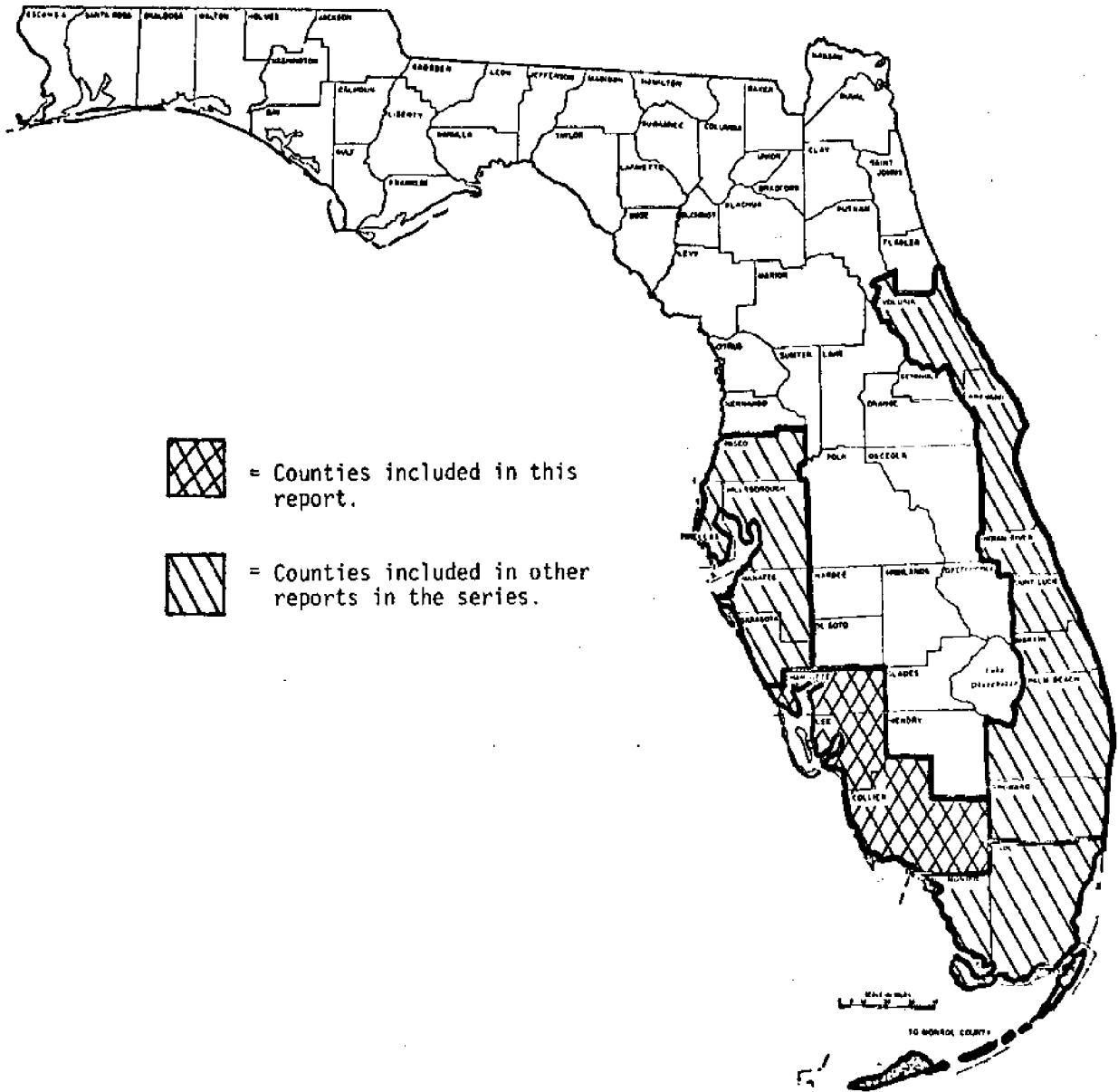


Figure 2.--Central and south Florida coastal counties included in study.



research reported here was done as a continuation of a larger project concerned with the feasibility of seafood industrial port development in north Florida. Results of the more detailed study are reported in a separate publication (See reference list).

This report is organized into four major sections: this introduction, a discussion of the commercial fishing industry in the region, results of the mail survey, and conclusions. Relevant published data were used in the first two sections. Summaries of responses by fishermen and dealers on the mailed questionnaires provided information for the third section. Relevant information and survey findings are reviewed and conclusions drawn in the final section.

#### Population Growth

All 17 counties included in this phase of the overall seafood port study have experienced almost explosive population growth in the past two decades. Charlotte, Collier and Lee Counties have been one of the fastest-growing regions in Florida and, indeed, in the entire United States in recent years. Population in Charlotte and Collier Counties more than doubled from 1960 to 1970, and grew almost as rapidly in Lee County (Table 2).

Table 2.--Population, Charlotte, Collier and Lee Counties, 1940, 1950, 1960, 1970, 1977, and projected 1980, 1990, 2000.

Year	Charlotte	Collier	Lee
1940	3,663	5,102	17,488
1950	4,286	6,488	23,404
1960	12,594	15,753	54,539

Table 2.--Continued

Year	Charlotte	Collier	Lee
1970	27,559	38,040	105,216
1977	44,313	68,900	172,330
Projected			
1980	51,100	83,800	200,800
1990	70,500	122,500	279,100
2000	81,600	141,800	323,100

Source: Bureau of Economic and Business Research.

By 1977, population in each county was more than three times the 1960 level. Moreover, the number of people in this three-county area is projected to continue increasing to the year 2000.

#### THE COMMERCIAL FISHING INDUSTRY IN THE REGION

Population growth, and accompanying residential and recreational development, has put heavy pressure on waterfront property used by the fishing and seafood industry. Docking space has been converted from commercial to recreational use as the number of pleasure boats has increased in the region.

#### Boat Registrations

The number of commercial boats registered in each of the three counties has declined over the past 15 years, while the number of pleasure boats has more than quadrupled. Charlotte County pleasure boat registrations increased from 1,145 in 1963-64 to 4,748 by 1976-77, while

commercial registrations dropped from 258 to 180 (Table 3). Commercial boat numbers in Collier County were almost the same in 1976-77 as 15 years earlier, but pleasure boat registrations increased from 1,306 to 6,753. Lee County had the largest number of boats of the three counties, with 1,345 commercial boats and 14,380 pleasure boats in 1976-77 (Table 3). The patterns of change were similar to those in the other two counties.

## Landings

### Charlotte County

Fish make up most of the volume of seafood landings in Charlotte County (Table 4). Total landings increased substantially from 1971 to 1972, but generally declined from 1972 through 1976. Values of total landings increased steadily during the same period, however (Figure 3).

Average monthly landings in Charlotte County are highest in the winter, with November, December and January the highest months. Landings drop sharply in February, increase slightly, then drop to another low in July (Figure 4 and Appendix Table 1). Major fish species landed in Charlotte County are black mullet, spotted sea trout and red drum. Blue crab and shrimp constituting virtually all of shellfish landings (Appendix Table 2).

### Collier County

Collier County landings are also mainly fish, though shellfish frequently represent a greater proportion of value (Table 5). Total landings declined from 1971 to 1973, jumped sharply in 1974, then dropped to 1973 levels by 1976 (Figure 5).

Table 3.--Boats registered annually in Charlotte, Collier and Lee Counties, 1963-64 through 1977-78.

Year <sup>a</sup>	Boats registered								
	Charlotte		Collier		Lee				
	Commercial	Pleasure	Total	Commercial	Pleasure	Total			
1963-64	258	1,145	1,403	686	1,306	1,992	1,397	3,529	4,926
1964-65	248	1,126	1,374	698	1,411	2,109	1,415	3,715	5,130
1965-66	282	1,248	1,530	791	1,670	2,461	1,703	4,106	4,809
1966-67	274	1,305	1,579	771	1,917	2,688	1,668	4,480	6,148
1967-68	222	1,324	1,546	615	2,226	2,841	1,387	4,053	6,440
1968-69	257	1,367	1,624	131	2,579	2,710	1,483	5,524	7,007
1969-70	261	1,496	1,757	766	3,178	3,944	1,476	6,182	7,658
1970-71	243	1,687	1,930	769	3,631	4,400	1,490	6,874	8,364
1971-72	198	1,952	2,150	648	3,951	4,599	1,295	7,706	9,001
1972-73	194	2,163	2,357	625	4,572	5,197	1,255	8,665	9,920
1973-74	139	2,355	2,494	557	4,784	5,341	1,121	9,304	10,425
1974-75	150	3,661 <sup>b</sup>	3,811	624	6,227 <sup>b</sup>	6,851	1,213	12,015 <sup>b</sup>	13,228
1975-76	229	4,431	4,660	785	6,574	7,359	1,456	13,427	14,883
1976-77	180	4,748	4,928	681	6,753	7,434	1,345	14,830	16,175
1977-78	155	5,167	5,322	608	6,064	7,572	1,226	15,368	16,594

<sup>a</sup> July 1 to June 30.

<sup>b</sup> Before January 1, 1975, pleasure boats with engines of less than 10 horsepower were not required to be registered.

Source: Bureau of Boat Registration, Florida Department of Natural Resources.

Table 4.--Volume and value of landings, Charlotte County, 1971-1976.

Year	Fish		Shellfish		Total	
	Volume	Value	Volume	Value	Volume	Value
	<u>Pounds</u>	<u>Dollars</u>	<u>Pounds</u>	<u>Dollars</u>	<u>Pounds</u>	<u>Dollars</u>
1971	2,525,981	310,667	808,073	157,048	3,334,054	467,715
1972	4,244,873	458,923	605,173	201,460	4,850,046	660,383
1973	3,667,500	524,800	528,740	218,151	4,196,240	742,951
1974	3,690,849	547,557	611,866	274,088	4,302,715	821,645
1975	2,939,408	525,913	455,636	261,709	3,395,044	787,622
1976	2,203,439	499,941	703,294	313,942	2,906,733	813,883

Source: Florida Landings, monthly issues, U.S. Department of Commerce.

Table 5 .--Volume and value of landings, Collier County, 1971-1976.

Year	Fish		Shellfish		Total	
	Volume	Value	Volume	Value	Volume	Value
	<u>Pounds</u>	<u>Dollars</u>	<u>Pounds</u>	<u>Dollars</u>	<u>Pounds</u>	<u>Dollars</u>
1971	5,330,211	740,176	719,317	374,499	6,049,528	1,114,675
1972	3,223,668	562,668	922,755	565,928	4,146,423	1,128,596
1973	2,891,920	405,964	1,046,616	724,492	3,938,536	1,130,456
1974	7,600,731	1,533,542	1,281,861	982,731	8,882,592	2,516,273
1975	3,910,711	825,062	1,056,379	872,144	4,967,090	1,697,206
1976	2,639,047	665,917	817,434	731,659	3,456,481	1,397,576

Source: Florida Landings, monthly issues, U.S. Department of Commerce.

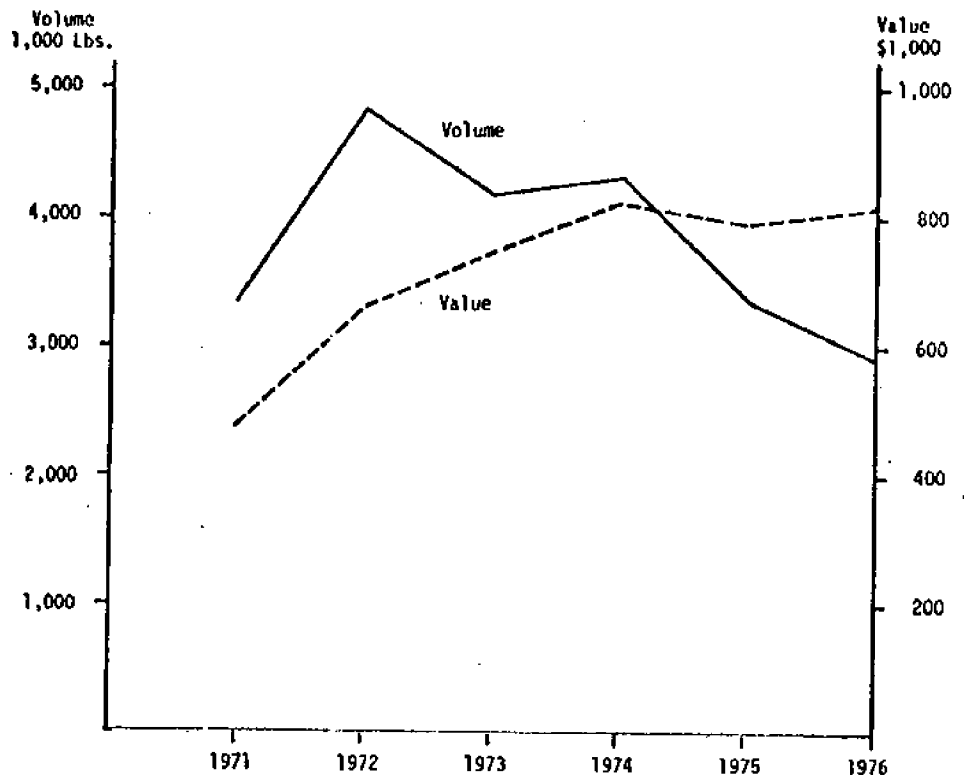


Figure 3.--Volume and value of seafood landings, Charlotte County, 1971-1976.

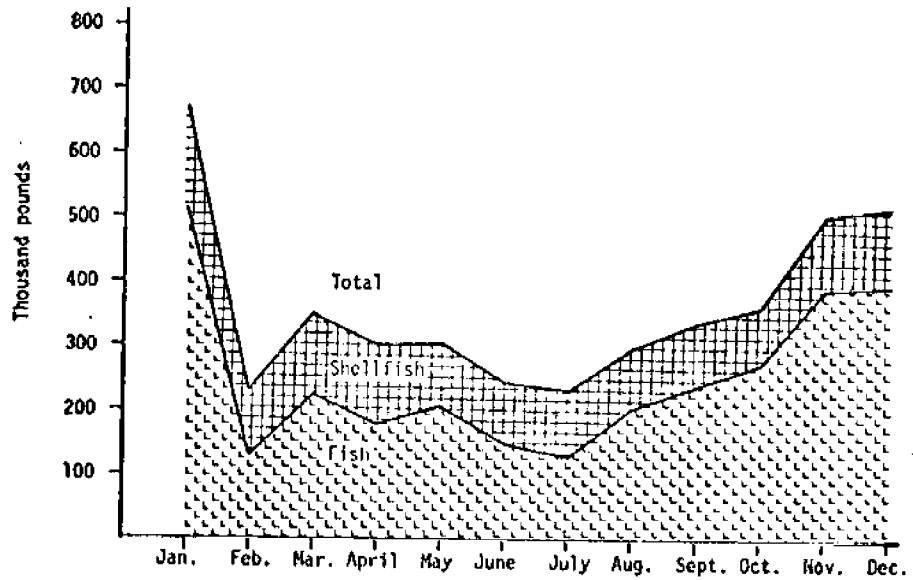


Figure 4.--Average monthly landings of fish and shellfish, Charlotte County, 1971-1976.

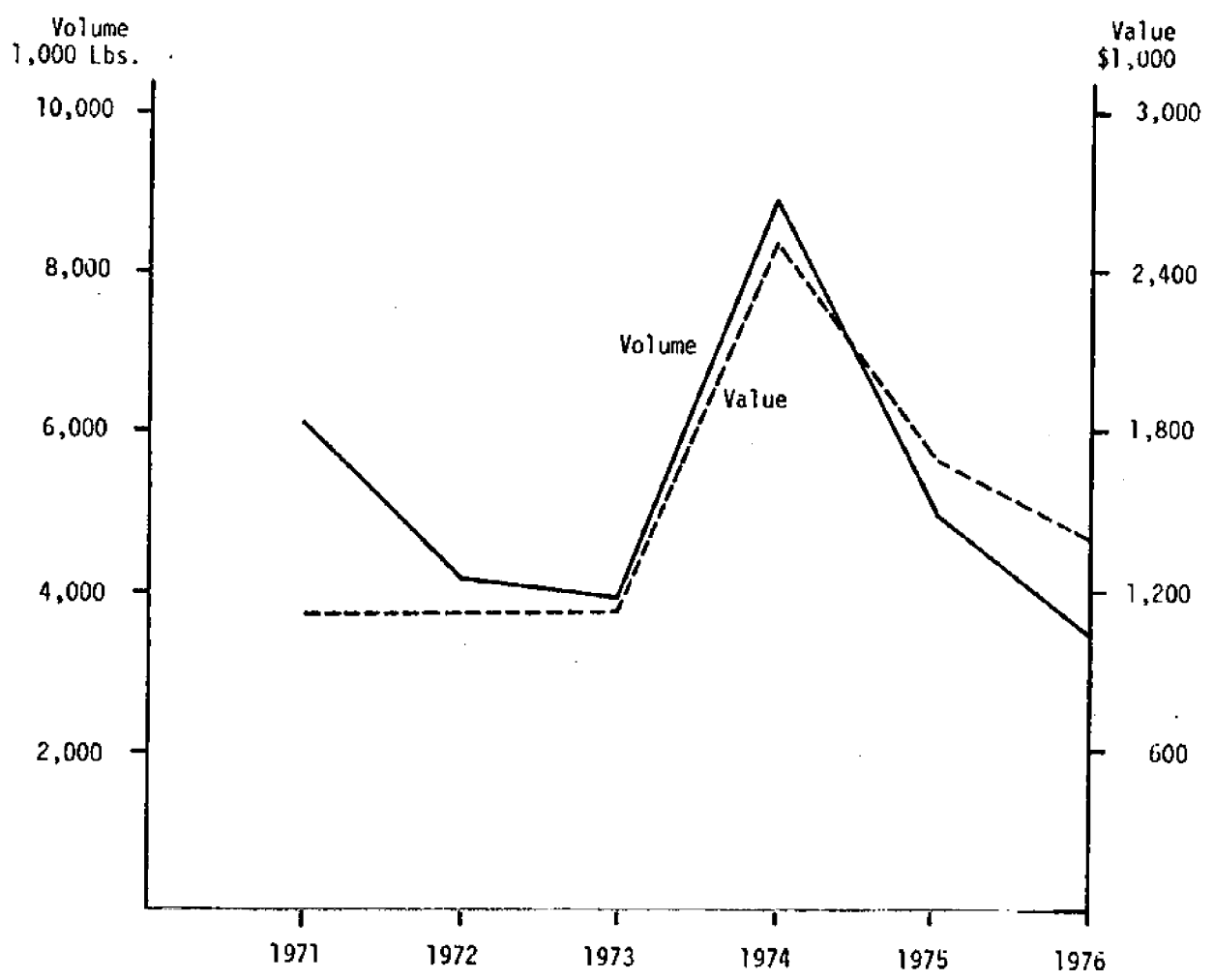


Figure 5.--Volume and value of seafood landings, Collier County, 1971-1976.



Both fish and shellfish landings show a pronounced seasonal pattern, with December-March making up most of the year's total (Figure 6 and Appendix Table 1). As in Charlotte County, black mullet is the leading fish species landed, but king and Spanish mackerel and grouper are major species in Collier County. Stone crab is the most important shellfish, with some landings of spiny lobster (Appendix Table 3). The large increase in landings in 1974 was due to larger than average volumes of black mullet, king and Spanish mackerel and stone crab.

### Lee County

Landings in Lee County are the largest of the three counties and also the most stable over the 1971-76 period (Table 6). Volume increased slightly to 1974 then dropped to the 1971 level by 1976, while value of landings increased throughout (Figure 7).

As with landings in Charlotte and Collier Counties, Lee County volume is highest in the winter, with December the peak month for both fish and shellfish. There is somewhat less summer decline than in the other two counties, however (Figure 8 and Appendix Table 1).

Black mullet is by far the leading fish species in Lee County landings volume, with spotted sea trout and grouper next in importance. Pompano and king and Spanish mackerel are also important species. Shrimp, stone crab and blue crab make up shellfish landings in Lee County (Appendix Table 4).

Table 6.--Volume and value of landings, Lee County, 1971-1976.

Year	Fish		Shellfish		Total	
	Volume	Value	Volume	Value	Volume	Value
	<u>Pounds</u>	<u>Dollars</u>	<u>Pounds</u>	<u>Dollars</u>	<u>Pounds</u>	<u>Dollars</u>
1971	10,065,603	1,931,728	5,240,616	3,249,382	15,306,219	5,181,110
1972	11,696,862	2,452,932	5,162,315	4,343,213	16,859,177	6,796,145
1973	12,233,031	2,629,934	5,692,469	5,687,475	17,925,500	8,317,409
1974	13,052,575	3,372,722	6,027,135	5,603,121	19,079,710	8,975,843
1975	11,859,726	3,255,965	5,271,510	6,236,398	17,131,236	9,492,363
1976	10,260,332	3,434,445	5,347,905	9,283,720	15,608,237	12,718,165

Source: Florida Landings, monthly issues, U.S. Department of Commerce.

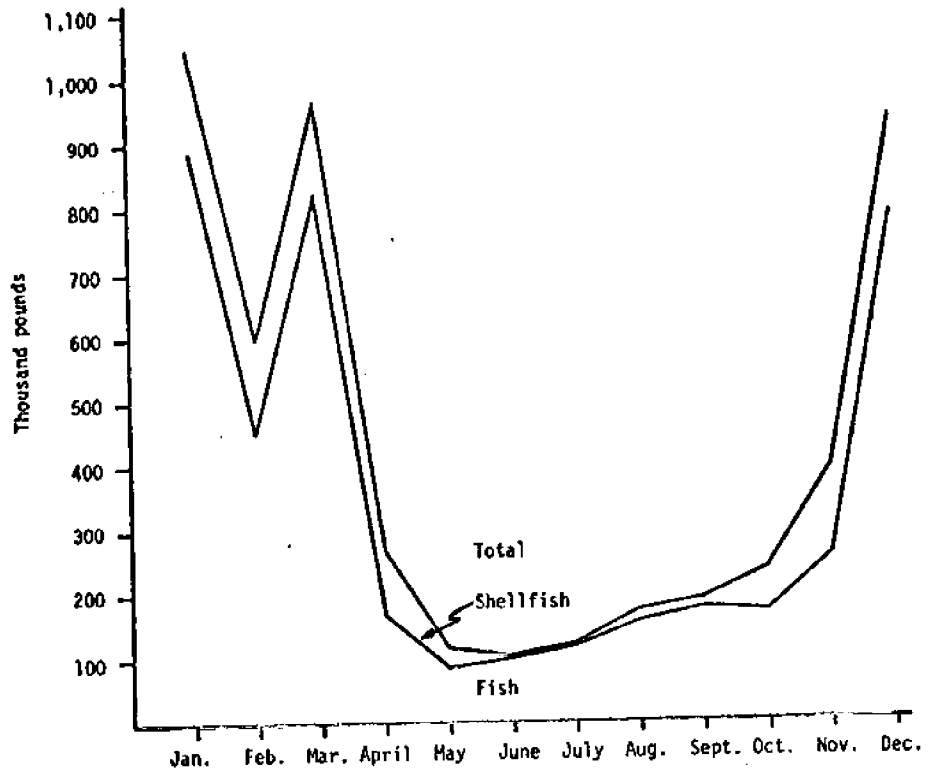


Figure 6.--Average monthly landings of fish and shellfish, Collier County, 1971-1976.

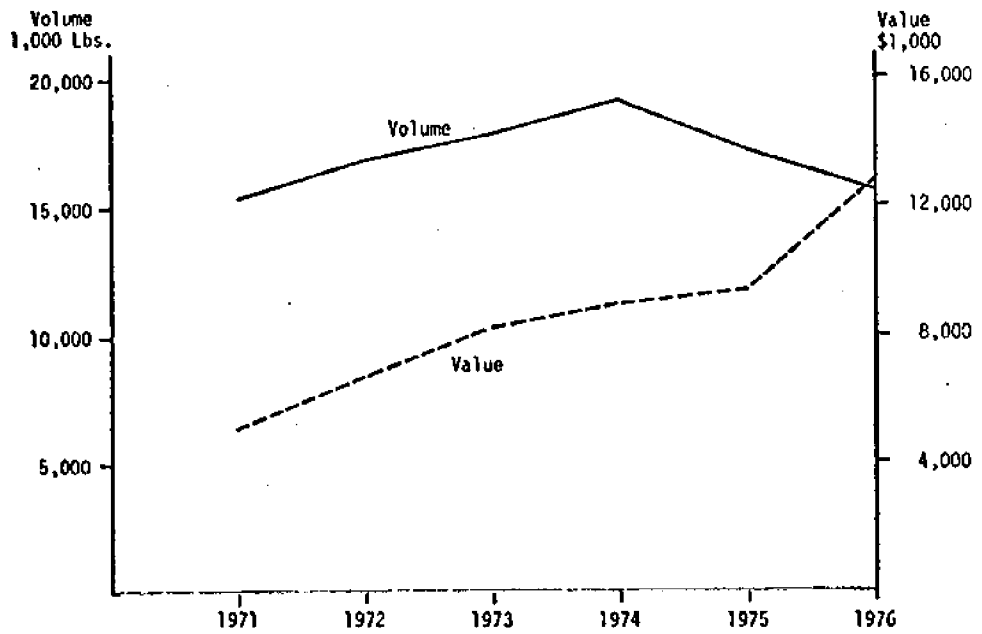


Figure 7.--Volume and value of seafood landings, Lee County, 1971-1976.

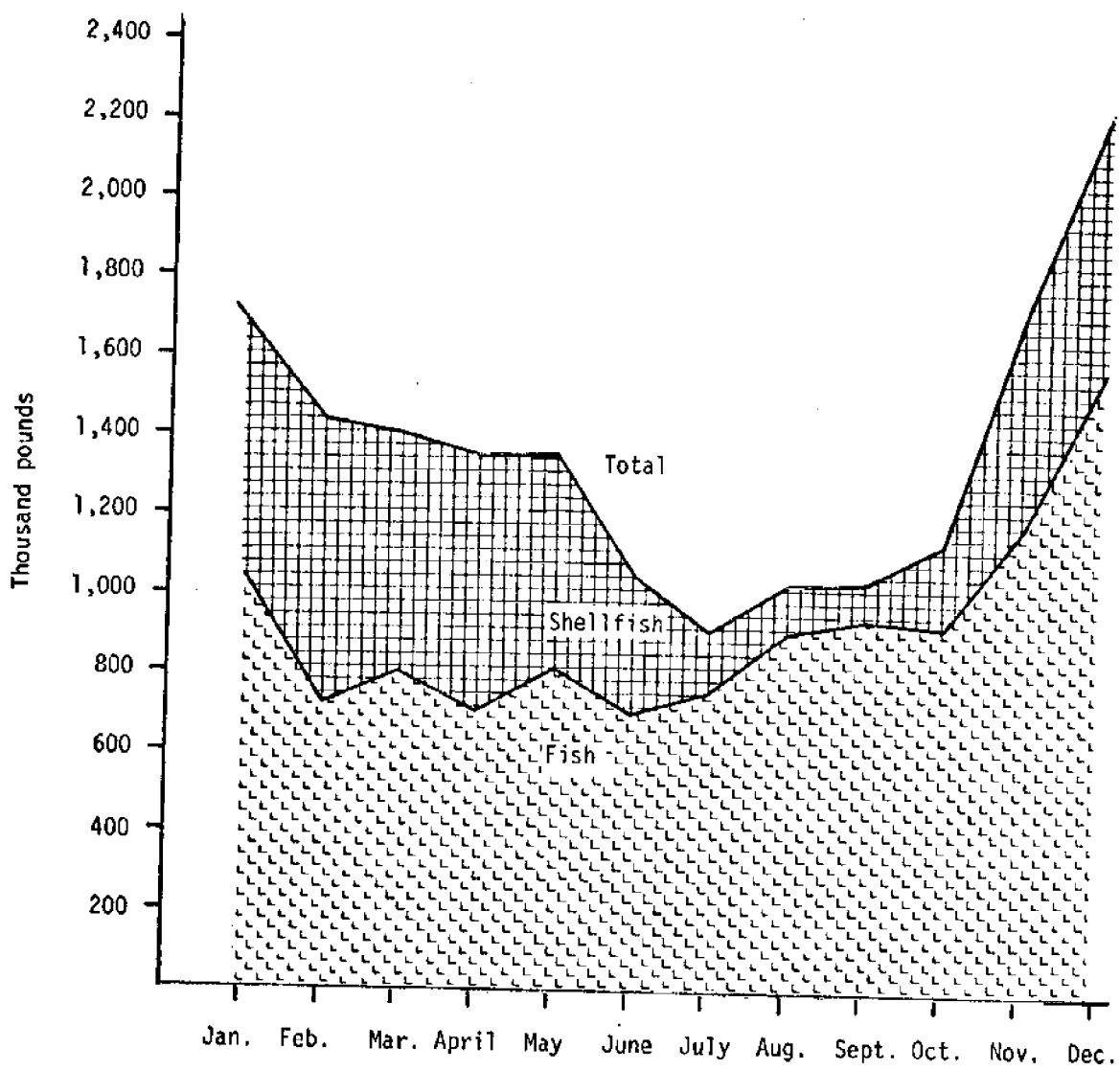


Figure 8.--Average monthly landings of fish and shellfish, Lee County, 1971-1976.

## SURVEY RESULTS

The mail survey conducted during the fall of 1978 provided considerable insight into fishing industry problems in Charlotte, Collier and Lee Counties. Questionnaires were mailed to all residents in each county having a commercial boat registered during 1977-78 with the Florida Department of Natural Resources, and to all seafood dealers listed with the National Marine Fisheries Service in 1976. Copies of the questionnaires used are included in the Appendix.

A total of 1,059 questionnaires were sent to commercial boat owners in all three counties, and 468 or 44 percent were returned (Appendix Table 5). The largest number of questionnaires, 677, went to Lee County, followed by Collier County and Charlotte County (Table 7). The largest largest number and percentage of returns were also from Lee County, with 323 or 50 percent.

Of the individuals responding, 71 percent in Charlotte County and 60 percent in both Collier County and Lee County still owned one or more boats and were actively fishing (Table 7). It was assumed that people who did not return the questionnaire were or were not active commercial fishermen in the same proportion as those completing the survey. The percentage still fishing was multiplied times the total number of boat registrations to provide the estimate of total active commercial fishermen in each county. Based on these returns, it was estimated that there are 67, 176, and 406 commercial fishermen in Charlotte, Collier, and Lee Counties, respectively (Table 7).

Nine of the 14 dealers responded from Lee County, which had the largest number of dealers, with four of the six dealers responding from

Table 7.--Questionnaire disposition and responses, fisherman survey, Charlotte, Collier and Lee Counties.

Disposition or response	County					
	Charlotte		Collier		Lee	
	Number	Percent	Number	Percent	Number	Percent
Total mailed	94	100	288	100	677	100
Returned unable to deliver	5	5	15	5	38	6
Individuals receiving questionnaires	89	95	273	95	639	94
Individuals receiving questionnaires	89	100	273	100	639	100
Questionnaires not returned	48	54	169	62	316	49
Questionnaires returned	41	46	104	38	323	50
Questionnaires returned	41	100	104	100	323	100
No longer own boat	5	12	11	11	50	15
No longer in business <sup>a</sup>	7	17	30	29	80	25
Still in business	29	71	63	60	193	60
Estimated active commercial fishermen <sup>b</sup>	67		176		406	

<sup>a</sup> Not fishing commercially but had commercial boat registration in 1977.

<sup>b</sup> Estimate is based on the proportion of the respondents still in business of the total 1977-1978 commercial boat registrations. The number shown in each county includes only boat owners and not crew members.

Charlotte and three of nine from Collier Counties (Table 8). The three counties together had 29 dealers, 15 percent of the 190 dealers in the 17 coastal counties (Appendix Table 6). Of the 12 dealers returning questionnaires, four were no longer in business (Table 8).

### Characteristics of Fishermen

#### Volumes Handled

About half of the fishermen responding to the survey from each county reported catching relatively small amounts of fish. In Charlotte and Collier Counties, just under 50 percent of the fishermen catch 5,000 pounds or less of fish, with 57 percent of respondents in Lee County landing in that volume category (Table 9). About 35 percent of Charlotte County fishermen and just over 20 percent of the fishermen in the other two counties are on the other end of the volume range, catching over 25,000 pounds of fish annually.

A higher percentage of fishermen selling shellfish in Collier and Lee Counties handled over 25,000 pounds per year than did those handling fish, but 25 percent of Charlotte County fishermen handled over 25,000 pounds of shellfish (Table 9).

#### Distances Traveled

Most Charlotte County fishermen live relatively close to the port or harbor where their boats are docked and, on the average, do not go far offshore. Sixty percent of fishermen in Charlotte County live within three miles of the port they use, and 79 percent fish within 25 miles of shore (Table 10). Collier and Lee County fishermen live slightly farther away from their ports, where 46 and 48 percent, respectively, are within three

Table 8 --Questionnaire dispositions and responses, dealer survey, Charlotte, Collier, and Lee Counties.

Disposition or response	Charlotte		County Collier		Lee	
	Number	Percent	Number	Percent	Number	Percent
Total mailed	6	100	9	100	14	100
Returned unable to deliver	0	0	0	0	0	0
Individuals receiving questionnaires	6	100	9	100	14	100
Individuals receiving questionnaires	6	100	9	100	14	100
Questionnaires not returned	2	33	6	67	9	64
Questionnaires returned	4	67	3	33	5	36
Questionnaires returned	4	100	3	100	5	100
No longer in business	2	50	0	0	2	40
Still in business	2	50	3	100	3	60



Table 9.--Classification of commercial fishermen in Charlotte, Collier and Lee counties by volume of fish and shellfish sold in 1977.

	Fishermen selling											
	Fish						Shellfish					
	Charlotte		Collier		Lee		Charlotte		Collier		Lee	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Under 5,000	11	48	24	47	77	57	5	62	5	31	10	21
5,000-10,000	3	13	10	20	18	13	0	0	3	19	5	11
10,000-25,000	1	4	6	12	12	9	1	12	1	6	7	15
Over 25,000	8	35	11	22	28	21	2	25	7	44	25	53
Total	23	100	51	100	135	100	8	100	16	100	47	100

Table 10.--Distance from home to port and from port to fishing grounds,  
Charlotte County commercial fishermen.

<u>Home to port</u>			<u>Port to fishing grounds</u>		
<u>Miles</u>	<u>Fishermen</u>		<u>Miles</u>	<u>Fishermen</u>	
	<u>Number</u>	<u>Percent</u>		<u>Number</u>	<u>Percent</u>
1 or less	13	52	10 or less	14	58
2-3	2	8	11-25	5	21
4-6	4	16	26-50	3	13
7-10	3	12	51-75	0	0
Over 10	3	12	Over 75	2	8
Total	25	100 <sup>a</sup>		24	100 <sup>a</sup>

<sup>a</sup> Percentage may not sum to 100 due to rounding.

Table 11.--Distance from home to port and from port to fishing grounds,  
Collier County commercial fishermen.

<u>Home to port</u>			<u>Port to fishing grounds</u>		
<u>Miles</u>	<u>Fishermen</u>		<u>Miles</u>	<u>Fishermen</u>	
	<u>Number</u>	<u>Percent</u>		<u>Number</u>	<u>Percent</u>
1 or less	17	28	10 or less	27	46
2-3	11	18	11-25	19	32
4-6	13	21	26-50	11	19
7-10	8	13	51-75	2	3
Over 10	12	20	Over 75	0	0
Total	61	100 <sup>a</sup>		59	100 <sup>a</sup>

<sup>a</sup> Percentage may not sum to 100 due to rounding.

Table 12--Distance from home to port and from port to fishing grounds, Lee County commercial fishermen.

Miles	Home to port		Port to fishing grounds		Miles	Fishermen	
	Number	Percent	Number	Percent			
1 or less	56	34	10 or less	93	56		
2-3	24	14	11-25	27	16		
4-6	17	10	26-50	7	4		
7-10	18	11	51-75	7	4		
Over 10	52	31	Over 75	32	19		
Total	167	100 <sup>a</sup>		166	100 <sup>a</sup>		

<sup>a</sup> Percentage may not sum to 100 due to rounding.

miles (Tables 11 and 12). About the same proportion as in Charlotte County fish within 25 miles of shore, however, with 78 percent from Collier and 72 percent from Lee County reporting that the usual range of fishing.

#### Landing Areas Used

Fishermen completing questionnaires indicated their usual landing areas. Most of the Charlotte County fishermen used Placida (Table 13), while most Collier County fishermen landed in either Naples or Everglades City. Fishermen from Lee County reported the largest number of landing places, but about one-third used Fort Myers Beach, with sizeable numbers landing in Bokeelia, St. James City, Pine Island and Matlacha (Table 13).

Table 13.--Landing areas used by commercial fishermen in Charlotte, Collier and Lee Counties, 1978.

Landing areas	Fishermen	Landing place	Fishermen
	<u>Charlotte</u>		<u>Lee</u>
Placida	14	Ft. Myers Beach	48
Punta Gorda	4	Bokeelia	25
Boca Grande	1	St. James City	23
Total	<u>23</u>	Pine Island	17
	<u>Collier</u>	Matlacha	13
Naples	25	Ft. Myers	8
Everglades City	19	Boca Grande	5
Chokoloskee	5	Piney Point	2
Goodland	5	Estero Island	1
Bonita Springs	1	Punta Rassa	1
Ft. Myers Beach	1	Everglades City	4
Key West	1	Naples	2
Marathon	1	Key West	1
Tarpon Springs	1	Marco Island	1
Total	<u>59</u>	Port Comfort	1
		Port Salerno	1
		St. Lucie	1
		Total	<u>155</u>

Port Facilities: Use and Rating by Fishermen

Inadequate, deteriorated or unsuited port facilities can seriously hamper commercial fishing in a region and retard or prevent growth in the commercial seafood industry. An important step in identifying fishing port needs in the five counties studied was determining facilities available in each port and how well those facilities serve the fishing industry. The mail survey described earlier asked fishermen and dealers to specify which facilities and services they used and to evaluate those facilities.

Port services were grouped into five categories shown in Table 14. The mail survey asked fishermen to indicate those facilities and services used in their port and to rate them as satisfactory or needing improvement. Dealers were asked which facilities and services they provided and to indicate those needing addition or improvement. Both commercial fishermen and seafood dealers were given the opportunity to add comments.

Table 14.--Groups of facilities and services evaluated by port users in the central and south Florida survey, 1978.

<u>Handling and processing</u>	<u>Docking and repair</u>
Shrimp unloading house	Docking facilities
Crab unloading house	Gear storage
Lobster unloading house	Gear repair
Fish house	Gear supply
Processing unused fish	Electronic service
Freezer and cold storage	Engine repair
	Marine railway
<u>Supplies</u>	<u>Retail</u>
Bait sales	Restaurant
Ice plant	Retail seafood market
Fuel sales	Fishermen's meeting room
Groceries	
<u>Waste removal</u>	
Solid waste	
Liquid waste	

### Charlotte County

The largest number of respondents in Charlotte County used fish houses, with ice and fuel services being used heavily, as well (Table 15). Docking, marine railway, crab houses, gear supply and diesel repair were used by significant percentages of fishermen. Only facilities for processing unused fish and ice plants would be used by more than 20 percent of the fishermen responding, if those facilities were improved (Table 15).

Docking was the only item needing improvement noted by a significant share of fishermen. Nine rated docking facilities, with five or 56 percent saying improvement was needed (Table 16).

### Collier County

Facilities and services most used in Collier County were fish houses, fuel and ice sales, and docking (Table 17). From 10 to 19 percent of fishermen responding would use gear storage, supply and repair facilities, and electronics and diesel repair services if added or improved (Table 17).

Docking was the item used by large numbers of Collier County fishermen that they rated most in need of improvement (Table 18). From one-third to one-half of the fishermen who rated equipment supply and repair said improvement was needed.

A number of Collier County fishermen made additional comments in space provided on the questionnaires. Some of the items noted most often were needs for more dock space and for channel improvement. These were related to other concerns over waterfront development, river and estuary pollution, and large numbers of sports fishermen. Commercial

Table 15.--Current and projected use of seafood port facilities by commercial fishermen in Charlotte County, 1978.

Facility	Fishermen			
	Currently use		Would use	
	Number	Percent	Number	Percent
Shrimp house	4	14	3	10
Crab house	7	24	2	7
Lobster house	0	0	0	0
Fish house	21	73	0	0
Processing unused fish	0	0	6	21
Freezer, cold storage	2	7	3	10
Bait supply	4	14	0	0
Ice plant	12	41	6	21
Fuel sales	14	48	2	7
Groceries	3	10	2	7
Docking	9	31	2	7
Gear storage	1	4	1	4
Gear supply	7	24	1	4
Gear repair	0	0	0	0
Electronics repair	0	0	1	4
Diesel repair	6	21	2	7
Marine railway	9	31	2	7
Restaurant	0	0	2	7
Retail seafood market	2	7	2	7
Fisherman's meeting room	1	4	3	10
Solid waste	3	10	0	0
Liquid waste	2	7	1	4
Total responses	29	--	--	--

Table 16.--Ratings of seafood port facilities by commercial fishermen  
in Charlotte County, 1978.

Facility	Fishermen		
	Rating facility	Number	Saying needs improvement
	Number	Number	Percent
Shrimp house	4	1	25
Crab house	6	1	17
Lobster house	--	--	--
Fish house	20	5	25
Processing unused fish	--	--	--
Freezer, cold storage	2	0	0
Bait supply	3	2	67
Ice plant	11	2	18
Fuel sales	12	2	17
Groceries	3	2	67
Docking	9	5	56
Gear storage	0	0	0
Gear supply	7	1	14
Gear repair	--	--	--
Electronics repair	--	--	--
Diesel repair	5	2	40
Marine railway	7	2	29
Restaurant	--	--	--
Retail seafood market	2	0	0
Fishermen's meeting room	1	0	0
Solid waste	3	2	67
Liquid waste	2	1	50



Table 17.--Current and projected use of seafood port facilities by commercial fishermen in Collier County, 1978.

Facility	Fishermen			
	Currently use		Would use	
	Number	Percent	Number	Percent
Shrimp house	1	2	0	0
Crab house	15	24	1	2
Lobster house	3	5	1	2
Fish house	54	86	0	0
Processing unused fish	1	2	4	6
Freezer, cold storage	11	18	2	3
Bait supply	15	24	2	3
Ice plant	31	49	2	3
Fuel sales	36	57	0	0
Groceries	9	14	3	5
Docking	32	51	4	6
Gear storage	10	16	6	10
Gear supply	13	21	12	19
Gear repair	9	14	6	10
Electronics repair	11	18	8	13
Diesel repair	17	27	7	11
Marine Railway	14	22	4	6
Restaurant	7	11	3	5
Retail seafood market	4	6	3	5
Fisherman's meeting room	6	10	5	8
Solid waste	4	6	2	3
Liquid waste	3	5	1	2
Total responses	63	--	-	-

Table 18.--Ratings of seafood port facilities by commercial fishermen  
in Collier County, 1978.

Facility	Fishermen		
	Rating facility	Saying needs improvement	
	<u>Number</u>	<u>Number</u>	<u>Percent</u>
Shrimp house	1	0	0
Crab house	15	6	40
Lobster house	3	0	0
Fish house	51	12	24
Processing unused fish	1	0	0
Freezer, cold storage	11	1	9
Bait supply	14	5	36
Ice plant	29	6	20
Fuel sales	32	3	9
Groceries	8	3	38
Docking	31	11	36
Gear storage	9	3	33
Gear supply	12	4	33
Gear repair	8	4	50
Electronics repair	10	5	50
Diesel repair	15	5	33
Marine railway	13	4	31
Restaurant	6	1	16
Retail seafood market	4	1	25
Fishermen's meeting room	6	2	33
Solid waste	4	0	0
Liquid waste	3	0	0

fishermen also stressed the need for more regulation and more enforcement of measures aimed at conserving fishery resources.

### Lee County

Fish houses, ice and fuel sales and docking were most used by Lee County fishermen, while significant numbers used supply and repair services (Table 19). From 11 to 17 percent of those currently using each of the facilities said they would use fish processing, freezer and cold storage, gear storage and a meeting room, if these were added or improved.

Docking was in need of improvement, according to 44 percent of the Lee County fishermen who rated those facilities (Table 20). Marine railway facilities are particularly needed, along with gear and diesel repair and gear storage. Added ice, freezer and cold storage capacity would be useful, according to fishermen.

A large number of respondents from Lee County -- 37 percent of the 193 active fishermen -- made comments on the questionnaires. Many of these were similar to those from Collier County: development and population pressures resulting in loss of dock space and location for fish houses, pollution and excessive pressure on fishery resources; the need for greater conservation measures affecting seasons, size and habitat.

Two other areas were noted by many Lee County fishermen. One of these was to require licenses for all salt-water fishing with considerably higher fees for out-of-state residents, and requiring commercial fishermen to participate regularly in professional improvement programs. The other area expressed by many respondents was the need for improved marketing and distribution of mullet.

Table 19.--Current and projected use of seafood port facilities by commercial fishermen in Lee County, 1978.

Facility	Fishermen			
	Currently use		Would use	
	Number	Percent	Number	Percent
Shrimp house	41	21	4	2
Crab house	14	7	10	5
Lobster house	2	1	1	1
Fish house	143	74	2	1
Processing unused fish	5	3	32	17
Freezer, cold storage	24	12	23	12
Bait supply	40	21	9	5
Ice plant	97	50	12	6
Fuel sales	110	57	7	4
Groceries	51	26	6	3
Docking	99	51	9	5
Gear storage	15	8	21	11
Gear supply	52	27	11	6
Gear repair	34	18	14	7
Electronics repair	45	23	9	5
Diesel repair	71	37	14	7
Marine railway	52	27	10	5
Restaurant	27	14	6	3
Retail seafood market	23	12	3	2
Fisherman's meeting room	21	11	22	11
Solid waste	10	5	10	5
Liquid waste	8	4	13	7
Total responses	193	--	--	--

Table 20.--Ratings of seafood port facilities by commercial fishermen  
in Lee County, 1978.

Facility	Fishermen		
	Rating facility	Saying needs improvement	
	<u>Number</u>	<u>Number</u>	<u>Percent</u>
Shrimp house	40	11	28
Crab house	14	5	36
Lobster house	2	1	50
Fish house	125	36	28
Processing unused fish	4	2	50
Freezer, cold storage	21	10	50
Bait supply	37	9	6
Ice plant	88	31	35
Fuel sales	101	21	21
Groceries	42	5	12
Docking	92	40	44
Gear storage	12	10	83
Gear supply	48	15	30
Gear repair	30	11	38
Electronics repair	42	7	17
Diesel repair	64	21	33
Marine railway	49	27	55
Restaurant	22	2	9
Retail seafood market	19	5	26
Fishermen's meeting room	17	4	24
Solid waste	10	2	20
Liquid waste	8	3	38

Dealer Characteristics, Facilities Provided and Ratings

As noted earlier, eight dealers who are still in business in the three-county region returned questionnaires (Table 8). Six of those dealers handled fish and all eight handled shellfish. Five of the six fish dealers reported volumes of over 300,000 pounds for 1977, while six of the shellfish dealers had volumes of 100,000 pounds or more (Table 21).

Table 21.--Classification of seafood dealers in Charlotte, Collier and Lee Counties by volume of fish and shellfish handled in 1977.

Pounds handled	Dealers	
	Fish	Shellfish
	----- Number -----	
Under 50,000	1	0
50,000-100,000	0	2
100,000-300,000	0	4
Over 300,000	5	2
Total	6	8

Dealers' responses concerning facilities and services are summarized in Table 22 indicating where one or more dealers in each county offer each of the items, and where one or more dealers felt facilities needed improvement.

Charlotte County

Charlotte County dealers completing the questionnaire handled shrimp, crab and fish, provided freezer and cold storage facilities and

Table 22.--Port facilities and services in Charlotte, Collier and Lee Counties: Facilities offered and those needing improvement, according to one or more dealers, 1978.

Facility	Charlotte		Collier		Lee	
	Offer	Need improving	Offer	Need improving	Offer	Need improving
Shrimp house	X	X			X	
Crab house	X		X			
Lobster house			X			
Fish house	X	X	X		X	
Processing unused fish		X				X
Freezer, cold storage	X		X	X	X	X
Bait supply	X		X			
Ice plant	X		X	X		X
Fuel sales	X		X		X	
Groceries						
Docking	X	X	X		X	X
Gear storage			X		X	X
Gear supply	X				X	X
Gear repair					X	
Electronics repair					X	
Diesel repair					X	X
Marine railway			X		X	X
Restaurant			X			
Retail seafood market	X	X	X		X	
Solid waste					X	X
Liquid waste			X			X

sold bait, ice and fuel. They also provided docking and gear supply, and operated a retail seafood market (Table 22). One or more of the dealers noted improvements were needed in shrimp and fish houses, processing for bycatch, docking and the retail market.

### Collier County

Dealers responding from Collier County did not handle shrimp but did handle lobster, and provided the same facilities and services as in Charlotte County, except for gear supply. In addition, Collier County dealers offered gear storage, marine railway, a restaurant and liquid waste disposal (Table 22). Freezer and cold storage and ice plants were the only items noted as needing improvement by the Collier County dealers.

### Lee County

Lee County dealers handled shrimp and fish, had freezer and cold storage, and sold fuel but not bait or ice. Docking and all repair and supply services were offered by one or more dealers in Lee County, in contrast to those in the other two counties (Table 22). Solid waste disposal was also available.

Improvements were felt to be needed by the dealers in freezer and cold storage facilities, ice supply, docking and marine railway (Table 22). There are more dealers operating in Lee County than in the other two counties discussed here, and they handle more seafood from more fishermen than in Charlotte or Collier Counties.



## CONCLUSIONS

Commercial fishing is an important industry in the three-county area of Florida's lower west coast covered in this report. Total landings in Lee County were valued at over \$12.7 million in 1976, placing that county second in Florida, while Collier County ranked 15th with \$1.4 million in landings. Charlotte County, with smaller numbers of fishermen, still had over \$813,000 in landings in 1976. Landings volumes in 1976 were about 1971 levels but values increased considerably during the 1971-76 period as average prices for fish and shellfish rose.

About 650 commercial fishermen operate one or more boats from the three counties, with Lee County having over 400 fishermen. About 25 dealers operate in the area, 12 in Lee County, nine in Collier County and four in Charlotte County. The number of commercial boats registered in the three counties has declined during the last 15 years while pleasure boat registrations have increased more than threefold.

The rapid rise in pleasure boat numbers is a result of population growth in the west coast area. Total population in the three-county region more than tripled from 1960 to 1976, and population projected for 2000 is more than double the 1976 level. This growth has benefitted the seafood industry of the area in many ways but problems have also developed. Heavy pressure on fishery resources, pollution, destruction of habitat and competition for waterfront property have affected the fishing industry adversely.

Shore facilities and services for the commercial fishing and seafood industry are generally available in ports and landings areas used by fishermen in the three counties. However, docking space is restricted, particularly in Charlotte and Lee Counties, according to users (Table 23).

Table 23.--Port facilities and services needing improvement, as rated by 50 percent or more commercial fishermen and dealers responding from Charlotte, Collier, and Lee Counties, 1978.<sup>a</sup>

Facility	Charlotte		Collier Fishermen	Lee	
	Fishermen	Dealers		Fishermen	Dealers
Shrimp house		X			
Crab house					
Lobster house				X	
Fish house		X			
Processing unused fish		X		X	
Freezer, cold storage				X	X
Bait supply	X				X
Ice plant					X
Fuel sales					X
Groceries	X				
Docking	X	X			X
Gear storage				X	
Gear supply					
Gear repair			X		
Electronics repair			X		
Diesel repair					
Marine railway				X	X
Restaurant					
Retail seafood market					
Fishermen's meeting room					
Solid waste	X				
Liquid waste	X				

<sup>a</sup>

See tables 15 and 20 for numbers of fishermen using and rating each item in each county.

Processing for underutilized fish is needed in Charlotte and Lee County, and both fishermen and dealers agree that freezer and cold storage facilities are needed in Lee County. Dealers in Lee County feel ice supply needs improving, and both fishermen and dealers there feel marine railway facilities could be improved (Table 23). The only repair services noted as needing improvement were gear and electronics repair in Collier County.

Groups or individuals interested in improving conditions in the seafood industry in these counties can use this report as a starting point for identifying problems and for working toward possible solutions. The County Extension Director in each county can assist groups in organizing to solve problems and in contacting other groups and agencies for assistance. Sources for marine economics information and publications are listed in the Appendix.

APPENDIX

Appendix Table 1.--Average monthly landings of fish and shellfish for Charlotte, Collier and Lee Counties from 1971-1976.

Month	Charlotte		Collier		Lee		Three county total		
	Fish	Shellfish	Fish	Shellfish	Fish	Shellfish	Fish	Shellfish	
January	511	156	889	152	1,044	692	2,444	1,000	3,444
February	131	105	458	140	721	721	1,310	966	2,276
March	221	127	820	145	809	603	1,850	875	2,725
April	179	126	167	97	714	638	1,060	861	1,921
May	204	111	86	30	819	542	1,109	683	1,792
June	145	99	97	1	714	342	956	442	1,398
July	129	104	119	1	760	155	1,008	260	1,268
August	204	95	156	14	919	114	1,279	224	1,503
September	240	99	177	12	947	94	1,364	205	1,569
October	273	88	169	66	929	218	1,371	372	1,743
November	390	115	259	132	1,184	555	1,833	802	2,635
December	395	125	781	146	1,581	651	2,757	922	3,679

----- 1,000 pounds -----

Source: Florida Landings, monthly issues, U.S. Department of Commerce.

Appendix Table 2.--Total landings of selected fish and shellfish species by months, Charlotte County, 1971-1976.

Year	Month	Red drum	Grouper	Black mullet	Pompano	Sand perch	Spotted sea trout	Sheepshead
1971	January	10,759	14,786	116,915	15	2,945	12,978	4,573
	February	9,392	6,119	49,162	1,009	746	10,048	5,309
	March	6,523	13,855	100,641	440	8,557	7,987	3,554
	April	6,352	8,149	78,232	7,650	25,290	9,727	1,160
	May	2,177	10,308	141,949	2,521	27,336	7,593	1,024
	June	5,320	19,985	109,120	1,719	7,008	8,053	2,446
	July	8,717	16,613	100,657	1,817	4,022	4,487	2,288
	August	8,637	13,036	108,993	673	1,935	9,752	4,031
	September	21,864	4,778	212,956	2,771	1,715	8,448	2,254
	October	11,869	10,753	114,853	4,997	2,548	22,467	2,044
	November	3,593	1,747	266,908	4,770	1,264	7,362	1,752
	December	1,198	8,161	316,400	2,971	1,369	5,397	4,080
	Total	96,401	128,290	1,716,786	26,353	84,735	114,299	34,515

-----Pounds-----

Appendix Table 2--Total landings of selected fish and shellfish species by months, Charlotte County, 1971-1976--Continued.

Year	Month	Spanish mackerel	Blue crab	Shrimp	Total fish	Total shellfish	Total
1971	January	3,050	79,824	4,301	173,446	84,125	257,571
	February	31	51,212	8,200	90,083	59,412	149,495
	March	35,090	86,581	7,435	192,387	94,016	286,403
	April	41,415	95,207	7,086	198,489	102,293	300,782
	May	1,507	50,255	6,384	209,800	56,639	266,439
	June	166	39,573	13,844	173,078	53,417	226,495
	July	45	29,520	5,742	154,542	35,262	189,804
	August	445	30,109	0	160,971	30,109	191,080
	September	36	32,604	0	268,008	32,604	300,612
	October	375	52,318	2,476	185,277	54,794	240,071
	November	37,560	59,084	32,093	336,506	91,177	427,683
	December	31,437	58,137	48,275	383,394	106,412	489,806
	Total	151,157	664,424	135,836	2,525,981	800,260	3,326,241

-----Pounds-----

Appendix Table 2.--Total landings of selected fish and shellfish species by months, Charlotte County, 1971-1976--Continued.

Year	Month	Red drum	Grouper	Black mullet	Pompano	Sand perch	Spotted sea trout	Sheepshead
1972	January	11,850	2,481	1,483,929	706	592	14,102	6,076
	February	8,604	1,043	138,690	937	3,442	11,929	5,471
	March	6,727	6,940	108,513	6,176	1,777	11,183	3,013
	April	2,545	7,082	93,775	8,393	15,076	7,692	1,539
	May	3,448	4,086	252,396	3,939	11,839	9,148	831
	June	5,270	10,839	123,341	1,508	9,675	5,682	1,708
	July	0	8,460	0	0	0	229	0
	August	8,418	11,608	173,710	1,733	5,043	7,534	1,409
	September	19,559	9,432	227,574	2,300	5,265	17,032	1,690
	October	10,230	5,083	206,085	5,751	1,427	10,601	1,816
	November	4,151	1,428	373,224	2,163	1,453	9,887	1,890
	December	4,126	549	255,928	5,890	438	17,084	5,191
	Total	84,928	69,031	3,437,165	39,496	56,027	122,103	30,634

-----Pounds-----



Appendix Table 2.--Total landings of selected fish and shellfish species by months, Charlotte County, 1971-1976--Continued.

Year	Month	Spanish mackerel	Blue crab	Shrimp	Total fish	Total shellfish	Total
-----Pounds-----							
1972	January	3,275	39,533	43,651	1,527,629	83,184	1,610,813
	February	138	36,011	14,019	174,040	50,030	224,070
	March	18,371	36,664	21,280	170,677	57,944	228,621
	April	19,640	36,485	17,939	173,976	54,424	228,400
	May	231	30,754	12,325	296,315	43,124	339,439
	June	125	21,207	15,330	166,281	36,537	202,818
	July	0	46,096	13,589	9,348	59,685	69,033
	August	102	35,293	10,581	217,477	45,874	263,351
	September	40	37,377	13,529	299,803	50,936	350,739
	October	21,489	36,590	7,672	275,807	44,280	320,087
	November	2,123	33,380	6,873	402,661	40,288	442,949
	December	27,580	29,895	4,699	326,059	34,594	360,653
	Total	93,114	419,285	181,487	4,040,073	600,900	4,640,973

Appendix Table 2.--Total landings of selected fish and shellfish species by months, Charlotte County, 1971-1976--Continued.

Year	Month	Red drum	Grouper	Black mullet	Pompano	Sand perch	Spotted sea trout	Sheepshead
1973	January	18,142	2,255	274,753	2,697	1,873	27,294	7,501
	February	19,167	3,450	137,761	722	2,606	16,481	5,010
	March	11,220	2,423	285,542	5,005	3,836	18,871	4,313
	April	4,215	2,745	189,125	6,975	4,738	11,028	1,969
	May	3,098	7,679	154,217	7,617	27,713	15,266	2,103
	June	4,876	6,200	170,942	2,664	27,176	10,847	1,996
	July	12,168	4,840	172,002	1,248	5,602	10,724	1,502
	August	15,901	3,798	252,779	752	4,288	16,684	1,510
	September	18,882	351	276,472	445	2,583	16,413	1,965
	October	6,860	393	275,181	327	3,467	12,161	2,437
	November	3,344	1,258	434,071	441	1,534	9,381	3,325
	December	13,608	30	274,812	19	659	24,167	7,593
	Total	131,481	35,422	2,897,657	28,912	86,075	189,317	41,224

-----Pounds-----

Appendix Table 2.--Total landings of selected fish and shellfish species by months, Charlotte County, 1971-1976--Continued.

Year	Month	Spanish mackerel	Blue crab	Shrimp	Total fish	Total shellfish	Total
-----Pounds-----							
1973	January	2,416	27,007	10,045	351,372	37,052	388,424
	February	29	23,391	10,770	194,955	34,161	229,116
	March	40,126	21,910	9,392	397,188	31,302	428,490
	April	295	21,481	8,349	244,368	30,026	274,394
	May	696	31,201	11,544	236,298	43,445	279,743
	June	65	34,081	16,629	243,359	50,710	294,069
	July	40	38,764	11,077	224,539	49,841	274,380
	August	65	42,927	5,688	307,996	48,653	356,649
	September	1,463	43,608	1,382	331,029	45,001	376,030
	October	10,715	27,517	10,088	322,390	48,899	371,289
	November	8,253	34,150	19,661	484,646	61,678	546,324
	December	296	26,097	6,147	329,360	47,972	377,332
	Total	64,459	372,134	120,772	3,667,500	528,740	4,196,240

Appendix Table 2.--Total landings of selected fish and shellfish species by months, Charlotte County, 1971-1976--Continued.

Year	Month	Red drum	Grouper	Black mullet	Pompano	Sand perch	Spotted sea trout	Sheepshead
1974	January	10,904	2,454	396,886	927	57	31,820	8,717
	February	6,754	572	114,580	1,447	946	8,980	4,434
	March	42,218	5,804	299,394	4,176	1,076	35,488	17,732
	April	2,198	685	102,175	5,369	10,595	6,719	4,690
	May	6,307	221	110,544	3,413	10,808	5,198	4,212
	June	1,178	711	86,462	1,950	10,022	6,131	4,176
	July	64	1,902	115,178	2,105	4,646	310	2,928
	August	11,863	141	138,018	1,530	3,847	7,159	5,216
	September	10,356	756	150,332	4,913	3,204	3,344	3,708
	October	8,841	278	421,660	5,774	7,029	19,069	7,083
	November	4,271	532	432,748	14,828	5,798	19,995	3,902
	December	4,351	176	483,387	187	863	9,307	5,750
	Total	109,305	14,232	2,851,364	46,619	58,891	153,520	72,548

-----Pounds-----

Appendix Table 2.--Total landings of selected fish and shellfish species by months, Charlotte County, 1971-1976--Continued.

Year	Month	Pounds				Total shellfish	Total
		Spanish mackerel	Blue crab	Shrimp	Total fish		
1974	January	325	41,674	19,570	473,000	65,974	538,974
	February	2,487	13,479	24,240	144,369	59,250	203,619
	March	41,866	32,734	25,925	476,844	79,055	555,899
	April	2,546	27,242	31,030	152,534	63,370	215,904
	May	553	17,042	14,946	156,098	34,978	191,076
	June	25	13,537	18,866	115,537	32,403	147,940
	July	18	32,328	16,501	145,755	48,836	194,591
	August	21	41,084	4,749	173,400	45,833	219,233
	September	631	29,805	10,126	194,333	39,967	234,300
	October	15,774	20,774	7,003	548,335	33,680	582,015
	November	37,734	26,789	21,877	599,411	55,406	654,817
	December	559	31,773	15,729	511,233	53,114	564,347
	Total	102,539	328,261	210,562	3,690,849	611,866	4,302,715

Appendix Table 2.--Total landings of selected fish and shellfish species by months, Charlotte County, 1971-1976--Continued.

Year	Month	Red drum	Grouper	Black mullet	Pompano	Sand perch	Spotted sea trout	Sheepshead
1975	January	8,953	1,567	227,398	163	249	12,412	5,439
	February	4,132	425	49,732	4,254	0	15,127	5,748
	March	1,147	285	43,374	6,152	1,629	6,944	2,547
	April	4,022	1,033	116,097	2,758	21,933	9,681	2,625
	May	1,283	2,823	125,416	3,497	25,739	14,186	4,258
	June	1,489	6,327	112,038	4,489	9,614	11,799	1,955
	July	2,613	1,514	69,282	2,884	3,122	9,283	1,543
	August	2,611	3,308	176,586	1,167	4,533	12,565	2,258
	September	10,447	3,650	194,776	1,027	3,929	14,302	1,998
	October	7,349	2,959	212,529	3,898	3,539	13,568	3,222
	November	4,552	3,489	382,602	5,943	1,715	22,998	4,201
	December	4,833	2,536	528,724	8,604	650	22,025	2,736
	Total	53,431	29,916	2,238,554	44,836	76,652	164,890	38,530

-----Pounds-----

Appendix Table 2.--Total landings of selected fish and shellfish species by months, Charlotte County, 1971-1976--Continued.

Year	Month	Spanish mackerel	Blue crab	Shrimp	Total fish	Total shellfish	Total
-----Pounds-----							
1975	January	3,831	27,825	22,984	272,899	52,347	325,246
	February	12,925	26,684	29,515	108,729	62,291	171,020
	March	9,476	28,428	20,131	78,596	54,751	133,347
	April	9,116	15,315	5,962	185,747	24,125	209,872
	May	2,133	9,965	13,337	192,371	23,774	216,145
	June	50	8,610	18,289	159,978	27,743	187,721
	July	492	10,916	9,369	106,446	21,691	128,137
	August	41	6,320	10,481	224,268	18,695	242,963
	September	1,809	7,104	8,032	241,356	17,791	259,147
	October	11,846	43,593	10,290	279,680	55,421	335,101
	November	33,621	33,642	4,627	480,132	47,178	527,310
	December	10,076	35,643	7,264	609,206	46,965	656,171
	Total	95,416	254,045	160,281	2,939,408	452,772	3,392,180

Appendix Table 2.--Total landings of selected fish and shellfish species by months, Charlotte County, 1971-1976--Continued.

Year	Month	Red drum	Grouper	Black mullet	Pompano	Sand perch	Spotted sea trout	Sheepshead
1976	January	22,143	1,285	259,651	427	4,268	37,999	16,364
	February	16,341	933	67,455	77	2,686	27,108	3,835
	March	1,524	1,368	115,466	22,456	6,104	9,772	1,692
	April	199	7,005	119,929	4,395	10,005	60,685	1,928
	May	1,470	4,767	87,335	1,999	13,140	9,005	3,158
	June	1,579	4,103	52,159	2,794	6,416	10,021	1,938
	July	4,620	3,923	133,686	948	3,718	13,314	3,572
	August	7,036	4,768	101,608	2,561	3,696	13,164	3,061
	September	7,181	3,854	144,088	2,460	3,991	15,269	2,612
	October	6,542	520	98,526	4,428	3,219	11,912	2,881
	November	4,344	11	153,966	9,681	2,275	10,207	5,002
	December	4,514	1,071	715,865	71	1,869	12,418	5,486
	Total	77,493	33,608	2,049,734	52,297	61,387	230,874	51,529

-----Pounds-----



Appendix Table 2.--Total landings of selected fish and shellfish species by months, Charlotte County, 1971-1976--Continued.

Year	Month	Spanish mackerel	Blue crab	Shrimp	Total fish	Total shellfish	Total
		-----Pounds-----					
1976	January	142	49,023	8,535	346,821	64,544	411,365
	February	596	52,418	9,382	141,299	67,725	209,024
	March	33,289	45,598	6,785	207,609	59,183	266,792
	April	1,713	54,570	0	170,221	66,224	236,445
	May	186	58,046	10,666	137,154	73,204	210,358
	June	133	57,322	17,329	89,501	74,651	164,152
	July	160	52,721	12,589	122,749	65,310	188,059
	August	23	46,157	3,855	155,624	50,012	205,636
	September	42	42,389	8,266	196,466	51,889	248,355
	October	1,799	30,331	7,373	148,562	38,393	186,955
	November	8,379	38,773	4,195	208,628	46,338	254,966
	December	0	30,284	7,158	278,806	45,821	324,627
	Total	46,462	557,632	96,133	2,203,440	703,294	2,906,734

Source: Florida Landings, monthly issues, U. S. Department of Commerce.

Appendix Table 3.--Total landings of selected fish and shellfish species by months, Collier County, 1971-1976.

Year	Month	Jack crevalle	Grouper	King mackerel	Black mullet	Silver mullet	Pompano
1971	January	19,422	8,320	7,461	370,059	29,863	211
	February	21,112	5,411	10,065	35,823	19,968	869
	March	6,812	10,358	489,280	35,109	42,374	6,179
	April	9,280	3,681	518,843	15,941	12,750	6,006
	May	6,799	9,698	414	47,039	963	5,385
	June	3,887	4,432	0	45,140	164	2,018
	July	8,051	3,132	0	35,330	1,392	4,928
	August	7,032	11,152	140	158,016	3,244	16,388
	September	35,697	6,324	0	216,134	1,318	4,839
	October	17,335	8,805	33	196,394	2,781	7,363
	November	5,096	3,437	1,878	140,189	2,132	23,855
	December	12,729	5,913	408,779	662,472	8,149	17,020
	Total	153,252	80,663	1,436,893	1,957,646	125,098	95,061

-----Pounds-----

Appendix Table 3.--Total landings of selected fish and shellfish species by months, Collier County, 1971-1976--Continued.

Year	Month	Jack Crevalle	Grouper	King mackerel	Black mullet	Silver mullet	Pompano
1972	January	3,517	10,251	63,421	299,555	8,886	11,316
	February	6,598	4,957	0	66,882	31,196	3,989
	March	9,880	12,171	231,885	65,138	29,314	8,120
	April	7,732	7,376	12,471	67,126	23,468	10,680
	May	1,632	18,459	85	63,889	2,953	15,399
	June	2,923	1,339	65	28,248	339	9,966
	July	12,082	4,729	97	85,247	1,025	3,838
	August	5,739	9,384	0	88,717	593	18,514
	September	12,238	11,875	0	105,456	854	20,894
	October	4,803	6,736	212	98,464	1,614	33,465
	November	11,413	2,456	2,209	41,951	825	18,123
	December	1,865	1,835	7,365	316,326	9,995	10,672
	Total	80,422	91,568	317,810	1,326,999	111,062	164,976

-----Pounds-----

Appendix Table 3.--Total landings of selected fish and shellfish species by months, Collier County, 1971-1976--Continued.

Year	Month	Spanish mackerel	Stone crab	Spiny lobster	Total fish	Total shellfish	Total
1971	January	11,633	114,644	1,032	472,284	127,940	600,224
	February	96,436	113,028	186	219,145	121,510	340,655
	March	167,831	76,526	0	781,505	82,438	863,943
	April	5,036	84,790	0	601,785	84,790	686,575
	May	1,053	12,850	0	103,780	14,566	118,346
	June	457	0	0	104,196	1,690	105,886
	July	1,035	0	0	85,467	2,570	88,037
	August	5,596	0	1,047	212,329	6,140	218,469
	September	1,737	0	507	313,114	2,907	316,021
	October	33,004	15,588	11,331	295,990	26,919	322,909
	November	88,750	70,974	6,184	289,272	77,176	366,448
	December	424,042	129,160	1,445	1,568,351	130,765	1,699,116
	Total	836,610	617,560	21,732	5,047,218	679,411	5,726,629

-----Pounds-----

Appendix Table 3.---Total landings of selected fish and shellfish species by months, Collier County, 1971-1976---Continued.

Year	Month	Spanish mackerel	Stone crab	Spiny lobster	Total fish	Total shellfish	Total
1972	January	413,079	158,508	1,226	835,616	162,198	997,814
	February	344	178,184	227	133,127	179,452	312,579
	March	20,772	177,462	723	410,785	178,185	588,970
	April	4,095	97,862	0	154,258	97,862	252,120
	May	943	17,032	0	128,275	17,461	145,736
	June	629	0	0	52,344	2,891	55,235
	July	2,005	0	0	131,520	3,019	134,539
	August	406	0	855	147,151	1,847	148,998
	September	2,867	0	2,482	171,318	6,619	177,937
	October	2,666	32,536	5,970	161,015	38,692	199,707
	November	32,090	76,772	2,561	119,842	81,901	201,743
	December	270,738	136,980	180	635,185	140,834	776,019
	Total	750,634	875,336	14,224	3,080,436	910,961	3,991,397

-----Pounds-----

Appendix Table 3.--Total landings of selected fish and shellfish species by months, Collier County, 1971-1976--Continued.

Year	Month	Jack crevalle	Grouper	King mackerel	Black mullet	Silver mullet	Pompano
1973	January	8,328	4,957	857	272,805	2,603	10,724
	February	12,624	1,077	281	23,386	11,039	4,675
	March	3,657	7,563	2,957	54,766	15,297	4,739
	April	1,247	2,192	1,246	35,283	3,019	7,239
	May	2,404	12,119	45	40,247	1,513	6,059
	June	7,640	12,399	0	58,214	4,926	3,501
	July	7,809	9,247	0	73,129	6,799	3,654
	August	14,544	5,721	0	135,620	18,248	11,317
	September	10,954	1,598	0	76,151	1,620	539
	October	5,663	2,115	450	84,048	5,846	5,085
	November	12,963	1,815	4,010	110,496	93	17,763
	December	14,721	1,595	434	805,929	0	806
	Total	102,554	62,398	10,280	1,770,074	71,003	76,101

Appendix Table 3.--Total landings of selected fish and shellfish species by months, Collier County, 1971-1976--Continued.

Year	Month	Spanish mackerel	Stone crab	Spiny lobster	Total fish	Total shellfish	Total
-----Pounds-----							
1973	January	69,966	126,444	1,594	396,878	128,038	524,916
	February	1,083	145,998	477	70,243	148,894	219,137
	March	102,373	112,164	184	213,125	114,897	328,022
	April	174	126,656	0	73,136	128,374	201,510
	May	649	42,514	0	88,136	44,562	132,698
	June	763	0	0	124,287	2,262	126,549
	July	525	0	0	114,823	2,558	117,381
	August	312	0	8,684	202,529	9,108	211,637
	September	2,876	0	1,633	116,692	1,633	118,325
	October	21,126	63,678	3,566	133,526	67,296	200,822
	November	289,870	140,468	997	470,271	143,731	614,002
	December	2,660	143,370	2,442	837,904	146,519	984,423
	Total	492,377	901,292	19,577	2,841,550	937,872	3,779,422

Appendix Table 3.--Total landings of selected fish and shellfish species by months, Collier County, 1971-1976--Continued.

Year	Month	Jack crevalle	Grouper	King mackerel	Black mullet	Silver mullet	Pompano
1974	January	5,844	9,044	149,473	2,140,858	5,682	12,010
	February	1,907	3,051	341,565	89,606	5,050	7,330
	March	3,590	30,672	2,172,834	116,584	5,974	19,748
	April	5,459	2,763	216	26,535	2,761	3,394
	May	4,527	9,131	26	32,606	715	3,772
	June	8,471	14,433	0	37,515	504	4,154
	July	2,399	19,380	0	32,368	737	7,807
	August	4,853	10,625	0	58,223	10,321	21,633
	September	22,861	4,349	0	64,388	4,089	17,755
	October	8,954	1,730	123	81,264	6,646	16,171
	November	4,544	3,389	696	58,174	710	32,300
	December	13,604	6,320	170	458,320	136	1,021
	Total	87,013	114,887	2,665,103	3,196,441	43,325	147,095

-----Pounds-----



Appendix Table 3.--Total landings of selected fish and shellfish species by months, Collier County, 1971-1976--Continued.

Year	Month	Spanish mackerel	Stone crab	Spiny lobster	Total fish	Total shellfish	Total
-----Pounds-----							
1974	January	461,839	114,290	50,569	2,819,879	168,339	2,988,218
	February	184,163	156,806	576	647,785	158,380	806,165
	March	283,912	274,572	106	2,678,502	277,795	2,956,297
	April	1,503	111,596	0	50,123	113,171	163,294
	May	3,387	55,302	0	70,379	56,593	126,972
	June	11,733	0	0	103,828	128	103,956
	July	269	0	0	77,522	0	77,522
	August	876	0	24,572	123,018	25,839	148,857
	September	878	0	22,555	130,308	30,085	160,393
	October	23,939	57,186	15,413	155,626	72,839	228,465
	November	52,425	143,656	1,844	177,355	145,743	323,098
	December	8,074	198,506	424	513,486	198,930	712,416
	Total	1,032,998	1,111,914	116,059	7,547,811	1,247,842	8,795,653

Appendix Table 3.--Total landings of selected fish and shellfish species by months, Collier County, 1971-1976--Continued.

Year	Month	Jack crevalle	Grouper	King mackerel	Black mullet	Silver mullet	Pompano
1975	January	9,875	6,375	5,832	310,570	11,045	17,036
	February	4,925	15,850	967,223	39,805	10,993	60,359
	March	1,871	10,917	10,917	10,495	4,965	8,884
	April	5,422	3,896	471	13,532	4,444	5,440
	May	1,776	12,402	0	11,295	412	5,139
	June	2,294	29,250	0	20,711	1,543	4,014
	July	2,405	41,920	0	43,511	6,561	9,873
	August	3,538	22,225	0	65,724	15,286	19,558
	September	10,181	20,921	0	62,731	13,529	11,663
	October	3,287	12,189	1,413	53,279	635	11,609
	November	4,526	2,516	17,579	65,547	298	7,586
	December	5,149	4,107	24,340	455,693	7	11,709
	Total	55,249	182,568	1,027,775	1,152,893	69,718	172,870

-----Pounds-----

Appendix Table 3.--Total landings of selected fish and shellfish species by months, Collier County, 1971-1976--Continued.

Year	Month	Spanish mackerel	Stone crab	Spiny lobster	Total fish	Total shellfish	Total
-----Pounds-----							
1975	January	259,619	174,809	829	657,276	176,827	834,103
	February	351,913	138,671	0	1,482,583	138,671	1,621,254
	March	4,182	157,998	72	68,677	158,070	226,747
	April	1,197	83,682	152	59,155	83,834	142,989
	May	212	18,648	0	61,312	18,648	79,960
	June	85	0	0	89,875	0	89,875
	July	115	0	0	132,906	0	132,906
	August	804	0	32,237	152,975	32,237	185,212
	September	4,054	0	21,549	149,798	21,549	171,347
	October	12,322	64,044	12,082	115,266	76,126	191,392
	November	224,939	171,090	13,426	339,256	184,516	523,772
	December	81,316	125,282	3,795	601,632	129,077	730,709
	Total	940,758	934,224	84,142	3,910,711	1,019,555	4,930,266

Appendix Table 3.--Total landings of selected fish and shellfish species by months, Collier County, 1971-1976--Continued.

Year	Month	Jack crevalle	Grouper	King mackerel	Black mullet	Silver mullet	Pompano
1976	January	3,327	8,086	11,556	81,424	22,400	1,227
	February	2,133	7,138	10,861	104,214	46,177	2,751
	March	3,482	8,478	427,129	24,032	34,088	43,792
	April	5,872	5,337	1,302	0	15,587	3,875
	May	2,347	13,087	60	24,303	5,820	1,537
	June	2,312	48,796	33	23,920	2,728	1,148
	July	9,878	41,796	0	50,527	11,593	2,660
	August	12,966	42,974	0	18,930	18,930	2,497
	September	7,404	42,106	5	97,102	4,098	8,019
	October	5,022	17,419	55	94,410	711	10,112
	November	4,640	12,516	3,215	111,656	5,246	3,659
	December	3,215	6,734	25	498,160	1,476	931
	Total	62,598	254,467	454,241	1,128,678	168,854	82,208

Appendix Table 3.--Total landings of selected fish and shellfish species by months, Collier County, 1971-1976--Continued.

Year	Month	Spanish mackerel	Stone crab	Spiny lobster	Total fish	Total shellfish	Total
1976	January	1,520	149,372	698	150,301	150,070	300,371
	February	5,265	90,036	235	197,374	90,271	287,645
	March	189,593	56,780	300	767,385	57,080	824,465
	April	285	73,722	173	62,735	73,895	136,630
	May	119	27,996	0	62,465	27,998	90,463
	June	429	0	0	107,820	0	107,820
	July	249	0	0	168,792	0	168,792
	August	749	0	7,984	98,828	7,984	106,812
	September	723	0	9,110	180,722	9,110	189,832
	October	6,742	97,544	15,461	155,960	113,005	268,965
	November	2,142	144,860	11,980	159,237	156,840	316,077
	December	242	127,932	3,249	527,428	131,181	658,609
	Total	208,058	768,242	49,190	2,639,047	817,434	3,456,481

Source: Florida Landings, monthly issues, U.S. Department of Commerce.

Appendix Table 4.--Total landings of selected fish and shellfish species by months, Lee County, 1971-1976.

Year	Month	Red drum	Grouper	King mackerel	Black mullet	Pompano	Spotted sea trout	Mangrove snapper	Red snapper
1971	January	28,338	69,476	56,301	479,403	5,991	68,261	7,601	7,407
	February	36,145	61,715	0	186,466	8,755	89,938	11,194	11,409
	March	13,836	65,518	79,896	109,802	21,036	51,181	9,674	11,813
	April	18,023	89,584	109,258	122,651	35,942	58,964	9,120	17,053
	May	16,342	87,323	32,206	205,597	32,380	75,120	13,989	25,688
	June	28,149	56,763	32,874	211,416	35,011	61,636	9,228	10,509
	July	24,011	97,547	18,896	397,862	38,428	58,040	11,125	28,914
	August	31,879	41,672	3,620	468,439	55,860	46,804	6,089	7,568
	September	22,229	61,014	23,924	504,325	46,846	59,091	9,944	14,639
	October	29,052	51,708	13,906	356,160	34,065	80,438	10,457	9,922
	November	26,463	24,372	13,851	637,184	83,002	69,615	11,749	12,765
	December	15,327	59,573	49,086	1,187,909	54,348	49,377	14,102	13,347
	Total	289,794	766,265	433,818	4,867,214	451,664	768,465	124,272	171,034

-----Pounds-----

Appendix Table 4.--Total landings of selected fish and shellfish species by months, Lee County, 1971-76--Continued.

Year	Month	Yellowtail snapper	Spanish mackerel	Blue crab	Stone crab	Shrimp	Total fish	Total shellfish	Total
-----Pounds-----									
1971	January	1,810	19,498	96,571	0	406,499	820,058	512,698	1,332,756
	February	8,154	1,672	228,288	362	520,387	517,957	760,085	1,278,042
	March	824	115,291	133,375	634	514,729	576,430	658,429	1,234,859
	April	7,951	65,851	62,524	608	630,409	691,867	699,730	1,391,597
	May	40,306	37,506	37,758	804	522,007	683,780	563,920	1,247,700
	June	9,764	16,326	33,623	0	210,695	583,895	245,024	828,919
	July	5,045	22,568	41,438	0	43,088	801,408	84,526	885,934
	August	3,010	34,028	26,590	0	19,527	754,570	46,117	800,687
	September	5,893	25,989	15,249	0	38,131	854,071	65,495	919,566
	October	5,431	66,558	74,317	0	285,896	729,259	367,309	1,096,568
	November	5,760	85,676	74,620	0	427,179	1,074,712	507,701	1,582,413
	December	6,446	82,474	74,696	0	652,676	1,638,421	742,949	2,381,370
	Total	100,394	573,437	899,049	2,408	4,271,223	9,726,428	5,253,983	14,980,411

Appendix Table 4.--Total landings of selected fish and shellfish species by months, Lee County, 1971-1976--Continued.

Year	Month	Red drum	Grouper	King mackerel	Black mullet	Pompano	Spotted sea trout	Mangrove snapper	Red snapper
		-----Pounds-----							
1972	January	29,532	55,909	81,578	563,134	14,745	69,228	10,665	7,590
	February	40,420	58,322	59,106	359,770	40,459	66,545	12,681	11,130
	March	17,399	42,250	106,947	202,804	43,706	52,579	12,776	19,367
	April	25,139	74,938	84,198	236,744	49,307	54,072	11,152	20,114
	May	23,089	62,819	39,867	354,178	61,459	75,643	14,902	28,565
	June	27,374	49,241	37,940	261,696	35,126	55,006	11,811	11,279
	July	33,453	86,575	21,587	442,674	46,761	79,932	12,601	27,429
	August	43,812	39,240	14,963	515,094	59,306	76,494	10,470	9,255
	September	38,772	59,625	29,262	599,428	43,827	75,986	13,602	14,263
	October	27,450	74,597	25,432	543,817	30,112	73,839	13,243	13,724
	November	34,056	26,590	27,714	837,976	71,683	67,259	14,957	12,075
	December	24,067	62,782	142,062	1,000,834	112,472	84,885	19,140	15,573
	Total	364,563	692,888	670,656	5,918,149	608,963	831,468	158,000	190,364



Appendix Table 4.--Total landings of selected fish and shellfish species by months, Lee County, 1971-1976--Continued.

Year	Month	Yellowtail snapper	Spanish mackerel	Blue crab	Stone crab	Shrimp	Total fish	Total shellfish	Total
-----Pounds-----									
1972	January	3,975	21,021	46,265	560	711,057	944,478	763,491	1,707,969
	February	8,764	20,069	25,774	1,136	808,806	792,164	836,244	1,628,408
	March	9,783	107,429	19,670	0	908,092	745,815	940,735	1,686,550
	April	8,861	71,020	23,439	118	548,389	755,426	571,946	1,327,372
	May	38,905	42,060	24,788	0	518,677	859,055	543,465	1,402,520
	June	9,871	16,950	11,062	0	256,089	626,528	267,151	893,679
	July	5,436	23,578	12,645	0	112,106	882,271	124,751	1,007,022
	August	2,994	49,373	12,104	0	70,840	897,684	82,944	980,628
	September	5,099	29,559	4,319	0	69,089	1,044,791	82,096	1,126,887
	October	5,904	82,409	18,220	634	125,216	972,175	146,418	1,118,593
	November	6,547	95,207	26,407	0	242,537	1,308,746	273,180	1,581,926
	December	5,428	104,917	8,491	8,168	435,248	1,693,637	462,557	2,156,194
	Total	111,567	663,592	233,184	10,616	4,806,146	11,522,770	5,094,978	16,617,748

Appendix Table 4.--Total landings of selected fish and shellfish species by months, Lee County, 1971-1976--Continued.

Year	Month	Red drum	Grouper	King mackerel	Black mullet	Pompano	Spotted sea trout	Mangrove snapper	Red snapper
1973	January	27,202	44,921	85,135	640,123	42,747	91,273	13,112	10,863
	February	34,384	50,716	6,807	252,222	24,126	64,457	14,993	10,866
	March	28,424	53,618	45,520	246,265	35,696	66,116	12,682	17,200
	April	24,588	54,668	80,728	269,286	34,985	54,071	12,514	18,404
	May	36,684	72,985	47,631	373,646	65,956	77,751	21,104	33,001
	June	37,804	67,517	43,358	337,346	35,265	79,443	14,450	35,265
	July	18,136	59,263	24,412	479,698	40,470	66,478	15,852	22,557
	August	45,274	40,212	19,751	535,538	50,822	75,933	16,653	7,727
	September	37,692	50,935	39,348	789,330	46,723	86,349	24,741	17,565
	October	29,518	56,018	19,046	626,197	35,792	94,626	17,209	12,466
	November	35,791	38,195	28,305	738,058	64,300	86,808	17,628	10,224
	December	42,128	107,710	127,312	1,075,769	96,941	135,335	25,901	14,886
	Total	397,625	696,758	567,353	6,353,478	573,823	978,640	206,839	211,024

Appendix Table 4.--Total landings of selected fish and shellfish species by months, Lee County, 1971-1976--Continued.

Year	Month	Yellowtail snapper	Spanish mackerel	Blue crab	Stone crab	Shrimp	Total fish	Total shellfish	Total
-----Pounds-----									
1973	January	4,380	35,790	10,329	12,820	643,719	1,077,077	667,878	1,744,955
	February	5,438	47,611	8,477	19,418	556,346	598,577	585,026	1,183,603
	March	8,956	105,677	9,110	26,478	446,510	724,910	482,193	1,207,103
	April	7,983	30,982	9,575	41,752	519,933	682,510	571,260	1,253,770
	May	35,214	45,293	13,991	12,806	658,165	941,934	684,962	1,626,896
	June	8,974	18,830	6,547	0	414,627	802,733	421,174	1,223,907
	July	8,053	23,207	5,306	0	113,435	859,249	118,741	977,990
	August	2,784	47,520	8,073	0	111,603	973,527	119,676	1,093,203
	September	5,547	44,144	8,831	0	143,179	1,241,047	161,655	1,402,702
	October	5,783	58,205	9,025	8,036	285,652	1,044,543	302,729	1,347,272
	November	5,983	139,066	5,478	16,524	925,798	1,308,055	947,800	2,255,855
	December	6,542	59,219	5,586	48,890	574,899	1,978,869	629,375	2,608,244
	Total	105,637	655,544	100,328	186,724	5,393,866	12,233,031	5,692,469	17,925,500

Appendix Table 4.--Total landings of selected fish and shellfish species by months, Lee County, 1971-1976--Continued.

Year	Month	Red drum	Grouper	King mackerel	Black mullet	Pompano	Spotted sea trout	Mangrove snapper	Red snapper
1974	January	29,785	45,263	103,442	850,068	27,322	85,723	16,374	12,764
	February	6,754	44,927	103,708	341,661	33,694	50,072	19,152	12,749
	March	64,402	110,448	300,960	393,374	102,016	142,080	25,392	33,630
	April	28,490	69,764	84,396	239,751	58,894	58,861	15,753	23,333
	May	51,897	78,046	49,795	325,725	83,689	87,651	24,437	27,445
	June	41,647	78,029	48,088	302,748	55,677	75,862	18,756	37,383
	July	37,687	48,775	21,939	436,643	52,997	74,346	19,754	12,646
	August	11,863	59,634	28,891	517,847	53,128	91,842	18,539	23,556
	September	51,721	57,750	22,092	431,800	38,039	75,956	20,860	5,155
	October	31,535	87,507	25,401	466,154	38,736	89,320	22,011	12,965
	November	41,197	45,195	25,082	602,927	59,550	88,630	19,310	9,768
	December	30,465	63,022	99,331	819,512	101,280	95,269	3,950	6,197
	Total	427,443	788,360	913,125	5,728,210	705,022	1,015,612	224,288	217,591

-----Pounds-----

Appendix Table 4.--Total landings of selected fish and shellfish species by months, Lee County, 1971-1976--Continued.

Year	Month	Yellowtail snapper	Spanish mackerel	Stone crab	Shrimp	Total fish	Total shellfish	Total
-----Pounds-----								
1974	January	5,893	49,777	26,612	906,534	1,343,599	936,098	2,279,697
	February	8,763	28,209	71,218	623,318	768,522	697,488	1,466,010
	March	21,968	386,744	45,396	674,998	1,849,134	720,394	2,569,528
	April	9,983	36,945	0	521,541	733,094	560,161	1,293,255
	May	29,741	47,943	14,288	514,001	953,964	529,274	1,483,238
	June	19,851	21,323	0	361,713	830,323	364,396	1,194,719
	July	3,217	47,121	0	323,192	860,730	324,985	1,185,715
	August	8,903	25,044	0	232,568	999,915	233,538	1,233,453
	September	6,548	28,522	0	85,019	857,242	87,155	944,397
	October	6,783	59,600	392	208,396	986,290	210,772	1,197,062
	November	7,684	92,448	0	612,151	1,153,922	617,241	1,771,163
	December	8,749	19,060	0	738,258	1,399,401	742,585	2,141,986
	Total	138,083	842,736	157,906	5,801,689	12,736,136	6,024,087	18,760,223

Appendix Table 4.--Total landings of selected fish and shellfish species by months, Lee County, 1971-1976--Continued.

Year	Month	Red drum	Grouper	King mackerel	Black mullet	Pompano	Spotted sea trout	Mangrove snapper	Red snapper
1975	January	21,260	59,738	90,675	560,902	26,176	67,728	20,164	19,154
	February	21,298	72,037	88,956	256,327	51,904	55,909	31,735	28,048
	March	47,542	65,102	103,089	181,250	51,883	50,301	19,829	23,963
	April	35,163	111,610	67,442	159,573	41,411	64,488	16,719	18,877
	May	30,176	49,664	52,154	304,346	36,541	82,540	27,358	24,716
	June	36,866	61,789	49,958	279,716	38,099	80,716	25,527	31,770
	July	32,412	40,826	0	222,193	64,727	80,948	23,255	11,694
	August	19,495	58,262	0	698,065	55,327	93,652	20,481	22,203
	September	49,470	64,223	24,790	404,067	38,018	72,399	17,112	7,559
	October	30,379	66,194	24,593	482,955	36,763	97,406	26,339	11,557
	November	40,192	44,953	30,553	542,538	59,080	83,608	20,999	10,084
	December	23,416	63,967	102,780	917,550	95,032	85,718	6,186	8,553
	Total	387,669	758,365	634,990	5,009,482	594,961	915,413	255,704	218,178

Appendix Table 4.--Total landings of selected fish and shellfish species by months, Lee County, 1971-1976--Continued.

Year	Month	Pounds						Total fish and shellfish	Total
		Yellowtail snapper	Spanish mackerel	Blue crab	Stone crab	Shrimp	Total fish		
1975	January	8,972	21,427	0	26,612	534,121	1,031,563	606,391	1,637,954
	February	6,965	42,083	0	1,754	617,712	784,434	709,364	1,493,798
	March	4,573	48,954	0	1,744	720,737	78,596	54,751	133,347
	April	9,894	22,763	0	548	539,572	733,703	566,392	1,300,095
	May	3,968	50,296	0	0	463,095	817,946	473,435	1,291,381
	June	2,673	12,630	0	0	414,624	745,181	415,623	1,160,804
	July	4,983	50,344	0	0	150,438	612,948	153,900	766,848
	August	7,031	28,722	0	0	131,660	1,148,488	134,207	1,282,695
	September	5,328	33,561	0	0	89,546	830,707	93,636	924,343
	October	8,564	62,128	0	0	171,475	970,069	189,682	1,159,751
	November	10,843	110,358	9,637	0	337,628	1,128,256	429,504	1,557,760
	December	8,674	27,659	17,200	0	683,827	1,487,218	723,713	2,210,931
	Total	82,468	510,925	26,837	30,658	4,854,435	10,369,109	4,550,598	14,919,707

Appendix Table 4.--Total landings of selected fish and shellfish species by months, Lee County, 1971-1976--Continued.

Year	Month	Red drum	Grouper	King mackerel	Black mullet	Pompano	Spotted sea trout	Mangrove snapper	Red snapper
1976	January	34,259	89,463	87,862	477,231	1,482	101,219	22,110	23,314
	February	38,755	94,967	85,794	276,768	34,018	81,360	34,107	29,429
	March	51,447	85,213	88,530	282,327	58,295	53,658	23,262	25,683
	April	36,019	74,229	76,372	191,954	44,584	10,280	21,489	22,352
	May	36,058	86,480	29,911	163,018	35,148	69,024	32,540	32,402
	June	38,081	89,766	53,268	171,739	38,476	77,421	28,016	37,936
	July	38,182	63,665	791	68,119	64,992	80,012	30,526	20,170
	August	20,770	78,348	62	261,300	60,628	76,618	32,076	35,016
	September	54,373	53,235	24,161	382,504	41,486	89,033	23,034	11,498
	October	28,623	72,556	30,741	387,334	38,474	86,863	57,522	19,283
	November	48,220	81,086	32,817	481,819	54,615	92,635	28,933	15,577
	December	22,202	61,794	36,782	249,702	53,431	86,579	25,502	12,800
	Total	446,989	930,802	547,091	3,393,815	525,629	904,702	359,117	285,460

-----Pounds-----



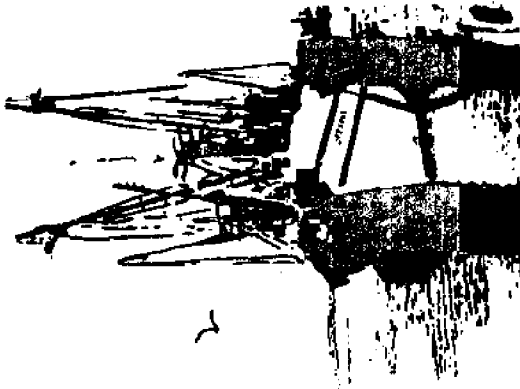
Appendix Table 4.--Total landings of selected fish and shellfish species by months, Lee County, 1971-1976--Continued.

Year	Month	Yellowtail snapper	Spanish mackerel	Blue crab	Stone crab	Shrimp	Total fish	Total shellfish	Total
1976	January	8,743	22,396	949	12,164	623,410	1,045,921	664,053	1,709,974
	February	7,893	27,671	0	12,164	654,083	863,922	738,272	1,602,194
	March	4,783	68,758	39,349	12,165	666,359	880,333	762,833	1,643,166
	April	12,347	27,738	31,406	12,168	797,169	687,579	860,215	1,547,794
	May	5,461	18,530	0	7,000	449,480	655,439	461,118	1,116,557
	June	3,471	11,447	0	0	333,399	694,571	338,327	1,032,898
	July	6,898	146	0	0	123,026	544,495	125,678	670,173
	August	6,500	28,564	408	0	65,479	738,505	67,537	806,042
	September	7,771	30,758	2,087	0	69,610	854,712	75,505	930,217
	October	11,015	31,664	554	9,810	80,421	873,174	92,025	965,199
	November	17,912	98,118	0	8,606	541,397	1,133,222	555,759	1,688,981
	December	15,443	94,355	0	9,632	581,394	1,288,459	606,583	1,895,042
	Total	108,237	460,145	74,753	83,709	4,985,227	10,260,332	5,347,905	15,608,237

-----Pounds-----

Source: Florida Landings, monthly issues, U.S. Department of Commerce.

# FLORIDA SEAFOOD PORT STUDY



Dear Seafood Dealer:

Are commercial fishing facilities adequate in your area? The Gulf and South Atlantic Fisheries Development Foundation and your industry associations have asked us to determine the need for new or improved port facilities and possible locations for them.

Your opinions are important to us. Even if you are not now a seafood dealer, please complete the part of the form that pertains to you and return it to us today — it will only take a few minutes. Your answers will show whether or not commercial fishing port improvements are needed.

Your prompt attention is appreciated.

Sincerely,

James C. Cato  
Marine Economist

Fred J. Prochaska  
Marine Economist

JCC:FJP:pb

A Cooperative Project of:  
Florida Agricultural Market Research Center  
Gulf & South Atlantic Fisheries Development Foundation, Inc.  
Florida Sea Grant

Note: To seal for mailing pull off paper backing and press firmly

**BUSINESS REPLY MAIL**

No postage necessary if mailed in the United States

Postage will be paid by

Florida Seafood Port Study  
Agricultural Market Research Center  
University of Florida  
Gainesville, Florida 32611

FIRST CLASS  
PERMIT NO. 200  
GAINESVILLE  
FLORIDA



**SEAFOOD DEALER - PROCESSOR SURVEY**

1. You were a seafood dealer and/or processor in 1977 according to our records. Are you still in this business?

Yes . . . . . please continue

No . . . . . if no, please return today so we will know you received the questionnaire. (NO POSTAGE REQUIRED). Thank you.

2. If you are in the seafood business please check the most important products you handle.

FISH

- Grouper
- Spanish mackerel
- King mackerel
- Pompano
- Red snapper
- All other snapper
- Sea trout
- Bait
- Other fish (list) \_\_\_\_\_

SHELLFISH

- Blue crabs
- Stone crabs
- Scallops
- Shrimp
- Spiny lobster
- Other shellfish (list) \_\_\_\_\_

3. Please complete the following about your seafood business.  
 A. In column A, check the facilities and services you now offer. Then,  
 B. In column B, check the facilities and services you would like added or improved.

Facilities or services	Column A Those you now offer	Column B Those you would like added or improved
1. Shrimp unloading house	<input type="checkbox"/>	<input type="checkbox"/>
2. Crab unloading	<input type="checkbox"/>	<input type="checkbox"/>
3. Lobster house	<input type="checkbox"/>	<input type="checkbox"/>
4. Fish house	<input type="checkbox"/>	<input type="checkbox"/>
5. Processing of unused fish	<input type="checkbox"/>	<input type="checkbox"/>
6. Bait sales and supply	<input type="checkbox"/>	<input type="checkbox"/>
7. Docking facilities	<input type="checkbox"/>	<input type="checkbox"/>
8. Freezer and cold storage	<input type="checkbox"/>	<input type="checkbox"/>
9. Ice house	<input type="checkbox"/>	<input type="checkbox"/>
10. Gear storage area	<input type="checkbox"/>	<input type="checkbox"/>
11. Gear supply	<input type="checkbox"/>	<input type="checkbox"/>
12. Gear repair service	<input type="checkbox"/>	<input type="checkbox"/>
13. Electronics service	<input type="checkbox"/>	<input type="checkbox"/>
14. Engine repair service	<input type="checkbox"/>	<input type="checkbox"/>
15. Marine railway	<input type="checkbox"/>	<input type="checkbox"/>
16. Fuel sales	<input type="checkbox"/>	<input type="checkbox"/>
17. Groceries	<input type="checkbox"/>	<input type="checkbox"/>
18. Restaurant	<input type="checkbox"/>	<input type="checkbox"/>
19. Retail seafood market	<input type="checkbox"/>	<input type="checkbox"/>
20. Liquid waste disposal	<input type="checkbox"/>	<input type="checkbox"/>
21. Solid waste disposal (shrimp heads, fish scrap, etc.)	<input type="checkbox"/>	<input type="checkbox"/>
22. Other (list) _____	<input type="checkbox"/>	<input type="checkbox"/>

Comments:

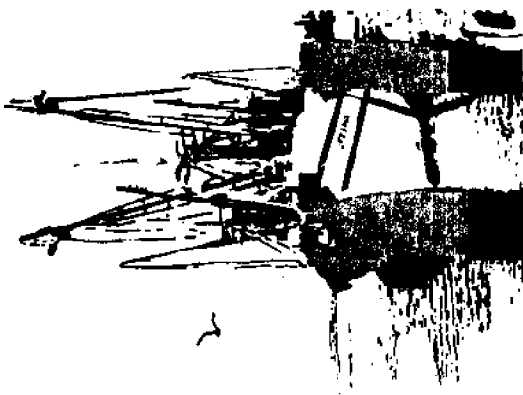
4. What other items are needed to improve your seafood business, or to help you meet government requirements?

- Needed improvements \_\_\_\_\_ Check all that apply
- More seafood from fishermen
  - More workers
  - Better trained workers
  - Better roads or trucking
  - Financial assistance to meet sanitation or pollution control requirements
  - Others (list) \_\_\_\_\_

5. How many pounds did you sell in 1977?  
 (CONFIDENTIAL)

FISH	SHELLFISH
<input type="checkbox"/> Under 50,000 lbs	<input type="checkbox"/> Under 50,000 lbs
<input type="checkbox"/> 50,000-100,000 lbs	<input type="checkbox"/> 50,000-100,000 lbs
<input type="checkbox"/> 100,000-300,000 lbs	<input type="checkbox"/> 100,000-300,000 lbs
<input type="checkbox"/> Over 300,000 lbs	<input type="checkbox"/> Over 300,000 lbs

# FLORIDA SEAFOOD PORT STUDY



Dear Commercial Boat Owner:

Are commercial fishing facilities adequate in your area? The Gulf and South Atlantic Fisheries Development Foundation and your industry associations have asked us to determine the need for new or improved port facilities and possible locations for them.

Your opinions are important to us. Even if you are not engaged in commercial fishing, please complete the part of the form that pertains to you and return it to us today — it will only take a few minutes. Your answers will show whether or not commercial fishing port improvements are needed.

Your prompt attention is appreciated.  
Sincerely,

*Jim Cato*  
James C. Cato  
Marine Economist

*Fred J. Kochaska*  
Fred J. Kochaska  
Marine Economist

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**COMMERCIAL FISHERMAN SURVEY**

1. You own a commercial fishing boat in 1977 according to state boat registration records. Do you still own one or more commercial boats?  
 Yes --- Please continue.     No --- if no, please return today so we will know you received the questionnaire (NO POSTAGE REQUIRED). Thank you.
2. Do you use your boat for commercial fishing?  
 Yes --- Please continue.     No --- if no, please return today so we will know you received the questionnaire (NO POSTAGE REQUIRED). Thank you.  
 A. In column A, check and rate the facilities and services that you now use.  
 B. In column B, check which facilities or services you would use if available or improved.

Facilities or services	Column A		Column B		Comments
	Check only those you use	Rating OK	Needs improving	Check those you would use if available or improved	
1. Shrimp unloading house	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2. Crab unloading	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3. Lobster house	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4. Fish house	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5. Processing of unused fish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6. Bait sales and supply	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7. Docking facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
8. Freezer and cold storage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9. Ice house	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10. Gear storage area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11. Gear supply	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12. Gear repair service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
13. Electronics service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
14. Engine repair service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
15. Marine railway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
16. Fuel sales	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
17. Groceries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
18. Restaurant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
19. Retail seafood market	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
20. Fishermen's meeting room	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
21. Liquid waste disposal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22. Solid waste disposal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
23. Other fish	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

3. Check if you are also a dealer or a supplier.
4. What Florida port do you use most?
5. How far is it from your home to this port? \_\_\_\_\_ Miles
6. On the average, how far is this port from your usual fishing grounds? \_\_\_\_\_ Miles
7. How many pounds did you sell in 1977? (CONFIDENTIAL)

<input type="checkbox"/>	<u>FISH</u>	<input type="checkbox"/>	<u>SHLELFISH</u>
<input type="checkbox"/>	0-5,000 lbs	<input type="checkbox"/>	0-5,000 lbs
<input type="checkbox"/>	5,000-10,000 lbs	<input type="checkbox"/>	5,000-10,000 lbs
<input type="checkbox"/>	10,000-25,000 lbs	<input type="checkbox"/>	10,000-25,000 lbs
<input type="checkbox"/>	25,000 or more	<input type="checkbox"/>	25,000 or more

Comments: \_\_\_\_\_

### Mail Survey Procedures and Responses

Each of the two questionnaires shown previously were sent to commercial fishermen or seafood dealers, as appropriate, in the 17 county area of central and south Florida (Figure 2). The questionnaire to commercial boat owners was sent to 6,114 holders of 1977-78 Florida commercial boat registrations listed with the Florida Department of Natural Resources (Appendix Table 5). A total of 190 seafood wholesalers and/or processors listed with the National Marine Fisheries Service in 1976 received the dealer questionnaire (Appendix Table 6). A second copy of the appropriate questionnaire was sent to those who had not responded in each group approximately four weeks after the first mailing.

The response from commercial boat owners, considered commercial fishermen in this study, was about 16 percent from the first mailing with a slightly higher rate of return from the second questionnaire. Total return was 2,487 completed questionnaires from fishermen or about 41 percent of the initial number mailed. Of the 2,487 respondents, 1,454 were still active commercial fishermen (Appendix Table 5).

It is assumed that boat owners not replying after the second mailing were active commercial fishermen in the same proportion as boat owners returning the questionnaires. Applying the percentage that active fishermen still active of the 6,114 registered commercial boat owners in this county region (Appendix Table 7).

About 27 percent of the total number of seafood dealers in the 17-county area replied to the first mailing. At the end of the second

mailing, 45 percent or 86 dealers returned questionnaires (Appendix Table 6). Of these 86 respondents, 77 were still active dealers.

Appendix Table 5.--Questionnaires mailed and responses or disposition, commercial fishermen, all counties and Charlotte, Collier, and Lee Counties.

Disposition or response	All counties		Charlotte, Collier and Lee Counties		The three counties as a share of total
	Number	Percent	Number	Percent	Percent
Total mailed	6,114	100	1,059	100	17
Unable to deliver	410	7	58	6	14
Individuals receiving questionnaires	5,704	93	1,001	95	18
Questionnaires not returned	3,217	53	553	50	17
Questionnaires returned	2,487	41	468	44	19
Respondents:					
No longer own boat	350	6	66	6	19
No longer fishing <sup>a</sup>	683	11	117	11	17
Still active	1,454	24	285	27	20

<sup>a</sup>Not fishing commercially, but had commercial boat registration in 1977.

Appendix Table 6.--Questionnaires mailed and responses or disposition, dealer survey, all counties and Charlotte, Collier and Lee Counties.

Disposition or response	All counties		Charlotte, Collier and Lee Counties		The three counties as a share of total
	Number	Percent	Number	Percent	Percent
Total mailed	190	100	29	100	15
Unable to deliver	16	8	0	0	0
Individuals receiving questionnaires	174	92	29	100	17
Questionnaires not returned	88	46	17	59	19
Questionnaires returned	86	45	12	41	14
Respondents:					
No longer dealer	9	5	4	14	44
Still active	77	40	8	27	10



Appendix Table 7.--Questionnaires sent, questionnaires returned, and estimated total active commercial fishermen, 17 central and south Florida counties, 1978.

County	Questionnaires			Estimated total active commercial fishermen	
	Sent	Total	Returned Active		
	---- Number	-----	Number	Percent	Number
Brevard	371	163	104	64	237
Broward	161	72	28	39	63
Charlotte	94	41	29	71	67
Collier	288	104	63	60	176
Dade	577	177	93	52	306
Hillsborough	328	119	52	44	144
Indian River	173	68	44	65	112
Lee	677	323	193	60	406
Manatee	146	59	39	66	96
Martin	144	55	31	56	81
Monroe	1,604	565	334	59	946
Palm Beach	253	116	74	64	162
Pasco	142	69	44	64	91
Pinellas	521	239	139	58	302
St. Lucie	214	120	89	74	158
Sarasota	179	87	49	56	100
Volusia	242	110	49	45	109
Total	6,114	2,487	1,454	58	3,574

Additional Information Sources

Research and extension education in marine economics constitutes an important program segment of the Food and Resource Economics Department at the University of Florida. A large number of publications relating to economic activity in the general area of Florida commercial fishing as well as specific publications on mullet, shrimp, spiny lobster, snapper, grouper, blue crabs, king mackerel and Spanish mackerel are available on request. For a listing of Publications in Marine Economics write:

James C. Cato  
1170 McCarty Hall  
Food and Resource Economics  
University of Florida  
Gainesville, FL 32611

The Marine Advisory Program of the SUS Sea Grant Program also provides educational services through the Florida Cooperative Extension Service. For a Florida Sea Grant Program Directory write:

Mr. Tom Leahy  
G-022 McCarty Hall  
University of Florida  
Gainesville, FL 32611

or contact your local county Cooperative Extension Service Office.

## REFERENCES

- Bureau of Economic and Business Research. Florida Statistical Abstract. University of Florida Press, Gainesville.
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- \_\_\_\_\_. Commercial Fishing Activity and Facility Needs in Florida: Charlotte, Collier, and Lee Counties. Industry Report 79-2, Florida Agricultural Market Research Center, University of Florida, Gainesville, February 1979.
- \_\_\_\_\_. Commercial Fishing Activity and Facility Needs in Florida: Dade and Monroe Counties. Industry Report 79-3, Florida Agricultural Market Research Center, University of Florida, Gainesville, February 1979.

Mathis, Kary, James C. Cato, Robert L. Degner, Paul D. Landrum and Fred J. Prochaska. Commercial Fishing Activity and Facility Needs in Florida: Hillsborough, Manatee, and Pasco Counties. Industry Report 79-4, Florida Agricultural Market Research Center, University of Florida, Gainesville, February 1979.

National Marine Fisheries Service. "Processors of Fishery Products in the U.S., 1976." U.S. Department of Commerce, Washington, D.C.

\_\_\_\_\_. "Wholesale Dealers in Fishery Products in the U.S., 1976." Unpublished. U.S. Department of Commerce, Washington, D.C.