



Marine Advisory Program

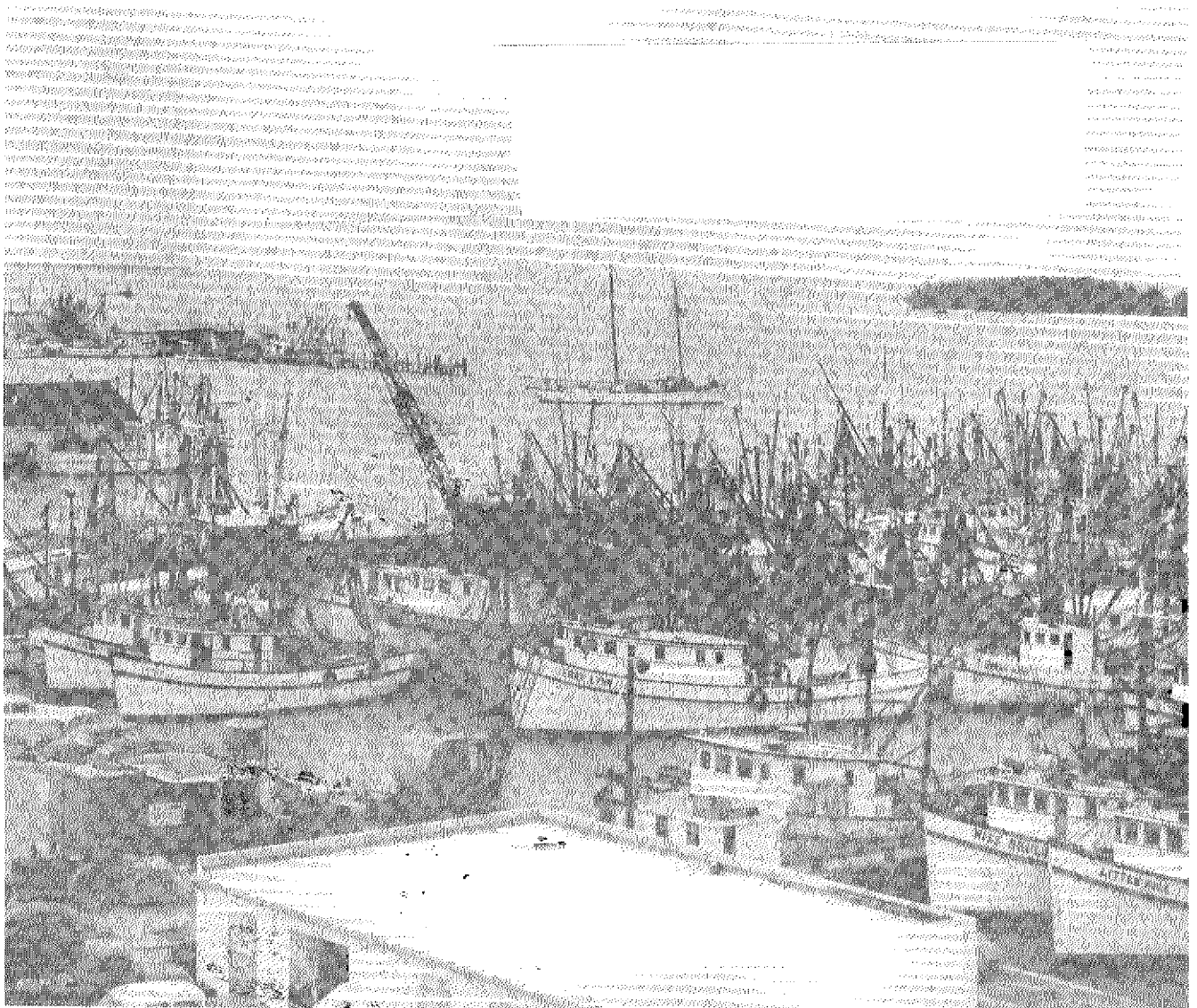
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Florida Shrimp: From the Sea Through the Market

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FLORIDA SHRIMP: FROM THE SEA
THROUGH THE MARKET

by
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Department of Food and Resource Economics
in cooperation with the Florida Agricultural
Experiment Station and the Florida Sea Grant
Program, April 1975.

Shrimp Landings

Shrimp are by far the most valuable seafood species landed in Florida. During the 1968-72 period shrimp accounted for 37.4 percent of the total value of seafood landings in the State and 16.6 percent of the total volume [1]. The share of Florida landings held by shrimp, however, has declined compared to the 1952-56 time period when shrimp accounted for 25 percent of the volume and 60 percent of the value.

The decline in the relative position of shrimp landings in Florida is due mainly to a decline in total shrimp landing in the State (Table 1 and Figure 1) rather than to a substantial increase in landings of other species. During the past two decades shrimp landings decreased at an average rate of 1,374,000 pounds per year. However, increases in dockside shrimp prices have to some extent offset the downward trend in volume of landings, leaving value of shrimp landings down only slightly.

The Foreign Catch

An important contributor to the decline in shrimp landings is the reduction in shrimp caught outside of Florida waters and landed in Florida ports. Florida landings of shrimp originate from six principle areas which are identified as the Campeche, Caribbean, East Coast, Tortugas, Central West Coast, and Upper West Coast fishing grounds. Foreign caught shrimp landed in fresh form in Florida come from Campeche and the Caribbean.

Campeche shrimp landings have declined from a high of over 32 million pounds in 1953 to around 2 million pounds currently (Table 1 and Figure 1). Landings from the foreign catch as a share of total Florida landings have declined steadily from about 50 percent for the 1952-56 period to 12 percent during the 1967-1971 period and continued to decline in 1972 and 1973 (Table 2).

Table 1.--Florida Shrimp Landings by Origin of Catch 1952-73; and Florida Shrimp Processing 1960-72

Year	Total Florida		Campeche		Caribbean		East Coast		Tortugas		Central West Coast		Upper West Coast	
	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars	Pounds	Dollars
-----Thousands of Pounds or Dollars-----														
1952	43834.5	13750.6	22968.9	7241.5	-----	-----	6439.8	1919.1	11463.7	3748.6	-----	-----	2942.1	841.4
1953	58471.4	21389.5	32319.2	11731.9	-----	-----	5667.6	2221.7	17429.0	6326.7	-----	-----	3055.6	1109.2
1954	50882.9	14574.9	24880.7	7215.4	-----	-----	5077.7	1371.0	18273.3	5299.3	-----	-----	2651.1	689.3
1955	52734.0	15440.1	24302.0	7290.6	-----	-----	4136.1	1116.7	20639.7	6191.9	-----	-----	3656.2	840.9
1956	54809.8	19756.6	25512.0	10000.0	-----	-----	5702.0	2178.0	20737.0	6861.0	-----	-----	2869.0	717.0
1957	47099.6	18517.5	21786.0	9629.0	-----	-----	5183.0	2096.0	16746.0	5851.0	-----	-----	3384.0	980.0
1958	51110.6	18520.5	13995.8	6119.4	1987.2	870.5	5512.4	2208.9	24198.9	7795.7	1428.6	332.0	3987.0	1191.0
1959	36763.9	11112.4	15524.9	5263.6	616.1	214.5	4514.1	1361.4	13787.6	3762.6	141.7	40.6	2179.5	469.7
1960	51256.8	14318.2	15591.8	5415.1	559.3	163.1	6809.1	2168.0	24662.0	5774.4	42.9	14.7	3591.8	782.9
1961	42127.7	13546.6	13917.1	5150.8	.8	.3	6026.5	2440.9	18447.0	4951.9	215.9	62.6	3520.4	940.2
1962	37334.4	17099.4	14893.4	7525.5	26.5	14.8	5223.2	2553.2	14036.0	5783.1	140.1	69.8	3015.3	1153.0
1963	39447.8	13992.2	12564.3	5438.3	320.0	117.6	4509.4	1737.7	16720.5	5223.6	1209.8	311.0	4123.7	1163.9
1964	44456.5	15293.3	12708.9	4841.8	2165.3	889.1	4493.8	1971.8	19351.3	5992.2	730.0	186.4	5007.3	1412.0
1965	43153.8	16292.7	9391.5	4028.7	2116.3	829.1	5398.9	2389.7	19896.0	6780.4	1516.6	635.4	4834.5	1629.6
1966	33918.1	15153.4	3158.0	1635.6	786.4	393.7	5044.5	2728.8	20607.9	8511.1	733.7	345.6	3587.5	1538.6
1967	28383.7	12975.6	3821.8	2116.8	413.6	194.2	4947.4	2507.4	14306.8	6059.1	730.0	323.2	4164.1	1774.9
1968	32076.8	15718.9	5061.8	2961.8	271.1	162.3	4813.0	3032.6	15387.0	6694.9	304.5	129.7	6239.5	2737.7
1969	28151.7	15319.1	2434.5	1595.5	366.2	222.6	5219.6	3318.7	14997.4	7488.6	777.9	461.1	4356.1	2232.6
1970	31172.0	15752.6	3310.9	2194.6	-----	-----	4618.9	2651.9	17465.9	7957.4	742.6	395.2	5033.8	2553.5
1971	25658.0	16286.9	2191.9	1484.7	12.9	9.6	3974.4	3303.8	14482.6	8144.1	464.4	290.2	4532.0	3054.4
1972	27169.1	21067.0	2491.0	1801.5	68.1	36.1	8507.8	7286.3	9856.6	6713.6	845.7	801.5	5390.0	4429.0
1973	30362.6	29501.3	2242.7	2001.2	1.4	2.2	4234.6	4062.3	16916.8	14043.3	897.1	712.8	6070.0	4679.6

Source: Based on annual issues of Florida Commercial Marine Landings.

^aProcessed converted to live weight equivalents (not available from 1952-59 and 1973)

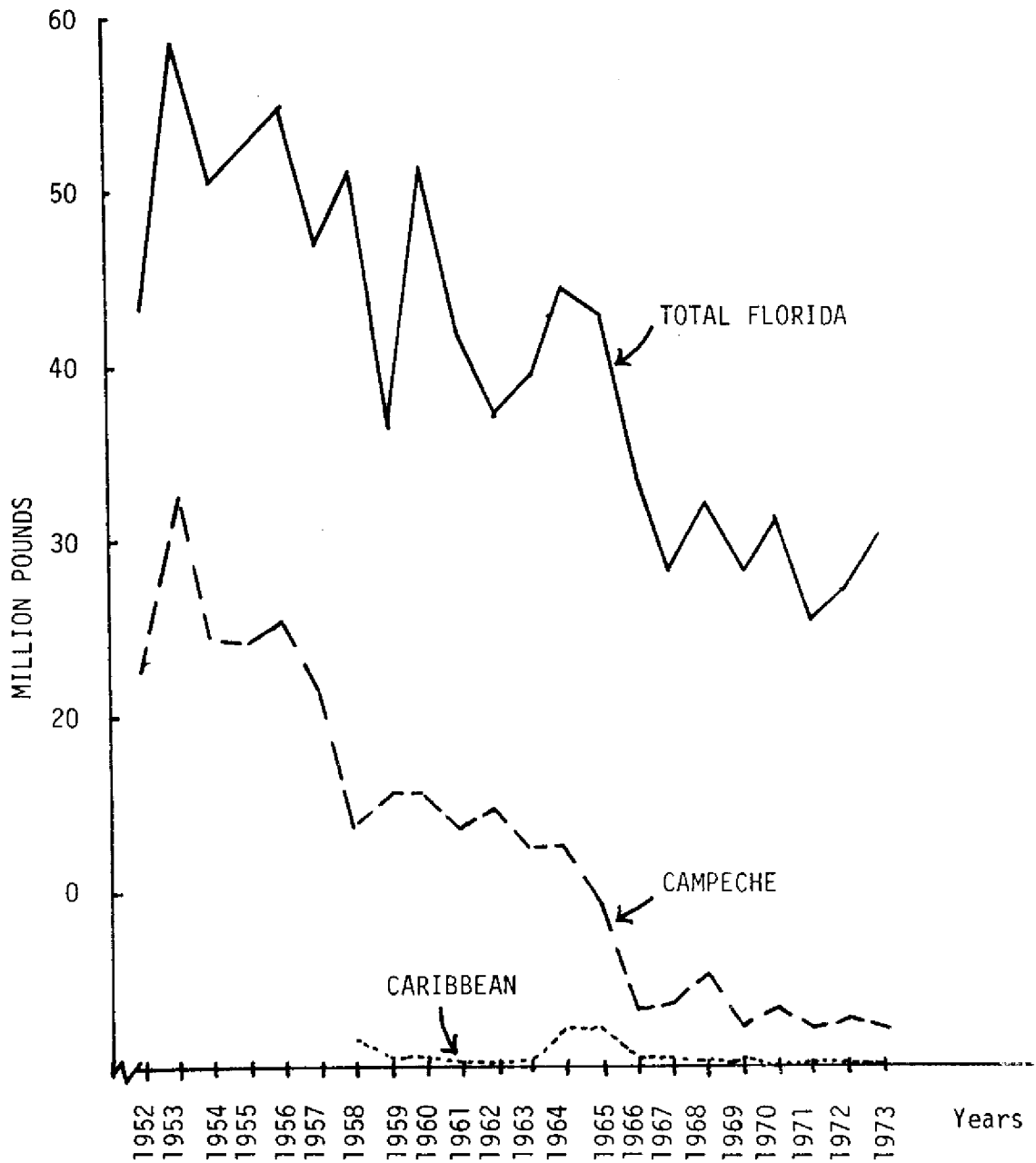


Figure 1. Florida Total Shrimp Landings and Florida Foreign Catch, 1952-73

Table 2. Regional supply shares of Florida shrimp landings, 1952-1973

Area	Year					
	1952-56	1957-61	1962-66	1967-71	1972	1973
<u>Foreign Caught</u>	-----Percent-----					
Campeche	49.9	35.4	26.6	11.7	9.2	7.4
Caribbean	----	1.4	2.7	0.7	.3	0.0
<u>Domestic Caught</u>						
East Coast	10.4	12.3	12.4	16.2	31.3	13.9
Tortugas	33.9	42.8	45.7	52.6	36.3	55.7
Central West Coast	0.0	0.8	2.2	2.1	3.1	3.0
Upper West Coast	5.8	7.3	10.4	16.7	19.8	20.0
	100.0	100.0	100.0	100.0	100.0	100.0

Source: Computed from Table 1

The decline of approximately 30 million pounds in Campeche shrimp is sufficient to account for the total overall decline in Florida shrimp landings. It is possible that Campeche shrimp previously landed in Florida are now landed in Mexico and then exported to the U. S. Recent trends in shrimp imports from Mexico tend to support this conclusion. In addition, some members of the industry claim the Campeche grounds have been depleted to some extent. Verification of these reasons is beyond the scope of the present bulletin.

Caribbean shrimp landings were only 1.4 thousand pounds in 1973 (Table 1). Landings from the Caribbean area were not reported separately prior to 1958. In 1958, 1964 and 1965 Florida landed shrimp caught in the Caribbean were approximately 2 million pounds annually. However, annual landings in the remaining years were less than a million pounds.

The Domestic Catch

Shrimp caught nearer Florida and landed in Florida ports are classified as East Coast, Tortugas, Central West Coast and Upper West Coast landings. The domestic catch is total Florida landings of the four above mentioned local regions. Increase in relative shares of all Florida landings are evident in each of these four areas of domestic catch due to decreases from Campeche and the Caribbean. However, total volume remained relatively constant with major and consistent increases only in the Upper West Coast landings (Table 2).

Tortugas shrimp landings accounted for nearly 50 percent of Florida shrimp landings in 1972 and 1973 (Table 2 and Figure 2). Year-to-year variations have been substantial. There is no significant trend in landings, which means the expected catch from year to year is the 22 year average or about 17 million pounds.

Upper West Coast landings in 1972 and 1973 averaged 20 percent of

Florida shrimp landings. For this area of Florida there has been a highly significant upward trend in landings. The trend in Figure 2 shows an increase of over 133 thousand pounds annually.

East Coast landings presently account for 19.6 percent of shrimp landed in Florida. The catch on the East Coast is down slightly from the late 1950's; however, as is the case for the Tortugas fishery there is no significant trend during the past two decades. Central West Coast landings peaked in 1965 with approximately 1.5 million pounds, but currently account for about 3 percent or less of Florida shrimp landings.

To summarize, the domestic catch of shrimp landed in Florida ports has shown wide annual variation. This variation is mostly a result of variation in Tortugas landings. If past conditions continue, we can expect to catch from local waters approximately 27 million pounds annually, the latest 22 year average, plus or minus approximately three million pounds, the mean deviation about the average.

Florida Processing

Raw Shrimp Origins

Shrimp processing in the State has increased at a rapid rate during the same period that Florida's domestic catch remained relatively constant and landings in Florida of foreign caught shrimp declined considerably. Trends in landings compared to trends in shrimp products processed reveals an expanding deficit situation in Florida's ability to supply its shrimp processing industry with raw product (Figure 3 and Table 3). Expansion in total shrimp processed is the major reason for continuous expansion in the share held by non-Florida landings and the decline in shares held by Florida landings from the domestic catch. Florida landings from the foreign catch decline most rapidly in the share of total shrimp processed because of a sharp drop in volume of those

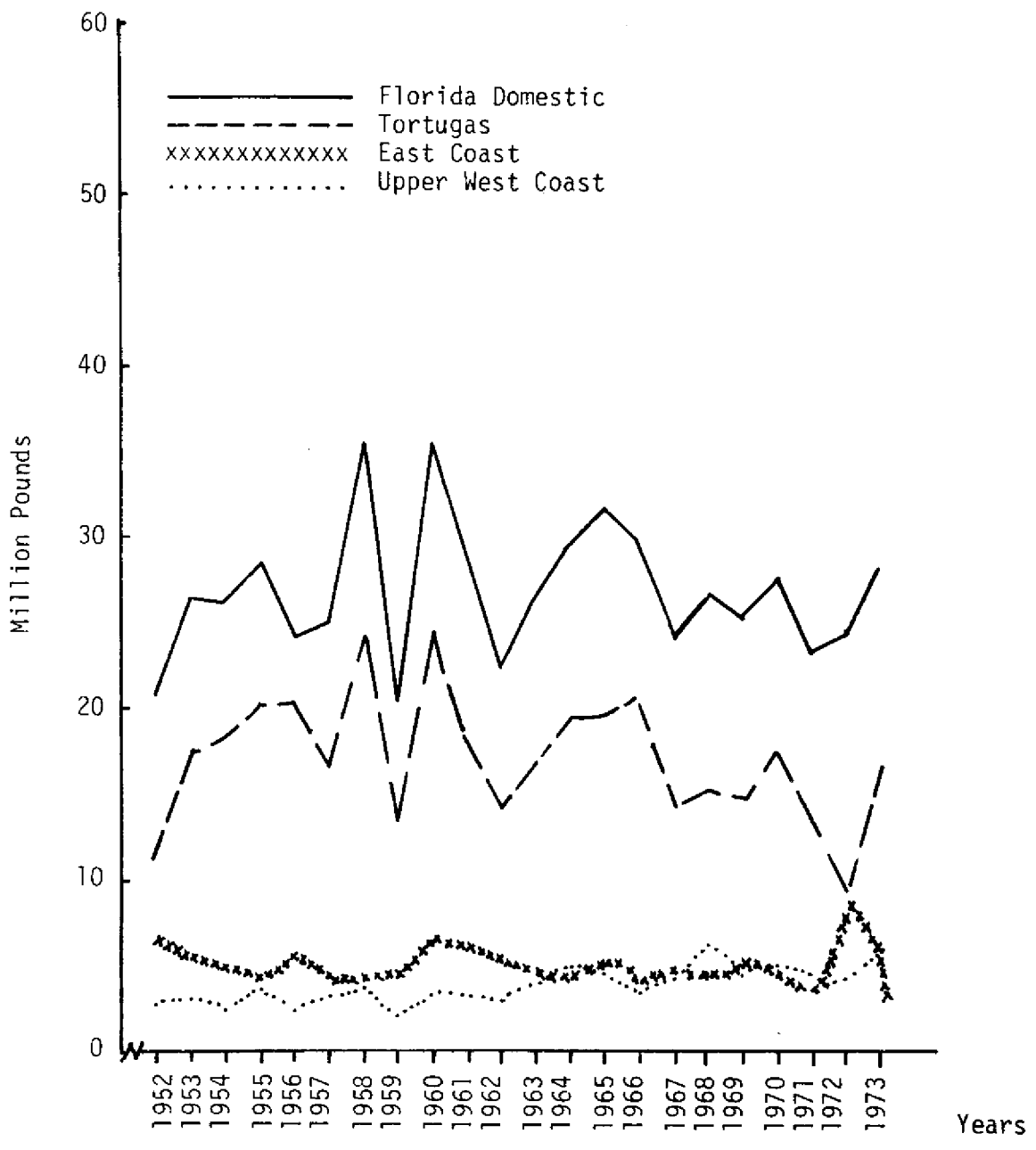


Figure 2. Florida Domestic Shrimp Landings, 1952-73.

landings since 1960.

By converting pounds of processed products into pounds of raw shrimp required to process the finished product, direct comparisons can be made as in Table 3 and Figure 3. For each 100 pounds of shrimp landed in 1960 in Florida, 92 pounds of shrimp went into Florida processing plants. Available information does not permit us to say precisely that the 92 pounds entering Florida plants was the same shrimp which was landed by Florida shrimpers because of the possibility of Florida landed shrimp moving directly into the fresh shrimp market or to processors outside of Florida. What the comparison does suggest is that Florida shrimpers were able to supply the needs of Florida processors in 1960 provided the processors had first choice to the catch. By 1970 however, for each 100 pounds landed by Florida shrimpers, 290 pounds of raw shrimp moved into Florida processing plants. Thus, the processing industry has become highly dependent on non-Florida shrimp to fill its processing needs.

Purchase and Sale Channels

In 1973 the authors made a survey of the nineteen shrimp processing firms in Florida to determine (1) from whom the processors were obtaining their shrimp for processing, (2) the types of processed products produced in Florida and, (3) the distribution of processed Florida shrimp to specific types of buyers and to specific regions of the country.

The fourteen processors who responded to the survey represented 85 percent of Florida's production. These firms sold 72.7 million pounds of shrimp valued at \$122.3 million in 1972. Breaded shrimp was by far the most important product. Approximately 4.8 million pounds of breaded shrimp were processed which accounted for 66 percent by weight of all shrimp processed. Approximately 15 million pounds of peeled and deveined and cooked shrimp accounted for 19 percent of Florida's output. Green headless shrimp accounted

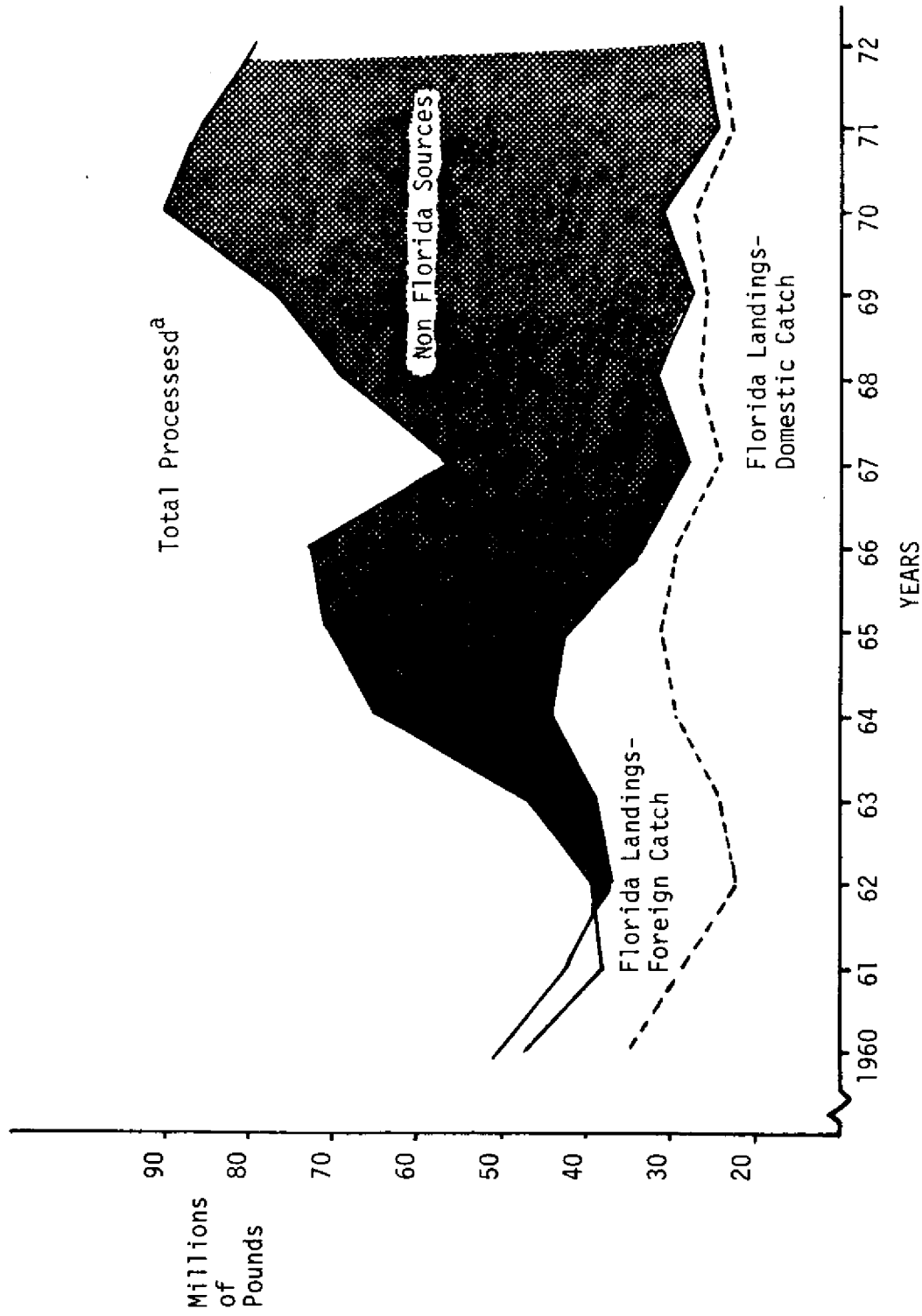


Figure 3. Landing sources for the Florida shrimp processing industry, 1960-1972
a In raw product equivalents.

for nearly 15 percent (10.8 million pounds) of Florida's output while speciality products were only 172,000 pounds (less than 1 percent).

To process this 72.8 million pounds, Florida processors purchased 56.7 million pounds of raw shrimp (Figure 4). Florida processors bought over 10 million pounds of fresh Florida shrimp for processing. This represents 18 percent of the total needs of the processors included in the survey. Other U. S. shrimp made up of 17.1 million pounds of fresh shrimp and 6.7 million pounds of frozen shrimp accounted for 42 percent of the shrimp entering Florida processing plants. The 22.8 million pounds of foreign shrimp used by Florida processors represented 40 percent of the shrimp entering their plants.

Over 73 percent (7.4 million pounds) of Florida landed shrimp moved through shoreside plants (unloading houses) before reaching Florida processors (Figure 4). With the exception of a small amount handled by brokers, the remainder of fresh Florida shrimp moved directly from the shrimper to the processing plant. Ninety-three percent of other U. S. fresh shrimp moved through the shoreside plant before reaching the Florida processor. The remaining fresh U. S. (non-Florida) shrimp moved through brokerage and wholesale channels on its way to Florida processors. Frozen U. S. (non-Florida) shrimp moved through similar channels as did fresh shrimp with 5.3 million pounds or 79 percent coming directly from the shoreside plant. Foreign frozen shrimp moved through a somewhat different channel. Eighty-five percent of the foreign shrimp moved through brokers and importers on the way to Florida shrimp processing plants. In summary, the survey shows that a total of 28.8 million pounds (51 percent) moved directly from shoreside plants to Florida processors. Thirty-six percent of the shrimp purchased for processing moved through brokerage channels, and the remainder came directly from shrimpers or through wholesalers.

Table 3. Quantity of shrimp processed in Florida and percent of raw product equivalents supplied by Florida shrimpers from domestic and foreign waters and related supply deficit, 1960-72^a

Year	Processed Product ^a	Florida Landings as a Percent of Processed Products			Supply Deficit ^b
		Domestic Catch	Foreign Catch	Total	
	Pounds	-----Percent-----			
1960	47,405	74.0	34.1	108.1 ^c	----
1961	38,079	74.1	36.6	110.7 ^c	----
1962	39,591	56.6	37.7	94.3	5.7
1963	47,564	55.8	27.1	82.9	17.1
1964	64,932	45.6	22.9	68.5	31.5
1965	71,082	44.5	16.2	60.7	39.3
1966	72,860	41.1	5.4	46.5	53.5
1967	56,700	42.6	7.5	50.1	49.9
1968	69,360	38.6	7.7	46.3	53.7
1969	77,132	33.8	3.6	37.4	62.6
1970	90,373	30.8	3.7	34.5	65.5
1971	86,074	26.8	2.6	29.4	70.6
1972	79,640	30.9	3.2	34.1	65.9

Source: Calculated from Table 1

^aProcessed products are expressed in live weight equivalents. The percent supplied by Florida shrimpers represents the maximum which could be supplied to Florida processors. Some amount of Florida landings move either into the fresh market or to out of state processors. Thus, the amount supplied to Florida processors is actually less than stated in the Table.

^bSupplied by other states and countries.

The lower half of Figure 4 shows the distribution of Florida processed shrimp products. Regional consumption was distributed fairly equally between the Northeast, Southeast and Western regions of the U. S. (Figure 5). Florida processed shrimp were sold to these regions, respectively, in relative shares of 37, 33, and 30 percent.

In all three regions, sales to institutional markets exceeded sales at retail. Sales to institutional markets in the Southeast were more than twice the sales to retail markets. The distribution between types of market outlets was similar in the West. Only about 56 percent of the sales in the Northeast were to institutional markets. Shrimp processors participating in the study indicated that these distributional patterns were similar for each particular product type.

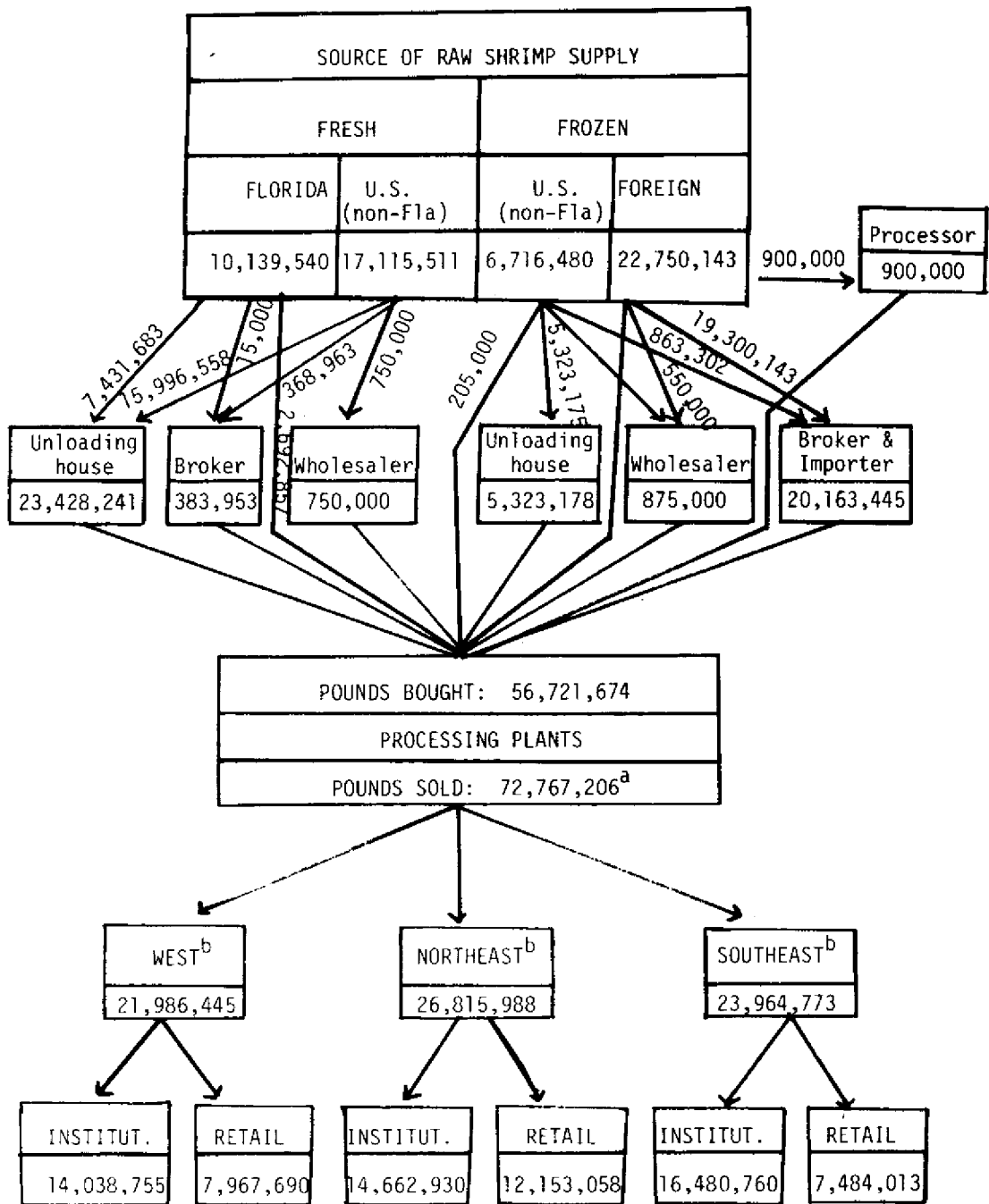


Figure 4. Marketing channels for the Florida shrimp processing industry, 1972

^aNote that total pounds purchased do not equal total pounds sold because products either lose or gain weight in the production process.

^bSee Figure 5 for delineation of regions.

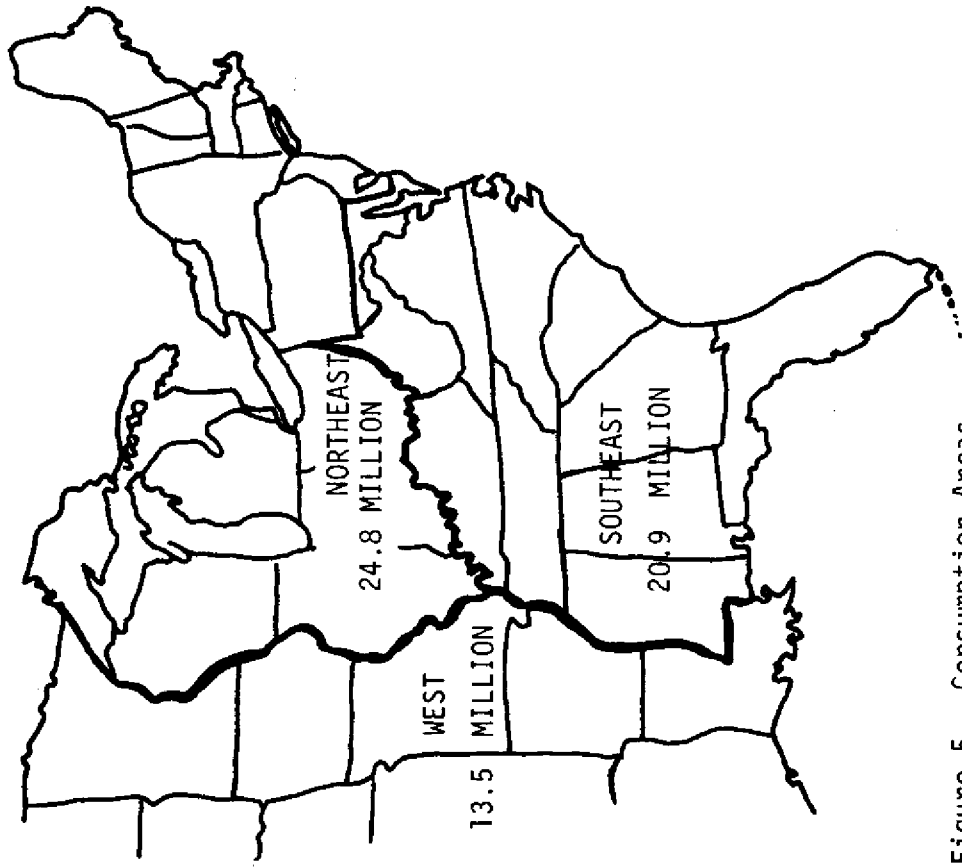


Figure 5. Consumption Areas

SUMMARY

Even though shrimp are the most valuable seafood species landed in Florida, landings have not kept pace with growth of the shrimp processing industry. Since 1966 more than half of the shrimp processed in Florida has been purchased from non-Florida landings. One contributor to this situation has been a sharp decline in foreign catch from Campeche and the Caribbean that are landed in Florida. The catch from Florida waters has remained relatively stable in volume but has declined significantly as a share of total shrimp processed in Florida.

Processor procurement of raw, fresh and frozen shrimp includes direct purchases as well as purchases from unloading houses, brokers, wholesalers and importers. In 1972 frozen foreign shrimp and non-Florida U. S. fresh shrimp were the most important sources of raw supply with purchases from Florida landings and non-Florida frozen U. S. shrimp being less prevalent.

The Florida shrimp processing industry sells throughout the U. S. to both retail and institutional markets. In 1972 sales to institutional markets exceeded retail sales by nearly two to one in the western and southeastern regions and were nearly equal in the northeastern region. Total sales were about equally divided among these regions.

