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The Caribbean Crawfish Industry And Its South African Competitor

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I. The Crawfish Production in the Caribbean Area

PRODUCTION FIGURES are sporadic and derived from sources which are highly incomparable and in any event have to be brought to a common denominator so as to permit a sound judgment. In some cases only export data are available, as published in the *Yearbook of Fishery Statistics, 1947* by the Fisheries Division of the Food and Agricultural Organization of the United Nations. The production of spiny lobsters in the United States is mentioned in the recent publication of Chace and Dumont as 463,000 pounds landed weight on the Atlantic coast and 513,000 pounds landed weight on the Pacific coast. Both production figures refer to the year 1944. For 1945 we have a production figure 6,700,000 pounds for Cuba. For 1947 the following production figures are given:

Mexico	3,000,000 lbs. (estimated)
Bahama Islands	1,400,000 lbs.
Br. Honduras	700,000 lbs. (nearly all were exports)
Guatemala	200,000 lbs.

The total production on the basis of the foregoing figures for the Caribbean area, including Florida, is 12,463,000 pounds. However, there are reports that the spiny lobster is being produced in other areas of the Caribbean Sea also. Mr. A. R. Facey reports for 1942 for Jamaica, "I am of the opinion that these (crawfish) can be taken in certain localities off the South Coast of the Island in large quantities."

For the *Dominican Republic* it is reported the production of "Langosta" decreased from about 80,000 in 1921 to 23,000 in 1940 and then increased to 41,000 pounds in 1943.* Hopes for the development of this lobster industry are indicated by the report of Mr. Goodwin, First Secretary of the Embassy, of June 25, 1949, concerning the establishment of the "Compania Pesqueria Dominicana C. por A." He states, "The contract of the Dominican Fisheries Company indicates that the principal interest of the promoters will be in exports of shrimp and lobsters (Langostas)."

A recent oral report of Mr. Robert Smith on *Venezuela* indicates that there are enough spiny lobsters to permit commercial exploitation there. One boat caught about 16,000 pounds per month, equivalent to 192,000 pounds per year. The total production for Venezuela is estimated to be about 1,000,000 pounds per year. A report on *Colombia*, published by the "Instituto de Fomento

* Report *Augal Rafael Merraro* of May 27, 1946.

Industrial" in 1942, indicates that Langostas are among the most important fishery products in Colombia. It is reported that on the island San Bernardo alone the production can easily be 10,000 pounds per month. Canned lobster meat is offered on this island in commercial quantities. In the region "from Punta De Don Diego to Tanganga" also an abundance of "Langostas" is reported. It is said that in the market of Tanganga 200 pounds of Langostas are sold monthly. The reason for the lack of commercial exploitation seems to be mainly the aversion of the native population to eating the meat of spiny lobsters. A report of Fiedler and Jarvis concerning the fisheries of the *Virgin Islands* also mentions spiny lobster fishing as one of the activities of the fishermen there.

Jarvis in his report on *Puerto Rico* fisheries also mentioned spiny lobster fishing as a part of the local fishermen's activities. Quantities are not mentioned in this report. However, Mary J. Rathbun in the publication "The *Brachyura* and *Macrura* of Porto Rico" of 1899 mentions that spiny lobsters are very abundant in Puerto Rico and in other parts of tropical America.

Summarizing the reports from the Caribbean area, it can be stated that the abundance of fish is such that the American imports, which were about 15,000,000 pounds (landed weight), in 1948, could easily be covered by the Caribbean production alone. A total production up to 60,000,000 pounds is considered possible by persons who have fishing experience in Caribbean waters.

2. Methods of Production

In the *Bahamas*, fishermen bring their catch into Government weighing stations in small boats in which the lobsters are kept alive under damp sacks or in live wells. At the weighing stations they are maintained in live cars or kraals until licensed buyers arrive in their boats. The kraal consists of wooden s'at boxes floating in the sea. With a good tidal current to keep the water fresh, the lobsters will live for a week. If not overcrowded, and if supplied with conchs or fish heads for food, and if dead lobsters are removed, they will live several weeks. The buyer usually ships the lobsters to Miami, Florida, alive in damp sacks, or as tails, removed from the body and packed in ice. When shipped alive in jute sacks, they must be kept damp with sea water and well ventilated in order to prevent a rise in temperature. The tails, when separated from the body and iced, will keep fresh much longer. Until 1946, the largest buyer in the Bahamas operated a central plant for canning and freezing on one of the Islands and dispatched collecting boats with ice stores to the weighing stations. Canned meat and frozen tails were shipped to Florida. Today small quantities are being shipped by air.

In *Florida*, the lobsters are brought in alive by motor vessels and small boats to fish houses where they are placed on ice. Those in the best conditions are delivered immediately to retailers and restaurants. The remainder are boiled and returned to cold storage for holding or shipment to other states.

Cuban lobsters are taken by motor vessels mostly owned by outfitters or packers and leased to the fishermen. The owner receives 20 to 25 per cent of the catch and contributes to the fishermen's retirement fund. The catch is brought direct to the packing and canning houses. About 16 per cent of the catch is consumed in Cuba, approximately 22 per cent is exported as frozen tails, and the remaining 62 per cent is exported as canned tails. Only a small part of the catch is exported as cooked and refrigerated whole lobster.

The *British Honduras* industry has only recently produced any significant quantity for export. During 1936 and 1937 an attempt was made to can

lobsters, but this failed owing to insufficient supplies. During 1946, however, the master of a refrigerated vessel from the United States began to organize the fishermen and to ship deep frozen tails to Miami. As a result, the exports have begun to assume some importance, and the fishermen have been stimulated to greater endeavour and production. A second refrigerated vessel began work during the 1947 season shipping frozen tails by air to New Orleans. This has also brought about increased production, and has been instrumental in persuading the fishermen to use the more efficient trapping methods. Apart from this, small quantities have been exported at various times to Guatemala and to Tampa, but only recently has the steady market developed.

3. Methods of Transportation and Processing

The most primitive method of transporting lobsters is in the living state. Lobsters removed from the kraals are placed in jute bags and stored in the hold of the vessel. For trips of more than 24 hours duration it is necessary to dampen the bags with seawater from time to time. Dr. F. G. Walton Smith recommends the following procedures: "Sacks should be placed upon racks in order to allow ventilation and to prevent undue weight falling upon the bottom layer. It is important to provide adequate ventilation, since a rise of temperature may easily destroy the whole cargo.

"Since dead crawfish deteriorate rapidly, it is preferable to detach the tail, while the animal is still alive, and to pack alternate layers of tails and ice. This method results in a great reduction of spoilage, although it does not provide a product comparable to deep frozen tails.

"Deep freezing is far more satisfactory, and, so long as certain precautions are taken, the product may be eaten after six or seven months' storage without any loss of freshness. For deep freezing the tail should be removed from the body, since the remainder is not used and unnecessarily increases freezing and transportation costs. The tail weighs approximately $\frac{1}{4}$ to $\frac{1}{3}$ of the whole body. Before freezing the intestine is pulled out and all loose skin removed. Dehydration is prevented by leaving the tail in its shell and by dipping it into clean seawater *before* freezing. This produces a glaze, which effectually retards loss of moisture. The glaze should be renewed after two months in storage.

"The initial freezing should take place below minus 10° Fahrenheit, and after freezing the tails should be held at a temperature well below 10° Fahrenheit, preferably below 0° Fahrenheit. Precautions must be taken against thawing during prolonged periods of transportation, since the oxidation processes resulting in staleness are apt to occur at higher temperatures."

The canning procedure is the following: The crawfish are first inspected for freshness and are weighed. They are then cooked in steam retorts, after which the meat is separated from the shell and non-edible portions and is packed in cans, either with or without parchment lining. The cans are then closed, sterilized, cooled, labelled and packed.

Dr. Smith gives the following advice to canners: "It is important throughout to adhere to high standards of cleanliness, since the flesh of lobsters deteriorates very rapidly at normal temperatures. The time between receiving the live fish and canning it must be reduced to the minimum, and there is no magic which will transform lobsters already beginning to deteriorate when received into a good product. Only live lobsters should be accepted."

4. Prices of Caribbean Crawfish

The prices of Caribbean crawfish cannot be fully represented by the prices of spiny lobsters at the fishermen's level as reported by the United States Fish

and Wildlife Service. Prices paid in Florida are noticeably higher than prices paid on the Caribbean Islands and lower than the prices paid in California. This is exemplified by Tables 1 and 2. Table 1 shows the production and value of spiny lobsters in the United States 1939 - 1947 and in Florida 1939, 1940 and 1947. The last two columns of the table show the price per pound at the fishermen's level.

For 1941-44 inclusive no survey was made in the South Atlantic and Gulf Area and the 1940 figures were used in these years for this area. For 1946 and 1947 no survey was made in the South Atlantic and Gulf Area and the 1945 figures were used in these years for this area.

Table 2 shows the price paid to Cuban fishermen for live spiny lobsters for the years 1932, 1936, 1940 and 1946.

TABLE 1
SPINY LOBSTER PRODUCTION, VALUE AND AVERAGE PRICE PER
POUND AT FISHERMEN'S LEVEL IN U.S., 1939-1947

YEAR	PRODUCTION (LB.)	VALUE (DOLLARS)		AVERAGE PRICE PER LB. (CENTS)		
		Fla. only	Fla. only	Fla. only	Fla. only	
1939	1,649,000	359,200	232,000	24,382	14.07	6.8
1940	1,560,000	463,500	201,000	31,501	12.88	6.8
1941	1,769,000		234,000		13.23	
1942	632,000		73,000		11.55	
1943	762,000		125,000		16.40	
1944	976,000		168,000		17.21	
1945	1,256,000		273,000		21.74	
1946	1,469,000		392,000		26.68	
1947*	1,370,000	777,100	347,000	157,427	25.33	20.3

*Estimated

TABLE 2
PRICES PAID TO CUBAN FISHERMEN FOR LIVE SPINY LOBSTERS, 1932, 1936,
1940 and 1946:

Year	I For 60 lbs. Paid	II Cents Per Pound*	III Value of material of Raw Lobsters used in one Pound Frozen Tails** (Cents)	
1932	.80	1.3		3.9
1936	1.35	2.2		6.6
1940	2.25	3.8		11.4
1946	4.50	7.5		22.5

* I divided by 60. **II multiplied by 3.

TABLE 3
EXPORT PRICES OF CUBAN LOBSTER MEAT (RAW) IN TRADE WITH U.S.

Year	I Quantity Exported	II Export Value (Dollars)	III Price per Kilogram* (Cents)	IV Price per Pound** (Cents)
1939	83,781	32,805	39.1	17.8
1940	122,576	43,642	35.6	15.3
1941	430,485	139,015	32.2	14.6
1942	112,581	39,755	38.5	17.5
1943	163,656	79,035	48.5	22.0
1944	222,682	95,264	42.8	19.5
1945	117,988	40,808	34.6	15.2
1949				

* II divided by I. ** III divided by 2.2.

Table 3 shows the prices which were received by Cuban wholesalers who exported raw lobster meat to the United States. In 1940 the margin between the price paid to the fishermen for raw meat used in one pound frozen tails and the wholesaler's price was 3.9 cents or about 34 per cent of the fishermen's price. It may be interesting to note the margin which seems permissible in the freezing and selling of Cuban lobsters.

Wholesale prices for Cuban canned spiny lobster may be seen from Table 4.

The prices published by a large wholesaler in Chicago for Cuban lobster tails in 1949 are shown by Table 5. These are high under every possible consideration.

The prices documented by Bahamian exporters are shown in Tables 6 and 7.

5. Production of Spiny Lobsters in South Africa

The crawfish is third in volume of fish caught in South African waters, and about 90 per cent is exported to the United States. Under conservation regulations there is a legal limit or quota of 6,000,000 lbs. of crawfish tails which may be canned or frozen annually for export. The Fisheries Development Corporation estimates that the tail of the South African crawfish is on the average 1/3 of the total weight, which means that the 6,000,000 lbs. export quota involves a total catch for export of 18,000,000 lbs. of crawfish. A further

TABLE 4
WHOLESALE PRICES OF CUBAN SPINY LOBSTER (CANNED)*

Year	Pounds Sterling	U.S. Cents Per Lb.
1932	6	40
1934	6	40
1936	6.50	43
1938	6.50	43
1940	6.75	45
1941	7.50	50
1942	10.15	67
1943	16.00	107
1944	20.00	133
1945	17.25 - 17.50 (17.38)	115
1946	17.25 - 21.50 (19)	127

*1932-1946 (per case of five-ounce tins or 15 pounds net).

TABLE 5
PRICES OF CUBAN LOBSTER TAILS FROZEN, 1949.

DATE	SIZE	3/4 LB.	1/2 - 3/4	3/4 - 1	6-8 oz.	4-6 oz.	4 oz.	6 oz.	OVER
		EA.	LB. EA.	LB. EA.	EA.	EA.	EA.	EA.	1 LB. EA.
Feb. 21-26	10 lb. Pkg.		.90		.80	.70			
Feb. 28-Mar. 5	10 lb. Pkg.		.94		.88	.78			
Mar. 7-12	10 lb. Pkg.		.94		.88	.78			
Mar. 14-19	10 lb. Pkg.		.95				.72		
Mar. 21-26	10 lb. Pkg.	1.10	.95				.75		
Mar. 28-Apr. 2	10 lb. pkg.		.95	1.10			.75		
Apr. 4-9	10 lb. pkg.		.95	1.10			.75		
Apr. 11-16	10 lb. pkg.		.95	1.05				.85	
Apr. 25-30	10 lb. pkg.			1.05					
May 2-7	10 lb. pkg.			1.05					
May 9-14	10 lb. pkg.			1.05					
May 16-21	10 lb. pkg.			1.05					
May 23-28	10 lb. Pkg.			1.05					
May 30-June 4	10 lb. pkg.			1.05					
June 6-11	10 lb. pkg.								1.05
Av.		\$1.10	\$.94	\$1.06	\$.84	\$.74	\$.74	\$.85	\$1.05

TABLE 6
BAHAMA EXPORTS - CRAWFISH FRESH OR FROZEN

Year	Pounds	Pounds Sterling	Dollars	U.S. cents Per Pound
1939	703,000	5,486	22,136.01	3.1
1940	789,600	13,130	52,979.55	6.7
1941	929,712	13,407	54,097.25	5.8
1942	710,192	15,910	64,196.85	9.0
1943	695,520	40,861	164,874.14	23.7
1944	740,768	46,028	185,722.98	25.0
1945	1,816,416	77,694	313,495.29	17.3
1946	1,229,648	43,281	174,638.84	14.2

TABLE 7
BAHAMA EXPORTS - CANNED CRAWFISH

YEAR	CASES	POUNDS	POUNDS STERLING	DOLLARS	U.S. CENTS PER LB.
1941	6,455	96,825	14,779	59,633.27	61.6
1942	12,428	186,420	25,173	101,573.06	54.4
1943	10,093	151,395	19,894	80,272.29	53.0
1944	2,498	37,470	7,800	31,473.00	84.0

2,000,000 lbs. of crawfish caught for the local market thus brings the gross annual catch in South African waters to 20,000,000 lbs. In addition 5,000,000 lbs. are being caught off the shores of South West Africa.

The South West African crawfish grounds are being developed rapidly. They lie for 45 miles along the coast to the north of Luderitz Bay from 5 to 25 fathoms.

The growth of the crawfish industry may be seen in the increase in annual catch from 15,000,000 lbs. in 1932 to 25,000,000 lbs. in 1947 and the growth of exports of canned and frozen tails from 3,566,000 lbs. in 1924 to 6,000,000 lbs. in 1947.

An agreement has recently been concluded among local exporters of crawfish tails whereby this commodity will be sold through one channel and exportation to the United States directed to a single organization, the gross return being pooled and averaged among exporters. The Fishing Industry Research Institute has agreed to undertake inspection of frozen crawfish tails prior to export.

6. Production and Marketing Methods of African Spiny Lobsters

In South Africa large vessels and larger crews are used in lobster fishing than in the Caribbean.

It is reported by the International Labor Office that the minimum wages of fishermen engaged in crawfishing are the following:

Skipper	£600 per annum
Driver	£450 per annum
Crew	£400 per annum

However, these minimum wages are mostly surpassed by the shares in which fishermen participate in the catch. The shares are different in enterprises which fish crawfish for freezing.

The canning firms supply the boats, gear and fuel. They guarantee fishermen three pounds per month throughout the year whether there is fishing or not. If the catch per month is not sufficient to make up the minimum, the firms stand the loss. The shares are divided in the following:

- 1 Share to the Boat Owner
- 1 Share to the Engineer
- 2 Shares to the Skipper
- 1 Share to each Crew Member.

In freezing enterprises the skipper and the engineer are paid a varying retaining fee and a share in the catch. Shares are calculated as follows:

- 2 Shares for the Boat Owner
- 1 Share for the Skipper
- 1 Share for the Driver
- 1 Share for the Crew as a whole.

In 1948 about 25 million pounds of crawfish were landed at an approximate value of \$2,917,000. The average price on which the shares of the fishermen were calculated was 11.6 cents per pound. The catching of the South African lobster is done exclusively by a government subsidized association.

7. Prices of South African Lobster

Tables 8 and 9 show the unit price per pound of frozen lobster and of canned lobster imported in 1932 - 1949 from the Union of South Africa. The average price of frozen lobster tails was 65.2 cents per pound and of canned lobster tails was 64.6 cents per pound. Since for freezing lobster tails about 3 pounds of raw fish for 1 pound of frozen fish are needed, the raw material, in the case of freezing, costs 34.8 cents, leaving a margin of 30.4 cents for freezing, storing, handling, transporting, and importing.

TABLE 8
QUANTITY, VALUE AND UNIT VALUE OF IMPORTS OF
SPINY LOBSTERS FROM THE UNION OF SOUTH AFRICA
1932 - 1948

YEAR	FROZEN			CANNED		
	POUNDS	VALUE	CTS. PER LB.	POUNDS	VALUE	CTS. PER LB.
1932				1,278	279	21.8
1933				1,071	317	29.6
1934	1,020	255	25.0	13,673	4,185	30.6
1935	131,595	19,850	15.1	116,707	30,697	26.3
1936	574,198	101,112	17.6	48,810	14,149	29.0
1937	1,694,487	349,088	20.6	103,222	33,351	32.3
1938	1,288,464	197,806	15.4	84,787	24,730	29.2
1939	1,587,270	298,931	18.8	25,023	7,246	29.0
1940	1,928,330	428,582	22.2	56,137	13,870	24.7
1941	2,751,911	644,890	23.4	121,250	34,398	28.4
1942	1,140,547	261,952	23.0	64,544	18,779	29.1
1943	462,800	144,369	31.2			
1944						
1945	433,600	165,841	38.2			
1946	2,564,345	1,136,316	44.3			
1947	2,236,780	1,485,076	66.4	1,200	705	58.8
1948	2,657,178	1,733,763	65.2	722,151	466,417	64.6

SOURCE: Bureau of Census

TABLE 9
IMPORTED IN U.S. FOR CONSUMPTION, JAN. - JULY, 1949
LOBSTERS NOT CANNED

	LOBSTERS NOT CANNED		LOBSTERS CANNED	
	QUANTITY LBS.	VALUE DOL.	QUANTITY LBS.	VALUE DOL.
January	688,253	303,907	36,765	35,281
February	803,528	322,375	17,742	16,279
March	1,414,650	818,263	29,404	24,379
April	433,172	311,334	19,924	19,394
May	782,837	524,363	10,263	8,830
June	697,224	519,161	1,107	1,137
July	105,028	52,728	186,580	128,343
TOTAL	4,924,692	2,852,131	301,785	233,643
Av. Price per Pound	57.9 cents		77.4 cents	

Source: Department of Commerce "United States Imports for Consumption of Merchandise" various months.

For canning, about 4 pounds of raw fish are needed for 1 pound of canned fish. The raw material costs to the canneries were, in 1948, about 46.4 cents, leaving a margin of 18.2 cents for canning, handling, transporting, and importing. Obviously, this margin differential has not changed in 1949 although in 1949 the average prices of imported lobster from South Africa have increased to 80.1 cents frozen lobster tails and 77.8 cents canned lobster per pound (see Table 10). In Table 11, average wholesale prices for New York in November, 1948 and average retail prices in eastern United States cities are mentioned. These prices are especially interesting in comparison with Table 12, showing the prices of Maine lobster on the producer and two distribution levels.

TABLE 10
QUANTITY, VALUE AND UNIT VALUE OF AFRICAN LOBSTERS NOT
CANNED AND LOBSTERS CANNED IMPORTED IN U.S.
FOR CONSUMPTION — JANUARY - JULY 1949

LOBSTERS NOT CANNED 1949	QUANTITY	VALUE	AVERAGE PRICE PER POUND
January	34,900	\$ 27,765	
February	.....	.....
March	423,120	337,405	
April	311,000	246,658	
May	200,000	159,111	
June	513,600	415,939	
July	.....	.....
	1,482,620	\$1,186,878	80.1 Cts.
LOBSTERS CANNED			
1949			
January	20,682	17,590	
February	.....	.....
March	14,436	10,356	
April	2,400	1,251	
May	.....	.....
June	.....	.....
July	.....	.....
	37,518	\$29,197	77.8 Cts.

SOURCE: Quantity and Value obtained from "United States Imports for Consumption of Merchandise" printed by the Department of Commerce for various months.

TABLE 11
ESTIMATED AVERAGE VALUE IN U.S. CENTS PER POUND OF
AFRICAN LOBSTER TAILS AT DIFFERENT LEVELS OF
DISTRIBUTION - NOVEMBER, 1948

<i>Average Price All Exports at Exporter Level from the Union of South Africa</i>	<i>Average Price U. S. Imports at U. S. Im- porter Level</i>	<i>Average Whole- sale Price at New York, N.Y.</i>	<i>Average Retail Price in Eastern U.S. Cities</i>
CENTS PER LB.	CENTS PER LB.	CENTS PER LB.	CENTS PER LB.
November, 1948	45.31	79.52	1003
			1203

1. SOURCE: Interpolated from F.A.O. Fisheries Yearbook - 1947.
2. SOURCE: Bureau of Census.
3. SOURCE: U. S. Fish and Wildlife Service.

TABLE 12
AVERAGE VALUE IN CENTS PER POUND OF MAINE LOBSTERS AT
DIFFERENT LEVELS OF DISTRIBUTION - NOVEMBER, 1948.

	<i>Average Price to Producer in Maine</i>	<i>Average Wholesale Price at New York City, Nov. 15, 1948</i>	<i>Average Retail Price at New York City, Nov., 1948</i>
	CENTS PER LB.	CENTS PER LB.	CENTS PER LB.
November, 1948	42.7	78*	105*

* ESTIMATED.

SOURCE: U. S. Fish and Wildlife Service.

The higher price received for frozen South African lobsters is due to the superior quality of the product. The lobster tails coming from South Africa are individually wrapped in cellophane before freezing. They are graded into sizes. The sizes are ½ lb. to ¾ lb., ¾ lb. to 1 lb., and over 1 lb. They are packed in flat slat boxes holding 20 pounds each. The American market of South African lobster is strictly controlled by the South African Rock Lobster Association, Inc., 8 West 40th Street, New York 18, New York. The three grades of lobster

TABLE 13
WEEKLY AVERAGE WHOLESALE PRICES OF AFRICAN LOBSTER TAILS*
FOR DIFFERENT SIZES AS INDICATED AT
CHICAGO, ILLINOIS
FEBRUARY 21 - OCTOBER 15, 1949

DATE	LARGE (Dol. per lb.)	MEDIUM (Dol. per lb.)	SMALL (Dol. per lb.)	SIZE NOT SHOWN (Dol. per lb.)
Feb. 21-26	...	...	...	1.10
Feb. 28-Mar. 5	...	...	...	1.10
Mar. 7-12	...	...	...	1.15
Mar. 14-19	...	...	...	1.15
Mar. 21-26	...	...	...	1.15
Mar. 28-Apr. 2	...	...	...	1.15
Apr. 4-9	...	...	...	1.15
Apr. 11-16	...	...	...	1.15
Apr. 25-30	...	...	...	1.15
May 2-7	...	...	...	1.15
May 9-14	...	...	...	1.15
May 16-21	1.15	1.10	1.05	...
May 23-28	1.15	1.10	1.05	...
May 30-June 4	1.15	1.10	1.05	...
June 6-11	1.15	1.10	1.05	...
June 13-18	1.15	1.10	1.05	...
June 20-25	1.15	1.10	1.05	...
June 27-July 2	1.15	1.10	1.05	...
July 5-8	1.15	1.10	1.00	...
July 11-16	1.15	1.10	1.00	...
July 18-23	1.15	1.10	1.00	...
July 25-30	1.10	1.00	.97	...
Aug. 1-6	1.10	1.00	.97	...
Aug. 8-13	1.05	.98	.95	...
Aug. 15-20	1.05	.98	.95	...
Aug. 22-27	1.05	.98	.95	...
Aug. 29-Sept. 3	1.05	.98	.95	...
Sept. 5-10	1.10	.98	.95	...
Sept. 12-17	1.10	1.00	.95	...
Sept. 19-24	...	1.00	.95	...
Oct. 10-15	1.10	1.00	.95	...
AVERAGE	\$1.12	\$1.05	\$.99	\$1.14

* IN 20-POUND BOXES.

SOURCE: "Morris Market Bulletins" furnished by Morris Fisheries, Inc.

graded in South Africa are reflected in the wholesale price in the United States according to Table 13, which was made up on the basis of "Morris Market Bulletins" furnished by Morris Fisheries, Inc.

3. Organization of the South African Lobster Industry

While the Caribbean spiny lobster industries operate nearly exclusively upon their own capital and investment, the South African lobster industry is largely supported by a government corporation, the Fisheries Development Corporation of South Africa, Ltd. The Fisheries Development Corporation, the industry's alternative to state control on the one hand and unregulated free enterprise on the other, was established under the Fishing Industries Development Act (No. 44 of 1944) as a public utility corporation with a capital of £1 million (about \$4 million); its major purpose was to advise regarding the development of South African fishing harbors in conjunction with the South African Department of Commerce and Industries and the Railways and Harbors Administration, to assist private interests in developing the industry along orderly and rational lines, and to provide social improvements such as housing. Aside from such social services, its major contribution has been in consolidating and unifying the industry through such mergers as those discussed in this report.

The South African Government's Minister of Economic Affairs appoints the Directors of the Corporation and the Parliament must approve investments of funds. The Fisheries Development Corporation has in the past year been advising regarding harbor improvements in the Cape Province as well as conducting experiments in oyster culture at Knysna and establishing a Fisheries Research Institute. Much progress has been made in extending housing and social facilities.

The "A" shares of the Corporation are used on a non-profit basis for social services; the "B" shares are invested in existing commercial fishing firms to obtain guiding but not absolute control. One or more representatives of the Fisheries Development Corporation sits on the Boards of such firms; the Corporation handles social services and gives advice in exchange for returns on its share holdings.

The Fisheries Development Corporation holds important financial interests in the following fishing companies:

- Lambert's Bay Canning Co., Ltd.
- Stephan Bros. (Pty) Ltd.
- Ovenstone Holdings
- South African Sea Products (Pty) Ltd.
- Ocean Products (Pty) Ltd.
- Laaiplek Fisheries, Ltd.
- North Bay Canning Company
- St. Helena Bay Fishing Industries, Ltd.
- Southwest African Fishing Industries, Ltd.

Of these subsidiaries the following corporations are interested in the crawfish or spiny lobster industry.

The *South African Sea Products, Ltd.* holds 80 per cent of the South African crawfish export quota and thus controls 80 per cent of the export of frozen crawfish, the chief market for which currently lies in the United States. The company operates a large modern crawfish freezing plant, and a vitamin oil extraction plant utilizing shark livers at Hout Bay. Its major subsidiary companies, resulting from a recent merger, are:

- Stubbs Fisheries, Ltd., handling fresh fish at Capetown
- Trans-African Fisheries, Ltd., at Hout Bay
- Hout Bay Canning Company (1920), Ltd.
- Swerling and Levin, Ltd., dealing in smoked fish at Capetown
- Duikersklip Fisheries, Ltd.
- Trautman Bros.

The *South West African Fishing Industries, Ltd.*, which is called SWAFIL, operates through its subsidiaries a crawfish freezing plant, a crawfish cannery, a reduction plant, a smokery and a small fleet of fishing boats, all at Luderitz Bay, South West Africa; it was only recently formed to incorporate the following subsidiaries:

Table Mountain Canning Co., Ltd., Conducting crawfish canning at Luderitz Bay.
 Angra Lobster Cannery (Pty) Ltd., at Luderitz Bay
 Cape Lobster Canning Company, Ltd., at Luderitz Bay

The *Ovenstone Holdings* is interested primarily in crawfish canning at Port Nolleth in the Cape Province, but is presently expanding into pilchard canning and reduction—possibly also tuna canning at Walvis Bay.

The merger of the above six firms involves the assumption by the Lambert's Bay Canning Company of a majority interest in the remaining five. It is understood that each company will retain its present name and registration.

Among the independents the African Fish Canning Company and the North Bay Canning Company should be mentioned.

9. International Trade in Spiny Lobster (Caribbean and South African)

The United States plays an important part in the international trade of the Caribbean and the South African spiny lobster. As far as the Caribbean lobster is concerned, nearly all exports go to the United States and the export is about 90 per cent of the total production. Of the South African production about one half goes to the United States; about 10 per cent is consumed in South Africa and the rest of 40 per cent goes to other countries, mainly to the motherland. The following Table 14 shows the development of United States imports of fresh, frozen, and cooked spiny lobster 1945 - 1948.

TABLE 14
 U.S. IMPORTS OF FRESH, FROZEN AND COOKED SPINY LOBSTERS
 (WHOLE AND "TAILS")
 1945 - 1948

COUNTRY OF ORIGIN	1948 LBS.	% OF TOTAL 1948	1947 LBS.	1946 LBS.	1945 LBS.
Mexico	2,052,491		1,920,442	1,671,234	1,072,935
Honduras	6,606				
Br. Honduras	136,264		157,538	79,220	
Nicaragua	406				
Bahamas	1,197,821	58.7	1,371,701	1,271,677	1,487,634
Cuba	1,150,792		425,201	250,100	353,881
Jamaica	7,150		53,376		
Leeward Islands	2,085		13,587	3,500	
Curacao			1,878		
Fr. W. Indies			7,040	7,004	
Australia	514,290		97,482		
		7.0			
New Zealand	30,410		29,256		
U'n of S. Africa	2,657,178	34.3	2,236,780	2,564,345	433,600
TOTAL	7,755,493	100.0	6,314,281	6,847,080	3,348,050

SOURCE: U. S. Fish and Wildlife Service.

Table 15 shows the imports of canned spiny lobster meat in the United States 1945-1948.

TABLE 15
U.S. IMPORTS OF CANNED SPINY LOBSTER MEAT
1945 - 1948

COUNTRY OF ORIGIN	1948 LBS.	% OF TO- TAL 1948	1947 LBS.	1946 LBS.	1945 LBS.
Cuba	294,546	28.5	122,359	461,529	459,375
Guatemala	1,238				
New Zealand	19,175	1.8	12,825		
U'n of S. Africa	722,151	69.6	1,325		
China	600	0.1			
TOTAL	1,037,710	100.0	136,509	461,529	459,375

SOURCE: U. S. Fish and Wildlife Service.

The imports of both canned lobster on one side and fresh and frozen lobster on the other side nearly doubled 1945 - 1948. While the imports of fresh and frozen spiny lobster in this period from Mexico almost doubled and from Cuba about tripled, the imports from the Union of South Africa increased about 600 per cent. As far as canned spiny lobster meat is concerned, the imports from Cuba 1945 - 1948 decreased about 50 per cent while the imports from the Union of South Africa increased about 700 per cent.

10. Conclusion

In the United States market Caribbean spiny lobster unquestionably suffers great competition from South African lobster. The stronger competitive position of the South African lobster is due to differences of quality in the shipped product, and of packaging and marketing. These differences can be overcome by the following remedies:

- (a) Fishermen in the Caribbean area must receive a higher price to encourage a constant supply.
- (b) In all production areas the spiny lobster has to be graded, and properly packed.
- (c) Transportation has to be accelerated and directed to central marketing places in the United States.
- (d) The Caribbean producers should establish a central sales organization through which quality control can be properly handled.
- (e) Abnormal margins between fisherman-producer on one side and exporter-importer on the other side must be changed to more realistic margins based on actual additions of value.

If new machinery is considered necessary for proper handling, especially grading and freezing, the question will arise whether some assistance can or should be given under the Point IV Program of the President of the United States as mentioned in his "Inaugural Address of 1949." Obviously fishermen in the Caribbean Area need the "know-how" possessed by the South African lobster industry. Whether climate, educational standards and ethnographical factors permit the successful operation of an American technological mission to the Caribbean is a question, the answer to which is a prerequisite beside the consideration of the political situation in the respective Caribbean countries.