

FRIDAY—NOVEMBER 30

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The Present Situation in the Fishing Industry of Cuba

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THE PRESENT situation in the fishing industry of Cuba is almost the same as ten years ago. According to recent statistics there are 13,000 fishermen on the whole Island, which represents 0.2 per cent of the total population of Cuba. Furthermore, there are about 10,000 shore workers employed in processing and transport of fishing products.

It is estimated that the annual production of fish and shellfish in Cuba is around 40 million pounds, which are landed at 44 fishing ports. Of this amount, 11 million pounds (29 per cent of the total catch) arrive in Havana. Other main fishing centers are Batabano with 3.5 million pounds, Manzanillo with 2.5 and Santa Cruz del Sur with two million pounds. The annual per capita of fish consumption in Cuba is very low, not exceeding eight pounds.

Today no fishery research is undertaken in Cuba. In June, 1955, the Fisheries Research Center (Centro de Investigaciones Pesqueras), at Baracoa Beach, 35 miles from Havana, was closed. Later, in November, 1955, the Cuban Government created a new agency named National Institute of Fishery (Instituto Nacional de la Pesca). This department, with an extremely limited budget, is charged with the responsibility for study and research concerning the fishing industry, and is expected to begin research soon.

Cuban fishermen are hard workers and they learn easily any modern fishing technique. However, their educational level is very low and for this reason it is difficult to advise them by means of leaflets or similar written instructions. One of our main troubles is lack of fishing skippers with enough nautical knowledge for good sailing and effective use of fishing gear.

To improve the instruction of skippers the Cuban Navy has created the National Training School for Skippers (Academia Nacional de Patronos) with branches at most important fishing ports. They also have traveling teachers who weekly visit fishing centers without schools. Sometimes those teachers themselves teach fishermen to read and write.

The curriculum includes navigation, marine geography, meteorology, oceanography, seamanship, fishing gear and methods, marine laws and signal codes. The length of these courses is eighty hours, distributed weekly through a period of nine months. To obtain a certificate of First Class Skipper, students must have worked aboard a fishing vessel for 3,000 nautical miles out of territorial waters. To get a certificate of Second Class Skipper three months sailing on Cuban waters is required.

Useful results have come from the work of the National Training School for Skippers. This year the government of our neighbor, the Republic of Haiti, rented a tuna fishing vessel with its complete crew from a Cuban fishing com-

pany. They went to that country in order to teach fishermen of Haiti to catch bonito in the Caribbean Sea with pole and line, using live bait. In addition, fishermen graduated at these schools for skippers have established successful shrimp fisheries in the southeast area of Cuba, employing otter trawls and modern vessels.

Cuba has about 7,000 fishing boats, but only seven per cent of the total are motor-driven and 93 per cent are sail-propelled. For this reason one of our greatest difficulties is lack of motors in the fishing fleets. Furthermore, many of them are less than 15 tons capacity. These two factors affect Cuban fishing industry, limiting the fisheries to the narrow insular shelf close to land.

At the present time our best fishing vessels are those used for deep water fishing in Mexican waters. Almost all these fishing boats are more than 15 tons capacity, with an average length of 90 feet, a beam of 14 feet and draft of 10 feet. Most of them are motor-driven and carry ice to preserve the fish, but others are sailed-propelled and use live wells to transport the fish. Starting in 1945, the fishing fleet has been improved gradually, installing radiotelephone and echosounding apparatus. Today a great number of sail-propelled boats have been converted to motor driven ones.

The live well vessels have a lot of trouble when they arrive in port. Sometimes when the Havana market is full of fish they have to stay out of port for several days waiting for a chance to land their fish. These boats do not dock in Havana harbor because they are afraid to lose thousands of pounds of fish by means of pollution of sea water. Furthermore, lack of motors in this type of fishing vessel makes their trips longer.

Another common type of fishing vessel in Cuba is the tuna fishing boat. It is a modified sloop with a gaff-rigged main sail and a flying jib, equipped with a live well tank for carrying live bait (manjua) and ice boxes of 10,000 to 15,000 pounds of fish capacity. The average size of Cuban tuna fishing vessels is 50 feet in length, with 14 foot beam and 3½ foot draft. They usually have a 60 to 110 H.P. engine. Actually some of those boats have been improved with installation of radiotelephone equipment and better accommodations for the crew.

Since 1953, the trawler, a new kind of fishing vessel in Cuban fisheries, has been introduced. Most of them were bought in Gulf ports of the United States, and today Cuban fishermen commonly use trawlers for catching shrimp.

The Shrimp Fishery

During the last three years there has been a great development in the shrimp industry in Cuba. There are two fishing methods used to catch shrimp: the old system with cast net, employed by poor fishermen, mainly at Cienfuegos, Tunas de Zaza, Jucaro and Manzanillo, and otter trawls used to catch large quantities of this crustacean at Santa Cruz, del Sur, on the southeast coast of Cuba, and at Dry Tortugas, Florida.

Shrimp catches with cast nets are low and this can be justified only on rocky bottoms where an otter trawl could not be utilized. The total catch from this type of gear is sold on the inland Cuban market. Almost the whole catch consists of pink shrimp *Penaeus duorarum* and white shrimp *P. schmitti*.

The otter trawl is employed by two Cuban fishing fleets. One operates at Dry Tortugas, Florida and lands its production at Havana; the other is fishing on the southeast of the Island and lands shrimp at Santa Cruz del Sur. This latter fishing center is the most important shrimp landing port in Cuba. There are about 20 shrimp trawlers there, with crews of three or four men each.

These vessels spend from three to five days at sea, fishing day and night. A new freezing plant has been established there, which exports frozen shrimp directly to the United States. Since January of this year, the Cuban Government has maintained a cold-storage house for fish and shellfish at Santa Cruz del Sur.

In 1955, Cuba exported to the United States 82,357 pounds of fresh shrimp, with a value of \$27,889.

During the first six months of 1956, the landings of shrimp at Santa Cruz del Sur were:

January	71,267	pounds (heads on)
February	106,115	"
March	101,101	"
April	108,106	"
May	180,515	"
June	182,265	"
Total	749,369	"

The average price paid to fishermen at Santa Cruz del Sur has been 23 cents per pound, heads on and 37 cents per pound, heads off.

From May, 1955, to June, 1956, there were 28 Cuban shrimp fishing vessels working at Dry Tortugas and landing shrimp at Havana. The average crew of those boats was four to five men. They made a total of 180 trips during a year. The average number of days at sea was about 15, with 10 nights of effective fishing (about 12 working hours per day). In the 12 months from May, 1955, to April, 1956, about 656,000 pounds of shrimp were landed in Havana from Dry Tortugas (Table 1).

About 10 per cent of the total shrimp catch at Dry Tortugas was frozen and exported to the United States. The remaining 90 per cent were sold as fresh shrimp, heads on, at local markets in Havana.

The average prices paid to fishermen at Havana were: 40 cents per pound, heads off, jumbo size; 30 cents per pound, heads off, medium and small sizes; and 25 cents per pound, heads on, any size.

TABLE 1
LANDINGS AT HAVANA OF SHRIMP CAUGHT AT DRY TORTUGAS
FROM MAY, 1955 TO APRIL, 1956.

Month	No. vessels	No. trips	No. fishermen	Landings in Pounds (heads on)	Catch per trip in lbs.
May	11	12	51	39,928	3,325
June	13	14	54	39,493	2,820
July	12	15	56	49,407	3,280
August	13	18	60	57,105	3,190
September	14	17	63	57,570	3,386
October	12	13	56	51,419	3,955
November	11	15	53	52,376	3,491
December	12	16	56	59,254	3,703
January	14	18	64	66,164	3,453
February	15	23	75	94,321	4,100
March	14	16	72	67,254	4,203
April	06	06	27	21,504	3,584

Spiny Lobster Fishery

The spiny lobster fishery is the most important of the Cuban shellfish industries. Even though this industry has improved remarkably, especially during the last five years, its methods are still primitive. Almost all Cuban spiny lobster fishermen use a small circular net tied to a metal hoop at the end of a long pole (a bully net or *chapingorro*). They employ this gear from small row boats which they carry on larger sailing vessels to the fishing grounds. A wooden bucket with glass bottom and a long pole with an iron point at one end (*pincharra*) are aids to fishing operations. Only a few Cuban fishermen use large circular bamboo traps (three feet long and two feet diameter) to catch spiny lobsters.

In Cuba, there are about ten freezing plants for processing spiny lobster tails; the largest are located at Pinar del Rio and Havana. They pay fishermen \$12.00 or \$13.00 for each box of 60 pounds of spiny lobster, heads on (about 20 to 21½ cents per pound).

Table 2 shows that there has been a noticeable decrease in the export of canned and boiled spiny lobster, while fresh and frozen spiny lobster exports have increased (Table 3).

TABLE 2

EXPORTS OF CANNED AND BOILED SPINY LOBSTER, 1946-1955		
<i>Year</i>	<i>Weight in Kg.</i>	<i>Value in Dollars</i>
1946	344,170	719,642
1947	426,724	763,775
1948	195,376	311,723
1949	79,213	150,052
1950	133,836	263,668
1951	26,616	54,253
1952	27,549	45,016
1953	50,629	101,195
1954	28,266	54,137
1955	72,071	67,027

TABLE 3

EXPORTS OF FRESH OR FROZEN SPINY LOBSTERS, 1946-1955		
<i>Year</i>	<i>Weight in Kg.</i>	<i>Value in Dollars</i>
1946	72,795	67,813
1947	166,626	167,615
1948	506,205	564,836
1949	644,740	653,468
1950	676,668	629,988
1951	449,316	639,979
1952	806,985	865,029
1953	1,120,783	1,171,579
1954	1,390,509	1,498,612
1955	1,518,557	1,733,954

Shark Fishery

After World War II the shark fishing industry in Cuba decreased remarkably. A year ago (1955) only one shark fishing center existed. This was at Cojimar, a small port near Havana, where a small processing plant is still working. However, in the last year, new shark fishing centers have been opened up at Casilda, Tunas de Zaza and Santa Cruz del Sur on the south coast of Cuba and at Isabela de Sagua and Caibarien, on the north coast.

At Cojimar fishermen catch sharks using 20 fathom set lines made of henequen rope ($\frac{1}{4}$ - $\frac{1}{2}$ inch diameter). To the main line are attached, at different intervals, three branch lines from 10 to 40 fathoms in length, bearing one hook with $1\frac{1}{2}$ to 3 inch openings. At other fishing centers chain set lines are employed, with seven to fifteen hooks. Sometimes heavy hemp rope is used for the main line and galvanized chain for the branch lines.

The average monthly catch in the main fishing ports is from 50 to 80 sharks per boat. At Cojimar fishermen are paid \$2.00 per shark (any size), while at other fishing centers payment is according to the length of the fish, at the rate of half a cent per inch. The sharks most commonly caught commercially by Cuban fishermen are hammerhead (*Sphyrna diplana*), tiger (*Galeocerdo cuvier*), man-eating (*Carcharodon carcharias*), six-gilled (*Hexanchus griseus*), black-nosed (*Carcharinus leucas*), and night shark (*Aprionodon isodon*).

The principal products of the shark industry are salted skins, fins and liver. During 1954, Cuba exported to the United States 14,290 Kg. (41,438 pounds) of shark skins, this figure having a value of \$4,144.

Tuna Fishery

The tuna fishing industry is the largest in Cuba in terms of plants and other processive facilities. There are eight canneries, which work part of the year. There are two each at Batabano, Isla de Pinos and La Coloma, and one each at Cojimar and Pinar del Rio. The production of all these canneries together does not supply the tuna consumed in Cuba.

Tuna fishery started in 1940 on the southwest coast of Cuba, mainly at Batabano. Local fishermen of Japanese ancestry taught Cubans to catch tuna for commercial purposes using pole and line, and "manjua" (*Anchoviella epsetus* and *A. perfasciata*) or cabezona, (*Antherina perfasciata*) as live bait. It has been a successful fishing method, but sometimes fishermen say that even when they encounter large schools of tuna, the fish do not take the bait, and for this reason their catches are much smaller than they could be. Another problem in this fishery is the considerable waste of time spent looking for live bait (manjua). There is a high mortality rate of these fishes in the live well tanks of the tuna fishing vessels.

The blackfin tuna (*Thunnus atlanticus*) and the skipjack or oceanic bonito (*Katsuwonus pelamis*) together compromise more than 90 per cent of the commercial tuna catch of Cuba. Both species are called "bonito" locally and no distinction is made between them.

Tuna fish is mainly packed in peanut oil or oil and tomato sauce and they are labeled as "Bonito en Aceite" and "Bonito en Tomate" respectively. Table 4 gives the production during 1955 of three main canneries located at Batabano, Isla de Pinos and La Coloma. They employed eighteen tuna fishing vessels, using crews of six to eight men and an average of seven to ten days at sea fishing. These three plants produce almost 80 per cent of the Cuban production.

TABLE 4

PRODUCTION OF THREE TUNA CANNERIES, 1955

Month	LANDINGS IN POUNDS			CASES OF 24 CANS EACH				
	Batabano	I. de Pinos	La Coloma	Total	Batabano	I. de Pinos	La Coloma	Total
January	—	—	—	—	—	—	—	—
February	19,205	28,083	—	47,288	830	1,114	—	1,944
March	154,290	67,162	77,660	299,112	6,126	2,728	3,116	12,070
April	141,392	188,944	130,800	461,136	5,943	7,471	5,120	18,534
May	148,982	161,778	164,040	474,800	5,709	6,125	6,092	17,926
June	91,885	58,041	75,455	225,381	3,402	2,281	2,727	8,410
July	49,162	78,588	90,100	217,850	1,804	3,028	3,519	8,351
August	92,632	71,826	61,080	225,538	3,429	2,886	2,513	8,828
September	105,225	29,392	45,650	180,267	4,142	1,162	1,854	7,158
October	42,475	—	60,120	102,595	1,620	—	2,385	4,005
November	62,790	70,000	61,200	193,990	2,285	2,811	2,394	7,490
December	62,847	68,687	62,400	193,934	2,484	2,815	2,444	7,743
Total	970,885	822,501	828,505	2,621,891	37,874	32,421	32,164	102,459

Grouper and Snapper Fishery

The deep sea fishing for grouper and snapper, mainly at Campeche Bank, Mexico, is called by Cubans "pesca del alto." This is the fishery that lands a greater amount of fish than any other in Cuba. It was started many years ago by the Spanish fishermen who lived in Havana. Sometimes, during the summer, and especially in the hurricane season, the snapper-grouper fleet moves from Campeche to the west coast of Florida.

The fishermen use hand lines with three hooks each for catching grouper and snapper. A few years ago the introduction of hand reels was attempted but even though they gave very good results the whole fleet is still employing lines.

During 1955, there were 68 Cuban fishing vessels fishing in deep water for grouper, snapper, kingfish, etc.

Fifty-three vessels of this fishing fleet carry ice for fish preservation and fifteen use live-well tanks. Six vessels of the fleet are sail-propelled, the rest are both motor-driven and sail. The average crew is ten or eleven men and they spend around 20 to 23 days at sea. They take about four days for the round trip to the fishing grounds leaving 16 to 19 days of effective fishing, working from about 6 a.m. to 6 p.m. each day.

Table 5 shows the extent of fishing operations and the landings at Havana during 1955, of 47 vessels which belong to a fishing cooperative in this port. In that year they caught 3,620,423 pounds of grouper and 267,154 pounds of other kinds of fish. Thus the grouper catch is more than 90 per cent of the total catch. Almost all the fish is sold at Havana markets as fresh fish.

Another fishing cooperative named "Felipe Poey" was established at Havana. It is a branch of the BANFAIC (Bank of Agriculture and Industrial Development of Cuba), but there is no information available about its recent activities. A few years ago this cooperative tried freezing grouper fillets and shrimp, but later they closed the freezing plant.

Imports and Exports of Fishing Products

There is a large disproportion between Cuban imports and exports of fishing products. While during the last ten years (1946-1955) Cuba has imported \$73,083,518 worth of fishing products such as cod, sardine, herring, mackerel, salmon, tuna, oyster, squid, etc., exports reached only \$16,171,709.

Cuba reached import peaks in 1952, with a value of \$9,043,771 and in 1951, with a weight of 21,065,000 Kg. The two main imported fishery products are cod and sardine. In 1955, Cuba imported 12,705,002 Kg. of cod with a value of \$4,968,468; that same year sardines reached 3,209,312 Kg. with a value of \$1,345,703.

The export peak was reached in 1955 with 2,387,373 Kg. and a value of \$2,546,177. The most important Cuban export among fishery products is spiny lobster tails, fresh or frozen. The best year during the last ten was 1955, in which the country exported 1,518,557 Kg. of spiny lobster tails with a value of \$1,733,954 (Table 3).

TABLE 5

FISHING OPERATIONS AND LANDINGS AT HAVANA OF 47 DEEP WATER FISHING VESSELS DURING 1955

Month	No. of Vessels	No. of Trips	No. of fishermen fishing	Grouper Pounds	Snapper and Kingfish Pounds	Total production in Pounds	Total Catch per trip in Pounds
January	20	20	201	232,652	23,288	255,940	12,797
February	26	26	270	309,898	25,456	335,354	12,898
March	27	28	279	327,072	22,933	350,005	12,500
April	24	27	247	247,873	19,707	267,580	9,910
May	32	32	323	296,677	47,813	344,490	10,765
June	33	36	337	253,384	42,764	296,148	8,226
July	33	34	335	308,202	28,242	336,444	9,895
August	26	26	262	268,706	7,526	276,232	10,624
September	25	26	253	318,037	4,507	322,544	12,405
October	26	27	265	384,611	33	384,644	14,246
November	23	24	229	335,978	1,370	337,348	14,056
December	25	25	261	337,333	43,715	381,048	15,241
Total				3,620,423	267,354	3,887,777	