



## International

### FISHERIES TRADE FAIR

TO BE HELD IN COPENHAGEN,  
SEPTEMBER 25-OCTOBER 4, 1959:

The 3rd International Fisheries Trade Fair, scheduled to take place in Copenhagen, Denmark, between September 25 and October 4, 1959, will be on a larger scale than its two predecessors (in 1956 and 1957), according to the sponsoring organization, Universal Fair and Exhibition Service.

The fair is to take place in the Forum exhibition hall, where 90 percent of the available floor space has already been booked. Exhibitors from 16 countries will participate.

On display will be all kinds of equipment used in the fishing and fish processing industries. New inventions and techniques developed since the 1957 Fair will be prominently featured. Particular attention will be given to fishing vessels, and several boat yards will be represented, showing the most recent developments within this field, especially with regard to steel cutters.

The sponsors expect that the number of visitors to this year's Fair will exceed that of the 1957 Fair, reported to have been about 60,000.

### FOOD AND AGRICULTURE ORGANIZATION

#### FISHERY COOPERATIVES MEETING HELD AT NAPLES, ITALY:

The first Technical Meeting on Fishery Cooperatives, convened jointly by the Food and Agriculture Organization (FAO), Rome, Italy, and the International Labor Organization (ILO), was officially opened at Naples on May 12 by the Italian

Minister of the Merchant Marine. The Secretary-General of the Italian Cooperative Confederation (CCI) was elected chairman of the Meeting.

In his opening speech, the Italian Minister said that fishermen must organize themselves into cooperatives in order to increase their technical and financial means, must adopt new systems to harvest the biological resources of the sea, and must rationalize their activities, reduce costs, and increase their competitive position in the fish market.



"This Conference should make clear the moral, technical, economic, and social advantages of fishery cooperatives," he said.

The Director of FAO's Fisheries Division said it was the first international meeting of the kind, and "though most of you have clearly similar interests in the development of fishermen's cooperatives, few amongst you have ever acted before.

"In planning our work," he said, "we should bear in mind also that the result of our discussions will be of interest not only to ourselves, but particularly to many of our friends in less-developed countries who are confronted with the urgent problems of developing their fisheries."

The chairman said that, particularly in the field of fisheries, the only possible solution to problems confronting producers and consumers is the establishment of cooperatives.

"I hope that governments will increase their support to the cooperatives without

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endangering their autonomy and independence," he concluded.

The ILO representative said that ILO and FAO are concerned both with problems of fishermen and questions concerning cooperatives.

"The important thing, however, is that a start will have been made, and since the cooperative movement is not a static edifice but a living organism, the question which we shall be discussing will almost certainly prove to be of perennial interest."

Seventy-five delegates from 18 countries and observers from several international organizations attended the nine-day meeting. A number of study tours were on the agenda, as well as visits to Cooperative Societies concerned with marine fishing and shellfish cultivation, situated in the Gulf of Naples. Countries and organizations represented: Belgium, Canada, France, Western Germany, Greece, Italy, Japan, the Netherlands, Norway, Poland, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States of America, Viet-Nam, Yugoslavia; ICA, International Federation of Agricultural Producers, the Indo-Pacific Fisheries Council, the General Fisheries Council for the Mediterranean.

## INTERNATIONAL LABOR ORGANIZATION

COMMERCIAL FISHERMEN  
LABOR INSTRUMENTS  
ADOPTED BY CONFERENCE:

The International Labor Organization at its 43rd conference in Geneva, on June 26 adopted three instruments pertaining to commercial fishermen. By a majority vote the Conference adopted the following: (1) the minimum age for admission of fishermen to employment to be 15 years; (2) medical examinations for fishermen--annually for those under 21 years of age and periodically for those over 21 years; and (3) articles of agreement are to be required between fishermen and vessel owners.

The United States delegation included George C. Lodge, Assistant Secretary of

Labor, Cola G. Parker, Chairman of the Finance Committee, National Association of Manufacturers as employer's delegate, and Rudolph Faupl, International Representative, International Association of Machinists, as worker's delegate. Advisor on fisheries to Faupl was George Johansen, Secretary-Treasurer, Alaska Fishermen's Union, and fishery advisor to Parker was Charles E. Jackson, General Manager, National Fisheries Institute.

Note: Also see Commercial Fisheries Review, November 1958, p. 61.

INTERNATIONAL  
OCEANOGRAPHIC CONGRESSMEETS IN NEW YORK  
AUGUST 30 TO SEPTEMBER 12:

The International Oceanographic Congress meeting was held from August 30 to September 12, 1959, at the United Nations Building in New York

The purpose of the Congress was to provide a common meeting ground for all sciences concerned with the oceans and the organisms contained in them. It was devoted to the fundamentals of the marine sciences rather than to their applications.

The Congress was centered around five symposia on the oceans--the history, the boundaries, the deep sea, dynamics of organic and inorganic substances, and the marine life regime. Each topic was considered for two consecutive days with three lectures each morning. The afternoon sessions were organized around the topics of the morning lectures, either as roundtable discussions, seminars, or a series of papers.

INTERNATIONAL PACIFIC  
HALIBUT COMMISSIONFIRST SEASON IN AREAS 2 AND 1B CLOSED:

The International Pacific Halibut Commission announced the closure of the first season in Areas 2 and 1B to halibut fishing effective at 6 a.m. (P.S.T.) July 8, 1959, until the beginning of the second fishing season in these areas. The Commission estimated that the 26.5-million-pound limit set for Area 2 would have been caught by that date. Area 1B, which has no catch limit, was also closed when the quota for Area 2 was attained. The Commission announced the closure on June 29, 1959.

The official opening date for all halibut fishing in the North Pacific regulatory area this year was May 1 at 6:00 a.m. (P.S.T.), except that fishing in Area 3B commenced on April 1, 1959.

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Areas 2 and 1B this year were open to halibut fishing for 68 days as compared with 59 days in 1958 and 47 days in 1957. These same areas were fished for 38 days in 1956 (fishing started May 20), 24 days in 1955, 21 days in 1954, and 24 days in 1953.

The longer period required to catch the Area 2 catch limit this season is attributed to (1) lighter catches and fewer vessels fishing Area 2, and (2) the continuation of the 8-day lay-over between trips initiated in 1956.

The second fishing season in Areas 2 and 1B is scheduled to commence at 6:00 a.m. (P.S.T.)



A trip of dressed halibut on ice prior to freezing at Ketchikan, Alaska.

August 22, for a period of 7 days without a catch limit, except that in Area 2 the Cape Scott and Goose Islands grounds in Queen Charlotte Sound and the inside waters of southeastern Alaska shall be closed to halibut fishing during the second season. Thereafter, Areas 2 and 1B are closed to halibut fishing until the commencement of the halibut fishing season in 1960.

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#### FISHING IN AREA 3A ENDED AUGUST 1, 1959:

The end of fishing in Pacific halibut Area 3A took place at 6 a.m. (P. S. T.) on August 1, 1959. The International Pacific Halibut Commission made the announcement on July 13, 1959, since it estimated that by August 1 the catch limit of 30 million pounds for Area 3A would have been reached. The area 3A closure this year is 30 days sooner than in 1958 when fishing ended on August 31. In 1957 fishing in Area 3A stopped on September 22.

The Commission at the same time it announced the closure of Area 3A also announced that halibut fishing in Areas 1A and 3B will end at 6:00 a.m. (P. S. T.) on October 16. Because the Area 3A fishing season ended so early this year, it is believed that more than the usual number of halibut vessels will fish the Bering Sea or Area 3B this fall.

After the end of fishing in Areas 1A and 3B, those Pacific halibut areas will be closed to fishing until the reopening in 1960.

Area 1A includes the waters south of Heceta Head, Oregon; Area 3A, the waters off the coast of Alaska between Cape Spencer and the Shumagin Islands; Area 3B, the waters west of Shumagin Islands and in the Bering

Sea; Area 2, the waters between Willapa Bay and Cape Spencer, Alaska; Area 1B, the waters between Willapa Bay and Heceta Head.

This year Area 3A was open to fishing for 92 days-- 27 days less than the 119 days in 1958. In 1957 the area was open to fishing for 144 days (the longest season for the area since 1945 when the area was open to fishing for 147 days). Between 1945 and 1955 the trend had been towards a shorter season, but then the trend reversed itself and through 1957 the seasons were longer. However, beginning in 1958 the trend was reversed again and the seasons have become shorter. Area 3A was open for halibut fishing for 104 days in 1956, 81 days in 1955, 58 days in 1954, 52 days (shorter on record) in 1953, 60 days in 1952, 56 days in 1951, 66 days in 1950, 73 days in 1949, and 72 days in 1948.

Under authority of the Convention between Canada and the United States of America for the Preservation of the Halibut Fishery of the Northern Pacific Ocean and Bering Sea, this year's regulations became effective March 31, 1959.

## TRADE AGREEMENTS

### SWEDISH-NORWEGIAN TRADE AGREEMENT FOR 1959 INCLUDES FISHERY PRODUCTS:

The Swedish-Norwegian annual trade protocol for the calendar year 1959 was signed in Stockholm on March 21. Under the Protocol, right has been reserved to convene discussions in the event the internal measures taken by the two contracting parties tend noticeably to obstruct mutual trade in fish and fish products.

In an exchange of letters, the Norwegians suggested the abolition of Swedish import restrictions on salted fat herring; found in Sweden's method of determining its fish demand to be unfavorable; pointed out the obstructive effect of a 45-ore (US\$0.09) Swedish import fee, per kilogram (2.2 lbs.), on Norwegian exports of fresh and frozen filleted fish; and recommended removal of these restrictions. The Norwegians further pointed out that the new Swedish Customs Tariff, effective January 1, 1959, entailed considerable increases in import duties on certain items. The Swedes, on their part, called attention to a marked decline in their mackerel exports to Norway after the imports of this fish had been made subject to import license requirements beginning June 10, 1958. Delegates agreed to refer the respective points to their Governments.

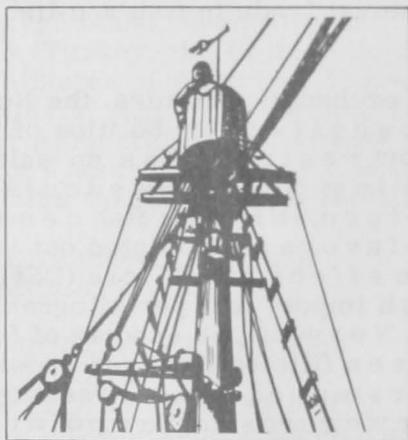
## International (Contd.):

The list of Swedish exports to Norway attached to the Protocol did not include any fishery products. Among the items listed by value and quantity for export to Sweden from Norway were lobsters. Fresh fish and herring, frozen and filleted fish, marine oils and fatty acids, and fish meal, and miscellaneous items are subject to supply and demand. A special item in the Norwegian list is salted, sugared-and-salted, and spiced herring for which Swedish import licenses will be granted within the scope of an over-all nominal annual quota of 14,500 metric tons which may be drawn from Norway, Denmark, Faeroe Islands, Iceland, the Netherlands, and the United Kingdom.

## WHALING

QUOTA APPORTIONMENT TALKS  
END WITHOUT AGREEMENT:

No agreement was reached on the apportionment of the pelagic (deep-sea) whale quota for 1960 Antarctic whaling



at talks held in Tokyo early in June. The countries involved are Japan, Netherlands, Norway, Russia, and the United Kingdom.

The Managing Director of the Netherlands Whaling Company, after returning from the Tokyo Whaling Conference, mentioned that the Dutch are now prepared to keep the Bloemendael, a tanker, out of Dutch whaling operations. But they would insist on a minimum quota of 1,200 blue-whale units or 8 percent of the total catch quota. (In the past the Dutch have

caught about 4.6 percent of the total quota.) He also mentioned that the sale of the whaling factoryship Willem Barendsz has been put off for the time being. The Dutch representative indicated that Norway is prepared to decrease its allocation of whale units somewhat.

The Managing Director also pointed out that the Dutch have proposed raising the whale catch limit of 15,000 blue-whale units to 16,000 or 16,500. This proposal was based on scientific research conducted by an Amsterdam professor who found that such an increase is justified while at the same time conserving the whale supply. The Dutch Managing Director is agreeable to the proposals of all of the whaling countries with the exception of the article limiting each country to a certain percentage of the 15,000 whale units.

Because of failure to agree on the allocation of the quota between the five countries involved at the end of 1958, Japan, Holland, and Norway announced their conditional withdrawal from the International Whaling Convention. Withdrawals were scheduled to become effective by June 30, 1959, unless agreement was reached in London at the meeting of the Whaling Commission on June 22-27. (United States Consulate, Amsterdam, report of June 5.)

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ELEVENTH ANNUAL  
MEETING OF INTERNATIONAL  
WHALING COMMISSION:

The Eleventh Meeting of the International Whaling Commission was held in London, June 22-31, 1959. The Contracting Governments represented at the meeting were Australia, Canada, Denmark, France, Iceland, Japan, Mexico, the Netherlands, New Zealand, Norway, South Africa, Sweden, U.S.S.R., the United Kingdom, and the United States. In addition, there were observers from the Food and Agriculture Organization of the United Nations, the International Council for the Exploration of the Sea, Argentina, and Portugal.

In welcoming the Commission, the British Minister of Agriculture, Fisheries, and Food stressed the importance

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of the whaling industry, and particularly of Antarctic whaling, to the world economy. Great efforts in aid of conservation had been made since the Commission began its work, and although there were many difficulties to be met none denied that control was essential.

Throughout its proceedings the Commission was aware that the five Antarctic pelagic whaling countries (Japan, the Netherlands, Norway, U.S.S.R., and the United Kingdom) had been continuing separate talks with a view to limiting the numbers of their fleets and allocating the total permitted Antarctic catch between them. The Commission has the power to protect particular species, to declare open and closed seasons and areas, prescribe minimum size-limits for each species caught, to determine the time, methods, and intensity of whaling (including the maximum catch of whales to be taken in any one season), but is not able to allocate catch quotas to the different countries or restrict the number of pelagic expeditions.

In recent years the view has been widely held that the total number of whale factoryships and catchers had become too large and expensive to make economic catches within the ceiling authorized by the Commission as the limit which the Antarctic stocks of whales could support. Without some agreement which would enable the Antarctic whaling countries to conduct their operations in a more rational and economic manner, it was considered impossible for the fleets of some countries to operate profitably.

Three of the Antarctic pelagic whaling countries (Japan, the Netherlands, and Norway) had given notice of withdrawal from the Convention to take effect from June 30, 1959. The Commission was informed that the Antarctic pelagic whaling countries had been unable to reach a generally-acceptable agreement on the allocation of the authorized catch. The Commission expressed concern at the effect upon the whale stocks if the Convention was not adhered to and urged that all countries should remain party to the Convention while making further efforts to reach agreement. However, the Neth-

erlands and Norway informed the Commission on June 30 that their notices would become effective. Nevertheless, both those countries undertook to continue to abide by all the Commission's regulations excepting the catch limit and, in the case of the Netherlands, the length of the whaling season. The Japanese Government decided to rescind its notice of withdrawal.

The main aims of the Convention are given effect in a document attached to it known as the Schedule and during their proceedings the Commission took several decisions affecting the Schedule.

The first of these concerned the maximum permissible catch of whales for the Antarctic season 1959/60 and here it was agreed that there should be no change and that the figure should remain at 15,000 blue-whale units. (A blue-whale unit is 1 blue whale, or 2 fin whales, or  $2\frac{1}{2}$  humpback whales, or 6 sei whales.)

An area of the southern hemisphere south of latitude  $40^{\circ}$  S. and between meridians  $70^{\circ}$  W. and  $160^{\circ}$  W., formerly a sanctuary for baleen whales but which had been open for whaling for the last four years, was declared open for another three years.

The Antarctic season for catching fin and sei whales was formerly from January 7 to April 7, but the Commission considered it desirable to advance the commencement of season 1959/60 to December 28, 1959.

The season for the taking of humpback whales in the Antarctic was changed from February 1-4 to four days commencing January 20.

The blue-whale stocks in the North Atlantic are considered to be too low for exploitation at present and this species has been scheduled for complete protection since 1954. Consideration of the condition of the blue-whale stock resulted in a recommendation that this protection should be continued for five years ending on February 26, 1965.

At the present time enforcement of the terms of the Convention on factoryships in the Antarctic is based on the presence of inspectors of the country

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whose flag the ship flies. Proposals were before the Commission that these ships should each carry an observer of some other nationality than that of the flag country. The proposal was agreed in principle and it was decided that the detailed working out of a plan would be left to Japan, U.S.S.R., and the United Kingdom, who would consult with the Netherlands and Norway and endeavour to bring a scheme before the Commission as soon as possible.

The Commission considered the question of the humane slaughter of whales. It was agreed that a small subcommittee should be appointed to examine the advantages and disadvantages of the various methods of killing whales with a view to recommending a program of research and development for the improvement of existing methods and the possible development of new ones.

The Commission took note that 20 factoryships operating in the Antarctic took a total of nearly 31,000 baleen whales

(equivalent to 15,300 blue-whale units) during a season lasting from January 7 to March 16, 1959, and 2,052,000 barrels of whale and sperm oil were produced. The catch of blue whales--the largest species--fell from about 1,700 in the 1957/58 season to about 1,200 in the 1958/59 season. The number of fin whales taken was 25,700, compared with 25,100 in the previous year. Some 2,400 humpback whales, about 2,000 more than last year, were taken during the 4-day season for this species. The catch of sperm whales was 5,400, against 6,300 in the previous year. Antarctic land stations took 816 blue-whale units yielding 103,000 barrels of oil.

Fifty-two land stations and three floating factories operated outside the Antarctic during 1958. Some 24,000 whales were taken compared with 6,000 in 1946, the increase being mainly due to the larger catch of sperm whales. The production of whale oil amounted to some 315,000 barrels (at 6 barrels to the ton), about the same as in 1957, but production of sperm oil increased by about 30,000 barrels to some 402,000 barrels.



Australia

FROZEN SHRIMP EXPORTS, 1956/57-1957/58:

During the fiscal year 1957/58, frozen shrimp exports (raw heads on and heads off and cooked heads off) from Australia totaled 299,522 pounds, a decrease of 17,865 pounds, or 6 percent, as compared with fiscal year 1956/57. Frozen raw headless shrimp made up most of the exports.

The United States received 170,193 pounds, or 57 percent of the 1957/58 total exports, and Honolulu was second with 96,350 pounds, or 32 percent. Nearly all of the shrimp exported to the United States was frozen raw headless.

Frozen Shrimp Exports from Australia, 1956/57-1957/58								
	Raw Shrimp				Cooked Shrimp		Total	
	Heads On		Heads Off		Heads Off			
	1957/58	1956/57	1957/58	1956/57	1957/58	1956/57	1957/58	1956/57
.....(Pounds).....								
<b>By State of Landing:</b>								
New South Wales . . . . .	100	2,747	5,100	21,545	10,229	27,154	15,429	51,446
Queensland . . . . .	2,250	1,446	266,300	198,280	15,543	66,215	284,093	265,941
Tasmania . . . . .	-	-	-	-	-	-	-	-
Total . . . . .	2,350	4,193	271,400	219,825	25,772	93,369	299,522	317,387
<b>By Country of Destination:</b>								
United States . . . . .	-	-	170,050	128,885	143	-	170,193	128,885
Honolulu (Hawaii) . . . . .	2,050	-	94,300	83,265	-	20,190	96,350	103,455
Other Countries . . . . .	300	4,193	7,050	7,675	25,629	73,179	32,979	85,047
Total . . . . .	2,350	4,193	271,400	219,825	25,772	93,369	299,522	317,387

Source: Department of Primary Industry, Fisheries Division.  
Note: Fiscal year--July 1-June 30.

## Belgian Congo

### CANNED SARDINE MARKET:

**Summary:** It is estimated by the major wholesalers and retailers in Leopoldville, that about 95 percent of the sardines and pilchards (California-type sardines) imported into the Belgian Congo and Ruanda-Urundi are sold to Africans. The main sales consideration for this market is simply price. Most of the pilchards are sold in the tall one-pound can, natural pack, at 11-13 francs (22 to 26 U. S. cents) retail. Nearly all sardines are sold in the 1/4-club (4.5 ounce can), packed in peanut oil, for 5-6 francs (10 to 12 U.S. cents).

The pilchards are imported mainly from South Africa, and the sardines imported from Portugal. A case of South African pilchards, delivered at the Belgian Congo port of Matadi, sells wholesale at US\$1 or more below comparable packs of California pilchards. A case of Portuguese sardines sells c.i.f. Matadi at the same price, or less than similar United States packs f.o.b. Los Angeles. Unless the prices for canned California pilchard are lowered to competitive levels, there will be but a very limited market for them in the Belgian Congo.

**Imports:** Total sardine imports in 1958 were about 2.2 million pounds valued at 21,555,526 francs (US\$431,111). By far the largest sardine imports (about 1.6 million pounds) were Portuguese. These amounted to 15,411,401 francs (\$308,228) in value, and constituted about 71 percent of the total. Imports of sardines from the United States in 1958 amounted to only 41,000 pounds, valued at US\$7,000.

There were 1.4 million pounds of pilchards imported in 1958 with a value of 7,785,878 francs (about \$155,717). South African pilchards made up 86 percent of the total pilchard imports, while those from the United States were but .01 percent.

**Stocks:** Sardines and pilchards are well-established market items in the Belgian Congo, with a very slow growth in sales. Wholesalers have a clear idea of their market needs, and hold their inventories down to the minimum. They buy 1-3 months' stock at a time, tailoring the amounts according to discounts and to quantities offering the lowest transportation costs. There is little stockpiling as local storage is expensive, the demand is steady, and there is a buyer's market.

The size of inventories seldom affects local prices. Occasionally, one or more of the largest dealers may be caught short by a delayed delivery. Sardine and pilchard prices have then run up a little, about one cent on the cheapest sardines and 2-5 cents on natural pack pilchards. It is, however, a rare occurrence. Inventories of United States and Japanese sardines are small, and at times those products may be completely off the local market.

**Consumer Preference:** The African consumer is very aware of brands, faithful to a product which has initially satisfied him, and extremely cost conscious. He will seldom buy pilchards costing more than 11 to 13 francs (about 22 to 26 U.S. cents) a pound can, or sardines in the 4.5 ounce 1/4-club can for more than six francs (12 U.S. cents). The preferred pilchard pack is the tall one-pound natural pack. Tomato-sauce packs in one-pound cans are also sold to the Africans, but constitute only a third of the volume of the natural pack. Very few oval cans are sold in the African market because they cost more without any offsetting gain in contents.

The most popular sardine pack among the natives is the 1/4-club can packed in peanut oil. It sells completely stripped, without wrapping, coloring, or imprinted advertising. The only mark on the can is a country-of-origin seal stamped into the metal. Dealers generally agree that the village African prefers peanut oil to olive oil as a pack, and wants thick oil with a good strong smell. The city native likes olive oil, but will seldom pay the higher price for it.

One of the wholesaler-retailers stated that there was some latent African resistance to United States sardines.

The preferences of the European population are very largely a matter of nationality and of buying patterns established prior to residence in the Congo. Each nationality tends to buy the products of its country. Portuguese sardines, however,

are generally esteemed, and are available in a great variety of qualities and prices. Sales of sardines to Europeans are largest for the high-quality Portuguese products, and for French and Dutch brands. Spanish, Japanese, Moroccan, and Yugoslavian sardines or pilchards are available, but their European sales volume is small. There are no United States sardines or pilchards presently being sold on either the European or African market in Leopoldville.

**Marketing Problems:** There are no major market problems for sardines or pilchards. Dealers are bothered by delays in shipments, and the logistics of bimonthly purchasing, but no more so than for most imported commodities. The main market problem for California sardines or pilchards in the African market is their relatively high price. The competition from South African pilchards appears too strong to permit hope for any extensive sale of California pilchards in the Belgian Congo. Trade officials from South Africa indicate that the wholesale price of a case of South African natural-pack one-pound cans of pilchards could be reduced 50 U.S. cents should the California product be lowered to the present competitive level of \$5.00 to \$5.50 per case c.i.f. Matadi.

Japanese sardines are very competitive in price, but the Belgian Congo Government severely limits Japanese imports. Japan buys little from the Congo, and the Administration's policy is to preserve a balance of payments between the two countries by limiting the sale of Japanese goods. The main competitor for American sardines on the African market is Portugal, which exports a very wide range of qualities to the Congo.

For the European market, the price of United States sardines appears competitive. The American community in Leopoldville, however, is about 150 persons, including children. The other Americans in the Congo, mainly missionaries, are widely scattered. There is no American preference demand of any consequence, and the California pilchards would have to combat other well-established national products in a very limited market.

**Prices:** The wholesale price of a case of South African pilchards, 48 cans to the case, natural-pack, tall one-pound cans is now 39.5 to 43 shillings (about \$5.60 to \$6.00) c.i.f. Matadi. The tomato-sauce pack is 1-3 shillings (14-42 U.S. cents) more expensive.

The wholesale price of a case of Portuguese sardines, 1/4-club, peanut oil-pack is 300 to 330 francs (\$6.00 to \$6.60) a case (96 cans) c.i.f. Matadi.

**Market Outlet:** The African market for sardines and pilchards is large, but is showing no sustained growth. Its rate of increase is estimated by local dealers at about five percent a year. As the rate of population growth for Africans is itself 2.5 percent, the actual rate of increase of sardine sales is low. Total import values for both sardines and pilchards were less in 1958 than in 1957, but it seems probable that this was caused by the recession and fall in African buying power.

There is much increased competition from fresh and smoked or salted fish. Their prices are much less than for canned sardines, and local fish is preferred by the native, particularly when smoked. The production of local fish is increasing as the Belgian Congo Government is giving native fishermen every possible assistance, and is teaching villagers to develop fish ponds. Canned sardines and pilchards will face rapidly increasing competition from this source, and also from imports of salted ocean fish.

The immediate marketing potential for California pilchard sales is very slight unless prices are much reduced. The price differential between California sardines and competing products is increased when freight and insurance, estimated at about a dollar a case, are added to the California products. There will be no real market for the California sardines and pilchards without significant price cuts. (United States Consulate dispatch from Leopoldville, May 4, 1959.)



## Brazil

### JAPANESE-BRAZILIAN WHALING ENTERPRISE ACQUIRES TWO CATCHER BOATS:

A Japanese company in mid-May purchased from another Japanese firm two whale catchers, the No. 8 Toshi Maru and No. 11 Toshi Maru, each of 540 tons gross, with 1,800-horsepower reciprocating engines, at a price of 112 million yen (US\$311,000). The company completed preparations for whaling off the Brazilian coast by the joint Brazilian-Japanese company set up for that purpose in Brazil. About 45 men who are to work for this joint whaling enterprise were to sail for Brazil on the two catcher boats around July 10, 1959. (Nikkan Suisan Tsushin, June 1, 1959.)



## Canada

### MARINE OIL PRODUCTION, FOREIGN TRADE AND CONSUMPTION, 1958:

Production: Marine-animal oil production in Canada fluctuates sharply from year to year in accordance with the success or failure of the British Columbia herring fishery and to a lesser extent the seal fishery on the East Coast. In 1958, Canada produced 5.7 million Imperial gallons of marine oils as compared with 3.8 million gallons in 1957 and about 6.2 million gallons in 1956. The increase of about 48 percent in 1958 over 1957 was due to more landings of herring in 1958 in British Columbia.

	1958	1957 <sup>1/</sup>	1956
	. . . (Imperial Gallons <sup>2/</sup> ) . . .		
<b>Atlantic:</b>			
Cod oil . . . . .	630,540	823,323	965,198
Herring oil . . . . .	3/	107,900	148,271
Other (seal, etc.) . . .	4/938,562	712,843	405,436
<b>Total . . . . .</b>	<b>1,569,102</b>	<b>1,644,066</b>	<b>1,518,905</b>
<b>British Columbia:</b>			
Herring oil . . . . .	4,127,761	2,180,510	4,725,903
<b>Canada Total . . .</b>	<b>5,696,102</b>	<b>3,824,576</b>	<b>6,244,808</b>

1/ Revised.  
2/ One Imperial gallon = 1,2009 United States gallons.  
3/ Not available as a separate item.  
4/ Includes herring oil.

Exports: Canada was a net exporter of marine animal oils in 1956 and 1957 and estimates for 1958 indicate that im-

ports and exports are about in balance. In 1958, United States imports of herring and whale oils dropped sharply from the preceding two years, but in all three years the United States was Canada's best customer for cod-liver oil.

	1958	1957	1956
	. . . (Imperial Gallons) . . .		
<b>Cod-liver oil, crude:</b>			
United States . . . . .	4,056	52,120	67,243
<b>Cod-liver oil, sun-rotted:</b>			
United States . . . . .	427,287	519,465	587,777
United Kingdom . . . . .	96,974	29,425	-
Others . . . . .	-	540	-
<b>Total . . . . .</b>	<b>524,261</b>	<b>549,430</b>	<b>587,777</b>
<b>Herring oil:</b>			
Germany . . . . .	162,837	-	1,133,558
Netherlands . . . . .	277,733	-	99,555
Venezuela . . . . .	-	-	2,222
United States . . . . .	-	20,100	139,234
United Kingdom . . . . .	298,666	-	-
<b>Total . . . . .</b>	<b>739,236</b>	<b>20,100</b>	<b>1,374,569</b>
<b>Whale oil:</b>			
Netherlands . . . . .	-	-	91,067
France . . . . .	-	720	307
United States . . . . .	87,290	193,312	257,776
United Kingdom . . . . .	262,888	-	-
Sweden . . . . .	-	19,070	-
<b>Total . . . . .</b>	<b>350,178</b>	<b>213,102</b>	<b>349,150</b>
<b>Fish oils, unclassified:</b>			
Sweden . . . . .	-	-	893
Alaska . . . . .	400	63	573
United States . . . . .	4,676	33,347	11,435
Others . . . . .	2	7	478
<b>Total . . . . .</b>	<b>5,078</b>	<b>33,417</b>	<b>13,376</b>
<b>Total marine-oil exports</b>	<b>1,622,809</b>	<b>868,169</b>	<b>2,392,115</b>
<b>Total marine-oil exports to United States . . .</b>	<b>523,209</b>	<b>818,344</b>	<b>1,063,465</b>

Imports: In 1958 marine-animal oil imports were about 1.7 million gallons--up sharply from exports of 448,000 gallons in 1957 and 491,433 gallons in 1956. The United States share of Canada's marine-oil imports varied from about 65 percent in 1956 and 1957 to 85 percent for the first eleven months of 1958. The sharp increase in Canada's imports of fish oils in 1958 was probably due to a shortage of herring oil in Canada until the late fall of this year.

Consumption of Marine Oils: In Canada marine oils are used mainly for the manufacture of oleomargarine and shortening, with smaller quantities used in the manufacture of soap. In 1958, about 19.8 million pounds of marine oils were used in the manufacture of oleomargarine and 16.7 million pounds were used in shortening.

## Canada (Contd.):

	January-November		1957	1956
	1958	1957		
	(Imperial Gallons)			
<b>Cod-liver oil:</b>				
United Kingdom . . . . .	187,247	65,429	96,454	72,795
France . . . . .	-	-	-	22
Norway . . . . .	3,400	24,340	25,040	60,904
United States . . . . .	11	537	537	396
Others . . . . .	1,087	-	-	-
Total cod-liver oil . . . . .	191,745	90,306	122,031	134,117
<b>Fish oil, unclassified:</b>				
Japan . . . . .	24,540	19,922	21,311	28,267
United States . . . . .	1,367,820	280,046	280,563	300,160
Others . . . . .	8,895	-	-	-
Total unclassified fish oil . . . . .	1,401,255	299,968	301,874	328,427
<b>Whale &amp; Sperm oil:</b>				
United Kingdom . . . . .	7,169	8,203	8,203	11,219
United States . . . . .	9,859	14,841	15,176	17,670
Norway . . . . .	3,857	1,118	1,118	-
Total whale & sperm oil . . . . .	20,885	24,162	24,497	28,889
Total all marine oils . . . . .	1,613,885	414,436	414,436	491,433
Total marine-oil imports from United States . . . . .	1,377,690	295,424	295,424	318,226

Table 4 - Canada's Consumption of Marine Oils in Margarine and Shortening, 1954-1958

	1958	1957	1956	1955	1954
	(1,000 Lbs.)				
<b>Margarine:</b>					
Production . . . . .	145,607	130,645	124,707	125,094	115,868
Marine oils used . . . . .	19,806	17,070	16,835	23,497	15,783
Percent . . . . .	13.6	13.0	13.5	18.8	13.6
<b>Shortening:</b>					
Production . . . . .	163,288	152,047	157,244	153,745	156,714
Marine oils used . . . . .	16,741	26,377	21,298	21,003	15,974
Percent . . . . .	10.2	17.3	13.6	13.6	10.2



## Chile

**LEGISLATION DRAFTED TO PROMOTE FISHING INDUSTRY:**

The Chilean Government's Development Corporation, assisted by the National Fishing Society (Sociedad Nacional de Pesca) and the Fishing Association of Chile (Asociación Pesquera de Chile), have drafted a bill to be presented to Congress during the May 21 to September 18, 1959, session. This bill is intended to promote industrial fishing activities in general. Tax rebates and exemptions for fishing firms are among its provisions and it is hoped this will facilitate credits from private sources for the renewal of fishing fleets and existing equipment.

\* The Chilean fishing industry experienced a considerable growth between 1953 and 1956 while it enjoyed the protection of Decree 208 under which it was granted special privileges within the then existing system of controlled imports and fixed rates of exchange. Between 1945 and 1953, Chile's yearly production of fish did not exceed 50,000 metric tons.

In 1956 a law was passed abolishing all privileges and the fishing industry suffered a setback which resulted in unemployment, lower production, and closing down of industries. The landings of fish, shellfish, and other marine products which amounted to 87,000 metric tons in 1953 reached a peak of 169,000 tons in 1955 and in 1958 totaled 161,000 tons.

From 1953 to 1958, the Chilean fishing industry grew without plan and while many new companies using imported new machinery and equipment for processing were started, little attention was paid to the lack of a well equipped and efficient fishing fleet. During those years, many foreign fishing vessels, and their crews, were hired but the actual number of Chilean boats remained inadequate, nor was there any plan followed to coordinate the industry's operations or promote the building of fishing vessels within the country.

In comparison, Peru, which started its fishing industry at a much later date, but was assisted by foreign capital

## Chile (Contd.):

and know-how as a result of its favorable policies towards foreign investors, now has 5 well-equipped shipyards. These yards have been launching between 30 and 40 vessels a year. Peru has a fishing fleet of some 500 vessels of over 70 metric tons each, in good operating condition. On the other hand, despite its relatively better position with respect to raw materials, labor, power, and a wider variety of fish, Chile has a fishing fleet of only 70 vessels of over 70 metric tons each, of which no more than 50 are believed to be in seaworthy condition. Moreover, of these 50 there are 8 foreign vessels now working for Chilean firms. Chile has no shipyards capable of building modern fishing vessels.

It is significant that with a population not much larger than Chile's and a lesser number of potential consumers Peru in 1958 caught 980,000 metric tons of anchovies in addition to other varieties, while Chile's total fish catch during the same year was only 161,000 tons.

Equally significant is the fact that Peru, despite insufficient transport facilities and a lack of readily available power and labor, has managed to create a strong fishing industry. Chile, with better potentialities, is in a very inferior position. One cause of this anomaly is obviously the fact that while Peru has encouraged the admission of foreign capital and know-how, Chile has done nothing to attract them.

The present Chilean Administration is greatly concerned over this situation and is seeking ways and means of solving the industry's problems. It plans to promote greater consumption of fish in Chile through a broad educational campaign as a means of cutting down on the importation of Argentine beef and creating more jobs; it proposes to increase the protein factor in the diet of the average Chilean; it plans to stimulate the industry's growth by providing long-term credits at lower rates of interest, and reducing taxes.

Chilean exports of fish meal have varied from 3,332 metric tons in 1953, to a low of 1,387 tons in 1954, a high of 8,654 in 1955, and slightly over 4,000 tons for each year from 1956 through 1958.

At the present time there are approximately 42 companies engaged in the Chilean fishing industry. Not more than 20 of these can be considered of importance or are believed to own adequate processing equipment. The efforts of many small firms to improve their operations have been thwarted in the past years by lack of capital. Chile's new legislation is expected to assist both small and large firms to obtain credits for the purchase of equipment from private institutions on reasonable terms, and their future operations are expected to become more profitable through the reduction of their tax load. The new bill, when passed, will favor more particularly those firms which plan to engage in export operations and thus become dollar earners. It will also encourage foreign capital willing to assist the Chilean fishing industry in its development and search for export markets, the United States Embassy in Santiago reported on June 3, 1959.

\* \* \* \* \*

#### TWO UNITED STATES FIRMS INTERESTED IN DEVELOPING FISHERIES:

Two United States firms have expressed interest in developing Chile's fisheries. The plan of a Seattle company and an East Coast byproducts company is to bring four modern fully-equipped fishing vessels to Chile around September 1959. The vessels will catch and sell fish on a commercial basis to demonstrate the advantages of new equipment and modern

methods. The same firm will establish boat building and maintenance facilities. It has been estimated that 100 boats are needed now to meet existing shortages in Chile and 100 additional boats will be needed to replace obsolete Chilean equipment.

The United States east coast byproducts firm is interested in investing in fish reduction plants if results from the demonstration fishing fleet are favorable and if new regulations affecting the fishing industry are adopted by the Government.

Numerous studies have been made on Chile's fisheries. Most of the reports indicate good fishery resources. But the Chilean fishing industry to date has not been able to fully realize the potential of its fisheries. Fishing vessels are old, poorly equipped, and in bad condition. Fishing methods are outdated. Existing fish reduction plants are relatively modern, but are operating far below capacity due to lack of raw material.

New fishing regulations have been proposed and are under consideration by the Executive Branch of the Chilean Government in order to attract greater private investment in the fishing industry through tax exemptions and other measures.



#### Cuba

##### CLOSED SEASON ON SPINY LOBSTER ENDS:

The Cuban National Fisheries Institute terminated the closed season on spiny lobster effective June 20, 1959. The Resolution terminating the above closed season was published in the Official Gazette, No. 108 of June 16, 1959. The original closed season on lobster capture was imposed on March 15, 1959, the United States Embassy in Havana reported on June 24, 1959.

\* \* \* \* \*

##### CLOSED SEASONS FOR SHRIMP, OYSTERS, AND TORTOISES:

The Cuban National Fisheries Institute initiated a closed season on the capture

Cuba (Contd.):

of tortoises and shrimp, effective June 15, 1959. The closed seasons for these species were to remain in effect until August 30, 1959.

The Institute also imposed a closed season on the capture of oysters off all coasts, with the exception of the provinces of Camaguey and Oriente. The closed season was effective as of June 10, 1959. Oysters from the provinces of Camaguey and Oriente when shipped to the market must be accompanied by a permit which will be issued by the Port Delegates of the Institute. This closed season will remain in effect until cancelled by a subsequent resolution.

The pertinent resolutions establishing the above closed seasons were published in the Official Gazette No. 101 of June 5, 1959.



Ecuador

CANNED SARDINE AND SALMON IMPORTS:

Imports of canned sardines and salmon into Ecuador during 1958 totaled 1.6 million pounds, valued at \$246,944, according to a United States Embassy dispatch from Quito dated May 29, 1959.

Ninety-four percent (1.5 million pounds) of the total quantity and 91 percent (\$223,659) of the total value was received from the United States, and believed to consist almost entirely of sardines.

Country	Quantity	Value
	1,000 Lbs.	US\$ 1,000
United States . . . . .	1,503	224
Portugal . . . . .	70	18
Panama . . . . .	11	1
Union of South Africa . . . . .	6	1
Canada <sup>2/</sup> . . . . .	4	1
West Germany . . . . .	2	1
Other Countries . . . . .	4	1
<b>Total . . . . .</b>	<b>1,600</b>	<b>247</b>

<sup>1/</sup>Mostly sardines, as very little canned salmon is consumed in Ecuador.  
<sup>2/</sup>Canned salmon.  
 Note: The dollar value is based on the official exchange rate of 15.15 sucres = US\$1.

Current Consumption Trends: An excess of California sardines exists in Ecuador. Although there is a marked preference on the part of the Ecuadoran consumer for California sardines, it is possible to note in 1958 a relative growth in the consumption of other sardines, principally Portuguese.

Principal reasons that total imports of canned sardines in general and California sardines in particular are diminishing are the following:

(a) Depressive Elements in the Economy: During 1958 these elements have caused a possible low intake per capita and, consequently, in the demand for both national and imported consumer goods.

(b) Greater Competition: Three national sardine canners are now competing in the market. Although the quality of their product is not the best, the difference of about 20 percent in the sale price compared with similar imports (California sardines) is attractive to consumers. Canned tuna also has displaced usual consumers of imported sardines. Substitution of national products such as sardine and tuna for the imported canned sardines has resulted in the improvement of these products by local consumers.

(c) Import Restrictions: Maintenance of tariffs, advance deposits in the Central Bank as required prior to the granting of an import license, and the acquisition of exchange in the free market at an average exchange rate higher than that of 1958 are discouraging several sardine importers from continuing in the business.

(d) Strong Devaluation of the Colombian Peso: This has brought to a halt re-exportation of imported canned sardines that at other times took place in considerable quantities through commercial contraband with Colombia.

(e) Decrease in Price of Similar European Products: During the first quarter of this year several Portuguese sardine canning firms announced reductions of about 5 percent of the original f.o.b. price, possibly caused by the strong international competition in the marketing of these products.

Outlook: Although the general economic condition is slowly improving and better income levels are hoped for this year, the prospects for the import of California sardines are not good.

The surplus of stocks more than the strong competition of Portuguese and other European sardines and tuna has contributed to lowered prices of California sardines and a contraction of earnings on such sales. Consequently, the future for imports of these sardines is unfavorable.

The domestic sardine canning companies are making considerable efforts to improve the quality of their product with hopes of increasing sales and production. Consequently they are attracting an even greater number of the consumers of California sardines because of the similarity of this product, and it is probable that this will also affect the consumption of the European product to some extent. An Ecuadoran tuna canning company, a subsidiary of a large United States west coast cannery, soon hopes to use modern machinery for tuna canning, resulting in the reduction of prices and the widening of their market. The reported plans of the company to embark soon on the production of canned sardines as a subsidiary of the California company may result in obtaining a favorable export margin.

The expected expansion of this industry in Ecuador indicates that restrictions on imports probably will be maintained as a means of protection and eventually imports may be prohibited if the country becomes self-sufficient.

The stores of the Ecuadoran Social Services, Police, and Armed Forces enjoy liberation privileges for imports and are importing sardines, although not in large amounts. However, a project exists for the conversion of the stores to the exclusive sale of national products.

It is estimated that only a reduction in the export prices of California sardines which takes advantage of the highly flexible price that governs this product on the Ecuadoran market and nullifies the relative advantage of the similar national product or the granting of special credit conditions in favor of importers would be able to result in maintaining unchanged or improved levels of import of this product. (United States Embassy Quito, report of May 29.)



## Ethiopia

### DEVELOPMENT OF COMMERCIAL FISHING INDUSTRY PLANNED:

It was reported on June 9, 1959, in an Ethiopian daily newspaper by the Ministry of Press and Information, that a "fisheries training vessel" is being constructed at Massawa by the Ethiopian Government at a cost of Eth. \$45,000 (US\$18,000), and that it is being supplied with Eth. \$15,000 (US\$6,000) worth of equipment. The vessel and equipment are being financed by the United States Overseas Mission FY 1957 Defense Support Funds.

The newly established Ethiopian Section of Fisheries has employed a Danish fishing expert to undertake the training of five students, who have already been recruited to enroll in the course. The project, which is one of the first in the Naval Department's development program will, when established in the near future, qualify fishing officers who will serve as extension agents of the Fishing Section. They will be charged with the responsibility of advising local fishermen to whom they will also serve as government links.

The Fisheries Section plans to embark on a great and varied campaign to improve fishing in Ethiopia. The country has 5,000 miles of sea coast for fishing grounds extending for 12 miles out to sea in its territorial waters. While the coast stretching 150 miles from the border of the Sudan to Massawa is generally regular, the remaining area from Massawa to the French Somaliland border is mostly indented and is thus well suited for fishery development. Several of the inhabited islands off the east coast of Massawa and especially the Dahlak archipelago are rich fishing grounds. When the additional funds allocated by the Imperial Ethiopian Government Economic and Technical Assistance Board have been utilized, there is no reason why, with proper and planned development, Ethiopian fishing grounds cannot provide enough to meet the fishing needs of the country and a possible surplus for marketing abroad.

The development plans of the Fishery Section also include the establishment of

fishery centers along the coast. Upon the completion of their training, each of the five fishery officers will be assigned to head a fishery center and will be delegated to assist the fishing population in his area. Local fishermen, who show sufficient interest in bettering themselves, can be permitted to use the training vessel temporarily. The government will also be prepared to assist financially fishermen interested in the purchase of fishing vessels.

Another phase of the development program is directed at regulating the primitive methods of fishing applied in the inland waters. The Fisheries Section has at present fishery administrative branches in Massawa and Assab. A survey project on the lakes and rivers in the interior will commence shortly to ascertain the extent of fishing potential and the fishing methods utilized. If this survey, however, is to prove worthwhile, the assistance of experts of United Nations Agencies in Ethiopia will have to be secured.

One of the several foreign governments who have shown interest in the promotion of fishing in Ethiopia is the Israeli government. The Fisheries Department of Israel has already requested to undertake a survey of Ethiopia's fishing grounds in the Red Sea to ascertain the fishing potential in that area. The outcome of this survey may result in a joint project which can prove profitable to Ethiopia. (United States Embassy in Addis Ababa, June 10, 1959.)



## French Guiana

### DEVELOPMENT OF SHRIMP FISHERY PLANNED:

Plans are under way for the development of a shrimp fishery off the coast of French Guiana, with Cayenne as base of operations, according to a report by the United States Consulate in Martinique.

The Credit Agricole Director pointed out the following:

(1) Scientific studies of fishing resources in French Guiana waters have disclosed the presence of a large quantity of shrimp

## French Guiana (Contd.):

along the edge of the continental shelf about 15 miles off the coasts of Surinam and French Guiana, extending down to the vicinity of Cayenne.

(2) The shrimp are quite large, and when full-grown measure from 7.1-8.7 inches in length. Development of a shrimp-fishing industry, with the United States as the principal market, would contribute materially to the economy of French Guiana, and the French Government is prepared to extend substantial credits through the Credit Agricole to get such an industry started.

(3) The first step is the development of a fishing base at Cayenne. This involves the building of a marine railway and repair base, with repair shops. There is already 220 cubic meters of cold-storage space at Cayenne, which could easily be increased; and ice-making capacity of 40 tons a day. Electrical generating capacity is more than sufficient for any expansion.

(4) Next item is a small fleet of fishing boats. From 5 to 10 vessels 50 to 70 feet long are believed to be the kind of fleet needed. Vessels would not be equipped with mechanical refrigeration, but would carry ice. It has been proposed that Guadeloupe's fully-equipped fishing vessel, the Governor Felix Eboué be brought to Guiana to form the nucleus of a fishing fleet, but the Director said that present thinking is that the vessel is too big and elaborate for the job. It could, however, be used as a sort of mother-ship, to supply ice to and take on shrimp from the smaller vessels actually fishing.

(5) It is believed that in the course of trawling for shrimp, the vessels would haul in many edible fish. These would be sold on the local market in Cayenne. Only the shrimp would be packed and shipped, probably by cargo plane to the United States.

(6) It is primarily in the packing, shipping, and marketing phase of the operation that the French feel that they will need American technical assistance. The Director said that the French want to do a

top-notch job of preparation and packaging, to make the final product meet the highest American standards and bring the best possible prices.

According to reports, the French would like to keep the shrimp fishing industry in French hands, if they can. On the other hand, it is evident that they intend to start on a small scale.

It would appear from the location of the shrimp along the edge of the continental shelf that they lie well outside French territorial waters. However, it would be difficult for anyone to fish the shrimp without using Cayenne as a base of operations, as there is no other port in the area. It appears to be the French plan to start with development of a fishing fleet base in Cayenne, and to make further decisions as the situation develops. (United States Consulate in Martinique, June 23, 1959.)



## Greenland

FACILITIES FOR FISHING  
INDUSTRY TO BE EXPANDED:

A program of expansion of industrial projects in Greenland includes the establishment of fish canning and filleting plants, salting houses, and freezing and cold-storage facilities at Jakobshavn, Christianshaab, Godthaab, and Frederikshaab. The expenditures involved are estimated at 16.7 million kroner (US\$2,418,000) and will, it is expected, result in a material increase in the output of processed fish and shellfish in Greenland.

Full utilization of the expanded processing capacity will necessitate an increase in the number of fishing vessels and a changeover to larger seagoing vessels. However, the acquisition of new fishing vessels is outside the present program and, as in the past, will be undertaken by the Greenland fishermen, who are private owners of the fishing fleet, with the assistance of existing government subsidy facilities. It is estimated that between 5 and 6 million kroner (US\$724,000-\$869,000) will be required for the acquisition of new fishing vessels during the next several years.

### Greenland (Contd.):

Facilities for the landing of fish in Greenland will be improved considerably through the construction of a new fisheries harbor at Godthaab and the expansion of existing harbors at Holsteinborg and Frederikshaab and mooring facilities at Jakobshavn, Christianshaab, and Sukkertoppen. The establishment of a fisheries harbor at Godthaab has been contemplated for several years and is considered necessary for the successful operation of the fish-processing plants. The total expenditures on these projects is estimated at 7.6 million kroner (US\$1,100,000), including 6.2 million kroner (US\$898,000) for the new harbor at Godthaab (United States Embassy report of June 19 from Copenhagen).



### Hong Kong

#### FISHERIES TRENDS, FIRST QUARTER OF 1959:

The Hong Kong fishing fleet landed about 22.1 million pounds of fresh marine fish during the first quarter of 1959. This catch was valued at HK\$14,338,986 (US\$2,509,000). About 2.0 million pounds of salt-dried fish, with a value of HK\$808,963 (US\$142,000), were landed. During the quarter about 208,600 pounds of shrimp were marketed through the Fish Marketing Organization. This limited supply of shrimp was principally for export to the United States. The marketing officer of the Fish Marketing Organization reports that the first quarter is the slack season for shrimp fishing in Hong Kong.

The Hong Kong fishing fleet continued to suffer from Communist-imposed restrictions on the use of the waters off the Pearl River delta. At the beginning of the quarter a Hong Kong fishing trawler was fired upon by a Chinese communist gunboat. However, there were no more incidents and at the end of the quarter authorities of the Hong Kong Government reported that although the Communists' restrictions were still in force, they were not being administered with great vigor. Hong Kong fishing vessels venturing into waters claimed by the Chinese Communists still run a risk. This risk

lies heaviest on wind-driven vessels which cannot shift fishing grounds rapidly.

About 200 fishermen who have been turned out of work by the Chinese Communist ban have accepted employment as construction workers on the new Shek Pik reservoir on Lan Tao Island. This employment was arranged by the Hong Kong Fishing and Commercial General Association, who obtained the cooperation of the construction company which is doing preparatory work on the reservoir. Of some interest to the Hong Kong fishing industry was the proposal put forward by two unofficial members of the Legislative Council that the Government take the lead in developing a fishing fleet. Although the Government has not officially accepted this proposal, it is possible that some action may be taken in this direction. (United States Consul in Hong Kong, June 10, 1959.)



### Iceland

#### HERRING FISHERY TRENDS:

At the end of the main winter cod fishing season (ended May 10), most of the Icelandic motorboat fleet hauled-out for refitting in preparation for the herring season off the North Coast and in mid-May moved north to converge on the herring fishing grounds. In 1958, there were 242 Icelandic boats engaged in the North Coast herring fishery, and approximately the same number were expected to take part this year. Stormy weather kept the boats from starting as early as last year (June 17), but the first catches were expected about June 20.

The Icelandic Government agreed that the Export Fund should pay 70 percent export premium on North Coast herring processed as meal and oil, and 75 percent when salted.

The Herring Board has completed advanced sale contracts with Sweden and Finland, but negotiations are still underway with the U.S.S.R. and East Germany, the other two leading buyers.



## India

### EXPERIMENT WITH THAILAND CARP IN WEST BENGAL WATERS:

A species of carp (*Cyprinus carpio*) new to India, was introduced from Thailand last year and has been reared with encouraging results at the West Bengal Government's Departmental Fish Farm at Duttabad. The Thailand carp is a strain of a dwarf type of Chinese origin. This is reported to be the first attempt in India to cultivate this species with a view to ascertaining its compatibility with local varieties.

The important characteristic of this species which makes it suitable for conditions in West Bengal is that it is a prolific breeder and can breed in confined waters year-round. This solves a serious problem of procuring spawn for inland fisheries; most of the West Bengal carp normally breed only in flowing and flooded rivers and lakes. While it has been ascertained that the Thailand carp can thrive simultaneously with local carp without adversely affecting the growth of the latter, further research work is under way to determine whether this species is a competitor of the local carp.

The rate of growth of this species is believed to be much greater and produces 50 percent more fish than the local carp. The maximum weight of some of those reared has been 6 pounds while the average weight is about  $3\frac{1}{2}$  pounds. The maximum length attained is 20 inches. The perfect temperature for breeding has been found to be  $32^{\circ}$  C. ( $89.6^{\circ}$  F.). Another important aspect of this species is that it grows naturally in confined waters, requiring practically no attention at all during growth.

The introduced Thailand carp with its various advantages over West Bengal carp holds out hope for increasing production of fish in inland water areas. Initially the Fisheries Department contemplates planting a small number of fish in selected ponds and tanks throughout the State where it can breed naturally.



## Indonesia

### CANNED SARDINE MARKET:

As of June 1959 canned Japanese sardines were about the only imported sardines on the Indonesian market. Early in 1959 there were some offerings of sardines from the Netherlands and the United States. The Japanese canned sardines are preferred in the Indonesian market because the price is lower and the quality about the same as for sardines from other foreign sources. No sardines are canned in Indonesia and imported sardines are popular, but imports are limited because of the short supply of foreign exchange.

During 1958 sardine imports amounted to about 2.5 million pounds. Imports from Japan accounted for 2.4 million pounds and the United States share was only 16,700 pounds. Netherlands and other countries also supplied small amounts.

Japanese canned sardines in June 1959 sold for about Rp. 30 (29 U.S. cents) a 15-oz. oval tin packed in tomato sauce. Six months earlier when the United States and the Netherlands provided a little competition, the market price of United States sardines in a 15-oz. oval can packed in tomato sauce sold for Rp. 20 (19 cents). The Japanese 15-oz. oval can in tomato sauce at that time sold for Rp. 15 (14 cents). (United States Embassy report of June 4 from Djakarta.)

Note: Values converted at rate of 104.2 rupiahs = US\$1.



## Japan

### CANNED LIGHTMEAT TUNA PRICE CUT CONSIDERED:

On June 18 at a conference of directors of the Japanese exporters' association and the Tuna Sales Committee, trading company representatives expressed their views on suitable selling policies for canned tuna in brine, both lightmeat and whitemeat.

Of this year's global quota of 2,490,000 cases of canned tuna in brine, the joint sales company has so far sold 1,230,000 cases. Third countries have exported about 160,000 cases to the United States.

## Japan (Contd.):

The remaining 1,100,000 cases must be sold by October, but of this all that can be expected in the way of whitemeat supply is about 100,000 cases (the present whitemeat inventory of the sales company is about 40,000 cases), so the greater part of the quota must be filled with lightmeat.

Strenuous measures will be required to sell this lightmeat tuna, according to the Japanese. With regard to measures for selling the 1 million cases, it was reported that a certain trading company had offered to take on the whole amount at the present price. Some of the producers were urging the joint sales company to exercise its right to use only 50 percent, which is the sales company's free sales quota. There was strong opposition to those ideas, and the majority favored getting past the crisis by such measures as cutting the price of canned lightmeat and putting more effort into advertising. No conclusion was reached at the conference, and further meetings were scheduled. (Nikkan Suisan Tsushin, June 18, 1959.)

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#### CUT IN PRICE FOR LIGHTMEAT CANNED TUNA OPPOSED:

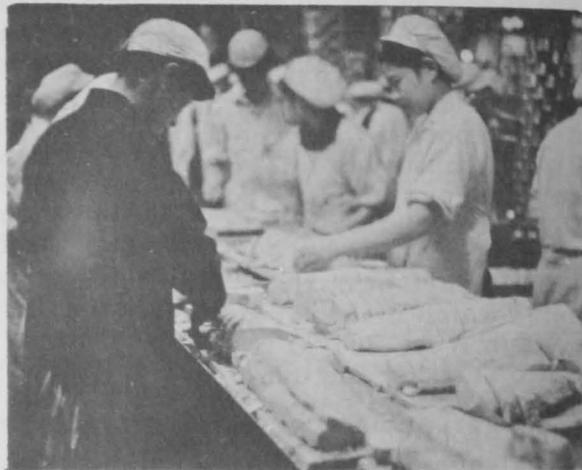
With reference to the Japanese tuna trading companies' proposed reduction of US\$1 in the price of lightmeat canned tuna in brine for export to the United States, it has been pointed out that such a cut would mean a loss of US\$800,000, even if lightmeat sales were held to the minimum level of 800,000 cases. If price reductions under floor clauses are included, the loss would amount to more than US\$1 million. Therefore, it was considered highly probable that the packers, who are under the necessity of producing whitemeat at a considerable loss, will absolutely refuse such a price cut and will rather seek a raise of about US\$3 in the price of whitemeat (Nikkan Suisan Tsushin, June 23, 1959.)

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#### CANNERS SCALE DOWN PROPOSED PACK OF CANNED WHITEMEAT TUNA:

The Japanese Export Canned Tuna Producers Association held a directors'

meeting on June 11 to discuss revision of its earlier plan on the pack ratio for lightmeat and whitemeat canned tuna. It was decided to reduce the whitemeat pack ratio from 55-65 percent to a minimum of 35 percent.



Cutting table in a tuna cannery in Hiroshima, Japan.

At a directors' meeting in March of this year it had been decided to produce canned tuna in brine for export this year in the ratio of 55-65 percent whitemeat to 35-45 percent lightmeat; however, since that time the landings of albacore (summer albacore), which are the raw material for whitemeat tuna, have been very light, and the ex-vessel price has increased steeply until in mid-June it was around 150-165 yen per kilogram (US\$378 to \$415 a short ton). This has limited the pack of whitemeat canned tuna. No maximum was set in order to allow for elasticity to cope with changes in the fishing conditions.

It is anticipated that packing will now be concentrated on lightmeat, but according to trading company sources, the market for lightmeat tuna in the United States, which is the largest market, is soft. (Nippon Suisan Shimbun, June 15.)

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#### CONSIGNMENTS OF CANNED TUNA FOR APRIL-JUNE 1959:

Scheduled consignments to the Tokyo Canned Tuna Joint Sales Company for the first quarter of the Japanese fiscal year (April-June) were about 960,000 cases, but up to June 18 they had received only about 820,000 cases (459,000 cases of

## Japan (Contd.):

lightmeat and 362,000 cases of white-meat, both types canned in brine), leaving about 140,000 cases of the quota to fill.

It was estimated that there remain unsold out of those consignments 350,000 cases of lightmeat and 40,000 cases of whitemeat (7-ounce cans only)--13-ounce cans and 2-kilogram cans (4.4 pounds) are 45,000 cases short. If white-meat was to make up more than 35 percent of the total production quota, as decided at the recent meeting of the directors of the canners' association, an additional 540,000 cases should have been consigned by July 3. However, the pack that could be expected from summer albacore, if the small landings of about 100 tons a day continue, would be only around 100,000 cases or, at most, including goods under inspection, etc., about 200,000 cases. (Nikkan Suisan Tsushin, June 23, 1959.)

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## TUNA EXPORT REGULATORY COUNCIL PLANNED:

A visit by officers of the Japanese Export Tuna Canners' Association to the Chief of the Japanese Fishery Agency's Production Section on June 18, 1959, gave birth to the idea of setting up a regulatory council to be concerned mainly with tuna export problems. Since then the formulation of plans has proceeded speedily. The Fisheries Agency sections concerned have drawn up plans for the membership, organization, and operation of the council.

The council will have the status of a consultative organ for the Fisheries Agency, and will serve for liaison among groups which have hitherto lacked lateral connections. At the same time it will take up individually concrete problems related to exports, such as the foreign base problem and the transshipment problem, discuss them, and make decisions. Members are expected to be H. Ueda of the Export Tuna Canners' Association, K. Nakabe representing the freezers, and S. Masuda of the Tuna Fishermen's Federation. The idea is for responsible representatives of the industry, by consultation, to adjust problems which

are potential sources of trouble. The Fisheries Agency is thinking of making its granting or withholding of licenses and permits dependent on whether or not the council can reach agreement. (Nikkan Suisan Tsushin, June 22, 1959.)

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## JOINT SALES COMPANY FOR FROZEN YELLOWFIN TUNA EXPORTS:

Discussions in Japan on the establishment of a frozen yellowfin export joint sales organization had been interrupted since May, but sentiment in favor of it has increased again because of the higher percentage of rejects reported on shipments to California tuna canners. On July 8 a committee composed of both land freezers and shipboard freezers, appointed by the Export Tuna Freezers' Association to study this question, met and agreed on the speedy setting up of a joint sales organization for exports of yellowfin tuna by liner from Japanese ports to the United States.

The concensus is that the establishment of a strong joint sales organization is essential in order to plan improvement of sales and reduce the amount of rejects at the canneries. The shipboard freezers (clipper operators) are taking the position that a condition of the establishment of a joint sales organization must be that the minimum ex-vessel price must be maintained at about \$200 a short ton, and the land freezers have also agreed on setting up a system to guarantee a minimum ex-vessel price.

The committee on setting up the joint sales organization held its first meeting on July 9, and informed sources say that the new sales organization's functions will not necessarily be limited to so-called "liner" exports from Japanese ports.

The following reasons are cited for the change in the clipper operators' stand about a joint sales company:

(1) The recent increase in rejects of transshipped tuna at California canneries has made the shipboard freezers feel keenly the necessity for setting up a strong sales organization to deal with claims and sales problems.

Japan (Contd.):

(2) As the novelty of the transshipment export trade wears off, there is certain to be an increase in the quantity of ship-frozen tuna landed in Japanese ports. This will bring a strong possibility of a drop in ex-vessel prices in Japan, and in order to forestall this, the clipper operators are moving in the direction of improving liner export prices and establishing minimum guaranteed ex-vessel prices.

(3) It has become impossible to expect that ex-vessel prices will stay at a high level even though export prices fall, as was the case until last year. Now ex-vessel prices and export prices have come to move up and down together, and this has brought the vessel operators around to feeling greater concern over the movements of the export market. (Nikkan Suisan Tsushin, July 10 and 13, 1959.)

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#### METHOD FOR DETECTING GREEN MEAT IN RAW TUNA FOUND:

Lately, increasing buyers' claims against frozen tuna shipped from the Atlantic have been causing concern in Japan. A method has now been found for detecting, before cooking, the green meat condition which is the main cause of claims, and it is hoped that this will help solve the claim problem and reduce the percentage of green tuna rejects. (Previously, green-meat tuna could be detected only after cooking.)

The method has resulted from joint studies by the Frozen Aquatic Products Inspection Association and the Tokai Regional Fisheries Research Laboratory. They found that color of the kidney tissue of fish which showed green meat after cooking was conspicuously darker than that from normal fish, and they discovered an easy method of detection by using an aqueous suspension. The method is to take about 10 grams of kidney as close to the center of the organ as possible and mash it. Then 1 gram of the tissue is placed in a small flask, about 50 cc. of water is added, and the flask is shaken. The occurrence of green meat can be predicted by the color of this fluid. The gradations of color are:

- (1) red, reddish brown, slightly reddish brown
- (2) light brown, brown, dark brown, dry leaf color
- (3) brownish black, grayish black, black

Of these three colors, the green meat phenomenon turns up mostly in group (3), which looks like soot dissolved in water. The degree of accuracy attained was 80 percent at the Tokai Laboratory and 100 percent at the Inspection Association.

It is explained that the trade in yellowfin from the Atlantic through Haiti and Panama looked very hopeful at first because rejects were few, but since the first of this year the incidence of rejects has gradually increased until recently it has risen as high as 30 percent. People concerned have considered that this is probably an effect of the falling market for canned tuna, but at the same time serious thought has been given to finding a method of preventing or detecting in advance the green meat or dark meat conditions which are the main cause of claims against frozen tuna whether transshipped or exported from Japan. Source: Bulletin of the Japanese Society of Scientific Fisheries, vol. 24, no. 8, p. 679, Hirao et al. (Suisan Keizai Shimbun, June 16, 1959.)

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#### FISHERMEN SEEK ALBACORE ON DISTANT GROUNDS:

The Japanese summer albacore fishery this year has been completely abnormal, and the ex-vessel price at Shimizu has risen to an unprecedented 180 yen per kilogram (US\$450 a short ton). Stimulated by these high prices and by reports that albacore schools have appeared far off to the east, part of the Shimizu fleet has begun a rapid movement into the eastern grounds. This movement was begun by boats from Kagoshima Prefecture, and now some Shizuoka Prefecture boats have moved out as far as 156° E. and 160° E. longitude, and exploitation of grounds 1,000 miles or more from the coast has begun.

Some of the Mie Prefecture boats, which are finding that skipjack fishing has slacked off, are also planning to make

## Japan (Contd.):

their next trips for albacore 1,000 to 1,500 miles east of Japan.

Up to now the nearer grounds have afforded poor fishing, and the industry is watching with intense interest to see whether good fishing will develop off to the eastward. (Nippon Suisan Shimbun, June 27, 1959.)

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SUMMER ALBACORE  
LANDINGS BELOW NORMAL:

Summer albacore landings in Japan as of July 11 amounted to only 7,200 metric tons. This is only one-third of the small 1958 catch, and about one-fifth of a normal year's catch. As a result, the Japanese freezers have been able to buy hardly any summer albacore, and the frozen tuna inspection office in Shimizu, for the first time since its establishment, has inspected no summer albacore for export.

The canners' pack of whitemeat tuna for export to the United States has finally reached 500,000 cases (including what the packers had on hand at the end of the last fiscal year). Counting on the expected pack from winter albacore, all packers except the three largest ones will just barely be able to fill their minimum white meat pack quotas of 35 percent of their total tuna pack allotments, so that on the canned pack side at least the worst possible shortage has been avoided. (Nikkan Suisan Tsushin, July 13, 1959.)

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WORLD-WIDE TUNA  
FISHING CRUISE PLANNED:

Japanese tuna fishing circles in Shimizu are watching with interest the progress of a plan for a year-long, round-the-world tuna fishing trip. The vessel is No. 5 Seiju Maru (500 tons gross), which was due to sail in July with a captain and 30 crew members to fish in the Indian Ocean, the Mediterranean, the Atlantic Ocean, and the eastern Pacific Ocean, and sell the catch at various ports.

Principal fishing grounds will be in the Indian Ocean, off the Gold Coast of

Africa, and off Brazil in the Atlantic, and, after traversing the Panama Canal, in the Pacific Ocean around the Galapagos Islands. The catches of yellowfin and albacore will be landed in Germany, Yugoslavia, and Cristobal in Panama.

The Seiju Maru is the latest type of large tuna long-liner, and was planned for operations in distant waters. She carries 1.5 times as much fish as older boats of the same tonnage, and has the capacity to freeze 30 tons of tuna per day. The grounds that will be fished by the Seiju Maru were surveyed last year by the research vessel Shoyo Maru, of the Japanese Fisheries Agency. The industry is showing deep interest in this bold plan of a privately-owned vessel. The Seiju Maru is scheduled to return to Japan in July of 1960 (Nippon Suisan Shimbun, June 24, 1959).

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MACKEREL-PIKE CANNERS PLAN-  
NING TO LIMIT PACK NEXT SEASON:

The Japanese Mackerel-Pike Export Canners Association met on June 5 and considered plans for the 1959 canning year (August 1959-July 1960). The plans were to be submitted to the membership at a meeting on June 18. The major points of the draft were: (1) Total production quota of mackerel-pike or saury to be 660,000 cases (past season's was 1,030,000 cases), of which 60,000 cases will be allocated equally among the canning companies, 500 cases to a producer. Last season there was no such equal allocation. The remaining 600,000 cases will be allocated as follows: 590,000 cases in the proportion of 8 based on past pack records to 2 in a free quota. A quota of 10,000 cases will be for new producers. (2) Use of the free quota will be limited to 5,000 cases per company, except that companies which joined in 1958 will be limited to 1,000 cases and those that joined in 1957 to 2,000 cases.

The large-scale cut in the over-all pack quota is considered unavoidable in view of the present sales situation and the inventories held by the joint sales company. Furthermore, the reserve quota and adjustment quota systems which were in effect the past season have been dropped because of the order for the

## Japan (Contd.):

control of "outsiders" which was expected to be promulgated on August 1 of this year. (Nikkan Suisan Tsushin, June 6, 1959.)

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## MACKEREL-PIKE

## CANNING PLANS FINALIZED:

The Japanese Mackerel-Pike Export Canners Association held a special general meeting on June 18 to consider mackerel-pike or saury packing plans for the 1959 production year (April 1, 1959-March 31, 1960). Export shipments for 1959 will be 660,000 cases (472,000 cases allotted by past production records, 118,000 cases free quota, and 70,000 cases to be equally allotted among packers). Sales prices and production quotas by can sizes and styles will be decided later. As of June 15, stocks held by the joint sales company were 462,478 cases. (Nikkan Suisan Tsushin, June 18.)

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EXPORT PROSPECTS FOR  
CANNED CRAB MEAT THIS YEAR:

It is expected that the pack of canned king crab meat this year by Japanese factoryships and land canners combined will be around 420,000 cases. Trading circles believe the prospects are for export of about 380,000 cases. Traders expect that of the 420,000-case pack, about 70,000 cases will be sold on the domestic market, leaving 350,000 cases for export. Of this it is estimated that 100,000 cases will go to the United Kingdom, 200,000 cases to the United States, and 50,000 to other countries. Of those principal markets, the 100,000 cases for the British is considered sure. The British consume annually about 200,000 cases, of which at present the U.S.S.R. and Japan each supply approximately half. If there is no sudden change for the worse in Britain's foreign exchange situation, and if the U.S.S.R. does not embark on any drastic price cutting, there will probably not be any change in this balance in the market.

With regard to the 200,000 cases for the United States no important change is expected.

Among the markets for the remaining 50,000 cases, hitherto Europe, Australia, and Hawaii have been most important, but it is thought that Hawaii's becoming a State may have an adverse effect on the export market there. (Nippon Suisan Shimibun, June 5, 1959.)

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PLANS TO ADVERTISE CANNED  
FISH IN FOREIGN COUNTRIES:

The Japanese have revealed a number of plans to advertise canned fish in foreign countries in order to increase consumption in markets abroad. The advertising plans were announced by the Japan Export Trade Research Organization after it consulted with the packers and canners.

To advertise canned mackerel-pike, a motion picture costing \$11,000 (about \$5,500 is to be provided by the Japanese Government) is planned. In addition, it is planned to spend about \$4,100 in Canada to advertise on television.

For canned sardines, a \$972,000 advertising program in Philippine newspapers was announced.

Ads in the British periodical Economist for canned crab, salmon, trout, and tuna are planned, costing about \$500.

Funds for the promotion programs announced will be supplied by the packers' associations and the Government. In addition, the use of signs and posters is also under discussion.

Advertising of canned tuna in the United States market was also announced. About \$140,000 will be used for ads in newspapers and magazines. In 1958 a joint Japanese-United States advertising program had been planned, but agreement was never reached. Therefore, the money not used was carried over for this year's advertising program, with the addition of funds provided by the tuna canning and freezing industries in Japan, and the Japanese Government.

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Japan (Contd.):

**PLANS INDEFINITE FOR  
ADVERTISING TUNA  
IN THE UNITED STATES:**

Advertising Japanese tuna in the United States has been planned with a fund of 50 million yen (approximately US\$140,000), including money carried over from last year. However, exporters of canned and frozen tuna have been unable to agree on the manner in which the advertising is to be handled. Plans for the campaign are at present being examined by representatives of the canning and freezing industries, together with the Japanese Fisheries Agency and the International Tuna Council, but because the industry is faced with serious problems as a result of the poor summer albacore season, the planning temporarily is at a standstill.

As a result, the initial policy, which was to advertise during the summer and the Lenten season, broke down, and because there is a lag of about two months between the ordering of advertising and its appearance, it looks very much as if the advertising will appear after September, at the earliest. The plans have been somewhat modified from those submitted earlier by the International Tuna Council and those concerned were hoping for a final decision before the end of June. Cannerymen have been maintaining that the campaign should emphasize tuna in brine, while freezers have been in favor of advertising which would also indirectly benefit tuna canned in oil. (Suisan Keizai Shimbun, June 11, 1959.)

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**STUDIES ON MARKETING  
OF CERTAIN FISHERY PRODUCTS  
IN UNITED STATES PLANNED:**

The Japan Export Trade Promotion Organization has budgeted US\$6,000 for the coming year for studies of the possibility of marketing canned saury or mackerel-pike in the United States, for investigation of the organizational connections of the movements to restrict Japanese canned oyster imports, and for a canned crab market survey. Personnel stationed in the United States will shortly receive instructions to carry out these studies as follows:

Canned mackerel-pike survey, \$1,000 budgeted. At present in the southern part of the United States some low-income groups are consuming canned jack mackerel, mackerel, and sardines. In order to predict the possibility of substituting Japanese canned mackerel-pike, which is as yet unknown in that area, samples will be shipped to representative cities of the State of Mississippi to canned goods wholesalers and retailers, housewives, and newspaper and magazine reporters, and the following points will be investigated: (1) sales possibilities; (2) suitability of tomato sauce, oil, or water pack; (3) suitable sizes of cans for each pack; (4) suitability of the prices; (5) taste acceptance.

Canned oyster survey, \$3,000 budgeted. The background of the recent movement to restrict Japanese imports--that is, falling production and rising prices in the East Coast area--will be analyzed, and the following will be studied: (1) annual production by types of goods in the United States; (2) imports by country of origin and type; (3) comparison of prices of Japanese and American goods; (4) prices and commissions in the distribution process; (5) present tariff conditions; (6) consumption of boiled oysters; (7) demand for seed oysters on the Atlantic and Gulf coasts; (8) supply and demand prospects for raw and canned oysters by areas; (9) distribution by states of oyster growers, importers, and cannerymen.

Frozen and canned tuna, \$5,000 budgeted. For survey of quantities of frozen and canned tuna exported, distribution routes, quality, advertising methods, and consumer capacity. Also canned tuna production in countries exporting to the United States, particularly methods of obtaining raw material, production capacity, and statistics (Suisan Keizai Shimbun, June 20, 1959).

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**NEW TUNA LONG-LINER COMPLETED:**

The largest privately-owned high-seas tuna fishing vessel in Fukushima Prefecture was completed early in June. It is the tuna long-liner No. 18 Seisho Maru (239 tons gross). This vessel, which carries a crew of 28, was built by the Yam-anishi Shipyard of Ishinomaki at a cost of about 100 million yen (US\$280,000).

Japan (Contd.):

Fukushima Prefecture already had a large prefectural fisheries guidance vessel, the Iwaki Maru (475 tons) and the training ship Fukushima Maru (221 tons); the completion of the No. 18 Seisho Maru brings the number of vessels of over 200 tons gross in the prefecture to four, including one other privately-owned vessel.

The feature of the new vessel is its modern equipment, including radar, loran, directional fish-finder, and electric water temperature thermometer, making it perhaps the best equipped vessel of its type in Japan. The engine is a 550 hp. Diesel with supercharger, and there are two 80 hp. auxiliaries. Fish-carrying capacity is 135 tons, and although it has been considered impossible to equip a vessel of under 350 tons gross with freezing capacity of more than 3.75 tons a day, the builders have managed to put a capacity of  $4\frac{1}{2}$  tons into this vessel. Speed is 12 knots, and cruising range is 24,000 miles. The hull is steel, and mostly electrowelded. The vessel is equipped with automatic pilot and remote-steering control. There is a speaker in each compartment of the vessel, and these are wired so that even if the speaker switch is turned off, emergency signals can be broadcast.

The No. 18 Seisho Maru sailed from Ena on June 10, and after calling at Misaki in Kanagawa Prefecture was to proceed on her maiden voyage to fish tuna in the Marshall Islands area.

Last fall the question of the most economical size for tuna boats operating in distant waters was the subject of debate between the vessel operators and the Fisheries Agency. Now such a vessel, a specialized tuna long-liner of the 250-ton class, has been completed. The vessel is the first such tuna long-liner built for a private owner in Fukushima Prefecture.

Since before World War II the Japanese high-seas tuna fishery has flourished, and it has been said that all of the tuna grounds of the Pacific have already been fully developed. It is considered that grounds producing catches of over 2,000 kan (slightly more than 8 short

tons) a day can be found only by going to the Indian Ocean or the Atlantic. On this point, the people responsible for the building of the No. 18 Seisho Maru boast that she is a classic type of a completely economical vessel, which can pay fully on catches of 1,000 kan a day (4 tons) but which can also go to the Atlantic, if necessary.

The No. 18 Seisho Maru is planned primarily for fishing in the equatorial Pacific, around the Marshall and Caroline Islands, and in the Indian Ocean. Her officers consider that she can be operated satisfactorily on catches of around 4 tons a day, taking 35 days of fishing to get a full load and making trips of about 75 days. This figure of 75 days includes 40 days running to and from the grounds. This allows for the vessel's being sent immediately to the Indian Ocean, in case catches on the Pacific grounds fall below 1,000 kan (4 tons) a day. Much attention has been given to electronic instrumentation in order to economize on running expenses in case of shifts from one fishing ground to another.

According to those responsible for the building of the vessel, the initial plan was to build a boat of the 350-ton class, but after calculating the operating expenses and estimated catch of such a vessel, it appeared that a minimum daily catch of 1,500 kan (about 6 short tons) would be necessary. This wasn't possible because in the principal tuna grounds of the equatorial Pacific, catches of over 1,000 kan a day are exceptional. In order to make catches of 1,500 kan regularly, it is necessary to go to the Indian Ocean or the Atlantic. Therefore, it was decided to build a vessel of the 250-ton class, which could operate quite profitably on catches of 1,000 kan a day. As a means of raising efficiency and saving fuel while running at night or in fog or squally weather, radar and loran were installed. The loran receiver will enable the captain to record accurately the position of good fishing grounds, so that they can be found again without fuel-consuming searching. The vessel's communications equipment includes a 250-watt, 22 MC main transmitter which will enable her to communicate satisfactorily with her base in Japan

Japan (Contd.):

from as far away as the South American coast. (Suisan Keizai Shimbun, June 12 and 14.)

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#### COMPANY EXPANDS TUNA FISHING FLEET:

A Japanese fishing company has already built two tuna fishing vessels (No. 1 Kaki Maru and No. 2 Kaki Maru), each of 380 tons gross. Now the company's No. 3 Kaki Maru, 450 tons gross, has recently been completed by the Miho Shipyard at Shimizu, and was to be launched on June 2.

This Japanese company plans to put more and more of its efforts into tuna fishing in distant waters, and plans to build two more tuna boats. The No. 3 Kaki Maru cost 160 million yen (about US\$448,000) to build. The new vessel was expected to sail for the Atlantic early in July, and it is planned that she will make about five trips a year. (Nikkan Suisan Tsushin, June 1, 1959.)

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#### LOANS FOR CONSTRUCTION OF FISHING VESSELS IN 1958:

Loans from the Japanese Government's Agriculture, Forestry, and Fisheries Fund for vessel construction in 1958 were as follows: for large tuna boats, 18 loans totaling 641 million yen (US\$1,781,000); for medium tuna boats, 68 loans totaling 774 million yen (US\$2,150,000); for East China sea trawlers, 19 loans totaling 550 million yen (US\$1,528,000); for medium sized home-waters trawlers, 30 loans totaling 300 million yen (US\$833,000); for seiners, 13 loans totaling 160 million yen (US\$444,000); for salmon driftnetters, 41 loans totaling 410 million yen (US\$1,139,000). Loans for medium-sized tuna boats (40-100 tons gross) were up 390 million yen (US\$1,083,000), more than double the 1957 figure (Suisan Keizai Shimbun, June 21, 1959.)

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#### SECOND TUNA VESSEL FOR THE SOVIET UNION COMPLETED:

A Japanese shipyard recently completed the second of two tuna vessels

for the Soviet Union. Delivery was scheduled to take place on June 14. The 500-gross-ton vessel will be towed to Vladivostok by a Soviet freighter.

The same shipbuilding company that built the two tuna vessels also worked on two herring factoryships of 4,900 dead-weight tons for the U.S.S.R. Refrigeration machinery for the tuna and herring vessels has been ordered from a Japanese company of Osaka at a cost of about 300 million yen (US\$833,000). This is the first such large order from the U.S.S.R. Delivery was scheduled for the end of August.

The equipment for each tuna vessel will be two ammonia machines of 40 horsepower (one for freezing and one for precooling) with a daily refrigeration capacity of 120 tons. The herring vessels will have four air-cooling machines, and five (for each vessel) 50-horsepower freon freezing machines, plus two 7.5 horsepower freezing machines for keeping stores. With this equipment, the temperature throughout each herring factoryship can be suitably regulated. (Nikkan Suisan Tsushin, June 4 and 10, 1959.)

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#### TUNA FISHERMEN'S FEDERATION OPPOSES REDEPLOYMENT OF SALMON FISHERMEN:

Because the Japanese North Pacific salmon fishery is being restricted more and more each year, the Japanese Federation of Salmon Fishermen has been pushing a plan to redeploy part of the salmon fishermen into tuna fishing. The Japan Tuna Fishermen's Federation met on June 11, 1959, with newsmen to explain that they had decided on absolute opposition to any redeployment of surplus salmon fishermen into the tuna fishery because of present trends in the tuna resources and because of the present economic conditions in the fishery. The main points were as follows:

The salmon fishermen's federation has asked the tuna fishermen's cooperation in arranging for excess salmon fishermen to enter the tuna fishery with 20 or 30 tuna boats of the 250-ton class, as part of a comprehensive plan for reorganizing the salmon fishery. In view of

Japan (Contd.):

the trends of the tuna resources and the present economic conditions in this fishery the tuna fishermen believe it is unreasonable to redeploy more fishermen into it from other fisheries.

The salmon fishermen's group has suggested, as a method of handling this proposed redeployment, that there are now 46 research ships and school ships belonging to local governments and that as the operations of these vessels are having bad effects on the economy of the tuna fishery, they should be done away with, thus making room for the entry of the salmon fishermen into the tuna fishery with 20 or 30 vessels. The Tuna Fishermen's Federation cannot understand the thinking behind this proposed exchange.

The reason behind the idea of supplanting research and training vessels with commercial tuna boats operated by former salmon fishermen, as proposed by the Salmon Fishermen's Federation, is the contention that these research boats and school ships are tending to neglect their proper function of surveying the resources and are operating commercially, thus having a bad effect on the economy of the tuna fishing industry. The tuna fishermen's group also took up this problem at its 1956 general meeting, and passed a resolution asking that more circumspection be exercised in the operations of the research and training ships. The tuna fishermen now say, however, that although they are not satisfied with the present state of those vessels' operations, the situation is improving under the guidance of the Fisheries Agency. It is not impossible that in the future the tuna fisheries will come under some sort of international restrictions, like those involved in Japan-China and Japan-U.S.S.R. fishery agreements, and in such a case the research vessels will be needed for research on the tuna resources. For these two reasons, the tuna federation is unable to accept the salmon fishermen's reasoning. (Nippon Suisan Shim-bun, June 15, 1959.)

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#### DISPOSAL OF FOUR SALMON FLEETS CONSIDERED:

In connection with reorganization of the North Pacific mothership salmon fishery, the Japan Federation of Salmon Fishermen has been asking for compensation (3 million yen, about US\$8,300) for anticipated operating losses this year. At the same time, considering that it will be necessary to reduce the salmon fleet by 120-130 boats, the Federation wants 60 of these boats shifted into the gill-net salmon fishery south of the Japanese-Russian treaty area and the rest either absorbed into the tuna fishery or compensated for leaving the salmon fishery on the same terms as applied in last year's reduction of the salmon fleet. The Japan Federation of Tuna Fishermen is diametrically opposed to the salmon fishermen's proposal. The Japanese Fisheries Agency has set up a preliminary plan for the reduction of the salmon fleet and is considering it in consultation with officers of the Salmon Fishermen's Federation.

The preliminary plan was completed on June 2, 1959, but is still in draft form. It is based on a policy of cutting out four fleets and 120 catcher boats, by one of two methods. The reduction could be made on the basis of the Law for the Protection of Fishery Resources (18 million yen or about US\$50,000 compensation, two-thirds subsidy, and payment of interest), or by the formation by the vessel owners, after return from the fishing grounds, of an Adjustment Association for handling both temporary and permanent retirement from the fishery (2-3 million yen or US\$5,500-\$8,300 for temporary retirement, 18 million yen or US\$50,000 for permanent retirement, two-thirds subsidy, and payment of interest). However, the Fisheries Agency plan is not being met with great favor as it does not completely satisfy the basic principle of the reorganization, which is that from next year forward both the motherships and the catcher boats are to be put into a position where they can operate without financial loss. (Nikkan Suisan Tsushin, June 19, 1959.)

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Japan (Contd.):

**NORTH PACIFIC SALMON FISHING FIRMS APPLY FOR PERMITS TO FISH FOR TUNA IN FIJI ISLANDS AREA:**

A Japanese fishing company is planning to send out a tuna mothership fleet this year. Because of the declining trend of the North Pacific salmon fishery, on which it has largely depended, and the increasing demand for tuna for fish ham and sausage. Application for a license was to be made to the Japanese Fisheries Agency as soon as preparations were completed.

The fleet, comprising one mothership and about 40 salmon catcher boats, was to sail early in September and operate in the Fiji Islands area until the end of the year. For a mothership the firm will either convert one of its salmon factory-ships or charter the Kyokuzan Maru from a Japanese whaling company. The use of salmon boats in the fleet is not settled as special permits will have to be sought. It is reported that the authorities' policy will be to license this proposed operation because the company has a prior record of participation in the tuna mothership fishery.

According to plans, the company will utilize the production record of another company, which caught about 2,000 short tons of fish in 1954. The production goal for the new fleet will be over 4,000 metric tons, and except for the products for export, most of the catch will be used at the company's plant for fish sausage and ham.

Another Japanese company has recently revealed its plans to engage in mothership-type tuna fishing this year. According to the announcement, the mothership will be the 7,200-ton Jinyo Maru, which is at present engaged in the North Pacific salmon fishery. The fleet will comprise 10 regular tuna boats, 40 salmon boats with part-time tuna licenses, and 2 carriers. Fishing will be done around the Fiji Islands from early September to mid-December. The catch goal will be 6,270 tons of tuna and other fish. (Suisan Keizai Shimibun, June 20, 1959.)

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**PRICE OF TUNA FISHING RIGHTS RISING STEEPLY:**

Because of the curtailment in the Japanese North Pacific salmon fishery, movements for shifting into the tuna fishery or for obtaining part-time tuna fishing licenses for salmon boats have become very active. In addition, the big fishing companies are buying up tuna fishing rights. As a result the price of those rights has recently risen sharply. In the case of full-time tuna fishing licenses, the price hitherto has been 70,000 to 80,000 yen per ton (\$196 to \$224 per ton) based on the gross tonnage of the vessel, but this has now risen to 120,000 yen (\$336). Part-time tuna fishing license rights have doubled in value, from \$5,600 to over \$10,000. It appears that this rising market will continue.

Since the Japanese Government is not granting any new tuna fishing licenses, the only way to secure replacement tonnage and build a new boat is to buy out the tonnage of someone who already holds a license. (Nikkan Suisan Tsushin, June 5, 1959.)

\* \* \* \* \*

**JAPANESE-MOROCCAN COMPANY TO TRAWL FOR SHRIMP AND BOTTOM FISH IN SOUTH ATLANTIC:**

A large Japanese company has formed a joint enterprise (capitalized at 30 million yen, about US\$83,000) on a 2½-year contract with Moroccan interests to trawl for shrimp and bottom fish in the South Atlantic. The vessel which is to do the fishing, the 499-ton No. 16 Taiyo Maru, with a crew of 21, sailed from Shimons-eki on June 15 for Morocco via Capetown. At the request of the Moroccan Government, seven Moroccans will be taken aboard the ship for training. If the venture is successful, the Japanese company will send another trawler to the Tangiers base within the year. Plans call for annual landings of about 1,500 tons of snapper and cod, to be sold through an Italian firm. (Nikkan Suisan Tsushin, June 18, 1959.)

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**MORE JAPANESE FISHING TRAWLERS TO OPERATE OFF NORTHWEST AFRICAN COAST:**

A Japanese fishing company was due to send the trawler Uji Maru (536 gross

## Japan (Contd.):

tons, 900 hp. and 10 tons freezing capacity) early in July to Piraeus, Greece, where she will be based for trawling operations off Northwest Africa for two years. Plans envisage 40-day trips producing about 180-200 metric tons of bottom fish. This vessel will land its catches in Greece for consumption in that country.

A second Japanese trawler (Tatsuta Maru, 543 tons gross) that has been fishing in the Persian Gulf out of Abadan, Iran, left Abadan for Greece about the middle of June. This vessel, under a one-year contract to a Greek firm, will also fish off the Northwest African coast.

The Japanese vessels are expecting to sell their catches at US\$225-280 a metric ton, about the same price for similar fish in Japan.

\* \* \* \* \*

SWISS ASK FOR TECHNICAL  
COOPERATION TO  
PRODUCE TUNA PRODUCTS:

A firm established in Boston in January 1957 by a large Japanese company primarily to process tuna products (tuna franks, smoked loins, etc.) has aroused interest in Europe. Recently Swiss and British interests have approached the same Japanese company that set up the Boston firm for business arrangements similar to the Boston formula. The Swiss are particularly interested, and the Japanese company will shortly detail an investigator from Boston to Switzerland to consider concrete plans. The Swiss request is for tuna-processing facilities and technical guidance. It is thought that if this plan materializes, it will naturally be necessary to operate tuna vessels in order to assure the supply of raw material. (Nikkan Suisan Tsushin, June 18, 1959.)

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NEW TUNA VESSEL TO  
FISH IN INDIAN OCEAN:

A Japanese company's new tuna vessel Horyu Maru sailed on June 18 from Misaki for her maiden voyage to the Indian Ocean fishing grounds. The vessel

which will be at sea about 75 days, was completed June 12. It is 36.4 meters (119 feet) long and her gross tonnage is 238. Fish hold capacity is 230 cubic meters and fuel tank capacity is 140 cubic meters. A 650-horsepower supercharged Diesel pushes her at 11.6 knots maximum. The vessel has two ammonia compressors, one of 23.5 refrigeration tons and the other of 19.2 tons. She is equipped with radar, radiodirection finder, and radio buoys. (Suisan Keizai Shimbun, June 19, 1959.)

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BERING SEA TRAWLER  
ACTIVITY INCREASING:

The Japanese Fisheries Agency, after careful study, has decided to license a second Bering Sea fish-meal fleet, to be operated jointly by two fishing companies. The factoryship Tenyo Maru (11,000 tons), with 20 trawlers, sailed for the fishing grounds on June 19, where she will join another fleet, which pioneered this type of operation in 1958. The two fleets are expected to produce a total of 21,500 metric tons of fish meal and 3,800 tons of fish solubles, as well as large quantities of liver and body oils and frozen products. The Fisheries Agency has been taking a cautious attitude toward any rapid expansion of this new fishery, but the entry of large Soviet fleets into the grounds and the consequent need for Japan to stake a large and early claim on the resource are reported to have been factors influencing the granting of the new license.

According to plans, the Tenyo Maru will produce 8,000 tons of meal, 250 tons of liver oil, 1,500 tons of fish solubles, and 500 tons of fish oil and will return at the end of November.

The company operating the original fish-meal enterprise in the Bering Sea finally is making money at it. This first fish-meal factoryship fleet is expected to produce 13,500 tons of meal, 400 tons of liver oil, 2,300 tons of solubles, 800 tons of body oil, and 4,250 tons of frozen products.

Large trawlers producing frozen flatfish have also been active lately in the Bering Sea. The 1,489-ton No. 51 Taiyo Maru left the fishing grounds June 7 with

## Japan (Contd.):

about 1,000 tons of frozen sole, and a second 993-ton trawler Asama Maru arrived in Nagoya on June 14 with 612 tons of frozen sole produced in Bristol Bay since May 12. The demand for frozen flatfish has been strong in Japan in recent years, and current prices are reportedly 10 to 20 percent above last year.

The Asama Maru reported working for about one week in company with a large Soviet fleet in Bristol Bay. The Russian fleet appeared to include two 7,000-ton tenders, two 2,000-ton stern trawlers, and about 30 trawlers of over 200 tons.

As usual, the Japanese were struck with the presence of women aboard the Soviet vessels. It appeared to the Asama Maru's fishermen that the Soviet nets were small and that their trawling techniques were not very advanced. The Japanese reported that the Russians played music and waved in a very friendly fashion when Japanese boats approached. (United States Embassy in Tokyo, June 19, 1959.)

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## CANNED FISH TO BE INCLUDED AGAIN IN BURMA REPARATIONS:

It has been reported that the Burmese Government is seeking to have canned fish included in reparations goods this year for the third year. The Japanese Fisheries Agency, Foreign Ministry, and Ministry of International Trade are agreeable if the quantity is about half of that supplied last year and the year before. Chances are good that the matter will be decided as soon as a formal request is received from the Government of Burma.

The problem is obtaining agreement between the sardine and mackerel-pike export packers. Last year the whole amount was mackerel-pike, whereas the year before it was half mackerel-pike and half sardine. The sardine export packers association is determined to supply at least half of the shipments this year. Although the current price of sardines is slightly higher than that of mackerel-pike, it is thought that the Burmese can be induced to accept sardines if the

Japanese can settle their differences.

The mackerel-pike canners do not think, however, that the sardine canners will get half of the order, in view of the price differential and that the entire quantity should be mackerel-pike, if the Burmese so desire. The mackerel-pike canners are already counting on filling the whole 40,000-case quota with mackerel-pike. (Nikkan Suisan Tsushin, June 5, 1959.)

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## TRADING COMPANIES OPPOSE RAINBOW TROUT CONTROL SYSTEM:

The large Japanese company, which handles more than half of all rainbow trout exports to the United States, early in June called together representatives of seven trading companies to get their opinions on the problems of controlling trout exports and to make a start toward stabilizing prices. None of the seven companies showed any positive interest in such controls.

Because of excessive inventories and strong competition from Danish fish, the export price of rainbow trout is at the low level of 32-33 U. S. cents c.i.f United States. The large Japanese company wants to stabilize the market through an export-control formula, but the other traders are opposed on the grounds that unless the present situation of overproduction is fundamentally corrected, such measures will be ineffective; unless overproduction is corrected, measures should be taken to increase exports rather than to restrain them; if Japan imposes quantitative restrictions, only Denmark will benefit. (Nikkan Suisan Tsushin, June 9, 1959.)

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## SURVEY OF EARNINGS BY JAPANESE FISHERMEN:

The Japanese Shizuoka Prefecture Federation of Fishermen's Credit Cooperatives has recently made a survey of the income of 21,097 fishermen's families belonging to 70 cooperative associations in the Prefecture. It found that the average annual income per family was 619,000 yen (US\$1,733), of which 85.2 percent was from fishing and 14.8 percent from other activities, such as farming, home crafts, or day labor. Of this gross income, on

## Japan (Contd.):

the average, 51.2 percent was spent for expenses directly related to fishing and 39.2 percent for living expenses.

Average expenditures for living expenses per family were 242,000 yen (US\$677), as compared with a figure of 382,000 yen (US\$1,070) found in a recent survey of urban workers' families, but it was believed that fishermen's families receive a considerable unrecorded income in the form of goods. The Shizuoka fisherfolk were found to save on the average 0.6 percent of their income.

Shizuoka ranks fourth among the prefectures of Japan in total landings and is the leading prefecture for tuna landings (Suisan Keizai Shim bun, June 14, 1959).

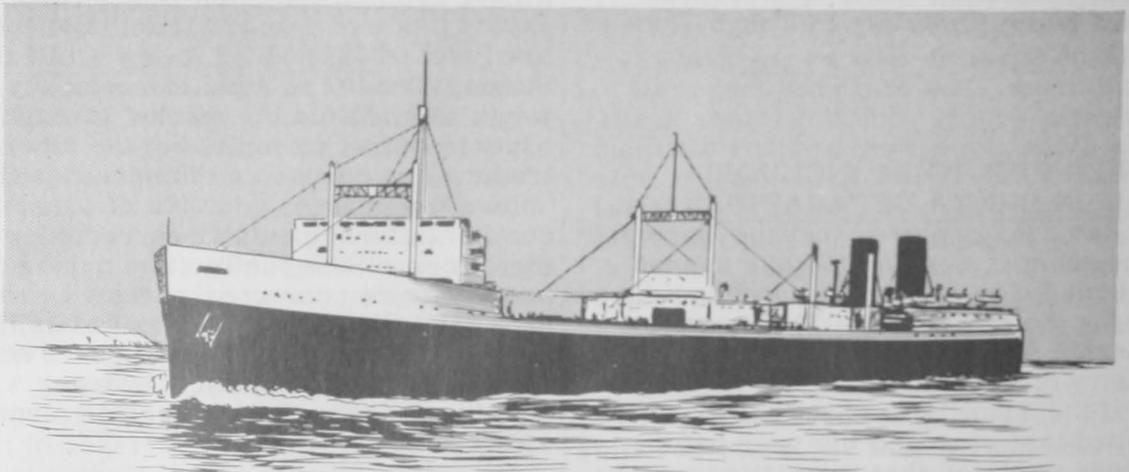
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## NORTH PACIFIC WHALING TRENDS:

The Japanese North Pacific factory-ship whaling season has started off well

Another sperm whale fleet, with a 1,300 head catch limit, had taken 402 whales to June 15. This is an average catch per day of 21 whales, as compared with last year's average of 23 per day. The industry has been seeking an increase in the sperm whale catch limit, and the fisheries trade press reports that the Japanese Fisheries Agency has decided to raise the limit from 1,500 head to 1,800 head, on condition that the industry accept a limitation of the coastal sperm whale catch to 2,000 head, as the Agency considers that both fisheries are exploiting the same stock of whales.

Coastal whaling from land stations in northeastern Japan is reported very good this year, with a total of 720 head taken since January 1 by the five companies engaged in whaling. Of this catch, 383 are sei whales, 322 sperm whales, 13 fin whales, and 2 blue whales. Sei whale abundance is said to be the highest in 15 years. The whalers think that the whales appearing off northeastern Japan this year are not of the Bonin Islands stock, as the



Japanese Antarctic Whaling Mothership

for the baleen whale fleet, but sperm whale catches are running slightly behind last year. One of the whaling fleets, which began whaling on May 28, had taken up to June 15 a total of 222 blue-whale units, 87 more than last year at the same period. Humpback whales are reported especially abundant, and are averaging 62.26 feet long, as compared with 61 feet last season. This fleet expected to reach its catch limit of 800 blue-whale units by mid-August, at the latest.

grounds, which ordinarily would be about 270 miles off the coast at this season, are still within 200 miles of shore, the United States Embassy in Tokyo reported on June 19, 1959.

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FISHERY NOTES FROM  
TRADE PRESS IN JUNE:

A cold storage plant for tuna is to be set up in Ceylon by a Japanese-Ceylonese company.

Japan (Contd.):

The Japanese Maritime Safety Board arrested 27 vessels in April and May for unlicensed tuna fishing.

Taiwan is negotiating with the United States Government for a loan to build 4 to 6 refrigerated tuna fishing boats of 200-300 tons.

The Japanese Export Tuna Cannery Association has asked the Fisheries Agency to clamp down on direct exports of tuna to Cuba, transshipments from the Atlantic to the United States, and plans for canning tuna in Malaya, and has asked the Government to negotiate with the United States to set up a special Japanese quota within the United States canned-tuna-in-brine import "global quota."

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AGAR-AGAR INDUSTRY TRENDS:

Prices in June 1959 on the international market for agar-agar continued high as the supply was short because of poor

Table 1 - Japanese Agar Production, 1956-1959

Year	Natural Agar	Factory Agar	Total
	(1,000 Lbs.)		
1959 . . . . .	3,670	800	4,466
1958 . . . . .	3,666	550	4,511
1957 . . . . .	3,961	650	4,038
1956 . . . . .	3,388	n. a.	n. a.

n. a. = not yet available.

production in Japan and Korea. Last year's warm winter in those two countries, which are producers of natural agar for export, has a strongly adverse effect on production. In the case of Japan, the unusually warm weather during the producing season, which extends from December to March, resulted in the production of considerable poor quality agar. As a result, total production in the 1958/59 season was only 1,664 metric tons, 20 percent less than the planned 1,910 tons. Korea also had a warm winter, and according to trading company sources, that country's production, which in the past has been about 800,000 pounds, was only 300,000-400,000 pounds. Because of this marked drop in production, the price of natural agar, which had been as low as US\$1.15 a pound f.o.b. around the first of the year, rose sharply after the first of

March and is now around US\$1.45 per pound f.o.b. Japan.

The Ministry of International Trade and Industry announced on May 28 that \$400,000 in foreign exchange would be allocated for the importation of about 330,000 pounds of Korean agar. Applications for foreign exchange were accepted up to June 1, and qualifications for applicants were: (1) Those who have exported \$200,000 or more worth of agar between January 1, 1957, and the end of December 1958. (2) Those who imported at least \$50,000 worth of agar during the same period. (3) Those who will reprocess the imported agar into powder and re-export it.

Before World War II agar was exported to many countries of the world as a special product of Japan. Because the price of gelidium seaweed rose since the war, and because some of the former importing countries started producing agar during the war when Japanese exports were cut off, exports from Japan have been declining year by year.

Therefore, in recent years Japan has been importing comparatively cheap agar from Korea, reprocessing it, and re-exporting it, as a policy designed to keep export markets. If exports die out, large quantities of agar will be thrown on the domestic market, leading to a drop in price, and the policy is also intended to prevent this. Hitherto the re-export trade has been carried on by sorting and fixing up the Korean agar in bonded warehouses, without paying duty, but because this has led to problems of quality, study is being given to mixing the imported agar with some quantity of domestic material and re-exporting it in powdered form. For this purpose \$50,000 was added to this year's allocation as an experimental quota. (Suisan Keizai Shimbun, May 29, 1959.)



Korea

SHRIMP PRODUCTION AND FOREIGN TRADE:

Landings of shrimp in Korea in 1958 amounted to 35.9 million pounds, valued at 746.6 million hwan (US\$1.5 million), a drop of 20.7 million pounds from the preceding year, but about the same as the average (33.0 million pounds) for the three-year period 1954-1956. About 70 percent of the landings consist of shrimp over 200 count

## Korea (Contd.):

Table 1 - Korea's Landings of Shrimp and Exports of Dried Shrimp, 1954-1958

Year	Landings		Exports	
	1,000 Lbs.	US\$ 1,000	1,000 Lbs.	US\$ 1,000
1958 . . . . .	3,592	1,493	21	13
1957 . . . . .	5,658	1,686	701	90
1956 . . . . .	3,786	1,451	30	17
1955 . . . . .	3,113	935	168	51
1954 . . . . .	3,049	935	190	59

Note: Values converted at rate of 500 hwan equal US\$1.

to the pound (1/4-inch in length), 20 percent shrimp 100-200 per pound, and the balance less than 100 shrimp to the pound. The smallest shrimp are brined and dried for the domestic trade and for export. Only those shrimp of the size 100 count or less are frozen for export.

Exports up to 1958 were practically all dried shrimp, except for some shipments (48 tons in 1954) of fresh shrimp to Japan. Although no data on fresh shrimp shipments have been maintained since 1954, it is believed this small-scale trade continues. The exports of dried shrimp between 1954 and 1958 varied between a high of 318 metric tons in 1957 to a low of 9.5 tons in 1958. In 1958, the first shipments of frozen shrimp were made to the United States--129,000 pounds valued at US\$73,400. In the first three months of 1959, 18,000 pounds of frozen shrimp were exported and it is estimated that shipments through April 1959 totaled 30,000 pounds. The development of a frozen shrimp export trade has been aided by the United States International Cooperation Administration Mission to Korea.

The United States is the only country to which Korea ships frozen shrimp. (United States Embassy in Seoul, June 5, 1959.)

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#### UNITED STATES LOAN FOR SMALL BUSINESS INCLUDES FISHING INDUSTRY:

The United States Government on July 9, 1959, announced that the Development Loan Fund has given basic approval and commitment of funds for a loan of US\$5 million to the Korea Reconstruction Bank, owned by the Government of Korea, to help finance loans to small private enterprises for the foreign exchange costs of machinery, equipment, and services. Details of the loan agreement are to be negotiated.

Fishing is included among the principal industries which the Bank expects to help with the funds.



## Mexico

#### MERIDA SHRIMP FISHERY TRENDS, JUNE 1959:

The financial crisis which the shrimp industry of the Campeche area faced at the end of the first quarter of 1959 has been partially, but not totally, relieved. The relief came primarily from the lifting of the three-months ban on the catching of white shrimp. Since the ban was lifted on June 1, 1959, production, while not spectacular, has been better than the average for the previous six months. If the present volume of production should continue, it would go far in relieving the indebtedness which has been crippling the boat owners.

Financial help has been sought from the Nacional Financiera in Mexico City which sent a representative to study financial conditions. The press reported that the representative left Campeche with a favorable report and that he indicated that the loans, totaling five million pesos (US\$400,000), requested by the Campeche boat owners, would probably be granted, the United States Consul in Merida reported on June 30, 1959.

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#### NEW FISH MEAL PLANT ESTABLISHED IN CARMEN:

A fish meal plant has been completed in Carmen and the latest modern equipment has been installed. The plant has purchased two fishing boats and expects to catch at least 80 tons of fish a day--the minimum needed to break even. Surveys conducted in the area with the help of experts from the United States indicate that this quantity of fish is available. The plant's operations, however, are bogged down at the moment by Government red tape regarding the registration of the boats and import tariffs on them (United States Consulate in Merida, June 30, 1959).



## Morocco

#### SARDINE VESSELS STOP FISHING:

The owners of the Moroccan sardine fishing fleet of Safi on June 11 stopped

## Morocco (Contd.):

sending out their vessels to the fishing banks. They gave two reasons for their action. First, the sardine canneries have practically ceased working because of the surplus of unsold sardines on hand, estimated at 1.2 million cases. Second, they claim that the Fisherman's Union (Federation des Marins-Pêcheurs) has insisted on naming the master fisherman on each ship while the owners insist on retaining the right to hire their own masters. The union has denied that it has attempted to name the master fishermen and says this is only an additional excuse for the owners to stop fishing. The number of vessels idle is about 120, employing over 2,500 fishermen. The Minister of Labor is trying personally to solve the work stoppage. One avenue being explored is the possibility of temporary subsidies to canneries, according to a June 18 report from the United States Embassy in Rabat.



## Netherlands

FROGMEN STUDY  
TRAWL-NET FISHING:

Working with the Netherlands Institute for Fishery Research at IJmuiden, Dutch frogmen for the first time have observed the reaction of fish along the sea bed as they are caught in the nets of a trawler. The study was carried out on the sea bottom by four amateur frogmen, at a depth of between 50-60 feet, 12 miles northwest of IJmuiden on the Dutch coast.

The most surprising result of the study, according to the Institute, was the discovery that about 20 percent of the fish caught escape through the meshes when the trawl is drawn up from the sea bed. The frogmen also reported that flatfish did not move until the trawl was only about six inches away and then swam upwards to try to keep ahead of the net. The fish usually gave up this effort after about 30 seconds.

Owing to the success of the tests and the amount of study material produced by them, plans are now being made to train frogmen for work exclusively with the

Institute during which underwater cameras will be used. (United States Embassy at The Hague, June 25, 1959.)



## Norway

FISHERIES PROJECT IN  
INDIA TO BE CONTINUED:

The Norwegian press on June 1, 1959, reported that the Norwegian Parliament had voted a five million kroner (about US\$700,000) grant for the Indo-Norwegian Fisheries Project in Kerala State near Quilon. This grant is for the year 1959/60. A similar grant of five million kroner was voted this time last year for 1958/59.

A four-hour debate is reported to have preceded the voting, when opposition members spoke against the appropriation. They preferred to cancel the allotment for the fisheries project in Kerala and to increase instead the Norwegian contribution to the United Nations special fund for technical and economic development. The Norwegian Foreign Minister who visited the project in Kerala in November last year stated, according to the press report, that "we cannot let our efforts be transferred to the United Nations organ until our work has reached a conclusion we can be satisfied with."



A prototype boat developed in India by Food and Agriculture Organization naval architects. This boat was developed to replace catamarans, used by thousands of fishermen in India along stretches of surfbeaten coasts with no harbors.

Earlier reports which originated from Oslo and appeared in the local press stated that the Foreign Affairs Committee of the Norwegian Parliament presented a report on the progress of the Project dated May 27, 1959. The Indo-Norwegian Fisheries Project in Kerala, according to

## Norway (Contd.):

this report, has achieved "valuable results" in the face of considerable difficulties. There had been success in all sectors of the project: fishing, water supply, and health. But the report also indicated several "setbacks," including a lack of motor boats for inshore fishing and boats built of Norwegian timber were damaged by Marine borers, the United States Consulate in Madras, India, reported on June 15, 1959.



## Pakistan

### FISHING EQUIPMENT IMPORTED THROUGH COOPERATIVES EXEMPT FROM DUTY AND SALES TAX:

On April 12, 1959, the Pakistan Central Board of Revenue with the sanction of the Central Government in a press release announced the exemption of certain fishing requisites from Customs duty and sales tax if imported through the Karachi Fishermen's Cooperative Purchase and Sale Society, Ltd., Karachi; and in the case of East Pakistan if imported through the Director of Fisheries, East Pakistan.



Dried shark is produced in Pakistan for export to other Oriental countries. Pakistanis prefer fresh fish.

The ad valorem rates of duty normally charged for some of these items (all subject to a ten percent sales tax in addition to duty) are: marine Diesel engines and spare parts, 10 percent; nylon ropes, 30

percent; nylon twine, 37½ percent; coir ropes, 36 percent; fish hooks, 80 percent; spongex floats, 60 percent (from United Kingdom, 50 percent); navigational instruments, 60 percent (from United Kingdom, 50 percent); and lead sinkers, 40 percent.

The Central Board of Revenue, Ministry of Finance, stated that although no official notification regarding exemption from Customs duty on the above items has been issued, executive instructions setting forth the procedures for granting the exemptions have been forwarded to the Customs authorities.

An official of the Pakistan Department of Fisheries stated that the International Cooperation Administration authorities had requested exemption from Customs duty sometime ago. The same official stated that the Karachi Fishermen's Cooperative generally takes care of about 95 percent of the requirements of fishermen in Karachi. This Cooperative generally obtains import licenses on the basis of recommendations made by the Pakistan Central Fisheries Department. For the last three years or so the fishing community has been purchasing its requirements from the Cooperative. While fishing requisites could come in under the operations of the Export Bonus Scheme, such imports, in view of the above executive order granting exemptions, could certainly not compete with the Karachi Fishermen's Cooperative Society.

The same official in the Pakistan Central Fisheries Department stated that they have urged the Central Board of Revenue to grant Customs exemptions for all items imported by the Fisheries Department under the Colombo Plan, ICA assistance program, and other foreign aid programs. (United States Embassy in Karachi, May 15, 1959.)

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### FREEZING AND PROCESSING PLANTS BEING BUILT:

Only two firms, both located in Karachi, are now engaged in the export of frozen and canned shrimp. One firm maintains a plant having a freezing capacity of 4½ tons daily, and cold-storage facilities

## Pakistan (Contd.):

of 40 tons capacity. The other firm has a freezing capacity of 6 tons daily, and cold-storage facilities of 1,250 tons capacity. Both companies have expressed an interest in expanding their operations through United States investment participation.

Two additional plants, both in Karachi, are scheduled for completion in January 1960. These companies also are interested in American investment participation.



Dried shrimp shells ground and bagged for use as fertilizer. Produced in Pakistan for export to Ceylon.

The Bay of Bengal in East Pakistan reportedly offers an excellent potential for the development of a fishing industry. No freezing and cold-storage plants are operating in East Pakistan at present; however, two are under construction. The first, located at Chalna, will have a freezing capacity of 5 tons daily, and cold-storage facilities of 200 tons capacity. The second, at Chittagong, will be able to freeze  $2\frac{1}{2}$  tons daily and store 50 tons.

To encourage the further development of the fishing industry, the Government of Pakistan is prepared to grant certain concessions to investors establishing new enterprises, and/or collaborating with existing firms. Among others, these include loans through the Pakistan Indus-

trial Development Corporation (PIDC) for local construction and other costs, and an export bonus scheme which provides that exporters of frozen or canned fish will be entitled to receive bonus vouchers equivalent to 40 percent of the f.o.b. Karachi value of the exported products. These vouchers may be used toward the import of construction items, machinery, engines, etc. (Foreign Commerce Weekly, June 22, 1959.)



## Philippines

## CANNED FISH RETAIL AND WHOLESALE PRICES, JUNE 16, 1959:

Retail and wholesale prices on June 16, 1959, for canned sardines and canned salmon in Manila were:

Product	Wholesale US\$/cs.	Retail US\$/can
<u>Canned sardines:</u>	(48 15-oz. cans)	
U. S. brand . . . . .	12.00-12.625	27.5-32.5
Japan brand . . . . .	12.00	25.0-30.0
<u>Canned salmon:</u>	(48 16-oz. cans)	
U. S. brand . . . . .	29.75-30.00	67.5-75.0
Japan brand . . . . .	29.75-30.00	67.5-75.0

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## CANNED SARDINE PRICES:

According to a large Philippine trading company, the following informal acceptance of bids on canned sardines was made at the opening of tenders for canned fish by the Philippines purchasing agency on May 8, 1959.

O No. 1 in tomato sauce: Japan, 21,250 cases (\$7.70); U. S., 22,500 cases (\$7.98-8.14); South Africa, 10,000 cases (\$7.60)--total 53,750 cases.

O No. 3 in tomato sauce: Japan, 18,750 cases (\$9.05).

Buffet cans in tomato sauce: Japan 16,124 cases (\$4.25); South Africa, 12,000 cases (\$4.25)--total 28,124 cases.

Small No. 1 cans, tomato sauce: U. S. 3,750 cases (\$7.36); South Africa, 3,750 cases (\$6.60)--total 7,500 cases.

No. 4 cans, natural: U. S., 16,500 cases (\$6.18-\$6.72); South Africa, 3,250 cases (\$5.70)--total 19,750 cases.

## Philippines (Contd.):

It appears that as a result of negotiations, the Japanese canned fish bids accepted at the purchase on May 8 have been increased to 23,000 cases each for O No. 1 and No. 3's, and to 19,400 cases for buffet cans. (Nikkan Suisan Tsushin, June 2 & 4, 1959.)



## Portugal

CANNED FISH EXPORTS,  
JANUARY-MARCH 1959:

Portugal's exports of canned fish during January-March 1959 amounted to 17,018 metric tons (937,000 cases), valued at US\$8.7 million, as compared with 12,000 tons, valued at US\$6.8 million, for the same period in 1958. Sardines in olive oil exported during the first 3 months of 1959 amounted to 12,543 tons, valued at US\$6.2 million.

Table 1 - Portuguese Canned Fish Exports, Jan.-Mar. 1959

Species	Jan.-Mar. 1959	
	Metric Tons	US\$ 1,000
Sardines in olive oil . . . . .	12,543	6,158
Sardine & sardinelike fish in brine . .	509	102
Tuna & tunalike fish in olive oil . . .	609	443
Anchovy fillets . . . . .	1,593	1,134
Mackerel in olive oil . . . . .	1,361	664
Other fish . . . . .	403	154
Total . . . . .	17,018	8,655

During January-March 1959, the leading canned fish buyer was Germany with 4,114 tons (valued at US\$2.0 million), followed by Italy with 1,984 tons (valued at US\$1.1 million), the United States with 1,527 tons (valued at US\$1.1 million), Great Britain with 1,497 tons (valued at US\$712,000), and Belgium-Luxembourg with 1,471 tons (valued at US\$719,000). Exports to the United States included 803 tons of anchovies, 45 tons of tuna, 645 tons of sardines, and 18 tons of mackerel. (Conservas de Peixe, May 1959.)

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CANNED FISH PACK,  
JANUARY-MARCH 1959:

The total pack of canned fish for January-March 1959 amounted to 4,286 metric tons as compared with 3,921 tons for the same period in 1958. Canned sardines

Table 1 - Portuguese Canned Fish Pack, Jan.-Mar. 1959

Product	Metric Tons <sup>1/</sup>	1,000 Cases
<u>In olive oil:</u>		
Sardines . . . . .	1,907	100
Sardinelike fish . . . . .	4	-
Anchovy fillets . . . . .	203	7
Tuna . . . . .	1,829	182
Mackerel . . . . .	4	-
Other species . . . . .	340	17
Total . . . . .	4,287	306
<sup>1/</sup> Net weight.		

in oil (1,907 tons) accounted for 44.5 percent of the January-March 1959 total pack, lower by 4.4 percent than the pack of 1,994 tons for the same period of 1958, the May 1959 Conservas de Peixe reports.

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SARDINE FLEET SAILS AFTER  
SETTLEMENT OF CONTRACT DISPUTE:

The Portuguese sardine fishing fleet at Matosinhos put to sea on June 21, 1959, following the settlement on June 20 of a long-standing dispute between the ship owners and fishermen. Under the new agreement the crewmen of the small motor vessels will receive a percentage share of the gross value of the catches based on a sliding scale. The new contract provides that the fishermen will receive a minimum of 32 percent of a fifteen-day catch valued at US\$1,050 or less--the percentage increasing proportionately to a maximum of 40 percent for catches valued at more than US\$7,000.

According to press reports the first day's fishing was successful, fine fish being landed and valued at about US\$20,400. (United States Embassy dispatch from Lisbon, dated June 25, 1959.)



## South-West-Africa

FISHERY LANDINGS  
AND PRODUCTION, 1958:

During 1958 the fishing industry of South-West Africa generally maintained its catch at the level of previous years. The production of canned fish set a record. Unfavorable weather, however, caused a substantial reduction in the stock of spiny or rock lobster catch, although landings improved considerably in the first months of the present season.

## South-West Africa (Contd.):

Fishery	Landings	Products		Produced <sup>1/</sup>	
		Frozen	Canned	Fish Meal	Fish Body Oil
	Short Tons	1,000 Lbs.	1,000 Lbs.	Short Tons	Short Tons
1958:					
Pilchard . .	252,556	-	112,845	46,200	11,858
Spiny lobster	4,449	1,777	430	941	-
Snoek . . .	1,682	-	-	-	-
White fish	1,648	-	-	-	-
1957:					
Pilchard . .	250,757	-	85,676	46,768	10,793
Spiny lobster	8,434	1,374	1,808	1,685	-
Snoek . . .	3,125	-	-	-	-
White fish .	2,066	-	-	-	-

<sup>1/</sup> Product weight

(The South African Shipping News and Fishing Industry Review, May 1959.)



## Spain

VIGO FISHERIES TRENDS,  
APRIL-JUNE 1959:

Fish Exchange: Landings of fish in the April-June 1959 quarter at the Vigo Fish Exchange totaled 15,165 metric tons, an increase of 68 tons over the preceding quarter and up 3,002 tons from the same period in 1958. Small hake and horse mackerel were the leading species landed at Vigo Exchange in the April-June 1959 period. The 1959 sardine season opened on April 15 and landings in May amounted to 587 tons as compared with 442 tons in May 1958. However, June 1959 landings were lower by 319 tons from the 524 tons landed in June 1958. The albacore tuna fishing season was off to a good start in June this year with 661 tons sold over the Vigo Exchange--only 169 tons passed through the exchange in June 1958. But low prices for albacore tuna because of light demand were considered too low by the fishermen for profitable fishing. Fishermen are recommending the export of frozen albacore be studied as an alternative to selling to Spanish canners.

The April-June 1959 landings were valued at US\$4,086,000 (at the official rate of US\$1.00=42 pesetas), about 5 percent above the value for the preceding quarter and 30.7 percent higher than for the second quarter of 1958. Albacore ex-

vessel prices averaged 10 U.S. cents a pound in June this year. The much lower ex-vessel price for this June was attributed to the heavy inventory of canned white meat tuna carried over from the 1958 season.

Fish Canning and Processing: Fish bought for canning in April-June this year amounted to 1,656 tons--up 1,073 tons from the January-March 1959 quarter and 300 tons over the same quarter in 1958. The better landings of albacore tuna at lower ex-vessel prices helped the canners off to a good start for the packing of white meat tuna. But, the drop in landings of sardines in June this year was the cause of some worry to the canners. Olive oil was plentiful and reasonably priced, but tinplate stocks were limited to a two months supply as the quarter ended.

Fish Meal: In early April, the Economic Council of the Fisheries Byproducts group of the National Fisheries Syndicate met to discuss the production of fish meal. Because of the continued demand for fish meal, the Council decided that import licenses for fish meal would not be granted until the Syndicate certifies that the national production cannot meet the demand. It is estimated that Spain consumes about 40,000 tons of fish meal yearly while Spanish production is about 30,000 tons. Plant capacity is sufficient to process more than this total, but the supply of raw material is inadequate. In 1958 it was estimated that 2,160 tons of fish meal were imported to partially make up the deficit in the supply of fish meal.

Exports of Canned Fish: Export licenses for exports of canned and salted fish in 1958 totaled 28,320 tons. Important items exported in 1958 included 822 tons of canned sardines in oil, 1,358 tons of canned anchovies in oil, 9,733 tons of salted anchovies, 1,310 tons of canned tuna in oil and brine, 1,526 tons of canned bonito in oil, and 12,200 tons of dried fish. Although exports of all fishery products rose about 25 percent from 1957 to 1958, canned fish exports were lower. The drop in exports of canned fish was due to severe competition from Japan, Portugal, and Yugoslavia, increasing competition from Morocco, and the development of a strong fish canning industry in Peru. Exports of canned albacore to the United

## Spain (Contd.):

States were up about 19 percent in 1958 from the preceding year. Cannery were worried about the continuing decline in the exports of anchovies in oil--1958 exports of this item were down 35 percent from the 1956 exports.

In 1958, Italy was Spain's principal customer for canned and dried fishery products with imports of 8,794 tons, followed by the Belgium Congo with 8,043 tons, French East and West Africa 2,379 tons, and Ghana with 1,186 tons. The United States with imports of 1,013 tons was Spain's sixth best customer in a list of about 53 countries that imported canned and dried fish in 1958.

Exports of fishery products other than canned and salted fish (includes live, fresh, frozen, iced, agar-agar, and some by-products) amounted to 1,646 tons in 1958.

Imports of Fishery Products: In 1958 out of a total of 22,520 tons imported under import licenses, 18,346 tons were salt cod, 2,160 tons were fish meal, and 860 tons were fish oil.

The Cannery's Group of the National Fisheries Syndicate, as a result of a study, has recommended the following measures to increase exports:

A. To those countries which have been habitual importers of Spanish canned fish:

(1) Raise the export premium from 8 pesetas to 13 pesetas on the dollar, i.e., 55 pesetas for the dollar.

(2) Eliminate minimum sales prices established by the Government.

(3) Increase foreign reserve holdings of exporters from 20 to 50 percent.

(4) All foreign exchange produced to be converted and carried as a peseta account from which export licenses could be requested.

(5) Automatic concession of licenses by regional delegates of com-

merce with 50 percent of exchange earnings devoted to the needs of the canners and related industries.

B. Global exports to non-habitual consumers of Spanish-canned fish:

(1) One-time offer to the United States of 30,000-50,000 cases of white meat canned tuna in brine.

(2) Study of similar operations in canned anchovies for export to the United States and canned sardines to eastern Europe.

With the devaluation of the peseta in July, the exporters of canned fish found most of their recommendations automatically accepted. Of course, the processors will have to pay for imports at the devalued rate, but on the whole the devaluation of the peseta should be beneficial to the fish-processing industry.

Fishing Industry Loans: A loan passed in December 1957 contained a provision for granting credits of about 250 million pesetas (about US\$6 million at rate of 42 pesetas equal US\$1) over a three-year period for construction of fishing vessels and loans to processors. No provision was made to implement the loan by establishing the funds needed for the loan program. Another loan has been proposed to establish a credit of 1,000 million pesetas (about US\$23.1 million) for rehabilitation of the fishing fleet over a five-year period. Fishing vessel owners are now pessimistic about the passage of this loan due to the Government's campaign to decrease spending.

Greenland Territorial Waters: Several fishery publications have expressed alarm at the prospects of Denmark extending its territorial waters in Greenland as it did in the Faroe Islands. Because Spanish fishing vessels were shut off from Iceland and the Faroe Islands, they have been concentrating off the shores of Greenland and Newfoundland.



## Sweden

### LOAN FUND FOR FISHERMEN INCREASED:

The Swedish Riksdag recently made 5 million crowns (US\$965,000) available for loans to fishermen in addition to the 3.8 million crowns (US\$733,000) which have been placed in the loan fund for the present fiscal year.

Special provisions apply regarding the supplementary loans, since these funds have been granted to assist the smaller shipyards specializing in the construction of fishing boats, which otherwise would be without work. Therefore, loans are only granted for the acquisition of, or rebuilding of fishing boats, or for the installation of new motors.

The final regulations governing the loans are not yet available, but it is stated they will include the following terms:

The maximum loan total is SKr. 150,000 (US\$28,950), however, loans for acquisition of new fishing boats may not exceed 80 percent of the purchase price.

The loan is available when the boat has been delivered, rebuilt, or provided with a new engine and when a classification company has furnished a certificate of approval, or when the borrower in some other way presents evidence that the boat is in the condition that was stipulated when the loan was granted.

The loans are free from amortization or interest for two years and must thereafter be repaid within 10 years, with equal payments each year plus interest. Upon the expiration of the interest-free period, interest is paid at the rate of 4.25 percent.

Sureties in the form of mortgages with priority rights shall be executed. With regard to loans granted for acquisition of new fishing boats, the mortgages shall cover at least the amount of the loan granted, while mortgages for loans covering rebuilding of fishing boats or installation of new engines, shall be within 80 percent of the actual value of the boat after the improvement.

The fishing boat shall be insured against partial damage as well as total loss at a value determined by the Fisheries Board. In certain cases the Fisheries Board may authorize the owner to stand a self-risk of 10 percent of the insurance value in case of total loss and 20 percent in case of other damage.

Other terms are as follows:

Extensive alteration of the fishing boat is subject to prior approval by the Fisheries Board.

Sureties shall be valid for the borrower's total obligations against the loan fund.

The Fisheries Board has the right to arrange for a survey or valuation of the boat during the loan period.

Charges for such surveys or valuations, or mortgage arrangement shall be paid by the borrower.

The Fisheries Board shall be informed immediately of any change of the ownership of the boat.

It is the responsibility of the insurance company to give the appropriate governmental authority notice before taking any action to change or cancel the insurance on a boat at the request of the owner.



## Tunisia

### EIGHT TRAWLERS PURCHASED IN ITALY:

On July 15 the Director of the Tunisian National Office of Fisheries returned from Italy, where he awarded contracts for the building of four modern trawlers which eventually will be operated by the Office of Fisheries. The trawlers are expected to be completed early in 1960. In addition, four second-hand trawlers were bought.

The purchase of the trawlers is part of a United States Overseas Mission-sponsored project for the improvement of the Tunisian fishing fleet. The new

## Tunisia (Contd.):

Italian craft will be commanded initially by skilled, foreign (but not necessarily Italian) officers who will teach Tunisian apprentices how to run the vessels. It is estimated that with good maintenance the total annual catch of the four vessels will be about 750 metric tons, which will increase the present total Tunisian trawler catch of 2,500 tons annually by almost a third.

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TUNA CANNERY TO REPLACE PORTUGUESE LABOR:

Portuguese labor at the tuna cannery of Sidi Daoud on the northwest shore of the Cap Bon peninsula, Tunisia, will be replaced next year by Tunisian workers, according to the deputy director of the cannery.

The cannery employs between 400 and 500 men and women during the tuna-fishing season which lasts from about May 1 until the middle of July. Until last year about 80 of these workers were Portuguese women whose skill in packing tuna into cans made the payment of their passage from Portugal worthwhile. This year only 20 Portuguese women were employed, and an attempt was made to teach Tunisian women the necessary skills without much success. However, in spite of the amount of fish that may be wasted, the cannery intends to employ only Tunisian women next year.

The cannery also employs two Spanish captains who command the vessels which tow smaller boats out to the tuna traps in the bay of Tunis. They, too, come only for the season, but it is unlikely that they will be replaced by Tunisian captains.

The replacement of Portuguese laborers by Tunisians and the employment of large numbers of workers by this plant, which cans most of the 900 metric tons of raw tuna taken each year in Tunisian waters, is in keeping with Tunisian policy to spread available work as widely as possible. However, wages and a large labor force have priced the products of this plant out of the French market, and sales of canned tuna, tuna roe, and other products now are almost exclusively to

the Tunisian market. The average laborer earns 500 millimes a day (about US\$1.19) and the average fishermen 1,000 millimes (about US\$2.38) a day, according to a United States Embassy dispatch (July 1, 1959) from Tunis.

**Uganda**NYLON NETS AND MECHANIZATION DOUBLE FISH CATCH:

The introduction of nylon nets and out-board motors to the fisheries in the lakes of Uganda, which was started late in 1953, has already resulted in doubling the fish catch, which now amounts to some 48,500 metric tons a year.

"There are now more than 1,200 out-board motors installed in the fishing craft of the Uganda lakes," stated a Food and Agriculture Organization (FAO) expert, when he returned to FAO Headquarters after a year in Uganda surveying the fish marketing situation in the country. "This development has taken place largely as the result of the work of the Uganda Game and Fisheries Department and with no direct financial aid from the Government," he stated.

As a result of the FAO survey, the Government organized eight pilot projects, financed by the African Trade Development Fund. These projects include setting up primary fish markets, retail and wholesale markets with storage facilities, and in three remote places fish storage facilities with a shop attached to each to supply fishermen with equipment and material.

The FAO expert also proposed to the government that "feeder" roads should be built to give access to remote parts of the lakes to open up the fishing. The government has allocated £10,000 (US\$28,000) to build such a road to the southern end of Lake Albert, which is rich in fish.

"I found a flourishing fishery in Uganda," concluded the FAO expert, "and I am sure it will continue to expand rapidly once a few marketing and distribution bottlenecks are cleared away."



## Union of South Africa

### EXPORTS OF MARINE OILS, 1958:

In 1958 more than 4.2 million Imperial gallons of marine oils were exported by the Union of South Africa. The exports by type of product were as follows: fish-body oil, 3,800,631 gallons; fish-liver oil (includes concentrated oil), 211,587 gallons; whale oil, 211,304 gallons; and other marine-animal oils, 5,043 gallons.



## U.S.S.R.

### WHALING SUPER-FACTORYSHIP COMPLETED:

According to foreign news reports, the U.S.S.R. has completed the 40,000-ton whaling super-factoryship *Sovietskaya Ukraina* at the port of Nikolaev on the Black Sea. It is further reported that work has begun on a second factoryship of the same tonnage class. (*Nikkan Suisan Tsushin*, June 15, 1959.)



## United Kingdom

### IMPORTS OF CALIFORNIA CANNED SARDINES OPPOSED BY BRITISH COMMITTEE:

The committee of the Cornwall Sea Fisheries decided during a meeting at Truro, to approach all members of Parliament in Cornwall and ask for their support to stop imports of California canned sardines or pilchards.

The chairman said that the proposed importation might well result "in the extinction of the Cornish pilchard industry." He pointed out that there was already heavy imports of South African canned pilchards coming into the country, tariff free and in unrestricted quantities under Commonwealth preference, and a small yearly quota of £30,000 (US\$84,000) worth was coming from Japan. "Now there is every indication that Californian pilchards are to be allowed into this country. Further imports of foreign canned pilchards can only cause irretrievable damage to the pilchard fishermen of Cornwall, and will also

endanger the possible success of the White Fish Authority's scheme to revive the pilchard industry."

The chairman then went on to say that on one side research into fishing methods was being made, with efforts to improve the industry, which had for a long time been fighting a desperate battle, and on the other, the Government was increasing the competing imports. It did not make sense. He concluded by saying that the California imports could easily undercut the home product in price, and pilchards were the mainstay of the Cornish fishing industry (*Fishing News*, June 5, 1959).

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### PLAN FOR DEVELOPMENT OF PILCHARD INDUSTRY INITIATED:

Development plans of the British White Fish Authority for the Cornish pilchard industry were set in motion at Truro late in May with the first meeting of the Pilchard Industry Development Management Committee.

Set up by the White Fish Authority, the new committee consists of representatives from the Authority, the Ministry of Agriculture, Fisheries, and Food, Cornwall Sea Fisheries Committee, the fishermen, and canners.

During the meeting, the chairman, who is chief executive of the White Fish Authority, announced that agreement had been reached on a program in outline.

"We think it will enable us to carry out the main objectives of finding out where the pilchards are, when they can be found, and in what quantities, and we have to go on to plan the broad outline of the programme for a development unit for putting the production programme into operation," he said.

The catching and processing vessel would be a multipurpose fishing craft rather larger than the normal fishing boats in order to accommodate the additional scientific gear and extra nets.

Before the next meeting estimates will be drawn up of the capital costs of equipping the development unit, together with

## United Kingdom (Contd.):

an estimate of the operation cost. The White Fish Authority, the sponsoring organization, will also make plans on how the money needed will be raised (Fishing News, June 5, 1959).

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#### TECHNOLOGIST PREDICTS THAT FUTURE TRAWLERS WILL BE EQUIPPED WITH FREEZERS:

At the open day held at the Scottish Torry Research Station in Aberdeen, Scotland, on June 15, the superintendent of the station said he could see new methods coming along in a few years' time which would solve the problems of glut and scarcity in the fishing industry. With quality control and testing, batch-production techniques would be adopted, and, he said, "even small-scale mechanization might be expected in the treatment of fish."

The most significant proposal in this direction was undoubtedly the development of the "semi-freezer" trawler, in which high speed would be relegated to second place, and the space and capital outlay thus saved devoted to better stowage and more processing plant. In this way the voyage of a trawler of 185-190 feet might be extended by several days, with a higher proportion of better quality fish on landing at the end of the voyage.

Basing the estimates on the Northern Wave experiments of 1956, where it was found that whole headless sea-frozen cod was equal in quality to very fresh iced fish, the sponsors of the scheme conclude that it would still be necessary to stow a considerable proportion--up to two-thirds--of the fish at ice-temperature, because there still would not be sufficient space to freeze the whole catch.

The frozen part of the catch would, on the average, represent the extension of stay on the fishing grounds as compared with the normal voyage, and the iced fish would be equal to the normal catch. The average quality of landings would certainly be higher.

The advantages of this design of trawler are that it is no larger or costlier

than existing vessels and fewer vessels are needed, but the extension of the voyage is moderate, and the thawed fish can be handled by the trade in the same way as iced fish.

Among a number of interesting demonstrations which would be of value in handling the frozen portion of frozen-at-sea fish was one concerned with the thawing-out of frozen fish; a di-electric thawing technique has recently been developed which reduces the thawing time of herring from the present 12 hours to 15 minutes. Large blocks of frozen cod take at present up to three days to thaw, but by the new process complete thawing can be obtained in 75 minutes.

A logical development, using this new technique, would be the establishment of thawing stations in main centers of distribution, such as London, Manchester, and Birmingham, to which hard-frozen fish could be sent for storage and subsequent thawing to provide sea-fresh fish (Fish Trades Gazette, June 20, 1959).

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#### TRAWLER OWNERS AGREE TO SUPPLY FISH FOR SOVIET CONTRACT:

The British distant-water trawler owners at Fleetwood, Grimsby, and Hull announced that they have agreed to supply fish to a British processing organization for the execution of a contract signed June 11, 1959, for the delivery to Russia of frozen skinless fish fillets in June, July, and August of this year. The contract, which is subject to production, is for a total of 1,000 metric tons of cod fillets. This contract is equal to one-sixth of the amount sold to the Soviets in 1958. (United States Embassy in London, June 15, 1959.)



#### Venezuela

##### ESTIMATED FISHERY LANDINGS AND UTILIZATION, 1958:

Landings of fish and shellfish in Venezuela in 1958 totaled about 80,200 metric tons, of which 69,000 tons were taken in marine waters and 10,300 tons in fresh water. The landings were valued ex-vessel

## Venezuela (Contd.):

at about 41.7 bolivars (US\$12.5 million). The marine landings were valued at 36.5 bolivars (US\$11.0 million) and fresh-water landings 5.2 bolivars (US\$1.5 million). Included in the total landings for 1958 were 32,800 tons of sardines.

The 1958 landings were utilized as follows: 27,600 tons for fresh fish, 18,100 tons for salted fish, and 34,500 tons for canning.

Processed fishery products in 1958 included 29,900 tons of canned sardines (90.3 million cans), 3,500 tons of canned tuna, 1,100 tons of canned shellfish, and 2,400 tons of fish meal.

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**SARDINE LANDINGS  
AND CANNED PACK, 1957:**

Landings of sardines in Venezuela for canning increased sharply from 14,136 metric tons in 1956 to 26,861 tons in 1957. The 1957 sardine landings were almost 9,955 tons higher than the 16,906 tons landed for canning in 1955. Sardines are caught throughout the year, but landings are heaviest from December to June and as a rule drop off sharply in the late summer and fall months.

The sardine pack in 1957 amounted to 12,854 tons (82,533,000 cans). In 1957 sardines were packed in can sizes varying from 90-720 grams (3.17-25.40 ozs.), but almost 89 percent of the pack was put up in can sizes varying between 125 to 180 grams (4.41-6.35 ozs.). The most popular can size was 130 grams (4.59 ozs.), which accounted for 29 percent, or 3,695 tons, of the total pack. The next popular can was the 150-gram size (5.29 ozs.) accounting for 28 percent or 3,606 tons, of the total pack. Only about 9 percent, or 1,078 tons, of the 1957 sardine pack was packed in 425- to 454-gram cans (about 1 pound net weight).

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**OTTER TRAWL GEAR  
REGULATIONS REVISED:**

The Venezuelan Official Gazette (Gaceta Oficial) No. 25977 of June 3, 1959,

carried the following resolution of the Ministry of Agriculture and Husbandry:

"In view of studies realized by the Ministry of Agriculture and Husbandry, it has been observed that fishing by the otter trawl system has been practiced with nets whose mesh does not meet the required size and, contrary to the normal purpose of such nets, there are materials attached to the nets which reduce the selectivity of the net to its smallest form with resulting harm to the marine animal life and the medium in which it lives and, in consequence, goes against norms established for the conservation of live marine resources; this office in accordance with authority invested in it by Articles 1, 2, and 3 and paragraphs c and e of Article 20 of the Fishing Law, by order of the President of the Republic, submits fishing by the system mentioned to the following conditions:

"Article 1 - The mesh of the different bodies or parts of the net should be of the following sizes:

"a. The first part or terminal body of the net, commonly known as top or crown, should be of a mesh of a minimum size of 6 centimeters (2.36 inches), that is, 3 centimeters (1.18 inches) between knots.

"b. The central part or middle body comprising the part between the crown and the cords, boltrope or tassels or the mouth of the net must consist in the top portion of a minimum mesh of 8 centimeters (3.15 inches), that is, 4 centimeters (1.57 inches) between knots in the posterior half and of 10 centimeters (3.94 inches) in the anterior half. For the inferior part of this section or low roof or belly, these sizes are not applicable and will be determined by the judgment of the owner.

"c. The third body or lateral bands at the end called legs, wings, or sleeves, should consist of a minimum mesh of 12 centimeters (4.72 inches), that is 6 centimeters (2.36 inches) between knots.

"Article 2 - It is also prohibited to connect to the net, in any of its parts, any form of material which would have

## Venezuela (Contd.):

the end of reducing directly or indirectly the sizes of mesh specified in all paragraphs of Article 1 of this resolution, such as those called "shirts," protective sacks, and similar items.

"Excepted from the provisions of this article is the use of the so-called 'fine-mesh fishing net' which consists of fragment tied to the tassel or low boltrope for the purpose of protection between the cloth of the net and the low roof.

"Article 3 - It is equally forbidden to wrap or tie pieces of chain or other materials not forming part of the structure of the net itself to the low boltrope.

"Article 4 - Likewise, it is prohibited to throw these nets over banks of mother-of-pearl or other mollusks of economic importance.

"Article 5 - It remains the judgment of the Ministry of Agriculture and Husbandry to demarcate the areas in which such practices will be applied but in no case will it be done in the Gulfs of Cariaco, Coro, and Santa Fe or in the lagoons or marshes connecting with the sea.

"Article 6 - Violators of the present resolution will be sanctioned in accordance with the law.

"Article 7 - Thirty (30) days are granted, after publication of this resolution, so that those affected can make the necessary changes in their nets." (United States Embassy in Caracas, June 26, 1959.)



## Viet-Nam

NEW SHRIMP FREEZING  
PLANT TO EXPORT  
TO THE UNITED STATES:

A Viet-Nameese shrimp fishing company has its new shrimp-freezing plant about completed and production was due to start in July. The plant is located on a waterway (Arroyo Chinois) in the center of the Saigon area. Shrimp caught

off the southern coast of Viet-Nam will be cleaned, quick-frozen, and packaged in wax cartons for shipment to San Francisco. Processing should take only one hour. Arrangements have been made to use a Danish refrigerator ship. Initial production is scheduled to be 600,000 pounds a month.

The shrimp plant operators are expecting a price of about 70 U.S. cents a pound at San Francisco, indicating a gross revenue of US\$420,000 a month foreign exchange, less ocean freight.

The freezing plant benefited by at least US\$50,000 worth of foreign exchange under the Commercial Import Program. Shrimp are plentiful, it is believed that this venture has real potential as a most useful foreign exchange earner.

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LANDINGS AND FOREIGN TRADE  
IN FISHERY PRODUCTS, 1958:

Landings and Outlook: Although no official statistics on the landings of fish and shellfish are available, foreign fishery experts stationed in Viet-Nam estimate the 1958 landings to be close to 110,000 metric tons of marine fish and shellfish and 30,000 tons of fresh-water fish and shellfish. These totals do not include subsistence fishing or fish and shellfish consumed locally, but include only the landings that enter the larger markets. It is estimated that the subsistence fishery catch equals the commercial catch.

It is probable that the commercial catch in 1959 will be larger than in 1958, and that in 1960 it will be much larger. At present the fisheries off the coast of Viet-Nam are relatively unexploited. But now, owing largely to American technical and financial assistance, difficulties of transportation and preservation are being overcome. New fish landing stages (6-8) have been built or are nearing completion, and a satisfactory method of motorizing small bamboo fishing boats has been devised. Production from fresh-water or brackish fish-rearing ponds is steadily increasing. Due to improvement of highways, fresh sea fish are being sold in

## Viet-Nam (Contd.):

localities in the highlands which in the past had to depend on salted or canned fish.

**Imports:** Fish and shellfish imported into Viet-Nam in 1958 amounted to about 5.4 million pounds, valued at US\$430,000 (at official rate of exchange VN\$35 to US\$1). Imports were practically all from Cambodia (4.3 million pounds, valued at US\$252,500) and Japan (1.1 million pounds, valued at US\$167,500). The principal items imported were--1.6 million pounds of fresh pond or river fish and 2.7 million pounds of salted, dried, or smoked fresh-water fish from Cambodia; and about 1.1 million pounds of mollusks from Japan. Imports from countries other than Cambodia and Japan totaled only about 37,000 pounds.

**Exports:** Exports of fish and shellfish in 1958 totaled 900,000 pounds, with 901,000 pounds exported to Singapore. Only 2,600 pounds were exported to the United States in 1958. Prospects for future exports of fishery products are improving. Exports to Singapore in 1958 were about double those for 1957. With the establishment of a shrimp-processing plant at Saigon, it is likely that exports of shrimp to the United States will become important. As an incentive to exporters, a subsidy of 37 percent by value by making the effective rate of exchange to exporters VN\$48 to the US\$1.

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**CANNED SARDINE MARKET:**

Due to the dollar shortage and surplus of French francs in Viet-Nam, it is unlikely that the modest share of the market for United States sardines held in 1956 can be regained. Viet-Nam is largely self-sufficient in fishery products with an estimated catch of 100,000 metric tons yearly. Fishery products imports are only of marginal importance and it is believed that further exchange restrictions could be imposed by the Government without repercussions.

According to Viet-Nam customs statistics, imports of canned and prepared fish and shellfish of all types amounted to 493 metric tons in 1958, valued at US\$228,428. Local business sources were unable to give the exact percentage of sardines in this total, but it is believed to be over 50 percent. Most imports originate in Morocco and France due, in part, to a multiple exchange rate which has favored imports from the Franc Zone.

At the end of January 1959, visible stocks of imported sardines were estimated at 138 tons, of which 76 tons were on hand, 56 tons in transit, and 6 tons on order. At current consumption levels, this stock was considered sufficient for 6 to 7 months.

The president of the Association of Foodstuff Importers (affiliated with the Chamber of Commerce) estimates annual

consumption of imported canned sardines at 260 metric tons per year.

The c. & f. price of Moroccan sardines has been 4,000-5,000 French francs per case of 100 cans of 175 grams (6.2-ozs.) net. Converted at the official rate of FFr 493.7 to US\$1.00, the landed price has been roughly US\$8.00 to \$10.00 per case. If freight rates of US\$1.30 to \$1.51 per case (conference rates for equivalent cases) are added to the current prices for California sardines, it is likely that California sardines would be competitive on the Viet-Nam market.

The difficulties encountered by United States sardine canners in exporting sardines to Viet-Nam have arisen from the exchange rate in effect for sardines. Canned goods and fish products are not eligible for financing within the framework of the local currency-generating International Cooperation Administration Commercial Import Program, in which the official rate of VN\$35 to US\$1.00 is applicable. The Government has refused to make its own holdings of exchange available at the official rate and has shown no signs of willingness to do so in the foreseeable future. Exchange has been made available only on payment of a surtax of 60 piasters which, when added to the official rate, resulted in an effective rate of 95 piasters to US\$1. On the other hand, the Government was willing to sell nonconvertible French francs with a much lower surtax, making the effective rate only about 65 piasters for one dollar's worth of francs. This policy, which has affected all commodities imported under the high-cost exchange regime, was not prompted by a desire to benefit Franc Zone suppliers over suppliers in the dollar and sterling areas, but rather by the Government's desire to draw down the country's large holdings of nonconvertible francs which have twice been affected by devaluation in the last two years. The end result has been that Moroccan or French sardines which might have sold at the same dollar price have been landed at a piaster cost of at least 30 percent below California or Japanese sardines.

Country of Origin	Quantity			Value		
	1958	1957	1956	1958	1957	1956
	. (Metric Tons) .			. . . (US\$1,000) . . .		
<b>Fish (preparations &amp; conserves):</b>						
Morocco . . . . .	364	230	165	190	136	85
Japan . . . . .	32	4	159	11	1	61
United States . . . . .	-	-	43	-	-	18
Cambodia . . . . .	14	32	25	1	2	3
Hong Kong . . . . .	-	-	20	-	-	8
France . . . . .	41	18	11	26	21	9
Sweden . . . . .	-	-	2	-	-	2
Algeria . . . . .	-	19	-	-	11	-
Denmark . . . . .	-	-	1	-	-	1
<b>Total . . . . .</b>	<b>451</b>	<b>303</b>	<b>426</b>	<b>228</b>	<b>171</b>	<b>187</b>
Shellfish (preparations & conserves)	42	33	57	39	38	63
Other Fishery Products (fresh, salted, dried, smoked, or cooked) . . . . .	2,446	1,864	1,689	430	271	407

A decision has recently been taken by the Government to eliminate the broken cross-rate in the high-cost exchange regime. Effective May 15, 1959, the surtax on dollar imports was reduced to 50, making an effective rate of 85 piasters to US\$1, and the surtax on francs was increased to make a comparable effective rate for franc imports. While it might logically follow that United States exports would benefit from the new rate, there is no assurance that this will be the case. The Government will probably refuse, as it has often refused in the past, to allocate dollars for imports which can be procured with francs. While formerly it was to the importer's advantage to buy canned sardines in the Franc Zone, now he will probably be forced to whether or not it is to his advantage.

There is one factory producing canned sardines at Phan Thiet, one of the principal fishing ports in Viet-Nam. Ac-

## Viet-Nam (Contd.):

According to the owner, annual production ranges from 5,000 to 10,000 cases, all of which is consumed locally. This firm has tentative plans to expand its operations to produce 50,000 cases per year, of which 30,000 would be exported. However, the owner stated that the firm has had difficulty

competing with imports and would need tax concessions on imported raw materials and more protection than has heretofore been afforded by the multiple exchange rate. Whether the recent measure will affect the firm's expansion plans is not known. The Government has shown no signs of encouraging the company, perhaps because it is controlled by Chinese interests, according to a May 18, 1959, dispatch from the United States Embassy in Saigon.

STORAGE EXPERIMENT EXHIBIT AT  $-20^{\circ}$  F.,  $0^{\circ}$  F.,  $+10^{\circ}$  F.

At the National Fisheries Institute Convention in April 1959, the NFI Technology Committee experimental exhibit was arranged to permit industry members to determine the effects of storage temperature, packaging methods, and short periods of mishandling on the acceptability of several fishery products. The basic experimental study simply involved storage of packages of seven different products at  $-20^{\circ}$  F.,  $0^{\circ}$  F., and  $+10^{\circ}$  F. for 9 to 10 months.

The products were prepared and packaged during June and July 1958 in accordance with usual commercial practices in fishery plants located in Gloucester, Boston, Bayou La Batre, Astoria, and Vancouver (B.C.). All were prime or at least very good quality raw materials and all were packaged in standard commercial materials. Ocean perch, haddock, halibut, silver salmon, and raw Gulf shrimp were all packed in standard waxed paperboard cartons and overwrapped with waxed bleached sulfite paper. Cooked dungeness crabmeat and cooked Pacific shrimp meat were packed in vacuum sealed cans. The products were frozen on plate freezers or in freezer rooms at  $-40^{\circ}$  F. Each of the products were divided into three lots and stored from June or July 1958 until early April 1959 at the three temperatures of  $-20^{\circ}$  F.,  $0^{\circ}$  F., and  $+10^{\circ}$  F. They were stored in well-watched facilities in Vancouver, B. C., Pascagoula, Miss., and Boston, Mass. They were shipped under proper refrigeration to New York, where they were held at  $-10^{\circ}$  F. to  $-20^{\circ}$  F. for the few days prior to their being opened, thawed, and examined April 11 to 14 at the Convention.

Those who viewed the exhibit samples concluded that:

1. A good quality fishery product, packaged in standard waxed paperboard cartons, with waxed overwraps, will remain a highly acceptable product for nine months or longer when stored continuously at  $-20^{\circ}$  F.
2. Samples of the same products stored at  $0^{\circ}$  F. for the same time were still probably acceptable and salable, but showed definite dehydration and losses of color.
3. Storage at  $+10^{\circ}$  F. for nine months results in very serious dehydration and losses of color. The salmon, ocean perch, and raw shrimp were hardly fit for sale, and other products were of very poor quality. ("Technical Tips" No. 8, N. F. I. Flashes.)