



International

FIVE CENTRAL AMERICAN COUNTRIES SIGN TRADE AND INDUSTRIAL AGREEMENTS

Five Central American countries signed a multilateral free trade and economic integration treaty in Tegucigalpa, the capital of Honduras.

The signing of the treaty came at the close of the fifth session of the Central American Economic Cooperation Committee which has been meeting since June 4 in Tegucigalpa. The five countries concerned were Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua.

The Committee is a subsidiary organ of the U. N. Economic Commission for Latin America (ECLA) and works in conjunction with an intergovernmental body composed of the five Ministers of Economy. Panama has attended all the sessions of the Committee as an observer and has taken part in much of the work.

The Committee also signed an agreement on integrated industries which acts as a corollary to the free-trade treaty. It aims to establish Central American manufacturing activities that could not previously materialize due to the lack of an adequate market in each country. The over-all objective is to transform five small markets into one larger, more efficient market.

The treaty includes a long list of raw materials and manufactured products which will be exempt from customs duties and other taxes or restrictions in trade between the five countries. The

list covers items which amount to about 3 percent of the countries' over-all trade, but covers items that amount to 20 percent of the trade between the five countries. The commodities and goods on the list will be accorded "national treatment" between all five countries. Trading items not mentioned in the list will be given unconditional and most-favored-nation treatment by all parties, thus according an exchange of goods at the lowest current rates of duty.

The treaty will take effect upon ratification by each of the parties. As soon as two countries ratify, it will take effect for those two countries. The new treaty was considered by the Committee as the first essential step toward a unified tariff system, multilateral free trade, and the integrated development of Central American industries. As such, it will form the basis for the gradual establishment of a common market cov-



ering all five countries. At least one speaker at the Committee meeting said it might lead to eventual political union.

In effect, the integration program has been a joint effort by the countries concerned and the United Nations. In some respects the Central American program

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has acted as a precursor for the concept of a Latin American regional market.

Before the conclusion of the meeting in Tegucigalpa, the Committee adopted a series of 24 resolutions, in the main dealing with the future work of the program.

Some of these concerned continuing activities for economic integration, while others were procedural, for instance, establishing the Committee's next meeting for the first half of 1959. Approval was also given to a resolution proposing the standardization of import duties for foreign trade and dealing with agriculture, livestock, and fisheries.

FOOD AND AGRICULTURE ORGANIZATION

MEDITERRANEAN FISHERIES MEETING TO BE HELD IN ROME:

The Fifth Meeting of the General Fisheries Council for the Mediterranean (GFCM) will take place at the Rome Headquarters of the Food and Agriculture Organization (FAO), October 13-18, 1958.

The Governments of Egypt, France, Greece, Israel, Italy, Monaco, Morocco, Spain, Tunisia, Turkey, the United Kingdom (Cyprus, Gibraltar and Malta), and Yugoslavia have been invited to send delegations. The Governments of Bulgaria, Lebanon, Libya, Portugal, Rumania, Sudan, Syria, United States, and U.S.S.R. and a number of international organizations have been invited to send observers.

"We shall have a good many interesting technical papers dealing with fishery problems of the Mediterranean," stated the Secretary of the GFCM, speaking at FAO headquarters. "These papers will cover, broadly speaking, such subjects as fisheries biology, production, economics and statistics of the Mediterranean fisheries, the utilization of the catch, and problems concerned with the development of inland fisheries of the Mediterranean area. . . ."

"Scientists, technicians and research workers who cannot attend the meeting but wish to submit papers on their work, can do so through the delegations from their countries."

Among the interesting subjects to be discussed at the forthcoming meeting will be the study of the trawling grounds of the Mediterranean. It is hoped that eventually the GFCM will be able to publish the results of this study, detailing the size and location of the trawling grounds, nature and extent of the catch, and other relevant data.

INTERNATIONAL PACIFIC HALIBUT COMMISSION

FIRST 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 2, 1958, 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 23.

The official opening date for halibut fishing in the Pacific regulatory area this year was May 4 at 6:00 a.m. (P.S.T.) except that fishing in Area 3B commenced on April 1, 1958. In 1957 the opening date was May 1, but the Canadian fleet did not sail until May 3 and started fishing about 5 days after the United States fleet because of a labor-management dispute over certain fringe benefits and "lay" apportionments. In 1956 the official opening date was May 12, but both the United States and Canadian fishermen voluntarily agreed not to start fishing until May 20.

Areas 2 and 1B this year were open to halibut fishing for 59 days as compared with 47 days in 1957 and 46 days in 1956 (because of the voluntary agreement to start fishing on May 20, actual fishing took place for only 38 days). These same areas were fished for 24 days in 1955, 21 days in 1954, and 24 days in 1953.

The grounds in Area 2 off Masset at the north end of Queen Charlotte Islands and off Timbered Islet off the west coast of Prince of Wales Island in southeastern Alaska, which have been closed for a number of years as small fish grounds, were opened in 1958 only, to utilize an accumulation of large and old halibut which have been revealed in those areas by the Commission's experimental fishing.

The longer period required to catch the Area 2 catch limit is attributed to (1) the difficulty of vessels catching capacity loads early in the season, (2) the continuation of the lay-over between trips initiated in 1956 except that the period was extended from 7 to 8 days in 1957 and (3) a smaller fleet.

The second fishing season in Areas 2 and 1B is scheduled to commence at 6:00 a.m. (P.S.T.) August 31, 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 at the north end of Vancouver Island shall be closed to halibut fishing during the second season. Thereafter, these areas are closed to halibut fishing until the commencement of the halibut fishing season in 1959. Area 2 includes all convention waters between Willapa Bay, Wash., and Cape Spencer, Alaska. Area 1B includes all convention waters between Willapa Bay and Heceta Head, Oreg.

Area 3A with one fishing season opened on May 4 and will close when the catch limit of 30 million pounds has been attained. Area 3A is between Cape Spencer and a line running southeast one-half east from Kupreanof Point, Alaska, near Shumagin Islands.

The fishing season in Area 1A extends from 6:00 a.m. May 4 and will end at 6:00 a.m. October 16 or to the closure of Area 3A, whichever is later. In Area 3B the season opened April 1 this year and it will extend to October 16 or to the closure of Area 3A whichever is later. Area 3B includes all waters west of Area 3A including the Bering Sea. Area 1A is south of Heceta Head, Oreg.

The fishing season in all areas automatically closes at 6:00 a.m. December 1, 1958, if not already closed by catch limit or date prior to that time. This closure continues until the season is opened in the following year.

INTERNATIONAL WHALING COMMISSION

INCREASE IN BLUE-WHALE UNIT QUOTA PROPOSED AT MEETING:

At the meeting June 23-28, 1958, of the International Whaling Commission, the Japanese, with the support of the Netherlands, were expected to request an increase in the Antarctic blue-whale unit quota of from 14,500 units to 15,000 units. An official of the Netherlands Ministry of Fisheries has stated that his office is in possession of data which clear-

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ly shows that a limit of 15,000 blue-whale units would not be damaging to the supply. The 14,500 blue-whale unit quota was imposed for the first time on the catch for the 1956/57 season, the United States Embassy at The Hague reported on June 13, 1958.

(NORTH EUROPEAN) INTERNATIONAL FISHERIES CONVENTION

U. S. S. R. ACCEDES TO CONVENTION:

The Soviet Union has acceded to the International Fisheries Convention of 1946. This achieves 100 percent coverage of the nations regularly fishing in the eastern part of the North Atlantic and also of those fishing in the North Sea, according to the May 23 issue of *The Fishing News*, a British fishery periodical. The United Kingdom Government, as the depository Government for the Permanent Commission set up under the Convention, has notified all the contracting governments concerned of the accession.

The accession is notable not only for its final achievement of 100 percent alignment of the nations concerned, but because it will inaugurate an era in which the whole principle of the conservation of fishing stocks in the areas concerned will be observed by all nations engaged in the industry. The immediate practical outcome of Russia's action will be that her nationals will be required to observe the mesh regulations and size limits embodied in the Convention. In addition, the valuable aid of her scientists and fishery technologists will be available in considering further measures that may be necessary for implementing the principle of conservation and maintaining the stocks of fish to give maximum yield.

As is now well known, Russia has embarked on a big campaign to develop her fisheries. Her present catch from the Arctic waters, the North Atlantic, and the North Sea areas is placed at about 2,500,000 metric tons--practically as much as is taken by all the other nations concerned--but future estimates place her prospective landings at 5,000,000 tons by 1975. To achieve this, her present fleet of factoryships con-

sisting of 24 Pushkin-type stern trawlers is being supplemented by a further 70 with additional expansion later, while her normal fishing fleet comprising mother-ships and supplementary catchers is being heavily enlarged.



Angola

FISH-OIL INDUSTRY:

Angolan marine fish-oil production amounted to 11,200 short tons in 1957 as compared with 5,200 tons in 1956, according to *Foreign Crops and Markets* of May 5, 1958, a United States Department of Agriculture publication. Since the record output of 13,000 tons in 1954, fish-oil production has fluctuated considerably from year to year depending on market prices and the availability of fish. It is estimated that about 13,200 tons of fish oil will be produced during 1958.

Angolan exports of fish oil amounted to 13,400 tons in 1957 as compared with 5,700 tons in 1956. West Germany has been the principal market for fish oil. It is estimated that about 13,200 tons will be exported from Angola during 1958.



Australia

FROZEN FISH IMPORTS INCREASE:

Australian imports of frozen fish during July-February of the 1957/58 fiscal year were 28 percent higher in volume

Source	Australian Frozen Fish Imports, July 1957-February 1958 with Comparisons	
	8 Months	
	1957/58	1956/57
	..(1,000 Lbs.)..	
New Zealand	4,558	5,339
South Africa	4,411	4,068
United Kingdom	3,928	2,337
Denmark	1,886	388
Hong Kong	365	5
Japan	363	-
Norway	203	78
Jamaica	-	223
Netherlands	177	86
Germany	79	7
Iceland	67	-
China	41	-
Norfolk Is.	16	-
United States	-	4
Total	16,099	12,535

Australia (Contd.)

than for the corresponding period of 1956/57, and the value was up from £987,130 to £1,488,247 (US\$2.2 million to \$3.3 million).

However, it should be remembered that during 1957/58 import restrictions were relaxed and also placed on a different basis. (Australian Fisheries Newsletter, May 1958.)

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REPORT ON JAPANESE CANNED FISH IMPORTS AND DOMESTIC CANNED FISH TRADE:

The Australian Minister for Trade announced earlier this year that he had accepted a recommendation by the Advisory Authority on the Japanese Trade Agreement that no emergency action be taken on behalf of the Australian fish canning industry. Accompanying the Minister's announcement was a "Summary of a Report by the Advisory Authority on Imports of Canned Fish from Japan." The report states:

On November 25, 1957, representatives of the Australian fish canning industry asked the Minister for Trade to consider a request for protection against imports from Japan.

The Minister on December 3 asked the Advisory Authority to advise (a) if they considered that the industry was likely to suffer serious injury as a result of the Trade Agreement and (b) if so, what action should be taken by the Government to overcome this situation.

The Advisory Authority conferred with representatives of the fish canning industry in Melbourne on December 19. Further information requested was received on February 20. Canned fish importers nominated by the Associated Chambers of Commerce of Australia were also interviewed. The main conclusions arrived at as a result of these interviews were:

(a) The reductions in duty arising from the Trade Agreement varied slightly in favor of Japan; the wide competitive margins existing before the agreement, and to the extent to which they created new opportunities for Japanese imports of canned fish was at the expense of other supplying countries rather than the Australian industry.

(b) The Australian industry would not obtain any worthwhile assistance by the restoration of the position that existed before the Agreement or even by action, beyond simple restoration, aimed at Japan alone.

(c) If the Australian industry was to be assisted by discouragement of, or impediments to imports, such discouragement to be effective should extend to all classes of fish and to all sources of supply.

The Advisory Authority therefore recommended to the Minister, consistent with their belief, that the Australian industry is not likely to suffer serious injury as a result of the Japanese Trade Agreement. It was recommended that no emergency action be taken.

In the last three years total sales of Australian canned fish have been:

	1,000 lbs.
1955.	5,054
1956.	5,320
1957.	7,058

The industry has clearly suffered no setback in the last six months of 1957 when the Trade Agreement with Japan was in operation, as sales in the last six months of recent years have been:

	1,000 lbs.
1955.	2,370
1956.	2,483
1957.	3,162

Nevertheless Australian canners contend that competition from Japan prevented sales from increasing to levels that otherwise would have been reached. Stocks from an increasing supply of fish processed accumulated, and at the end of December 1957 were 66 percent higher than at the end of 1956.

The species of fish canned in Australia are important. In 1957 the quantity of each sold in Australia was:

	1,000 lbs.
Australian salmon	4,675
Barracouta	1,443
Tuna	940
Total	7,058

More than half of the Australian canned fish pack consists of a fish which is called "salmon" but which is really a species of perch. Australian canners agree that the salmon canned by them is not comparable with imported salmon but contend that their production is competitive with lower grades of Japanese salmon, which they claim makes up the bulk of imports.

This is not supported by the available statistics, or by importers. Importers claim that by far the bulk of salmon imports consists of higher quality fish. The present c.i.f. price of fancy pink salmon is 3/8 (41 U. S. cents) per pound yet the average f.o.b. price per pound of Japanese salmon landed in Australia in recent years has been: 1954/55, 5/- (56 U. S. cents); 1955/56, 4/3 (48 U. S. cents); 1956/57, 4/- (45 U. S. cents).

These figures show that most imports have been of a better quality than "Fancy Pink" and that they are not likely to be competitive, even on the Australian canners' own assessment. Selling prices of Australian "salmon" range from 23s. to 26/6 (US\$2.58-29.3) per dozen 8-oz. cans. The landed duty-paid cost of Japanese salmon in similar size cans per dozen are approximately: sock-eye, 41s. 6d. (US\$4.65); coho, 31s. 10d. (US\$3.57); pinks, 24s. 9d. (US\$2.77); chum, 23s. 6d. (US\$2.63)

Imported fish is subject to 12½ percent sales tax; Australian fish is exempt. The result is that the cheapest Japanese fish would carry an extra cost of at least 3s. per dozen and would not be cheaper than the dearest Australian fish; but as already pointed out the average value of actual imports is very much higher than the price of the cheapest quality.

So far as the volume of imports from Japan is concerned, statistics disclose that the value of salmon imported from Japan during the six months of the current financial year was lower than in the corresponding period of the two previous years:

Australia (Contd.):

July to December		
1955/56	1956/57	1957/58
£859,000	£474,000	£453,000
(US\$1,924,160)	(US\$1,061,760)	(US\$1,014,720)

That is to say, despite the reduction of duties as a result of the Trade Agreement, imports of salmon from Japan have been lower since the Agreement than before it.

A second claim by the Australian industry is that imports of canned mackerel have resulted in a loss of trade by Australian canners of barracouta. It is not possible to identify mackerel in import statistics for they are classified under a statistical group "Other" which includes a variety of fish.

A third claim by the Australian fish canners concerns tuna. Practically no licences have been issued to import tuna in the last four months. As this species of fish is well accepted on the Australian market, the local canners have little difficulty in disposing of their limited stock, especially when availability in terms of imports is very low. (Australian Fisheries Newsletter, May 1958.)



Canada

NEWFOUNDLAND FACTORY TO MAKE FISH-SKIN GLUE:

One of the world's biggest producers of adhesives has opened a new fish glue plant in St. John's, Newfoundland. Preliminary production began January 22 and the plant expected to reach full-scale operation in early February.

Construction of the concrete-block building was begun June 1957 and was completed in November. The installation of manufacturing equipment took approximately two months. Some of the equipment was brought from the company's original fish-glue plant at Gloucester, Mass., while additional equipment was fabricated by St. John's contractors. The plant has employed nine men.

When located in Gloucester, the company bought cod skins from three companies in Newfoundland. Last year, it was decided to close the Gloucester plant in view of rising costs of production. The demand for fish glue has steadily declined both in the United States and Canada, largely as the result of price competition with animal glue and synthetic adhesives. Commenting on this

aspect, a company spokesman said: "In closing our Gloucester plant and opening a plant in Newfoundland, we hope to get the cost of fish glue on a more competitive footing. Increasing sales should follow."

The St. John's plant will be the largest producer of fish glue in the Atlantic Provinces. There are three others, located at Lockeport, N. S., Black's Harbour, N. B., and Saint John, N. B.

The new plant will utilize both fresh and salted cod and haddock skins. The company will secure its fresh skins from fish plants within a 200-mile radius of St. John's. Salted skins may be obtained from plants at greater distance from the glue factory, and, in addition, local supplies may be augmented by importations from European sources.

Cod and haddock skins are the most desirable of fish skins because they have a high degree of collagen (protein) with very little or no contaminating oil. The skins have little commercial value as meal because they foul fish meal manufacturing equipment and cause costly stoppages. Consequently, their use in fish glue becomes an important part of the economics of fish-plant operations salvaging a part of the fish which would otherwise be wasted.

The basic fish glue process has changed little over the years since the first plant began operations at Gloucester, Mass., in 1880. The skins are washed to remove the salt. The collagen is then cooked out of them, and the "glue liquor" thus produced is evaporated down to the desired viscosity. Preservatives and other chemicals are added and the product is ready for sale.

When the glue has been extracted from the fish skins, the residue can be utilized in fish meal. The company is understood to have made arrangements with a Newfoundland firm to handle this byproduct of the operations.

Fish glue makes an excellent wood-working adhesive and is also used as an additive in many other kinds of glue where its unique properties, high initial tack, and remoisitenability are valuable.

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The St. John's plant will operate seasonally, to some extent, as do the fish plants. It is anticipated that the Newfoundland cod and haddock catch will provide considerably more than enough skins for the operation of the plant. Should lower costs be realized, however, the product will be priced more competitively and an increasing sales volume would result in increasing production.

Working at full capacity, the plant will process approximately 100 tons of fish skins each week. The glue product, which will be in a semi-processed state, will supply part of the requirements of the company's plants in the United States and Canada. (March 1958 Trade News of the Canadian Department of Fisheries.)

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NEW RESEARCH VESSEL LAUNCHED:

The M/V A. T. Cameron, a new research vessel of the Fisheries Research

Board of Canada, was launched on May 30, 1958, at Sorel, Quebec. The vessel was named for the late A. T. Cameron, who for 13 years prior to his death in 1957 was chairman of the Research Board.

After the vessel is commissioned she will go into service in Atlantic and Arctic waters, based at St. John's, Newfoundland, for about two-thirds of the year and at Halifax the remainder of the time. Her length is 177 feet and her breadth 32 feet. She will carry a crew of 25 and will have accommodation for 9 scientists and technicians. There will be 5 laboratories, each fitted out with modern equipment and gear for various research procedures as well as oceanographic, hydrographic, and survey work. There will also be an 1,800-cubic-foot fish hold.

The A. T. Cameron was built along trawler lines; Diesel powered; and her hull is strengthened for navigation in ice. As she will be required at times to make extended trips of from

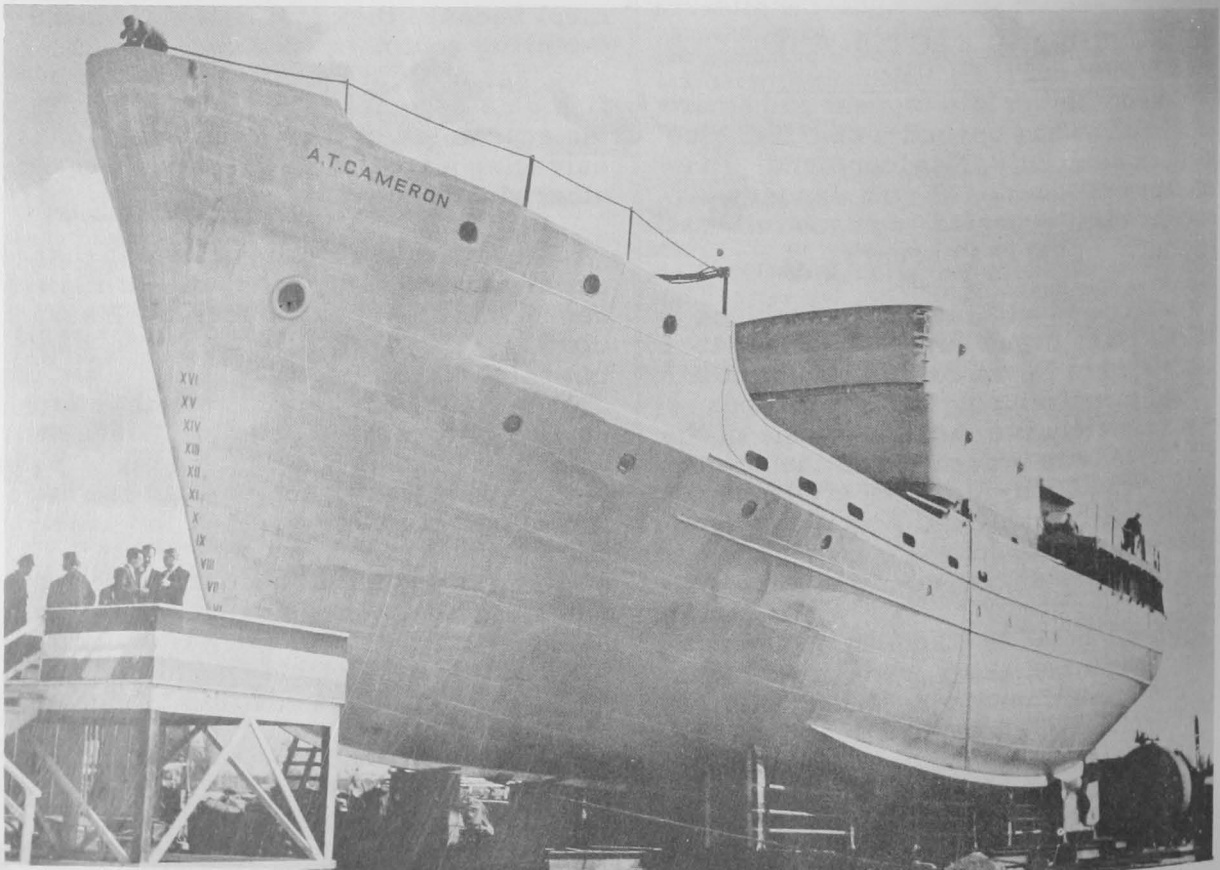


Fig. 1 - The A. T. Cameron, new research vessel of the Fisheries Research Board of Canada, in the shipyards of the builders.

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6-8 weeks' duration, provision was made for a cruising range of 7,500 miles without refueling.

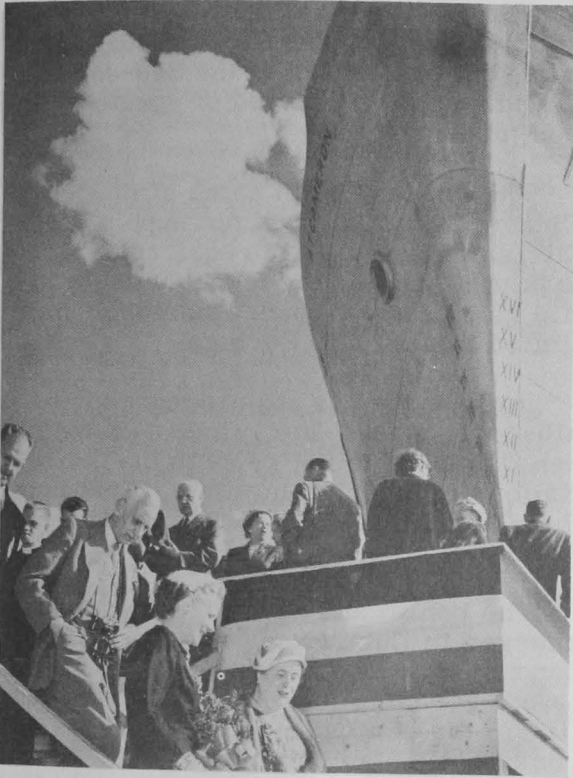


Fig. 2 - Scene immediately after the christening of the A. T. Cameron.

The new vessel was originally designed in England, but was finally built to design plans and specifications prepared by the Montreal naval architects to meet the requirements of the Research Board. The main hull is of steel and the superstructure of aluminum. Navigational and scientific survey equipment aboard will include the latest radar, depth sounding, and other electronic devices. Two radar sets will be provided for long, intermediate, and short-range protection, thus enabling the use of one set in survey operations while the other is in use for safe navigation. The cost of the vessel, complete with modern scientific equipment, was nearly C\$1,750,000.

NEW TYPE HERRING TRAWL DEVELOPED FOR MIDWATER OR BOTTOM FISHING:

In 1951 Canadian herring fishermen began trying European-style midwater trawls for taking autumn and winter herring in British Columbia waters. In 1954 the Fisheries Research Board's biological station at Nanaimo, B. C., undertook the development of a midwater trawl and asso-

ciated gear for use on single boats of about 150 to 175 horsepower.

Construction of Trawl and Associated Gear: The use of nylon and the technique of brailing fish from the cod end allowed the employment of light netting with little water resistance. The net is 35 feet square and 180 feet long. Mesh sizes range from 5 inches in the wings and square to 1-1/4 inches in the cod end. The four 75-foot "head" ropes are of combination wire-manila. Rib lines are 5/16-inch braided nylon. The "zipper" cod-end opening is 36-feet long. Curved, 5-1/2- by 3-foot plywood otter boards with stabilizing fins are suspended from 10-fathom pennants. Eleven aluminum, lifting trawl floats are attached about 2 feet apart in the center of the top "head" rope. A headline of braided nylon with about 25 pounds of small sectional leads is attached along the bottom "head" rope at 18-inch intervals. Depressors are used on the towing lines just ahead of the lower wings. The towing lines (dandy-lines) are 3/8-inch galvanized wire rope 30-fathoms long.

Operation of the Trawl: Herring are located with an echo-sounder. The net is shot over the stern. Trawl depth is controlled by speed and by the length of the towing warps and is calculated from the angle of descent of the warps. In hauling, the otter boards, depressors, and body of the net are brought aboard and the cod end is secured alongside before opening the "zipper" to make the catch available for brailing.

Dual-Purpose Otter Board: The plywood otter boards work well at mid-depths, but are easily damaged upon contact with the bottom, which is likely when attempting to catch herring near the bottom. A V-shaped dual-purpose aluminum otter board, which is stable in midwater at speeds of 2 to 6 knots, was developed in 1956.

Early Fishing Tests: Herring in British Columbia waters during January and February occur in dense, 5- to 10-fathom thick layers and tend to rise toward the surface in the evening and descend at daybreak. Catches during these times were 20 to 30 tons per 30-minute tow. Catches were smaller at night. Two daylight tows caught 15 and 35 tons. The more active autumn fish were taken in amounts of 5 to 15 tons per half hour at mid-depths, and in amounts of 20 to 75 tons in 20- to 30-minute tows with the net "flying" just off the bottom. Conventional otter-boards, which ride the bottom, were used.

Commercial Use of the Trawl: In the late autumn and winter of 1955 to 1956, fishing close to the bottom with conventional otterboards, seven trawlers took 2,000 tons of herring averaging 5 to 6 tons per half-hour tow. In the winter of 1956 to 1957, 19 trawlers took part in the fishery.

Midwater Trawls for Faster-Swimming Fish: Work is continuing on the development of a midwater trawl capable of catching the more active summer herring and other fast-swimming fish. Two approaches are being made to the problem: (1) a small, strong net, for towing at fast speeds and (2) slow-moving trawl with a large opening (article by the Fisheries Research Board of Canada which appeared in the December 1957 issue of the Canadian Fisherman).

RECORD HALIBUT TRIP LANDED AT VANCOUVER:

The 74-foot steel-hulled Silver Viking II arrived at Vancouver, British Columbia, on June 25, 1958, with the largest catch of halibut to enter that port since the days of steam and line-trawling for halibut from dories or as far back as about 1918.

The Silver Viking II came in with about 1 1/2 feet of freeboard and 172,000 pounds of halibut from the Gulf of Alaska

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area. The round trip took 30 days, but only 10 days were spent fishing. The catch sold ex-vessel for 15 cents a pound for 2,000 pounds of chicken halibut; 22.6 cents for 120,000 pounds of mediums; and 22.5 cents for 50,000 pounds of large. The trip brought a gross stock of C\$38,670 and each member of the crew shared about \$3,000.

This was the maiden voyage for the Silver Viking II--she is the first steel-hulled all-purpose fishing vessel in Canada's west coast fleet. The vessel has a capacity of 160,000 pounds of halibut in her brine tanks, and can carry another 30,000 pounds of iced fish. The Captain of the vessel reported that halibut were plentiful and the weather was good except for two days.

The vessel proved all her designers' claims--took the weather well, and averaged 9 knots on the trip home. The big feature of the trip was the performance of the brine tanks. The fish were unloaded in Vancouver as firm and fresh, with absolutely no sign of bruising, as they were the minute they came out of the water. A high proportion of the fish were large--running around 150 pounds each. The crew set an average of 40 skates a day, and landed about 2,300 pounds per skate (Canadian Broadcasting Company, Farm and Fisheries Department news release).



Cuba

FROZEN COOKED TUNA LOINS
NOT BEING PRODUCED:

Although the new joint Cuban-Japanese fishing firm intends to produce tuna "hams" and "sausages," a reliable source advises that no such production has as yet occurred.

The Japanese fishing vessel Sumiyoshi Maru (used as a training vessel for Cuban fishermen and also as a fishing vessel) returned from its second training voyage with Cuban trainees about the middle of March 1958. On its second

voyage it had reportedly encountered another Japanese fishing vessel off the coast of Brazil and exchanged skipjack, marlin, etc. for already filleted tuna.

The Sumiyoshi Maru returned from its first voyage with 11,448 pounds of tuna; the remainder of the 300-odd tons of fish caught consisted of species other than tuna.

The purely Cuban catch of tuna by Cuban fishermen does not supply all of the Island's domestic requirements, making it necessary to import substantial quantities of canned tuna from Spain, United States, and Portugal.

In Cuba tuna is not processed (tuna, albacore, bonito, etc.) in cooked and frozen fillets or loins, reports the Cuban National Fisheries Institute. Therefore there are as yet no producers of such products.

The bonito and similar species discharged in Cuba from vessels under Cuban registry are used for canning for internal consumption. The pack is not sufficient for domestic needs as there is a considerable importation of similar products to meet the requirements of the Cuban market. In 1957, 4.2 million pounds of these species were fished.

The Japanese vessel Sumiyoshi Maru which fishes on the high seas with long line and with which the Institute has entered into a contract for the training of Cuban fishermen in this type of fishing, on its first voyage brought in 110,448 pounds of fish, a small amount of which consisted of tuna, albacore, etc. On its second trip it brought in 477,738 pounds already filleted and 78,521 pounds in large pieces and heads-off fish. All this fish was discharged and processed by the joint Cuban-Japanese firm at its Rincon de Melones plant, in Havana, and was exported frozen to the United States.

Note: Also see Commercial Fisheries Review, June 1958, p. 65, April 1958, p. 55.



Denmark

EXPERIMENTS ON USE OF NYLON THREAD IN OYSTER CULTURE DISAPPOINTING:

An oyster crop was planted last year for the first time in the Limfjord, Denmark, on nylon threads with the date of planting marked on a bobbin attached to the thread. The industry thought that this method would do away with the wastage caused by scraping, a harvesting operation in which about one third of the oysters are either smashed or drowned. The industry failed, however, to consider the difficulties caused by mussel larvae which attached themselves to the young oysters and suffocated them.

Beginning in April of this year, the industry expected to make another attempt to plant oysters attached to nylon threads, but would raise the threads above the surface for a few minutes every fifth day. It was believed that this process would dry up the mussel larvae and not affect the hardier oysters.

At the end of the oyster season it appeared that the harvest this season would be approximately 25 percent less than last year, states an April 1 dispatch from the United States Embassy at Copenhagen. The industry believes the decrease was due to the difficulties in scraping operations caused by ice, but it seems that the industry has not yet overcome the loss of oysters during the 1955/56 winter when several million oysters died of starvation.

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PROPOSED EXTENSION OF FISHING LIMITS BY FAROESE MAY HURT FISHERMEN:

The unilateral decision of the Faroe Islands authorities to extend Faroese fishing jurisdiction to 12 miles, has aroused feelings of apprehension amongst Danish fishermen. They foresee the possibility of German retaliation should Faroese-Danish discussions on the matter end in an endorsement of the extension. Danish fishermen have had traditional interest in fishing grounds within nine miles of German territorial waters in the North Sea. Although these grounds

are of lesser importance than the Dogger Bank area to the north, their closure by German extension of fishing jurisdiction to 12 miles would deprive the Danish fishing industry of a substantial source of income, the United States Embassy at Copenhagen reports in a June 10, 1958, dispatch.



Egypt

JAPANESE-EGYPTIAN FISHING COMPANY TO TRAWL IN MEDITERRANEAN AND RED SEAS:

An Egyptian-Japanese fishing company has been founded in Alexandria, Egypt, with the financial participation of the Egyptian Government. It is proposed to create agencies of this company in other countries bordering the Mediterranean Sea, Red Sea, and the Gulf of Aqaba. Japanese trawlers will operate in the Red Sea and the Indian Ocean. (*Giornale della Pesca*, December 1957).



Faroe Islands

BRITISH CONVENTION ON FISHING LIMITS DENOUNCED:

The Government of the Faroe Islands announced that it could no longer be bound by the present fishing limits convention with the United Kingdom, as a change in the Icelandic limits might increase foreign fishing off the Faroe Islands. The Faroes reserve the right to renegotiate the agreement or, if that should fail, unilaterally to take the same action as Iceland. (United States Embassy dispatch, June 5, 1958, from London.)



Greece

FISHERIES SURVEY PLANNED:

A committee was recently formed by a decision of the Greek Government to carry out research and ascertain the up-to-date situation of the Greek fisheries

Greece (Contd.):

with regard to supplying the Greek population with sufficient quantities of fishery products at suitable prices. The committee consists of 7 members. (Aleia, November 1957.)

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SPONGE PRODUCTION IN 1957:

Greek sponge production in 1957 was below that in 1956.

Greek Sponge Production in Principal Producing Areas, 1956-57		
Regions	1957	1956
	(Metric Tons)	
Greek waters	41.0	47.0
Cyrenaica	25.6	29.0
Tripoli	28.2	31.8
Total	94.8	107.8

In 1957 the Greek production in Egyptian waters amounted to 7.5 metric tons. (Aleia, January 1958.)



Italy

FISHERY PRODUCTS IMPORTS INCREASED IN 1957:

Italy's fish imports reached an all-time high in 1957--128,060 metric tons against 121,881 tons in 1956. Most of this increase resulted from larger imports of fresh and frozen fish and salted cod, which together made up about 67 percent of total purchases from abroad.

Table 1 - Italian Fish Imports by Type

	1957	1958
	(Metric Tons)	
Salted cod	46,250	43,696
Stockfish	7,843	8,440
Fresh and frozen fish	39,433	31,733
Herring, salted or smoked	2,668	4,232
Pilchards, salted	625	783
Anchovies and sardines, salted	4,361	2,990
Crustaceans and molluscs	3,591	2,803
Other fish, fresh, salted or smoked	82	119
Salmon, canned	702	1,326
Sardines and anchovies, canned	6,791	9,496
Tuna, canned	7,955	8,936
Other fish, canned	7,759	7,327
Total	128,060	121,881

Various types of canned fish made up most of the remainder, but these imports fell off by over 14 percent. This decrease can be attributed in part to larger imports of fresh and frozen fish, nearly half of which was used by local canneries.

The Italian fishing industry, assisted by a number of Government measures which provided loans and outright contributions, has made substantial progress in the past decade in constructing new fishing craft and in carrying out a program of modernization.

In spite of these improvements, the annual catch has increased very little during the past several years. In fact, landings in 1957 were down by 4.4 percent, totaling 186,724 tons as compared with 195,283 tons in 1956.

Additional funds have recently been allotted by the Italian Government for the further development of the fishing industry, part of which have been earmarked for research and study in the field of fisheries technology.

Salted cod accounted for over 36 percent of total purchases from abroad and, in the traditional pattern, led imports, followed closely by fresh and frozen fish. Italy's purchases from Canada were again confined almost entirely to salted cod and British Columbia canned salmon.

Table 2 - Italian Cod Imports by Country of Origin

	1957	1956
	(Metric Tons)	
Canada	3,500	3,222
Denmark	8,066	6,247
France	6,735	11,296
Germany (Federal Republic)	4,467	4,050
Iceland	14,075	10,669
Norway	6,462	5,064
Other countries ^{1/}	2,945	3,148
Total	46,250	43,696

^{1/}Includes landings of Italian deep-sea trawlers.

Although Italians prefer fresh fish to all other types, salted cod is in strong demand because of its high protein content (due to partial removal of water during salting) and comparative low price. Wet-salted cod, which has been bled when caught and presents a white, attractive appearance, ranks first in popularity and is sold in all parts of Italy. There is, however, a strong demand in certain sections of the country for the hard-dried, light-salted cod produced on the coasts of Gaspe and Newfoundland. This type of cure is especially appreciated in inland areas where, apart from taste preferences, Canadian salted cod has been found to keep well despite the lack of adequate cold-storage facilities.

Italy (Contd.):

Fish similar to the Gaspé and Newfoundland cures cannot be obtained in worthwhile quantities from other exporting countries. However, imports of dried, heavy-salted French and Faroese cod are offering serious competition to the lower grades of Newfoundland shore cure.

Total imports of canned salmon showed a further decline in 1957, and purchases from Canada fell off by over 66 percent. Higher asking prices and a growing demand for less expensive types of canned fish were largely responsible for this decrease.

Italian Canned Salmon Imports		
	1957	1956
	(Metric Tons)	
Canada	357	1,064
Japan	327	243
Other countries	18	19
Total	702	1,326

Though imports of dried, salted, and smoked fish are free, fish in other categories, including canned varieties, remain on the list of restricted items for which import licenses must be obtained from the Italian authorities. It is highly probable that these restrictions will continue as long as sufficient supplies are available from other than dollar sources.

Because canned salmon cannot be obtained in volume except for payment in dollars, the Italian Government has during each of the past several years entered into a special arrangement with the Government of Canada for the purchase of British Columbia canned salmon. It is hoped by Canada that negotiations for a similar agreement this year will be successful, and that enough dollars will be forthcoming to cover Italy's requirements of this Canadian product.

Most of the salted fish entering Italy in 1957 was imported by two groups. The first of these groups is located at Naples and its purchases are confined to dried salted cod coming from Canada. The other group imports wet-salted fish, mainly from Iceland, Denmark, and Norway, and has its headquarters at Genoa. There are a few individual importers of

both dried- and wet-salted cod, but the majority of the regular importers are members of one or both of these groups. A large proportion of the heavy-salted, dried cod from France is shipped overland directly to wholesalers in small lots. Both groups have their own selling organizations and sell directly to local wholesalers.

The marketing of salted cod has been orderly during the 1957/58 season, due largely to group buying and selling. The competition among individual importers, which often led to unnecessary price-cutting, has been eliminated and as a result prices on the local market have shown very little fluctuation.

Stocks of salted cod on hand at the end of 1957, though larger than those at the end of 1956, were not considered heavy, and imports since the beginning of 1958 have been kept to a minimum.

Sales over the winter months have been fairly satisfactory, mainly because bad weather has hampered local fishing operations. Demand is expected to slacken in the next few months, but currently there is no indication of a large carry-over of Canadian salted cod into the new selling season, which begins in September.

Prospects for increased sales of canned salmon to Italy depend on lower prices, particularly in respect to chums which constitute the largest imports from Canada. Present prices are considered too high to allow a worthwhile turnover in sales, and the demand for canned salmon is being supplanted by requests for less expensive types of canned fish, particularly tuna. Today, canned salmon sales are largely limited to the luxury trade in the bigger cities, and there is every indication that this situation will continue unless prices are reduced. (Canada Foreign Trade, May 10, 1958.)



Japan

KING CRAB PRODUCTION AND EXPORTS ESTIMATED FOR 1958:

It is estimated that Japan's total king crab pack for 1958 will be 447,000 cases¹ of which 377,000 cases will be from high-seas fishing (in the Okhotsk Sea and Bristol Bay) and 70,000 cases from domestic shore-based crab fishing operations. Crabs caught in the Okhotsk Sea will be processed on board four motherships and the Bristol Bay catch will be processed by one mothership. Crabs caught in waters near Japan will be processed by coastal canneries.

Since Japan's 1957 king crab pack figures have not yet been published, it is not possible to make a comparison with Japan's estimated total 1958 pack. It has been estimated, however, that the 1958 canned king crab meat pack will be slightly lower than the 1957 pack. Japan's high-seas crab fishing catch and pack will be lower than in 1957 by at least 24,400 cases, due to the new provisions contained in the recently-concluded Japan-Soviet Fisheries Agreement affecting Japan's crab fishing in the Okhotsk Sea.

Japan's four fleets operating in the Okhotsk Sea in 1957 packed 344,400 cases. In 1958 there will be the same number of fleets but each mothership will be permitted to pack a maximum of 80,000 cases, or a total of 320,000 cases for the four fleets. The canned king crab pack goal for 1957 was 320,000 cases, the same for 1958, but there was some flexibility in the 1957 agreement which permitted Japan to exceed that figure. The flexibility clause was eliminated for 1958.

Japan's 1958 king crab pack quota from operations in the Bristol Bay area has been set at 57,000 cases, the same as for the previous year. Also, as in the previous year, Japan will have one fleet operating in that area. It is estimated that Japan's king crab pack in the Bristol Bay area for 1958 will total 59,850 cases, the same as for 1957, or five percent above the set quota. The Japanese Fisheries Agency permits its crab fleet to pack a maximum of five percent in excess of the quota.

Shore-based king crab fishing and packing operations are estimated at about the same level as for 1957. Although 1957 pack figures are not available, Japanese industry plans indicate that about 70,000 cases will be canned by canneries in Japan. The actual pack figure will depend on the crab catch in waters near Japan where there is some indication of a decline in output. A decline in the king crab catch by about 25 percent between 1956 and 1957 is indicative of declining resources. The domestic shore-based crab catch in 1956 totaled 6,124 metric tons as compared with 4,605 metric tons in 1957.

There are no published government or industry plans that indicate the amount of canned king crab which will be exported during 1958. Based on announced individual company plans, however, it is estimated that 1958 exports will total between 385,000 and 410,000 cases. The lower exports indicate that Japan's crab-canning industry will attempt to meet domestic demand for canned crab of between 60,000 and 65,000 cases out of the 1958 pack. If Japan should export 410,000 cases in 1958, the crab-canning industry will be required to meet a part of this export quantity from domestically-held stocks. No published information on Japan's canned king crab stocks is available. Assuming that Japan will export 410,000 cases of canned king crab in 1958, it has been estimated that about 250,000 cases will be exported to the United States, 100,000 cases to the United Kingdom, and 60,000 cases to all other areas. If the total export goal should be reduced, it is considered most likely that the cut-back will be in exports to the United States.

Although some Japanese fisheries sources have indicated that Japan will be exporting increasing quantities of frozen king crab to the United States, officials of large fishing companies and of the Japanese Fisheries Agency have denied these reports, stating that Japanese industry plans to export frozen king crab are largely experimental in nature and that the high cost of freezing and preparing crab for export as well as strict United States sanitation requirements make export prospects doubtful. Only one fishing company has definite plans to export frozen king crab, and their plans for export do not exceed five tons. Two other companies

hope to export small quantities on an experimental basis (dispatch from Tokyo, dated May 9, 1958).

¹/STANDARD CASES OF 48 $\frac{1}{2}$ -OZ. CANS.

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NORTH PACIFIC MOTHERSHIP SALMON FISHING:

The 15 Japanese North Pacific salmon fishing mothership fleets (432 catcher boats) operating in the Aleutian area in the North Pacific (the Bering Sea east of Kamchatka) as of May 31 had caught 11,259 metric tons of salmon as compared with 19,393 tons on the same date in 1957. As of May 20 the 15 fleets had caught 4,150 tons of salmon as compared with 11,499 tons a year earlier. These reports indicate that fishing is not up to the same level as it was in 1957 because of bad weather. The quota for these 15 fleets for 1958 is 85,667 tons as compared with 87,000 tons for 1957. The same number of mothership fleets in 1957 had 405 catcher boats fishing.

The 15 mothership fleets operating in the Aleutian area as of June 10 had caught 18,658 metric tons of salmon as compared with 30,954 tons on the same date in 1957. On June 12 they were reported fishing approximately in the area bound by 48°00' N.-54°36' N. and 163°00' E.-171°00' E.

As of June 20 only 5 days before the midpoint of the permitted fishing period, the fleets had caught 28,884 metric tons of salmon as compared with 47,930 tons on the same date in 1957--34 percent of the quota. Last year at the same time 55 percent of the quota had been caught. On June 23 the 15 fleets were reported fishing approximately in the area bound by 48°30' N.-52°30' N. and 160°00' E.-169°24' E.

The one fleet scheduled to operate in the Okhotsk area with a quota of 6,000 tons left for the fishing grounds on May 28.

The over-all quota for Japanese North Pacific salmon fishing for 1958 is 110,000 tons: 85,667 tons for the fleets fishing in the Aleutian area, 6,000 tons for the fleet fishing in the Okhotsk area, and 18,333 tons for the shore-based salmon fleets on Hokkaido Island. (Hokkai Suisan and Japan Fisheries News).

Japan (Contd.):

The one fleet (28 catcher boats) operating in the Okhotsk area caught 529 tons as of June 10 as compared to 1,094 tons for the same period last year with two motherships. The Okhotsk fleet was reported fishing on June 12 at 51°06' N.-115°36' E.

As of June 20 this fleet caught 1,643 tons as compared to 2,776 tons for the same period last year. This fleet was reported fishing on June 23 at 51°36' N.-115°12' E.

The termination date for these fleet operations under the Russo-Japanese fisheries treaty was scheduled as August 10, however, the year's agreement provides that salmon fishing was to cease July 20 east of Kamchatka north of 52° N. and west of 176°25' E. "in order to conserve red salmon."

Characteristics of this part of the 1958 season were said to be catches of pinks earlier than usual, rather good catches of reds, and a low proportion of chums in the catch.

Late in June the trade press began to express doubt that the fleets would attain their catch goal by the end of the fishing period. Although little has been made public on the species composition of the catch, it is reported that fishing is equally poor for all species. One fleet operating near Attu is quoted as reporting catching practically nothing but chums. Another press item reports that as of June 15 only about 4 million red salmon had been captured, and doubt is expressed that the catch quota of 11 million fish for this species can be attained this season.

The fish meal factoryship Ginyo Maru, proceeding to its fishing grounds in the Bering Sea, reported that on June 14-15, while passing from 48°30' N., 161°30' E. toward Attu, it passed 7 of the motherships and found an eighth operating near Attu. The sea in this area was reported to be flat calm, with unusually low water temperatures and high transparency.

JAPANESE GOVERNMENT



Republic of Korea

MARINE PRODUCTS YIELD
INCREASED IN 1957:

The 1957 production of marine products by the Republic of Korea totaled 403,000 metric tons (including 6,000 tons of products derived from marine algae) to exceed that for 1956 by 13 percent. This was the largest catch attained since the end of World War II.

Fisheries development programs planned for 1958 will include the expenditure of US\$325,000 of fiscal year 1957 International Cooperation Administration funds. The funds will be expended on the improvement of shrimp trawling, the tuna and shad fisheries, and also for processing facilities (including refrigeration and canning).



Mexico

CONCESSION FOR KELP
HARVESTING GRANTED:

A 15-year concession has been granted to a Mexican subsidiary of a United States firm for the harvesting of kelp (Macrocystis pyrifera) along the west coast of Baja California. The company has been granted exclusive rights to harvest kelp in 12 specific zones covering an area of about 292 square miles between latitudes 30°28'10" and 32°15'35" N. The terms of the concession require that the firm establish a processing plant at Ensenada, employ vessels of Mexican registry and Mexican crews for harvesting the kelp.

The company will be obliged to supply the Mexican market with alginate products and invest a minimum of US\$96,000 in plant and harvesting equipment. The contract concession was published in the Diario Oficial on June 12, 1958, states a dispatch from the United States Embassy in Mexico City.

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EXPORT DUTIES FOR
NUMEROUS FISHERY ITEMS:

Mexican export duties on numerous fishery items and products were lowered in April 1958. The changes were reported in the Diario Oficial of April 1, 3, 10, 17, 18, and 21, 1958.

Mexico (Contd.):

New Mexican Export Duties For Fishery Items					
Mexican Classification		New		Old	
Item number	Product	Specific & Ad valorem		Specific & Ad valorem	
		Peso/gross kilo	%	Peso/gross kilo	%
Effective April 18:					
040-00-04	Live frogs	0.20	15	0.20	26
040-00-05	Fresh-water turtles	-	10	0.02	15
040-00-06	Tortoise shell turtles	3	20	3	25
040-00-07	Sea turtles not for shell	-	10	0.02	15
041-00-01	Fresh abalone in chilled or frozen fillets	-	8	0.03	25
041-00-04	Fresh tuna, chilled or frozen	-	10	0.01	12
041-00-05	Fresh "bagre," chilled or frozen	-	10	0.01	12
041-00-06	Fresh barracuda, chilled or frozen	-	10	0.01	12
041-00-07	Fresh crab (barrilete), chilled or frozen	-	10	0.01	12
041-00-08	Fresh bonito, chilled or frozen	-	10	0.01	12
041-00-15	Fresh dogfish or shark (cazon), chilled or frozen	-	3	0.01	12
041-00-16	Fresh "curvina," chilled or frozen	-	10	0.01	12
041-00-18	Fresh red snapper, chilled or frozen	-	10	0.01	12
041-00-20	Fresh jack (jurel), chilled or frozen	-	10	0.01	12
041-00-23	Fresh "lisa," chilled or frozen	-	10	0.01	12
041-00-24	Fresh mackerel, chilled or frozen	-	10	0.01	12
041-00-26	Fresh mojarra, chilled or frozen	-	10	0.01	12
041-00-28	Fresh snapper or porgy (pargo), chilled or frozen	-	10	0.01	12
041-00-29	Fresh pompano, chilled or frozen	-	10	0.01	12
041-00-30	Fresh halibut, chilled or frozen	-	10	0.01	12
041-00-31	Fresh wahoo (peto), chilled or frozen	-	10	0.01	12
041-00-33	Fresh octopus, chilled or frozen	-	5	0.03	10
041-00-34	Fresh frogs, chilled or frozen	-	10	0.01	12
041-00-35	Fresh haddock or snook (robalo), chilled or frozen	-	10	0.01	12
041-00-36	Fresh tarpon or shad (sabalo), chilled or frozen	-	10	0.01	12
041-00-37	Fresh sardines, chilled or frozen	-	10	0.01	12
041-00-38	Fresh kingfish (sierra), chilled or frozen	-	10	0.01	12
042-00-00	Salted abalone	-	8	0.03	25
042-00-01	Shelled, salted clams	-	5	0.03	25

(Table continued on following page.)

Mexico (Contd.):

New Mexican Export Duties For Fishery Items (Contd.)

Mexican Classification		New		Old	
Item number	Product	Specific & Ad valorem		Specific & Ad valorem	
		Peso/gross kilo	%	Peso/gross kilo	%
Effective April 18:					
042-00-03	Shelled, salted oysters	-	5	0.03	25
042-00-04	Salted octopus	-	5	0.03	10
042-00-98	Crustaceans or mollusks, smoked, salted or dried, not elsewhere specified	-	10	0.03	30
Effective April 21:					
040-00-02	Live oysters in shell	-	20	0.01	30
040-00-03	Live fish for food	-	10	0.03	30
040-00-99	Live fresh water or marine animals not elsewhere specified	-	12	0.02	30
041-00-02	Fresh albacore, chilled or frozen	-	10	0.01	12
041-00-25	Fresh grouper or jewfish (mero), chilled or frozen	-	10	0.01	12
041-00-39	Fresh shark (tiburón), chilled or frozen	-	3	0.01	10
044-00-01	Fish entrails	-	15	-	25
280-00-00	Snail shells	-	3	-	25
280-00-04	Unworked coral	-	10	-	25
280-01-00	Natural or cleaned sponges	-	5	-	25
900-03-04	Fish for aquaria	-	10	0.03	30
900-99-98	Marine animals not for food not elsewhere specified	-	15	0.03	30
900-99-99	Live animals not for food, not elsewhere specified	-	15	-	25

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IMPORT DUTY ON FISHING VESSELS INCREASED:

On March 31, 1958, effective five days after publication, Mexico's *Diario Oficial* carried a decree (signed on February 17, 1958) increasing import duties on propeller-driven boats up to 35 meters (about 115 feet) in length. This decree will affect United States shipbuilders who have been supplying shrimp trawlers to Mexico. It is estimated that a 65-foot shrimp trawler, valued at US\$45,000, will now be subject to an import duty of about US\$17,350. Under the old rates the duty would have been about US\$3,600.

For those boats en route prior to March 31, in order that they may enter under the old rates, a nonextendible period of 30 days was granted for the purpose of establishing proof that the boats sailed before the date of publication of the decree.

The new import duties are:

"Paragraph 756.01.00 - Propeller-driven boats, of whatever type, when they measure up to 35 meters in length" Per lineal meter of length - 1,000 pesos (US\$80) plus 35 percent.

"Paragraph 756.01.01 - Propeller-driven boats, of whatever type, when they measure more than 35 meters. Per lineal meter of length - exempt plus 8 percent."

The transitory article states:

"The present decree shall enter into force 5 days after publication in the *Diario Oficial* of the Federation, and merchandise that is fully proven to the Dirección de Estudios Hacendarios de la Secretaría de Hacienda y Crédito Público, within a period of 30 days that cannot be extended, to have been embarked at sea before the date of publication, the previous quotas shall be applied, or those actually in force when they favor the importer."

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SHRIMP EXPORT DUTIES INCREASED:

Mexico increased export duties on fresh, iced, and frozen shrimp and equalized the export duties on shrimp for all of Mexico on June 3, 1958.

Export duties for frozen shrimp from the Gulf of Mexico, Salina Cruz, and Santa Rosalia were increased about US\$5.88 a metric ton and frozen shrimp from the

Mexico (Contd.):

remainder of the Pacific Coast were increased about US\$2.74 a ton.

Export duty increases on fresh or iced shrimp amounted to about US\$125.76 a ton for the Gulf of Mexico, Salina Cruz, and Santa Rosalia and about US\$103.76 a ton for the remainder of the Pacific.

Previously, the duties were less on fresh, iced, and frozen shrimp from the Gulf of Mexico and from Salina Cruz, Oaxaca, and Santa Rosalia, Baja California, on the Pacific than from elsewhere on the Pacific. Now export duties are the same for shrimp from anywhere in Mexico.

The new duty rates (including municipal tax) for frozen shrimp amount to about US\$57.57 a ton (about US\$0.026 a pound) and for fresh or iced shrimp to about US\$486.15 a ton (about US\$0.221 a pound).

It is estimated that the new duty will increase the revenue derived from exported shrimp by about US\$80,000 a year and that total export revenue derived from shrimp will amount to about US\$1,250,000 annually, according to a June 4, 1958, dispatch from the United States Embassy in Mexico City. Practically all--over 99 percent--of the Mexican fresh and frozen shrimp are exported to the United States. Only a very small percentage of the shrimp are exported in the fresh or iced form.



Netherlands

ANTARCTIC WHALE PRODUCTS PRODUCTION HIGHER FOR 1957/58 SEASON:

Antarctic production of whale and sperm oil by the Netherlands factory-ship William Barendsz totaled 17,307 metric tons (103,841 barrels) of whale oil and 2,109 tons (12,656 barrels) of sperm oil during the season that ended early in 1958. Production this season of whale oil was up 18 percent over the

14,078 tons produced in 1956/57 and the sperm-oil production was almost double. Other byproducts from the 1957/58 catch included 2,277 tons of whale-meat meal and 15 tons of whale-liver oil, states a March 21, 1958, dispatch from United States Embassy at The Hague.

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HERRING INDUSTRY IN 1957:

In 1957 the supply of salted herring in the Netherlands amounted to 756,400 crans (about 134,496 metric tons), compared with 799,900 crans (142,230 tons) in 1956. On the other hand, exports of salted herring showed an increase--48,404 tons, valued at fl.31 million US\$8.2 million) in 1957, compared with 46,799 tons valued at fl.28.5 million (US\$7.5 million) in 1956. Belgium was the largest buyer (11,392 tons), followed by Russia (10,000), East Germany (8,474), and West Germany (8,420).

In 1957 a total of 40,667 tons of fresh herring were marketed, compared with 41,960 tons in 1956. Of this quantity, 4,000 tons went to the fish-meal industry as compared with 1,900 tons in 1956. Fresh herring exports in 1957 reached 18,737 tons, valued at fl.8.2 million (\$2.2 million), compared with 18,755 tons, valued at fl.8 million (\$2.1 million) in 1956. Exports to West Germany amounted to 9,172 tons, to Belgium 5,590 tons, and to Czechoslovakia 1,539 tons. Exports of canned herring products decreased from 12,488 tons in 1956 to 11,262 tons in 1957. (Canada Foreign Trade, June 7, 1958.)

Note: Crans of salted herring converted to tons on basis of 1 cran equals 392 pounds. Values converted at rate of fl. 3.80 equals US\$1.



New Guinea

DEVELOPMENT OF THE FISHING INDUSTRY:

New Guinea and Papua's annual imports of fish are valued at approximately EA275,000 (US\$620,400), but it is hoped that eventually the Territory's entire fish requirements will be produced locally.

New Guinea (Contd.):

With this objective in mind, the fishing industry is steadily being developed, according to a plan adopted in 1956.

To implement this program, demonstrations of modern fishing gear are being given to Papuan fishermen to encourage them to use the latest techniques. In inland regions fresh-water fish, including tilapia, are being grown.

A new fisheries research vessel, the Tagula--designed in Scotland and built in Brisbane--is operating off the southern coast of Papua. The vessel is 60 feet long with a beam of 18 feet and a draft of 7 feet, and has accommodations for a master engineer, a technical staff of three, and a crew of ten. The main engine is 140 hp. Diesel, giving the vessel a cruising speed of $8\frac{1}{2}$ knots with a fuel consumption of 5 gallons an hour. Cruising range is 1,200 miles. Navigation and fishing aids comprise a two-way radio, an echo-sounder with a view-unit and a range up to 480 fathoms.

The vessel has a refrigeration installation with a capacity for freezing one ton of fish in 16 hours and a maximum capacity of 5 tons. There is an additional holding room, without refrigerated coils, with a storage capacity of five tons (South Pacific Commission, Quarterly Bulletin, April 1958).

The Tagula is demonstrating commercial fishing techniques in Coral Sea waters to encourage private enterprise to provide adequate fish supplies for the expanding populations of Port Moresby and other centers in Papua and New Guinea.



Norway

COD FISHERIES TRENDS AS OF
MAY 31, 1958:

From January 1 to May 31, 1958, North Norway's total landings of young cod and spawning cod amounted to 124,340 metric tons as compared with 98,859 tons last year and 150,473 tons in 1956 for comparable periods. Of this

year's landings, 74,640 tons were sold for drying, 30,918 tons for curing, and 18,782 tons for fresh purposes. (Fiskets Gang, June 3, 1958.)

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EXPORTS OF FISHERY PRODUCTS
AND FISH MEAL TO U. S., 1957:

Norwegian exports of fishery products (not including fish meal) to the United States during 1957 were valued at US\$10.5 million (75.1 million kroner) as compared with US\$9.9 million (70.6 million kroner) during 1956. The over-all increase in exports of fish and fishery products to the United States, is the result of a 15-percent increase in the export of canned fish--largely sardines. Exports of frozen fillets and salt herring were both well below 1956 levels. Norwegian frozen fillet plants suffered from a lack of raw materials during most of 1957, reducing their export possibilities.

Norwegian exports of fish meal to the United States during 1957 were valued at US\$0.5 million (3.7 million kroner) as compared with US\$1.4 million (10.1 million kroner) during 1956. Herring meal exports to the United States continued the decline which has been evident since the record level reached in 1954. The decline in fish meal exports was partly caused by the poor herring season in 1957. The continual downward trend of exports to the United States, however, indicates that fish meal is encountering stiff price competition from other types of meal, particularly soybean meal, and from the increasing use of synthetic vitamin preparations. The long-range prospects for fish meal are not promising unless there is a change in the price relationship of the competing feeds. The poor herring catch in 1958 makes likely a continued decline in fish meal exports to the United States, states a March 24 dispatch from the United States Embassy in Oslo.

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FISHING AND WHALING
INDUSTRIES, 1957:

Landings and Vessel Prices: Norway's fish catch in 1957 was 1,556,000 metric tons, about 22 percent below the 1,986,300 tons landed in 1956, and about 160,000

Norway (Contd.):

tons below the 5-year average for 1952-56. The total ex-vessel value was 611 million crowns (US\$85.5 million), or a decline of 14 percent below 1956.

The unsatisfactory results from the fishing in 1957 were caused by (1) the reduction in the winter herring (down 30 percent to 795,600 tons) because of high winds during the fishing season, and (2) the poor availability of spawning cod for the Lofoten fisheries. Total cod production declined by about 21 percent to 241,300 tons, whereas the landings of all other fish remained stable at approximately 298,000 tons.

Ex-vessel prices were somewhat higher in 1957 than in 1956. Thus the average price paid for winter herring (large herring) and spring herring, increased from 20.18 crowns per hectoliter (about US\$1.38 per 100 pounds) to 21.40 crowns per hectoliter (about \$1.46 per 100 pounds, or by about 6 percent. The prices for fat herring rose from about 221 crowns (US\$31) to 228 crowns (US\$32) per ton (about 3 percent) and small herring prices increased from 169 crowns (US\$24) to 177 crowns (US\$25) per ton, or by about 5 percent. The guaranteed minimum ex-vessel prices for winter herring for the 1958 season were increased by 0.50 crown per hectoliter (about 3 U. S. cents per 100 pounds).

The minimum level for cod prices during the 1957 Lofoten fishing was the same as during the preceding year, 0.70 crown per kilogram (4.5 U. S. cents a pound). However, the small supply brought the actual average price paid up to about 0.76 crown per kilogram (5 U. S. cents a pound). The cod prices for 1958 were being negotiated in Oslo between representatives of the Government, the fishermen, and the fish processors, and exporters when this was written. The Price Equalization Fund for Fish, which previously has been supporting the cod prices, is now nearly exhausted as a result of declines in world market prices and higher operating costs.

The outlook for the fishing in 1958 is moderately optimistic. The expansion

of the herring fishing fleet has continued, the shoals of winter herring under migration to the Norwegian coast were reported to be very large, and participation by fishermen was expected to increase. Optimistic forecasts have also come from scientific sources on the availability of cod for the Lofoten fisheries.

Canning: The fish canning industry increased its production sharply in 1957 because the brisling fisheries improved in 1957 over 1956. Exports increased and prices were favorable throughout the year. As in the past, the United States was the leading market for Norwegian canned fish, followed rather closely by the United Kingdom.

Whaling: The 1957 whaling season produced good results. Norway participated in the Antarctic whaling with nine expeditions, the same as the previous season. The catch was larger and Norwegian expeditions produced 1,004,000 barrels of whale and sperm oil or 152,000 barrels more than the previous season. The value of the catch rose by more than 20 percent to 298 million crowns (US\$41.7 million), states an Economic Report (Part I, No. 58-22), a publication of the U. S. Department of Commerce, World Trade Information Service.

* * * * *

FROZEN FISH FILLET SALES IN 1957:

Sales of Norwegian frozen fish fillets and fillet products reached approximately 20,000 metric tons in 1957. Of this, some 17,000 to 18,000 tons were exported; the main customers were the United States, the Soviet Union, Sweden, Czechoslovakia, Israel, and Holland. Norway has recently been successful in introducing frozen fillets on the Australian market. The distribution system has not yet been built up sufficiently to allow regular frozen fish exports to other markets.

* * * * *

MARINE-OIL INDUSTRY:

Norwegian production of marine-animal oils dropped to 261,711 metric tons in 1957, a decrease of 5 percent from the previous year. This is the lowest production in many years. The 1958 production is now estimated to be about 27 percent below that of 1957.

Several controversial theories are advanced for the decline in production--one is the warming up of

Norway (Contd.):

the water causing fish to migrate to cooler water, and another is that Russian fishing may have depleted the fish catch normally available in these areas. It will be some time before the real reason for the reduced catch can be determined.

Whale and Sperm Oil--Antarctic: Norwegian whale-oil production for 1957 was about 25 percent larger than in 1956. However, the 1958 production is likely to drop to nearly the 1956 level. The 1957 output of sperm oil, on the other hand, decreased about 15 percent from the previous year but production is expected to be somewhat larger in 1958.

The International Association of Whaling Countries reports that Norway accounted for approxi-

Table 1 - Norway's Marine Oil Production

Product	1958 ^{1/}	1957	1956
. (Metric Tons)			
Fish Oil:			
Cod oil	20,000	7,900	9,200
Other fish liver	20,000	11,000	13,000
Herring	20,000	65,000	103,400
Seal Oil	5,000	4,700	5,000
Sperm Oil:			
Antarctic	20,587	19,222	22,568
Shore Stations	400	227	469
Whale Oil:			
Antarctic	123,420	152,893	121,898
Shore Stations	600	769	649
Total	190,007	261,711	276,184

mately 40 percent of the total whale-oil production for the 1958 season.

The Husvik Harbor station at South Georgia was not in operation in 1958; and at this time it is not known whether the station will be in operation during the next season.

Whale and Sperm Oil--Shore Stations: Only two shore stations were in operation in Norway during

Table 2 - Norway's Imports of Marine Oils, 1956-57

Product	1957	1956
. (Metric Tons).		
Crude:		
Whale oil	708	1,247
Sperm and bottlenose whale oil	1,527	874
Herring oil	13,269	8,241
Seal oil	-	80
Other Marine-Animal Oils:		
High potency (vitamin A)	1,070	1,935
Liver Oils:		
Cod	977	693
Veterinary fish	134	223
Industrial fish	746	388
Mixed fish	902	3,505
Residual fish	1,214	1,994
Total	20,547	19,180

the 1957 season and only two are expected to operate during the 1958 season.

Herring Oil: The 1957 herring season suffered from adverse weather conditions and the total catch was considerably reduced from previous years. Only about 65,000 tons of herring oil were produced.

The 1958 season was influenced by unpredictable behavior of the herring schools and by the re-

Table 3 - Norway's Exports of Marine Oils, 1956-57

Product and Country of Destination ^{1/}	1957	1956
. (Metric Tons) .		
Crude:		
Whale oil:		
Other countries	106,215	75,881
Sperm and bottlenose whale oil:		
Other countries	9,771	5,431
Herring oil:		
United States	19	286
Other countries	547	1,553
Seal oil:		
Other countries	5,136	4,712
Fish-liver oils:		
Cod (cold-cleared):		
United States	918	1,118
Other countries	3,524	4,552
Veterinary:		
United States	130	145
Other countries	4,035	5,328
Other:		
United States	281	751
Other countries	7,460	7,499
Marine animal oils, refined:		
Edible	2,100	3,307
Other	2,569	3,353
Marine-animal oils:		
Polymerized, oxidized, etc., edible	948	916
Hardened Fats:		
Edible	49,786	54,769
Technical use	10,157	22,903
Fatty acids from marine oils	4,900	5,168
Products from sperm and bottlenose whale oils	4,322	3,201
Other Products	1,395	1,508
Total	214,213	202,381

^{1/}Some destinations not known.

lately adverse weather conditions. Consequently, the 1958 winter herring catch is the smallest recorded since 1944. The production of winter herring oil was only 20,000 tons, or equivalent to less than one-third of the 1957 catch.

Fish Liver Oils: Reduction in the volume of cod catches during 1957 reduced the fish-liver oil production for the year. However, the preliminary results for 1958 indicate a slight increase for this season over last year.

Seal Oil: Seal oil production remains relatively stable from year to year. Production data available are rather incomplete.

Imports: Total Norwegian imports of marine oils increased in 1957 over 1956 by about 1,400 tons. Because of the relatively low production of herring oil this season, it may be necessary to increase imports of crude herring oil from the United States. This item reached a rather sizable volume in 1957. Imports of herring oil from the United States in 1957 totaled 8,356 metric tons as compared to 1,405 tons in 1956.

Imports of animal fats and oils totaled 1,757 tons in 1957--30 percent below the previous year. The United States was the second largest exporter of "premier jus."

Norway (Contd.):

Pelagic Production in Antarctic:	Whale Oil	Sperm Oil	Total Oil
 (Metric Tons)		
1957/58 ^{1/}	123,455	20,593	144,047
1956/57 ^{2/}	145,148	18,991	164,140
1955/56	111,409	22,272	133,681
Husvik Harbor, South Georgia:			
1957/58 ^{1/}	-	-	-
1956/57 ^{2/}	7,788	236	8,024
1955/56	10,523	303	10,826
Shore Stations in Norway:			
1957	766	226	993
1956	649	496	1,145

^{1/} Preliminary.
^{2/} Revised.

Exports: Total exports of crude and processed marine oils increased about 6 percent in 1957.

Norway's pelagic Antarctic whale oil production, as usual, was sold through the Norwegian whaling companies' common marketing pool.

Prices obtained for the 1957 production varied greatly: about 10,000 long tons were sold at £91 (US\$254.80) per ton, 62,000 long tons at £90 (US\$252), 48,000 long tons at £85 (US\$238), 18,000 long tons at £75 (US\$210), and smaller lots at prices varying between £76 (US\$212.80) and £82 10s. (US\$230) per long ton. The average for the season was £85/17/6 (US\$240.45) per long ton compared with £85/7/1 (US\$239) during 1956. Based on the average 1957 price, the value of the 1957 whale oil production was estimated at 256 million kroner (US\$36.3 million), compared with 206 million kroner (US\$29.2 million) for the previous season. The total value of all whale oil, including sperm oil and byproducts, was 298 million kroner (US\$42.3 million) in 1957 as against 245 million kroner (US\$34.7 million) a year earlier.

	1957	1956 ^{1/}
	. (Long Tons) .	
Norway	54,255	45,717
West Germany	23,589	28,563
United Kingdom	23,052	-
Sweden	1,763	5,071
Denmark	10,083	14,054
France	11,332	10,009
Netherlands	23,230	12,953
Belgium-Luxemburg	3,645	4,036
Total	151,447	120,403

^{1/} Revised.

Stocks: Total stocks of marine oils increased by approximately 5 percent in 1957.

Consumption: According to official statistics, consumption of whale and herring oil on crude ba-

sis declined from about 58,800 metric tons in 1956 to 57,500 tons in 1957.

Fish-Meal Industry, 1957: The total production of herring meal dropped from about 247,000 metric tons in 1956 to 165,000 tons in 1957.

Exports of fish meal dropped from 189,729 tons in 1956 to 134,667 tons in 1957--about 30 percent.

	1957	1956
	(In Metric Tons)	
Crude herring oil and whale oil	71,764	67,981
Other marine oils.	355	439
Total	72,019	68,410

The United Kingdom remained the most important market, taking about 24 percent of total exports, compared with 34 percent in 1956. Other markets for fish meal were West Germany, Netherlands, and France.

The average export price obtained for fish meal during 1957 improved slightly over 1956, from about 1,154 kroner (US\$164) per ton in 1956 to 1,162 kroner (US\$165) per ton in 1957.

* * * * *

NEW OCEAN RESEARCH VESSEL "JOHAN HJORT:"

The new ocean research vessel Johan Hjord was delivered in late March to the Norwegian Director of Fisheries, according to Fiskets Gang (April 3, 1958) and Fiskaren (March 26, 1958), Norwegian fishery periodicals. The vessel is built in accordance with the highest class in Det Norske Veritas and is equipped for voyages in all waters under the rules of the Norwegian Ship Control. The dimensions of the vessel are: over-all length 171.7 feet; length between perpendiculars 153.5 feet; breadth 30.5 feet; and depth 17.3 feet. The gross tonnage of the vessel is 697 tons. The crew consists of 32 men and in addition space is provided for 8 research workers.

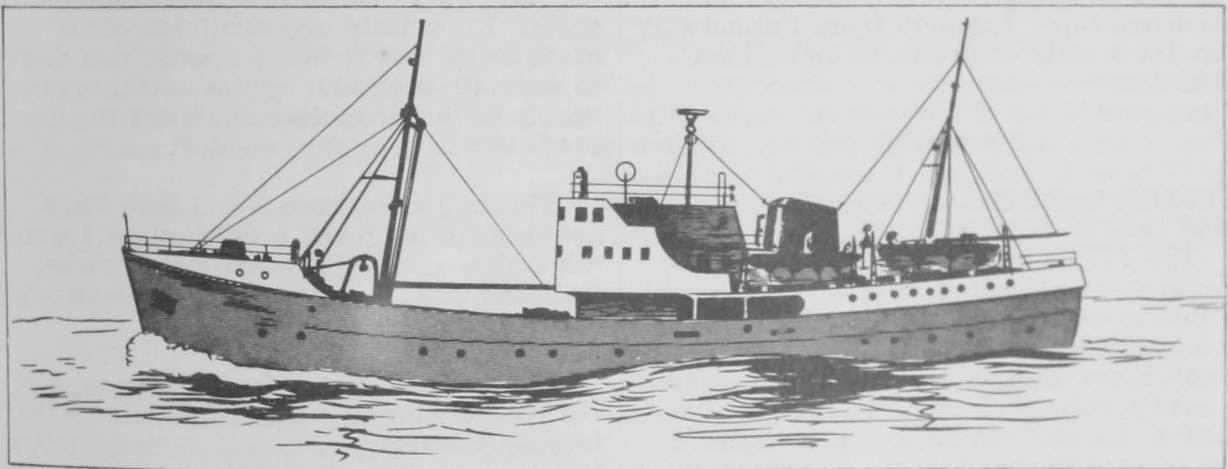
On the main deck in the aft deckhouse there is a mess for the officers, research staff, and crew, together with a large galley and adjoining food storage and cooler space, plus the engineer's quarters. Forward of the engine room is a laboratory for the research staff. On the main deck forward there are storerooms for the master fisherman and a 2-man stateroom. In addition, there is a fish sampling room, a cooler for fish samples, a shower room, drying room, and various rooms for stores. Between decks forward there are four 2-man staterooms for the crew,

Norway (Contd.):

a large workroom, and 9 staterooms for officers and research staff, together with a gyroroom, drafting room, and darkroom. Between decks aft there are 9 staterooms for officers, crew, and a food-storage room. On the boat deck there are staterooms for the captain, the chief of the research staff, and the mate, together with a salon and a sick-room. On the bridge deck there is a pilothouse, boatroom, asdic room, radio room, and instrument room. All staterooms are white-enameled and have furniture of light mahogany or oak and are provided with hot and cold water. The furniture in the officers' staterooms is upholstered with woolen material, and the salon and elsewhere with imitation leather.

Each has a 110-kilowatt direct-current generator. A large motor drives the hydraulic pumps for the trawl winch. In addition to the usual central heating, the vessel is equipped with a warm-air ventilation system with fans forcing warm fresh air to all staterooms. The fresh-water equipment furnishes hot and cold water to all the staterooms. The boiler for central heating is oil-fired.

The vessel has the most modern navigation equipment available on the market--the latest model radar, direction finder, electric log, gyro compass, and 5 echo-sounder and asdic installations. The radio, telegraph, and telephone equipment is supplied with emergency sender and receiver. The steering equipment is electric hydraulic. The electrical installation is 220-volt direct current with



Norwegian research vessel John Hjort.

On the forward deck the vessel has two hatches, an unloading boom lifting 5 metric tons, a trawler winch with a tractive effort of 25 tons, two hydraulic hydrographic winches, and trawl gallows. On the forecastle deck there is a hydraulic anchor winch and on the boat deck a smaller hydraulic trawl winch.

The Johan Hjort is completely equipped with the most modern machinery. The main engine is a single-acting 4-cycle Diesel engine of 1,300 hp. at 275 r.p.m. equipped with fresh-water cooling in a closed system. The propeller is adjustable from the bridge. Between the main engine and the propeller there is a hydraulic oil coupling. There are two auxiliary 4-cycle Diesel motors of 335 and 165 hp., rated at 500 r.p.m.

a transformer and coupling for land installations. The vessel has 10 loudspeakers posted in various places on the vessel, all of which are connected to a central point in the pilothouse. There is an automatic telephone exchange for 30 telephones with connections all over the vessel. The vessel's lifeboats are made of aluminum.

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SALES AND PRICES OF WHALE AND SPERM OIL, 1958:

Up to about April 1958, 50,000 tons of whale oil have been sold at £77/10/0 (about US\$217) a long ton; no sperm oil has yet been sold. Assuming that the price holds for the remainder of the

Norway (Contd.):

whale oil and that an average price obtains for sperm oil, the value of this season's output will be substantially less than last season. The sales of whale oil from the 1956/57 production averaged close to US\$238 per ton.

Note: 1. Values converted at rate of £1 equals US\$2.80.

2. Also see Commercial Fisheries Review, June 1958, p. 57.

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TRADE AGREEMENT WITH POLAND INCLUDES FISHERY PRODUCTS:

Norway and Poland concluded a commodity exchange agreement on June 3, 1958, providing for trade valued at about 67 million kroner (US\$9,380,000) in both directions during the period May 1, 1958-April 30, 1959. Included in Norwegian exports will be herring, fish oils, and hardened fats. Imports from Poland will consist mainly of products other than fish.

* * * * *

WINTER HERRING CATCH FOR 1958 DOWN 50 PERCENT:

The 1958 winter herring season in Norway, which ended April 2, 1958, resulted in an approximate catch of only 758.5 million pounds (344,053 metric tons), according to preliminary figures recently released. This is only 43 percent of the 1957 catch which was also a below-average year. The poor catch was largely due to the irregular movements of the fish and to bad weather, which reduced the number of fishing days to 55 as compared with 69 in 1955-57.

Only 389.5 million pounds (176,676 tons) of herring were sold to the oil and meal factories in 1958, or less than one-third of the quantity delivered in 1957. Production of oil and meal was therefore reduced correspondingly. There is apparently a shortage of herring oil already, and one consumer has reportedly purchased whale oil as a substitute, states a May 23, 1958, dispatch from the United States Embassy in Oslo.



Poland

FACTORY TRAWLER WITH STERN CHUTE FOR NET:

A factoryship capable of fishing from the stern has been constructed by Poland. It is equipped with a stern trawl bridge. The fish are fed directly into the factory deck via a hatch immediately abaft the trawl bridge. This makes possible an elaborate superstructure, over two-thirds of the ship's length, curved forward, raked aft, and fitted with square windows, and looking like an excursion passenger ship.

The ship is Diesel-electrically propelled. Main generators are apparently arranged above and forward of the propelling motors geared to the shaft. The generators face forward and seem to be driven by medium-speed, four-cycle, airless-injection, blower supercharged units. No details are available of the machinery, but it would appear that there is a small-diameter motor attached directly to the propeller shaft driving the propeller in a nozzle rudder.

The hull measures 270.7 feet, has a beam of 41 feet, and a depth of 28.9 feet, and a draught of 15 feet 6 inches mean. Hull and machinery are to be completely standard.

The Poles believe the most economical type of fishing vessel for them is the factory trawler.

Their fishing fleet falls into three main groups--those fishing for herring to be salted; those fishing for herring and for mackerel to be frozen; and those fishing for whitefish. The vessel is described as having a "specialized superstructure" and processing plant to make it suitable for any of the three types of fishing mentioned.

The general plan, while not clear on various details, shows that a long superstructure is possible--one-and-a-half decks in height, above the main level.

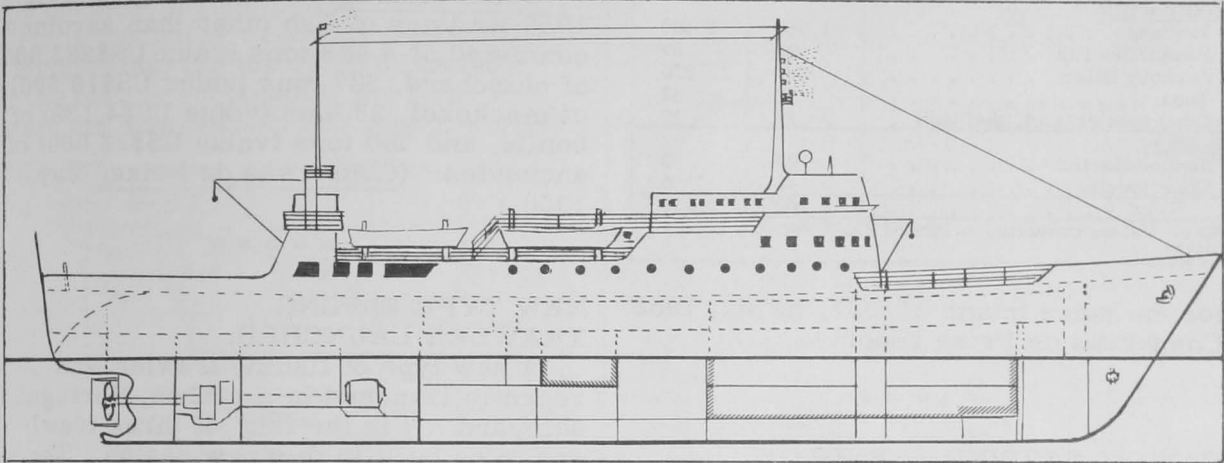
The machinery is aft. The deep-freeze hold forward has a capacity of 1,500 cubic meters (52,971 cubic feet) at -18° C. (0° F.).

Poland (Contd.):

The midship portion of the ship below the factory deck is taken up with stores, fuel oil, and a refrigerator engine room. There are large tanks for-

vision for an unusually large crew.

The foredeck is flush and open. A hatch leads down into the upper 'tween-deck, and another smaller hatch with an



Profile of the Polish factory trawler to be used for herring, mackerel, and white-fish fishing.

ward, and below the waterline in the forepeak there is a device described as a "bugruder."

Such a ship would be capable of long voyages. There is pro-

elevator comes up into the forward end of the superstructure. A lot of original thought has been given to the layout, so entirely different from that of most other fish factoryships. (The Fishing News, August 23, 1957.)



Portugal

CANNED FISH EXPORTS, JANUARY-MARCH 1958:

Portugal's exports of canned fish during January-March 1958 amounted to 12,006 metric tons (768,200 cases), valued at US\$6.8 million, as compared

Portuqese Canned Fish Exports		
Species	Jan.-March 1958	
	Metric Tons	US\$ 1,000
Sardines in olive oil	8,363	4,656
Sardinelike fish in olive oil . . .	1,671	1,155
Sardine & sardinelike fish in brine	235	64
Tuna & tunalike fish in olive oil .	267	214
Tuna & tunalike fish in brine . . .	138	69
Mackerel in olive oil	1,170	552
Other fish	162	65
Total	12,006	6,775

with 10,841 tons, valued at US\$6.9 million, for the same period in 1957. Sardines in olive oil exported during the first three months of 1958 amounted to 8,363 tons, valued at US\$4.7 million.

During January-March 1958 the leading canned fish buyer was Germany with 1,972 tons (valued at US\$1,120,000), followed by Italy with 1,469 tons (valued at US\$791,000), the United States with 1,320 tons (valued at US\$986,000), Great Britain with 1,261 tons (valued at US\$677,000), and Belgium-Luxembourg with 892 tons (valued at US\$469,000). Exports to the United States included 427 tons of sardines and 739 tons of anchovies. (Conservas de Peixe, May 1958.)

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CANNED FISH PACK, JANUARY 1958:

The total pack of canned fish of January 1958 amounted to 2,560 metric tons as compared with 2,652 tons for the same period in 1957. Canned sardines in oil (1,960 tons) accounted for 76.6 percent of the January 1958 total pack, higher by 11.1 percent than the pack of 1,764 tons

Portugal (Contd.):

Portuguese Canned Fish Pack, January 1958		
Product	Net Weight	Canners' Value
	Metric Tons	US\$ 1,000
In Olive Oil:		
Sardines	1,960	1,100
Sardinelike fish	197	89
Anchovy fillets	288	270
Tuna	37	32
Other species (incl. shellfish)	17	10
In Brine:		
Sardinelike fish	21	3
Other species	40	6
Total	2,560	1,510

Note: Values converted at rate of 28.75 escudos equals US\$1.

for the same month of 1957, the May 1958 Conservas de Peixe reports.

* * * * *

CANNED SARDINE TRENDS:

Activities of the Portuguese fisheries industry were seasonally at a low level during the winter months. Sardines landed in continental Portugal in 1957 reached a near-record total of 112,840 metric tons, compared with 99,830 metric tons in 1956, which was another excellent year.

While exports of canned sardines may reach a high level in 1958 in terms of quantity, the value of the pack may be affected by the sharp decline in prices for canned fish.

* * * * *

FISHERIES TRENDS, JANUARY-MARCH 1958:

Sardine Fishing: During January 1958, the Portuguese fishing fleet landed 6,408 metric tons of sardines (valued at US\$521,000 ex-vessel or \$81.30 a ton). In January 1957, a total of 3,858 tons of sardines were landed (valued at US\$680,000). Due to the closed season, no sardines were landed during February and March.

Canneries purchased 45.2 percent or 2,898 tons of the sardines (valued at US\$276,000 ex-vessel or \$95.24 a ton) during January. Only 54 tons were salted, and the balance of 3,456 tons, or 53.9 percent of the total was purchased for the fresh fish market.

Matosinhos lead all other ports in January landings of sardines with 5,072 tons or 79.2 percent, followed by Peniche 869 tons (13.6 percent), and Setubal 350 tons (5.5 percent).

Other Fishing: The January-March 1958 landings of fish other than sardines consisted of 4,983 tons (value US\$283,000) of chinchard, 387 tons (value US\$18,500) of mackerel, 23 tons (value US\$4,139) of bonito, and 350 tons (value US\$33,000) of anchovies. (Conservas de Peixe, May 1958.)

* * * * *

NEW TYPE FISHING TRAWLER LAUNCHED:

A new type of fishing trawler was recently launched in a Lisbon, Portugal, shipyard. It is the first of three trawlers to be built in this new design. The vessel has an aluminum superstructure with a displacement of 725 tons, a capacity of 400 tons of fish, and a speed of 12 knots. In addition to the most modern navigation and safety equipment, the trawler has two stainless steel refrigeration holds, one of which is for rapid freezing and the other for storage. (Canadian Foreign Trade, May 24, 1958.)

SomaliaTUNA FISHERY AND INDUSTRY:

A recent report of a survey of the tuna industry in the Migiurtinia area of Somalia states that there are three tuna canneries in the area, located at the ports of Habo, Bosaso, and Candala; however, only the cannery at Candala is presently in operation.

The tuna fishing season in Somalia usually opens during the latter part of October and ends in May. At the end of March 1958, the cannery at Candala had processed 13,000 cases of tuna, and it was expected that by the end of the season, production would reach 16,000 cases--the largest pack since the cannery began operation.

The cannery at Candala, which has undergone many improvements, has a

Somalia (Contd.):

processing capacity of 50 tons of tuna per day; however, due to a lack of refrigerated storage facilities, the cannery is operated each day regardless of the quantity of fish caught. The canning firm is presently negotiating to install refrigeration for the 1958-59 season. If the plan is successful, the firm will start the tuna fishery one month earlier.



A shortage of bait caused the loss of 30 fishing days during the 1957/58 season. Refrigeration facilities would solve this problem since bait could be stored in times of abundance to be used in periods of scarcity. The cannery employs 180 canoes, with two fishermen to each canoe, and provides the fishermen with bait. At present, bait must be caught each morning, resulting in the loss of two hours of tuna fishing. Refrigeration would make it possible to distribute the bait early each morning and thus increase production considerably. Sardine bait, which is most plentiful in February, is of primary importance.

During an aerial survey of the waters from Alula to Point Ras Antara, on March 21, 1958, a total of 18 schools of fish were sighted, 4 of which were definitely identified as tuna. The schools were estimated to average about 5 to 7 tons. Most of the schools sighted were between Candala and Ras Antara--an area which seems to have vast and rich fishing potentials. Sardines were also sighted, but in quantities not sufficient to support a full-scale canning plant. (ICA Report 219, Mogadisco, May 22, 1958.)

Spain

VIGO FISHERIES TRENDS, APRIL 1958:

Fish Exchange: Landings at the Vigo Fish Exchange were 8.2 million pounds during April 1958, a drop of 1.2 million pounds from March, and about the same amount below April 1957. The landings were valued at US\$929,763. This was a decrease of US\$43,100 from the preceding month, but an increase of US\$154,000 over April of 1957. The increased value this April was due to the sharp rise in fresh fish prices since last year, and to landings of the more expensive species.

Leading species sold over the Fish Exchange were small and large hake (1.8 million pounds), horse mackerel (1.3 million pounds), sardines (0.5 million pounds), and pomfret (0.4 million pounds). There was a severe drop in catches of pomfret, but sardine landings increased. Pomfret, usually a dependable species during this time of the year, decreased to about 0.4 million pounds from the March figure of 3.4 million pounds, and the April 1957 landings of 2.5 million pounds. Sardine landings increased 216 metric tons over the April 1957 figure of 22 tons. The sardine catches were all made after the season opened on April 15.

Fish Canning and Processing: Fish canners were primarily engaged in canning pomfret in April 1958. Like the fishermen, canners patiently waited for May and June when activity goes into full swing. During April 1958 canners bought over the Exchange 384 metric tons of fresh fish, only 63 more tons than in March, and 65 more tons than in April 1957. Fish bought for drying, smoking, salting, etc. totaled 220 tons, an increase of 139 tons from March, but a drop of 66 tons from April 1957, the United States Consul at Vigo reported on May 13, 1958.



Surinam

FISHING INDUSTRY, 1957:

On the whole, 1957 was a disappointing year for fish and shrimp production in Surinam, according to a dispatch (June 2, 1958) from the United States Embassy in Paramaribo. Production fell off for the first time since 1954, when an active program was begun by Surinam Government to develop local fishery resources. Official estimates set 1957 fishery production at 5.9 million pounds--down 19 percent from 1956. The major reason given for the decrease was the unusually long period of dry weather in 1957. The lack of normal rainfall tended to upset the saline balance of the coastal fishing waters and the leased fish-farming areas located on reclaimed coastal plantations.

Fish meal production in 1957 totaled 51 metric tons as compared with 36 tons in 1956. Production in the first three quarters showed a good increase over the prior year but the last quarter was only one third of the comparable 1956 period.

Surinam's imports of fishery products in 1957 were valued at Sfl.0 million

Surinam (Contd.):

(US\$530,000) as compared with Sf800,000 (US\$424,000) for 1956.

Shrimp production in 1957 amounted to 365 tons--down over 50 percent from the 1956 landings of 736 tons. The shrimp plant opened in 1956 was inoperative for most of the year due to supply problems. In 1957, the plant handled only 80 tons of shrimp (1956, 215 tons). Exports of shrimp in 1957 totaled 35 tons (1956, 72 tons). Ten percent of the frozen shrimp was sold locally. Forty-five percent of the catch was dried and sold in the local market, and prices were higher than in previous years.

Despite the bleak production picture, 1957 was not without its encouraging side. During the course of the year, the Government-financed survey of shrimp resources in offshore waters was completed. The survey report, verified by catches, indicated the presence offshore of commercial-size shrimp and sea trout. In view of the survey results, the Surinam Government has purchased a trawler and leased it to the operators of the shrimp plant. The Government also agreed early in 1958 to construct a pier and ice facilities at the plant. With this equipment, there is reason to feel that a commercially-feasible shrimp operation would be practical provided arrangements can be made for a few experienced trawlers to do the catching.

Experimental work in fish farming on the reclaimed diked areas, used in colonial times for agriculture, made progress during most of the year. Harvesting data obtained in July 1957 demonstrated that despite relatively high salinity, the ponds could produce large quantities of tilapia and snook.

Late in the year, there was an indication of interest by a United States firm in fish oil and fish meal prospects using fish found in Surinam's offshore waters.

The Fisheries Service, using funds from the Ten Year Plan continued its work on developing fisheries stations. Construction of a station at Nickerie,

delayed by site acquisition problems, was planned for 1958 or 1959. A station at Coronie was carried in the 1959 work plan. Ten Year Plan funds were budgeted in 1958 to purchase a shrimp trawler and construct the pier and ice facilities at the shrimp plant in Paramaribo.

There were certain obvious problems other than rainfall which have to be faced in developing Surinam fishing resources. The major problems are: (1) Surinam fishermen are relatively few and they are part-time operators; (2) better equipment and more modern catching methods are required for any large production increase in ocean or estuarian fishing; and (3) improved organization of indigenous small-scale fishing operations. Fish farming using reclaimed plantation areas, when the operators are willing to work hard, has clearly proven profitable. The problem of the local shrimp plant, once the ice facilities and pier are completed, appears to be additional trawlers manned by experienced crews. There is little favorable prospect at present for the part-time local fishing group producing a sufficient supply of small shrimp (sea bob) to keep the factory at a satisfactory operating level.



Sweden

FISHERMEN'S EARNINGS ON WEST COAST VARY WITH VESSEL SIZE:

The economic adviser of the Swedish West Coast Fishermen's Central Association has made a survey of the earnings of Swedish fishermen outside of the official statistics, using such gauges as the horsepower capacity of the various craft or their insurance value, and basing the annual catch value on a combination of different seasons with a better or poorer yield.

His study shows that the financial return for each branch of fishing on the West Coast rises in proportion to the size of the fishing boat up to a certain point, whereupon it drops.

His investigations also reveal that the annual amount earned by fishermen in

Sweden (Contd.):

different localities on the West Coast fluctuates widely. In southern Bohuslän, for example, which is an area of high production, the figure may be 16,000 crowns (US\$3,088), while a fisherman in the Halland district may show a relatively modest figure of 6,700 crowns (US\$1,293) or less.

In seeking to determine how long it takes a West Coast fisherman to catch 100 crowns (US\$19.30) worth of fish, the insured value of the boat was used as a gauge. On this basis the survey shows that small craft require 8 to 9 workdays. As the insured value rises, however, the number of days drops. For example a 20,000-crown (US\$3,860) fishing boat needs five days, a 40,000-crown (US\$7,720) boat 3.5 days, and the largest and most expensive boats 1.2 days.

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REVIEW OF THE FISHERIES, 1957:

Landings of fishery products at Swedish ports in 1957 amounted to 211,300 metric tons, according to preliminary statistics. This was a record amount and exceeded the 1956 landings by 20,000 tons and the 1955 landings by 2,000 tons. The previous record was established in 1955.

The total ex-vessel value of the catch in 1957 also exceeded previous years and amounted to 148.3 million crowns (US\$28.7 million) as compared with 131.7 million crowns (US\$25.5 million) in 1956 and 133.5 million crowns (US\$25.8 million) in 1955. The relatively large increase in value during 1957 was due to increased landings of more expensive fish, such as salmon and eel.

The quantity of fish landed on the Swedish west coast amounted to 71 percent of the total landings as compared with 18 percent for the South Coast, and 11 percent for the East Coast. A noticeable change has taken place during the last 20 years--in 1947, 73 percent of the catch was landed on the West Coast, 13 percent on the South Coast, and 14 percent on the East Coast. In 1937, the percentage for the West Coast was 63, the

South Coast 10, and the East Coast 27 percent.

The main reason for the significant decrease in the quantity landed on the East Coast is reduced catches of Baltic herring. In value, the decrease is not as significant, since the catch is made up of more expensive fish species.

A comparison of the total landings during 1937 and 1957, shows an increase in landings during this period of 100 percent, while the number of fishermen decreased by 25 percent.

The largest increase in value from 1937-1947 was made by the South Coast fisheries, which rose from 12 million crowns (US\$2.3 million) in 1937 to 39 million crowns (US\$7.5 million) in 1957. During the same period the quantity landed on the West Coast doubled, and now amounts to 150,000 tons.

Export of fish and fish products increased in 1957 to 76,500 tons as compared with 73,000 tons in 1956. The value of the fish and fish products exported during 1957 amounted to 58.6 million crowns (US\$11.3 million).

Import of fish and fish products in 1957 amounted to 41,300 metric tons, as compared with 47,200 metric tons in 1956, a decrease of 5,900 metric tons.

The total value of the imported fish and fish products in 1957 amounted to 85 million crowns (US\$16.4 million), resulting in an import surplus of 26.4 million crowns (US\$5.1 million), which is 6.6 million crowns (US\$1.3 million) less than in 1956, when the import surplus amounted to 33 million crowns (US\$6.4 million).

The relatively large difference in the value of fish exported and imported is due to the export of low value fish and the import of more expensive fish, the United States Consul at Goteborg reports in a March 12, 1958, dispatch.



Turkey

SHRIMP FISHERY IN IZMIR DISTRICT:

Shrimp production in the Izmir district of Turkey is low, due to primitive catching methods, reports a United States consular dispatch from Izmir, dated May 21, 1958. According to the statements of fishermen, Foca, Cesme, and Aliaga are the best places to catch shrimp in the district. The southern part of the district, near Kusadasi, Fethiye, and Güllük, also has an abundance of shrimp, but production in these places is consumed locally due to transportation problems and a lack of refrigerated trucks. The shrimp season starts in early March and continues until June or July, but during some years shrimp may be caught in other months.

Most of the catching is done either by trawling or with manually-operated silk nets, in the grass and sands of the shallow coasts. For the purpose of increasing production, local fishermen draw attention to the necessity for taking steps to set up artificial shrimp ponds in available places along the shallow coasts of the Gulf of Izmir.

The bulk of the shrimp catch is handled by small firms or by the fishermen. Izmir fishermen sell most of their catches to retailers by bargaining and not at auction in the municipally-controlled fish market. The total average daily catch of shrimp brought to market in Izmir by the fishermen has been estimated at about 2,000 shrimp. Shrimp sales are made by piece and not by weight in Izmir, but local shrimp average about 16-18 to the pound heads on and about 27 to the pound heads off. Four or five years ago, shrimp prices were very low compared with this year, but now, due to an increase in consumption, wholesale prices range from 38 to 45 kurus (about 7-9 cents) for each shrimp.

After a thorough investigation of available statistics, it has not been possible to find any record of any exports of shrimp from Izmir or the smaller ports of this district. At present, the very small supply and the high prices rule out the Izmir district as a possible source of supply for United States importers. It also seems certain that a shrimp freezing plant is not feasible for Izmir and may be considered only in Iskenderun, where shrimp production is reportedly rather high and prices are lower.



Union of South Africa

SOUTH AND SOUTH-WEST AFRICA PILCHARD-MAASBANKER INDUSTRY, 1957:

The Union of South Africa and South-West African pilchard (sardine) and maasbanker (jack mackerel) landings during 1957 totaled 463,080 metric tons. South-West Africa accounted for 254,976 tons and the Union of South Africa Cape west coast for 208,104 tons.

Although the final figures for the canned fish pack are not yet available, the South-West Africa Walvis Bay fishery yielded 46,801 tons of fish meal and that of the Cape west coast 40,178 tons for a total of 86,979 tons. Fish-meal exports during the year from South-West Africa and the Union amounted to 57,224 tons.

The production of fish-body oil by the six Walvis Bay factories was 9,616 tons

and that of the Union factories was 10,357 tons.

With fair catches on the Cape west coast during January and February 1958, South and South-West African fish meal exporters may have a good year on a strong market in 1958. (The South African Shipping News and Fishing Industry Review, April 1958.)

PILCHARD-MAASBANKER INDUSTRY, JANUARY-FEBRUARY 1958:

February was a good month for the pilchard-maasbanker fishermen of the Union of South Africa fishing off the Cape west coast. Returns released by the Division of Fisheries show that 25,093 metric tons of pilchards, 1,309 tons maasbanker, and 13,768 tons mackerel were caught. These figures compare with 17,965 tons pilchards, 4,363 tons maasbanker, and 1,197 tons mackerel in February 1957; and 7,212 tons pilchards and 593 tons maasbanker in February 1956.

The total quota fish catch in February (pilchards and maasbanker) was 26,402 tons and the total for the first two months of the present season was 34,242 tons.

The February 1958 catch yielded 6,979 tons fish meal, 287,989 gallons fish-body oil, 619,866 pounds canned pilchards, 58,422 pounds canned maasbanker, and 2,711,718 pounds mackerel.

Reports during March indicated a drop from the February total although there were periods of good fishing.

The pilchard-maasbanker fishing season got off to a reasonable start during January when 7,690 tons of pilchards, 150 tons of maasbanker, and 3,142 tons of mackerel were landed in South-West Africa and the Union of South Africa. These figures compare with: 4,551 tons pilchards, 605 tons maasbanker, and 3,267 tons mackerel in January 1957; and 4,730 tons pilchards and 23 tons maasbanker in January 1956.

The January catch this year yielded 2,018 tons fish meal, 62,757 gallons fish-body oil, 322,896 pounds canned pilchards and 275,390 pounds canned mackerel.

Union of South Africa (Contd.):

TRAWLER FISHERY LANDS
RECORD CATCH IN 1957:

The development of South African and export markets for fresh and frozen fish, the opening of new depots in inland areas, further improvements in the distribution system, and the steady replacement of the old trawlers by larger new vessels enabled the Union's trawling industry to reach a new record catch of 160 million pounds in 1957. This was more than 8 million pounds above the previous record in 1956 of 152 million pounds and is moving towards a threefold increase over the 60 million pounds of trawled fish landed ten years ago.

As in previous years, the bulk of the catch was made up of hake, which last year totaled 133 million pounds, compared with 125 million pounds in 1956. Other important fish species in the 1957 total were: kingklip, 2.4 million pounds; sole, 2.5 million pounds; kabeljou, 2.4 million pounds; pangas, 6.9 million pounds; and maasbanker, 2.2 million pounds. (The South African Shipping News and Fishing Industry Review, March 1958.)



U. S. S. R.

FISHERIES PROGRAMS EXTENSIVE
FAO BIOLOGIST REPORTS:

The vast extent of Russian programs and work in fisheries was commented on recently at the Rome headquarters of the Food and Agriculture Organization (FAO), by the Chief of the Biology Branch, Fisheries Division, FAO, on his return from Moscow.

"The Russians have about 50 groups, employing thousands of people, working on fisheries research," he stated. "The staff of the All Union Institute of Research in Marine Fisheries and Oceanography alone amounts to 500 persons."

As a result of this widespread activity, the Russians are "accumulating vast amounts of material."

"My impression was that this extensive work in fisheries research is well coordinated even though it involves many institutions and scientific bodies," the Chief of the Biology Branch said.

While in Moscow, where he attended a meeting of the International Advisory Committee on Research in the Natural Sciences Program of UNESCO, the Chief of the Biology Branch conferred with a number of Russian officials and scientists. One result of his visit is that the Russians have promised to supply FAO with a monthly annotated list of U. S. S. R. fisheries literature. They have also promised to collaborate in the preparation of a manual on institutions, research organizations, and scientific bodies engaged in fisheries work in Russia.

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SPONGE RUBBER FENDERS FOR
VESSELS LOADING AT SEA:

At the ninth meeting (1957) of the International Whaling Commission the Russian Commissioner submitted a description of the manufacture of porous rubber fenders intended to obviate the use of whales as fenders when whaling vessels are loading or unloading at sea.

The sponge rubber fender is intended to prevent damage to the sides of whalers and tankers during loading operations on the open sea in the Antarctic.

"The fender is made in the following way:

"In the first place a ship's mat is woven on a loom from manila rope yarn. The mat is sewn into a cylindrical bag 9'2" high and 5 feet 9½ inches in diameter. When completed, the bag is hung on brackets and stuffed with sponge rubber with a ram. The bag is then sewn up.

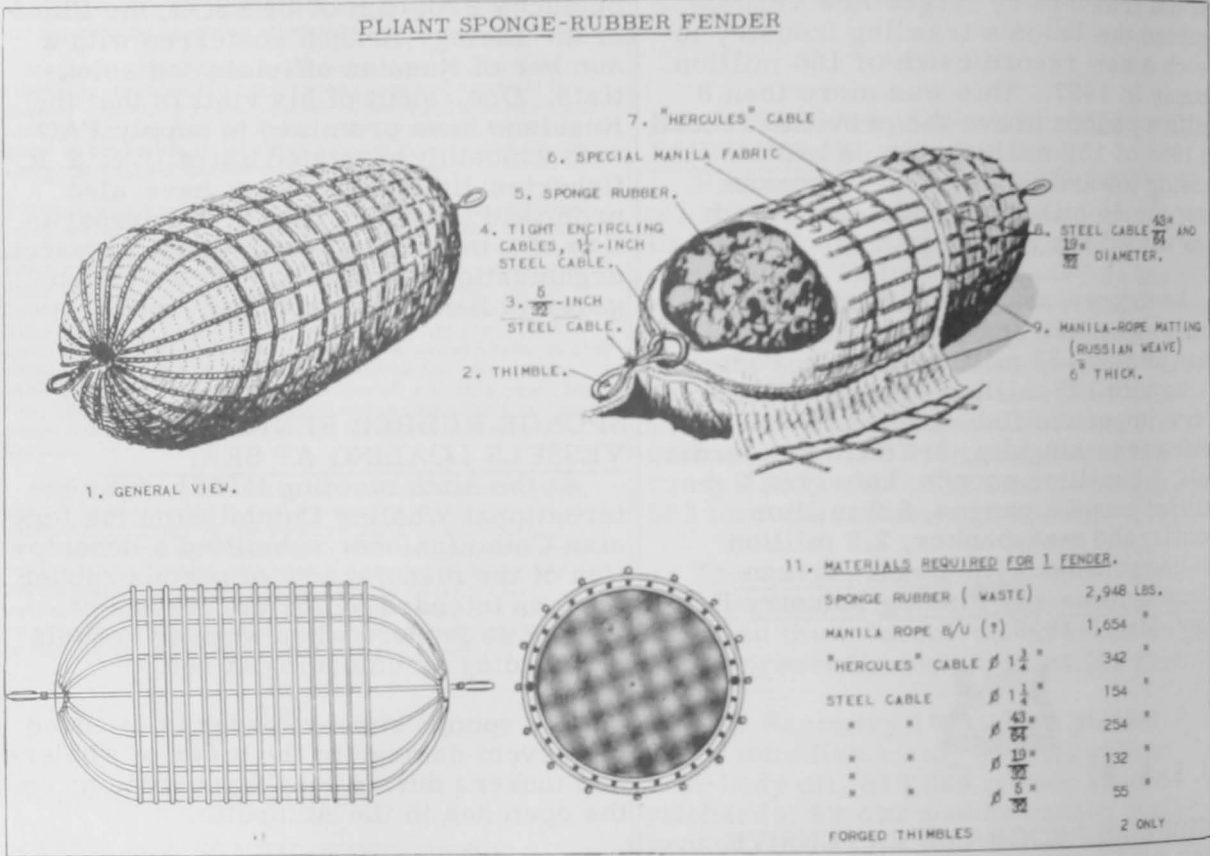
"Two grommets 9⅞ inches in diameter are made from a strand of 1¼-inch 'Hercules' cable. The grommets are fitted to the ends of the bag. One strand of 'Hercules' cable is rove through one of the grommets and is then snaked from one grommet to the other round the entire fender. The 'Hercules' strand is strained with a 'handy-Billy.' This insures that the cable will be sufficiently tight on

U. S. S. R. (Contd.):

the bag. The longitudinal 'Hercules' strands are intersected by similar strands round the entire fender every $15\frac{3}{4}$ inches. After this, an eye made of a $\frac{5}{16}$ -inch strand of $1\frac{1}{4}$ -inch cable is fitted to the fender. Forged thimbles are

strands of the transverse cable are opened where they intersect the longitudinal ribs.

In order to fix the fender over the side of the vessel, mooring ends of a 1-inch steel cable 82 feet long are made fast to its eyes. In order to lower it



fitted against the 'Hercules' grommets into the eye, and are secured by a double lashing of $\frac{5}{32}$ -inch cable. The fender is covered with strands of manila rope woven by the Russian method. This matting is made from strands of 75 yarns each. A network of steel cable is worked on to the manila matting. Two grommets $9\frac{7}{8}$ inches in diameter are made from the cable and these are slipped over the eyes (with the thimbles) and are made fast to the manila matting. A steel cable $\frac{43}{64}$ -inch in diameter is rove through one of the grommets and is strained by means of a 'handy-Billy' from one grommet to the other round the entire fender at intervals of $7\frac{7}{8}$ inches. Transverse turns of cable $\frac{19}{32}$ -inch in diameter are run round the fender at right-angles to the longitudinal ribs of cable and at intervals of $7\frac{7}{8}$ inches. The

overboard and to lift it on to the deck, a strop of cable $\frac{11}{16}$ -inch in diameter and $19\frac{1}{2}$ feet long is passed through the eyes. The fenders are fastened in a horizontal position on the cylindrical part of the whaling ship. Some of the fenders are let down into the water and float freely at the paid-out hawser end, Others are suspended high above the waterline where the waves cannot reach them.



United Kingdom

FISHING INDUSTRY URGES GOVERNMENT TO CONDUCT TRAWL EFFICIENCY STUDIES:

A large British fishery firm has been conducting experiments for some time to

United Kingdom (Contd.):

try to improve the efficiency of trawls and have now sought the help of the Government and the White Fish Authority (W.F.A.) in the research in the same way as they participated in the fish-freezing-at-sea experiments with the Grimsby trawler Northern Wave.

Hull and Fleetwood trawler owners are also keenly interested in the project, which is being considered by the British Trawlers' Federation.

In view of the possibility which faces the fishing industry of an extension of fishing limits which would bar British trawlers from many thousands of square miles of open sea in which they now catch a considerable proportion of the deep-water fish landed in Great Britain, any improvement in the efficiency factor of trawls is obviously of primary importance to the whole fishing industry. It is thought that the present net could have its fishing powers increased by as much as 15 percent.

The general principle of the trawl has not altered materially in the past half a century and the basic principles have not changed greatly since trawls were invented many centuries ago.

The large fishery firm together with another fishery firm have been studying trawl efficiency for some time and are prepared to spend quite a lot of money on it, but the cost of a thorough study and exhaustive experiments is obviously far more than any one company can possibly bear, and so outside aid is being sought from the Government and the rest of the fishing industry, the whole of which will benefit from any new discoveries or developments.

The first job to be undertaken by the scientists is to test thoroughly the present trawl in Arctic waters. Little is yet known from a scientific point of view of the behavior of a trawler's net under water, and for the scientists to tackle the job they will first have to obtain complete data of stresses and strains. Only when they have obtained this preliminary accurate information, collected in the vital Arctic waters, will they be able to turn to experiments.

While the primary objective is the improvement of the catching efficiency of the trawl, no less important is that of devising a net and gear which will tow at a faster speed. At present this is between 3 and 4 knots and it is obvious that if this can be increased materially with the same or a higher efficiency, trawlers will have to spend less time on the fishing grounds, will be able to make quicker trips, and land their fish in even better condition than at present. Last, but by no means least, operating costs would be reduced.

It is understood that the aid sought from the W.F.A. and the Government for help to carry out this investigation will be forthcoming. (Fish Trades Gazette, May 31, 1958.)

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FREEZE-DRYING FOODS TRIED COMMERCIALY:

An Aberdeen (Scotland) firm preserves fish steaks (and chips, fruit, and vegetables) by a method which combines freezing with dehydration. Layers of fish steaks of uniform thickness are frozen under pressure in trays in a plate freezer. The trays are then placed in a vacuum drier where they are compressed by hydraulic mechanism. A batch of 700 pounds of wet fish can be freeze-dried in about 6 hours to a final moisture content of only 5 percent. Freeze-dried foods packed in cans, can be stored in the tropics without refrigeration for up to 6 months without loss of quality. They are reconstituted by soaking in water for a short time and, it is claimed, retain their original flavor, consistency, and food value. (Australian Fisheries Newsletter, May 1958.)

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FRIED FISH SHOPS USE PORTION-PACK FISH FILLETS:

In Britain the fried fish trade is being supplied with raw frozen portion-pack cod fillets of uniform size and weight which are ready for breading, battering, and frying without defrosting. The fish fillets are obtained by an adaptation of the fish stick process. The skinned and boned fillets are cut into portions of exactly 4 oz. each and the fish frier receives cod fillets which he

United Kingdom (Contd.):

can store in his freezer or fry immediately after breeding and battering (Fish Trade Gazette, May 25, 1957).

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PROPOSED ICELANDIC DECREE ON 12-MILE FISHING LIMITS REJECTED:

The British Government issued a declaration on June 3 rejecting as without legal effect the Icelandic decree expected to be issued on June 30, states a June 5, 1958, United States Embassy dispatch from London. This decree, according to the British statement, would claim extension of Icelandic fishing limits to 12 miles as of September 1, 1958; it would seek to subject fishing within the new limits to Icelandic control, and to reserve the right to alter the base lines from which the Icelandic fishery limits are at present measured.

Although the British Government is aware of the importance of fisheries to Iceland, the declaration says that "fisheries are also of great importance to the United Kingdom." Asserting that it would be the duty of the British Government "to prevent any unlawful attempt to interfere with British fishing vessels on the high seas," the declaration states that the British Government was and is prepared to negotiate an acceptable fisheries agreement. It expresses the hope "that the Icelandic Government will agree that negotiation is in every respect preferable to unilateral action, and that the period before September 1 should be used to negotiate a lasting solution acceptable to all concerned."

An editorial in the Manchester Guardian stated on June 3 that "If Iceland declines to admit any existing rights within 12 miles . . . other governments and fishing industries may have to apply such sanction as they can" which would include refusal to allow Icelandic fish to land in England. The editorial concluded with the hope that such measures of economic warfare can be averted by good sense on both sides. The Financial Times on the same day alluded also to naval protection of British trawlers as a theoretic possibility, but concluded that "a series of light naval engagements to determine territorial waters is not a prospect which can readily be contemplated."

British trawler fishermen at Grimsby were reported to have welcomed the news that the British Government will provide protection for fishing vessels operating within the Iceland 12-mile limit, although it was noted that the nature of this protective action remained to be seen.

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STUDIES ON BOXING FISH AT SEA:

Ways are continually being sought for improving the techniques of storing fish aboard trawlers at sea. Studies of the effect of boxing on the quality of fish taken from distant waters have been initiated. In addition, a theoretical study has been made to learn the limitations in the design of boxes and supports as related to the space in the hold of a trawler. If boxes are used to replace shelves, more hold space will be required aboard the trawler.

Effect of Fish Gills on Keeping Quality: Fish with gills intact usually develop stronger and more readily discernible odors in the raw state than fish from which the gills have been removed at the time of evisceration. Differences in the quality of the cooked fish prepared from gilled and from ungilled eviscerated fish, however, could not be detected.

Effect of Clean Boxes: Previous findings have shown that the bacterial load of the ice used in icing fish has considerable influence on the keeping quality of the iced fish. Clean boxes also are of importance in retaining quality. To study the problem, the investigators carefully eviscerated washed codling and packed them in new wooden boxes and in used wooden boxes. The used or

dirty boxes had a bacterial load of 10,000 to 1,000,000 times the bacterial load of the new or clean boxes. Clean ice was used throughout this study. According to the results, which have not been fully analyzed, the effect of the cleanliness of the fish box on keeping quality is of the same order of magnitude as the effect of the cleanliness of the ice.

Fish that had been iced in clean boxes usually were organoleptically superior to fish that had been iced in dirty boxes, particularly from the standpoint of appearance of the meat of the raw fish. After both lots of iced and boxed fish had been in storage for 12 days, fish iced in clean boxes were about 1 to 3 days fresher organoleptically than fish that had been iced in dirty boxes. After 16 days of storage in ice, however, these differences were less obvious. Fish that had been washed before they were boxed in ice showed some improvement in the retention of quality but this fact was not as apparent as the effect of cleanliness of the box.

Methods for Cleaning Boxes: The Humber Laboratory at present is engaged in a study of the efficiency of commercial detergents and sanitizers for use in the fishing industry. The cleaning and the sterilizing of wooden surfaces present a particularly difficult problem to the fishing industry.

Properties of Commercial Ice: Representatives of the fishing industry have requested that a study be made to determine if there is a basis for a belief that manufactured ice from various sources varies in efficiency during use. Rates of melting of the various ices will be determined. The rate of the melting of ice under practical conditions probably is subject to considerable variation that depends (1) on differences in air temperature, (2) on the drafts to which the ice is exposed, and (3) on the pattern of melting. Melting patterns involved in the formation of crevasses and ice bridges will be studied. Experiments to date have shown that wide variations in particle size distribution have very little effect on the rate of melting (Report of Great Britain's Food Investigation Board for 1959).



Yugoslavia

MARINE FISHING INDUSTRY, 1957:

In 1957 the Yugoslav sea fishermen landed 20,100 metric tons of fish, an increase of nearly 2,000 metric tons over 1956 when 18,270 tons were landed.

In 1957, a total of 6,400 metric tons of fish were canned; 2,900 metric tons of fish were salted; and 1,000 metric tons of fish were manufactured into fish meal; the balance was sold fresh.

The 1957 landings in the most important fishing ports were as follows: Split 3,700 metric tons; Pula 2,900 tons; Zadar 2,500 tons; Koper 2,400 tons; Rijeka area 4,900 tons.

The fleet was increased by the purchase of 12 new fishing boats, and 15 units were re-equipped (Commercial News of Yugoslavia, vol. IV, no. 4, 1958)

