International

U. N. INTERNATIONAL LAW COMMISSION

CONFERENCE ON LAW OF THE SEA PROPOSED: A recommendation proposing the convening of an international conference of plenipotentiaries to examine most aspects of the law of the sea, and to draw up appropriate instruments on the subject, has been made by the U. N. International Law Commission.

The proposal is contained in the Commission's annual report, which this year completes the 15-member body's work of codifying the law of the high seas and of the territorial sea, a vast and complex task upon which it has been engaged ever since its first session in 1949. In 1954, the General Assembly asked the Commission to finish its work on the subject in time for consideration by the Assembly in 1956.

Among the questions dealt with in the 137-page report (Doc. A/CN.4/104) are: the breadth of the territorial sea; the "right of innocent passage," and the rights and duties of coastal states in that respect; the nationality of ships and whether there should be a special United Nations registration, entitling a vessel to fly the U. N. flag and to receive U. N. protection; penal jurisdiction in maritime collisions; the slave trade; pollution of the sea; and piracy, including piratical acts by aircraft, if these are directed against ships on the high seas.

Also included are revised sets of articles on fisheries and the conservation of the "living resources of the sea," and on the "continental shelf" and the right to explore and exploit its natural resources.

The proposal for calling an international conference is made in an introduction in which the Commission reaches the conclusion that this is the best way of giving "practical effect" to the rules it has formulated.

It recommends that the conference should be summoned by the Assembly, "to examine the law of the sea, taking account not only of the legal but also of the technical, biological, economic and political aspects of the problem, and to embody the results of its work in one or more international conventions, or such other instruments as it may deem appropriate."

The Commission goes on to express the belief that the conference should deal with all the different parts of the law of the sea covered in its present final report. Both its own experience, and the comments of governments, it says, have shown "that the various sections of the law of the sea hold together, and are so closely interdependent, that it would be extremely difficult to deal with only one part and leave the others aside."

The Commission adds that it considers the holding of the proposed conference "has been adequately prepared for" by its work to date. "The fact that there have been fairly substantial differences of opinion on certain points should not be regarded as a reason for putting off such a conference," it declares. In this connection,

it notes that there has been "widespread regret" that after The Hague Codification Conference of 1930, governments allowed "disagreement over the breadth of the territorial sea to dissuade them from any attempt at concluding a convention on the points on which agreement had been reached." "The Commission," it says, "expresses the hope that this mistake will not be repeated."

The Commission itself expresses the belief that international law does not allow the breadth of the territorial sea to exceed 12 miles. Up to that limit, however, it commits itself to no specific decision, saying that it considers this should be taken by the proposed conference.

It notes that the right to fix the breadth of the territorial sea at three miles, often regarded as "the traditional limitation," is not disputed, but adds: "As regards the right to fix the limit at between three and up to 12 miles, the Commission was obliged to note that international practice was far from uniform. Since several states have established a breadth of between three and up to 12 miles, while others are not prepared to recognize such extensions, the Commission was unable to take a decision on the subject, and expressed the opinion that the question should be decided by an international conference of plenipotentiaries."

The 25 draft articles on the Territorial Sea include a section on the right of ships to innocent passage, which provides that "there must be no suspension of the innocent passage of foreign ships through straits normally used for international navigation between two parts of the high seas."

Defining the meaning of the phrase "innocent passage," the report says: "Passage is innocent so long as a ship does not use the territorial sea for committing any acts prejudicial to the security of the coastal state, or contrary to the present rules, or to other rules of international law.

FOOD AND AGRICULTURE ORGANIZATION

EDIBLE FISH MEALS: Edible fish meals are helping to provide increased nutrition in the diets of mothers and children in many countries, especially in tropical regions. Such refined fish meals and fish flours are particularly useful for their protein value, low price, and ease of distribution and storage, while it is relatively easy to incorporate them in local traditional dishes and food preparations.

These are among the advantages claimed for fish meals specially refined for food, in a paper by the Nutrition Division of the Food and Agriculture Organization which was circulated during the recent Fish Processing Technologists Meeting at Rotterdam.

FAO is collaborating in the establishment of plants for the manufacture of edible fish meals and the United Nations children's welfare organization is urged to help governments to set up suitable plants.

Two types of potential consumers who would benefit from the supplementation of their diet with edible fish meals are those who prefer a mild, fresh-fish flavor or none at all--and those who prefer rather strong flavors, as they are used to consuming rather highly-flavored fish products such as fish pastes, sauces, etc., added to their otherwise rather bland diet, it is stated.

"In countries where the first of these preferences prevails, the fish meals to be introduced would resemble freshly dried or salted fish in taste and flavor, or they should be almost flavorless deodorized flours, which could conveniently be mixed with other foods such as bread flour.

"Where strong flavors are preferred deodorization or what may be called 'flavor refining,' would not be necessary. Any type of flour introduced should, however, resemble in its taste and flavor the local fish products to which people are accustomed."

Before an edible fish meal can be introduced into a specific area it is necessary to carry out "acceptability tests" to find out whether it can be

added to local dishes and consumed over prolonged periods without becoming objectionable. During recent years FAO has helped to arrange a number of such tests.

Preliminary tests are carried out, covering a limited number of people, often members of the staff of a research laboratory, to eliminate the fish meals that have no chance of acceptance and to work out recipes for the fish meals that seem likely to be acceptable. Tests follow on a larger scale, usually involving 50 to 200 children, in which an "enriched" food preparation, containing fish meal is given daily over 1-2 months. In some instances edible fish meals have been used in hospitals to test their effect on children under treatment for protein malnutrition.

"In general, the amounts of fish flour to be consumed daily by a child receiving fish flour as a protein-rich supplement may be from 10 to 15 grams (7 to 12 grams protein), comparable with 30 to 40 grams of skim milk powder (10 to 13 grams protein). These quantities of skim milk powder correspond with those provided in most U. N.-supported child-feeding programs.

To make fish meal suitable for human consumption it is necessary to eliminate fatty acids, peroxides, and other products to be found in some fish meals. Proper processing--in which high temperatures are avoided and exposure to air is mimimized--will prevent such changes to a large extent.

"The general bacterial count should be low, especially when the flours are consumed by children and, given normal processing this should not present difficulties. Deodorized fish flours can, if necessary, meet specifications calling for a total count of less than 2,000 bacteria per gram."

Fish meals to be used in supplementary feeding should have a protein content of not less than 65 to 70 digestibility coefficient and a high biological value. Relatively small quantities of fish meal protein with these characteristics can effectively supplement the proteins of the cereals which form the bulk of the diet of the poorer classes in many parts of the world.

"The fat content should preferably be low. Changes in flavor, and, in the case of deodorized meals, 'flavor reversion,' are mainly associated with the fatty constituent of fish meal preparations. Again, there is a slight possibility that harmful substances may be formed as a result of changes in the fat during processing and storage.

The price of fish meals must be low if they are to be of practical value as dietary supplements, it is stressed. It should be comparable, on a protein content basis, with that of dried skim milk. The manufacturing process must be such that the resulting product is of high nutritive value and harmless to the consumer. "It is essential that damage to amino acids should be avoided; this may easily occur if heating is prolonged."

"The paper goes on to give hints on the production of satisfactory nondeodorized edible fish meals. "Part of most of the fat present in the raw material must be removed, in accordance with the type of fish used for processing.

"In many countries meals containing 4 to 8 percent of fat might be satisfactory from the public health standpoint, if they are made from fresh sound fish with effective sanitary control and are stored in airtight or almost airtight containers for not more than a few months before consumption.

"As low a fat content as economically practicable is, however, to be preferred. Fat can be removed by solvent extraction. Experience has shown that repeated and prolonged treatment with solvents such as petroleum, benzine, and ethyl alcohol does not change biological value and digestibility to any significant extent."

Deodorized fish flours can be most easily made by treating minced wet fish directly, and it is sometimes economical and convenient to use high-grade fodder fish meals as raw material for refining, if these are acceptable from the hygienic point of view. It is, however, more difficult to remove unacceptable flavors from fish meals than from wet fish.

A fish flour plant which is planned for Chile will manufacture almost flavorless fish flour obtained for part of the year from wet fish (hake) and during other seasons from first grade meal of the fodder type based on hake and manufactured under satisfactory hygienic control. Benzine and ethanol will be used for removing the fat and deodorization and a temperature above 100 degrees C. will be avoided during the extraction process. The process and equipment to be used will be by a Swiss company. Other promising deodorization processes in an advanced stage are a German process, and a South African process developed by the Fisheries Industries Research Institute of South Africa. A Corporation in the United States has originated a process which produces a partly deodorized product, it is stated.

As to cost, it is declared that acceptable non-deodorized fish meals and flours can be produced at 18 cents a pound or below.

"However, it is probably more realistic to assume a cost price per lb. for deodorized fish flour of something between 23-45 cents a pound. The term 'deodorized' should not be taken to imply complete freedom from fishy flavors, but rather a degree of treatment which makes the flour acceptable for addition to appropriate foods in the diet."

Education of consumers in the practical use of fish meals will be needed if sales of the products are to expand, and the products must be available at a reasonable price, while potential markets seem to be considerable, says the paper.

"Non-deodorized meals may gain a market more readily than deodorized meals, at least in certain countries, since in many respects they resemble traditional fish products to which consumers are already accustomed."

Regarding further work on edible fish meals, the paper adds that basic work needed to evaluate promising processes and products will be carried on by FAO, but the whole problem of producing and utilizing edible fish meals, especially deodorized meals, is still in an early stage.

"There is room for much further development. Detailed research is needed on the processes of flavor removal and 'flavor reversion,' and on the influence of what may be called 'temperature time effects,' and other procedures used in manufacture on the nutritive value of the final product. Here there are considerable gaps in knowledge. The cooperation of research institutes in investigations of these and other problems is needed."

INTERNATIONAL CONGRESS ON CANNED FOODS

The Third International Congress on Canned Foods, organized by the International Permanent Committee on Canned Foods, was held September 24-28, 1956, in Rome and on September 29-30 in Parma, Italy. At Parma the Congress members visited the 11th Canned Food and Packaging Fair and attended a conference on machinery and equipment for the canning industries.

The purpose of the Committee is to promote the advance of scientific, technical, and practical knowledge useful to the canned food industry, and to develop the consumption of canned foods.

Included among the many subjects in the program were the following of value to fisheries interests:

Under "Current Problems in Canning Technology" was included the canning of fish.

Under "Containers" were included (1) corrosion of tin plate; (2) use of electrolytic tin plate; (3) choice of cans for various products.

Under "Sanitation" was included waste problems in the fish-canning industry.

Under "Bacteriological Problems" were included preserved and semipreserved fish.

(NORTH EUROPEAN) INTERNATIONAL FISHERIES CONVENTION

FIFTH MEETING OF PERMANENT COMMISSION: The Fifth Meeting of the Permanent Commission set up under the (North European) International Fisheries Convention of 1946 took place in London between May 8-11, 1956. Delegations attended from all 13 of the Member Governments, namely, Belgium, Denmark, German Federal Republic, France, Iceland, Ireland, Netherlands, Norway, Poland, Portugal, Spain, Sweden, and the United Kingdom of Great Britain and Northern Ireland. Observers were present from the Union of Socialist Soviet Republics, which was represented for the first time.

Attending the meeting also were observers from the International Council for the Exploration of the Sea, the Food and Agriculture Organization of the United Nations, and the International Commission for the Northwest Atlantic Fisheries, states a May 28 United States Embassy dispatch from London.

Much of the Commission's discussion was devoted to the report of an ad hoc Scientific Committee set up at the previous meeting to review available information and to advise the Commission on minimum mesh sizes for nets and minimum size limits for fish, and to say whether any changes were required. The Commission recognized that this report, the conclusions of which were based upon all the scientific knowledge arrived at after many years of fisheries research, was a most

important and valuable document. The Commission resolved to provide for the publication of the report, and it was agreed to recommend that the Member Governments should have the report translated for the information of their fishermen; should seek the views of their own fishing industries; and should report back with their recommendations and proposals by December 31, 1956. These will be taken into consideration, with the main report, at the next meeting. It was decided that in the meantime the 75-mm. (2.95-inch) minimum mesh for ordinary trawl nets should be continued for another year until April 4, 1958.

The Commission also gave further attention to the problem of mixed fishing for protected and for other species. The Commission appointed a Committee composed of representatives of the six countries most concerned (i.e. Belgium, France, Netherlands, Federal German Republic, Poland, and Sweden) to study this problem further for the next meeting.

Arrangements for insuring the uniform enforcement of the provisions of the Convention were again discussed. A committee of the Commission examined the reports of infractions submitted by all Member Governments and the Commission unanimously agreed to recommend to Member Governments suggestions designed to make more uniform enforcement possible. The Commission expressed its thanks to the Netherlands Government for making available an officer for the Commission's employment to visit those Member Countries which might so desire in order to advise upon the enforcement of the Provisions of the Convention.

Finally, the Commission received reports from the International Council for the Exploration of the Sea on the question of a definition of the light trawl, and the problem presented by the capture of undersized whiting in the industrial fisheries. The Commission decided to take no further action at present on these problems since the International Council was still continuing its investigations.

The Commission will hold its next meeting in London beginning on May 14, 1957.

MEDITERRANEAN FISHERIES COUNCIL

PROPOSES INVESTIGATION OF MEDITERRANEAN FISH MIGRATIONS: Renewed efforts to investigate the age-old riddle of the migrations and movements of fish in the Mediterranean, which have baffled man since the Phoenicians caught tuna along its shores, will be made if plans proposed by the General Fisheries Council for the Mediterranean are put into successful operation, a Food and Agriculture Organization news release of August 1956 points out.

The Secretary of the Council states: "The Council is promoting an ambitious program of investigation, depending, of course, on the help and cooperation of interested nations, which will entail the study of fish populations in the Mediterranean, the migrations and life cycles of various species of fish, a study of Mediterranean trawling grounds, and the accummulation of other knowledge which we hope will, in the long run, fit into place like pieces of a jigsaw puzzle, and give us a comprehensive view of fish stocks in the Mediterranean.

"It is a strange but true fact that although man has been fishing in the Mediterranean for thousands of years, we are to a great extent ignorant of what happens to some of the most important species of commercial fish. For example, we know that tuna appear in certain parts of the Mediterranean at certain times of the year, as they have done since the days of Nineveh and Tyre. Fishermen are able to fish them for only a few months then they completely disappear for the rest of the year.

"There have been, of course, many interesting theories as to where they go to but nobody has so far been able to clear up the mystery. We are faced with similar riddles in connection with other fish. If we could find the answer, we might be able to effect increases in fish production in the Mediterranean."

Asked what the General Fisheries Council for the Mediterranean proposed to do to try to solve the riddles of the disappearing fish, the Secretary explained that the Council, as a body, did not undertake investigations or research work. Its function was to promote cooperation in fisheries work between Mediterranean countries. There were a great number of problems of common interest which could be better tackled jointly by the nations concerned. The investigation of tuna, sardines, and other commercial fish, for example, could be better done if the nations agreed on a coordinated investigation program. In some cases even a cooperative program might be considered in which each nation could make a contribution.

"Although the Mediterranean has been fished since man first appeared in this part of the world," said the Secretary, "its fish stocks have always been relatively poor because food for fish is relatively scarce in the Mediterranean. But fish is an important part of the diet of a great number of the nations whose coasts border the Mediterranean, especially those with deserts and limited areas of arable land. These reasons make it all the more imperative that we should have the knowledge necessary to develop the fisheries and, in particular, the available fish resources.

"An interesting example of how a resource can exist undetected for thousands of years is to be found in the recent development of the Mediterranean shrimp fishery," stated the Secretary. "Shrimp fishing, up to recent years, was of little importance in the Mediterranean. Indeed, some people even believed that there were no worthwhile shrimp stocks. But now trawlers working from Algeria, Egypt, Italy, and Turkey are exploiting substantial stocks of large shrimp. The result has been the rapid development of a shrimp fishery, and a very profitable trade has been established in exports of shrimp to many European countries and the United States."

The General Fisheries Council for the Mediterranean was organized in 1950 under the auspices of the Food and Agriculture Organization of the United Nations and now has 11 members--Egypt, France, Greece, Israel, Italy, Monaco, Spain, Tunisia, Turkey, United Kingdom, and Yugoslavia. The activities of the Council are carried out through committees for exploration, production, utilization, inland waters, and statistics. The investigation of fishery stocks in the Mediterranean is only one item of the Council's program of work, and there are so many problems which urgently need attention that the Council has drawn up a priority list.

The current program includes mapping the quantitative distribution of fish eggs; determination of age and growth of fish; improvement of fishery statistics in Mediterranean countries; the bathymetric and geographic distribution of various species; the distribution, etc., of crustaceans; a study of Mediterranean trawling grounds; and a study of fishing methods and gear, which includes a classification of fishing boat gear and methods. There is also a whole range of work being planned under the heading of utilization, including transport and refrigeration of fish, fish meal, oil, byproducts, and canning, and so on. Another big field of work is concerned with inland-waters fisheries, the culture of fish in ponds, and the stocking and exploitation of barrage lakes and so on.

"The Council hopes shortly the Governments concerned will soon make a start on the study of trawling grounds," explained the Secretary. "This work will, of course, take years to complete. One aim is to make maps of all the fishing grounds being exploited and of those which can be fished by trawlers. It would be an advantage if such maps could give local names of the grounds, their size and the nature of the bottom and the characteristics of the animals living there, as well as the main species of fish and edible crustaceans caught in the locality. The maps could also give such information as the most favorable season for trawl fishing and the estimated average return of a boat of a certain type."

The size and scope of the work of the Council is indicated by the fact that at its third meeting, held at Monte Carlo, 54 technical papers were submitted by fishery experts. These have been published in a volume of "Proceedings and Technical Papers."

The next meeting of the Council was scheduled to be held at Istanbul, Turkey, September 17-22, 1956. "We have already an impressive list of technical papers to be presented at the meeting to which representatives of 18 countries and six international organizations have been invited, all of them particularly interested in the work being done to develop and improve fisheries in the Mediterranean," said the Council Secretary.

"Of course, much has been done by nations and organizations, especially under the aegis of the International Commission for the Scientific Exploration of the Mediterranean Sea, but even with that and future plans it will be many years before the full benefit of this new cooperative effort in fisheries will be felt in the Mediterranean. But we hope that the knowledge and understanding we gradually acquire should enable us one day to conserve and develop stocks so that the Mediterranean will yield more fish per year than it has done during any of the past two thousand or more years in which it has been fished."

WHALING

INTERNATIONAL WHALING COMMISSION EIGHTH ANNUAL MEETING: The International Whaling Commission began its Eighth Annual Meeting in London on July 16, and completed its deliberations on July 20, 1956.

All 17 Contracting Governments were represented at the meeting with the exception of Brazil. They comprised Australia, Japan, Denmark, France, Iceland, Canada, Mexico, The Netherlands, New Zealand, Norway, Panama, South Africa, Sweden, the U.S.S.R., the United Kingdom, and the United States, Italy and Portugal were represented by observers as were also F.A.O., the International Council for the Exploration of the Sea, and the International Association of Whaling Companies.

The Commission received from the Bureau of International Whaling Statistics at Sandefjord the catch figures for the past season. Nineteen factory ships with 257

catchers were engaged in the 1955/56 Antarctic season and the total catch by floating factories in the Antarctic increased from 2,061,789 barrels in 1954/55 to 2,134,012 barrels inclusive of sperm oil in 1955/56.

The chief object of the Commission is to arrange a balance between killing and replacement rates of the whale populations. To achieve this it sets limits upon the total catch. This limit takes into consideration the views of scientists upon the size of the stocks of whales and of the whalers on the economics of the industry. Scientific opinion in the Commission was almost unanimously in favor of a substantial reduction in the catch on account of evidence that the stock is declining. The existing catch limit is 15,000 blue-whale units. The Commission recommended that the catch for future seasons should not exceed 15,000 blue-whale units, and they recommended (but with one dissention--The Netherlands) that the limit should be reduced in the coming season (1956/57), to 14,500 blue-whale units.

It is not yet certain that next season's whale catch quota in the Antarctic will be reduced. If Netherland's opposition is followed by an official protest to the Commission within 90 days, the catch quota will have to remain at 15,000 units, in spite of scientists' warnings that whale stocks are being too heavily hunted.

The Commission was glad to note that in general there was a decrease in infractions over the previous year. They also received further confirmation from the Commissioner of the U.S.S.R. about the use of fenders of porous rubber which could replace the present use of whale carcasses for this purpose. The U.S.S.R. agreed to place at the disposal of the Commission full details of these fenders.

At present every factoryship is required to have on board two inspectors who are generally of the same nationality as the flag of the ship. The Commission, however, following the Seventh Meeting at Moscow in 1955, asked the United States to prepare a Protocol for the amendment of the Convention so as to permit consideration of a scheme to appoint independent observers in addition to the national inspectors. They have agreed to ask the Depository Government to take all possible steps to insure that the Protocol could be brought into force in time for the Commission to take action under its provisions at their Ninth Meeting. It is hoped that this Protocol may very soon be signed.

The Commission heard statements from the Commissioners for Norway and Panama about correspondence which has passed between their Governments on alleged infractions of the provisions of the Convention by a whale factoryship registered with the Panamanian Flag. This matter is still under discussion between the two Governments engaged in whaling.

The Commission decided that a Scientific Sub-Committee should again if necessary meet to consider certain scientific problems in anticipation of the 1957 Annual Meeting.

The 1957 Annual Meeting begins on June 24, 1957, in London, points out the August 3 issue of The Fishing News.

Algeria

CANNED SARDINE MARKET: The sardine industry in Algeria is not at present of any great significance in the economy of the country, states a July 3 dispatch from the United States Consulate at Algiers.

Production of canned sardines is declining, and the industry is in a state of crisis. A brief review of the canning industry's present position reveals the predominant influence of uneconomic practices by fishermen as well as the added difficulties imposed by the revolution.

Sardine production in Algeria amounted to 202,815 cases in 1955 (valued at about US$2.6 million) as compared with 428,800 cases in 1951 (valued at about US$5.5 million). The principal cause for the decline in production is the decrease in the amount and value of fish caught by Algerian fishermen who are prohibited by law from using large ring nets.

Table 1 - Algeria's Canned Sardine Pack, 1951-55

Year	Quantity	Value to the Canners (Not Including Taxes)	
	1,000 Cases	Million US$	Million Francs
1955 1/	203	2.6	912.7
1954 1/	245	3.1	1,101.1
1953 1/	299	3.9	1,354.3
1952	400	5.1	1,800.6
1951	429	5.5	1,929.6

1/ Includes the pack from imported frozen sardines.

Another reason for small catches over recent months has been the imposition of a curfew which prevents the fishermen from fishing all night. Due to the limitation on the use of nets, most fishermen have not invested in any large craft which would increase their range. The curfew has thus practically confined them to early evening fishing. In most of the fishing villages the curfew is 9 p.m.

Proposals originating primarily from the canning industry are now being put forward in the hope of encouraging an increase in the size of the sardine catch. Fishermen's organizations want to carry out an experiment during which they would be permitted to use ring nets; the catch would be sold to the factories for a guaranteed price; the factories would obligate themselves on the day preceding the catch to take a minimum amount of fish and the fishermen using the ring nets would withhold their catch from the fresh fish market. Economic circles express concern over the harm which would be done to fishermen if the present system were changed, although it is difficult to imagine how their situation could become more precarious. Le Messager, a commercial newspaper in Algiers, has actually proposed the institution of a special tax on sardines caught with ring nets to provide a fund for the rehabilitation of fishermen driven out of the business.

There were 53 factories canning sardines in Algeria in 1951. This number has been reduced to 40, and several factories are preparing to close in 1956. Some of the factories have maintained production by importing frozen sardines from French Morocco where there are no limitations on the use of nets. Despite these

Table 2 - Algeria's Imports and Exports of Canned Sardines, 1951-55

Year	IMPORTS			EXPORTS		
	Quantity	Value		Quantity	Value	
	1,000 Lbs.	US$1,000	Million Francs	1,000 Lbs.	US$1,000	Million Francs
1955	921	312	109.1	7,376	2,311	808.9
1954	350	125	43.8	10,180	2,757	964.9
1953	363	133	46.6	11,318	2,983	1,043.9
1952	296	102	35.7	16,566	4,225	1,479.0
1951	161	65	22.6	16,424	4,290	1,501.6

imports of frozen fish, Algeria's net exports of canned sardines have been declining at a rapid rate. The net export value amounted to US$2.0 million in 1955 as compared with US$4.2 million in 1951. The increase in imported sardines has been principally from French Morocco with France a close second. Most foreign brands of sardines sold in Algeria are actually imported from French distributors by Algerian merchants.

Domestic consumption estimated at an annual average of 30,000-40,000 cases, has remained relatively unchanged over the past five years. The native population provides the principal market for canned sardines. Although consumption by income group is not known, it is believed that the low-income native population consumes about 80 percent of the total.

The most popular size can is a flat can of $3\frac{1}{2}$ to 5 ounces. Another popular can is the $13\frac{1}{2}$-ounce oval can of pilchards which retails for about 29 U.S. cents. The most popular packing medium is a mixture of olive and peanut oils. Sardines packed in this medium are labeled, "Sardines a l' huile." Sardines packed in pure olive oil are so labeled and are sold at a slightly higher price. Tomato sauce is an unpopular medium for packing sardines.

The retail price of the $3\frac{1}{2}$- to 5-ounce flat cans varies from about 17-27 U.S. cents a can if the medium is olive oil and from 16-26 cents a can if the medium is a mixture of olive and peanut oils. The $13\frac{1}{2}$-ounce oval cans of pilchards retail at prices varying from 19-36 cents a can.

The opportunity for imports of canned sardines from the United States is extremely limited because local production meets consumption needs at the present level of prices. Third countries maintain exports of canned sardines to Algeria primarily by means of trade agreements with France. French bilateral trade agreements apply automatically to Algeria. The tariff on imported sardines is 95 percent ad valorem.

Imported sardines are normally distributed by importers direct to retailers or wholesalers. Domestic production is distributed by wholesale houses, although several factories carry out distribution direct to large retailers.

Note: Values converted at the rate of 1 franc equals US$0.00857.

Australia

ACT SETTING UP FUND TO DEVELOP FISHERIES PASSED: The Whaling Industry Act Repeal Act 1956, providing for the sale of the Government-owned Australian Whaling Commission's station at Carnarvon, Western Australia, to private operators, and the Fish Industry Act 1956, providing for a Fisheries Development Trust Account, were passed by the Commonwealth Parliament in May 1956. The Fish Industry Act 1956 which will be financed by the surplus which will arise from the sale of the Whaling Commission's business, will make possible the biggest move in Australia's history for the development of the nation's fishery resources, points out the (Australian) Fisheries Newsletter of June 1956.

Note: See Commercial Fisheries Review, August 1956, p. 63.

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CANNED SARDINE MARKET: One small firm in Albany, Western Australia, has on several occasions canned small amounts of pilchards. However, this firm has always used a tall round can for which there is practically no market. This firm canned 70 tons one season, but there has been no production the last two seasons. That is the extent of canning of sardine and sardinelike fish in Australia, states a July 16 dispatch from the United States Embassy at Canberra.

The Commonwealth Bureau of Fisheries reports that preliminary surveys indicate commercial quantities of pilchards are available on the coast of Northern New South Wales, Queensland, and parts of Western Australia. They plan to con-

duct a more detailed commercial survey this coming season. They believe that pilchards will develop into a commercial enterprise, but that the catch will be utilized for oil and meal rather than for canning purposes. There is a ready and quick market for meal and oil with a minimum of capital expenditure, whereas the cost of equipment and facilities for canning is prohibitive for the current market.

Table 1 - Representative Retail Prices of Canned Sardines in Canberra, Australia, July 11, 1956

Product	Packing Medium	Can Size	Price Per Can	
			s.d.	U. S. Cents
Norwegian sills	Sardine oil	3¾ oz. flat	1s.10d.	21
Norwegian sills	Sardine oil	½ size flat	1s. 3d.	14
French sardines	Olive oil	4½ oz. flat	3s. 6d.	39
Portuguese sardines	Olive oil	4½ oz. flat	3s.	34
Portuguese sardines	Olive oil	7 oz. flat	6s. 9d.	76

The domestic consumption of sardines is almost entirely from imports. The past two years consumption has been about 5 million pounds annually; however, import restrictions have limited quantities entering Australia.

Per-capita consumption of canned fish varies annually depending on the quotas granted importers. Fish is not a staple item in the diet of Australians. Prior to the immigration program of Europeans, sardines were consumed in fairly limited amounts in Australia. The increase in demand for sardines is a direct result of the tastes of the "New Australians." The trend is for an increase in the demand for sardines; however, the amounts authorized to be imported depend on the balance-of-payments position of Australia.

Table 2 - Average Retail Prices of Imported Canned Sardines (Double Layer, 3¾ oz., Olive Oil) in Sydney, 1951-55

Currency Unit	Jan.-Mar. 1956	1955	1954	1953	1952	1951
	(Per Can)					
In pence (d.)	21.31	21.28	21.60	21.48	21.10	19.50
In U. S. cents	19.88	19.85	20.15	20.04	19.69	18.19

The popular sizes of canned sardines are almost exclusively the small 3¼-5 oz. flats. A limited amount of other sizes has been offered for sale, but they sell only when the preferred flats are not available.

The most popular packing medium is olive oil; other mediums, mostly vegetable oils, are offered to the consumers but are not as readily acceptable.

Sardine consumption is the greatest among the "New Australians." The majority of these people coming from Continental Europe would be classed in the low-income group because of their unskilled work. Actually, this may not be a correct classification because these people are industrious and by working overtime and by multiple employment their income by Australian standards would place them in the middle-income group. Sardine consumption other than by the "New Australians" would be by all income groups and influenced by religious beliefs.

Table 3 - Average Wholesale Prices of Imported Canned Sardines (Double Layer, 3¾ oz., Olive Oil) in Melbourne, 1953-56

Currency Unit	April-June 1956	Jan.-Mar. 1956	1955	1954	1953
	(Per Dozen Cans)				
In shillings (s.) and pence (d.)	16s.8½d.	15s.8½d.	15s.2½d.	14s.7¾d.	15s.7¾d.
In US$	1.87	1.76	1.70	1.64	1.75

Australia's canned sardine imports have climbed steadily from 420,000 pounds (valued at AŁ88,000 or US$197,000) in 1952/53 to 4.7 million pounds (valued at AŁ835,000 or US$1,870,000) in 1953/54, and to a record high of 5.7 million pounds (valued at AŁ1,062,000 or US$2,378,000) in 1954/55 (table 4). The majority of sardine imports are from Norway--84 percent in 1953/54 and 71 percent in 1954/55. It is estimated that imports for 1955/56 were at a slightly reduced level because of import restrictions. The import level for 1956/57 has been reduced a further 25 percent by import restrictions, effective July 1, 1956. Effective July 1, 1956, the import quota is 75 percent of 1954/55 imports and the budget is entirely for the non-dollar areas. Canned sardine imports fall into Category A for import license purposes.

Table 4 - Australia's Canned Sardine Imports 1953/54-1954/55

Country of Origin	Quantity		Value			
	1954/55	1953/54	1954/55		1953/54	
	1,000 Lbs.	1,000 Lbs.	AŁ1,000	US$1,000	AŁ1,000	US$1,000
United Kingdom . .	359	357	81	181	67	150
Other British Countries	99	-	13	29	-	-
New Zealand . . .	-	14	-	-	6	14
Morocco	97	32	15	33	6	13
Denmark	236	-	31	70	-	-
Norway	4,084	3,927	795	1,780	713	1,598
Sweden	37	-	6	15	-	-
Germany	274	-	38	84	-	-
Portugal	471	161	74	166	23	51
South Africa . . .	-	90	-	-	6	13
Other	60	89	9	20	14	31
Total . . .	5,717	4,670	1,062	2,378	835	1,870

The import duty on canned sardines is 1d.(0.933 U.S. cents) a pound for British preference countries, 2d.(1.87 U.S. cents) a pound for most-favored countries, and 3d.(2.8 U.S. cents) a pound for other countries, principally Japan.

Because of Australia's present balance of payments difficulties and limited dollar earnings, it is extremely doubtful if they would favor or permit sardine imports from the dollar area. Australia prefers to utilize dollars for the purchase of raw materials, plant, and machine goods from the dollar countries.

The Australian Government is not involved in the purchase of sardines, but it does control imports by a quota and import license system.

The importer who obtains a license imports the sardines. The importer sells to a wholesaler, who, in turn, sells to the retail trade. In some cases the importer would also be the wholesaler.

Note: Values converted at the rate of AŁ1 equals US$2.24.

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CULTURED PEARL FARM: The first step toward the establishment of a joint Japanese, Australian, and United States cultured pearl farm occurred on June 20 when a Japanese pearling lugger arrived at Broome, Western Australia. The lugger carried 15 Japanese specialists who are to begin the culture of pearls in a four-square-mile area in Brecknock Harbor, between Augustus Island and the mainland some 200 miles north of Broome.

The Nippon Pearl Company of Tokyo made an agreement with an Australian company, Pearls, Pty. Ltd., whereby the former is to supply specialists and about half the funds required and the latter is to be responsible for all arrangements in Australia.

The arrangements were approved by the Commonwealth and the State Governments, and the Australian company (in which Male and Co., Broome pearlers, Brown and Dureau Ltd., Melbourne importers and exporters, and the Otto Gerdau Co., New York, are participants) received a three-year license for the pearl farm area. It was reported that some 35,000 immature oysters would be planted in the first year and that the bulk of the artificial pearls produced would be marketed in the United States, a July 27 dispatch from the United States Consulate at Perth announces.

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NEW DEPARTMENT OF AGRICULTURE, FISHERIES, AND WHALING ESTABLISHED: In the reorganization of Australia's Federal Ministry in January 1956, the Department of Commerce and Agriculture was abolished and its commerce functions became the responsibility of a new Department of Trade; and agriculture, fisheries, and whaling were given the full-time attention of a new Department of Primary Industry.

Some of the views on fisheries of the new Minister of Primary Industry as published in the (Australian) Fisheries Newsletter of March 1956 follow:

". . .Our agricultural and pastoral production are much greater in volume and value than our fishery production. This does not mean that fisheries, the second branch of food production, are to be regarded as of little importance.

"In fact, fishing is already an important industry, with production of about 57,000 tons and earning over five million dollars a year for Australia, plus 22,350 tons of whale products with an export value of about £1.6 millions.

"Other factors must also be taken into consideration.

"Even in a meat eating country like Australia, fish is needed for variety and for its special nutritional values, particularly in institutional and invalid diets. And of course there is the national need to increase exports to which our fisheries resources, if properly developed, could make an even greater contribution; for example, prawns, which I will be mentioning again.

"In face of this double need for increased fish production, the catch is unfortunately not keeping pace with our rapidly growing population. Normally, imports provide about half the supply of fish available for consumption in Australia. The last few years should have taught us how unwise it is to rely on imports for essential needs. The recent restriction of imports of course includes fish.

"Moreover, if we can produce more fish and thereby import less, or at least not an increasing quantity to meet the growing shortage, we shall correspondingly improve Australia's trade position.

"There is, therefore, urgent need to explore our latent fishery resources and to begin, as soon as possible, to develop them.

"I know, for example, there are trawling grounds in the Great Australian Bight which are not being worked but which could produce a big catch of fish suitable for consuming in fresh form.

"I think further work may be needed on tuna, for the slow development of this promising young fishery is not wholly due to competition in overseas markets.

"There is also work to be done for the prawn fishery, which one experienced American fishing executive thinks may become even a bigger dollar earner than crayfish.

"I have read with interest part of the discussion which proceeded in the Newsletter through most of last year on developmental problems and how they might be solved. It seems clear that some lead is required to awaken a new spirit of enterprise and enthusiasm in the fishing industry, and to make a start with the harvesting of our latent sea food resources. South Africa in its Fisheries Development Corporation found one way of doing this.

"Nobody of course would expect me already to have to come to any conclusion as to what might be the best way of going about fishery development in Australia. But I am glad to take this early opportunity of telling professional fishermen and the other sections of the fishing industry in Australia (for in any developmental plans fishermen, processors and distributors will all have to pull together) that it is my desire as Minister for Primary Industry to see fish production greatly increase, both for domestic consumption and also to provide exports to help pay for the imports which Australia must obtain for its national development. ..."

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SHRIMP EXPORTS TO UNITED STATES: Arrangements have been completed to export the bulk of raw headless shrimp produced by the Queensland Professional Fishermen's League to the United States. It is hoped that this may be the beginning of a substantial dollar export trade in shrimp to the United States, reports the

State Secretary of the League. The frozen shrimp (Banana prawn, Penaeus merguiensis) will be exported by the Fish Board, states the Australian Fisheries Newsletter of June 1956.

The price offered by the Board has been accepted by the members of the League and the Board is extending facilities to the fullest to complete shipments to the United States and "I have every reason to believe it could become a million dollar industry," says the State Secretary.

The shrimp will be exported raw headless in four grades, ranging from 15-25 count for the largest to 40 for the smallest. Fishermen will receive 1s. 9d. (19.5 U.S. cents) a pound heads on, or 2s. 9d. (30.7 U.S. cents) heads off, net at place of production. Loss of weight in heading is about 22 percent.

United States importers have indicated they will take a very large quantity if shipments are satisfactory.

Note: Values converted on basis of A£1 = US$2.232.

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WESTERN AUSTRALIA SHRIMP SURVEY: In 1952 the Western Australian State Government Fisheries Department made a vessel, the P. V. Lancelin, available for a shrimp or prawn survey from Fremantle to Broome. The survey was made during winter, the least favorable part of the year for such an investigation. Nevertheless, results were promising, the June 1956 (Australian) Fisheries Newsletter states.

The following winter (1953), the Exmouth Gulf area was investigated. This region provided a certain amount of shelter, plus suitable trawling grounds necessary for the development and testing of fishing gear. This work was resumed and extended during the winter of 1954.

Quantities of the following commercial species were obtained during the 1952 survey: tiger prawn (Penaeus esculentus), banana prawn (P. merguiensis), Western Australian king prawn (P. latisulcatus), greentail prawn (Metapenaeus mastersii). Other species were caught but none are at present of commercial importance.

For completeness a summer survey was essential and the P. V. Lancelin was made available for September to May, 1955/56. A refrigerated fishing vessel, the Jon Jim, accompanied the P. V. Lancelin for the first few weeks of the cruise, to examine the possibilities of catching and freezing shrimp commercially. Results during the early part of the cruise were encouraging. In winter the tiger prawn had predominated, but now large quantities of the banana prawn were caught, the best single catch from one hour's trawl being 400 pounds.

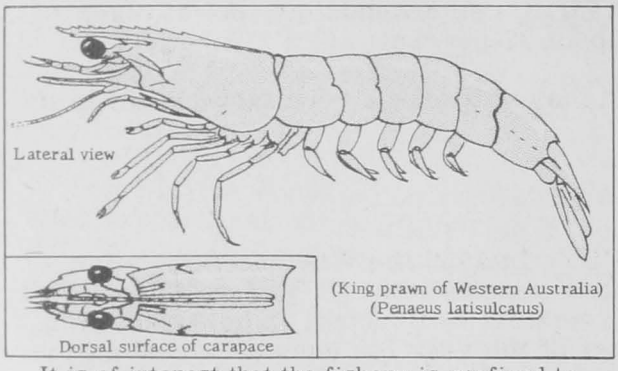
Peel Inlet: This estuarine system resembles many on the east coast of Australia. The high salinity of Peel Inlet in late summer may be responsible for the paucity of prawns there, and may confine them to the Murray River where most are caught at this time of the year.

The principal species caught is Metapenaeus mastersii (Haswell), known in eastern Australia as the greentail or greasyback, but referred to as the school prawn in Western Australia. The school prawn of eastern Australia is Metapenaeus macleavi (Haswell), and it would be better if the common names were uniform, provided school prawn is not too firmly established locally. The Peel Inlet shrimp do not have such a distinctive green tail as those from eastern Australia, but have nevertheless, a distinctly greenish tinge. (Species from Exmouth Gulf have a reddish tail, but this is a peculiarity of specimens from this region.)

There is some evidence that the western and eastern Australian M. mastersii are distinct subspecies. There are several constant anatomical differences and in addition they reach sexual maturity at different average sizes.

All the shrimp were caught in shallow water at night during January and early February and were sexually mature, and a large proportion of the females were ripe and impregnated. This indicated that spawning occurred at this region of the Murray River. The spawning of this prawn so far up an estuarine system is most unusual, especially in a region with a low salinity surface layer, into which shrimp move at night. The lower layers of

higher salinity would provide an environment more usual for spawning shrimp of this species. At Pinjarra there was a shallow sill with very low salinity water above it, and this may provide an effective barrier to the larger shrimp. However, postlarval shrimp about half an inch long have been known to penetrate up a river into nearly fresh water, and it is quite likely that the upper regions of the Murray River have a large juvenile population. Suitable equipment for collecting these small shrimp, and also for trawling the bottom of the river, was not available at the time, and further information as to the population distribution could not be obtained.



(King prawn of Western Australia)
(Penaeus latisulcatus)

It is of interest that the fishery is confined to the hours of darkness. In the Brisbane River, Queensland, this species is most often caught with small trawls during daylight. Some trawling at dusk and night is also done, usually in the upper reaches of the river. It would be of interest to use a beam trawl (no more than eight feet across) in the Murray River during daylight.

It is thought most unlikely that the present methods of fishing could appreciably deplete the shrimp population of the Murray River. Trawling by several dozen small craft has been carried out in the Brisbane River, Queensland, for years without any reduction of abundance. As the shrimp are sexually mature at capture, and as it is presumed they do not survive a season's spawning, it is obvious there has been no reduction in average size due to overfishing.

Large annual fluctuations are common in most shrimp fisheries. The peculiar hydrographical nature of Peel Inlet and its rivers is likely to cause even greater population fluctuations here than elsewhere. The larger shrimp have moved far up the system by the time winter flooding occurs and are likely to be subject to a greater mortality. During winter in these latitudes growth and activity are almost suspended. In the Brisbane River a large number of near-mature shrimp survive winter, as well as small juveniles, so that there is a spring spawning which provides a late summer abundance. The smaller sizes reach maturity during summer and a constant population of large shrimp is maintained. At Peel Inlet, however, it is alleged that full-size shrimp are not obtained until well into summer. If this is correct, it is likely that a population of only small juvenile shrimp survives winter and provides the late summer catches. A prolonged winter with flooding could have a marked effect on such a population.

Exmouth Gulf: The species caught here are the tiger prawn, Penaeus esculentus (Haswell), the banana prawn, P. merguiensis (de Man), and to a much lesser extent the king prawn, P. latisulcatus (Kishinouye) and the brown or endeavour prawn, Metapenaeus endeavouri (Schmitt). A few specimens of M. mastersii also appear sporadically. Two Trachypenaeus species and a Metapenaeopsis species are also common at night, but are too small to be of commercial interest. The tiger and banana prawns are sexually mature and hence, for the reason stated above, it is pointless to search for larger size shrimp. Male tiger prawn are sexually mature at an average length of 145 mm. (5.7 inches, and females at an average of 155 mm. (6.1 inches). Banana prawn are sexually mature at a slightly larger size than the tiger prawn (about $\frac{1}{4}$ in. longer for both sexes).

Numerous trawls with the small frame trawl were made in shallow water and in Beadon Creek, Onslow, and Wapet Creek, Exmouth Gulf. Salinity of water samples from these regions was very high, and probably explains the paucity of postlarval stages, as the marine fauna was a restricted one. While it is possible that the juvenile stages are to be found uniformly scattered over the large areas of shallow water found in the Gulf, previous experience suggests that this is unlikely. The younger stages seem generally to prefer sheltered water with plenty of algal cover. As the salinity of all the numerous inlets of the Gulf is likely to be high, it is quite probable that the bulk of the juvenile stages may be found outside. In eastern Australia several of the commercial species seem to work down a salinity gradient as growth proceeds.

The Ashburton River, whose mouth is adjacent to Exmouth Gulf, is reputed to have an unusually large stream discharge compared with other northwestern rivers. It is common local knowledge that small and medium size shrimp can be caught in this river fairly readily. Unfortunately it was not possible to examine this river and adjacent waters, but it is possible that a large population of juvenile shrimp is present in this river. As these approach sexual maturity, they would make their way down into the Gulf where spawning occurs. The high salinities would effectively bar the succeeding postlarval stages from moving to the southern part of the Gulf, and they would eventually move up the salinity gradient into the Ashburton River.

Unlike Peel Inlet, Exmouth Gulf should provide an extremely stable fishery. The average annual rainfall of the region is between 10 and 15 inches, and prolonged flooding of any of the "nursery-grounds" is most unlikely. However, as it is a spawning or prespawning population that would be fished, sudden short-term fluctuations are to be expected. These fluctuations seem a characteristic of shrimp fisheries, e.g. shrimp which have been abundant in an area for a few weeks suddenly disappear and are found in another nearby locality differing slightly from the previous one, and so on. These difficulties can be resolved only by local knowledge which must be found empirically. This would best be achieved by fishing vessels (preferably three or more) attempting to fish the area.

Present indications are that the tiger prawn will be the most regularly caught species, with the banana prawn comprising larger actual catches but extending over a shorter season. Both these shrimp, especially the latter, are excellent commercial species from all viewpoints.

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"WHITE" SPINY LOBSTER SEEN AS MOULTED ADOLESCENT: During the late spring, for approximately three weeks, there exists on the Western Australian coast an intensive fishery for a particular type of spiny lobster or crayfish, commonly called "white" crayfish. These are pale in color, readily distinguished in color only at the beginning of the "run" from the red spiny lobster (Panulirus longipes) caught in the deeper waters later in the season.

The "whites" are usually caught on a sand bottom and a pot set accidentally on reef bottom yields only red spiny lobster.

During the period in which "white" spiny lobsters are caught, the red spiny lobsters are in berry, i.e., they have spawned and have the bright orange eggs adhering to the pleopods of the abdomen. From visual observation, the ovaries of "whites" are not mature and mating has not taken place, i.e., the females have not acquired sperm packets.

During the "white" spiny lobster season (approximately November 20 to the end of December), the catch of "whites" along the coast is of the order of 2,000,000 pounds live weight. This quantity represents approximately one-fifth of the total production of all spiny lobster throughout the nine months' open season in Western Australia. The catch of "whites," therefore, in the eyes of the fishermen, is most important from the financial aspect.

From data collected over a period of years, white spiny lobsters can be said to be newly moulted animals, lacking the red pigment found in all size groups of the "red" spiny lobster.

The absence of small "whites" below $2\frac{1}{2}$ inches and above $3\frac{1}{2}$ inches suggests that the "whites" are a phase in the "red" cycle, and first occur when the spiny lobsters are approaching maturity. This could therefore be termed an adolescent phase. From tagging returns, the "whites" move offshore at a fairly steady rate after the commencement of the "run." The "run" of "whites" commences when the "whites" crawl into the pots. This does not necessarily indicate their immediate "arrival" from another area. They possibly migrate onshore sometime before they are caught. In any case they do not feed, since baited pots set before the "run" of "whites" yield nothing.

The non-attractiveness of the bait at this time can be explained by the fact that just prior to, and for approximately ten days after, moulting, food is not sought. When the "whites" do "run," however, they are caught in large numbers, the catches per pot increasing from a mere 1 or 2 to 30 or 40 overnight. The actual date of the commencement of the catch of "whites" varies from area to area and from year to year. There is nevertheless only about a fortnight's variation in its onset each year.

A possible picture of events could include the migration of adolescent pale-colored spiny lobsters to relatively shallow sandy areas where moulting takes place. This is followed by heightened feeding activity and a movement offshore with a possible tendency for the spiny lobsters to deepen in color. The numbers of the "whites" caught decrease until, in the words of the fishermen, "they disappear and the 'white' season has ended."

The fact that individual "whites" can be caught again the following "white" season suggests that this "white" phase is not restricted to only one period in the life of a spiny lobster, but that two "white" phases can occur at approximately the same time of the year in at least two successive years.

It has also been shown that an undersize "white" crayfish can grow to 3.0 inches in carapace length and take on the red coloration normally found in spiny lobsters at other times of the year, points out the (Australian) Fisheries Newsletter of June 1956.

Austria

CANNED SARDINE MARKET: Austria has no domestic production of sardines and sardinelike fish, such as true sardines, small herring, pilchards, and sprats (brisling), points out a June 29 dispatch from the United States Embassy at Vienna.

Of the canned sardines imported in Austria, the true sardines packed in olive oil are most popular among consumers. While smaller quantities of sprats (brisling) were imported in the past, particularly from Belgium, none are being imported now since they are not popular with Austrian consumers. Best estimate on Austria's consumption of canned sardines in 1955 was approximately 3,400 metric tons.

Sardines are quite popular with Austrian consumers, although meat is preferred to fish in general. For some years the trade has been trying to educate the general public to the excellence and good food value of fish in general, but no visible progress has been made. Sardines are not used for main courses as in some countries, but principally for snacks and sandwiches. Hors d'oeuvres served in restaurants, which also include sardines, command relatively high prices.

About 90 percent of the consumers prefer the $3\frac{1}{4}$-5 oz. flat cans. A few 1-lb. and 1-kilogram (2.2 lbs.) cans are purchased by restaurants, snack bars, and delicatessen stores. About 50 percent of the sardines consumed are packed in olive oil, and the others are packed in vegetable oil (20 percent), fish oil (15 percent) and tomato sauce (15 percent). The percentage of sardines consumed by the high, middle, and low income groups is estimated at 10, 40, and 50 percent, respectively. Retail market prices for the $3\frac{1}{4}$-5 oz. cans: olive oil pack from 17-20 U. S. cents a can, vegetable oil pack 11.5-19 cents, tomato sauce pack 12 cents, and fish oil pack 16 cents; 1-lb. rectangular olive oil pack 58 cents; 2-oz. olive oil pack 13 cents.

Obstacles to the import of canned sardines and sardinelike fish from the United States, according to trade sources, are:

1. Portuguese sardines, packed in olive oil, are most popular with Austrian consumers. As far as other packing mediums, such as vegetable oils and tomato sauce, are concerned, European flavors are preferred.

2. Prices of American canned sardines and sardinelike fish are comparatively high.

3. While sea freight charges on imports from the United States raise prices considerably, European continental exporters have relatively lower freight charges on exports to Austria.

4. Since sardines are rather expensive and not used for main courses, Austrian consumers prefer small cans.

Although imports from the dollar area of canned fish are liberalized, imports are handicapped by the reasons given above.

It is noteworthy that Portugal, although not a member of GATT, has a special agreement with Austria where Portuguese canned sardines are subject to an Austrian 15-percent ad valorem duty. This preferential rate does not apply, however, to other fish products imported from Portugal, such as anchovies, tuna, and mackerel.

Canned sardines are imported by commercial agents or importers. They in turn distribute the commodity to wholesalers, retail chains and retailers. The Austrian Government does not purchase sardines.

Austrian foreign trade statistics do not show canned sardines and sardinelike fish separately; they are included under canned fish and canned crustaceans.

In 1955 Austria imported a total of 5,499 metric tons of canned fish and canned crustaceans, valued at US$2,597,000. According to the best trade estimates about 60 percent of this amount was sardines and sardinelike fish, about 5 to 10 percent crustaceans, and the balance other canned fish (table 1).

Table 1 - Austria's Imports of Canned Fish and Crustaceans, 1955

Country of Origin	Quantity	Value		Estimated Percentage Composition of Imports
	Metric Tons	Million (S)	US$1,000	%
West Germany . .	2,160	22.9	879	40% small herring; balance other fish products (mainly herring fillets).
Yugoslav	822	11.8	453	50% true sardines; balance tuna and anchovies.
Denmark	598	6.7	258	80% small herring; balance mackerel, cod livers, and crustaceans.
Portugal	1,650	22.1	851	95% true sardines; balance tuna and mackerel.
French Morocco .	98	1.3	51	100% true sardines.
Other Countries1/	171	2.7	105	-
Total . . .	5,499	67.5	2,597	-

1/ Small quantities of canned sardines and sardinelike fish are also being imported from France, Norway, and Sweden.

Portugal furnishes Austrian importers with cans of the so-called "Club $\frac{1}{4}$" format, which are 25 and 30 millimeters high. One seldom sees in Austria the type can which Portugal ships to the United States, e.g. "usual $\frac{1}{4}$" cans, 22 millimeters high.

Trade sources attribute the low level of Moroccan sardine imports to political conditions in that area but expect that imports from that country will gradually increase. Sardines from French Morocco are good quality and cheaper than Portuguese brands, although the latter are better in quality.

Sardines imported from Portugal, French Morocco, and Yugoslavia are packed either in olive oil, vegetable oil (peanut oil), or other substances. Canned sardines and sardinelike fish imported from Denmark and Germany are principally packed in tomato sauce and soy bean oil.

Trade sources are of the opinion that fish packed in cottonseed oil would not find a market in this country as the taste of this oil would not appeal to Austrian consumers.

Note: Values converted to US$ equivalent at the rate of 1 schilling equals US$0.03846.

Belgian Congo

CANNED SARDINE MARKET: There is no domestic production of canned sardines in the Belgian Congo. Of the 1,862 metric tons (valued at US$760,675) of canned sardines imported in 1955, 125 tons were imported from the United States. Ninety percent of the consumers, practically all Europeans in the high income group, prefer the 3¼-5 oz. can of sardines packed in olive oil. About 9 percent buy the 8-oz. tall cans, and the balance 8-oz. ovals and 1-lb. ovals. The olive-oil pack is almost universally preferred. The retail market price for the 3¼-5 oz. can of canned sardines in olive oil ranges from 16-21 U.S. cents a can, points out an August 6 dispatch from the United States Embassy at Leopoldville. The 8-oz. tall packed in olive oil retails for 32 cents a can. Canned sardines in tomato sauce retail in 8-oz. ovals at 34 cents a can and in 1-lb. ovals at 39 cents a can.

The Portuguese sardine industry is well established in the Belgian Congo and its products are known and liked by Europeans. The Africans are not sardine consumers, since they are able to obtain local dried fish much more cheaply. Only if United States sardines were much cheaper than the present prices, including cost of transport, would there be an opportunity for exports. Sardines are too expensive for the bulk of the African population and must compete in European tastes with European tuna, as well as the large quantities of fresh and frozen fish brought in from the neighboring colony of Angola.

A large proportion of the food importers are Portuguese, both as retailers and as intermediaries in the native and rural trade, and it is only natural that their business contracts would be with suppliers of Portuguese sardines, although French sardines are seen in the "luxury" food stores.

Burma

CANNED SARDINE MARKET: There is no production of canned sardines in Burma, an August 2 dispatch from the United States Embassy at Rangoon points out.

Of the canned sardines sold in Burma, 55 percent are packed in 1-lb. oval cans, 25 percent in 8-oz. ovals, 10 percent in 8-oz. rectangulars, 5 percent in 8-oz. talls and 5 percent in 1-lb. talls.

About 80 percent of the sardines consumed are packed in tomato sauce, 5 percent in olive oil, 5 percent in vegetable oil, 5 percent in brine, and 5 percent natural.

Burma's Retail Prices for Canned Sardines

Size of Can	Type of Pack	Price Per Can	
		Kyat	U. S. Cents
3¼ to 5 oz.	Tomato sauce	0.90	19
3¼ to 5 oz.	Brine	1.25	26
8 oz. tall	Olive oil	2.25	47
8 oz. tall	Vegetable oil	2.50	53
8 oz. tall	Brine	1.50	32
8 oz. oval	Tomato sauce	1.50	32
8 oz. oval	Brine	1.50	32
8 oz. rectangular	Olive oil	2.25	47
1-lb. oval	Tomato sauce	1.90	40
1-lb. oval	Brine	2.25	47
1-lb. tall	Brine	2.25	47
15 oz. (Japanese, price controlled)	Tomato sauce	1.90	40
7½ oz. (Japanese, price controlled)	Tomato sauce	1.50	32

Note: Values converted at the rate of one kyat equals 21 U. S. cents.

The percentage of sardines consumed by the high, middle, and low income groups is estimated at 10, 70, and 20 percent, respectively.

The retail market price for the 1-lb. oval canned sardine packed in tomato sauce is about 40 cents a can, and the 8-oz. oval 32 cents (see table).

The Burmese Government conserves its United States dollars and other American-account funds by restricting imports to essential commodities not economically obtainable from soft-currency areas. Canned sardines are, therefore, purchased principally from sources in Japan, Portugal, the United Kingdom, and Denmark. The Bulletin of Import Trade lists canned fish importations without specifying types.

Domestic distribution is ordinarily effected through Burmese import firms. Importers then wholesale the imports to retail outlets without promotion by either.

Imports of Japanese origin are purchased by the Civil Supplies Management Board for distribution to registered cooperatives for sale at fixed prices.

In all probability, transportation difficulties (including cost) and less westernized tastes reduce consumption greatly outside the city. In Rangoon, probably only occidentals and westernized orientals eat many sardines, to judge from the class of retail outlets which handle them.

The population of Burma is comprised of many different ethnic and religious groups, almost all of whom satisfy a large portion of their protein requirements with fish, which is an acceptable food. The local fish industry cannot supply enough fresh fish, and there are no processing facilities. Consistently, one of the largest imports from Japan has been fish and fish preparations, and this category forms a respectable proportion of the total imports.

Canada

AUREOMYCIN USE ON FISH ACCEPTED BY AUTHORITIES: The use of aureomycin within specific quantitative limits has been found acceptable by the Canadian Department of National Health and Welfare. The necessary amendments to the regulations to permit this use will be recommended to the Minister by the Food and Drug Directorate, reports the August 10 issue of the Fisheries Council of Canada Bulletin.

Canada is reported to be the first country in the world to approve the use of aureomycin on edible fish.

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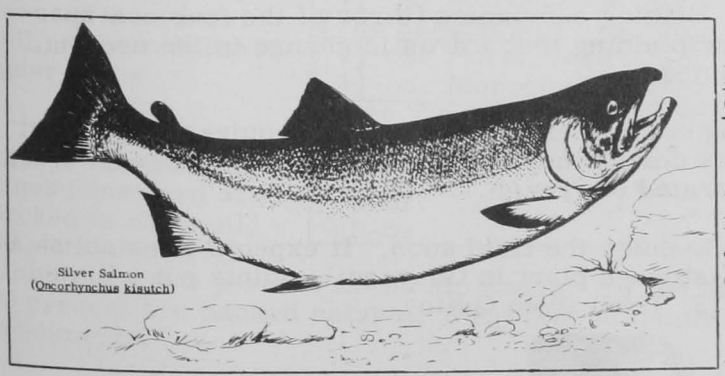
Silver Salmon
(Oncorhynchus kisutch)

FRESH SILVER SALMON EXPORTS PROHIBITED AFTER AUGUST 31: Exports of fresh silver or coho salmon are prohibited after August 31 each year as a result of changes in British Columbia fishery regulations, reports the July 1956 Trade News of the Canadian Department of Fisheries.

In past years special prohibition orders were issued from year to year. The regulation is now amended so that the order will have a continuing application.

* * * * *

PEARL ESSENCE PRODUCED ON WEST COAST: Pearl essence, for many years produced on the North American Atlantic coast, is now being produced on the Pacific from British Columbia herring scales. As fish are pumped from seiner to packing boat, they pass over baffles and screens which remove the scales without damaging the fish, about 100 hundred tons of fish produce one ton of scale, which produces one pound of essence, according to reports from Canada.

Denmark

FISH CONSUMPTION DOWN: Speaking to the annual convention of retail fish dealers, the Danish Minister of Fisheries stated that in the past 5 to 6 years the per capita consumption of fish in Denmark has declined steadily from 35.2 to 24.2 pounds annually. The main reason, he asserted, is the high price of fresh fish and, in this connection, he referred to the steady increase in the number of boats fishing for industrial fish and the resulting decline in the catch of fish for human consumption.

The trend toward more industrial fishing continues and there seems little possibility of formulating a plan to check it. Another factor in the high price of fish is the high cost of distribution, which is also connected with the Danish consumer's preference for buying fish in a live rather than frozen state, points out a United States Embassy dispatch (August 10, 1956) from Copenhagen.

* * * * *

LIFT-UP WHEELHOUSE FOR SEINERS: A novel feature has been included by a Danish designer (Knud E. Hansen) of two 65-foot-Diesel seiners being built in England. The entire wheelhouse and skipper's cabin will be constructed of aluminium and built to lift off in one piece so that the complete engine installation can be removed. This will save time and expense during repairs and maintenance. All piping and electrical leads have been designed to break on the superstructure.

Ecuador

REGULATIONS AFFECTING FISHERIES: The Ecuadoran Monetary Board was authorized to require fishing companies to convert up to their entire export earnings at the Central Bank's official rate of exchange. The companies up until now have had to convert only $100 a ton at the official rate. The balance could be kept or converted on the free market. Fishing companies (three of the four now operating are American-owned) are complaining that a drastic change in the present formula would put them out of business.

Another new regulation fishing companies are protesting requires that export taxes be paid in full on fish exports unless they are clearly "industrialized," i.e., canned rather than merely refrigerated or frozen.

A fifth fishing company plans to enter the field soon. It expects to establish a cannery, freezing plant, and cold-storage plant in Guayaquil, points out a United States Embassy dispatch (August 13, 1956) from Quito.

Egypt

CANNED SARDINE MARKET: There is no production of canned sardines in Egypt, states a July 19 dispatch from the United States Embassy at Cairo. Consumption of sardines is comparatively small in relation to the population.

True sardines are imported largely from Portugal and to a lesser extent from Morocco. Small quantities are also imported from France and Yugoslavia. Imports of true sardines during 1955 amounted to 813,275 pounds (valued at US$196,311) as compared with 1.1 million pounds (valued at US$271,118) for 1954.

Table 1 - Egypt's Canned Fish Imports by Country of Origin, 1954-55

Country of Origin	True Sardines						Other Canned Fish 1/					
	1955			1954			1955			1954		
	Quantity	Value		Quantity	Value		Quantity	Value		Quantity	Value	
	1,000 Lbs.	E£1,000	US$1,000	1,000 Lbs.	E£1,000	US$1,000	1,000 Lbs.	E£1,000	US$1,000	1,000 Lbs.	E£1,000	US$1,000
France	10	1.7	5	11	1.4	4	-	-	-	-	-	-
Japan	-	-	-	15	0.8	2	17,553	710.1	2,024	9,571	425.0	1,211
Morocco	88	7.0	20	143	9.8	28	-	-	-	-	-	-
Netherlands	-	-	-	-	-	-	230	11.0	31	449	21.6	62
Portugal	667	56.5	161	916	78.6	224	264	20.4	58	201	19.4	55
Union of South Africa	-	-	-	-	-	-	769	24.9	71	12	0.8	2
United Kingdom	-	-	-	-	-	-	34	2.5	7	54	4.5	13
United States	-	-	-	-	-	-	62	2.2	6	121	5.1	14
Western Germany	-	-	-	-	-	-	118	4.8	14	147	7.1	20
Yugoslavia	22	1.7	5	39	3.2	9	-	-	-	-	-	-
Other Countries	26	2.0	5	12	1.3	4	349	18.2	52	104	7.7	23
Total	813	68.9	196	1,136	95.1	271	19,379	794.1	2,263	10,659	491.2	1,400

1/ Classified as follows: "Other canned fish including pilchard, mackerel, anchovy, and herring, but not including salmon and tuna."

All other types of canned sardines are classified in the Egyptian official import statistics under the general heading "Other canned fish including pilchard, mackerel, anchovy, and herring, but not including salmon and tuna." Imports under this classification in 1955 amounted to 19.4 million pounds (valued at US$2.3 million) as compared with 10.7 million pounds (valued at US$1.4 million) for 1954. Of these "other canned fish" imports, by far the largest percentage is made up of pilchard and mackerel. In 1955, mainly because of the price factor, Japan supplied 91 percent of the total quantity imported under "other canned fish."

Imports of all canned fish from the United States are insignificant due mainly to Egypt's policy of preserving dollar exchange for other imports such as capital goods.

The most popular size can of true sardines purchased by 95 percent of the consumers is the 4½-oz. flat. Of the other types of canned sardines, about 80 percent of the consumers prefer the 5-oz. and 15-oz. tall sizes, 50 percent of the consumers prefer the 5-oz tall, 15 percent the 8-oz. tall, 30 percent the 15-oz. tall, and the balance other sizes.

Table 2 - Egyptian Retail Prices for Canned Sardines

Type	Price Per Can	
	Piasters	U. S. Cents
True Sardines in Olive Oil:		
4½-oz. Portuguese	3.7-4.5	10.5-12.8
4½-oz. Moroccan & other origin	3.5-4	10.0-11.4
True Sardines in Vegetable Oil:		
4½-oz. Portuguese	3.5-4.3	10.0-12.3
4½-oz. Moroccan & other origin	3.3-3.8	9.4-10.8
Other Types of Sardine (Pilchard or Mackerel), Natural Pack:		
15-oz.	5.7-6.2	16.2-17.7
8-oz.	3.8-4.2	10.8-12.0
5-oz.	2.6-2.8	7.4- 8.0

About 75 percent of the true sardines consumed are packed in olive oil, 20 percent in vegetable oil, and 5 percent in tomato sauce. Of the other types of sardines consumed, 90 percent are packed natural, 8 percent in tomato sauce, and 2 percent in other condiments.

The percentage of true sardines consumed by the high and medium income groups is estimated at 60 and 40 percent, respectively. The percentage of other

types of canned sardines consumed by the medium and low income groups is estimated at 25 and 75 percent, respectively.

Prices of canned sardines are regulated by an Egyptian Government decree which provides that the prices paid by the consumer should not be above 16 percent of the landed cost of the goods, this 16 percent profit being divided by the importer, the wholesaler, and the retailer. The retail price for the $4\frac{1}{2}$-oz. size of true sardines from Portugal ranges from 11-13 U.S. cents (see table 2).

An import license should first be obtained to make possible the importation of canned sardines or any other commodity. The import customs duty on canned sardines is 8 percent ad valorem plus a quay duty of 0.8 percent ad valorem.

The largest percentage of the business is done through importers who are at the same time distributors selling to wholesalers and sometimes to large retailers. These importers account for about 85 percent of the imports. The remaining 15 percent of the business is done through sales agents who book orders for direct shipment from the exporter to large local wholesalers.

Formosa

CANNED SARDINE MARKET: Since there is no domestic pack of canned sardines in Formosa, local consumption is satisfied entirely by imports, states a July 19 dispatch from the United States Embassy at Taipei.

Consumption of canned sardines has been decreasing considerably during the last few years due largely to reduced imports resulting from the Government import policy of discouraging importation of consumption goods and expanding the local fishing industry. The relatively high price, which includes a 60-percent import duty, also discourages consumption of this commodity which used to be consumed by the populace during the Japanese occupation of Taiwan. A further decline in consumption is anticipated in the future.

Formosa's Imports of Canned Sardines, 1954-55

Country of Origin	1955			1954		
	Quantity	Value		Quantity	Value	
	Lbs.	NT$	US$	Lbs.	NT$	US$
Japan	1,164,534	3,911,687	157,856	4,341,120	16,182,470	653,044
Canada	-	-	-	1,457	4,972	201
West Germany	-	-	-	992	11,472	463
Korea	-	-	-	5	39	2
United States	216	1,279	52	73	456	18
Origin unknown	84	1,353	55	-	-	-
Total	1,164,834	3,914,319	157,963	4,343,647	16,199,409	653,728

Eighty percent of the consumers prefer the 15-oz. oval cans, and 20 percent the 7.5-oz. ovals. All of the canned sardines consumed in Formosa are packed in tomato sauce and are used only by the high-income group. This is because of the relatively high price on the local market, compared with the price of fresh fish. Retail market prices for the 7.5-oz. ovals are 30 U.S. cents a can and for the 15-oz. ovals, 46 cents a can.

Imports of canned sardines during 1955 amounted to 1.2 million pounds (valued at US$157,963) as compared with 4.3 million pounds (valued at US$653,730) during 1954. The majority of the imports during 1955 were from Japan with a small amount from the United States (see table).

Canned sardines are marketed through importers who sell to wholesalers, who in turn sell to retailers or grocers. In Taipei the larger wholesalers are in some cases also importers. Some wholesalers or importers of canned food also maintain retail outlets. Most of the importers are concentrated in Taipei.

Note: Values converted to US$ equivalents at the official rate of NT$24.78 equals US$1.

France

FISH CANNING INDUSTRY AND CANNED SARDINE MARKET: Pack: The French fish canning industry in 1955 comprised 163 companies with 222 plants in operation. A total of 17,017 persons worked a total of 14 million hours in these plants. Salaries and wages totaled 1.9 billion francs (US$5.4 million) for 1955.

Table 1 - France's Pack and End-of-Year Stocks of Canned Sardines and Sardinelike Fish, 1952-55

Product	Pack[1/]				End-of-Year Stocks[1/]			
	1955	1954	1953	1952	1955	1954	1953	1952
	(Metric Tons)				(Metric Tons)			
Sardines	10,340	20,900	16,960	9,660	2,422	8,932	5,200	5,100
Sprats & anchovies	530	706	120	1,900				
Mackerel	14,126	12,380	10,886	10,094	2,348	2,043	2,200	1,300
Herring & pilchard	6,080	4,430	8,000	6,440	4,225	3,210	4,400	3,400
Total	31,076	38,416	35,966	28,094	8,995	14,185	11,800	9,800

1/ Semigross weight--weight including immediate container.

Canned sardines (including sprats and anchovies) comprised 19.3 percent of all fish canned in France in 1955, and 39.4 percent of the total in 1954. The corresponding percentages for both sardines and sardinelike fish were 54.4 percent in 1955 and 70.1 percent in 1954.

The pack of canned sardines and sardinelike fish in France during 1955 amounted to 31,076 metric tons as compared with 38,416 tons in 1954, according to a United States Embassy dispatch from Paris dated July 23.

Consumption: Canned sardines and sardinelike fish are consumed regularly at all income levels in France except the very lowest. The trade has estimated that only 16 percent of French families are not at this time regular consumers. Of these,

Table 2 - France's Estimated Consumption[1/] of Canned Sardines and Sardinelike Fish, 1953-55

Type	Consumption			Percentage of Consumption Supplied by Domestic Pack		
	1955	1954	1953	1955	1954	1953
	(Metric Tons)			(%)		
All sardines and sardinelike fish[2/]	52,281	51,984	56,219	59	74	64
Only sardines, sprats, and anchovies[3/]	34,233	34,970	40,133	-	-	-

1/ Semigross weight--weight including immediate container.

2/ Since this item in the French Tariff (Tariff Item No. 05-15-13) includes all types of canned fish except salmon and true sardines, it is not possible to obtain exact foreign trade data for mackerel, herring, and pilchard. Imports and exports of these have been estimated as percentages (8 percent of imports and 55 percent of exports of Item No. 05-15-13 for the years shown) suggested by representatives of the trade. Since countries outside the Franc zone account for a relatively small proportion of imports and those from North Africa do not include mackerel, herring, or pilchard, the 8-percent estimate is approximately confirmed by analysis of statistics.

3/ Production, plus imports, minus exports (Tariff Item No. 04-15-12) adjusted for change in year-end stocks.

only 8 percent are considered outside the ranks of potential consumers, for reasons of extremely low income, prejudice against conserved foods in general, or domicile in areas where freshly-caught fish is available daily at low prices.

In a market already so deeply penetrated, opportunity for horizontal expansion is therefore limited to 8 percent and any important increase in sales will depend upon vertical expansion, that is greater consumption by families which are already including canned fish fairly regularly in their diet. The trade has estimated that of 100 regular customers of canned sardine-type fish, 81 buy sardines repeatedly, 22 buy mackerel fillets repeatedly, and 20 buy herring or pilchard repeatedly, with the overlap of 23 percent being families which regularly consume two or more of the these products. In general, the market has been established by the true sardines, and sales of the other sardine-types are developing progressively among families which have acquired an appreciation of canned fish through the use of sardines. The other types are therefore more susceptible of horizontal expansion.

Table 3 - Most Popular Can Sizes of Canned Sardines and Sardinelike Fish Marketed in France

French Can Nomenclature	Weight of Contents		Estimated Percentage Marketed
	Grams	Ounces	Percent
Sardines:			
1/15 P.[1] . . .	46	$1\frac{3}{4}$	17
1/10 P. Club 20	69	$2\frac{1}{2}$	20
1/8 P.	87	3	5
1/6 P. 25 . . .	125	4	25
1/4 P. Club 30 .	130	$4\frac{1}{4}$	9
1/4 P. 30 . . .	173	6	11
1/3 P. 40 . . .	232	$8\frac{1}{4}$	9
1/2 P.	375	$12\frac{1}{4}$	2
1/1 P.	750	$24\frac{1}{2}$	1
Others	-	-	1
Mackerels:[2]			
1/6 P. 25 . .	122	$4\frac{1}{4}$	16
1/4 Club 30 . .	127	$4\frac{1}{2}$	36
1/4 P. 30 . . .	183	$6\frac{1}{2}$	24
1/2 P. (longue)	367	13	8
1/3 P. (longue)	245	$8\frac{3}{4}$	16
Pilchard-Herring:			
1/2 P. (ovale-pilchards) . .	367	13	[3]

1/ Also anchovies.
2/ Based on a market survey by the trade in 1952. Representatives of the trade affirm that conditions have not materially changed since that time.
3/ Most popular size.

The spread of consumption is fairly even between income groups. The general average of somewhat over 80 percent of families has also been found to apply fairly evenly among rural, semirural, and urban groups, and through the several seasons. The stability of the market is probably due to the custom of serving a minor hors d'oeuvre course before the main dish of each meal.

There is no evidence of a steadily increasing trend through the past three years, but representatives of the trade are confident that a gradual increase in per capita consumption can be realized, depending of course upon the prices of sardine-types relative to alternative foods. Most of the competing products for hors d'oeuvres are more expensive than canned fish.

Retail Prices: Retail prices of canned sardines (see table 8) are becoming somewhat erratic because of strong upward pressures: (1) the 1955 catch was hardly half that of 1954, which was by no means a record year; (2) adverse weather conditions during the winter 1955/56 sharply increased prices of vegetable oil and especially olive oil (the latter is from 50-150 percent more expensive); (3) a certain amount of speculation in wholesale sardines. Differences in prices for the same can size are also to be reckoned: (1) various cooking methods, (2) incidental transportation differentials.

The 1956 mackerel catch has been far below expectations. This will in all likelihood send mackerel prices upwards in the same pattern as sardine prices.

Imports: In 1954, the last year for which a detailed breakdown is readily available, imports of canned true sardines from French Union sources were (in metric tons): Morocco 10,700; Algeria 4,061; Tunisia 1,278. There were no imports from the United States. The French Union sources enjoy a preferential position in the French market and the admission of sardines from Portugal is periodically negotiated as an integral part of the bilateral trade agreement (see table 9).

Table 4 - List of Standard Can Sizes Used in France for Canned Sardines and Sardinelike Fish

French Can Nomenclature	Weight of Contents		Dimensions	Type Fish Canned
	Grams	Ounces	mm.	
1/15	46	1¾	99 x 46 x 18.5	Anchovies & Sardines
1/10 P. (Club 20)	69	2½	104 x 59.8 x 20	Sardines
1/8 P.	87	3	95 x 60 x 24	"
1/6 P. 25 . . .	115	4	105 x 76 x 24	"
1/6 P. 25 . . .	122	4¼	105 x 76 x 24	Mackerel fillets
1/6 P. ovale . .	115	4¼	105.2 x 64.7 x 30.5	Sardines
1/6 P. Club 30 .	115	4¼	104 x 59.8 x 28.5	"
1/6 P. Club 30 .	122	4½	104 x 59.8 x 28.5	Mackerel fillets
1/4 P. 30 . . .	173	6	105 x 76 x 31.5	Sardines
1/4 P. 30 . . .	183	6½	105 x 76 x 31.5	Mackerel fillets
1/3 P. 40 . . .	232	8¼	154 x 55 x 40	Sardines
1/3 P. (Sardines)	232	8¼	115.7 x 94.6 x 32	"
1/3 P.	245	8¾	115.7 x 94.6 x 32	Mackerel fillets
1/2 P. (Sardines)	348	12¼	115.7 x 94.6 x 43.5	Sardines
1/2 P.	367	13	115.7 x 94.6 x 43.5	Mackerel (whole)
1/1 P. (Sardines)	697	1 lb. 8½	115.7 x 94.6 x 81	Sardines
1/1 P.	735	1 lb. 9¾	115.7 x 94.6 x 81	Mackerel (whole)
3/1 P. (Sardines)	2,094	4 lbs. 10	205.3 x 120.4 x 104	Sardines
3/1 P.	2,205	4 lbs. 13¾	205.3 x 120.4 x 104	Mackerel (whole)
Tall Rectangular:				
1/3 P. (longue).	245	8¾	154.1 x 55.4 x 40	Mackerel (whole)
1/2 P. (longue).	367	13	196.2 x 55.4 x 45	Mackerel (whole)
Ovals:				
1/6 P. (Ovale Poisson) . . .	115	4¼	105.2 x 64.7 x 30.5	Mackerel (whole)
1/2 P. (Pilchards)	367	13	160.5 x 108 x 37.5	Pilchards (or herring)
1/1 P. (Pilchards)	735	1 lb. 10	160.5 x 108 x 65	Pilchards (or herring)

Source: Institut National de la Conserve.

The exact volume of other sardine-type (mackerel, herring, pilchard, etc.--Item 04-15-13) imports is unknown because all canned fish other than salmon and true sardines are combined in one tariff item. The trade representatives consulted have estimated that only 8 percent of the import trade in this item consists of sardine-types and states that the principal sources of these are Norway, West Germany, the Netherlands, and the United Kingdom, all OEEC countries with which France conducts bilateral trade negotiations.

Table 5 - Packing Media for Canned Sardines and Sardinelike Fish Consumed in France, 1/ 1952-55

Packing Media	Percentage of Total Consumption			
	1955	1954	1953	1952
	. . . . . (%)			
Oil	39	50	46	45
Tomato sauce	11	8	11	10
Natural	29	24	22	25
Marinade (white wine sauce).	21	18	21	20
Total	100	100	100	100

1/ Based on a market survey made by the trade in 1952. Trade representatives affirm that conditions have not materially changed since that time.

Distribution: The production of sardine-type canned fish is generally sold by the canners direct to the retail outlets through salesmen operating throughout the country. Single orders from canners are generally in lots of full cases (one case containing 100 cans).

Table 6 - Trade Estimates of Packing Media for Canned Sardines and Sardinelike Fish by Type of Fish, 1955

Packing Media	Percentage of Total Consumption			
	Sardines	Mackerel	Herring	Pilchard
	(%)			
Vegetable oil (other than soya oil)	54	8	58	-
Olive oil[1/]	42	-	-	-
Tomato sauce	4	-	-	-
White wine	-	92	42	-
Tomato and oil sauce	-	-	-	100
Total	100	100	100	100

1/ Olive oil percentage will presumably be lower for 1956 because of adverse weather conditions which brought about a sharp increase in price causing many canners to switch to vegetable oil (mostly peanut oil).

For small orders, that is, by dozens of cans of any of the categories of sardine-type canned fish, retailers are supplied by local wholesalers which number about 2,000 throughout France. Restaurants and other large users generally apply either to the canners or to local wholesalers, according to their requirements, rather than to retailers. Chain-store purchasing offices deal direct with the canners.

About 12 important food-product wholesalers in the Paris area are handling and controlling the whole of the import business in France. They are operating along lines somewhat similar to those used by the canners, sending salesmen throughout the country. Some of them keep stocks for redistribution in the main cities of France. Many have exclusive agencies for definite makes of canned food products.

Table 7 - French Consumption of Canned Sardines and Sardinelike Fish by Income Groups and by Type of Fish

Type of Fish	Income			Over-All Average
	High	Middle	Low	
	(Percentage Buying Each Type of Product in Each Group--%)			
Sardines	85	82	76	81
Mackerels	23	23	20	22
Herrings	9	10	10	10
Pilchards	5	11	14	10

Sardine-type canned fish is considered a standard item of the retail grocery business, and there are 213,000 retail grocers (212,866 in 1954) throughout France. This figure includes some 29,550 retail outlets of 102 chain-store groceries. In addition about 23,000 pork-butchers ("charcuteries") and about 6,000 fish dealers also sell sardine-type canned fish to supplement their specialties.

Government Purchase of Sardines: The French government purchases regularly sardine-type canned fish for the Armed Forces and Administration. The tonnage of canned fish purchased in 1954 (last typical year) was about 2,900 metric tons (i.e. about 7.5 percent of the 1954 sardine-type production). The armed forces which account for 80 percent of these purchases are expected to require increased amounts in the immediate future because of the North-African operations. Should the expected 1956 stock deficit affect the French Government's ability to meet its normal requirements, emergency import measures (outside normal trade) would then be resorted to; Portugal, Morocco, and Spain were mentioned by the trade as the most likely sources of supply if this should occur. As a rule, Government purchases are conducted through competitive bidding from canners who are requested each quarter-year by the several purchasing agencies to submit bids. These re-

quests for bids are publicized through official government organs, posters, and circulars to trade associations and chambers of commerce. A team of government experts controls the bidding and adjudication.

Table 8 - French Retail Prices[1/] for Canned Sardines and Sardinelike Fish

Can Size	Packing Media and Price Per Can						Contents Weight
	Vegetable Oil		Olive Oil		Tomato		
	Francs	U.S.¢	Francs	U.S.¢	Francs	U.S.¢	Ounces
Sardines:							
1/15 P.	38- 45	10.9-12.9	68- 78	19.4-22.3	n.a.	n.a.	$1\frac{3}{4}$
1/10 P. Club 20	55- 80	15.7-22.9	88- 98	25.1-28.0	n.a.	n.a.	$2\frac{1}{2}$
1/8 P.	92	26.3	138	39.4	n.a.	n.a.	$3\frac{1}{4}$
1/6 P. 25 . . .	85-100	24.3-28.6	120-195	34.3-55.7	73	20.9	4
1/6 P. Club 30	80-115	22.9-32.9	140-165	40.0-47.1	120-160	34.3-45.7	$4\frac{1}{4}$
1/4 Club 30 . .	80-110	22.9-31.4	90-185	25.7-52.9	n.a.	n.a.	$4\frac{1}{4}$
1/3 P. 40 . . .	158-220	45.1-62.9	200-225	57.1-64.3	n.a.	n.a.	$8\frac{1}{4}$
1/2 P.	-	-	390	111.4	n.a.	n.a.	$12\frac{1}{2}$

	White Wine		Contents Weight
	Francs	U.S.¢	Ounces
Mackerels:			
1/6 P. 25 . . .	60- 80	17.1-22.9	4
1/6 P. Club 30	60- 85	17.1-24.3	$4\frac{1}{2}$
1/4 Club 30 . .	65- 85	18.6-24.3	$4\frac{1}{4}$
1/4 P. 30 . . .	75- 85	21.4-24.3	$6\frac{1}{2}$
1/3 P. 40 . . .	100-115	28.6-32.9	$8\frac{3}{4}$
1/2 P. (longue)	140-155	40.0-44.3	13

	White Wine		Vegetable Oil		Contents Weight
	Francs	U.S.¢	Francs	U.S.¢	Ounces
Herring:					
1/2 P. (longue)	240	68.6	200	57.1	13
1/4 Club 30 . .	140	40.0	n.a.	n.a.	$4\frac{1}{2}$

	Tomato and Oil		Contents Weight
	Francs	U.S.¢	Ounces
Pilchards:			
1/2 P. (Pilchards)	80-110	22.9-31.4	13

1/ Represent averages for stocks of the past two seasons. n.a. - not available.

Prospects: Because of exceptionally low production of fresh sardines in 1955 a deficiency has been accumulating in the stocks of canned sardine-type fishes which is expected to be 4,500 metric tons (below normal) as of the start of the 1956 selling campaign in August. The estimated amount of deficiency applies to both

Table 9 - France's Imports of Canned True Sardines,[1/] 1952-55

Item	Unit	1955	1954	1953	1952
Value--Total	Million Francs	5,066	4,452	5,582	5,354
Value--Total	US$1,000	14,474	12,720	15,949	15,297
Quantity--Total	Metric Tons	17,333	17,817	23,672	23,259
By Country of Origin:					
French Union . . .	Metric Tons	14,489	16,039	21,102	21,381
Portugal	" "	2,832	1,778	2,570	1,865
Other Countries .	" "	12	-	-	13

1/ Tariff Item 04-15-12, sardines, sprats, and anchovies.

cannery and wholesale stocks. The trade reports that the accumulating short supply position threatens to result in price increases which might be as high as 20 percent. Partial relief from this situation can be expected through a shift from true sardines to other sardine types but the leading beneficiary of such a shift in consumption pattern is more likely to be tuna which has a more stable market because

the catch is not subject to as many hazards as sardines. The situation appears in principle to call for an increase in imports of sardine-type fishes in the coming months.

So far as the prospects of imports from the United States are concerned, if prices are competitive the principal obstacle is likely to be the over-all Government program of regulation of dollar imports. It may be assumed that as large a part as possible of the additional requirements will be obtained from French Union sources, particularly North Africa. The Western European countries also enjoy advantage over the United States as a source of supply because under the system of reciprocal agreements imports from these countries are presumed to influence favorably the level of their imports from France, whereas the licensing of additional imports from the United States only add to France's already heavy dollar trade deficit.

Note: Values converted to US$ equivalents at the rate of 350 French francs equal US$1.

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REVIEW OF THE FISHERIES, 1955: The French fish catch for 1955 (505,000 metric tons, including salt cod), was a record 15,000 tons over 1954. Deep-sea fish continues to provide the bulk, and the tonnage caught grows every year due to better conditions and improved techniques. Catches of other types of fish remained more or less stable.

Prices throughout remained stable and demand kept pace with increased quantities, because of the shortage of pilchards, herring, and tuna.

Imports of fresh fish were up by 2,500 tons in 1955, but salt and smoked imports fell. The importation of shellfish showed an important increase, due to its liberation from quota restrictions. One notable tendency was the increase in imported fillets, which jumped from 2,800 to 2,900 tons.

On the export side, salt cod continued to lead with 32,380 tons, but other types, including fresh fish, showed little or no increase, reports World Fishing of July 1956.

French West Africa

CANNED SARDINE MARKET: There is no local fishing for sardines and no sardine canning industry in French West Africa, states a June 27 dispatch from the United States Embassy at Dakar.

A good indication of the consumption of canned sardines in French West Africa is given by the imports for the first three months of 1956, which amounted to about 503 metric tons (valued at US$290,925). Morocco was the principal supplier with 485 tons, and the balance was supplied by France, Portugal, Algeria, West Germany, and Denmark. It is evident that data for such a short period do not reflect seasonal consumption trends. Consumption is probably increasing as Africans learn to enjoy European foods. In fact, lower quality, cheaper sardines (largely from Morocco) have a large sale among the Africans.

The most popular size of canned sardines is the $4\frac{1}{2}$-oz. (125 grams) can. From time to time, one can obtain other sizes but by far the majority of the imports are the $4\frac{1}{2}$-oz. size.

By far the most popular packing medium is refined peanut oil. A small percentage of the imports also are packed in tomato sauce and some of the higher-cost ones are packed in pure olive oil (from France and Portugal). There is also one brand of "luxury" sardines on the market from France packed with truffles and various spices. Packing with mustard sauce or brine is not popular locally.

A great majority of the imported sardines is consumed by the French residents (only 0.4 percent of the total population), although the few of the Africans who are beginning to acquire European tastes also buy them.

The retail market price for the $4\frac{1}{2}$-oz. can of sardines packed in tomato sauce and in peanut oil from Morocco is 17 U. S. cents a can, and in peanut oil from Portugal is 20 cents. The same size can of high-quality sardines, skinless, boneless, and packed in pure olive oil from Portugal is 37 cents, and the same type pack from France is 49 cents. The price of the "luxury" quality sardines packed in pure olive oil with truffles, spices, and other condiments from France is 66 cents.

Because of the necessity to conserve foreign exchange, import permits and foreign currency are ordinarily not allowed for imports of food items. Imports from countries outside the French Union are allowed because they are included in barter trade agreements with France. Therefore, there does not at present appear to be a market for American exports to French West Africa. When a trade agreement has been concluded between France and other countries providing for imports of sardines, a public notice is given asking all importers interested in buying from that country to notify the Government authorities as to the amounts they wish to purchase. Allocations of import permits are then made proportionately to the total quantity to be allowed.

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ALBACORE TUNA FISHING: Commercial fishing for tuna in French West Africa was started late in 1955. From November 30, 1955, to May 20, 1956, the catch was 1,700 metric tons of albacore tuna, points out a July 30 dispatch from the United States Consulate at Dakar. This tonnage compares with the results shown in France by a port such as Douarnenes (1,980 tons of tuna during the last season), but the fish from tropical waters is considered superior. At Douarnenes 96 boats fished for tuna while at Dakar only 7 boats caught the amount indicated.

German Federal Republic

INAUGURATION OF 1956 DEEP-SEA FISHING SEASON: The fourth annual postwar "Day of the Deep-Sea Fisheries" was held in Cuxhaven July 14-15 to celebrate the opening of the West German fishing season. Guests included high Federal and Land officials and foreign government representatives. A series of ceremonies and celebrations highlighted the official opening of the 1956 West German fishing season. This year the event took place in Cuxhaven, one of the four major home ports of the West German trawler fleet. The month of July is chosen for the event because trawler companies have then finished the annual over-haul of a large part of their fleet in preparation for the herring season.

The opening of this year's deep-sea fishing season began July 14, 1956, with a religious service in memory of the fishermen who lost their lives on the high seas during the past year. There followed a tour of inspection of the fishery port of Cuxhaven, the West German fisheries research vessel Anton Dohrn, and of the visiting Belgian and Dutch fisheries service vessels.

Federal Minister Dr. von Merkatz stated that the Federal Government intends to continue its active support of the West German deep-sea fisheries, mentioning in this regard the current improvement of the government's fisheries protection service. He also recommended that steps should be taken to intensify the training and education of young fishermen. At a press conference Dr. Dierks, executive manager of the Federal Association of Deep-Sea Fisheries, announced that DM450,000 (US$107,000) are being allocated to such a training center for groups of 240 prospective fishermen. The school will be located in Bremerhaven.

With regard to future developments in the fishing trade the tenor of the speeches was that government intervention should be kept to a minimum. The most important task facing the trade today, according to the speakers, is the improvement of the quality of fish products so as to develop a greater outlet for an increasing production by the German fisheries, according to the United States Consulate at Bremen (July 30, 1956).

Gold Coast

CANNED SARDINE MARKET: It is impossible to obtain statistics on sardine consumption in the Gold Coast, according to a United States Embassy dispatch of June 21, from Accra.

Sardine consumption has always been high with the African population who use them in mixtures of rice and other local crops in the preparation of native dishes. Tall and rectangular cans are seldom found in stores, the $4\frac{1}{2}$-oz. flat and 8-oz. oval are the popular sizes. The most popular medium of packing is in oil, generally vegetable, as this lends itself well to the preparation of the native dishes. It is estimated that better than 95 percent of the sardines sold in the Gold Coast are packed in oil and are consumed by the low-income group. They prefer the cheaper vegetable-oil pack, as olive oil is more expensive.

The Gold Coast is a member of the sterling area, and in accordance with the monetary policy of that area, unrestricted expenditure of dollars on goods readily available from within the sterling area or from O.E.E.C. countries is not permitted. On occasions, surplus of dollars permit sporadic importation from the United States of items such as canned fish, but this trade should not be considered as an important export outlet for American producers.

Practically all distribution is through extremely large concerns. These concerns sell in quantity to "Mammy Traders," who receive a commission from the large dealers and they in turn sell to lesser traders. These products eventually reach the most primitive areas of the country. The National Government and the Gold Coast Armed Forces occasionally ask for tenders on large quantities of foodstuffs.

Iceland

FISHERIES TRENDS, JANUARY-JULY 1956: The Icelandic North Coast herring season as of June 30, 1956, was three times that of last year, and the summer ocean perch fishing was excellent, points out a United States Embassy dispatch (August 9) from Reykjavik. The total Icelandic fish catch through July 31 this year was 321,000 metric tons in comparison with 286,000 tons for the same period in 1955. Herring accounted for most of the increase. The outlook for frozen fish shipments to the United States is reported as somewhat improved.

The larger-than-usual carryover of export stocks of fishery products existing at the end of 1955 was eliminated during the first half of 1956 since exports were 24 percent higher than in the same period a year earlier. Stocks as of June 30 were at approximately last year's level. Most of the increase in exports was in shipments of frozen fish, with the bulk of the increase destined for the Soviet Bloc. It is reported that 84 percent of Iceland's total Soviet Bloc trade was in frozen fish.

Iceland herring exports.

The only other volume market for frozen fish continued to be the United States. Exports of frozen fish to the United States has increased from 6,000 metric tons for the first half of 1955 to 7,200 tons for the first half of this year. On the other hand, frozen fish shipments to the Soviet Bloc increased from 16,000 tons to 22,300 tons during the same period. While shipments to the United States are up, sales may or may not be since frozen fish is actually sold ex-warehouse after it arrives in the United States. The increased shipments may reflect in part the tight storage situation in Iceland.

Table 1 - Iceland's Estimated Production of Frozen Fish, January-June 1956

Species	Quantity
	Metric Tons
Cod fillets	24,172
Haddock fillets	1,906
Ocean catfish fillets	902
Ocean perch fillets	5,208
Coalfish fillets	396
Ling fillets	53
Flounder fillets & whole frozen	167
Total January-June 1956	32,904
Total January-June 1955	33,175

LARGE NUMBER OF FILLETING AND SKINNING MACHINES PURCHASED: Iceland will receive delivery of 17 automatic filleting and skinning machines in 1956 and 40 in 1957. These are being purchased under a DM7-8 million (US$1.7-1.9 million) export credit obtained in Western Germany. Since each of these machines will replace 18 to 20 high-cost filleters, this acquisition should constitute a significant step towards lowering costs and improving Iceland's competitive position in frozen fish. It will also, presumably, increase total output and, unless exports improve, aggravate the frozen stocks problem.

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NEW TRAWLERS ORDERED FROM WEST GERMAN SHIPYARD: The City of Reykjavik has contracted with a West German shipyard in Bremerhaven to build, for delivery early in 1958, Iceland's largest trawler. The new 800-ton vessel will carry a crew of 48 men and cost close to US$774,908 (IKr. 12.6 million). A similar contract was signed in the spring of 1956 by the town of Neskaupsstadur. The two new trawlers will replace two that were wrecked in 1955. The additions will bring the trawler fleet up to 46 vessels, states a July 6 United States Embassy dispatch from Reykjavik.

The Bremerhaven shipyard was selected over the shipyards of several other countries because of favorable terms and quicker delivery.

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NORTH COAST HERRING SEASON: The previously booming North Coast herring season blew away on July 25 in a blast of Arctic wind that lasted ten days and deposited snow on Iceland's northern passes. As a result the herring overnight deserted the surface and the Icelandic hopes for its return en masse are waning.

Whereas the catch in the single week ending July 21 was about 30,000 metric tons, that for the following week was 11,000, and that for the week ending August 4 only 1,000. The weather improved, but the catches did not and increasing numbers of boats were reportedly giving up and departing for the South Coast.

Icelandic North Coast Herring Catch Through August 4, 1956, with Comparisons				
	1956		1955	
	Barrels	Metric Tons	Barrels	Metric Tons
To reduction plants	244,894	33,061	22,087	2,982
For salting	257,003	34,695	155,773	21,029
For freezing	9,394	939	8,017	802
Total	511,291	68,695	185,877	24,813

An additional contract for 50,000 barrels of salted North Coast herring has been signed with the Soviet Union and accordingly salting operations (for such herring as is now being caught) have been resumed. The final total of North Coast contracts stands as follows: U.S.S.R. 150,000 barrels; Sweden 60,000-70,000 barrels; and Finland 75,000 barrels. Other sales will be so small as to be almost negligible.

The South Coast herring season began and first catches were reportedly good. Contracts in hand total 60,000 barrels, or 25,000 less than last year. This results from the fact that 25,000 barrels of the Russian South Coast contract was, as the contract authorized, filled with North Coast herring. At present the orders stand: 50,000 barrels for the U.S.S.R., and 10,000 barrels for Poland.

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REVIEW OF THE FISHERIES, 1955: The total Icelandic fish catch of 1955 was 409,000 metric tons, 5.5 percent above 1954. Apart from herring, the total fish catch was greater than in any previous year. The increase was due mainly to the ocean perch catch by the trawlers which rose about 21.2 percent as compared with 1954. At the same time the motor fishing boats increased their total catch by 6.3 percent as compared with 1954. Despite the fact that the herring season of 1955 in North Iceland gave very poor results, the herring catch proved to be 10.4 percent above the 1954 catch when the herring season was a total failure. The herring fisheries off the south and west coast of Iceland gave fairly good results and lasted longer than in many a previous year.

Principal changes in fish processing: the salt-fish production rose by nearly 24 percent and the production of stockfish by about 12.5 percent, but the production of frozen fish dropped by 5 percent.

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WINTER FISHING SEASON, 1956: The catch during the first two months of 1956 was considerably below the same period of 1955, and slightly lower than in 1954. The total catch was 23.9 percent below the first two months of 1954, the trawlers doing considerably worse than the motor fishing boats. The reduced trawler catch, however, was due to the fact that the season did not begin until January 24. In February the trawler catch was well above February 1954.

The trawlers the early part of 1956 had by and large had a poor season, both on account of unfavorable weather conditions and poor catches. The situation did improve about the middle of April, however.

The delay in the start of the season was due to the fact that the operators of the trawlers declared that they were not in a position to operate their vessels be-

cause of rising operational costs. Accordingly they sought a new agreement with the Government for a more favorable working basis for their vessels. As no agreement was forthcoming at the end of 1955, there was a stoppage which lasted until January 24. The new agreement, reached on January 21, provided for special measures in support of the fisheries, says the January-April issue of Fjarmalatidindi.

India

DRIED SHRIMP INDUSTRY FACING CRISIS: The century-old shrimp industry of Kerala (Travancore-Cochin and Malabar) is facing a crisis as a result of the Government of Burma's complete ban on imports of dried prawns from outside Burma except from the mainland of China, effective July 3, 1956.

For over 80 years Burma has been the chief customer of Kerala's shrimp, consuming about 90 percent of Kerala's annual production of about 10,000 metric tons. But in recent years, owing to the shifting of Burma's import policy from time to time, placing shrimp on the open general license list at one time and on the restricted license list at another, the fortunes of the Kerala shrimp industry have been fluctuating. A Burmese Purchasing Mission visited India in February 1956 and the orders placed by the Mission included dried prawns worth Rs. 24 lakhs (US$504,000). This order reportedly helped the clearance of accumulated stocks of dried prawns in Kerala.

The President of the Travancore-Cochin Prawn Curers' Cooperative Marketing Society[1/], a prominent society engaged in the trade, in a recent statement issued to the press, has brought out the serious situation in the trade at present. He stated that with Burma's latest order totally banning all imports of dried prawns except from China, with the season for the catch of shrimp now in full swing on the west coast and with a contract entered into by Burma with the Society expiring on July 31, 1956, the shrimp industry was facing a crisis.

The Society President clarified a misunderstanding in certain quarters that the trade in shrimp could easily be directed to the United States, which had started to buy large quantities of Indian shrimp. He explained that America was taking large-size frozen and raw shrimp, while the Burmese market's demand was for ordinary dried small shrimp. He added that shipments of shrimp to America were started only last year and lack of cold storage and other facilities had hindered development in that direction.

The Madras State Fisheries Marketing Officer explained that shrimp shipped to Burma belong to a particular species, very small compared to the large shrimp exported to the United States and that it was naturally impossible for that particular variety to grow bigger in size to suit the latter trade.

1/ The Travancore-Cochin Prawn Curers' Cooperative Marketing Society has a membership of 300 with a share capital of Rs.30,000 (US$6,300). One-third of the total exports of prawn in 1954/55 season was done through the society. The society pays 75 percent of the market rate to the producers and curers at the very initial stage, payment being completed after sales.

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FIRST FREEZER VESSEL TO HANDLE SHRIMP: The first quick-freezing vessel to operate along the west coast of India has arrived in Bombay from the United States, points out the July 1956 World Fishing. This 115-ton vessel, the M/V Judith, has a quick-freezing capacity of 4 tons a day and additional cold-storage facilities for approximately 70 tons of fish. It has been commissioned by an Indo-American venture.

The vessel will be completely manned by Indian personnel, and will move from port to port along the coast, collecting fish and freezing it on the spot. The main catch will be shrimp. In many cases she will deliver her cargo directly to ocean-going vessels destined for foreign ports, but some will be unloaded at cold-storage plants on shore operated by the company.

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NEW FISH FREEZING PLANT PROPOSED: The installation of a quick-freezing plant for preserving fish near Quilon, Travancore-Cochin, India, was announced recently by the Director of the Indo-Norwegian Fisheries project at Neendakara. He estimated the total cost of the freezing plant and the ice factory now under construction at Rs.500,000 (US$105,000). The ice factory with a capacity of 25 tons of ice a day is expected to store 300 to 400 tons of fish at a time.

A fishery expert of the Norwegian Foundation, who had been away on a three-week visit to the United States for exploring the market for Indian west coast shrimp, was returning to Quilon, reports a United States consular dispatch (August 2) from Madras.

Japan

CANNED SALMON PACK AND SALES PLAN FOR 1956: According to a preliminary estimate by the Japanese fishing industry, approximately 2 million cases of canned salmon are expected to be packed by the industry this year. Floating canneries or mothership operations are expected to pack 1,620,000 actual cases; shore canneries are expected to pack from coastal salmon 250,000 cases and from high-seas salmon 150,000 cases; a grand total of 2,020,000 cases.

The carryover from the previous year's pack amounts to some 100,000 cases, making a total available for sale of approximately 2,120,000 cases of which 1,700,000 are expected to be exported and 400,000 cases to be sold on the domestic market. Members of the industry indicate that the outlook for placing the entire amount available is good both on the export and domestic markets. It is estimated that approximately 500,000 cases will be sold in the United States and the same amount in the United Kingdom and 700,000 cases to all other countries, reports an August 24 United States Embassy dispatch from Tokyo.

Type	August 1956	Average 1955
	(Per Case of 48-1-lb. Cans)	
Chum .	$16.75	$14.00
Pink . .	18.00	16.50
Silver .	24.00	24.00
Red . .	31.00	30.00

This year's pack had been estimated at 3 million cases before the Russian restrictions were placed on fishing in the North Pacific and Okhotsk Seas. Last year's pack amounted to 1,780,000 cases. Comparative f.o.b. prices for 1956 and 1955 for canned salmon are found in the table.

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Fishing Area	Catcher Boats	Motherships
Okhotsk	59	2
East of Kamchatka.	447	14
South of 48° N. . .	509	-

NORTH PACIFIC HIGH SEAS SALMON FISHING DEVELOPMENTS: The number of Japanese motherships and catcher boats reported to have received valid fishing licenses from the Russians to fish in the Russian restricted area is as shown in the above table.

The total salmon catch in the unrestricted area of the Aleutians and Bering Sea, according to unofficial sources, amounted to 25 million fish as of July 20. Official figures on the catch have not been released, points out an August 14 United States Embassy dispatch from Tokyo.

The total quota of 65,000 metric tons allowed in the Russian restricted area was not filled by the August 10 deadline. The Japanese Government had earlier requested an extension of the deadline in case quotas were not filled.

The Soviet Union through its Fisheries Mission in Tokyo gave a negative reply to Japanese requests for an extension of the August 10 deadline for salmon fishing in the Russian Restricted Area in the North Pacific and Okhotsk Sea and Japanese fleets were ordered to return to their home ports. Only two fleets out of a total of 16 that participated returned to port with full quotas. These two had operated in the Okhotsk Sea. The remaining 14 fleets operating in the area East of Kamchatka fell short of filling their quota for the area by four million salmon. Failure to fill the quota is attributed to the fact that the Russians delayed in granting licenses, so that there were only 27 days of fishing before the August 10 deadline.

Fishing Area	Millions of Fish
Mothership Operations:	
Okhotsk Sea	10.9
North of 48° N. latitude, east of Kamchatka (Aleutians) . .	18.0
Shore-based Fishing Boats:	
South of 48° N. latitude in restricted area	6.5
Total Russian Restricted Area	35.4
Mothership Operations:	
Aleutian and Bering Sea . . .	25.0
Shore-based Fishing Boats:	
Coastal Waters.	6.5
South of 48° North Latitude in Unrestricted Area	9.0
Total Unrestricted Areas . .	40.5
Total Both Areas.	75.9

One fleet of one mothership and 27 catcher boats, which had operated in the Kurile Straits area, returned to port on July 30 with its limit, reported to be worth ¥410,000,000 (US$1,137,000).

The Japanese 1956 pelagic and coastal salmon catch according to unofficial sources will be approximately as shown in the above table.

The following table gives official figures of the Japanese salmon catch by North Pacific mothership-type fishing only, by species, as of July 31, 1956.

Species	1,000 Fish
Red	9,060
Chum . . .	19,140
Pink . . .	15,000
Silver . . .	3,250
King	120
Total . .	1/46,570

1/ Excludes the coastal salmon catch and the catch by land-based catch-boat operations.

The catch by mothership-type operations for 1956 was some 12 million salmon short of the mothership-type catch by 14 floats last year. While the catch is smaller than during the previous year with a larger total investment for the fishing companies and while the fleets failed to fill their quotas in the restricted area by four million salmon, the recent increase in salmon prices (up to 20 percent for salted and frozen fish and 5 percent for canned fish) may counteract the smaller catch.

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COSTS OF JOINT UNITED STATES-JAPANESE CANNED TUNA ADVERTISING STUDIED: The Japanese Fisheries Agency has hired Dentsu & Co., an international advertising firm, to study costs and other aspects of the proposed joint United States-Japanese tuna advertising campaign in the United States. The firm is compiling statistics on tuna imports, production, and consumption together with information

on the ways canned tuna is served in the United States. The Fisheries Agency reported that details of the agreement have not yet been settled but information is being gathered which will be helpful in any subsequent developments relating to the scheme, states a United States Embassy dispatch from Tokyo dated August 10, 1956.

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CANNED TUNA EXPORTS TO UNITED STATES: The Japanese Government announced that as of August 11 validations of tuna exports destined for the United States would be suspended. It is understood that the suspension is for the purpose of developing a new quantitative allocation for each exporter, which is currently under discussion between the exporters and the Government and will be based on exports since 1950.

A quota of 1.6 million standard cases will be shipped to the United States between August 1956 and July 1957 and will be divided among 44 exporters who have export records. Hitherto canned tuna exports to the United States were controlled by eight major firms and the balance to the other firms, points out an August 10, 1956, United States Embassy dispatch from Tokyo.

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MEASURES TAKEN FOR ORDERLY MARKETING OF CANNED TUNA TO UNITED STATES: The Japanese Government is taking measures to assure the orderly marketing of canned tuna to the United States. Heretofore producers who are not members of the Canned Tuna Export Association were under no direct control. The new system restricts production by nonmembers of the Association to 20,000 cases for export to the United States market out of a total production allocation of 1,620,000 standard cases for the United States market in Japanese fiscal year ending July 1957. Only canned tuna in brine will be authorized for shipment to the United States.

Slicing tuna for canning in cannery located in Hiroshima, Japan.

At the same time allocations will be made to exporting firms on the basis of each one's historical position as supplier and on the basis of ability to perform. While the number of exporters is potentially as high as 44, it is expected that many will have allocations too small to be commercially practical and their export rights will probably be sold to major exporters (permitted under the regulation). Hence the final number of exporters may not greatly exceed last year's total of 14. All sales to exporters are to be channeled through the Tokyo Tuna Sales Company subject to provisions of the Fisheries Export Promotion Law regarding prices and sales methods. Japanese believe regulations will prevent price cutting in United States market.

Canned tuna export permits were suspended until regulations are legally processed, scheduled about the end of August, states an August 25 report from the United States Embassy in Tokyo.

According to the Japan Canned Fish Exporters Association, during the year which ended July 31, 1956, a total of 1,450,000 cases of canned tuna in brine were exported to the United States and 560,000 cases of tuna in oil to Europe.

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TUNA FISHERIES RESEARCH COUNCIL ESTABLISHED: A tuna fisheries research council consisting of 25 members, all of whom are experts drawn from various sectors interested in tuna, including universities, has been organized by the Japanese Ministry of Agriculture and Forestry. The Council will study and carry out research on tuna resources, production, and sales as they relate to the Japanese economy, states a August 24 dispatch from the United States Embassy in Tokyo.

The establishment of the council grew out of a realization that an over-all clear-cut policy on tuna fishing from catch to consumption is a pressing need both for the industry and for the Japanese economy. Such a policy, the Government feels, is essential to the stable development of the industry. The Council's emphasis in its initial stages will be on matters concerning the conservation of resources and the development of new ones. The Council will also give consideration to helping the industry improve productivity, expand domestic sales, and increase the export of tuna products. The new organization should not be confused with the Tuna Export Council, which was organized by the tuna industry on a private basis and handles export matters with the United States.

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TUNA VESSELS TO FISH IN AFRICAN WATERS: The Japanese are sending fishing vessels to African waters to catch tunny, and Prof. J. L.B. Smith, the ichthyologist, of Rhodes University, Grahamstown, Union of South Africa, has suggested that African territories should combine to arrange for part of the Japanese catch to be sold in Africa. His plan is that a refrigerator ship should cruise among the Japanese fishing craft off the coast and buy fish for South Africans. Both sides might make a good bargain.

Professor Smith holds that too much South African fishing is of the inshore type, and has suggested that South Africa employ a group of Japanese to pass on their highly developed skills and knowledge to the home industry, announces the July 1956 World Fishing.

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FISHERY PRODUCTS LEAD IN FOOD PRODUCTS EXPORTED TO UNITED STATES IN 1955: Fishery products were among the leading food products exported to the United States by Japan in 1955. According to the Japanese Ministry of International Trade and Industry, food products exported from Japan in 1955 had a value of US$93.1 million. Of this total there were exported to the United States products valued at US$37.6 million, almost 40 percent of the dollar value of the total Japanese food exports. The importance of the United States as an outlet for frozen and canned tuna is brought out in the table.

Japan's Food Exports to the United States Compared with Total Food Exports in 1955

Commodity	Total Japanese Exports		Exports to United States	
	Qty.	Value	Qty.	Value
	Metric Tons	1,000 US$	Metric Tons	1,000 US$
Frozen tuna	64,951	19,860	55,027	17,548
Dried cuttlefish	10,325	2,924	13	11
Canned salmon or trout	12,704	11,671	4,057	3,047
Canned tuna	12,502	11,040	9,439	8,871
Canned crab	4,155	7,965	2,095	4,464
Fresh mandarin orange	10,082	1,854	-	-
Canned " "	40,284	14,666	4,730	1,701
Dried mushroom	980	2,229	91	326
Tea	14,494	9,750	1,464	1,060
Glutamin soda (Adjinomoto flavor)	3,798	9,580	245	553
Wheat flour	16,031	1,517	-	-
Total	190,306	93,056	77,161	37,581

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MARINE FISHING FLEET: As of December 31, 1955, a total of 385,722 powered and nonpowered vessels were engaged in the marine fisheries of Japan, according to the May 1956 Monthly Statistics Report of Japanese Fisheries.

Table 1 - Number of Powered and Nonpowered Vessels Engaged in the Japanese Fisheries by Type of Fisheries, December 31, 1955

Type of Fisheries	Grand Totals		Nonpowered		Powered		
	No. of Vessels	Gross Tonnage	No. of Vessels	Gross Tonnage	No. of Vessels	Gross Tonnage	Horse-power
Grand total	385,722	1,314,721.69	243,457	247,436.98	142,265	1,067,284.71	2,833,689
Tidal inland waters	3,530	3,458.58	2,765	2,390.59	765	1,067.99	3,841
Shellfish and aquatic plants	67,175	51,269.89	57,843	33,042.91	9,332	18,226.98	55,069
Fixed-net	16,228	55,240.42	12,191	40,005.65	4,037	15,234.77	47,160
Pole-and-line	101,498	138,874.88	63,048	43,880.68	38,450	94,994.20	341,912
Long-line	23,027	64,670.25	6,151	5,103.56	16,876	59,566.69	187,438
Gill-net	24,344	116,294.09	13,464	15,987.92	10,880	100,306.17	213,661
Purse-seine (netting vessel)	5,180	70,408.76	2,392	11,179.20	2,788	59,229.56	199,060
Auxiliary purse-seine vessel	8,225	53,081.60	2,747	8,409.32	5,478	44,672.28	146,565
Square-net	8,494	33,847.20	4,316	7,657.01	4,178	26,190.19	84,939
Smaller trawler	19,879	116,750.21	-	-	19,879	116,750.21	368,179
Medium trawler west of 130° E.	810	63,283.84	-	-	810	63,283.84	164,595
Otter trawler	51	19,492.10	-	-	51	19,492.10	31,910
Miscellaneous drag-net	27,495	61,168.30	19,704	34,615.39	7,791	26,552.91	95,476
Tuna and skipjack	1,825	176,243.47	-	-	1,825	176,243.47	397,415
Whaling	117	69,623.16	-	-	117	69,623.16	125,723
Government vessels	469	18,763.03	87	145.91	382	18,617.12	44,998
Fish carriers	5,970	125,234.65	1,093	1,647,56	4,877	123,587.09	210,694
Miscellaneous fishery	65,789	73,501.86	52,277	40,128.58	13,512	33,373.28	113,954
Sport fishing vessel	5,616	3,515.40	5,379	3,242.70	237	272.70	1,100

A total of 142,265 powered vessels were engaged in the marine fisheries, of which 115,640 were under 5 gross tons and only 296 were over 299 gross tons.

Table 2 - Number of Powered Vessels Engaged in the Japanese Marine Fisheries by Gross Tonnage and Type of Fisheries, December 31, 1955

Type of Fisheries	Grand Total		Under 5 Tons		5-19 Tons		20-99 Tons		100-199 Tons		Over 200 Tons	
	No. of Vessels	Gross Tonnage	No. of Vessels	Gross Tonnage	No. of Vessels	Gross Tonnage	No. of Vessels	Gross Tonnage	No. of Vessels	Gross Tonnage	No. of Vessels	Gross Tonnage
Grand Total	142,265	1,067,284.71	115,640	208,805.77	19,190	209,550.73	6,665	327,889.32	474	70,304.19	296	250,734.70
Tidal inland waters	765	1,067.99	762	1,044.83	3	23.16	-	-	-	-	-	-
Shellfish & aquatic plants	9,332	18,226.98	9,231	15,724.09	74	502.03	26	1,303.42	-	-	1	697.44
Fixed-net	4,037	15,234.77	3,150	6,851.21	884	8,273.42	3	110.14	-	-	-	-
Pole-and-line	38,450	94,994.20	35,295	49,108.07	2,768	30,307.49	385	15,330.01	2	248.63	-	-
Long-line	16,876	59,566.69	14,369	25,764.40	2,230	23,015.38	277	10,786.91	-	-	-	-
Gill-net	10,880	100,306.17	7,931	16,049.72	2,462	25,758.95	480	23,024.04	1	105.41	6	35,368.05
Purse-seine (netting vessel)	2,788	59,229.56	691	1,946.29	1,054	14,605.28	1,035	41,368.05	7	1,105.51	1	204.43
Auxiliary purse-seine vessels	5,478	44,672.28	3,174	8,439.24	1,946	23,459.43	358	12,773.61	-	-	-	-
Square-net	4,178	26,190.19	3,255	7,167.12	613	5,598.80	310	13,424.27	-	-	-	-
Smaller trawler	19,879	116,750.21	16,039	34,821.08	2,424	23,729.08	1,416	58,200.05	-	-	-	-
Medium trawler west of 130° E.	810	63,283.84	-	-	-	-	791	61,004.03	19	2,279.81	-	-
Otter trawler	51	19,432.10	-	-	-	-	-	-	-	-	51	19,492.10
Miscellaneous drag-net	7,791	26,552.91	6,724	15,222.81	1,063	11,229.91	4	100.19	-	-	-	-
Tuna and skipjack	1,825	176,243.47	70	151.79	334	4,440.78	868	58,603.53	415	62,257.52	138	50,789.85
Whaling	117	69,623.16	6	25.48	38	541.25	19	600.26	2	252.42	52	68,203.75
Government vessels	382	18,617.12	157	350.38	84	1,016.48	102	4,838.41	15	2,249.39	24	10,162.46
Fish carriers	4,877	123,537.09	2,107	5,854.78	2,233	26,922.15	501	23,188.04	13	1,805.50	23	65,816.62
Miscellaneous fishery	13,512	33,373.28	12,442	20,011.78	980	10,127.14	90	3,234.36	-	-	-	-
Sport fishing vessel	237	272.70	237	272.70	-	-	-	-	-	-	-	-

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NUMBER AND TYPE OF OPERATORS IN THE MARINE FISHERIES: The second Japanese fisheries census after the World War II was made in January 1954, and its results were made public recently, according to the June 1956 Monthly Statistics Report of Japanese Fisheries. Some aspects of the operating structure of Japanese fisheries as revealed by the census are shown in table 1.

Table 1 - Number of Operators Engaged in the Japanese Marine Fisheries, 1953

	Total	Non-Powered Vessels	Powered Vessels by Gross Tonnage									Fixed Nets		Beach Seines	Shallow-Seas Aqui-culture
			Under 1	1-3	3-5	5-10	10-20	20-30	30-100	100-200	200 Up	Large Type	Small Type		
	(Number)														
Grand Total	251,747	116,205	14,055	48,179	8,108	6,815	4,802	1,364	2,810	641	253	2,166	8,418	4,288	83,603
Individuals	236,015	113,777	13,848	46,327	6,905	5,117	3,541	882	1,549	267	95	1,113	6,784	2,669	33,141
Fishermen's Cooperatives	552	92	2	23	12	45	37	17	57	13	2	90	59	37	66
Fishermen's Production Associations	246	6	1	2	1	7	28	25	72	8	2	60	22	4	8
Joint operators	13,869	2,322	202	1,822	1,182	1,622	1,130	387	778	165	31	833	1,538	1,572	285
Companies	960	2	1	1	5	22	51	51	318	180	154	69	14	6	86
Governments, schools, & Laboratories	105	6	1	4	3	2	15	2	36	8	9	1	1	-	17

The fishing industry in Japan is operated by three types of management: (1) individuals, (2) companies, and (3) joint operators including cooperatives.

Marine fisheries industry in Japan is operated by 251,747 persons in all, of which 236,015 or 93.8 percent belong to the first type (i.e. individuals), while only 15,732 or 6.2 percent to the second and third types (i.e. companies, and joint operators including cooperatives.

The ex-vessel value of the annual production by the 251,747 fisheries operators for 1953 was 134.0 billion yen (US$372.2 million), of which 128.4 billion yen (US$356.7 million) was through general marine fisheries; and 5.6 billion yen (US$15.5 million) through shallow-seas aquiculture.

Table 2 - Japanese Fisheries Data, 1953

	Totals	Percentage for Each Type of Operator				
		Individuals	Coops. & Ass'ns	Joint Operators	Companies	Total
	No.	(Percent)				
Fisheries operators	251,747	93.8	0.3	5.5	0.4	100.0
Persons engaged in fisheries	1,162,875	69.5	3.8	20.8	5.6	100.0
Powered vessels	110,974	89.0	0.9	6.6	3.4	100.0
Gross tonnage of powered vessels	775,121 tons	51.3	1.8	11.3	34.8	100.0
Ex-vessel value of catches	¥134 billion	50.6	3.1	19.2	26.8	100.0

With regard to the earnings by operators, 50.6 percent of the total value went to individuals and 49.4 percent (26.8 percent of this was received by companies which make up only 0.4 percent of the number of operators) to other types of operators.

JAPANESE GOVERNMENT

Republic of Korea

FISHERY FIRM BUYS TRAWLERS IMPORTED BY UNKRA: Ten 77-ton motor fishing trawlers ordered for Korea by the United Nations Korean Reconstruction Agency have been purchased by a new Korean fishery concern which made the successful bid of 280,000,000 hwan (US$560,000) for the vessels.

Trawlers originally purchased by UNKRA to aid the Korean fishing industry have now been purchased by a new Korean fishery firm.

Built in Hong Kong and brought to Korea by UNKRA at a cost of some US$610,000, the trawlers were provided as part of an over-all program undertaken by the Agency to re-establish the country's war-damaged fishing industry.

After their completion the trawlers sailed under the United Nations flag--the first vessels ever to do so--from the shipyard in Hong Kong to their anchorage at Pusan. Ownership was then formally transferred to the Korean Government by the UNKRA Agent General. Now, following their purchase, the trawlers have been transferred from the Korean Office of Supply to the Korean fishery concern.

Designed and built by a shipyard of Hong Kong in accordance with plans approved by the Korean Government, the ships have an over-all length of 75 feet 7 inches, and are equipped with British-manufactured 2-cycle, 180-horsepower marine Diesel engines.

They carry a crew of 12 to 15 and were designed to be especially suitable for fishing in Far Eastern waters.

Liberia

IMPORT DUTIES ON FISHERY PRODUCTS LOWERED: Liberia has lowered its import duties on certain fishery products, reports the United States Embassy at Monrovia. The fishery tariff items affected, the new specific rates, and the old duties (shown in parentheses) were:

Smoked or dried fish packed in airtight containers, 4 cents a pound (6 cents).

Fish or fish products packed in airtight containers, 4 cents a pound (6 cents).

Luxembourg

CANNED SARDINE MARKET: Imports are the only source of canned sardines in Luxembourg, states a July 20 dispatch from the United States Embassy at Luxembourg.

Imports of canned sardines into Luxembourg are recorded in a single account together with imports into Belgium, Luxembourg's partner in the Belgian-Luxembourg Economic Union (BLEU). Luxembourg's canned sardine imports are estimated to be one-thirtieth of total BLEU imports. BLEU's imports of sardines in 1955 amounted to US$2.7 million of which Luxembourg's share would amount to US$90,000. Of total BLEU imports during 1955, 73 percent came from Portugal, 14.6 percent from Japan, 11.9 percent from United States, and 0.5 percent from the Netherlands. In addition, a negligible percentage of the sardines consumed in Luxembourg were supplied by the small Belgian industry. (Goods brought in from Belgium are not regarded as imports and no figures on them are available.)

Sardines sold in Luxembourg in flat cans are in three sizes: 4.4-oz.; 8.8-oz.; and 17.6-oz. Pilchards are also sold in an 8.8-oz. oval can. An estimated 80 percent of local consumption is packed in 4.4-oz. flat cans. The remaining 20 percent is divided more or less equally among the other three sizes. Seventy percent of the canned sardines consumed in Luxembourg are packed in olive oil; the remaining 30 percent in tomato sauce. Canned sardines are popular among low income groups.

Retail prices of canned sardines in the 4.4-oz. flat can range from 22-36 U.S. cents a can; 8.8-oz. can, 44 cents; 17.6-oz. can, 70-76 cents; and the 8.8-oz. oval can, 35 cents.

Imports to Luxembourg would ordinarily be through a Belgian importer with an agency responsibility for both Belgium and Luxembourg, who would in turn supply a subagent in Luxembourg. Consequently, any efforts to increase United States imports would have to be made through Belgian importers.

There are almost no direct imports of canned sardines from producing countries, principally because of the small population of the Grand Duchy which amounts to only about 309,000. Imports enter BLEU through Belgium. The Luxembourg wholesaler obtains his supplies through the Belgian importer or wholesaler and then distributes to the various retailers. In the Luxembourg food supply field, there are about 30 wholesalers of any importance and some 2,000 retailers.

Malaya

DEVELOPMENT OF SEA FISHERIES UNDER WAY: About 40 Japanese fishermen, employed by a Singapore firm, will train Malayan youths in Japanese methods of fishing, according to a report from the United States Agricultural Service dated July 23. The report states that initially 70 candidates will undergo a two-year course under the expert Japanese fishermen whom they are expected to replace eventually. In the first year the trainees will be taught the theoretical part of the fishing industry and spend the second year doing practical work at sea. The Singapore fisheries Department is believed to have approved the plan.

The plan of the Chinese firm backing the venture includes, in addition to the development of the deep-sea fisheries, a plan for a shore plant to can and salt fish for local consumption as well as for export.

Other developments include the motorization of fishing craft with outboard motors. The addition of motors has increased the catch of the motor-equipped boats by 60 percent, according to the Chief Fishery Officer of Singapore. The Singapore government has assisted the fishermen in mechanizing their craft with the help of a loan fund of US$133,000. At the present there are 550 outboard motors as compared to 100 before establishment of the loan fund. The Fishery Department maintains a mobile unit, consisting of two mechanics, to help service and teach the fishermen how to repair their outboard motors.

Two exploratory vessels are maintained by the Singapore Government and British Government to locate and survey new fishing grounds in Southeast Asia. A 500-ton yacht is being used for a trawling survey and also as a floating laboratory in the South China sea. The other craft of 100 tons is carrying out a fishing survey in Malayan waters. New fishing grounds if and when discovered are made known to the fishermen.

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JAPANESE FIRM STUDIES POSSIBILITIES OF PEARL CULTURE: A Japanese fisheries company was reported in the Singapore press as undertaking a study of pearl culture in Malayan waters. A representative of the Japanese firm said there were promising locations for pearl culture near Penang and Singapore and that some of the species of clams used in pearl culture in Japanese waters are also found in Malaya. It is expected that an application for a license to operate would be made soon by the Japanese firm, states a dispatch (July 30) from the United States Consul General in Singapore.

Mexico

JAPANESE-MEXICAN FISHING COMPANY PLANS HAVE NOT MATERIALIZED YET: Plans for 70 Japanese drag-net fishermen to go to Mexico initially, with a possible increase in numbers up to 3,600 in the future, were reported in Commercial Fisheries Review, August 1956, p. 66.

The Sub-Director of the Mexican Department of Fisheries has informed the United States Embassy in Mexico that for the last year or so a Mexican company has been negotiating with Japan for the purchase of five fishing boats and for the entry of a limited number of expert Japanese fishermen to instruct Mexicans in the intricacies of drag-net fishing, points out a July 10 report from the Embassy. However, the Embassy representative was reminded that Mexico's labor laws are very strict and that in no case would 3,600 Japanese fishermen be permitted to enter Mexico.

The Mexican Department of Immigration has specified the conditions for the entry into Mexico of a small number of Japanese fishermen, but the Mexican company involved in this transaction has not complied with these requirements, according to the Sub-Director. He declared that every so often the company presents a new variation in the proposal to introduce Japanese fishing boats and fishermen into Mexico but that at the moment the plan appears to be dead.

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WEST COAST SHRIMP SEASON OFF TO GOOD START: The Mexican West Coast shrimp season opened on a note of high optimism. After a closed season that lasted three months, the first shrimp boats put out to sea in May 1956 and returned with glowing reports of the quantity and size of the catch this season. If the season holds up to present anticipations, the shrimp fishery should finish a year every bit as favorable as last year's. "One more good year and all outstanding debts will be paid off," is the thought on every shrimp operator's mind at the time of this report, points out a July 3 United States consular dispatch from Nogales.

New Caledonia

TUNA RESOURCES BEING STUDIED: A special study of tuna in the waters around New Caledonia is being made by the fishing section of the Institute Francais of Oceanic. Attention is being given to the possibilities of tuna fishing as a commercial enterprise, states the Pacific Island Monthly of June 1956.

The scientific fishery vessel Orsom III of the Institute is busily at work in New Hebrides, with two scientists aboard. The men are studying ocean currents, species of fish, and plankton.

For the next international research campaign (which was scheduled betweeen August 10 and the end of September), the Orsom III was allotted the area including the New Hebrides and Fiji, and extending to the Marshalls.

New Zealand

CANNED SARDINE MARKET: Since there is no production of sardines in New Zealand, imports are the only source of canned sardines. New Zealand's imports of canned sardines amounted to 1.0 million pounds valued at NZ£166,200 (US$460,400) in 1955 as compared with 636,000 pounds valued at NZ£107,500 (US$298,100) in 1954. It is apparent that the consumption of canned sardines in New Zealand has increased during the last two years after a decline from the 1950 level of 2.1 million pounds. This increase may be attributed in part to the relaxation of import controls on canned salmon and other canned fish in 1954. The bulk of the canned sardines was imported from Norway and Canada (see table 1), according to the United States Embassy at Wellington (August 10, 1956).

Table 1 - New Zealand's Imports of Canned Sardines by Country of Origin, First Quarter 1956, and Years 1950, 1954, and 1955

Country of Origin	First Quarter 1956			1955			1954			1950		
	Quantity	Value		Quantity	Value		Quantity	Value		Quantity	Value	
	1,000 Lbs.	NZ£1,000	US$1,000	1,000 Lbs.	NZ£1,000	US$1,000	1,000 Lbs.	NZ£1,000	US$1,000	1,000 Lbs	NZ£1,000	US$1,000
United Kingdom	9.8	1.7	4.8	37.6	6.2	17.3	30.5	4.9	13.6	128.3	21.0	58.3
South Africa	-	-	-	-	-	-	-	-	-	0.6	1/	0.1
Gibralter	-	-	-	0.1	1/	0.1	-	-	-	-	-	-
Canada	89.5	8.5	23.5	323.8	35.0	96.9	45.4	5.0	13.9	0.1	1/	0.1
Denmark	1.1	0.1	0.3	3.5	0.5	1.5	-	-	-	14.7	2.4	6.7
Eire	-	-	-	-	-	-	-	-	-	10.6	1.7	4.7
France	-	-	-	0.6	0.2	0.4	-	-	-	-	-	-
Germany, Western	37.9	3.9	10.7	12.9	1.3	3.7	-	-	-	-	-	-
Netherlands	0.7	0.1	0.3	1.3	0.3	0.7	-	-	-	-	-	-
Norway	96.5	18.8	52.0	622.3	121.0	335.2	549.9	96.0	266.0	1,899.8	306.1	847.8
Portugal	-	-	-	11.0	1.3	3.7	0.4	1/	0.1	-	-	-
Sweden	-	-	-	-	-	-	9.9	1.6	4.5	0.8	0.1	0.2
China	-	-	-	-	-	-	-	-	-	1/	1/	1/
Morocco, French	-	-	-	-	-	-	-	-	-	1.5	0.3	0.8
United States	2.7	0.2	0.5	2.2	0.4	0.9	-	-	-	-	-	-
Total	238.2	33.3	92.1	1,015.3	166.2	460.4	636.1	107.5	298.1	2,056.4	331.6	918.7

1/ Less than 50.

The most popular size of imported canned sardines is the $3\frac{1}{4}$ oz. to $3\frac{3}{4}$ oz. flat, although there is quite a large demand for the $1\frac{1}{2}$-oz. size. The 8-oz. rectangular size is also available in small quantities and this is imported from California. There is little demand for the larger sizes.

Table 2 - New Zealand's Retail Prices for Canned Sardines

Size	Type	Price Per Can	
		NZ Shillings/Pence	U.S. Cents
$3\frac{1}{4}$-oz.	Sardine oil	9d	10.5
$3\frac{3}{4}$-oz.	Olive, soya, or sardine oil	1s.2d.-1s.10d.	16.0-25.5
$1\frac{1}{2}$-oz.	Olive or sardine oil	8.5d.-9d.	10.0-10.5
8-oz. rectangular	Natural or sardine oil	2s.10d.	39.5

The most popular packing media are in order of preference: olive oil, natural sardine oil, and soya oil.

Table 3 - Comparative New Zealand Import Tariffs on Canned Sardines, Canned Spiny Lobsters, Herring, Oysters, Pilchard, and Salmon from Various Sources

Item	Canadian	British Preferential	Most Favored Nations	General
Per lb.	$1\frac{1}{2}$d. (10.5 U.S. cents)	$1\frac{1}{2}$d. (10.5 U.S. cents)	$2\frac{1}{2}$d. (18.5 U.S. cents)	3d. (21 U.S. cents) 1/

1/ Plus a surtax of nine-fortieths of the duties otherwise payable.

While there does not appear to be any marked variation in consumption by various income groups, it is probable that the middle income group consumes a relatively higher proportion of sardines. It should be noted that New Zealand is chiefly a country of western culture and relatively high living standards.

The retail market price for $3\frac{1}{4}$-oz. canned sardines packed in sardine oil is 10.5 U.S. cents a can (see table 2).

It should be noted that all types of canned fish, including sardines, pilchards, sprats, salmon, etc. were freed from import licensing control from all sources,

including the dollar area, in 1954. Therefore, New Zealand is a market which could be developed by the United States sardine industry.

Note: Values converted to US$ equivalents at the rate of NZ£1 equals US$2.77 and 6d. equal 7 U.S. cents.

Norway

FISHERIES TRENDS, JANUARY-JUNE 1956: Fisheries End Profitable Six Months: Norwegian exports of fishery products, according to early reports from Bergen, were good for the first six months of 1956. Klippfish (29,286 metric tons) and dried fish (23,237 tons) exports considerably exceeded those for the comparable period last year. Fresh and frozen fish exports were slightly lower as was herring meal. Exports of canned fish showed an increase despite the poor brisling catch (one of the worst in decades). The price for canned brisling was US$22 a case as compared to US$16 last year.

Norwegian fishermen loading fish for market.

Favorable Outlook for Fat Herring Catch: Large-scale fishing for fat herring is now going on in the open ocean for the first time, points out a United States Embassy dispatch from Oslo (August 10). In recent years fat herring have not been found in their earlier haunts. Modern purse-seine vessels are being used. By the end of June, 565,000 hectoliters (52,545 metric tons) had already been caught, compared to 168,000 hectoliters (15,624 tons) at that time last year. The fishing takes place principally off Nord Trøndelag.

Fish Grading Rules to Be Altered: Changes and additions to fish-grading laws are being prepared. The Minister of Fisheries has announced that proposals to modify the grading legislation will be made to the Storting. The announcement followed considerable press discussion of complaints in export markets of poor quality Norwegian fish, sparked by a recent Italian rejection of one consignment of salted fish. Some of the press comment admitted some of the complaints were probably justified, and stated it was high time for more rigorous checking on quality. Others, calling attention to increased competition in customary Norwegian markets, stated that buyers are becoming more insistent on superior quality.

Frozen Fish Export Monopoly Temporarily Broken: Findus has obtained a license to export 500,000 pounds of frozen fish-fillet blocks to the United States. This freezing plant is the only one not a member of Norsk Frossenfisk A/L (Frionor), a joint sales agency which has the export monopoly conferred by the Government on sales of frozen fish to all countries except Sweden. Findus has long endeavored to enter the United States market in competition with Frionor. The granting of an export license to Findus was recommended by the export committee for frozen fish, the key body, to the Ministry of Fisheries which recommended the same to the Ministry of Commerce. The permit to export was granted on a trial basis. About 100,000 pounds will be shipped each month until the quota is exhausted, all to the west coast of the United States for use in making fish sticks.

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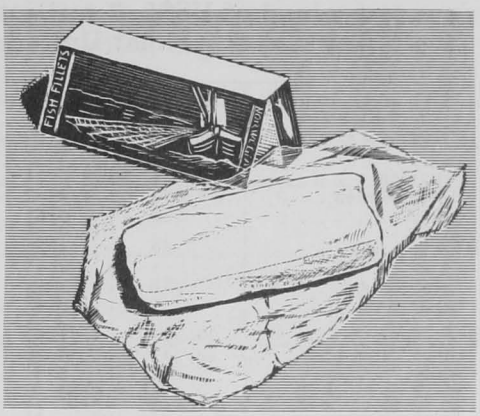
FROZEN FISH EXPORTS: Norwegian Frozen Fish (an export selling organization for most of the Norwegian fillet-packing firms), whose products are sold in the United States under one brand, exported a total of 22,000 metric tons of frozen fish fillets in the last 12 months, reports the Norwegian Information Service in the September 1956 News of Norway. Representing a 10-percent increase as compared with the previous 12-month period, the exports are equivalent to about 50,000 tons of raw fish, or nearly a normal Lofoten fishery catch. Besides the United States, these frozen fish products are now sold in 20 foreign countries, including Cyprus, Belgian Congo, South Africa, and Australia. New markets are being added, despite sharper competition and other difficulties.



One-pound package of Norwegian frozen fish fillets.

Another Norwegian packing firm, which has good sales to Sweden and Denmark, recently entered the United States market with a shipment of 25 tons of frozen fish fillets.

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WORLD'S LONGEST SALMON LADDER: In the Rana River, North Norway, the world's longest salmon ladder is nearing completion. Main feature of the ladder is a tunnel about 500 yards long blasted out of rock. Up to now the salmon have only ascended about 5 miles up the river. The tunnel will enable them to travel many miles further upstream, and greatly increase the stock of fish in the river. Total cost of the scheme is £18,000 (US$50,000), which the sponsors believe will be covered by the income from the increased salmon yield next year, states World Fishing of July 1956.

Peru

FISHERIES TRENDS, AUGUST 1956: The marketing outlook for Peruvian fishery products as of August 1956 was somewhat mixed. Although the British market, which is now taking approximately half of the output of Peruvian canneries, is fully booked at good prices for the forthcoming season, the United States market for Peruvian canned fish is somewhat in doubt.

The fish meal market was good in the first half of 1956, but prices are now weak and exports for the second half of 1956 probably will drop, an August 21 dispatch from the United States Embassy at Lima announces.

Republic of the Philippines

CANNED SARDINE MARKET: Imports of canned sardines in the Philippines indicate a steady increase in consumption since 1953, according to a dispatch (July 6) from the United States Embassy at Manila. There is no domestic sardine industry.

Philippine imports of anchovies, herring, and sardines (pilchards) amounted to 83.6 million pounds (valued at US$10.4 million) as compared with 39.6 million pounds (valued at US$5.2 million) in 1954. The United States is a leading supplier. Trade sources state that United States sardines are preferred and that consumption

Table 1 - Philippine Imports of Canned Sardines and Similar Fish, 1953-55

Type of Fish and Country of Origin	1955			1954			1953		
	Quantity	Value		Quantity	Value		Quantity	Value	
	Metric Tons	₱1,000	US$1,000	Metric Tons	₱1,000	US$1,000	Metric Tons	₱1,000	US$1,000
Anchovies:	8,047	4,691	2,346	7,891	5,112	2,556	15,389	11,623	5,812
United States . . .	7,678	4,495	2,248	7,877	5,103	2,552	15,389	11,623	5,812
Other	369	196	98	14	9	4	-	-	-
Herring:	25	25	12	29	21	10	39	23	12
United States . . .	-	-	-	1	2	1	27	15	8
Hong Kong	21	21	10	22	14	7	-	-	-
Other	4	4	2	6	5	2	12	8	4
Sardines (Pilchards):	29,912	16,107	8,054	10,072	5,345	2,673	7,465	4,175	2,087
United States . . .	18,547	10,427	5,214	1,539	985	493	2,339	1,457	728
British Africa . .	5,327	2,342	1,171	5,045	2,375	1,187	2,452	1,240	620
Japan	4,777	2,375	1,187	3,049	1,505	752	90	46	23
Netherlands . . .	8	4	2	-	-	-	2,157	1,025	512
Other	1,253	959	480	439	480	240	427	407	204
Grand Total . .	37,984	20,823	10,412	17,992	10,478	5,239	22,893	15,821	7,911

declined in 1953 and 1954 only because California shippers were unable to supply the demand because of an unexplained drop in the California sardine catch.

The most popular sizes of canned sardines purchased by 90 percent of the consumers are the 1-lb. ovals (35 percent); 5-oz. tall (30 percent); and 1-lb. tall (25 percent). Some $3\frac{1}{4}$-5 oz. flats 8-oz. talls, and 8-oz. rectangulars are also sold.

Table 2 - Philippine Retail Prices for Canned Sardines

Type	Size of Can	Price Per Can	
		₱	U.S. Cents
Olive oil . . .	$3\frac{1}{2}$-5-oz. flag	0.60	30.0
Tomato sauce	$3\frac{1}{2}$-5-oz.	0.25	12.5
" "	8-oz. tall & 8-oz. rectangular	0.30	15.0
" "	1-lb. talls	0.45	22.5
" "	1-lb. ovals	0.50	25.0
Natural . .	1-lb. talls	0.40	20.0

Seventy percent of the consumers prefer sardines packed in tomato sauce, 25 percent natural pack, and 5 percent olive-oil pack.

About 90 percent of the canned sardines are eaten by persons of the low income group and 10 percent by the middle income group.

The retail market price of the 1-lb. oval can of sardines packed in tomato sauce is 25 U. S. cents a can (see table 2).

Normal channels of distribution are through importers who either act as wholesalers or sell to wholesalers, who in turn sell to retailers. Sardines are "decontrolled" in the Philippine Central Bank's Statistical Classification of Commodities for import, meaning that dollars are freely granted for their importation.

Portugal

NUMBER OF NEW FISHING VESSELS TO OPERATE AT EACH FISHING PORT TO BE REGULATED: Because many applications have been filed for permission to construct vessels for local and offshore fishing, the Navy Ministry by Decree 40,728 of August 18, 1956, extended authority to regulate the number and type of new fishing vessels which may be operated at each fishing port. One purpose was to avoid possible overfishing, states a United States Embassy dispatch (August 23, 1956) from Lisbon.

The text of the new decree reads in translation:

"Article 1. The granting of licenses for carrying out local fishing activities with motorized vessels and offshore fishing with vessels using any system of propulsion may be regulated by Ministerial Order for vessels having a module of less than 60, upon registration filed in the names of the fishermen.

"Sole Paragraph. The provisions of this article do not apply to vessels already registered on the date of entrance into force of this decree.

"Article 2. Upon hearing the interested parties, the Ministry of the Navy may establish by ministerial order limitations, with respect to each fishing port, as to the number and type of fishing vessels, both local and offshore, which may discharge their catch at such ports."

The decree confirms reports of considerable activity in constructing small fishing vessels, chiefly motorized wooden vessels of sizes ranging up to 15 tons.

Launching of one of the new trawlers constructed in Portugal.

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FISHERIES TRENDS, MAY 1956: Sardine Fishing: Sardine catches in Portugal during May once again were highly unfavorable. Of the 825 metric tons (valued at US$191,000 ex-vessel) of sardines landed at the packing centers during the month, only 34 tons (valued at US$8,000) were purchased by the canneries. The balance was absorbed for immediate consumption because of the shortage of other foodstuffs. In comparison, the sardine landings in May 1955 amounted to 5,398 tons (valued at US$532,000). The principal sardine ports in May 1956 were V. R. Sto. Antonio, Lisbon, Matosinhos, and Setubal.

Other Fishing: Landings of fish other than sardines totaled 2,623 metric tons (valued at US$445,000 ex-vessel) and consisted principally of anchovy and chinchard and a few tons of tuna, bonito, and mackerel, the July 1956 Conservas de Peixe reports.

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CANNED FISH PACK, JANUARY-MARCH 1956: The Portuguese canned fish pack in March 1956 was very light and consisted of principally sardinelike fish. The canned fish pack for January-March amounted to 75,100 cases, the July 1956 Conservas de Peixe points out.

Canned Fish Pack, January-March, 1956

Product	Net Weight	Canner's Value
	Metric Tons	1,000 US$
In Olive Oil:		
Sardines	532	324
Sardinelike fish	802	811
Tuna	38	40
Other species (incl. shellfish)	21	15
In Brine:		
Sardinelike fish	8	3
Other species	28	6
Total	1,429	1,199

Note: Values converted to US$ equivalent on basis of 28.75 escudos equal US$1.

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CANNED FISH EXPORTS, JANUARY-MAY 1956: Total Portuguese canned fish exports in May 1956 totaled only 2,932 tons (154,000 cases), valued at US$1.7 million, as compared with 4,228 tons, valued at US$2.1 million, for the same month in 1955.

Portuguese Canned Fish Exports, January-May 1956

Species	January-May 1956	
	Metric Tons	1,000 US$
Sardines in olive oil	12,150	6,352
Sardinelike fish in olive oil	1,891	1,636
Sardines & sardinelike fish in brine	561	108
Tuna & tunalike in olive oil	387	315
Tuna & tunalike in brine	96	53
Mackerel in olive oil	563	345
Other fish	214	100
Total	15,862	8,909

For the first five months of 1956, canned fish exports amounted to 15,862 tons (834,800 cases), valued at US$8.9 million, as compared with 22,811 tons, valued at US$11.0 million, for the same period in 1955. Sardines in olive oil was the leading product exported.

In May 1956 France was the principal buyer of Portuguese canned fish, followed by Germany, the United Kingdom, and the United States.

For January-May 1956, the leading canned fish buyer was Germany with 2,747 tons (valued at US$1.4 million), followed by the United Kingdom with 1,768 tons (valued at US$0.9 million), and the United States with 1,754 tons (valued at US$1.4 million). Exports to the United States consisted of 710 tons of sardines, 910 tons of anchovies, and 8 tons of tuna.

Spain

FISHERIES TRENDS, JULY 1956: The Spanish fishing industry was very active in July 1956 due principally to heavy catches of albacore tuna landed at Vigo. Other ports in Galicia also reported good catches of albacore. The fish canneries have been operating at a high level, packing albacore for export markets, states a United States Consular dispatch from Vigo (August 8, 1956).

Fishing: The increase in landings at Vigo in July was the result of heavy catches of albacore tuna (Germo alalunga) which is known locally as "bonito." Although the albacore season started late, results have been excellent to date and have partly compensated the canneries for the lack of sardines. The average daily landings of albacore at Vigo amounted to around 330,000 pounds during the first two weeks of July. Deliveries were lower during the latter part of the month but it was anticipated that catches of commercial importance would continue for some time. La Coruna is another important fishing port and it also received heavy catches of albacore. It is reported that fishing boats from other districts of Northern Spain have unloaded their catches of albacore at Vigo and at La Coruna because higher prices were paid. Albacore brought an ex-vessel price of around US$0.15 a pound, but the price has been as high as US$0.17 a pound.

Fish Canning: The fish canneries in the Vigo area purchased 4.9 million pounds of fish at the local fish exchange in July 1956, as compared with only 98,000 pounds for the previous month and 1.7 million pounds in July 1955. The greater part of the July 1956 purchases consisted of albacore which was very abundant.

The tin-plate situation is reported unsatisfactory for the canneries. However, in view of the abundant supply of albacore at high prices, it is expected that there will be an improvement in the tin-plate situation for the canneries. It is quite pos-

sible that the canneries are now using the last of their reserve stocks of tin plate in order to take advantage of the heavy catches of albacore.

Note: Value converted at the rate of 1 peseta equals US$0.0256.

Switzerland

CANNED SARDINE MARKET: Since there is no domestic production of canned sardines in Switzerland, imports are the only source of canned sardines. Sardine imports are not shown separately in Swiss import statistics but lumped together with other canned fish and, consequently, domestic consumption can be estimated only roughly.

The bulk of imports of canned fish from Portugal probably consists of sardines, while France exports to Switzerland both sardines, tuna, mackerel, and some other fish. Imports from Spain consist of sardines and tuna, but the share of tuna is larger.

By using the source of imports as a basis of calculation, it may be estimated that total imports of sardines in 1955 amounted approximately to 1,900 metric tons as compared with 1,600 tons in 1954, points out a United States Embassy dispatch (June 25, 1956) from Bern.

Sardine consumption is stable. There is no definite trend in the sense of a change in preferences for certain brands, can sizes, etc. About 80 percent of the sardines consumed in Switzerland are with bones and skin, some 12 percent are boneless sardines with skin, and the remaining 8 percent are skinless and boneless sardines.

Seventy percent of the canned sardine imports are packed in 125-gram (4.4-oz.) cans, the height of the can being 30 millimeters; 12 percent in 105-gram ($3\frac{3}{4}$-oz.) cans, 22 millimeters high; 8 percent in 150-gram (5.3-oz.) cans, 30 millimeters high; 5 percent in 325-gram (11.5-oz.) cans, 40 millimeters high (locally called "American Club"); and 5 percent in 780-gram, (27.5-oz.) cans, 80 millimeters high and in 56-gram (2-oz.) cans, 20 millimeters high. The larger cans are normally purchased by hotels and restaurants.

All these cans are rectangular, with rounded corners. Only pilchards, mackerel, and other fish are marketed in oval cans, while salmon and tuna are often in tall round cans. Sardines are usually imported in 100-can cases. Some retailers would prefer to have sardines in 50-can cartons, which are easier to handle.

About 90 percent of all sardines consumed in Switzerland are packed in olive oil. Sardines in cottonseed or peanut oil, natural sardines, or sardines in brine, tomato, or mustard sauce are not popular in Switzerland.

Table 1 - Switzerland's Retail Prices for Canned Sardines

Size of Can		Price Per Can	
Grams	Ounces	Swiss Francs	U. S. Cents
780	27.5	3.50-4.20	81.8-98.1
325	11.5	1.90-2.20	44.4-51.4
150	5.3	1.10-1.30	25.7-30.4
125	4.4	0.65-0.95	15.2-22.2
105	3.7	0.85-1.00	20.0-23.4
56	2.0	0.45-0.65	10.5-15.2

All income groups consume sardines. Middle and high income groups consume the more expensive, often French, brands, chiefly boneless and skinless in olive oil, salt added, while low income groups consume cheaper brands, often Portugese, with skin and bones. Sardines are consumed as snacks or hors d'oeuvres and eaten during hikes and mountain-climbing tours. Sardines can be found in remote village stores and competition is keen, since retailers have a liberal supply of canned fish on the shelves.

The retail market prices for sardines packed in the 4.4-oz. can range from 15-22 U.S. cents a can and from 20-23 cents for the $3\frac{3}{4}$-oz. can (see table 1).

The price difference between boneless and skinless sardines and other sardines is illustrated in showing the retail prices for the different types packed in the popular 4.4-oz. can:

Type of Canned Sardines	Price Per Can	
	Swiss Francs	U. S. Cents
With bones and skin in olive oil	0.65-0.95	15.2-22.2
Boneless but with skin in olive oil . . .	0.85-1.00	20.0-23.4
Boneless and skinless in olive oil . . .	1.10-1.30	25.7-30.4

Sardines in $3\frac{3}{4}$-oz. cans and those in smaller cans are usually fish of superior quality, boneless and skinless, in good olive oil, salt added. Some Portugese sardines have names of United States distributors on the can, but are imported directly from Portugal. French sardines of well known makes are more expensive but their sales, despite the general prosperity prevailing in Switzerland, are limited. Sardines packed in peanut oil are normally retailed at prices slightly lower than those in olive oil.

Imports are largely conditioned by prices. There is no customs or other discrimination against United States canned fish, but United States sardines are practically unknown on the Swiss market, while other canned fish, lobsters, etc. are known and appreciated. If American sardine exporters are able to offer their products at competing prices, there is no reason why their efforts should not be successful. At present Portugese sardines happen to be cheap, while French sardines are reported to be too expensive. As a result more orders are placed now in Portugal, but the situation may change if France, or any other country, lowers its prices.

Sardines are purchased by importers and, more rarely, by wholesalers. It is rare that cooperatives or retail chain-store organizations import themselves.

Note: Values converted to US$ equivalents at the rate of 1 Swiss franc equals 23.364 U. S. cents.

Union of South Africa

CANNED SARDINE MARKET: The production of canned sardines (pilchard) in the Union of South Africa and South-West Africa varies slightly over the years, according to a July 27 dispatch from the United States Embassy at Cape Town. In 1955, 1.6 million actual cases of canned pilchard were produced, which is a fairly good average of their annual pack. The plants in 1955 used 383,131 short tons of raw fish to produce this pack.

The pack of canned sardines is restricted by a catch quota system imposed by the Union Government as follows:

South-West Africa - 250,000 short tons of raw pilchards
Union of South Africa - 250,000 short tons of raw fish, including pilchards and maasbankers but excluding true mackerel.

The consumption of locally-produced canned sardines is best analyzed by the 1955 local market sales which totaled 366,033 cases of all sizes and packs. In general, the local trend shows that consumption is on the increase. This can be noted by substantial increases in the sales of canned pilchards over the past four years, possibly in view of lower prices and more active marketing on the part of sellers.

The most popular sizes of canned sardines are: 1-lb. tall which accounts for 47.3 percent of the sales; 8-oz. tall, 26.2 percent; 1-lb. ovals, 9.3 percent; 8-oz. flat, 10.1 percent; 5-oz. tall, 5.5 percent; and 14-oz. flat round, 1.6 percent. About 72.5 percent of the sardines consumed are packed in tomato sauce, and 27.5 percent in brine.

The current retail market price for 1-lb. tall cans of sardines packed in tomato sauce range from 18-21 U.S. cents and in brine from 15-18 cents (see table 1).

Table 1 - Union of South Africa Retail Prices for Canned Sardines

Size	Price Per Can			
	Tomato Pack		Brine Pack	
	In Shillings & Pence	U.S. Cents	In Shillings & Pence	U.S. Cents
3¼ to 5 oz. flat	7d. - 9d	8-11	6d.	7- 9
8-oz. tall . . .	9d. -10d.	11-12	8d. -9d.	9-11
1-lb. tall . . .	1s. 3d. -1s. 6d.	18-21	1s. 1d. -1s. 3d.	15-18
1-lb. oval . . .	1s. 9d. -2s	25-28	-	-

The limited quantities of sardines imported can be traced almost entirely to Norway and Portugal. Strict import controls and lack of hard currency allocations for nonessential foodstuffs are mainly responsible for the virtual absence of United States sardines on the local market.

Note: Values converted to US$ equivalents at the rate of £1 equals US$2.80.

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CONTROLLED FISH MEAL PRICE INCREASED: The Union of South Africa's fish meal industry as of April 12 has been granted an increase in the controlled selling price of its product on the South African market. The price was raised from £30 (US$84) a short ton to £38 (US$106.40). This was the first price increase authorized for fish meal since the inshore fishing industry started to produce it on the West Coast 10 years ago. As expected, this increase has passed along the line from the feeds producer to the farmer. On overseas markets today the same short ton of fish meal would earn about £54 (US$151) a ton. Subtract shipping costs of say £7 (US$20) and export meal still earns more than the meal which has to be sold on the local market.

Instead of retaining the full increase, the fishing industry has been told that part of it must be passed on to the Cape West Coast fishermen in the form of a higher price for fish. The industry will have to pay at least 2s. or 3s. more for raw fish so that the £8 (US$22.40)-a-ton increase allowed on meal is really only about £5½ to £6½ (US$15.40-18.20), points out The South African Shipping News and Fishing Industry Review of May 1956.

Note: (1) See Commercial Fisheries Review, May 1956, p. 61. (2) Values converted on basis of SA£ 1 equals US$2.80.

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FISHERIES TRENDS, JULY 1956: Fishing in Union of South Africa waters, which was disappointing in June, improved considerably in July. However, not all of the catch was suitable for canning and the output of canned fish in July was less than expected.

Large quantities of fish meal and fish oil reportedly were produced by the South African fishing industry in July, states an August 7, 1956, dispatch from the United States Consulate at Cape Town.

The market for South African canned fish was strong during June and July, while demand for fish meal and fish oil was seasonally low.

Production of canned and frozen spiny lobster continued to be constant and satisfactory in view of continued excellent demand and steady prices in overseas markets.

Union of South Africa - South-West Africa

FISHING AND PROCESSING LEVY TO FINANCE PILCHARD RESEARCH: Union of South Africa and South-West Africa fishermen are taxed 2d. (2.3 U.S. cents) a metric ton and factories 4d. (4.7 U.S. cents) a ton for each ton of pilchards caught and processed, respectively, to help pay for research on this fishery. The purpose of the tax was recently explained by a member of the South-West Legislative Assembly at a large meeting of fishermen in Walvis Bay in April 1956.

It was pointed out that the vital pilchard research program is being carried out by the combined fisheries research teams of the South-West Administration and the Union of South Africa's Division of Fisheries.

The Union Government already spent US$700,000 on this research and the South-West Administration US$238,000. However, more intensive efforts were considered necessary and to cover the extra cost of three new research vessels and 16 additional scientists in the Union and South-West Africa another US$431,000 would have to be spent of which the Union would contribute US$347,000 and South-West Africa US$84,000.

The meeting was unanimous in its decision to support the tax and agreed that the factories should subtract the fishermen's tax monthly from the payments to the fishermen and then hand the money over to the Administration, states The South African Shipping News and Fishing Industry Review of May 1956.

U.S.S.R.

LARGER FISHING FLEET OPERATING NEAR FAROE ISLANDS: The Soviet Russian fleet engaged in fishing operations near the Faroe Islands has usually numbered about 125 trawlers and about 10 mother vessels but recently, it is reported, the number of trawlers has been increased to about 300. The Soviet Minister for Fisheries has stated to Norwegian newspapers that further expansion of the fleet is contemplated; a part of the 50 ultramodern trawlers which the U.S.S.R. has under construction in German shipyards will be commissioned in that trade in 1958.

Local Faroese newspapers state that the Danish authorities have recently loosened their very restrictive attitude towards admitting Russian vessels and their crews to the Islands. In general, the vessels were allowed to call at the ports only for water and in medical emergencies; the crews were not permitted to go ashore, and the vessels were under constant police surveillance. Now, it is stated, the Russians generally enjoy equal rights with the vessels and crews of other nations.

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REPORT ON FISHERY RESEARCH BY NORWEGIAN SCIENTIST: Norwegian scientist Finn Devold, who is well known for his research work on herring, served recently as a member of a Norwegian fishery delegation to the Soviet Union. His observations, as reported in the July 18, 1956, Fiskaren (Norwegian trade periodical) upon his return indicated that Russian fishery research is extensive and suc-

cessful. Devold visited the Oceanographic Research Institute in Moscow which functions as the central point for similar institutes in Vladivostok on the Pacific Ocean, Astrakan on the Caspian Sea, Suchumi on the Black Sea, Rostov on the Sea of Asov, Leningrad on the Gulf of Finland, and Murmansk on the Barents Sea. He also visited the institutes on the Black Sea, the Caspian Sea, and at Murmansk. He classed the latter as one of the world's great fish harbors.

The Murmansk institute directs cod and herring research in the Barents Sea and the Norwegian Sea. It supervises three oceanic research vessels. One vessel spends the whole year on research in the Barents Sea while the other two are occupied with herring research in the Norwegian Sea. These vessels operate in much the same manner as the Norwegian research vessels and with the same objectives. The Russians are, therefore, very much interested in cooperative work with the Norwegians.

The Murmansk institute was built in 1954 and is very modern. In some respects the research vessels are better equipped than their Norwegian counterparts. For example, they were equipped with underwater television and a bathysphere. The latter could be sunk to a depth of several hundred meters with a man inside. He could observe with his own eyes how fish acted at that depth, how trawl gear operated, etc. The vessels also had Asdic and echo-sounders but in this respect the Norwegian research vessel G. O. Sars was much better equipped.

Both the Russian and the Norwegian fishery ministers were interested in developing cooperative or coordinated research studies.

With regard to the biology of the huge herring resources, the Norwegian and the Russian experiences and knowledge were in good agreement. Of particular interest was the fact that the Russians had an indication of the strength of a year-class much earlier than the Norwegians. Because of their Barents Sea observations they could state that 1953 was a relatively good year-class while 1952, 1954, and 1955 were poor. The Norwegians have not been able to gauge the strength of a year-class until it comes in as young spawning herring at four or five years of age.

The Russians were especially interested in confining utilization of the cod and herring to the level the resources could stand. Joint control of these species is of interest to both countries but the problem is not a simple one because the economic side is important. The Russians are interested primarily in the large herring and would prefer to see the Norwegian small herring fishery curtailed. The Norwegian fishermen have a good income from this fishery and are primarily interested in having the small cod spared as much as possible. They would like to see the Russians curtail their cod fishery in the Barents Sea, especially for the younger year-classes of cod.

United Kingdom

COMMERCIAL TEST FOR AUREOMYCIN-STORED FISH: Great interest was shown in 14,000 pounds of aureomycin-stored fish, part of the catch of the Hull trawler Loch Moidart, when she arrived at that port on July 10 after a 17-day trip to the Iceland fishing grounds.

The fish was 14 days old and the verdict concerning it was just as favorable as when similarly-preserved fish from a research vessel had been shown recently alongside normally-stored fish of a similar age.

The 14-day old fish was older than the Hull average, but the purpose of the experiment was to give members of the fishing industry an indication of whether or not they could expect a reduction in the spoilage rate of older fish. Both treated and untreated fillets were available for inspection, the aureomycin-preserved fish forming part of the first big-scale commercial test, states The Fishing News (July 13), a British periodical.

Later the aureomycin-stored fish were taken by the Humber Laboratory which will send some to the Torry Research Station for further tests.

None was sold for human consumption as the British Foods and Drugs Act will not permit it yet.

In mid-June another trip of aureomycin-stored fish had been brought to Hull from the Faroese fishing grounds by the Diesel-electric research trawler Sir William Hardy and the demonstration immediately followed a similar one at Grimsby for display. Visitors subjected the fish to the closest possible scrutiny and they had an opportunity of comparing that stored in aureomycin ice with that caught at a similar time but stored in ordinary ice.

The fish on view had been stored for periods varying from 16 to 27 days and one could not help notice how relatively fresh and odorless was that which had been preserved by antibotics, points out the June 22 issue of The Fishing News.

Trade reaction was favorable. Praise came not only from the Hull fishing industry but also from Fleetwood trawler owners.

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FISHING INDUSTRY SUBSIDIES AND GRANTS CHANGED: Several schemes affecting fishing subsidies and grants were laid before Parliament by the Minister of Agriculture, Fisheries and Food and the Secretary of State for Scotland and passed.

"The White Fish Subsidy (United Kingdom) Scheme, 1956" changes the rates and conditions of payment of the whitefish subsidy, and will be in effect for 12 months from August 1 this year.

For vessels between 70 and 140 feet in length, and for seine-net vessels of any size which normally make voyages of more than 7 days, the Scheme provides for a fixed payment, varying according to the size of vessel, for each day spent at sea (including the day on which the catch is sold) up to a maximum of 300 days in the year. This replaces the present two-part subsidy comprising a flat-rate payment of 2d. per stone (16.7 U.S. cents a hundred pounds) of fish landed plus a voyage subsidy with over-riding maximum based on the length of the voyage and the proceeds of the catch.

For vessels of 70 feet in length and under, the present flat-rate subsidy of 8d. a stone (66.7 U.S. cents a hundred pounds) of fish landed, 6d. (50 U.S. cents a hundred pounds) on ungutted fish, and the conditions of payment remain unchanged.

The new rates mean increased subsidies for most near- and middle-water vessels to meet higher costs of operation. The Scheme provides that only those officers and crews whose remuneration is settled on the net earnings of the vessel, and who are therefore affected by increases in operating costs, will receive a share of the increase in the subsidy. All officers and crews, however remunerated, will continue to share in subsidies up to current levels of payment.

"The White Fish Subsidy (Aggregate Amount of Grants) Order, 1956," raises from £7.5 million to £10 million (US$21 million to US$28 million) the aggregate

amount of subsidy that may be paid under the provisions of the "White Fish and Herring Industries Act, 1953." This Order was also approved in July.

"The White Fish Industry (Grants for Fishing Vessels and Engines) (Amendment) Scheme, 1956," and "The Herring Industry (Grants for Fishing Vessels and Engines) (Amendment) Scheme, 1956," amend the Schemes made in 1955 for the payments of grants by the White Fish Authority and the Herring Industry Board towards the cost of new fishing vessels up to 140 feet in length and of new engines for existing vessels. Approved by both Houses of Parliament in July.

The last two Schemes increase the maximum amount of grant which may be paid in respect of any one vessel. This will have the effect of making available grants equivalent to the same proportion of the price of a new vessel as when grants were first introduced at a time when building costs were lower. For white fish vessels the maximum is raised from £25,000 to £30,000 (US$70,000 to US$84,000); for herring vessels, from £12,000 to £15,000 (US$33,600 to US$42,000). The White Fish Industry Scheme also exempts line-fishing vessels from the condition limiting the number of trips which a grant-aided vessel may make to distant waters. All other conditions in the 1955 Schemes remain unchanged, and the new Schemes will not affect the payment or conditions of grant in respect of any applications already approved under the present Schemes.

The schemes were debated in the House of Commons and in his speech, the Minister pointed out that there were now 50 grant-aided near- and middle-water trawlers in use, and 18 more were due to be completed this year. Another 55 had been grant-approved and would be completed on various dates from next January, reports World Fishing of August 1956.

"The White Fish Authority (General Levy) (Amendment) Regulations Confirmatory Order, 1956," confirms regulations made by the White Fish Authority, increasing as from October 1, 1956, the levy imposed by the "White Fish Authority (General Levy) Regulations, 1952" as amended by the "Amendment Regulations of 1953," from one farthing to one halfpenny for every stone (4.2 U.S. cents a hundred pounds) of white fish landed on first-hand sale.

Note: (1) Values converted to US$ equivalents at the rate of £1 equals US$2.80.
(2) Also see Commercial Fisheries Review, April 1956, p. 41.

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FISH MEAL GROWING IN IMPORTANCE: Approximately half the tonnage of fish brought into the distant-water British ports ends up in the form of white-fish meal, an extremely valuable high-protein feed used chiefly for pigs and poultry, but also for other farm stock. In the case of Hull and Grimsby, the raw material used last year totaled about 220,000 metric tons. About 75 percent of the distant-water catch is filleted and the offal (heads, tails, bones, and a part of the meat) makes up the bulk of the raw material sent to the dockside factories for conversion into fish meal by a modern dehydration process. The remaining tonnage is made up of unsold fish. The fish and the offal are all converted into fish meal within 24 hours of landing.

Total 1955 production at Hull and Grimsby amounted to 52,000 metric tons of white-fish meal, representing about 70 percent of the whole British output, The Fishing News (May 25, 1956) pointed out in an abstract of the report issued by the British Trawlers' Federation.

The farmer pays approximately £70 (US$196) a metric ton for fish meal and he has to use 10 percent fish meal in a standard ration mixture for pigs. It takes 4.3 tons of fish to make one ton of meal. Fish is sold to the fish-meal factories at a price well below the minimum auction price for fresh fish.

Hull and Grimsby fish meal is sold under one brand name and is guaranteed 66 percent protein, less than 4 percent oil, and less than 2 percent salt.

British fish-meal imports are declining with the increase in domestic production.

Manufacturers of white-fish meal at Hull and Grimsby reported that production and sales soared to a record level during the first six months of 1956 when over 26,022 tons were sold to British farmers, compared with 19,469 tons in the same period in 1955. This was an increase of 32.5 percent.

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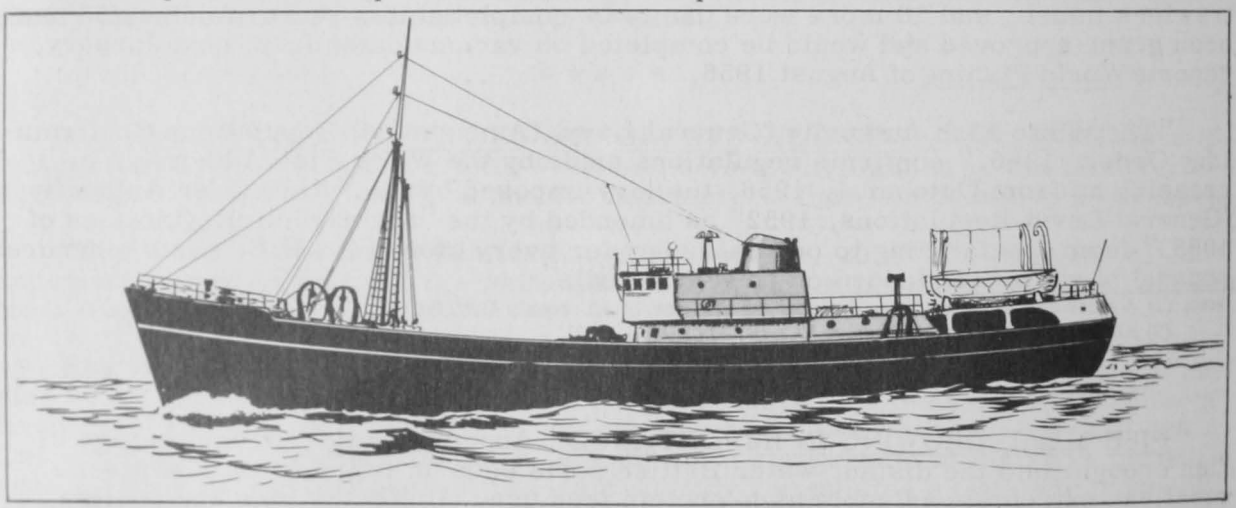
LARGE ALL-WELDED TRAWLER BUILT: The largest all-welded trawler built in the United Kingdom, the Boston Seafoam, was constructed for a British fishing company. She was commissioned in April 1956 and her trials were completed on the Humber River.

Boston Seafoam is probably the fastest ship of her class, states the April 13, 1956, issue of The Fishing News.

The vessel was built upside down. Her deck panels were first laid and the hull built upwards to the keel. Casings and superstructure were also built in this way and the ship contains 12 prefabricated units up to deck level.



The Boston Seafoam, largest all-welded trawler in the United Kingdom.

These sections were turned over ready for welding by a 12-ton electric and 7-ton steam crane and the ship has eight main welded joints.

Principal dimensions are: registered length 139 ft. 6 in., length between perpendiculars 137 ft. 6 in., moulded breadth 28 ft., moulded depth 14 ft.

The efficient hull design was confirmed by tank tests at the National Physical Laboratory, and was built in prefabricated sections according to the requirements of Lloyd's and the Ministry of transport.

A pleasing and attractive appearance has been obtained, and the vessel has a soft-nose stem, cruiser stern, and streamlined superstructure.

The 16-man crew are berthed in one eight-berth cabin and two four-berth cabins situated aft under the quarterdeck.

Three single cabins for the chief engineer, mate, and wireless officer have been placed in the deckhouse along with the messroom, galley, food store, oilskin locker, and officers' toilet.

A deckhouse at the aft end of the main deck has been arranged as a crew's washroom, bathroom, toilet and drying room.

Access to the steering gear compartment and coal bunker is by means of hatches in the deckhouse.

A spacious cabin has been provided for the skipper and this is adjacent to the wireless room. The latest navigational aids, including radar, direction finder, and echo-sounder have been istalled.

Two lifeboats are situated on the boat deck aft, and these are operated by davits port and starboard. Inflatable life rafts will also be provided at Fleetwood, the vessel's home port.

Insulated and wood sheathed, the large capacity fishroom has an area of 9,000 square feet.

An electric trawl winch will carry 1,200 fathoms of warp on each drum and the installation is driven by an electric motor situated in the fore end of the deckhouse.

The winch installation can be controlled from either deck or bridge.

The forecastle is arranged for net stowage, lamp and paint rooms, and other suitable stores are situated below.

Liver tanks are placed on both port and starboard sides below the main deck level forward of the fishroom, and the livers are discharged through drain valves in the ship's sides.

There is a tubular steel foremast on the main deck, and two steel bobbin derricks are attached to the casing, while the anchor is handled by electric windlass.

The Diesel propelling machinery is a direct-reversing engine capable of developing 910 b.h.p. at 260 r.p.m. Fresh-water cooling is incorporated.

Power for the trawl winch generator is provided by a fresh-water cooled Diesel engine developing 315 b.h.p. at 600 r.p.m. The excitor to the generator has an output of 26 kilowatts 220 volts d.c., and has been arranged to supply power to the ship's mains if required.

Additional generating capacity has been provided by a 30-kilowatt 220-volt d.c. generator driven from the intermediate shaft when steaming to and from the fishing grounds.

A further generator of 17-kilowatts output has been included in the auxiliary set along with a clutch-coupled air compressor and general service pump.

Other engineroom equipment includes shaft-driven bilge pump, electrically-driven Diesel oil transfer pump, centrifugal oil purifier, lubricating oil pump, oil pump for the hand hydraulic steering gear and a Diesel-driven air compressor set.

Hot water for domestic and accommodation heating is supplied by an oil-fired boiler.

The main fuel oil bunkers are carried in port and starboard tanks at the fore end of the engineroom. Lubricating oil tanks are arranged in the double bottom, as is the fresh-water tank under the fore end of the fishroom.

In the engineroom the main switchboard is arranged so that any one generator can operate at a time, and an independent lighting system with circuits to the aft accommodation, wheelhouse and engineroom, is operated from a 12-volt 250-amp. battery.

The Boston Seafoam has been fitted with marine radio, radar, and echometer equipment, plus an auxiliary display unit, the "Fishviewer," which enables any 5- or 10-fathoms section of the water below the ship to be examined separately on a cathode-ray tube.

A receiver with remote loudspeakers and three-way talkback arrangement is employed for broadcast entertainment and orders. Talkback facilities are provided from the engineroom and steering flat.

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RESEARCH ON HANDLING AND PRESERVING FISH: The Torry Research Station, Britain's principal facility for carrying on research on the improvement of existing ways of handling and preserving fish as a food, is located at Aberdeen, Scotland's major fishing port. This is a summary of the principal projects with which the staff is now concerned:

Bacteriological Studies in Connection with Fish Spoilage: Bacteria have been found always to be present on the skin of fish, but not all species of bacteria cause decay. The scientists are endeavoring to ascertain what kinds of bacteria are responsible for decay and how they can be controlled so that, with proper treatment, fish may be landed in edible condition even though they may have been in the iced holds of fishing vessels for a longer period than they now can be kept without deterioration. One experiment which is being tried is the addition of aureomycin and perhaps other antibiotics to water used in making ice to be carried in trawlers for icing fish, to find out whether this method will beneficially reduce the harmful skin bacteria count and thus retard deterioration.

Another facet of the study concerns inspection of fish offered for sale. At present, it is understood that inspectors must depend almost entirely upon visual inspection to determine whether landed fish are in proper condition for human consumption. Along with their studies of skin bacteria, the Torry scientists are experimenting with chemically-impregnated paper which, when laid on the skin of fish, will change color in degrees related to the presence of the types of skin bacteria the paper is treated to detect. If successful, this method will provide a scientific means of determining the state of fish thus giving better protection to theconsuming public and putting an end to controversy with fishermen whether particular lots of fish may be sold for human consumption or must be condemned for sale as fertilizer.

Quick-Freezing Apparatus Suitable for Installation in Trawlers: This study is related to the fact that even with modern fast trawlers, time necessary to go long distances to grounds where fish are abundant results in the earlier part of the catch being out of water so long as to have passed the peak of quality by the time it is landed. This study is concerned with the feasibility of installing quick-freezing apparatus in trawlers, designed not to handle all the catch but only that portion which would have to be kept on hand too long before landing. The Station has designed several experimental models of this kind which operate well under laboratory conditions. Since there is neither time nor the facilities at sea for gutting and filleting fish before freezing, the apparatus which has been designed would handle fish as they are caught

with a minimum of processing; they are merely poured into freezing panels and quick-frozen into slabs which are then to be stored in refrigerated compartments. Their studies have shown that ungutted fish, quick-frozen to a temperature of about -20° F. and kept at that temperature will retain indefinitely all the properties of freshly-caught fish. When ready to be offered for sale, the slabs would merely be thawed and the fish treated as if they were freshly-caught. The principal problem, as might be expected and which will be next to insurmountable, is that of cost.

Fish Curing: These experiments are directed toward improving the curing process by making it more effective and at the same time more rapid and less expensive. To replace the present smoking chambers which burn wood under normal conditions and which makes the smoking process a rather lengthy one, experimental laboratory models of curing chambers have been built which utilize sawdust raised electrically to a heat which causes smoke without a blaze and which is said to be a more efficient and effective use of fuel. Coupled with this system, the scientists are experimenting with a system of polarization within the chamber which attracts the smoke directly on to the fish in cure with a view to expediting the process and to getting a heavier and more uniform layer of smoke on the fish. One problem which still proves difficult is how to obtain the proper degree of dehydration in the quick smoking process.

Venezuela

FISH CANNERS WANT MARKETING MONOPOLY: The fish canners want a fish-marketing monopoly somewhat similar to that engineered for sugar. The reason is that some canners are cutting prices and those who deplore this unorthodox marketing feel that an industry marketing monopoly would control these unfair methods. The orthodox canners (price maintainers) say that there is an actual scarcity of fish due to the fish-meal plant that converts whole fish into animal feed and that the spectacle of some canners reducing prices when the warehouses are still not filled with fish in cans is contrary to all reason. Probably the explanation of this extraordinary procedure is that some canner has old stocks, points out a July 10, 1956, report from the United States Embassy at Caracas.

Of course, the canners are not unaware of the fact that the sugar monopoly received Government-supported credit to carry its sugar supplies through to marketing. The fish canners have often urged that the Government finance their unsold pack and a fish marketing monopoly would give them an excellent chance to ask for the same treatment given the sugar monopoly.

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MANUFACTURE OF FISH MEAL FROM WHOLE FISH PROHIBITED: The Venezuelan Ministry of Agriculture has announced in the press that the permit to convert whole herring into fish meal not be renewed. The Ministry stated the original permit was granted only on a trial basis and the conclusion has been reached to limit the production of fish meal to that made from fish scraps or waste, states a July 11 dispatch from the United States Embassy at Caracas.

Fish meal operations furnished a constant market for the fishermen and had some effect on stabilizing fish prices.

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TERRITORIAL WATERS, CONTINENTAL SHELF, AND FISHERIES LAW: A new law governing Venezuelan territorial waters, the continental shelf, and fisheries was published in Extraordinary Number 496 of the Official Gazette on August 17,

1956. The new law proclaims a 12-mile limit for Venezuelan territorial waters, according to an August 27 dispatch from the United States Embassy at Caracas.

In general, with respect to surface waters, the law sets up the following zones:

(1) "Territorial Sea" over which the State exercises "national sovereignty": low tide base line to 12 nautical miles (23 kilometers and 224 meters) seaward.

(2) "Contiguous Zone" subject to "maritime vigilance and police" action of the State: three nautical miles (5 kilometers and 556 meters) wide zone adjacent to and measured from the outer limits of the "territorial sea."

(3) Maritime Conservation zones subject to "authority and vigilance" of the State: unspecified maritime zones "outside of the territorial sea or the contiguous zone" the limits of which "shall be fixed" by the State.

Vietnam

CANNED SARDINE MARKET: Domestic production of canned sardines in Vietnam is carried on by only one small plant having a daily capacity of 8,000 360-gram cans (12⅓-oz.), reports a July 23 United States Embassy dispatch from Saigon. The output of this plant from the beginning of operations in January 1956 to mid-July consisted of 92,000 cans of pilchards in tomato sauce, or only about 35 metric tons (net weight). The factory has recently received additional equipment for handling cans of 122 grams (4½-oz.), which is the most popular size in that country.

The low volume of canned fish production is explained by the preference of the indiginous population for fresh fish, as well as for dried and, more recently, smoked fish.

Before 1956 consumption of canned sardines in Vietnman was satisfied entirely by imports. In the first half of this year domestic production contributed about 12 percent of the greatly reduced supply.

Consumption of sardines in Vietnam has been declining rapidly, and a further decline from the current level of consumption appears most likely. This development is due to the withdrawal of the French Army and of a large portion of the French civilian population, which had been the chief consumers of sardines. The

Vietnam Retail Prices for Canned Sardines

Size	Prices in VN$			Prices in U.S. Cents		
	Tomato	Olive Oil	Vegetable Oil	Tomato	Olive Oil	Vegetable Oil
122 grams (4½-oz.) flat . .	5.50-10.00	8.00-16.00	7.00-12.00	16-29	23-46	20-34
360 grams (12⅓-oz.) ovals:						
Imported	12.00-20.00	-	-	34-57	-	-
Domestic	10.00-14.00	-	-	29-40	-	-

Note: Values converted to US$ equivalent at the official rate of exchange applicable to imports of VN$1 equal to US$0.02857.

percentage of sardines consumed by the high, middle, and low income groups is estimated at 20, 50, and 30 percent, respectively. The low income level and the food habits of the indiginous population are not conducive to the purchase of relatively high-priced canned fish products, particularly since an abundant supply of fresh and dried fish is available.

Only three sizes of cans are known in the market. About 60 percent of the consumers use the 122-gram (4½-oz.) flats; 25 percent the 360-gram (12⅓-oz.) ovals; 10 percent the 1-lb. rectangular; and 5 percent other sizes. About 60 percent of the sardines consumed are packed in tomato sauce; 15 percent in olive oil; 15 percent in vegetable oil; and 10 percent in other condiments.

Retail prices are subject to wide fluctuations, depending upon availability of supplies (see table).

During the colonial period, sardines were imported almost entirely from France and its possessions, under a system of preferential trade. In 1955 limited quantities of sardines and other canned fish were imported from the United States under the American Aid Commercial Import Program. In the fall of 1955, licensing of such imports under the American Aid Commercial Import Program was discontinued on the grounds that these products constituted luxury commodities for which foreign exchange should not be expended. Imports from the United States since then have consisted of small lots for the limited high-price market and are financed out of EFAC account currencies (foreign exchange retentions held by exporters), except for arrivals against Commercial Import Program licenses approved during calendar year 1955. For fiscal year 1956/57 no foreign exchange is being earmarked for sardines under the American Aid Commercial Import Program. Total imports of sardines in the first half of 1956 have been at approximately one-third the rate of last year's imports.

Canned sardines are imported by importers of general merchandise or directly by wholesale grocers and are distributed by them to retail stores and food peddlers.

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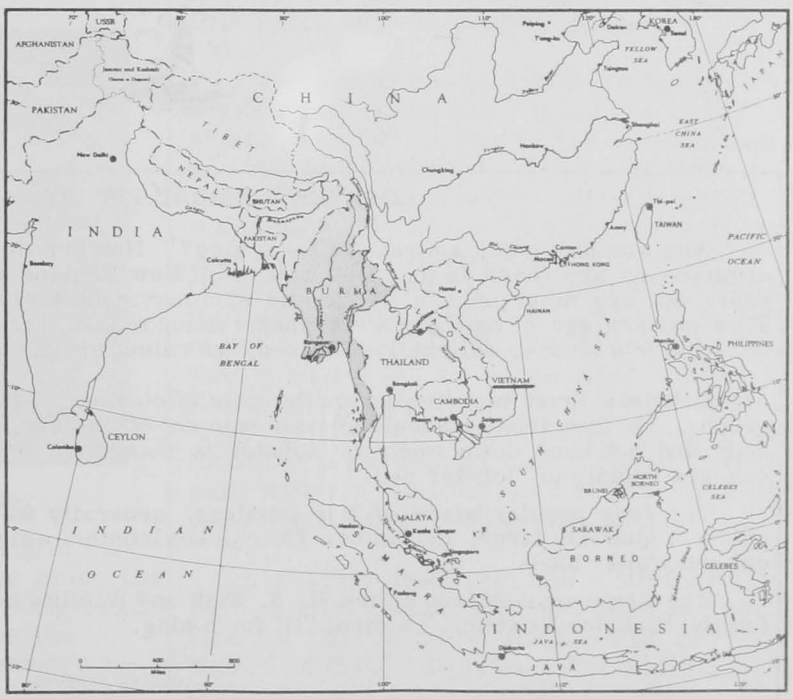
JAPAN-VIETNAM COMMERCIAL FISHING AGREEMENT INAUGURATES DEEP-SEA FISHING: The first private commercial fishing agreement has been concluded recently between Vietnam and Japan through the cooperation of the Vietnamese Fishing Service, the Office of the Director General of Commerce of Vietnam, and the United States Operations Mission. The agreement which assures the Vietnamese people of large stocks of fish at reduced prices calls for the renting of eight Japanese fishing boats with Japanese captains and crews by four Vietnamese companies. Especially important for Vietnam is the section of the contract which stipulates that a certain percent of the personnel during the fishing operations shall be Vietnamese who will be trained in the science of deep-sea fishing by the Japanese experts.



Two of the boats have already arrived and have been delivered to the Nam-Anh Fisheries Company. They are of the purse-seine type, modern in every respect, and weigh about 6 tons each. They are equipped with freezing units and sonar devices to detect the schools of fish. Freezers have also been installed in the participating Vietnamese firms so that the fish will remain frozen until taken to market, assuring the people a constant supply of fish without the usual danger of spoilage.

Vietnamese fishing has, in the past, been confined to canals, rivers, and close-to-shore operations as their boats were unsuited to open-sea operations. With the opening up of these new fishing grounds, which will in no way infringe on those already established, the Vietnamese will have many more kinds of fish to choose from and a greatly increased supply at reduced prices. With fresh fish within the reach of everyone, the health of the nation should be noticeably improved.

The results of several weeks of trial runs for the two boats were more than satisfactory. Experts agreed that the quality of the fish was top grade and that freshness would now be assured the consumers.

According to the Director of the Nam-Anh Fisheries Company Tran-Van-Tiet, each boat will make three trips a month. To date, each trip has brought in between 20 and 25 metric tons of fish. The immediate result was a drop in the average retail price. The six additional boats which will be delivered soon to the three other companies, should improve the situation still further.

Yugoslavia

NEW FISH CANNERIES AND MEAL PLANTS: Four new fish canneries and two fish-meal plants have been built on the Yugoslav Adriatic Coast, according to press reports from that country reprinted in Fiskets Gang (August 9, 1956), a Norwegian fishery periodical. The fish-meal plants will produce meal and oil for the domestic market, but the canneries will pack fish primarily for export.

LOBSTER--A MEAL FIT FOR A KING

Who wouldn't enjoy a meal "fit for a king?" Northern lobsters certainly fill the bill. These crustaceans are found in the cold waters off New England and Canada. They can be caught all year, but are most plentiful in the late summer months when they come in closer to the shore. This modern age of handling and transportation makes it possible for people far inland to enjoy the lobster's tender, delicately-flavored, succulent meat.

Lobsters must be alive up to the time of cooking. The live lobster's natural color is dark green. The live lobster should show movement of the legs, and the "tail" should curl under the body and not hang down when the lobster is picked up. During cooking, the color of the shell changes rapidly to "lobster red."

The four popular sizes of live lobsters, generally weighing from one to three pounds are chicken, quarter, large, and jumbo. The chicken lobster, weighing one pound, is the most economical and widely used.

The home economists of the U. S. Fish and Wildlife Service suggest that you serve your family "Lobster Newburg," a meal "fit for a king."

LOBSTER NEWBURG

$\frac{3}{4}$ POUND COOKED LOBSTER MEAT	DASH CAYENNE PEPPER
$\frac{1}{4}$ CUP BUTTER OR MARGARINE	1 PINT COFFEE CREAM
2 TABLESPOONS FLOUR	2 EGG YOLKS, BEATEN
1 TEASPOON SALT	2 TABLESPOONS SHERRY
$\frac{1}{4}$ TEASPOON PAPRIKA	TOAST POINTS

Cut lobster meat into $\frac{1}{2}$-inch pieces. Melt butter; blend in flour and seasonings. Add cream gradually and cook until thick and smooth, stirring constantly. Stir a little of the hot sauce into egg yolk; add to remaining sauce, stirring constantly. Add lobster meat; heat. Remove from heat and slowly stir in sherry. Serve immediately on toast points. Serves 6.