International

FOOD AND AGRICULTURE ORGANIZATION

USE OF ATOMIC BYPRODUCTS IN PRESERVING FOODS: Studies on the treatment of some foodstuffs with relatively low dosages of ionizing radiations have advanced in Europe to a point where some practical applications of the method may be developed in the reasonably near future provided that the wholesomeness of the treated food has been assured.

A report completed by the Food and Agriculture Organization (FAO) says, in guarded and qualified language, that impressive progress has been made in the past few years in laboratory use of radiations in extending the storage life of foods and in killing undesirable organisms in food.

The report is a summary of the European meeting on the use of ionizing radiations for food preservation, held in November 1958 at the United Kingdom Atomic Energy Authority's Atomic Energy Research Establishment at Harwell. It was attended by 176 representatives of 17 European members of FAO, and by 22 observers from five non-European members, and 14 international organizations.

On the basis of review papers presented by invited specialists from European countries and the United States, the meeting surveyed the present status of food irradiation, evaluated the technique's potential for European countries, and considered the need for and possibilities of organizing international cooperation in research.

The report warns that many basic problems remain to be solved before radiation treatment of foods for the extension of their storage life will be ready for widespread development and application. But, it points out, "a few possible applications of irradiation, such as the inactivation of Salmonella in egg products and of certain parasites in meat, the disinfestation of grain and certain packaged products, and the suppression of sprouting in potatoes and root crops, are approaching the stage at which commercial exploitation might be considered, provided that the wholesomeness of the treated foods had been assured."

Food irradiation was still in the stage of laboratory research in Europe but plans under way in the United States for pilot and demonstration plants "reflect confidence in the process."

Present indications were that treatments involving the use of substerilizating doses of radiation, rather than the higher sterilizing doses, were "more likely to lead to practical applications in the reasonably near future."

Treatment with moderate doses had produced a five-fold increase in the storage life of certain meats and meat products, fish, and some fruits and vegetables. The food poisoning organism Salmonella, frequently found in egg products, had been successfully killed in frozen whole egg pulp. The irradiation process, the report says, performs its work without appreciably raising the temperature and thereby cooking foods, and the product need not be removed from its package.

Treatment with higher doses, intended to give a sterile food in which no microbial spoilage is possible, produced changes in color, flavor, odor, and texture which were considered objectionable. This problem would have to be solved before such treatments were likely to be used on a wide scale.

The meeting agreed that the potential value of food irradiation as a method of preservation "justified considerable investment in research." It recommended that European governments encourage and support such research, and that appropriate forms of international cooperation in this research be established to reduce its cost. It asked that FAO establish a permanent technical working group on food irradiation to review developments in the field, and that the Organization set up such other technical groups as will be necessary to study the problem of formulating fundamental principles governing the use of irradiation and methods of testing irradiated foods for wholesomeness; the aim would be to evolve a common basis for legislation on the subject in individual countries, other such technical groups might be formed to study microbiological and entomological aspects of food irradiation.

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INTERNATIONAL STANDARDS FOR CHEMICAL ADDITIVES TO FOOD PROPOSED:

A joint committee of the Food and Agriculture Organization (FAO) and the World Health Organization (WHO) has made a move towards identifying and establishing standards of purity on an international basis for commonly-used chemicals which are added to many foods.

The Joint FAO/WHO Expert Committee on Food Additives which met in Rome in December has begun to draw up provisional specifications for a number of the more important food additives, with special reference to antimicrobial preservatives (used in fruit juices, jams, etc.) and antioxidants (used for stabilization of fats and oils). Earlier meetings of the joint committee had agreed that food additives should be identifiable, and that established specifications of purity were the best means of excluding harmful impurities from food additives.

At the December meeting, delegates stated that specifications or standards of purity have been established for only a small portion of the increasing number of chemical substances which are currently added to the world's food supply.

International (Contd.):

Substances added to foods, it was pointed out, are used for a variety of purposes, among them the preservation, flavoring, and coloration of foodstuffs. The joint meeting said that the identity and concentration of major components of a food additive must be known in order to carry out an effective investigation of its properties. It drew up provisional specifications for two major groups of the most commonly-used food additives, that is the antimicrobials and the antioxidants. These specifications include the chemical name and popular synonym of each substance, its description and chemical or structural formula, the percentage of each component, proposed identification tests, and acceptable standards of purity.

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IMPROVED MIDWATER TRAWLING METHOD DEMONSTRATED:

Promising catches of herring and sprat have been made with a new type of one-boat midwater trawl gear, consisting of a high opening nylon net, hydrofoil otter boards, and an echo-sounder oscillator attached to the headline of the net for continuous trawl depth indication and fish detection.

This method has been perfected by a gear technologist on the staff of the Fisheries Division of the Food and Agriculture Organization (FAO), Rome. It is based on experimental work carried out by him when a member of the Institut fur Netz- und Materialforschung, Hamburg.

The technologist was loaned by FAO to the Institute in December 1958 to carry out midwater trawling experiments with a typical German North Sea cutter. These boats are about 24 meters (79 feet) over-all, powered with 150 hp. engines. When trawling in midwater the cutters usually work in pairs, two boats towing one net between them. In Germany there is also a rather primitive one-boat method using conventional otter boards which are kept at the desired depth by attaching them to big surface floats. The experiments were concentrated on improving the one-boat trawl.

The main problem in midwater trawling has been to tow the net at the proper depth to catch the fish, and control the net so that it can be quickly raised or lowered as desired. The shorter the warps and the higher the towing speed, the higher the net will travel through the water. But this general rule applies only to a small degree to the one-boat trawl where the depth of the net has to be adjusted by changing the length of the strops connecting the otter boards with the surface. Furthermore, accurate adjustment of the net to the actual depth of the fish requires continuous indication of the depth of the net, so that the proper action can be taken in time.

The basic idea of the improved method is not new. It consists of attaching an oscillator (transducer) to the net and connecting it by cable to the echo-sounding unit installed on board.

An echo-sounder oscillator attached to the bosom part of the headline to sound downwards indicates not only the depth of the net but also the position of the foot-rope and the fish in the net-opening and below the net, as well as the sea bottom.

This enables the fisherman to know the depth of the net, check if the gear is operating properly, and to see if the fish in the path of the net are really caught. With some experience, he should be able to estimate the rate of catch and so determine the right time for hauling. These very obvious advantages make it much easier to accept the slight trouble of handling an extra cable.

The experimental net had an opening height of 8 to 10 meters (26-33 feet) and, to improve its manoeuverability, hydrofoil otter boards, designed by F. Suberkrub, Hamburg, were used. These provide a good sheer at a considerably lower drag as compared with the conventional boards. The warp is attached above the center of the board which gives an inward tilt, the lift varying with the towing speed. This increases considerably the influence of speed variations on the depth of the net, and enables the captain to regulate the depth through engine control.

This new gear combination enables the captain to practice "aimed" fishing in what has hitherto been mostly a blind operation.

The captain of the cutter chartered for the experiments was soon able to handle the gear and, since the experiments, has successfully fished with it on a commercial scale. He has often caught the same amount, or even more, than have the pair-trawl boats fishing nearby.

German deep-sea trawler companies are very interested in midwater trawling for herring, particularly as an additional method for craft of 400 to 500 British registered tons and 600 to 800 hp., which are not suitable for fishing on the distant grounds off Greenland, Newfoundland, and Labrador.

Considering the promising results of the cutter experiment, it was advisable to test this type of gear with a medium-sized deep-sea trawler, too. The experiments were carried out with a steam trawler of 4,000 BRT and 600 hp. in the northern North Sea during February 1959. A very big and light nylon trawl was made which worked with an opening height of 12 to 14 meters (39-46 feet). Basically the same echo-sounder oscillator arrangement was used but with an automatic electric winch, which was essential for handling the 400-fathom cable needed for fishing at about 110 fathoms.

The method proved to be applicable for these bigger craft and valuable experience was gained for future improvements. Catches of up to 3 1/2 tons of herring per haul were made, which were considered fairly good in view of the limited size and density of the schools present.

An interesting innovation was tested during these trials, that of an oscillator on the trawl headline transmitting concurrently up to the surface and down to the bottom. This gives the captain much better information on the actual trawl depth. Irregularities of the bottom profile may be mistaken for net movements and vice versa but the indication of the trawl's distance from the surface eliminates this difficulty completely.

The result of these experiments, financed by the German Ministry of Agriculture on request of the German fishing industry, is a big step forward in improving the technique of commercial midwater trawling.

It is likely that this method of "aimed" trawling may lead to exploiting pelagic fish resources which have not been, or only to a limited extent, fished so far.

GENERAL AGREEMENT ON TARIFFS AND TRADE

FOURTEENTH SESSION OF THE CONTRACTING PARTIES:

Important issues of international trade policy confronted the thirty-seven countries that are signatory to the General Agreement on Tariffs and Trade (GATT) when they convened in Geneva on May 11, 1959, for their 14th General Session.

International (Contd.):

Among the major issues requiring action is the United States proposal that the Contracting Parties undertake another general round of tariff negotiations in 1960.

The steady improvement in Western Europe's payments position in recent years has raised certain issues for the Contracting Parties. The GATT specifies that with certain exceptions quantitative restrictions should be used to curtail imports only when required to safeguard a country's foreign exchange reserves by bringing payments back into balance with receipts.

A third intersessional committee charged with responsibility for recommending ways to expand international trade with particular reference to the exports of less-developed countries, will submit its work program to the Contracting Parties.

The request of Yugoslavia to participate in the work of the Contracting Parties on an associate basis will also come up at the 14th Session. While not prepared to assume the full obligations of a contracting party to the GATT, the Yugoslavs would like to bring their trade and their commercial procedures more closely into line with those of the other GATT signatories, and are seeking to do so through a form of associate participation.

In addition, the Session will deal with a number of other matters including actions taken by certain Latin American countries to supplement their effective tariff rates by the imposition of surcharges, the application of Israel for accession to the GATT, further consideration of the impact of the overseas territories provisions of the Rome Treaty on the trade of third countries, a number of complaints by governments against specific actions taken by other governments, and various proposals for improving procedures.

NORTHWEST ATLANTIC FISHERIES COMMISSION

ANNUAL MEETING IN MONTREAL:

The Ninth Annual Meeting of the International Commission for the Northwest Atlantic Fisheries was held in Montreal, Canada, in the week beginning June 1, 1959. From May 26-30, the Standing Committee on Research and Statistics and the Groups of Scientific Advisers to Panels 3, 4, and 5 met. In order to facilitate the work of the various research groups several ad-hoc committees and the chairmen were appointed in advance to make preparations for the formal meetings.

Commissioners, advisers, and experts from the 12 member countries participated in the meeting. The Commission invited the following to send observers: The Food and Agriculture Organization; International Council for the Exploration of the Sea; International Fisheries Convention 1946; International North Pacific Fisheries Commission; International Pacific Halibut Commission; International Pacific Salmon Fisheries Commission; Great Lakes Fisheries Commission; Poland; and World Meteorological Organization.

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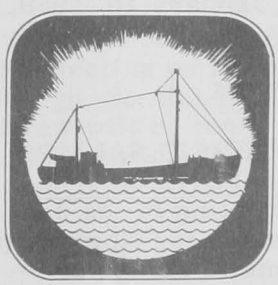
MORE COUNTRIES TO FISH ON NORTHWEST ATLANTIC FISHING GROUNDS:

The Polish fishing industry, which has been expanding rapidly during recent years, expects to extend its activities to the Northwest Atlantic area this coming summer. Due to the extension of fishing to the banks off eastern North America, Poland has become interested in the work of the International Commission for the Northwest Atlantic Fisheries. The Commission has invited Poland to send observers to the Commission's 1959 annual meeting.



The Belgiums are looking for new fishing grounds since the extension of Iceland's territorial waters to 12 miles. Recently a Belgium fishing firm sent two trawlers to test the fishing grounds off Labrador. The vessels found the grounds so rich in ocean perch stocks that capacity loads of 250 metric tons were taken in seven days.

International (Contd.):

The two trawlers are new and large enough to permit fishing trips of up to 30 days. They are fully equipped to permit filleting, freezing, and salting of the catch as well as the manufacture of fish meal. The Belgium firm plans to send smaller trawlers from its fleet to the Banks off Labrador and Newfoundland and to the Gulf of St. Lawrence as a result of the successful initial trips of the two large vessels.

Brazil has acquired three large trawlers intended for fishing on banks off the United States and Canada. A special port with processing facilities has been established to handle the catches of these vessels. This is a new venture for Brazil which has in the past imported its salt cod.

In addition to the above, Cuba has started to fish for cod in the Northwest Atlantic.

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PROTOCOL AMENDING CONVENTION ENTERS INTO FORCE:

The protocol (dated at Washington June 25, 1956) between the United States of America and other countries, amending the International Northwest Atlantic Fisheries Convention of February 8, 1949, entered into force on January 10, 1959.

NORTHWEST PACIFIC FISHERIES COMMISSION

JAPANESE NORTH PACIFIC SALMON MOTHERSHIP QUOTA FOR 1959:

The third annual meeting of the Japanese-Soviet Commission for Northwest Pacific Fisheries came to an end on May 13, the 122nd day since negotiations began, with acceptance by Japan of a salmon catch quota in the treaty area of 85,000 metric tons. Despite Japan's initial request for a 165,000-ton quota, on the grounds that 1959 is a peak year in pink salmon abundance, she finally accepted, in the face of unyielding Soviet insistence that the salmon resources of the Far East are declining under the pressure of the Japanese fishery, a quota considerably below last year's 110,000 tons and the 1957 quota of 120,000 tons.

In addition, the Japanese consented to a number of other restrictions on their high-seas fishery. The process of closing fishing grounds to Japanese fleets, which resulted in their being completely shut out from the Sea of Okhotsk at the 1958 negotiations, has now spread to the Pacific, with establishment of a new closed area north of 48° N. between the Kuriles and 160° E. The closed waters around the Komandorski Island have also been slightly widened. The Japanese have undertaken to enlarge the mesh of their nets to 65 millimeters (2.56 inches) knot-to-knot over a four-year period beginning in 1960 and to begin studies leading to an increase in net-twine diameter. The 1959 red salmon catch quota has been cut to 8 million fish from last year's 11 million, with the additional proviso that not more than 2.5 million of these are to be taken west of 165° E.

The 16 canneryships and 460 fishing boats were due to sail on May 15. The sailing may be delayed, however, unless canneryship operators and fishing vessel owners come to a speedy agreement on fish prices. Since it has not been possible to reduce the participating fleets below last year's level, despite the sharply reduced total catch limit, the fishing boat operators are seeking an increase in fish prices of about 25 percent to enable them to break even at the expected average catch per boat. In any event, it is being predicted that there will have to be a thorough reorganization and a considerable reduction of the fishery before next season, and the boat owners who expect to be squeezed out are already beginning to talk of seeking compensation from the Japanese Government, the United States Embassy in Tokyo reported on May 15, 1959.

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JAPAN PROPOSES CUT IN SALMON QUOTA AT MEETING:

A North Pacific salmon catch quota of 90,000 tons for this year was proposed by Japan May 10, 1959, at the 38th session of the Commission meeting in Tokyo. The Japanese also proposed a quota of 80,000 tons for 1960. The Russians referred the proposal to Moscow. Originally Japan had asked for a quota of 160,000 tons for this season and gradually scaled it down

International (Contd.):

to 110,000 tons. On the other hand, Russia insisted that the quota be 70,000 tons.

Japan decided to scale down her salmon quota in order to avoid prolonged negotiations because the salmon fishing season was about to start. Japanese salmon fishing fleets were ready to sail from Hakodate, Hokkaido, Japan's northernmost main island, as soon as approval was granted by the Japanese Government.

Russians told the Japanese that next year's catch should be decided on the basis of the status of the fish resources when the Commission meets next year.

On May 10 the Commission adopted two resolutions (1) urging both governments to conduct a joint scientific survey of salmon, salmon trout, herring, and crab resources, and (2) to exchange scientists and fishery experts.

By late April it was reported that, in addition to what had been agreed upon by that time, the Russians were attempting to get agreement from Japan for establishing a fish corridor stretching from the entrance to Onekotan Channel up to longitude 160° E. in the Pacific and another corridor stretching from the entrance to Urup Channel eastward up to longitude 160° E. The Russians had indicated that if Japan would agree to establishing those corridors to permit spawning salmon to migrate to the Russian streams unmolested, the Japanese salmon catch quota might be increased from the Russian proposal of 70,000 metric tons. On the other hand, the Japanese lowered their original quota of 165,000 tons to 130,000 tons.

At that time, in view of the trend of the negotiations, the Japanese salmon industry agreed to reduce its salmon mothership fleet in the North Pacific from 16 to 13.

INTERNATIONAL WHALING COMMISSION

PROTOCOL TO WHALING CONVENTION RATIFIED BY BRAZIL:

The protocol amending the International Whaling Convention of 1946, done in Washington on November 19, 1956, has been ratified by Brazil and deposited with the U. S. Department of State on May 4, 1959. The ratification of the protocol by Brazil completed the required number of signatory countries and the protocol entered into force on that date pursuant to Article III (2), the U. S. Department of State reported on May 5, 1959.

UNITED NATIONS

STATISTICS ON FISH LANDED IN FOREIGN COUNTRIES:

Statistics on fish landed by fishing craft of one country in ports other than those belonging to that country are treated differently by various countries. Since it is desirable that those landings be included in national fishery statistics in a uniform manner, the eighth session of the United Nations Statistical Commission in 1954 recommended as follows:

"Wherever the size of landings is of importance and wherever it is possible to do so, countries should include in their import statistics fish landed directly from foreign fishing craft and include in their export statistics fish landed abroad by 'domestic fishing craft'."

The ninth session of the United Nations Statistical Commission endorsed the proposal in 1956.

At the Food and Agriculture Organization meeting on fishery statistics in Edinburgh, Scotland, in September 1958, a review will be made of the progress the various nations have made in adopting the recommendation.

WHALING

THREE WHALING NATIONS DISCUSS ANTARCTIC QUOTA PROBLEM:

Representatives of the whaling industries of Norway, Japan, and Great Britain met in Oslo on April 24 and 25, 1959. In a release to the press by the Norwegian Whaling Association it was stated that the discussions were a continuation of the talks held in Tokyo last February between representatives of the Norwegian and Japanese industries in regard to the question of the distribution of the whale quota among the whaling nations. No agreement was reached during the Oslo discussions, but it is expected that the

International (Contd.):

matter will be brought to a conclusion at a meeting of the representatives of the Governments of Great Britain, Japan, the Netherlands, and Norway in London in the near future, the release stated.

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FOUR NATIONS FAIL TO REACH AGREEMENT ON ANTARCTIC BLUE-WHALE UNIT QUOTA:

Government and whaling industry representatives from Japan, Norway, the United Kingdom, and the Netherlands met in Tokyo May 18-22, 1959, to discuss the allocation of the 1960 Antarctic baleen whale catch among their fleets. The conference stemmed from the decision taken by the five Antarctic whaling nations at London in November 1958 to abandon the practice of free competition for the whales under an over-all catch limit set by the International Whaling Commission. Because this free competition was causing financial distress to some of the European whaling companies, it was decided at the London conference to allot 20 percent (3,000 units) of the total catch quota of 15,000 blue-whale units to the Soviet Union, on condition that the Soviet fleets would not be increased unduly in the next few years. The Tokyo conference failed to solve the problem of allocating the remaining 12,000 blue-whale units among the four other countries.

A number of preliminary meetings--one between Norwegians and Japanese at Tokyo in February 1959, one at Oslo among Japanese, British, and Norwegians late in April 1959, and one at Amsterdam between the Norwegians and Dutch early in May 1959--failed to reconcile the various claims by those nations to what they consider their fair share of the whale catch. According to Tokyo trade press sources, the most active line of maneuvering has been a Japanese attempt to induce the Norwegians to retire three fleets and sell their catch rights to Japan, with the Norwegians simultaneously trying to buy the single Netherlands whaling fleet. Each country is, of course, demanding an allocation that would guarantee profitable operation of its fleets.

It is expected that the International Whaling Commission, to which 17 nations belong (including the United States) will try to find a solution at its annual meeting scheduled for June 24 in London. At that time there will be only six days before the June 30 deadline, when the conditional withdrawals of Japan, the Netherlands, and Norway from the International Whaling Convention become effective. These conditional withdrawals were made as bargaining moves in the struggle for catch allocations, but if they are carried through, the Antarctic whale stocks will in effect be exposed to unlimited exploitation. It is generally accepted that unlimited catching would soon reduce the resource to the point where only the State-supported fleets could afford to continue operations, the United States Embassy in Tokyo reported on May 15, 1959.

According to a dispatch from Agence France Press, the chairman of the Norwegian Whaling Council, who headed the 6-member Norwegian delegation to the non-productive Tokyo talks, said that Great Britain offered to reduce its share of the undistributed 12,000 blue-whale units from 2,250 to 2,200 units, while Norwegian negotiators indicated willingness to cut Norway's quota by 100 units, subject to government approval, to make it 5,000. The Netherlands and Japan, on the other hand, adhered to their demands of 1,200 and 4,900 units, respectively. The limit for the annual catch is set each year by the 18-nation International Whaling Commission.

Meanwhile, the Norwegian Whaling Council has published No. 41 and No. 42 of International Whaling Statistics, showing the decline in the number of blue whales caught in the Antarctic during the period between February 1 and March 4, in percentage of the combined blue whale and finback catch. In the 1931/32 season, blue whales constituted 61.9 percent of the catch. In the last season before World War II, 1937/38, the percentage dropped to 16.5 percent. Since the war, through the 1951/52 season, the percentage of blue whales varied between 31.9 and 22.9, with a radical drop in the following six seasona. In 1955/56 the blue whale percentage was down to 11.5 and for the entire 1957/58 season it was only 6.3 percent.

Note: One blue-whale unit equals 1 blue whale, 2 finbacks, $2\frac{1}{2}$ humpbacks, or 6 sei whales.

Aden

FISHERIES TRENDS, 1958:

During 1958 the Aden Colony Fisheries Department program for modernization of the fishing industry continued to meet with success. Three additional boats were mechanized and four more were in the process of being mechanized. The fleet of mechanized fishing vessels numbered 27 as of the end of the year. In addition, nylon nets continued to replace nets made of cotton or hemp and during the year 70 nylon nets were purchased by the fishermen.

Biological and technical studies carried out during the year indicated that good fishing grounds existed 10-15 miles offshore. The problem faced by the Fisheries Department was ways and means of inducing the conservative fishermen to give up their old habit of fishing close to shore and try new and more distant grounds. The technologists of the Department prepared and shipped a sample of pickled mackerel to Zanzibar. The shipment was well received and once the new fish processing station is completed a new export market may be developed.

The amount of cured fish produced for export increased to 3,121 long tons as compared with 2,750 tons in 1957. Fish meal exports in 1958 reached 478 tons and showed a satisfactory increase for the third year in a row. The fisheries officers are hoping that the effect of the summer monsoon season on the catch will be offset in the future by modernization of the fishing fleet, the United States Consul at Aden reported on February 26, 1959.

American Samoa

MORE KOREANS FISH FOR TUNA CANNERY:

The first Korean tuna long-line vessel to fish for the tuna cannery in American Samoa arrived early in 1958, and a second vessel arrived in September 1958. Six additional Korean vessels were reported to be scheduled to enter this fishery under contract to the tuna cannery (Pacific Islands Monthly, March 1959). The American Samoa cannery is operated by a United States west coast tuna canning company.

Australia

TUNA FIRM CONDUCTS SURVEY OF CONSUMER EATING HABITS:

As part of a campaign to sell more fish, a New South Wales tuna canning firm with factories at Eden and Narooma, is sponsoring a survey of the eating habits of Australians. Although the survey is incomplete, early returns indicate that about 52 percent of the Australian families eat fresh or frozen fish--about three times as much fresh as frozen, and mostly prefer flathead and bream. At least 96 percent of the families interviewed eat some kind of canned fish. The complete survey will cover thousands of families and the results will be analyzed by the University of New South Wales.

Most of the big chain food stores are featuring canned tuna in weekly specials and the tuna cannery sales manager states that sales are booming. The special price for a large can of tuna is 2s.5½d. (about 27.5 U. S. cents.)

The New South Wales tuna canning company handled about 2,000 long tons of tuna in 1958. A determined effort will be made to develop an export trade in frozen tuna to the United States. Representatives of the firm were in the United States in April surveying prospects for frozen tuna exports.

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TUNA LANDINGS HIGHER IN 1958/59 SEASON:

Landings of tuna from the late fall and winter fishery off South Australia and New South Wales were over 2,369 tons, or more than 68 percent higher than the 1,495 tons reported from the same areas the previous season. The landings in South Australia and New South Wales make up about 90 percent of the tuna landed in Australia.

Most of the tuna landed in Australia is canned or frozen. As a result of an

Australia (Contd.):

early 1959 visit of an Australian trade mission to the United States, there is some prospect that tuna shipments to west coast United States canners will be resumed. The last shipments were made on a trial basis in 1951 and 1955. As the catch of tuna in Australia is limited at the present time by lack of freezer space in Australian fishing ports, exports of all types of tuna (frozen and canned) to the United States and other countries will not exceed 2,000 tons. (United States Embassy in Canberra reported on May 6, 1959.)

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FISH CANNING INDUSTRY:

Australia imported large quantities of canned fish before World War II. During the war years, much effort was put into developing the fish canning industry. To protect its young industry, the Government imposed restrictions on the imports of canned fish. This hurt several exporting nations, especially Norway.

At present, Australia has 17 fish canning factories. Most of them were built recently and are equipped with the most modern facilities, including refrigeration units for storage. A few factories have special installations for holding fish in sea water at temperatures of 0°-1° C. (32°-34° F.), which keeps fish fresh for 7 or 8 days.

Annual fishery production in Australia amounts to about 400,000 metric tons of fish and 14,000 tons of crustaceans. Australia imports about 8,000 tons of refrigerated or frozen fish a year. Production of canned fish totals about 3,000 tons annually, but an additional 3,000 is imported each year to satisfy the demand (Industria Conserva, Vigo, Spain, January 1959).

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PLAN TO USE HELICOPTERS TO PICK UP SHRIMP FROM FISHING VESSELS AT SEA:

Helicopters may soon be used as delivery vans for shrimp from the Rockhampton grounds off Queensland, Australia. Under a plan now being worked out, a helicopter will be sent to the shrimp fleet in Keppel Bay to pick up catches from the boats for immediate delivery to markets. The helicopter was expected to begin operations when shrimp fishing began in the Keppel Bay area in April or May. Hovering over trawlers, the helicopter will haul the baskets of shrimp up from the boats on a winch-powered cable and hook. The helicopter would also take supplies out to the shrimp boats to enable them to stay at sea longer.

Belgium

CONSUMPTION OF FISHERY PRODUCTS, 1958:

During 1958 the consumption of fishery products in Belgium amounted to 117,099 metric tons (about 258 million pounds). The total included 86,972 tons of marine finfish and 30,127 tons of shellfish (United States Consulate in Antwerp, report dated May 13, 1959.)

Table 1 - Belgium's Consumption of Fishery Products, 1958

	Fresh	Processed	Canned	Total
Consumption of	(Metric Tons)			
Market Fish:				
Herring 1/	9,246	12,289	-	21,535
Sprat 1/	1,756	-	-	1,756
Mackerel 1/	1,341	168	-	1,509
Pilchards 1/	65		2,646	2,711
Sardines 1/	-	-	3,648	3,648
Salmon 1/	-	-	3,601	3,601
Other fish	1/ 46,577	641	4,994	52,212
Total fish	58,985	13,098	14,889	86,972
Consumption of Shellfish: 2/				
Shrimp	3,157	-	-	3,157
Lobster & Crawfish	493	-	1,636	2,129
Mussels	21,761	-	-	21,761
Oysters	1,440	-	-	1,440
Other shellfish	1,640	-	-	1,640
Total shellfish	28,491	-	1,636	30,127

1/ Bulk used for canning.
2/ Nearly all consumed fresh.

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IMPORTED CANNED TUNA PRICES, MAY 1959:

Imported canned tuna prices c.i.f. Antwerp, Belgium, early in May 1959 were as follows: all solid pack in oil, 48 cans/cs. Japan: lightmeat, 7-oz. US$7.00 and 3½ oz. $3.80; whitemeat, 7-oz. $8.00 and 3½ oz. $4.25; and Peru: lightmeat, 7-oz. $6.30 and 3½ oz. $3.80. About all the tuna imported into Belgium comes from Japan

Belgium (Contd.):

and Peru, the United States Consul in Antwerp reported on May 13, 1959.

Brazil

NEW FISH PROCESSING PLANT:

A new fish processing plant was scheduled to begin operations in June near the town of Maracana which is located on the Brazilian coast about 60 miles northeast of Belem and near the mouth of the Amazon River. The new plant expects to process fish and shellfish caught in the Amazon River and its tributaries and from the Atlantic Ocean. This fish plant will be the first of its kind to operate in that area. Processing operations will include the freezing of fish and shellfish, the drying of "pirarucu" for sale in Belem and the Braganca railroad region, canned fish for export, and possibly the importation of cod for further processing.

British Honduras

FISHERY PRODUCTS EXPORTS HIGHER IN 1958:

Exports of fishery products from British Honduras were higher in 1958. Exports of fish remained steady, but spiny lobster exports increased from US$178,000 in 1957 to more than $225,000 in 1958. Exports in 1955 were valued at only $90,000. Reasons for the increase were due to a better "run" and less "anarchy" in the local industry, resulting in a more intensive effort.

There is now only one purchaser for packing and export. The Government apparently believes there is room for one more concessionaire although the reasons for this belief appear to be based on the desire for competition and the fact that the 1958 catch was relatively good. Nearly all of the entire catch of spiny lobsters is shipped by air to the United States. Fishing methods remain primitive although the one concessionaire (an American-owned company) has some modern equipment. Most of the catch is made by small privately-owned fishing sailboats.

Canada

DOGFISH ERADICATION PROGRAM DISAPPOINTING:

Canada's west coast dogfish eradication and subsidy program, which ended March 31 after three months of fishing, was "very disappointing," according to a fisheries department spokesman in Vancouver, B. C.

A total of 2,470 tons of the shark-like predators was taken in two separate operations on dogfish populations in the Gulf of Georgia. Biologists estimated that to keep the population under control, about 30,000 tons of dogfish should be killed every year.

British Columbia fishery interests, despite the failure of the three-months fishery, are asking the government to re-establish the program. The groups want a $250,000 fund to be set up again and the operation spread over a full calendar year. Reports of trawler skippers who took part in this winter's fishery indicate that dogfish are not present in the Gulf during the winter months, and they say that a summer and fall fishery would be much more productive.

Only $67,300 of the $250,000 set aside for the program was used during the winter's fishery. The time limit set on the subsidy program was up on March 31, and on that date the remainder of the money went back into general funds. The killing program, using chartered trawlers, was split into two separate fishing periods. The first (from January 19 to February 15) was the most disappointing, with 5 boats taking less than 250 tons. The second part of the program (from March 9 to 31) was more successful, with only 3 boats taking about the same tonnage in the shorter period. Boats lost 5 days of fishing in this second phase because of seasonal bad weather in the Gulf, which saw gale force southeast winds blowing for unusually long periods.

The liver program continued uninterrupted from January 12 to March 31, and accounted for 353,000 pounds of livers landed at Vancouver and Steveston. All but 8,000 pounds of the total came from the Gulf of Georgia. The livers were produced entirely by independent trawlers and long-liners.

Cost of the dogfish on a tonnage basis was rather high. The government paid an average of $27.40 a ton, including the cost of the charters and the subsidy of 10¢ a pound on livers. For the charter boats alone, the cost of catching dogfish was $45 a ton.

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QUEBEC FISH INSPECTION NOW UNDER FEDERAL GOVERNMENT:

Responsibility for administering the Fish Inspection Act and the Meat and Canned Foods Act as it concerns fishery products in the Province of Quebec has been transferred by mutual agreement from the Government of Quebec to the Government of Canada, the Fisheries Minister announced in Ottawa on May 19. The transfer was effective as of April 1, 1959.

In 1923, by agreement between the two governments, the administration of Quebec's fishery resource became the

Canada (Contd.):

responsibility of the Province. Except for fish inspection, this arrangement continues with respect to the control of the commercial fisheries under the Fisheries Act.

The formation of the Quebec Area completes the establishment, to bring about uniform inspection on a national basis, of the Inspection and Consumer Service of the Federal Department of Fisheries.

* * * * *

COMMERCIAL FISHING LICENSES ISSUED IN BRITISH COLUMBIA INCREASED IN 1958:

A record number of commercial fishing licenses was issued during 1958 to British Columbia fishermen. In 1958 14,266 licenses were issued as compared to 12,016 in 1957.

Typical of the vessels used in British Columbia fisheries are gill-netters--the most common type of vessel used to catch salmon on the west coast of Canada. Purse-seiners and traps are also used to catch salmon.

The increases have been attributed primarily to the fact that expectations for the 1958 fishing season were high and a large number of sport fishermen engaged in commercial fishing on a part-time basis.

Of the 14,266 licenses issued, it has been estimated that only about 7,700 represented fishermen who are wholely or primarily dependent on the fishing industry for a livelihood.

In 1958, 3,673 persons took out licenses for the first time. Of this group, 1,623 were trollers, 1,313 were gill-netters, and 409 were assistants in salmon purse seiners.

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Canada (Contd.):

ATOMIC POWER MAY CANCEL NEED FOR HYDROELECTRIC POWER FROM RIVERS WITH FISH RUNS:

Atomic power may eliminate any need to develop the hydroelectric potential of the Fraser River in British Columbia, declares the Canadian Fisheries Minister. Development of the hydroelectric potential of the Fraser "may be a passing thing," he said, "because economic atomic power might be possible soon. But the need for fish as a high-protein food is becoming greater annually." The Minister told the Canadian Commons Fisheries Committee late in April that any hydroelectric program on the Fraser which would wipe out its salmon industry for a temporary benefit would be very poor reasoning.

"This is a powerful argument in favor of steps to safeguard fish resources now and in the future," he said. These observations were made by the Minister during a study of a preliminary report on flood control and hydroelectric power in the Fraser River basin.

The Minister said the least objectional plan for flood control and power development proposed no construction of dams on the main stem of the Fraser.

"At present there is no economic or practical device which can be recommended to pass migrant young salmon safely downstream at high dams," the Minister noted about other plans.

He said the demand for power was growing at a phenomenal rate. But there are alternatives to development of the Fraser, including the Columbia and Peace River systems. A huge coal-burning thermal plant being built in the Vancouver area would also relieve pressure.

The most immediate problem, however, was flood control. This could be achieved by building dams on Fraser tributaries. Some power also would be produced and the $34 million salmon fishery would not be threatened.

The director of conservation for the Fisheries Department said, "we can have flood control and fish." The best method is construction of dams in the upper reaches of the river.

* * * * *

MARKETING OF NEWFOUNDLAND SALTED GROUNDFISH:

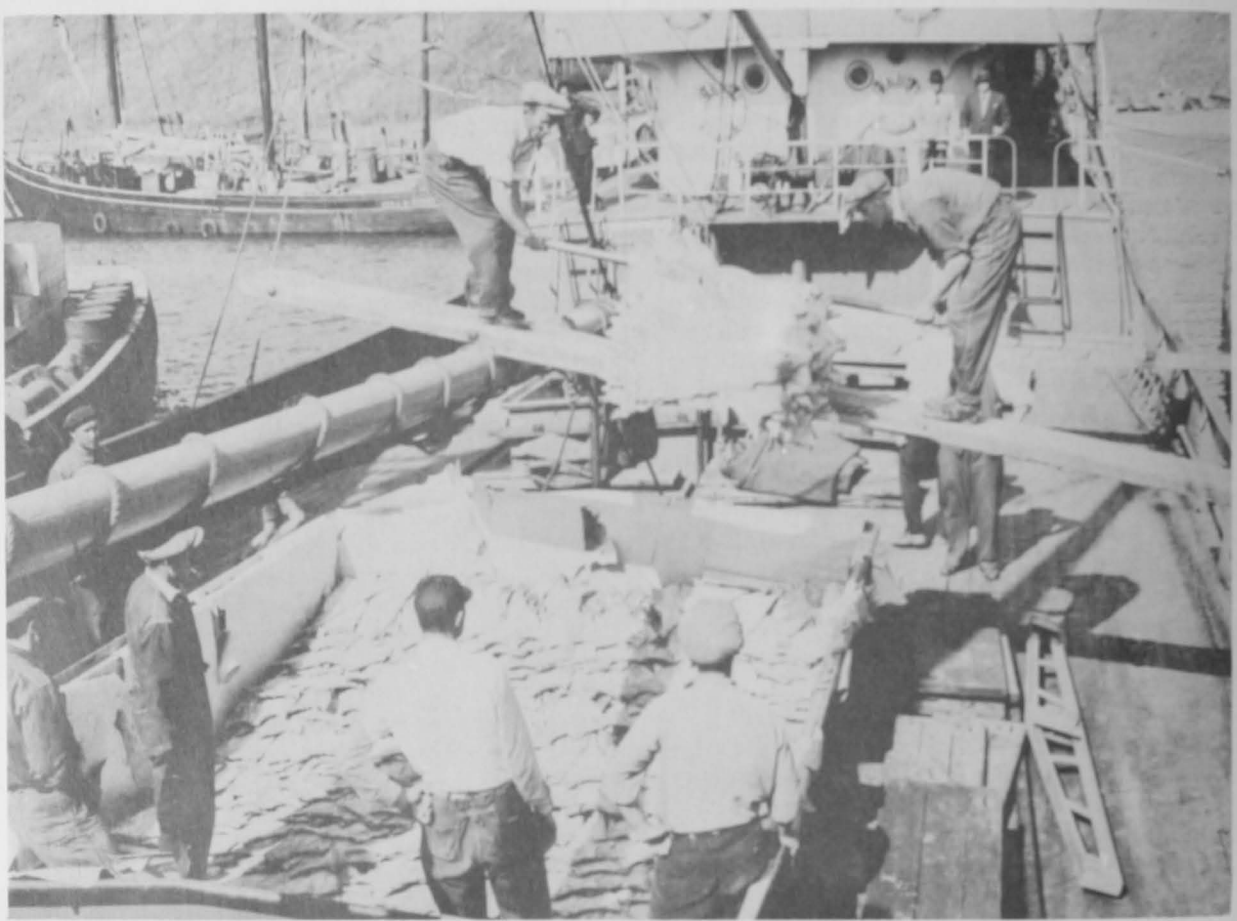
On August 1, 1958, the Canadian Government decided that the exclusive right to export processed salted fish from Newfoundland, held by the Newfoundland Associated Fish Exporters Limited, would not be extended beyond July 31, 1959. By the Act of Union between Canada and Newfoundland, the exclusive license to export salted fish, which had been granted to that Organization by the Commission of Government, was continued for a period of five years in order to allow the orderly development of alternative marketing arrangements during this period of transition. At the expiration of the license arrangement in 1954, it was again agreed to continue the exclusive license for a further period of three years, with the qualification that interprovincial trade in salt bulk was freed from this restriction. Subsequently, two extensions of one marketing year each were granted, the final one on August 1, 1958. Thus, the salt fish industry of Newfoundland has had a ten-year period in which to adopt marketing methods in conformity with the practice of this trade in other Canadian Atlantic Provinces and Quebec.

Serious consideration was given to alternative methods of marketing salt fish in Newfoundland. An Interdepartmental Committee made an extensive and exhaustive survey of the situation. Exporters, processors, fishermen, and government officials in the Atlantic Provinces and the Province of Quebec were interviewed and were given an opportunity to present their views.

After full consideration of all aspects of the trade, it was not found possible nor deemed in the best interests of the salt fish industry to adopt alternative methods of controlled marketing in the Province of Newfoundland. Accordingly, the export marketing of Atlantic Coast salted fish after July 31, 1959, will be carried out on the basis of free competition.

Canada (Contd.):

The Government will continue its present practice of supervising the inspection of Atlantic Coast salted fish by the Department of Fisheries and will extend to exporters trade promotion assistance through the Department of Trade and Commerce in Canada and our Trade Commissioner Service abroad.



Freighter loading Newfoundland salted cod for delivery to Portugal.

Ceylon

JAPANESE AID SOUGHT IN 5-YEAR FISHERY PLAN:

Ceylon has requested Japan's full cooperation in a $70 million five-year fishery program scheduled to start in October 1959. The gigantic project envisages construction of harbors, fishing fleets, and refrigeration plants.

The fishery program was based on a report submitted last fall to the Ceylonese Government on findings of a Japanese survey mission.

Despite a huge demand for fish in Ceylon, output is only 30 percent of the demand and some $100 million worth is imported yearly. Under the five-year project, the amount imported is to be replaced by domestic fisheries.

Although it is not yet known to what extent the Japanese Government will cooperate, observers point out that it would be difficult for Japan to participate in the harbor construction project since this would call for an Export-Import Bank loan.

Ceylon (Contd.):

Opinion favoring the acceptance of the Ceylonese proposal is said being advanced within the Government since the country is one of Japan's major markets (last year's exports totaled $36 million and imports $5.7 million).

The Government, however, is giving careful consideration to the project in view of relations with other countries, such as Thailand, which is also seeking Japan's help in the construction of fishing ports. (The Japan Times, April 14, 1959.)

Beach seine fishing in Mullativu, Ceylon.

Cuba

CLOSED SEASON FOR BULLFROGS, SPONGES, AND CERTAIN FINFISH:

The National Fisheries Institute of Cuba revoked the closed season invoked on April 1, 1959, on the capture of bullfrogs. The termination order effective on April 30, 1959, was published in the Official Gazette of April 28, 1959. The reasons given for the revocation was that the bullfrog spawning season was already over, plus economic and social demands on the part of fishermen and packers whose main source of income is the export of frog legs to the United States.

Another resolution, published in the Official Gazette of April 29, 1959, imposed a closed season on the capture of sponges effective May 5, 1959, in the northern maritime zone of Caibarien and the southern maritime zone of

Cuba (Contd.):

Batabano. Sponge fishing is still permitted off the north coast of Vuelta Abajo in the province of Pinar del Rio. The closed season will remain in effect until cancelled by a subsequent resolution.

The same resolution also imposed closed seasons, effective May 5, 1959, on the following fish species, to remain in effect until cancelled by subsequent resolutions: Biajaiba (Lane Snapper), Corvinas (Croakers), and Robalos (Snooks)--United States Embassy, Havana, dispatch dated May 18, 1959.

Denmark

FISH MEAL PRODUCTION, IMPORTS AND EXPORTS, 1958:

Production of fish meal in Denmark increased about 14 percent, or from 58,000 metric tons in 1957 to 66,000 tons in 1958. The total available supply (production, imports, and stocks on hand) increased from 69,000 tons in 1957 to about 80,000 tons in 1958, due to increases of 8,000 tons in production and 4,000 tons in imports. The increasd production in 1958 was due to better landings of herring and sand eel or launce. Consumption of meal in Denmark was 22,000 tons in 1958 and 24,000 tons in 1957.

In 1958 a total of 53,000 tons were exported as compared with 42,000 tons in 1957. Denmark's best customers for fish meal were the United Kingdom with 23,000 tons or 44.1 percent and Holland with 16,000 tons or 31.7 percent. The United States purchased 991 tons, and the balance of the exports of about 53,000 tons was exported to 10 other countries.

Table 1 - Danish Exports and Imports of Fish Meal, 1958

Destination	Herring Meal	Other Fish Meal	Total
Exports:	(Metric Tons)		
United Kingdom	22,739	585	23,324
Holland	16,114	639	16,753
West Germany	2,799	2,470	5,269
Italy	2,446	10	2,456
United States	991	-	991
France	907	-	907
Czechoslovakia	475	-	475
Belgium-Luxemburg	396	-	396
Finland	341	-	341
Mexico	280	-	280
Philippines	207	-	207
Switzerland	95	1/	95
Sweden	81	398	479
East Germany	-	894	894
Other countries	-	15	15
Totals	47,877	5,011	52,882
Origin			
Imports:			
Iceland	90	6,926	7,016
Norway	-	3,832	3,832
Totals	90	10,758	10,848

1/ Less than 1 metric ton.

Imports of fish meal by Denmark totaled 11,000 tons--all from Iceland and Norway.

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MARINE OIL EXPORTS, IMPORTS, AND SUPPLIES, 1958:

During 1958 the available Danish supplies of marine oils (fish-liver oil, fish oil, and marine-mammal oils), totaled 40,099 metric tons or 2,000 tons more than in 1957. This relatively minor increase was due to a larger domestic production as well as to increased imports of herring oil from West Germany, which more than offset a reduction of the whale oil imports. The larger domestic production of fish oil was due to increased landings of herring and launce or sand eel. The reduced imports of whale oil are explained by smaller requirements of the margarine industry, the output of which was reduced in 1958.

The requirements of marine oils for both domestic and export purposes increased roughly by 4,000 tons. Consequently, the inventories of marine oils were reduced throughout 1958 as the supplies only increased 2,000 tons. Whale oil was the principal stock that was reduced. This seems a logical development as it is expected that the margarine industry will use smaller quantities than formerly. In other words, reduction of inventories may be considered a process of adjustment to lower requirements.

Denmark (Contd.):

The increased exports of 2,000 tons of marine oils were made up of primarily herring oil. The major share of the increased exports was shipped to Sweden and West Germany. (Foreign Agriculture Service of the U. S. Department of Agriculture report from Copenhagen dated April 17, 1959.)

Table 1 - Danish Supply and Distribution of Marine Oils, 1957-1958

Type	Opening Stocks Jan. 1	SUPPLY: Production	SUPPLY: Imports	SUPPLY: Total Supply	DISTRIBUTION: Exports	DISTRIBUTION: Consumption	DISTRIBUTION: Ending Stocks Dec. 31	DISTRIBUTION: Total Distribution
	(Metric Tons)							
1958								
Fish-liver oil	n.a.	200	1,416	1,616	119	1,497	n.a.	1,616
Fish (incl. herring) oil	2,298	16,980	5,235	24,513	11,349	9,383	3,781	24,513
Whale and seal blubber oil	n.a.	1,000	16	1,016	-	1,016	n.a.	1,016
Whale oil	7,747	n.a.	5,099	12,846	102	9,073	3,671	12,846
Seal oil	n.a.	106	2	108	98	10	n.a.	108
Total	10,045	18,286	11,768	40,099	11,668	20,979	7,452	40,099
1957								
Fish-liver oil	n.a.	200	1,736	1,936	316	1,620	n.a.	1,936
Fish (incl. herring) oil	706	13,957	2,603	17,266	8,593	6,375	2,298	17,266
Whale and seal blubber oil	n.a.	1,000	-	1,000	-	1,000	n.a.	1,000
Whale oil	7,606	n.a.	10,263	17,869	105	10,017	7,747	17,869
Seal oil	n.a.	n.a.	20	20	14	6	n.a.	20
Total	8,312	15,157	14,622	38,091	9,028	19,018	10,045	38,091

n.a.= not available.

Table 2 - Denmark's Imports of Marine Oils by Country of Origin, 1958

Country	Oil: Fish-liver	Oil: Herring	Oil: Whale	Other	Total
	(Metric Tons)				
West Germany	296	3,951	3	-	4,250
Norway	853	385	5,096	1/ 18	6,352
Iceland	220	1	-	-	221
Sweden	1	478	-	-	479
United Kingdom	45	-	-	-	45
Angola	-	370	-	-	370
Other	1	50	-	-	51
Total	1,416	5,235	5,099	18	11,768

1/ Whale and seal blubber (16 tons) and seal oil (2 tons).

Table 3 - Denmark's Exports of Marine Oils by Country of Destination, 1958

Country	Oil: Fish-liver	Oil: Herring	Oil: Whale	Oil: Seal	Total
	(Metric Tons)				
West Germany	57	2,063	31	56	2,207
Norway	-	1,513	-	2	1,515
Sweden	28	7,082	-	22	7,132
Italy	5	9	28	18	60
Belgium-Luxemburg	5	26	-	-	31
Spain	4	163	-	-	167
Czechoslovakia	-	251	-	-	251
Hungary	15	222	43	-	280
Other	5	-	-	-	25
Total	119	11,349	102	98	11,668

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REVIEW OF FAROE ISLANDS FISHERIES, 1958:

Salted fish production in 1958 amounted to 29,850 metric tons or 450 tons above 1957. Landings from off the coast of Iceland of 7,800 tons were lower than in 1957, but the landings from the fisheries off Greenland were a record 19,250 tons in 1958 (12,800 tons in 1957). Local fishing around the Faroe Islands yielded 1,550 tons of salted cod as compared with 2,800 tons the preceding year. The drop was due to an increase in the sale of 11,000 tons of fresh iced-fish to the British--about double the 1957 figure. Herring landings in 1958 of 136,000 barrels were about the same as for 1957. The whaling industry had a poor year in 1958 with only 57 whales captured as compared with 199 the preceding year.

Exports of all products from the Faroes in 1958 totaled 91.7 million kroner

Denmark (Contd.):

(US$13.3 million), about the same as in 1957. Exports of salted fish accounted for 21.3 million kroner (US$3.1 million) as compared with 15.6 million kroner (US$2.3 million) the year before while dried fish exports of 33.2 million kroner (US$4.8 million) in 1958 were down about 5.3 million kroner (US$767,000) from 1957. As of January 1, 1958, inventories of exportable products amounted to 12.5 million kroner (US$1.8 million).

Exporters of salted fish in 1958 were beset by difficulties in selling dried fish to Spain and Brazil. Payments on exports to Spain were slow and conditions in the Brazilian market were unsettled. The difficulties experienced in selling dried cod brought about increased sales of salted fish. This development resulted in less call for loans by the fishing industry since export of salted fish results in quicker payment to the processors of the fish.

The Faroe Islands fishing fleet was increased by one vessel in 1958.

The Bank of the Faroes loaned 22.8 million kroner (US$3.3 million) to the fishing and fish processing industry in 1958, according to the annual report of the Føroya Bank in Thorshavn, the largest bank in the Faroe Islands. (United States Embassy, Copenhagen, report dated March 25.)

El Salvador

SHRIMP FISHERY TRENDS:

On February 7, 1959, the largest fishing company in El Salvador inaugurated a shrimp freezing plant and a pier for its 6 boats at its Pacific Coast base of operations at Puerto El Triunfo, on the Bay of Jiquilisco. Prior to construction of this pier, fishing boats operating from this "port" have had to be loaded and unloaded across extensive mud flats. The freezing installation, which uses power brought in over a new transmission line, has a freezer with a rated hourly capacity of some 3,500 pounds and a cold-storage room for some 180,000 pounds of shrimp. The frozen shrimp is trucked to San Salvador, from where the largest proportion is then flown to the United States.

At the inaugural ceremonies at Puerto El Triunfo, a company spokesman emphasized the contribution that this relatively new industry is making to the economy and made a strong plea for more Government support (issuance of licenses to operate additional fishing boats). The firm is presently capitalized at US$400,000, of which half is Salvadoran, about 45 percent that of the Portuguese fishermen who brought in the boats, and the balance Panamanian.

The 1958 landings by Salvadoran fishermen amounted to 1,116,879 pounds of fish, 846,051 pounds of shrimp, and 92,191 pounds of small shrimp (camaroncillo), according to preliminary Government statistics. The shrimp landings are believed to be a mixture of heads-on and heads-off weight, but principally heads-off.

German Democratic Republic

CANNED TUNA PRICES, MAY 1, 1959:

Importers and other trade sources in West Germany report that most of the canned tuna imported is of Japanese and Peruvian origin. According to trade sources in the Hamburg area imported canned tuna prices (c.i.f. Hamburg) as of May 1, 1959, were: Japan; all solid pack, 48 cans per case: light meat (skipjack and yellowfin) in cottonseed oil, 7-oz. cans US$6.50-6.80, 3½-oz. cans $3.65-3.85; light meat (bluefin and big-eyed) in cottonseed oil fancy B, 7-oz. cans $6.35, 3½-oz. cans $3.50; light meat (skipjack and yellowfin) in aspic, 7-oz. cans $6.40 a case; flakes, 7-oz. cans $6.40-6.45; Peru: light meat in cottonseed oil, solid pack, 48 cans/cs., 7-oz., top brand, $6.75; other brands, $6.20-6.35; 3½-oz. 96 cans/cs., $6.45.

Prices c.i.f. Hamburg for the top Peruvian brand (fancy white solid pack in cottonseed oil for a case of 48 7-oz. cans) rose from $5.45 as of April 15 to $6.75

German Federal Republic (Contd.):

on or about May 1. Light meat solid pack in cottonseed oil as of May 1 was $6.20-6.35 for 7-oz. cans (48 to the case) and $6.45 for 3½-oz. cans (96 to the case). The Hamburg importers expect some decrease in c.i.f. canned tuna prices from the pack of the 1959 season.

Iceland

GROUNDFISH LANDINGS IMPROVE IN APRIL:

The groundfish catches in April 1959 by Icelandic inshore vessels improved so much that it now appears likely that, despite the poor catches in February and March, the total catch of the main winter season will exceed last year's record. Ordinarily, catches fall off in late April, although the season does not officially end until May 10. However, catches continued good this April and freezing plants were working overtime.

The best quality cod is caught earlier in the season, by the line boats, but the bad weather limited the catches of fish at that time. A higher proportion of the present catch is being rejected by the freezing plants as unfit for filleting--though suitable for stockfish. It is by no means certain, therefore, that the export value of the catch will be as high as in 1958, according to an April 24, 1959, dispatch from the United States Embassy in Reykjavik.

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CONTRACTS FOR THREE LARGE TRAWLERS FROM WEST GERMANY:

The Icelandic press has announced that contracts have been signed by private owners for the construction of three large trawlers by a West Germany shipyard to be financed by a ten-year West German bank credit. Two of the 950-ton ships will be purchased by a herring and fish meal factory at Akranes, and the third by a fish producer of Akureyri. The contracts are subject to approval by the Icelandic Government, which must guarantee the loans. If the contracts are approved, the trawlers will be delivered January 31, 1961.

The bulk of the Icelandic large trawler fleet has returned to the Newfoundland fishing grounds, two months ahead of last year. It is primarily for this distant type of fishing that the larger trawlers are needed, according to an May 22, 1959, dispatch from the United States Embassy in Reykjavik.

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LARGE TRAWLER TO BE BUILT IN WEST GERMANY:

The town council of Hafnarfjordur, Iceland, has authorized the municipal trawler company to proceed with a contract to build a 900-1,000 ton supertrawler in Bremerhaven, West Germany. The new vessel will replace the trawler Juli, lost with all hands this past winter. The new trawler, when completed, will be the largest in Iceland and will have a capacity of 500 metric tons of iced fish, the United States Embassy in Reykjavik reported on April 24, 1959.

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INVESTMENT IN FISHING INDUSTRY HIGHER IN 1958:

Investments during 1958 in the Icelandic fishing industry are estimated to be up about 8 percent as compared with 1957, with an increase in the tonnage of the fishing fleet more than offsetting a decline in additions to processing plants. For the purposes of asset formation, investment in fishing vessels is calculated on the basis of construction performed during the year, whether in Iceland or abroad for the Icelandic account, and on this basis a rise of about two-thirds over and above the 1957 level was expected. During 1958 the following vessels actually were added to the fishing fleet: 2 (replacement) trawlers, 1,491 tons total; 11 fishing boats, 1,439 tons total; and 3 (East German) trawlers, 747 tons total.

Investments in fish-processing plants in 1958 were estimated to be only two-thirds as much as in 1957, and the lowest level in four years. This was only natural, in view of the considerable idle capacity existing most of the year and especially in the smaller ports. This problem has focused public attention on the need to replenish the fleets of both the trawlers and motor boats. When

Iceland (Contd.):

ample fish supplies are delivered, freezing plants are relatively more profitable investments than boats or trawlers. But this is not so when raw material is lacking (as it has been for most plants outside the Faxa Bay and Westman Islands areas). Having succeeded in getting state loans for local freezing plants or herring factories, many of these smaller ports have now turned to the Government for help in obtaining the fishing vessels necessary to assure raw material to keep the plants operating.

The major effort to meet this problem has been the scheme to purchase 12 new East German 250-ton fishing vessels, capable of trawling in home waters. Three of these were delivered before the end of 1958, with the rest expected to arrive in 1959. All are destined for smaller ports outside the more populous southwest area of the country. (United States Consulate dispatch of April 30, 1959, from Reykjavik.)

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FISHING LIMITS DISPUTE WITH BRITISH FLARES UP AGAIN:

The refusal of the British to recognize Iceland's extension of fishing limits from 4 to 12 miles from the coastline has been the cause of friction between the two governments for some time. Two incidents concerning British trawlers (Carella and Swanella) allegedly fishing inside Iceland's four-mile fishing limit have brought the dispute in the headlines again because the British have refused to accept the Icelandic Coast Guard reckonings.

On April 18, the Iceland Ministry of Foreign Affairs released the substance of a note delivered to the Foreign Minister by the British in reply to the Icelandic note of protest of March 26, in connection with the Carella incident. The note said that: (1) the British Government does not recognize Iceland's fishing limits outside the three-mile territorial waters limit and therefore repudiates the right of Icelandic Coast Guard cutters to seize foreign vessels "on the high seas;" (2) the British trawler Carella was not within the four-mile demarcation as computed by the Icelandic Coast Guard cutter; (3) the British Government considers the regulations on a 12-mile fisheries jurisdiction to be invalid according to international law; and (4) pending the outcome of the prospective International Conference on the Law of the Sea in 1960, a temporary agreement on fisheries be reached either by negotiations or by referring the matter to the International Court.

An editorial in an Icelandic newspaper stated that the purpose of British "provocative action" is to lay the groundwork for world-wide support for some kind of Faroese-solution (six-mile fishery limit) issue at the next Law of the Sea Conference in 1960.

The Icelandic Coast Guard reports that 29 British trawlers were sighted fishing within the 12-mile fishery limit on April 21 in three areas protected by British warships. The areas are off Adalvik, the Eldey Bank, and the Selvog Bank. (United States Embassy report from Reykjavik, April 22, 1959.)

Iran

SHRIMP FISHERY IN THE PERSIAN GULF EXPANDING:

In order to help develop the Iranian shrimp industry in the Persian Gulf, a small fleet of trawlers is being shipped to Iran. Four of the 60-foot trawlers passed through the port of New York City in mid-April on the deck of the freighter Neidenfesls. The trawlers were loaded at Cristobal, Panama, and are scheduled to land at Khorramshahr, Iran.

In addition, the 1,000-ton mothership Moyon I is due at Khorramshahr around mid-May. Later an additional three trawlers will arrive, which will make a total of seven trawlers.

The shrimp fleet was outfitted by a New York City importing company. The trawlers will be manned by Americans and some Europeans who will teach the Iranians how to operate them and fish for shrimp. The President of the New

Iran (Contd.):

York importing firm points out that Iran at present has only one trawler and one mothership in operation. Shrimp shipments to the United States from that operation average about 100,000 pounds a month. With the addition of the seven trawlers and the second mothership monthly shipments to the United States are expected to reach one million pounds a month. The New York importing firm is the selling agent in the United States for the Iranian fishing company which has the fishing rights in Iranian waters.

Israel

TUNA FISHING COMPANY WITH JAPANESE SWISS PARTICIPATION IN OPERATION:

The Shimu Maru, the vessel fishing for the Joint Israeli-Japanese-Swiss Fishing company, started operations in November 1958 and mid-April had landed two trips of tuna--600 metric tons of fish. It was expected that by mid-May a third trip of 280 tons would be landed.

The Japanese Company operating the vessel with a complement of Israeli fishermen sells the fish to the company in Israel at $255 a metric ton, but since there is an Israeli commodity price adjustment tax of $380 a ton levied on frozen tuna, the actual price of the tuna is $644 a ton delivered.

The sale of the tuna is handled by the company established in Israel. Collective farms and armed forces are the principal buyers, but a part of the fish is sold in the local markets. In spite of the high price, reports indicate that there is a demand for the frozen tuna landed by the Shimu Maru.

Italy

ELECTRONIC DEVICE TO MEASURE STRAIN ON OTTER TRAWLS DEVELOPED:

A new electronic device which fits easily on a conventional trawl winch, and which not only saves the net from being torn or lost, but tells how much fish is in the net, is in the process of being patented by an Italian inventor. The device is the successor to an earlier invention which measured only how many fish were in the net. The inventor states that his new device is a very simple arrangement of great value to the trawling fleets of the world. It will be especially useful to deep-sea trawlers, and boats dragging in rough waters.

The device consists mainly of two hinged collars attached to the terminals of the winch. Two dynamometers fitted with electroacoustical devices are coupled to the collars, and anchored to the deck.

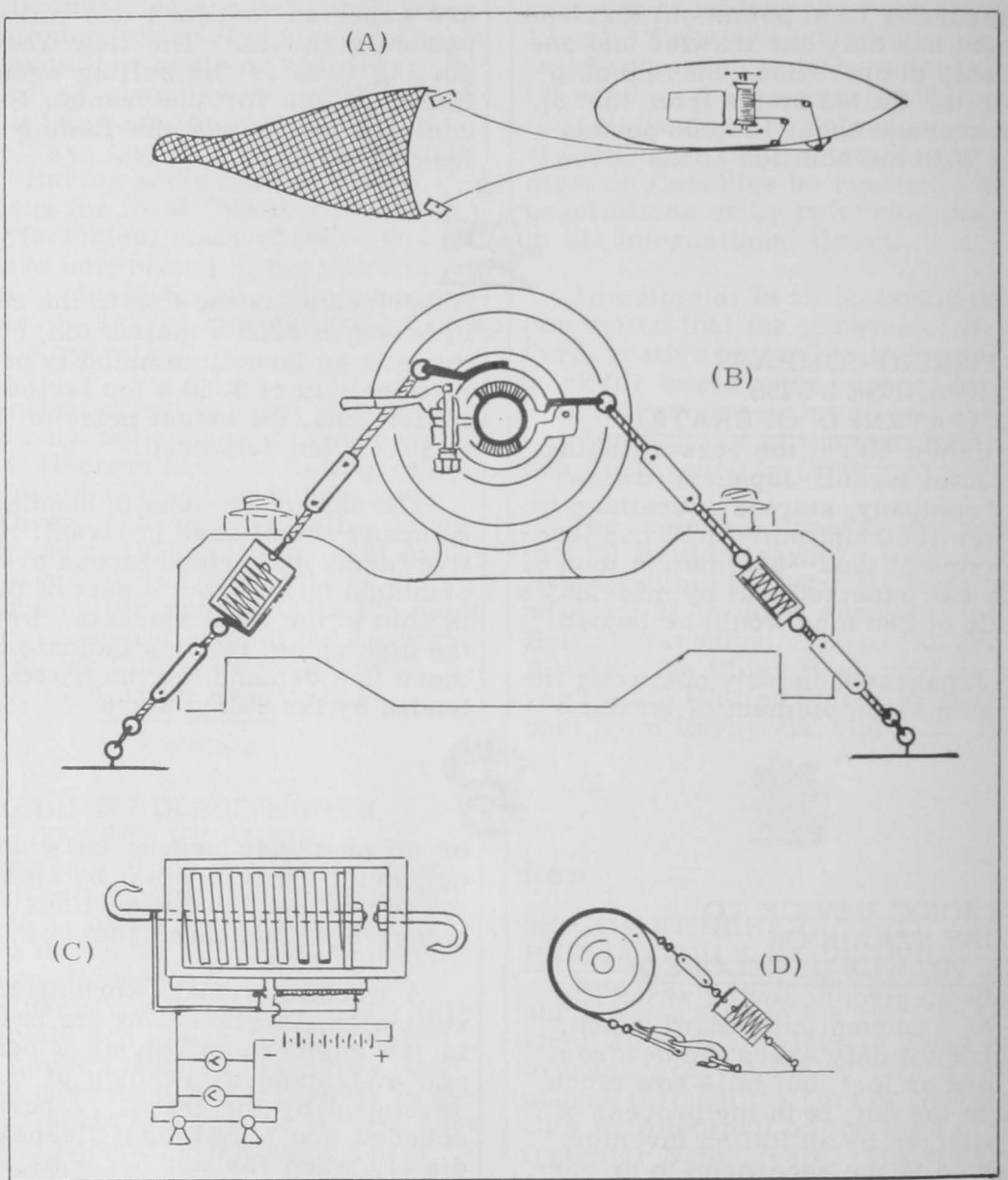
Main purpose of the invention is to avoid destroying the net on rough bottom, or on obstacles unseen on sounding equipment. It will also, by measuring the strain on the towing lines, give a measure of how much fish is in the net.

A warning signal, working through a voltmeter, is placed on the bridge and in the engineroom, giving a permanent and instantaneous reading of the strains developed by the trawl. A horn is sounded and a red light flashes immediately when the net becomes fouled on the bottom or on an obstacle.

The device is so set up on the winch that it automatically disengages when the strain reaches the danger level. When this brake is released the winch is then running free, letting out line until the net is free, or until the ship is stopped or diverted.

A San Francisco company is negotiating with the inventor for manufacturing rights, and it is expected the new device will be on the market within a year. Patents are pending in the United States, Canada, Italy, and Norway, and manufacturing rights throughout the world have been reserved for a year.

Italy (Contd.):



(A) Electrical warning and correctional device fits on side of trawl winch; warns skipper and engineer when strain on towing line reaches danger point. Device also gives accurate indication of weight of fish in net.

(B) Fitting device to side of trawl winch, collar is fastened to axle of winch, but can be unhinged for normal operation. Lining, similar to auto brake lining, is fitted tightly around axle. Variation of strains coming from towing lines is transmitted through the winch axle to the bearings in the collar, and then to the spring of the dynamometer. Voltmeters then register strain.

(C) Hook on ends of dynamometer are hooked to special attachment running from winch to deck--see (B). Any change in strain on towing lines around the winch is registered by the two voltmeters--see (D).

(D) Device can also be fitted to winches of limited capacity as shown.

Japan

TUNA EXPORT QUOTAS FOR 1959 SET BY PRODUCERS' ASSOCIATIONS:

In preparation for the beginning of a new export year on April 1, 1959, Japanese tuna industry associations held a series of meetings to set export production quotas and check prices, and to decide the terms of allotment of the quotas among their members.

The Export Tuna Canners' Association has decided on a total production quota of canned tuna in brine for export to the United States of 2,450,000 cases, with a possible increase of another 10,000 cases. This increase of about 25 percent over the 1958 export quota of 2 million cases reflects the rise in the United States canned tuna pack and consumption.

The Export Tuna Freezers' Association has set its production quotas for United States exports and the division of production between vessel-frozen and shore-frozen fish. The quota for albacore is 29,700 tons, of which 2,910 tons can be frozen aboard fishing vessels and 1,590 tons aboard motherships. Exports of tuna loins will be limited to 2,970 tons, at minimum prices of $730 for albacore and $565 for yellowfin. Export production of frozen yellowfin has been divided on the basis of 35,000 tons for freezers in Japan shipping by freighter and 120 landings for fishing vessels delivering fish directly in foreign ports (Atlantic fishery). The vessels will be under the further limitation that no vessels may make more than two such landings for export to the United States within one year. It has been estimated that 120 clipper landings will represent between 35,000 and 40,000 tons of tuna. Check prices per short ton for frozen yellowfin have been set at $190 for large, $210 for medium, and $220 for small fish.

The Freezers' Association has decided to set its 1959 broadbill swordfish production quota at 4,455 tons, down slightly from last year's 5,000 tons because of slow sales.

Frozen tuna at Tokyo Wholesale Fish Market. The fish have been landed from the 300-ton tuna long-liner at the dock. Tuna were caught in the Indian Ocean.

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Japan (Contd.):

TUNA MOTHERSHIP OPERATIONS AND RESEARCH:

Licensing policies for Japanese tuna mothership operations for 1959 were announced on April 8, 1959, by the Fishery Agency. The basic production limit for the tuna mothership fishery in 1959 will be 13,600 metric tons, but this limit may be exceeded by as much as 9,300 tons if some of the participating fishing companies agree to lay up their vessels for corresponding periods during the rest of the year. Since the operating plans of the principal companies engaged in this fishery, as reported by the trade press, already exceed this limit, the Fishery Agency is faced with the task of apportioning the production quota among license applicants in accordance with their past production records.

On April 4, the Fishery Agency issued a significant directive aimed at strengthening and coordinating the activities of the research vessels, fisheries guidance vessels, and training ships which various local governments are using to fish for tuna. Noting that the number of such vessels has increased rapidly in recent years, and now totals more than 40, the directive states that, if they are used primarily to earn income, there is a danger that they will have the effect of economically oppressing commercial tuna fishermen. The directive prescribes a very broad program of standard observations, including keeping of fishing records, collection of biological specimens, tagging, morphometric measurements, scale and blood samples, and larval fish collection. The data and specimens will be kept and processed by the Nankai Regional Fisheries Research Laboratory. The result should be a great strengthening of tuna research in Japan. (United States Embassy, Tokyo, April 1, 1959.)

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ALBACORE TUNA FISHING SLOW IN DEVELOPING:

According to an early April report issued by the Fisheries Research Team of Takai University, the water temperature around the usual albacore fishing ground stretching southeasterly from Japan's mid-Honshu had dropped slightly from the last 10-day period.

Hidden in the main cold water mass are thick groups of small as well as medium- and large-sized albacore and on March 26 a school of 24-pound albacore mixed with yellowfin and skipjack was seen to rise to the surface. Act of rising up near the surface is done usually at daybreak and just before sunset. The general pattern of water mass formation looks quite similar to last year.

As for an immediate outlook, waters within 30°-31° N., 133°-135° E., in the offing of Shikoku have a greater probability of containing small- and medium-sized fish schools rising up to the surface. Catches after the first 10-day period of April should exceed the actual result achieved last year, according to the prediction.

* * * * *

PRICE CUT ON CANNED WHITE MEAT TUNA IN BRINE:

Provisionally the Japanese Tuna Packers' Association Directors on April 15, 1959, decided to recognize a $1.00 per case cut in the price of white meat tuna canned in brine sold to the United States for the next, or 5th, "sale period" only. Prices for lightmeat tuna remained unchanged.

For the 4th "sale period," total exports of 350,000 cases are expected by the packers, of which albacore would be 250,000 cases. Packers are reported paying about $300 a short ton ex-vessel for albacore tuna. However, if albacore landings continue light, the cut in price will probably be reconsidered.

* * * * *

REDUCED PRICE STIMULATES SALES OF TUNA LOINS:

According to a Japanese newspaper report on March 5, 1959, the reduced check prices of US$730 (formerly $850) a ton for albacore loins and $565 (formerly $620-640) for yellowfin tuna loins have resulted in increased sales to the United States. The former check prices for tuna loins were fixed when market conditions were favorable, but under the weaker market of the past few months those prices were too high and sales lagged.

Japan (Contd.):

Due to the slow market for tuna loins since the first of the year, trade sources predicted that it would be difficult to dispose of the entire 3,000-metric-ton quota before the end of the fiscal year ending March 31, 1959.

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EXPLORATORY TUNA FISHING VESSEL REPORTS GOOD CATCHES OFF GALAPAGOS ISLANDS:

The Japanese pelagic fisheries guidance vessel Iwaki Maru from Fukushima Prefecture was due back in Misaki the latter part of March from its trip to the eastern Pacific. The vessel left Japan for its third trip during December 1958.

The vessel reported that upon arriving at the fishing grounds off the Galapagos Islands (123° 18' W. long. and 6° 25' S. lat.) the first long-line set yielded 28 yellowfin and 5 big-eyed tuna, 47 large bonito, 20 broadbill swordfish, and 4 striped and black marlins--total weight 5.3 metric tons. Following the first set, catches averaged 5.6-6.5 tons or about twice what was obtained during the vessel's second trip. It was expected that the vessel would have a full load of 236 tons by early March and be on its way back to its home port two or three weeks ahead of schedule.

* * * * *

NORTHWEST PACIFIC SALMON FISHERY QUOTA FOR 1959:

A quota of 85,000 metric tons of salmon has been set by the International Northwest Pacific Fisheries Commission for the 1959 Japanese mothership salmon fishery. The quota is 23 percent below the quota of 110,000 tons in effect for the 1958 season and about 29 percent under the quota of 120,000 tons in effect for 1957. The quota agreement was reached on May 13, 1959, after nearly four months of negotiations between the Japanese and Russian delegates to the Commission. The original request by the Japanese at the start of the negotiations was for a 165,000-ton limit with the Russians countering with an offer of a 50,000-ton limit.

Acceptance of the reduced quota by the Japanese is going to mean a heavy blow to those directly and indirectly concerned with the Japanese Northwest Pacific high-seas salmon fishery, according to a spokesman for the Japanese Federation of Salmon Fishing Cooperatives.

* * * * *

PLAN TO CAN PET FOOD FROM FISH WASTE:

Japanese high-seas salmon packers are planning to pack pet food from waste salmon at their land processing establishments this season. Reports indicate that there is an increasing demand from the United States for Japanese canned pet food. Also, a number of Hokkaido fish canners have now begun to plan packing of pet food from such fish as saury, herring, Atka mackerel, etc., as may be caught locally. It is even said that some sample lots have already been canned by a few canners who hope to get into mass production in the future. The major fishery items canned in Hokkaido are pink salmon, king crab, Kegani crab, Hanasaki crab, saury, squid, scallop, clam, and whale meat.

* * * * *

WHALE MEAT SOLD TO UNITED STATES FOR PET FOOD:

A contract sale of 1,000 metric tons of Antarctic whale meat for use in canned pet food was announced in mid-April by a Japanese company. The price of the sale was $240 a ton c.i.f. New York City. Another Japanese company is reported negotiating a similar sale.

* * * * *

FISH SAUSAGE DEMAND REFLECTS CHANGING FOOD HABITS:

Changing food preferences are bringing a boom to the Japanese manufacture of fish sausage and similar products. Figures released by the Japan Fish Sausage Manufacturers' Association indicate that production of conventional types of fish sausage and "ham" was up to 49,190 metric tons in 1958, as compared with 38,217 metric tons in 1957, and a further increase of at least 20 percent is being predicted for 1959. Since the fall

Japan (Contd.):

of 1958, the manufacturers have been busy introducing new products, such as "salami," "sliced ham," and "corned beef," and although production statistics seem to be lacking for those exotic items, they are also expected to develop greatly during 1959.

Competition is keen among the manufacturers of the new foods, principally the three or four largest marine products companies in Japan, and the effect of the fish sausage boom is also seen on competing food products. Last year, fish sausage and ham production nearly equaled that of meat sausage and ham, and it will probably surpass the latter in 1959. The popularity of these handy, relatively imperishable foods is also said to be holding back expansion of demand for fresh fish.

A comparison between Japanese consumption of marine products during 1948 and 1958 reflects the change in demand. Taking 1948 consumption as 100, the 1958 indices for the following foods are: fresh fish 112, salted and dried fish 153, refrigerated products 268, and whale meat 460 (United States Embassy in Tokyo, May 1, 1959.)

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CANNED SARDINE PRICE TO WEST AFRICA CUT:

A cut of 28 cents a case was recently made by the Japan Canned Fish and Shellfish Sales Company for sales to West Africa of small No. 1 type canned sardines. West Africa, before 1958, purchased about 150,000 cases of Japanese canned sardines, but recently South African sardines have cut into the sales of Japanese sardines to that area. In 1958, exports of canned sardines from Japan to West Africa were only about 50,000 cases. Therefore, in an attempt to bolster sales to that area, the Japanese announced the cut in price.

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CANNED SAURY PACK TARGET REDUCED:

As much as 640,000 cases of canned saury were in stock as of the first part of April and only 340,000 cases were expected to be moved by the end of August, according to a report of a meeting of the Japan Export Canned Saury Manufacturers Association on April 13, 1959. At first the Association was planning on a pack target of about 650,000 cases, but because of the unsold stocks on hand it is planned to reduce the target to 600,000 cases for the new pack season.

Korea

INCREASE IN EXPORTS OF FISHERY PRODUCTS PLANNED:

The Republic of Korea trade program for the second half of 1959 includes an estimated US$4.6 million in exports of fishery products. The planned exports of fishery products include $570,000 of frozen shrimp. Considerable interest in Korean shrimp supplies has developed in the United States and this item may become a substantial source of foreign exchange in the future.

Mexico

MERIDA SHRIMP FISHERY TRENDS, MARCH 1959:

The Mexican shrimp fishing industry in the Campeche and Ciudad del Carmen areas of the Gulf of Mexico has declined to the point of crisis due to small catches, lower prices on the world market, and increased costs of operation. The small catches are believed to be due in part to natural causes, but they may also be the result of past fishing practices, particularly the heavy catches of small immature shrimp.

Increased costs of petroleum, oil, and repairs have forced some boat owners, whose margin of profit is at best quite low, to tie up their vessels, thus leaving idle fishermen who must seek economic assistance from the cooperatives.

Representatives of the various sectors of the shrimp industry assembled to consider means of combating the problem and adopted a program which would ban catches of small shrimp and

Mexico (Contd.):

forbid their purchase by the cooperatives, declare white shrimp out of season for three months, and work toward a strict control of fishing throughout the Gulf of Mexico, the latter presumably contemplating action at the diplomatic level. (United States Consul dispatch of April 3, 1959, from Merida.)

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VOLUNTARY CLOSED SEASON FOR SHRIMP FISHING IN CAMPECHE AREA:

The fishermen's cooperatives and the shrimp industry of Ciudad del Carmen and Campeche, Mexico, have agreed on a two-months (April 1 to May 31) closed area which extends out into the Gulf of Mexico nine miles. The agreement, which was reached on March 31, includes penalties and the boat crews are required to sign a copy of the agreement. The agreement also bans the catch or purchase of shrimp smaller than 50 to the pound heads on. The penalties and rules are:

1. Three months suspension for the crews of ships caught fishing within nine miles of shore.

2. Permanent suspension in case of repetition.

3. For capture or transport of white shrimp (Penaeus setiferus), confiscation of the catch and the penalties mentioned above.

4. If a boat owner desires to force the crew to fish within nine miles, he must do so in writing. The same penalties will be applied to the ship and the owner will be obliged to maintain the crew during the penalty period.

5. Any company buying or found having white shrimp in possession will be penalized as follows: (a) confiscation of the shrimp; (b) expulsion from the National Chamber of the Fishery Industry; (c) request to the authorities to close the plant.

6. The cooperatives will not issue certificates for white shrimp during the closed period. (According to Mexican law legal transactions involving shrimp must be accompanied by a certificate from a fishing cooperative.)

7. The Chamber, the cooperatives, and the authorities will undertake the enforcement and any ship caught within nine miles will have the penalties applied automatically without recourse.

8. The Chamber, cooperatives, and the authorities will, upon termination of the closed season, send ships to determine whether the closed season should be extended or not.

The Ciudad del Carmen-Campeche area in the Gulf of Mexico has been suffering from low catches of shrimp since the fall of 1958. The closed season is an attempt to prevent the capture of small white shrimp and to increase catches later on. However, since practically the entire range of the adult white-shrimp population is involved in the closed area, the results of the closed season may not be those anticipated by the proponents of the measure. Depending upon the recruitment rate of small shrimp and growth and natural mortality rates the area could wind up inhabited by a smaller total poundage of shrimp at the end of the closed season than at the beginning.

In any event, the measure, if complied with, should eliminate shipments of white shrimp from this region to the United States for two months. Normally, on an annual basis, about one-third of the Ciudad del Carmen landings are white shrimp whereas the Campeche landings are composed of a small percentage of whites.

The Mexican shrimp industry not only in the Carmen-Campeche area but elsewhere in the Gulf of Mexico is in a very distressed condition because of light catches. The industry is further plagued by rising costs of operation.

Shrimp landings for the first quarter of 1959 in the Campeche-Carmen area totaled 2.8 million pounds heads on as compared to 4.7 million pounds the same quarter in 1958.

Shrimp landings for the first quarter of 1959 in the Campeche-Carmen area totaled 2.8 million pounds heads on as compared to 4.7 million pounds the same quarter in 1958. (United States Embassy dispatch from Mexico dated April 3, 1959.)

Morocco

FISHERY PRODUCTS LANDINGS AND FOREIGN TRADE:

Landings of fish and shellfish in Morocco (includes both Northern and Southern Zones) during 1957 were about 142,776 metric tons, a record for recent years. The 1957 landings were greater than in 1956 by about one-third. Landings were curtailed at the height of the season due to lack of buying interest on the part of the fish canners. The market for canned fish was depressed, but demand was good for fish meal. Although the fish meal manufacturers could have utilized surplus sardine catches for fish meal, they were prevented from buying the surplus because the fishermen's labor union, would not allow the vessels to sell fish unwanted by the canners at the lower price offered for fish for reduction into fish meal.

With a large stock of canned sardines unsold from 1957, the outlook was not bright for the canning industry in 1958.

Landings in 1957 included 109,828 tons of sardines, 9,373 tons of tuna, 22,734 tons of other finfish, and 841 tons of shellfish. The canning industry consumed 70,630 tons of sardines and 6,856 tons of other fish; the reduction plants used 31,276 tons; 21,776 tons were sold for human consumption; 6,684 tons were frozen for export; and the balance used for bait, salting, and unspecified purposes.

Morocco's production of processed fishery products amounted to 70,438 tons--canned sardines 27,089 tons, canned tuna 17,401 tons, other canned fish

Morocco (Contd.)

Table 1 - Morocco's Exports[1] of Fishery Products, 1957

Product	France	West Germany	French West Africa	Italy	British African Territories	United States	Algeria	Other Countries	Total
	(Metric Tons)								
Sardines:									
Canned	10,661	2,890	2,050	1,709	1,661	313	-	5,755	25,039
Fresh	4,979	-	13	61	-	-	60	3	5,116
Frozen	3,581	-	-	-	-	-	411	-	3,992
Salted	648	-	-	-	-	-	37	42	727
Total Sardines	19,869	2,890	2,063	1,770	1,661	313	508	5,800	34,874
Tuna:									
Canned	888	-	28	-	-	-	140	143	1,199
Fresh	504	-	-	6	-	-	-	26	536
Total Tuna	1,392	-	28	6	-	-	140	169	1,735
Other fresh fish	333	-	5	144	-	-	2,712	611	3,805
Shellfish, frozen or fresh	181	-	-	299	-	-	129	4	613
Shellfish, canned	50	-	-	16	-	-	3	4	73
Other, dried and salted	94	9	-	-	-	-	38	24	165
Mackerel, canned	774	-	-	60	-	-	260	27	1,121
Fish meal	2,944	2,712	-	285	-	3,482	-	3,278	12,701
Fish oil[2]	1,699	161	-	23	-	-	-	215	2,098
Other canned	-	-	-	-	-	-	-	14	14
Totals	27,336	5,772	2,096	2,603	1,661	3,795	3,790	10,146	57,199

1/ Southern zone only.
2/ Includes cod-liver oil.

663 tons, salted fish 1,597 tons, frozen fish about 5,000 tons, fish meal 12,764 tons, fish oil 2,927 tons, and fertilizer 2,997 tons.

Exports of fishery products from the southern zone of Morocco in 1957 totaled 57,199 tons. France was Morocco's best customer and accounted for 47.8 percent, or 27,336 tons, of the total exports. The United States purchased about 4,795 tons--3,482 tons of fish meal and 1,313 tons of sardines.

Imports of fishery products by Morocco in 1957 totaled 1,677 tons, and included 1,618 tons of fresh fish, 295 tons of salted fish, 354 tons of shellfish, and 10 tons of salmon and other products. The United States share of Morocco's imports of fishery products was only about 7 tons of canned salmon. (United States Embassy in Casablanca, November 10, 1958.)

Mozambique

PORTUGUESE-AMERICAN COMPANY TO FISH FOR SHRIMP AND SPINY LOBSTER:

A new fishing company formed with Portuguese and American capital (about US$105,000), with headquarters in Lourenco Marques, Mozambique, was scheduled to start fishing for shrimp and spiny lobsters about July 1. Late in May the company was waiting for the delivery of two fishing vessels from the United States, and later on additional boats will be added to the fleet.

A contract has been signed by the new company with the Mozambique railroad administration for the use of a large part of the only refrigerated warehouse in Lourenco Marques. In the initial stages, plans call for the sale of shrimp and lobsters to Mozambique and neighboring territories. Later, when space becomes available on reeferships, the firm expects to export shrimp and spiny lobsters to the United States.

All individuals or firms interested in entering commercial fishing ventures in Mozambique must be licensed by the Government. All licensed fishermen are required to report their catches to the Port Captain, who attempts to regulate the licensing of fishermen in order to avoid oversupplies in the markets.

Commercial fishery statistics on the landings of fish and shellfish in the fishing ports of Mozambique are difficult to obtain. During 1956, the latest year for which statistics are available, fish

Mozambique Contd.):

entering those ports amounted to 5.9 million pounds; shellfish, 0.6 million pounds; shrimp, 0.6 million pounds; and unclassified or other fishery products, 0.2 million pounds. The principal port was Lourenco Marques where about 57 percent of the total fish and shellfish was landed. (United States Consulate dispatch of May 20, 1959, from Lourenco Marques.)

Netherlands

UNITED STATES CANNED TUNA PRICED TOO HIGH TO MEET COMPETITION:

According to a Netherlands importer, Japan and Peru are practically the only suppliers of canned tuna to the Netherlands. Wholesale prices quoted c.i.f. Rotterdam late in April for Japanese and Peruvian canned tuna were: Japan: white meat, solid pack in oil, 7-oz. cans, 48 cans/cs., US$7.00-7.50 and in 3½-oz. cans, 48 cans/cs., $4.00-4.50; light meat in oil, solid pack, 7-oz. cans, 48 cans/cs., $6.00 and 3½-oz. cans, 48 cans/cs., $3.00-3.50; Peru: light meat, solid pack in oil, 7-oz. cans, 48 cans/cs., $6.00.

One of the leading brands of canned tuna on the Netherlands market is produced by the Peruvian subsidiary of a large California tuna cannery. As of the end of April the Peruvian subsidiary was reported unable to make offers for shipment to the Netherlands because canned tuna stocks from the 1958/59 catch were about exhausted. The latest offer from the Peruvian firm (April 15) for solid-pack tuna in oil was $5.80 (probably f.o.b. Peru) a case of 48 7-oz. cans, the United States Consul at Rotterdam reported on April 29.

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IMPORTED CANNED TUNA PRICES, MAY 1959:

The following imported canned tuna prices c.i.f. Netherlands were reported by import trade sources early in May 1959. Japan: light meat tuna (skipjack or yellowfin) in cottonseed oil, solid pack, 7-oz., 48 cans/cs., US$7.21; 3½-oz., 48 cans/cs., $4.27. Peru: bonito, light meat in cottonseed oil, solid pack, 7-oz., 48 cans/cs., $6.30; 3½-oz., 48 cans/cs., $3.92 a case.

Importers state that there is very little demand for canned tuna in Holland and that a large part of the purchases are re-exported. Consumers prefer the solid pack light meat canned tuna, a United States Embassy dispatch (May 12, 1959) from the Hague states.

Norway

LOFOTEN AREA COD LANDINGS HIGHER IN 1959:

Reports from North Norway indicate that the 1959 cod fisheries in the Lofoten waters produced more fish and better earnings than in several years, despite record-low participation. The season was officially called off April 24, marking the departure of inspectors and fishermen alike. Between 9,000 and 10,000 fishermen took part in this year's venture on the Lofoten banks spawning grounds of the mature Arctic cod.

The total catch was 44,177 metric tons, which exceeded the 1958 quantity by about 11,000 tons. Largest landings were made by vessels operating out of Henningsvag and Svolvaer. First-hand value of the catch is estimated at some Kr. 44 million (US$6,160,000). Earnings per fisherman for the 3-months season ranged from Kr. 4,000 to Kr. 8,000 (US$560-$1,120).

According to a Tromsø newspaper, the result was fairly satisfactory. Fishermen using jigs and hand lines did especially well. For a while, though, rough weather forced vessels to stay in port many days. Storms also caused extensive loss of gear. (News of Norway, May 7, 1959.)

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COD FISHERY TRENDS, APRIL 1959:

Landings of spawning and spring cod as of April 18, 1959, in the Troms and Lofoten areas of Norway amounted to 100,551 metric tons. (As of April 24

Norway (Contd.):

spawning cod landings in the Lofoten area were reported to be 44,177 tons.) The landings through April 18 were substantially higher than the 89,813 tons landed in the same period of 1958.

Of cod landings from Troms and Lofoten, 64,270 tons were sold for drying, 15,293 tons for salting, and 20,088 tons for the filleting, freezing, and fresh trade.

The vessels fishing out of Møre og Romsdal and Sogn og Fjordane started long-line fishing on the deep-sea banks. Heavier landings of ling, cusk, and halibut are expected from those operations, the Norwegian fisheries periodical Fiskets Gang reported on April 23, 1959.

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SHIP FRESH FISH BY AIR:

In Aelesund--one of Norway's leading fishery centers--a new airport has recently been put into service. Lobsters, salmon, sea trout, oysters, etc., are shipped daily by plane more than 300 miles to Oslo to be consumed just a few hours after capture.

The airline operating between Aelesund and Oslo was established after extensive research into the fish-freight possibilities. The fishermen's associations that are making aerial fish shipments are especially interested in the success of the airline. (Industrias Pesqueras, Vigo, Spain, February 1, 1959.)

Panama

PINK SHRIMP FAIL TO APPEAR FOR SECOND TIME:

The Panamanian pink shrimp (Penaeus brevirostris) fishing season (usually starts in February or March) failed to materialize for the second straight year. In spite of the perfect setting of cold water (down to 70° F.), strong northeasterly winds and no rains, pink or "rojo" catches were extremely spotty and the total take was as low if not lower than in 1958. White shrimp, however, have appeared this year before the beginning of the rains and are quite plentiful, but the catches have a high percentage of small immature shrimp. A proposed basic law for regulating the shrimp industry is under consideration.

The Taboga fish meal plant now has three purse seiners fishing with an average daily take of 60 tons of fish, primarily anchovetta. (United States Embassy, Panama, report of April 21, 1959.)

A fleet of shrimp trawlers at the pier of a Panamanian fishery company.

Peru

BONITO AND ANCHOVY CATCHES LOWER IN CHIMBOTE AREA:

Scarcities of anchovy and bonito in waters off Chimbote, Peru, have caused an increase in prices of Peruvian fish meal and canned bonito. The pack of canned bonito in 1958 amounted to about 600,000 cases--one third of the 1956-1957 pack. A recent survey showed that Chimbote's fish meal plants and bonito canning factories are operating at only 20-25 percent of capacity.

The fishery for anchovy to be used in fish meal manufacture has been good in the cold waters north and south of Callao. However, due to the long distance, fish from there cannot be shipped to Chimbote because it spoils en route. (Industrias Pesqueras, Vigo, Spain, March 15, 1959.)

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EXPORTS OF PRINCIPAL MARINE PRODUCTS, 1957-1958:

Expanding exports of fish meal at satisfactory prices continued to make the Peruvian fisheries industry one of the bright spots in the economy. The value of fish meal exports in 1958 exceeded that of zinc or gold, and is expected to be higher in 1959. Most fish meal exports are to non-United States destinations. Peruvian suppliers have contracts to supply West Germany with fish meal needs for the first half of 1959 up to about US$5 million.

Peruvian Exports of Principal Marine Products, 1957-1958

Products	1958	1957
	(Metric Tons).	
Canned bonito	12,541	17,857
Fish meal	105,777	61,645
Frozen tuna	9,808	6,634
Frozen skipjack	6,073	5,337
Sperm oil	7,352	4,435

Shipments of frozen tuna and skipjack to the United States increased 32.7 percent in tonnage from 1957 to 1958. Catches of tuna continued to be good in the first quarter of 1959. Two United States-owned operating companies in Peru had 13 United States flag vessels fishing for tuna out of Peruvian ports during most of the first quarter of 1959 and 5 more vessels are expected, according to a April 27, 1959, dispatch from the United States Embassy in Lima, Peru.

Fishermen put their boats into the water from the beach of the small bay north of Huarmey, Peru. Lima receives a large percentage of its supply of fresh fish from this type of fishing.

Poland

MOTHERSHIP EQUIPPED WITH HELICOPTER-LANDING DECK AND ALL FACILITIES:

Polish herring drifters are now attended by a mothership, which has been constructed to provide the fishermen with all they need during work and leisure while on the fishing grounds.

Not only does she store the fish in refrigerated holds, supply the drifters with fuel and oil, water, salt, and barrels, and make repairs, but she is fitted with surgery and hospital facilities, a cinema and lecture room, and a library. She also has tailor, shoemaker, and barber shops.

In addition the use of a helicopter in times of emergency when rough weather precludes ordinary means of transfer, has been provided for by a special helicopter-landing deck on the poop.

A second auxiliary vessel operating with the drifter fleet carries the fish back to the home port.

A typical Polish mothership with the fishing fleets is about 470 feet long, with a speed of 13 knots, and a crew of 261.

Smaller fishing vessels such as drifters often experience great difficulty in mooring alongside bigger ships, risking the danger of severe damage by collision in rough seas. To meet this contingency the Polish mothership's hull has been strengthened by thicker plating along the waterline. When the drifters, loaded with herring, come alongside to unload their catch or load up with water and other necessities, four vessles can be accommodated at a time--two on each side of the mothership.

Her lifting capacity is greatly increased to facilitate the various deck operations needed to handle big catches of herring. This equipment includes six derricks around the foremast, including two side derricks and one 25-ton derrick. There are two 5-ton derricks forward of the forecastle, and two of three tons aft of the forecastle. The poop mast also has another four 5-ton derricks.

Economy in manpower has been achieved by installing electric-driven cargo winches, so that one man can control two winches--essential for swift and efficient lifting operations to the various decks.

Four electric capstans, each of three tons pulling power, are installed, and the two-shaft propelling plant has two propeller units, reciprocating engine, exhaust steam turbine, and two atmosphere water-tube boilers.

The steam turbine engines are reversible, and have two low-pressure and two high-pressure cylinders. Total output is 5,000 i.h.p. at 120 r.p.m. Electric power is generated by four steam turbine generator sets of 250 k.w. each.

Adequate supplies of drinking water for the drifters' crews are ensured by the use of two evaporators, which also supply water for the boilers. The speedy transfer of fresh water, fuel, and lubricating oil from the mothership to the drifters is facilitated by a set of pumps linked with the respective store containing these essential daily needs.

The hold of the mothership where the fish is stored until it can be transferred to the carrier vessel is cooled by refrigerating machinery, situated on the first tweendeck near the main propelling plant. This is of a compressor type arranged for direct cooling of the holds by a system of brine coils. The three compressors ensure the cooling of five holds 32° F. Two ammonia compressors are installed for cooling the provision store on the upper tweendeck. Special barrel conveyors have been provided for loading both upper and lower holds.

During loading operations at sea it is often necessary for the mothership to operate in deep water, and she has been provided with special deep anchoring, capable of a depth of 1,300 feet and additional to the normal bow and stern anchor equipment. This deep anchoring consists of a special davit, an anchor, a steel chain cable, and a cable stopper.

The drifters can be supplied with fuel, oil, and water at four different points of the mothership, and the problem

Poland (Contd.):

of mooring at sea has been solved by special floating and vertical fenders which hang down the sides of the ship. (The Fishing News, April 10, 1959.)

Portugal

CANNED FISH EXPORTS, JANUARY 1959:

Portugal's exports of canned fish during January 1959, amounted to 3,476 metric tons (189,000 cases), valued at US$1.8 million as compared with 3,078 tons, valued at US$1.8 million for the same period in 1958. Sardines in olive oil exported during January 1959 amounted to 2,371 tons, valued at US$1.2 million.

Portuguese Canned Fish Exports, January 1959

Species	January 1959	
	Metric Tons	US$ 1,000
Sardines in olive oil	2,371	1,206
Sardine & sardinelike fish in brine	70	15
Tuna & tunalike fish in olive oil	160	108
Anchovy fillets	344	237
Mackerel in olive oil	448	209
Other fish	83	29
Total	3,476	1,804

During January 1959, the leading canned fish buyer was Italy with 695 tons (valued at US$351,000), followed by Germany with 562 tons (valued at US$289,000), United States with 415 tons (valued at US$283,000), Great Britain with 354 tons (valued at US$171,000), and Belgium-Luxenbourg with 282 tons (valued at US$139,000). Exports to the United States included 200 tons of anchovies, 45 tons of tuna, and 162 tons of sardines. (Conservas de Peixe, March 1959.)

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CANNED FISH PACK, JANUARY 1959:

The total pack of canned fish for January 1959 amounted to 2,359 metric tons as compared with 2,560 tons for the same period in 1958. Canned sardines in oil (1,557 tons) accounted for 66.0 percent of the January 1959 total pack, lower by 20.6 percent than the pack of 1,960 tons for the same period of 1958, the March 1959 Conservas de Peixe reports.

Portuguese Canned Fish Pack, January 1959

Product	Quantity	
	In Metric Tons	In 1,000 Cases
In olive oil:		
Sardines	1,557	81
Sardinelike fish	1	-
Anchovy fillets	597	60
Tuna	136	4
Mackerel	2	-
Other species	66	3
Total	2,359	148

Note: Values unavailable.

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FISHERIES TRENDS, JANUARY 1959:

Sardine Fishing: During January 1959, the Portuguese fishing fleet landed 4,051 metric tons of sardines (valued at US$341,565 ex-vessel or about $84.30 a ton).

Canneries purchased 52.7 percent or 2,133 tons of the sardines (valued at US$185,496 ex-vessel) or about $86.90 a ton) during January. Only 25 tons were salted, and the balance of 1,893 tons was purchased for the fresh fish market.

Other Fishing: The January 1959 landings of fish other than sardines were principally 6,441 tons of chinchards (value US$207,409). (Conservas de Peixe, March 1959.)

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EFFECT OF EUROPEAN COMMON MARKET ON FISH CANNING INDUSTRY:

The Portuguese fish canners have expressed the view that the European Common Market is a bad omen for the fish canning industry, especially if Morocco should join this group or become associated with a Free Trade area because of its special relationship to France. Several important canners reaffirmed their industry's fear of Moroccan competition and pointed out that there had been an increase of exports of fresh Moroccan sardines to France for canning in the latter country. It was pointed out that the six Common Market countries consumed from 50-60 percent of total Portuguese sardine exports and loss of this market to Morocco would have a serious effect on the industry. Most sources felt that sales to the United States could be increased, provided that the industry

Portugal (Contd.):

greatly reduced the great number of brand names and invested more heavily in advertising in the United States.

Singapore

MARKET FOR CALIFORNIA SARDINES:

Prior to 1952 California sardines (pilchards) enjoyed a substantial market in the Singapore area and most of the shipments were made through Singapore. After the failure in catches of California sardines during the period 1952-57, Singapore importers of sardines established trading contacts with suppliers in South Africa and Japan. Currently importers in Singapore have committed themselves to these packers for supplies and the immediate prospects for increasing sales of California pilchards are not bright. However, it is believed that a sales promotion campaign could do much to re-establish the California packers' position in this market. Certain developments have taken place which may prevent the development of the market through Singapore to regain its pre-1952 level. An important factor is the existence of a customs duty of 25 percent in the Federation of Malaya on non-Commonwealth pilchards as compared to an imperial preferential duty of only 10 percent. Another factor is the gradual development of direct trading channels in many of the markets previously supplied from Singapore.

Table 1 - Singapore's Imports of Canned Sardines and Pilchards by Country of Origin and Value, 1958

Product & Country of Origin	Quantity	Value 1/	
	Long Tons	M$1,000	US$1,000
Sardines:			
Union of South Africa	900	1,084	354
Japan	80	96	31
Norway	18	62	20
Portugal	12	25	8
Canada	11	26	8
Netherlands	4	5	1
United States	3	9	3
Other	4	11	3
Total Sardines	1,032	1,318	428
Pilchards:			
Union of South Africa	2,109	2,439	798
Other	1	1	2/

1/Values converted at rate of M$3.055 = US$1.
2/Value less than US$500.

During the five-year period of 1954-58 the average annual quantity of sardines and pilchards retained in Malaya was about 2,359 long tons of which approximately 90 percent were consumed in the Federation of Malaya and the remainder in Singapore. During the same period average annual exports to surrounding areas (excluding the Federation) amounted to 1,437 long tons. According to reliable sources about 55 percent of total imports of sardines and pilchards into Malaya are consumed in the Federation of Malaya.

There are no figures showing inventories of pilchards and sardines held in Singapore and the Federation. Market sources indicate, however, that a three months supply is normally stocked and that stocks are estimated at about 800 long tons.

Importers report that consumers prior to 1957 preferred California pilchards over any other because they tended to be fatter and contain more oil than competitive brands. Price factors, of course, are of considerable importance and California products at the present time suffer a disadvantage because of the preferential treatment accorded South African sardines in the Federation of Malaya.

There are some prejudices against Japanese products as a result of the Japanese occupation of this area during the war, but these prejudices are rapidly diminishing and the Japanese are in a relatively favorable competitive position in the market at the present time.

It is doubtful that much of the 1958 pack of California pilchards can be placed in the area served by Singapore since most importers have already committed themselves to South Africa or Japan for supplies. Traders report that they were discouraged from placing orders with California packers because of the relatively high prices quoted, reported to be as much as US$9.00 f.o.b. Los Angeles for ovals. Prices of California pilchards, they report, have been substantially reduced in recent weeks and more interest has been expressed in these supplies, particularly for the 1959 pack.

Importers in Singapore state that Japanese suppliers have labeled sauries and horse mackerel as sardines because of consumer preferences. At one time certain brands of South African pilchards were also labeled as sardines for shipment to markets where such labeling improved sales. The Singapore Government is now more strict about labeling requirements and has prevented such mislabeling (United States Consul at Singapore, April 10,1959).

Table 2 - Singapore's 1/ Imports of Sardines and Pilchards, 1954-58

Product	Quantity	Value	
	Long Tons	M$1,000	US$1,000
Sardines:			
1958	1,031	1,317	431
1957	1,942	2,437	798
1956	1,432	1,634	535
1955	714	867	284
1954	1,062	1,383	453
Total	6,181	7,638	2,501
Pilchards:			
1958	2,110	2,441	799
1957	2,639	3,131	1,025
1956	2,755	3,207	1,050
1955	3,229	3,559	1,165
1954	2,066	2,451	802
Total	12,799	14,789	4,841

1/Exclusive of trade between Singapore and the Federation of Malaya.

Table 3 - Singapore's 1/ Exports of Sardines and Pilchards, 1954-58

Product	Quantity	Value	
	Long Tons	M$1,000	US$1,000
Sardines:			
1958	1,812	2,145	702
1957	1,301	1,573	515
1956	1,452	1,696	555
1955	1,170	1,316	431
1954	995	1,115	365
Total	6,730	7,845	2,568
Pilchards:			
1958	59	71	23
1957	64	72	24
1956	74	85	28
1955	124	140	46
1954	135	152	50
Total	456	520	171

1/Exclusive of trade between Singapore and the Federation of Malaya.

Singapore (Contd.):

Table 4 - Prices (c.i.f.) at Singapore April 1959 for Canned Pilchards and Competing Canned Fish Products

Cases	Japan				South African		California	
	Saury		Jack Mackerel		Pilchards			
	M$/cs.	US$/cs.	M$/cs.	US$/cs.	M$/cs.	US$/cs.	M$/cs.	US$/cs.
(All tomato sauce):								
48-16 oz. Oval . . .	23.00	7.53	19.05	6.24	-	-	24.70	8.09
48-16 oz. Tall . . .	21.50	7.04	18.70	6.12	22.00	7.20	21.35	6.99
96- 9 oz. Tall . . .	25.00	8.18	21.60	7.07	-	-	-	-
48- 8 oz. Tall . . .	-	-	-	-	12.70	4.16	-	-
100-5 oz. Round . .	20.00	6.55	18.50	6.06	20.80	6.81	-	-

Sweden

FISHERMEN OFFERED INSURANCE ON LING CATCHES:

The Swedish High Seas Fishermen's Sales Association in Goteborg has decided to arrange for insurance on ling catches for its members. For example, in case of engine breakdown, such a policy would give a fisherman a certain compensation for the catch which he normally would have made if the engine had not failed.

This type of insurance is of great importance to the fishermen, according to the Chairman of the Association. Vessels holding such policies will be reimbursed for oil, ice, bait, and salt expenditures and also for loss of income up to an amount of 20,000 crowns (US$3,866) in case of a broken trip.

The interest of Swedish fishermen in ling fishing north of the Hebrides and Shetland islands has increased and 40 vessels have this year announced that they plan to participate, as compared with 30 vessels in 1958. The first boats were scheduled to leave about the end of April and some boats plan to make two trips, the United States Consul in Goteborg reported on April 21, 1959.

Ex-vessel prices are the same as in 1958 or 1.00 crown per kilo (8.8 U. S. cents a pound) for fresh ling, 0.60 crown per kilo (5.3 U. S. cents a pound) for fresh cod, and 0.50 crowns per kilo (4.4 U. S. cents a pound) for salted ling.

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OSCILLOSCOPE AND ELECTRIC GROUND WIRE DEVELOPED AS AID TO NAVIGATION:

Navigation of a vessel along an electric wire placed on the sea bottom was recently demonstrated in the Sound between Sweden and Denmark by two Swedish inventors from Malmo, Sweden. A film of the demonstration was shown on the Swedish television circuit on May 7, 1959.

An electric wire in the form of a triangular track was laid at the bottom of the Sound and the navigator of a motor boat followed the electric wire with the assistance of an oscilloscope. The navigator operated in a closed room and had no view in any direction, thus being restricted to navigating solely with the aid of the oscilloscope and the electric wire.

When a vessel fitted with an oscilloscope is above the electric wire, an arrow on the instrument used by the navigator will point straight down. Should the vessel deviate from the wire, for example starboard, the arrow will point to the port side of the vessel, or vice versa.

This system of navigation, it is claimed, could be very useful in narrow channels and ports as well as in darkness and fog.

Sweden (Contd.):

The electric wire was connected to the ordinary Malmo city lighting system, the United States Consul in Goteborg reported on May 8, 1959.

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FACILITIES FOR QUICK-FREEZING FISH EXPANDED:

The Helsingborg Cold Storage Plant in Helsingborg has opened a new large fish-filleting section which was constructed by a large Swedish fish-processing company.

The processing room has four automatic filleting machines, two of which are rented from another Swedish fish-processing company, with a total capacity of 1,500 half boxes of cod (containing 45 kilos or about 99 pounds) in 10 hours. The volume of the storage space in the plant amounts to 67,000 cubic meters and the freezing capacity for herring is about 30,000 half boxes a week.

During a recent visit of West Coast fishermen to the plant, the director of the operating company told them that his company first of all wishes to take care of fish caught by Swedish fishermen, and that imports will be limited to fish which cannot be supplied by Swedish fishermen. The director also said that the company has decided that fish more than two days old cannot be used for preparation of top-quality products.

The director also said that because of its size the new fillet section cannot be made to pay if fishing for cod is carried on for only 4 to 6 weeks, as in the Baltic at present. He raised the question whether fishing for cod in the Baltic could not start in January rather than in the middle of April.

Quick-freezing as a method of preservation is relatively new in Sweden and will therefore be subject to many improvements, according to the director of the Helsingborg plant. No one could have anticipated, he said, that quick-frozen cod fillets would have become as popular as they are today. Also, no one believes that the present system of freezing herring, which now is done relatively slowly, with the herring in boxes containing 45 kilos, will continue in the future.

Research work at the cold storage plant regarding freezing and storage of herring deals with important problems, such as the storage fitness at different temperatures and preservation methods. Other factors, such as the freezing velocity when herring is frozen in boxes compared with freezing of herring in chunks or in various other packing material is also being investigated, the United States Consul in Goteborg reported on May 11, 1959.

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FISHING INDUSTRY, 1958:

Preliminary data on the landings of fishery products by the Swedish fishing fleet in 1958 indicates a total of 215,206 metric tons (474.3 million pounds) landed at home and abroad in 1958, an increase of 6 percent as compared with 1957, when 202,100 metric tons (445.4 million pounds) were landed, but 2 percent less than the total landings in 1955 (the largest landings on record) when 219,900 metric tons were landed. The figures include fish for industrial purposes, such as used in the production of fish oil and fish meal. The latter category has during the latter years increased and represented in 1958 over 12 percent of the total landings at home and abroad.

Landings in Sweden accounted for 69 percent of the total landed and the remaining 31 percent were landed in Denmark, West Germany, and Great Britain. Compared with 1957, the quantities of fish landed in Sweden dropped by 10 percent, while the landings abroad increased by 76 percent.

The total value of the 1958 landings increased by 3 percent and amounted to 149.1 million crowns (US$28.8 million) as compared with 145.2 million crowns (US$28.0 million) in 1957. The value of the 1958 landings exeeded the 1955 value by 12 percent. The increase in the value of the catch in 1958 originates from landings abroad, which increased by 66 percent as compared with 1957, while the value of the landings in Sweden dropped by 6 percent.

Sweden (Contd.):

Herring landings made up 45 percent of the total catch and increased by 6 percent over 1957. Baltic herring, which made up 9 percent of the total catch increased by 38 percent, and mackerel, which comprised 6 percent of the total catch, increased by 11 percent. Groundfish species, comprising 20 percent of the total catch, decreased on the other hand by 15 percent. Sprat dropped by 37 percent and landings of eel and salmon decreased by 22 and 16 percent respectively.

The total quantity of fish landed in Sweden amounted to 148,438 metric tons as compared with 164,125 metric tons in 1957, a decrease of 10 percent. This decrease orginates from the West and South Coast areas, where the landings dropped by 18 and 2 percent, respectively. The landings on the East Coast on the other hand increased by 20 percent.

Table 1 - Swedish Fish Landings by Main Species (including landings in foreign ports)

Species	Quantity		Value			
	1958	1957	1958	1957	1958	1957
	(Metric Tons).		(Sw. Kr. 1,000).		(US$1,000).	
Herring and Baltic herring:						
Herring	97,112	92,028	50,350	46,029	9,718	8,884
Baltic herring	19,370	14,044	10,511	8,909	2,029	1,719
Cod	26,932	32,059	17,561	19,432	3,389	3,750
Haddock	5,987	6,832	5,717	5,903	1,103	1,139
Whiting	2,778	2,137	2,101	1,575	405	304
Ling	3,057	3,531	3,032	3,384	585	653
Other cod	5,086	6,825	4,490	5,282	867	1,019
Mackerel	13,287	11,952	9,230	7,885	1,781	1,522
Sprat	2,188	3,470	3,670	4,838	708	934
Other	1/ 9,113	10,223	32,754	34,274	6,322	6,615
Not specified	4,351	4,879	5,202	5,530	1,004	1,067
Industrial fish	25,945	14,118	4,452	2,159	859	417
Total	215,206	202,100	149,070	145,200	28,770	28,023

1/ Includes: flatfish 2,721 tons; eel 1,487 tons; salmon species 1,222 tons; and shellfish 3,683 tons.

The total quantity of fish landed in foreign ports in 1958 by Swedish fishermen amounted to 44,583 metric tons as compared with 28,347 metric tons in 1957. Herring increased by 57 percent as compared with 1957 and made up 67 percent of the total landings abroad. The landings of herring in German and British ports dropped considerably and were slightly more than one-fourth of the landings in 1957, while the landings in Denmark increased by 185 percent. Other species landed in foreign ports

Table 2 - Swedish Fish Landings in Swedish Ports Only by Main Species

Species	Quantity		Value			
	1958	1957	1958	1957	1958	1957
	(Metric Tons).		(Sw. Kr. 1,000)		(US$1,000)	
Herring and Baltic herring:						
Herring	52,529	63,681	28,016	32,156	5,407	6,206
Baltic herring	19,370	14,044	10,511	8,909	2,029	1,720
Cod	26,329	31,655	17,163	19,123	3,312	3,691
Haddock	5,287	6,057	5,221	5,373	1,008	1,037
Whiting	2,246	1,974	1,754	1,478	338	285
Ling	3,034	3,481	3,019	3,364	583	649
Other cod	4,297	6,189	3,917	4,823	756	931
Mackerel	8,416	10,060	6,317	6,930	1,219	1,337
Sprat	2,111	3,206	3,572	4,641	689	896
Other	1/ 9,077	9,999	32,695	33,944	6,310	6,551
Not specified	4,209	4,610	5,087	5,286	982	1,020
Industrial fish	11,533	9,179	2,143	1,318	414	254
Total	148,438	164,135	119,415	127,345	23,047	24,577

1/ Includes: flatfish 2,685 tons; eel 1,487 tons; salmon species 1,222 tons; shellfish 3,683 tons.

Sweden (Contd.):

increased even more. Cod, for example, increased by 449 percent, mackerel by 255 percent, and industry fish by 195 percent.

In terms of value, 90 percent of the landings abroad came from Denmark, 5 percent from Great Britain, and 5 percent from West Germany, as compared with 49, 24, and 27 percent, respectively, in 1957.

Swedish exports reached a new record in 1958. Sweden's exports of fish and fish products in 1958 (including direct landings) had a value of 70 million crowns (US$13.5 million) compared with 60 million crowns (US$11.6 million) in 1957. Direct landings in Denmark which increased in value from 8.7 million crowns (US$1.7 million) in 1957 to 26.6 million crowns (US$5.1 million) in 1958 were responsible for the increase. The quantity of fish landed in Danish ports rose from 21,500 metric tons in 1957 to almost 62,000 metric tons in 1958. The total value of the direct landings in all foreign ports increased from 18 million crowns (US$3.5 million) in 1957 to almost 30 million crowns (US$5.8 million) in 1958.

While the direct landings increased greatly last year, exports of fish and fish products from Sweden dropped slightly from 42.2 million crowns (US$8.2 million) in 1957 to 39.9 million crowns (US$7.7 million) in 1958. The large direct Swedish landings made Denmark the leading importer of fish and fish products from Sweden in 1958. Danish imports totaled 32.5 million crowns (US$6.3 million) in value and thus represented almost 50 percent of the total value of Sweden's exports of fish and fish products. (It is of interest to note that the main part of the direct landings in Denmark is re-exported to other countries, chiefly West and East Germany.)

Exports to East Germany, which prior to 1958 had been the main market for Swedish fish and fish products, declined in value to 12.7 million crowns (US$2.5 million) in 1958 from 20 million crowns (US$3.7 million) in 1957.

Swedish imports of fish and fish products in 1958 increased by over 20 million crowns (US$3.7 million) over 1957 and totaled 106 million crowns (US$20.5 million). The greatest import increase consisted of frozen fish fillets, which increased by almost 50 percent in value or 13.6 million crowns (US$2.6 million). Imports of frozen fish fillets increased in quantity by over 40 percent compared with 1957 and reached a record. More than 70 percent of the quantity of imported frozen fish fillets came from Norway in 1958 and were as great as the entire import of frozen fillets from all countries in 1957.

The average price per pound for the 1958 catch (excluding fish for industrial purposes) amounted to 6.7 U. S. cents and remained unchanged from 1957. The average price for most species was somewhat higher than in 1957; for example sprat increased from 12.2 U. S. cents a pound to 14.7 U. S. cents a pound in 1958. On the other hand the price for Baltic herring and shrimp dropped.

The average price for herring landed in foreign ports by Swedish fishermen amounted to 4.4 U. S. cents a pound, which was somewhat lower than the price received at the fish auction in Goteborg, which was about 9.8 U. S. cents a pound. Landings in West Germany brought the highest price, or an average of 5.8 U. S. cents a pound, as compared with 4.3 U. S. cents a pound in Danish and British ports. (United States Consul dispatch from Goteborg, dated May 19, 1959.)

Note: Values converted at rate of 1 Swedish kronor or crown equals US$0.193.

Tunisia

FISHERIES LANDINGS INCREASED SINCE 1955:

Landings of fish and shellfish in Tunisia have increased from 10,533 metric tons in 1955 to 14,937 tons in 1958. The increase has been gradual--landings of 11,607 tons in 1956 were 10.2 percent above 1955 and the 13,789 tons landed in 1957 were about 18.8 percent above 1956.

Tunisa (Contd.):

Fishing is a common occupation all along Tunisia's 812-mile coastline. The most important fishing area is the Gulf of Gabes in which Tunisia claims exclusive fishing rights out to about 27.3 fathoms (50 meters). Most fishing is carried out close to shore with simple equipment. A small sponge fishery has existed for many years out of Sfax and Djerva. (United States Embassy dispatch from Tunis, dated May 11, 1959.)

Union of South Africa

UNION OF SOUTH AFRICA AND SOUTH-WEST AFRICA CANNED FISH PRODUCTION AND MARKETING, 1958:

Landings of pilchard (sardine) and jack mackerel (maasbanker) by the Union of South Africa's fishermen in 1958 were the best since 1952 and marked the first year since the establishment of the quota in 1952 that the 250,000-ton quota was exceeded. The South African Division of Fisheries declared the season for pilchards and jack mackerel (maasbanker) fishing closed on August 31, for the balance of the year. The season for the catching in South-West African waters was closed shortly after this date, when the 250,000-ton quota was reached. Landings in South Africa in 1958 for the canning and fish meal industries totaled 298,854 short tons as compared with 219,615 tons in 1957. Total landings were made up of 214,533 tons of pilchards (1957-118,524 tons), 62,190 tons of jack mackerel (1957-93,218 tons), and 22,131 tons of true mackerel (1957-7,873 tons). Landings for canning and reduction in South-West Africa were 257,592 tons in 1958 as compared with 254,976 tons in 1957.

Fish Canning: Fish canners in South Africa and South-West Africa reportedly paid about £4.10s. (US$12.60) a ton ex-vessel for pilchards, jack mackerel, and true mackerel in 1958. During the first nine months of 1958 (preliminary data) the South African fish canners packed 3,317,586 cases of pilchard, 296,098 cases of jack mackerel, and 93,885 cases of true mackerel. Nearly all canning operations had ceased by September.

Fish Meal: Preliminary estimates of fish meal production in 1958 by the Union of South Africa totaled 56,170 short tons and production in South-West African for the same period amounted to 46,277 tons. From January 1 to November 30, 1958, the Union consumed 19,781 tons; 35,915 tons were exported; and 4,335 tons were on hand as of that date. For the January 1- November 30, 1958, period, South-West Africa sold 1,753 tons in the local market, exported 47,566 tons, and had 6,703 tons on hand as of November 30. At the end of 1958, according to trade estimates, not more than 2,000 tons were on hand.

Fish Oil: The production of fish oil in 1958 by Union of South Africa totaled 13,392 long tons and by South-West Africa 10,751 long tons. Exports from both areas for the first eleven months of 1958 amounted to 14,356 long tons; local consumption was 8,459 long tons; and inventories as of November 30, 1958, were 3,327 long tons.

Canned Fish Exports and Inventories: Estimates for the period January 1- September 30, 1958, indicate exports of 2,138,412 cases of pilchards, 276,122 cases of jack mackerel, and 58,324 cases of true mackerel from the Union and South-West Africa. Inventories as of September 30, 1958, were 1,999,196 cases of pilchards, 18,111 cases of jack mackerel, and 8,651 cases of true mackerel. Year-end 1958 inventories were estimated to be not more than 750,000 cases. Although the pack of canned pilchards, jack and true mackerel was up about 600,000 cases in 1958 as compared with 1957, December 31, 1958, inventories were estimated to be about 200,000 cases under the quantity on hand December 31, 1957.

Canned Fish Prices: Prices f.o.b. Cape Town for canned fish fluctuated only slightly according to trade sources in South Africa. The f.o.b. prices varied according to foreign marketing area. The South African fish canners attempt to adhere closely to price quotations recommended by the South African Association of Fish Canners. The price schedules are drawn up after consultations between the individual canners and the Association.

Competitive Position and Market Prospects: South African fish canners have not thus far expressed any serious concern over the present competitive position of their products on the international market. The countries most frequently mentioned as competitors are Japan in the Far Eastern market and the Netherlands in the West African market. Of these two countries, Japan is regarded as the most serious threat. Local sources report that Japanese pilchards are generally quoted slightly higher in the Philippine market than those from South Africa. It is believed, however, that the Japanese mackerel pike or saury is offering increasing competition to South Africa. Several local exporters have nevertheless estimated that shipments to the Philippines in 1958 exceeded those of the previous year.

Table 1 - Canned Pilchard and Jack Mackerel January 1959 Prices f.o.b. Cape Town, South Africa

Product	Cans/Cs.	For Philippines	For Malaya 1/	For United Kingdom 2/
		(US$ Per Case)		
Pilchard:				
15-oz. tall, tomato	48	6.10	7.00	6.21
15-oz. tall, natural	48	5.85	-	-
15-oz. oval, tomato	48	-	7.74	7.58
8-oz. buffet, tomato	48	4.22	-	3.96
5½-oz. jitney, tomato	100	6.04	6.74	6.58
5½-oz. jitney, tomato	48	-	-	3.28
Jack Mackerel:				
15-oz. tall, natural	48	4.95	-	-
15-oz. tall, tomato	48	-	6.44	-

1/ All Malayan prices less 5 percent.
2/ All United Kingdom prices less 2½ percent.

Union of South Africa (Contd.):

With respect to the Philippine market, South African canners consider that their most serious competitive disadvantage is presently that of delivery time. Only a monthly service presently is available out of Cape Town and transit time requires 30 days. Both the United States and Japan can offer shorter delivery dates. It may also be of interest to note that South African canners do not consider their pilchards as a serious competitor to the United States product in the Philippines. The latter product, it is reported in South Africa, is regarded as of a generally higher quality and is sought by a consumer class different from that buying South African pilchards.

Canners in the Union of South Africa appear to be uniformly optimistic that the pilchard catch in 1959 will be as good as that of 1958. There is, however, some concern over marketing prospects in the coming year. Assuming that the total catch of pilchards, jack mackerel, and mackerel again approaches 300,000 tons, it is believed that total production of canned fish will increase further due primarily to a steady improvement in the level of efficiency in canning factories. At the present time it is estimated that on an average, from 12-13 cases, consisting of 48 1-lb. cans per case, are produced from one ton of raw fish. As canneries have been gaining experience this figure has gone up and is expected to register further improvement. Due to the early shut down in 1958, Union canners have also had more time to recondition and improve their factories.

There is no question that local canners could afford to lower their prices on the international market if such a step becomes necessary. There are, incidentally, no Government subsidies covering the export of South African fishery products. The Government does, however, participate in a vigorous and extensive fisheries research pro-

Table 2 - Union of South Africa and South-West Africa Canned Pilchard and Mackerel Pack and Distribution, January-September 1958

Product, Type of Can & Pack	Net Wt. Per Can	No. Cans/Cs.	Pack	Export	Domestic Sales	Inventory 9/30/58
Pilchards:	Oz.		(Cases)			
Ovals, tomato	15	48	105,788	79,643	10,353	40,076
Ovals, natural	15	48	-	-	-	-
Talls, tomato	15	48	680,541	488,347	47,234	517,335
Talls, natural	15	48	394,818	271,845	24,060	171,825
Oval, tomato	15	24	170,085	96,061	-	74,024
Oval, natural	15	24	-	-	-	-
Buffet, tomato	8	48	653,157	541,655	47,988	432,550
Buffet, natural	8	48	61,361	24,352	14,592	52,905
Halves, tomato	8	48	24,408	17,220	14,523	10,598
Halves, natural	8	48	7,514	2,276	5,944	1,699
Jitney, tomato	5½	100	645,022	391,971	740	352,278
Jitney, natural	5½	100	75,572	53,019	-	48,469
Jitney, tomato	5½	48	344,650	167,612	41,388	155,536
Jitney, natural	5½	48	6,169	1	7,027	98
12 oz.1/, tomato	12	48	122,272	1,460	2,500	118,312
12 oz.1/, natural	12	48	26,229	2,950	1,000	23,491
Totals	-	-	3,317,586	2,138,412	217,349	1,999,196
Jack Mackerel:						
Ovals, tomato	15	48	-	-	272	-
Ovals, natural	15	48	-	75	118	-
Talls, tomato	15	48	20,721	12,099	9,604	528
Talls, natural	15	48	223,217	233,395	27,192	10,729
Rounds, tomato	14	48	-	-	-	-
Rounds, natural	14	48	-	-	438	-
Buffet, tomato	8	48	1,305	473	2,561	682
Buffet, natural	8	48	107	-	100	7
Halves, tomato	8	48	14,933	2,905	12,105	1,274
Halves, natural	8	48	35,815	27,175	13,422	4,891
Totals	-	-	296,098	276,122	65,812	18,111
True Mackerel:						
Talls, tomato	15	48	3,405	3	2,362	697
Talls, natural	15	48	78,055	56,475	30,021	2,853
Halves, tomato	8	48	3,473	197	4,756	792
Halves, natural	8	48	7,952	1,648	8,633	3,959
Rounds, tomato	14	48	-	-	31	117
Rounds, natural	14	48	1,000	1	923	233
Totals	-	-	93,885	58,324	46,727	8,651
Grand Total	-	-	3,707,569	2,472,858	329,888	2,025,958

1/ New can size (used for string beans) introduced in 1958 which has not proven very successful and may be discontinued.

Union of South Africa (Contd.):

gram. As has been previously reported, Government controls do exist which limit the annual catch of pilchards and jack mackerel in the Union of South Africa and in South West Africa.

Should the industry's present optimism over fishing prospects in the current year prove well founded, total production of canned pilchards, jack mackerel, and mackerel in the Union of South Africa and South-West Africa might easily reach or even slightly exceed 4,000,000 cases.

Union of South Africa and South-West Africa

UNION AND SOUTH-WEST AFRICA FISH CATCH, 1958:

In 1958, for the first time in the history of the Southern African fishing industry, the total fish catch for the Union and South-West Africa passed 700,000 short tons. The total of 714,000 tons was more than 20,000 tons higher than the 1952 record catch of 693,688 tons. It was nearly 100,000 tons higher than the catch in 1957.

The big increase in calendar year 1958 was largely due to the good catches of pilchards, maasbanker, and mackerel off the Cape west coast. After several indifferent seasons, the 14 factories along some 200 miles of coast from Hout Bay to Thorn Bay processed 298,854 short tons of pelagic shoal fish (pilchard, maasbanker, and mackerel), compared with 219,615 tons in 1957 and 170,316 tons in 1956. The total catch was second only to the 300,560 tons landed in 1952.

The record pilchard catch of 214,533 tons, compared with 118,524 tons in 1957 and 84,156 tons in 1956. The previous highest figure for pilchards was 187,424 tons in 1952.

Maasbanker landings of 62,190 tons compare with 93,218 tons in 1957 and 50,233 tons in 1956. The record for this fish was 130,228 tons in 1954.

The mackerel catch of 22,131 tons compares with 7,873 tons in 1957 and the record 35,927 tons in 1956.

For the fifth successive year the trawled fish catch set a new record and passed 100,000 tons for the first time. The total catch of 82,871 tons of dressed fish plus 20,570 tons of "offal" (waste after dressing fish) was 103,441 tons.

Although the spiny lobster catch of 8,000 tons was below the 14,000 tons landed in 1957, the estimated line fish and snoek catch remained at about 36,000 tons.

The South African Trawl fish catch (including offal) rose from 199,928,092 pounds in 1957 to 206,882,186 pounds in 1958. The catch (in pounds) was made up as follows (with 1957 figures in brackets): hake 137,972,319 (133,312,067), kingklip 2,662,491 (2,399,411), sole 2,325,071 (2,505,317), kabeljou 1,066,509 (1,338,546), pangas 4,461,036 (6,862,623), silverfish 238,055 (545,338), angelfish 2,725 (5,726), gurnard 591,918 (186,492) jacopever 2,120,895 (1,390,181), john dory 6,150 (86,559), maasbanker 4,569,429 (2,173,334), skate 65,585 (47,914), steenbras 6,031 (59,714), stonebass nil 13,200), stumpnose red 235,408 (75,042), stumpnose white 1,150 (91,300), heads 3,190,900 (3,290,550), shark livers 4,767,127 (3,792,267), hake livers 78,158 (555,147), roes 317,614 (342,801), squid 290,493 (216,275), other fish 773,122 (475,287), and offal 41,140,000 (40,256,000).

The total Union of South Africa fish catch was, therefore, 446,295 tons, com-

Table 1 - Union of South Africa's and South-West Africa's Shoal Fish Landings and Fish Meal and Oil Production, Fiscal Years[1] 1956/57-1957/58

Area	Landings Fish Shoal[2]		Production of[3]			
			Fish Meal		Fish Oil	
	1957/58	1956/57	1957/58	1956/57	1957/58	1956/57
	(Short Tons)				(Long Tons)	
Union of South Africa	303,135	183,592	61,746	35,553	13,667	10,207
South-West Africa	257,064	245,134	46,380	44,910	10,772	9,433
Total	560,199	428,726	108,126	80,463	24,439	19,640

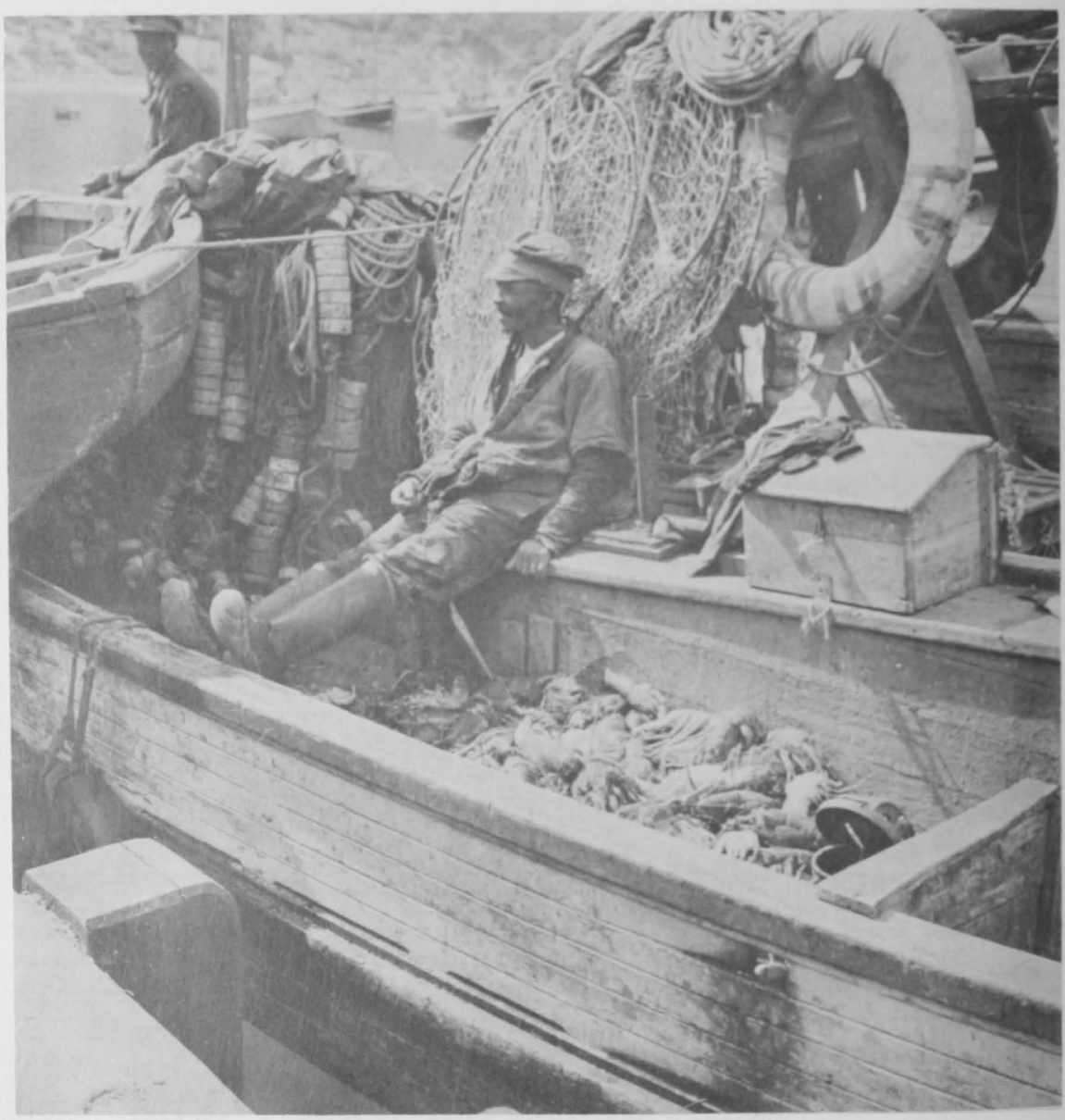
1/ Accounting fiscal year (October 1-September 30) as used by the Fisheries Development Corporation of South Africa. Figures different than given in text for calendar years.
2/ Pilchards, maasbanker or jack mackerel, and mackerel.
3/ Pack of canned fish not given.

Union of South Africa and
South-West Africa (Contd.):

pared with 359,879 tons in 1957, 311,429 tons in 1956, and the previous record total of 427,268 tons in 1952.

South-West Africa's Walvis Bay's pilchard industry keeps as close as possible to the 250,000-ton yearly quota, although in calendar year 1958 it rose slightly above that limit to 257,592 tons, compared with 254,976 tons in 1957 and 251,047 tons in 1956. With an estimated 2,500 tons of snoek, 2,500 tons of whitefish and about 5,000 tons of spiny lobster, the total South-West African catch was just under 268,000 tons.

The general condition of the fish landed in the Union in 1958 was such that processing results were a trifle disappointing and, as in the case of the previous season, the optimum yields of earlier years were not achieved. Once again the main shoals were found well south of St. Helena Bay, the main center of the Union's industry. The industry based on Walvis



Aboard a South African spiny lobster fishing boat at the dock prior to unloading. Boat fished in Hout's Bay area.

Union of South Africa and South-West Africa (Contd.):

Bay enjoyed another highly successful season.

The overseas demand for fish meal remained very firm throughout 1958. The poor winter herring season in Norway contributed towards this situation. Export sales were effected readily at favorable prices after the demand of the local market had been satisfied at an agreed price considerably below that obtained on foreign markets. The Union and South-West Africa occupy a very prominent position in world fish meal markets, being second only to Norway as exporters of that commodity.

The overseas demand for fish body oil did not, however, follow the same pattern, but fell considerably as a result of butter and fat surpluses in Europe. As a consequence, the average selling price per long ton of fish body oil revealed a significant drop, but the industry was able to offset this in some measure by taking advantage of the reduced rates for bulk tankers. On balance, however, producers had a satisfactory year.

While factories at Walvis Bay recorded heavy production of canned fish over the past season, the output of Union factories was limited by the condition of the fish delivered to them after a moderately long haul from the catching area. The sales of canned fish were satisfactory at profitable prices.

The demand for frozen spiny lobster remained very firm at satisfactory prices, but the difficulties in this aspect of the inshore industry lie in the catching side, where an imbalance has manifested itself as between different fishing areas. Whereas some areas reported satisfactory landings albeit at the price of greater effort, others suffered a very serious fall in catch, a development which was faithfully reflected in the accounts of the companies concerned.

Note: Also see Commercial Fisheries Review, March 1959, p. 68.

U. S. S. R.

TUNA VESSELS REPORTED FISHING NEAR CAROLINE ISLANDS:

According to a report from a Japanese tuna fishing vessel, a Russian fishing vessel was sighted fishing for tuna in the Caroline Islands area on February 17, 1959. At the time of the sighting, tuna were being hauled aboard the Russian vessel. The crew appeared to consist of about 20 persons, including some women. Another Russian vessel was reported sighted nearby.

Prior to the sighting of these Russian vessels, the Russians had announced that they might enter the Pacific tuna fishery and in October 1958 a fishery survey vessel had departed for an exploratory tuna fishing survey (Pacific Islands Monthly, March 1959).

* * * * *

EXPANSION OF OCEAN RESEARCH PLANNED:

Soviet marine scientists are to extend their ocean research activities considerably during the next few years. In 1959, two new research vessels, the Voeikov and the Shokalsky, will make their maiden voyages to the Pacific Ocean. The two new research ships were named after prominent Russian oceanographers.

The Vityaz, the largest research vessel which was engaged in oceanographic investigations in the North and South Pacific in 1958 and also visited San Francisco in November 1958, will conduct surveys in the Indian Ocean in 1959.

* * * * *

SUBMARINE RETURNS FROM FISHERY RESEARCH CRUISE:

The Soviet submarine Severyanka (The Northerner), which has been converted to conduct research for the fishing industry, returned early this year from a successful 24-day scientific cruise, having covered some 4,000 miles since leaving the Kola Peninsula. This was the submarine's second voyage. The maiden trip was undertaken in the Barents Sea following her trials.

Manning the vessel on the research side were young scientists from the U.S.S.R. Institute of Marine Fisheries and Oceanography.

The expedition established at what time of the day or night and at what depth various kinds of fish are most likely to be located. Interesting conclusions were drawn concerning the reaction of fish, particularly herring, to the sub's searchlights. It was ascertained that at night the herring were in a passive state and did not react in any way to the advance of

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

the vessel nor to the glare of her lights. From 8 a.m. or 9 a.m., when the herring move down to a greater depth, they become increasingly active and the reaction of the fish to the electric light becomes acute.

Observations also lead to the conclusion that herring can only be caught in quantities during their vertical migration in the morning and the evening.

The Soviet Minister for Fisheries said that he believed that this venture was the first of its kind in relation to fishing. Its purpose was primarily for the solution of many problems connected with the fishing industry, such as the structure of shoals, the behavior of fish under different conditions--particularly during fishing operations; the observation of trawls and drift nets at various depths, with a view to their improvement; and extensive oceanographic readings. Other life in the sea was observed, such as jellyfish and plankton.

The Minister pointed out that while bathyspheres had their uses and were in fact already in operation, they were limited to vertical movement, were not adapted for long underwater submersion, and had to rely to a great degree upon chance as to whether anything of interest was seen. On the other hand, a submarine, such as the Severyanka, could actively penetrate the deep-sea world for a long period.

The Severyanka is equipped with underwater television for conducting researches directly ahead; echo-sounders operating upwards and downwards; instruments for taking exact measurements of the salinity, illumination, temperature, rate of flow, and the percentage of oxygen dissolved in the sea-water. There are also devices for taking samples of the sea bed and the surrounding water, apparatus for underwater filming and photographing, and close-range and long-range searchlights.

The instruments incorporate all the latest techniques in radio and electrical engineering making for compactness and efficiency. Some of the instruments are newly-devised for this submarine and have not hitherto been tried--such as the dissolved hydrogen recorder, a thermosaltmeter, the silt sampler, and the current recorders.

The Severyanka is to make several more research trips during 1959 (World Fishing, March 1959).

United Kingdom

FACTORYSHIP-TRAWLER "FAIRTRY II" SAILS ON MAIDEN VOYAGE:

The British firm in Leith, Scotland, that owns the factory-ship-trawler Fairtry I, is adding two similar vessels to its fleet. Fairtry II, the first of the two new ones, sailed on its maiden voyage on April 2 from Glasgow.

Fairtry II, like its sistership, is equipped with stern trawling. The steep ramp up to the trawl deck from the water-line is less humped and less steep than on the Fairtry I, to reduce the drag when winching aboard a full trawl. The trawl is shot down this ramp, rollers and all, obviating the necessity for the manhandling that is required on a conventional side-trawler.

The full trawl is also brought up the ramp, using a 270 hp. electric trawl winch. The double cod end is lashed together once the trawl is up and then hoisted by the gantry to empty the fish on to the trawl deck; a hydraulically-operated gate closes the ramp entry to prevent fish from falling back into the sea. Once emptied on to the trawl deck, the fish are then transferred to the factory deck below through two chutes, one on each side of the deck, which can also be closed off by hydraulically-operated hatches.

From the trawl deck, the fish go into a number of pounds, built of corrugated alloy boards, and are hand-sorted for size and type. Anything other than the variety being fished for at the time is usually left in the pounds and iced up to await the end of the run before being processed. Halibut, when caught, are headed and gutted by hand and hooked on to an overhead conveyor to go first to a blast freezer and then, still on their conveyor links, to a special subzero storage hold.

Since cod is the main catch, with pollock and ocean perch next, the production line is set up for it. Large fish are slit and the livers removed before being sent to the filleters. Medium and small fish are passed, untouched, along chutes to their respective filleting machines.

The sequence is as follows: Factory hand takes graded fish from chute, puts it into a heading machine. Another hand takes it off and puts it into the filleter; from there it goes to one of two skinners. At each stage, offal is automatically diverted down to the fish-meal and fish-oil plants on the deck beneath, which have a capacity of 10 tons of dried fish meal a day. The meal is immediately bagged and transferred to dry storage with a capacity of 300 tons. Livers--from the big fish only, the smaller fish are not considered to be worth bothering about--go from the pounds into a macerator and then a two-stage digester and extractor; depending on the quantity available, the macerated livers can either pass through two extractors in succession or each extractor can be used separately.

Fillets eventually arrive at the weighing point. One operator takes them off as they arrive and weighs them into 7-pound, 14-pound, or 28-pound lots; the production is arranged so that he will not have to separate large from small fillets, which are not packed together, naturally. The scale is gimbal-mounted so as to remain level, whatever the motion of the vessel. He then packs them neatly into trays of their appropriate weights, first lining the tray with waxed paper and placing in it, upside down, a packing slip for process identification, grade, and type of fish.

When sufficient trays have been filled, they are loaded into one of the five plate freezers, each of which can freeze six tons of fillets in 24 hours. After freezing, the blocks are packed into fiberboard cases holding 56 pounds, wire-bound and then passed down a spiral conveyor into the cold-storage holds for stacking.

The ship is Diesel-electric powered by three five-cylinder engines each developing 1,340 hp., and each of which drives a directly-coupled generator developing 535 kw. at 400 v. In tandem with each main generator is a 270 kw. auxiliary generator for the electrical supplies on board. The main driving motor, situated right aft, is a double armature machine rated at 2,000 s. hp., with a maximum speed of 130 r.p.m. and direct-coupled to the propeller shaft.

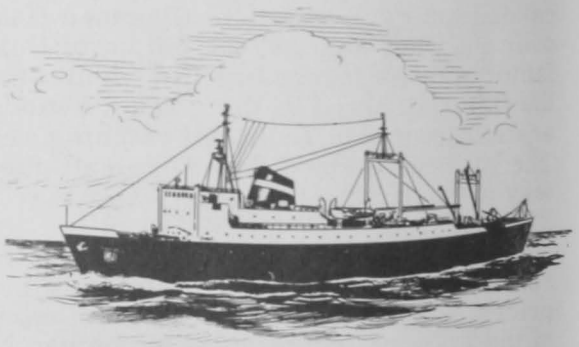


Fig. 1 - Fairtry II--this is one of two new large factory-ship stern trawlers constructed for a large British fishing company. The same company owns Fairtry I, and also the Fairtry III now under construction.

When the trawler is proceeding at its maximum speed, all three generators are required to supply the propulsion motor, but, on the fishing grounds, any one of the three main generators can be isolated and used to supply power to the trawl-winch motor. Thus sudden demands for extra power either for propulsion or for the trawl winch can be met, and the skipper could get increased power by bringing in an extra generator within 15 seconds.

Control of the engines is normally from the bridge, the engineroom taking over only in emergencies. Three telegraphs are provided, giving port and starboard positions on

United Kingdom (Contd.):

the bridge, and a starboard control position only on the boat deck aft to simplify manoeuvring when shooting or hauling the trawl. Operation of any one of the telegraphs causes the pointers of the other two to move to a corresponding position.

The refrigerating machinery is installed at the forward end of the engineroom. The two two-stage compressors deal with the refrigeration necessary for 30 tons of fish a day through the freezers and also maintain a temperature of -10° F. in the storage holds.

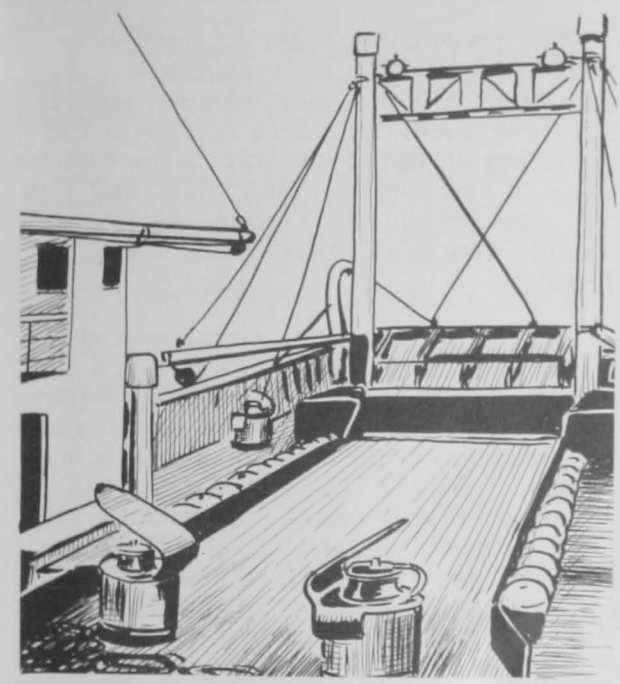


Fig. 2 - Looking aft along the trawl deck of Fairtry II. Trawl is winched up the ramp at the far end with the gate raised; the gate is lowered to prevent fish falling back and the trawl emptied on deck; the two chutes (one at each end of the bobbin storage racks) are opened and the fish are carried to the processing deck below.

Crew quarters are of a very high standard, consisting of four-berth cabins, with two-berth cabins for the higher ratings. Officers have single-berth cabins. There is an adequate supply of showers and a well-equipped galley to feed the crew on a cafeteria system, as well as an excellently-fitted recreation room.

Fairtry II is 235 feet over-all by 48 feet breadth-moulded; 25 feet depth-moulded to the main deck and 41 feet 6 inches depth to the bridge deck. With a crew, including factory personnel, of 96, she is able to stay at sea for 12 weeks without any difficulty; fuel oil capacity is 700 tons and a maximum consumption of 7 tons per day gives her plenty of margin.

* * * * *

GRANTS AND LOANS TO FISHING VESSELS TO MARCH 31, 1959:

Grants to the British inshore and near- and middle-water fishing fleets by the White Fish Authority (under the White Fish Act of 1953 and Herring Industries Act of 1957) as of March 31, 1959, amounted to about US$17.3 million, and loans totaled about $34.8 million. Aberdeen, among the major fishing ports, has received the biggest share of grants and loans for conversions, new engines, and new construction since the start of the program.

Grants for construction since the beginning of the program in 1953 totaled $16,624,000; for conversion of near- and middle-water vessels, $210,000; and for the purchase of new engines, $435,000. Loans for new vessels for the near- and middle-water fleets amounted to $33,100,000; for conversions the total was $891,000; and for new engines, $769,000.

Grants by the Herring Industries Board made to owners at the smaller ports since the passage of Herring Industries Act in 1957 totaled $497,000 for construction of new vessels and $127,000 for new engines. Loans to the herring fleets totaled $671,000 for construction of new vessels and $175,000 for engine replacements.

* * * * *

INTEREST RATE ON LOANS TO FISHING INDUSTRY REVISED:

The British White Fish Authority announced that, as a result of a recent change in the rates of interest charged to them by Treasury, their own rates of interest will be changed on loans as of March 31, 1959. The new rates are: on loans for more than five years, $4\frac{7}{8}$ percent; on loans for more than 10 years but not more than 15 years, $5\frac{1}{2}$ percent; and on loans for more than 15 years, $5\frac{7}{8}$, percent.

The new rates do not apply, however, where the final installment of a loan or interim installments in current cases were paid by the Authority before March 31, 1959.

The Authority's loans are connected with the building of new fishing vessels of not more than 140 feet; the purchase, in certain circumstances, of new engines and nets and gear for inshore vessels; the construction and equipment of processing plants; and the formation and development of cooperatives.

* * * * *

United Kingdom (Contd.):

MARINE OIL IMPORTS AND WHALE OIL PRODUCTION:

Imports of marine oils by the United Kingdom during 1958 decreased 9.0 percent as compared with 1957. Whale oil imports, the most important during both years, decreased 3.9 percent in 1958 as compared with 1957.

United Kingdom Imports of Marine Oils, 1957-1958

Type	1958	1957
	(1,000 Long Tons)	
Vitamin A oil	0.3	0.4
Sperm oil, unrefined	8.6	14.6
Whale oil	136.4	141.9
Others	1.8	4.8
Total	147.1	161.7

Britain's Antarctic whale oil production in 1958 was 49,900 long tons as compared with 58,100 in 1957. In addition, 6,700 tons were produced in the Falkland Islands (12,500 tons in 1957), the Foreign Agriculture Service of the U. S. Department of Agriculture reports in an April 17, 1959, dispatch from London.

In 1958, Britain used 80,000 long tons of whale oil in margarine and 47,000 tons in compound cooking fat as compared with 67,000 tons and 44,000 tons, respectively, in 1957.

Venezuela

FISH-PROCESSING INDUSTRY:

The canning plant at Cumana, Estado Sucre, Venezuela, has a complete ship-to-can operation, fishing with boats built by the firm, importing United States tinplate, lithographing and producing cans, and packing sardines in tomato sauce, picante sauce, peanut oil, and in natural pack. Fish meal and fish oil are also produced.

The Cumaya plant employs approximately 480 workers at salaries of from Bs. 6.00 to Bs. 8.00 (US$1.80 to $2.40) a day. Canned fish production in the 1958 season totaled 217,000 cases of sardines (48-100 cans per case depending upon size of pack) and the pack for the present season is running at about the same level.

This firm produced 240,000 cans (round, square, rectangular) in 1957 and purchased the balance locally. It plans to enlarge its facilities for the production of cans and to produce a key-opened can.

The Cumana firm will soon be working with Japanese interests in fishing for and canning tuna.

The processing plant at Mariguitar, Estado Sucre, is a well-equipped plant and employs some 400 persons, including fishermen. Sardines are packed in a variety of styles similar to the Cumana plant; also produces fish meal and fish oil. The Margarita firm mixes its own picante sauce. Cans are purchased in Venezuela.

The fish processing plant located in Punta Piedras, Isla Margarita, is a small operation, employing some 80 persons, mostly women. In the past it packed sardines, tuna, and shark products. Production over the past 5 years has averaged 17,000 cases of sardines, 198 tons of fresh fish, and 12 tons of shark-liver oil annually. This plant is seeking aid from the Venezuelan Development Corporation. At present, however, the Punta Piedras plant is concentrating on pepetones, the small local clams.

The labor forces in Venezuelan canneries are about 85 percent female with male supervisors, mechanics, and a few additional men to do the heavy work. On the whole, working conditions, wages, other benefits, and training programs are far below United States standards. Most Venezuelan canneries have local unions but there is a gradual movement towards an industry-wide organization. The major plants are working with signed union contracts and salaries are standard throughout the industry.

The plant at Cumana most closely approaches American standards for working conditions. Its employees are uniformed, work in clean surroundings, have an attendant on hand to administer first-aid, and maintain a high standard of personal cleanliness. This plant also provides a daily noon meal (consisting of soup, a vegetable, meat, a sweet, and

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milk) for its employees. The only thing approximating a training program was also found in this plant where an employee serves as apprentice to an experienced worker before taking on any position on his own.

Five Venezuelan firms are now producing fish meal. These plants, all in the state of Sucre in eastern Venezuela, are located in Cumana, El Barbudo, Caiguire, and Mariguitar.

The quantity of fish meal produced in Venezuela is uncertain as local estimates vary. In 1957 one Government source reported 1,480 metric tons and a second Government source, 2,110 tons. The second Government source reported 2,120 tons produced in 1958.

The Venezuelan Development Corporation, using figures from the second Government source, estimates that Venezuela is now 48.5 percent self-sufficient in fish meal. The nation's principal consumer is Venezuela's largest producer of animal feedstuffs.

Fish oil is produced in Venezuela only by two plants located at Cumana and Margarita. Another at La Guaira is expected to be producing fish meal and oil in the near future, the United States Embassy at Caracas reported on March 18, 1959.

Note: Also see Commercial Fisheries Review, May 1959, p. 81.

OCEANOGRAPHERS MAKE NEW PRECISE GEOLOGICAL TIME CLOCK

Oceanographers have succeeded in extending back in time the precise date of glacial events to well over 100,000 years. Paradoxically, this new information regarding the age of land glaciers is based upon investigations of deep-sea sediments taken far from land and two miles below the ocean surface.

More and more, science is turning to the ocean to find the answers to the problems of the earth's history. Geologists of the U. S. Geological Survey and of the University of Miami based their findings upon fine sediments which cover the floor of the Caribbean Sea. By measurements of radioactive thorium and protoactinium in these sediments it has been possible to place the age of the last interglacial period at almost exactly 100,000 years ago, thus confirming theoretical estimates previously made. These samples were obtained by deep-sea cores taken from the central Caribbean by the Woods Hole Oceanographic Institution research vessel Atlantis, by means of a device which drives a tube into the sea floor. Since sediments accumulate at the rate of about 1 inch in 1,000 years, a core-sampling tube penetrating beneath the sea floor may easily reach sediments of 100,000 years or more.

The radioactive content of the sediments provides a means of dating these samples. Other measurements made from the sample give the temperature of the sea at the time the sediments was deposited, thus linking it to the various glacial and interglacial periods of land, which influence the sea temperatures.