



# FOREIGN

## International

### EUROPE

#### FISHERY PROBLEMS DISCUSSED AT MEETING IN OSTEND, BELGIUM:

Fishing industry and government representatives from the countries of the European Economic Community (EEC) as well as the United Kingdom, Norway, Denmark, Sweden, Portugal, Spain, Switzerland, and Canada attended the European Fishery Day held in Ostend, Belgium, on June 18, 1963. The meeting was organized by EUROPECHE, an association of national organizations of fish producers in the EEC.

At the Ostend meeting, considerable attention was given to the British proposal for a European fisheries conference on access to fishing grounds and markets. (The European Free Trade Association announced general support for the British proposal in a press release of June 13, 1963. The EEC countries are less enthusiastic about the British invitation since they have not yet worked out an EEC common fisheries policy.)

The president of EUROPECHE opened the European Fishery Day meeting with a plea for international cooperation especially between the EEC and EFTA. He noted that the former is an over-all importer of fish and the latter an over-all exporter so that cooperation should take place. He also emphasized the impossibility of an effective EEC or EFTA fishing policy which did not cover both groups.

The director general of the British Trawlers' Federation followed with a provocative talk in which he quoted from an EEC official's speech of May 19, 1962, "I feel we may even go so far as to say that if Britain--and perhaps also Denmark and Norway--do not join the Community, a common fisheries policy must still be evolved for the North Sea and neighboring waters." The British fisheries representative then went on to list some of the common problems of the various national fishing industries such as inadequate prices, overfishing, increased production, and national restrictions. He stated his hope that those problems could be solved in the long run by a West European Fisheries Community. For the immediate future, he expressed hope for progress toward an agreement (by EEC, EFTA, and other European countries at the proposed British fisheries conference) on access to markets and fishing grounds. He said, "The first category (access to markets) includes tariffs, quantitative restrictions, landing bans and bans on the use of harbors as fishing bases, rights of establishments and transshipment, subsidies and the maintenance of the price structure, and market regulations generally. In the second category--access to fishing grounds--are fishery limits to participants and third parties, conservation in its many forms, policing, and enforcement. . . ."

The British representative's talk was followed by a reading of a paper written by an EEC official who is working on an EEC fisheries policy. The EEC official empha-

sized the international aspects of EEC fishing with fleets going farther and farther to fishing grounds. He thought, therefore, that a reorganization of fleets was needed in order to increase their efficiency and number of fishing days. Since territorial fishing rights are another aspect of the problem, he welcomed the British proposal for a conference. His main point, however, was the need for an EEC fishery policy which should be determined as soon as possible and could be done independently of international agreements on fishing rights and market access, though the latter would have to be controlled to avoid state aid from distorting the EEC internal market. He said that the main aims of the EEC fishery policy would be to: (1) increase the productivity of fishing; (2) guarantee an appropriate standard of living to persons employed in the fishing sector; (3) stabilize the market; (4) assure the supply; and (5) see to it that consumption prices are reasonable.

Comments after the talks were limited, but some typical national views came forth. An Italian delegate emphasized the need for an international approach to fishing problems. He also pointed out a lack of representation from Mediterranean countries and a lack of interest in the Mediterranean. A Frenchman emphasized the difference in the aims of EFTA and the EEC since the former is only a free trade association while the latter wants to harmonize fishery policies of all EEC countries. He said that the aim should not be hindered by talks with EFTA until an EEC policy exists.

At the meeting, EUROPECHE also published the following resolutions:

- (1) The need for periodic information before creation of fishery policy.
- (2) The need to make a study of state aid to the fishing industry.
- (3) Labor shortages make the EEC Treaty provisions on free movement of labor especially important.
- (4) A study of social legislation should be commenced as soon as possible and such legislation by EEC countries should be coordinated.
- (5) Coordination of research and conservation policies of the EEC countries should take place.
- (6) National market stabilization plans should be maintained and an effort made to coordinate them.
- (7) According to a timetable, the freedom to establish a fishing venture anywhere in the EEC should be allowed in 1966 or 1967.
- (8) The rights to fish must be common among the EEC countries and no greater benefits can be given third countries. A common policy on territorial fishing rights must be adopted.
- (9) Common efforts to increase consumption should be made.
- (10) Controls of third country imports to the EEC are necessary.
- (11) Tariffs should be put on imports with the level of the tariff depending on the situation within the EEC.

The EEC Statistical Office issued EEC fishing statistics at the meeting for the period 1950-1961. (United

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States Mission to the European Communities, Brussels, July 10, 1963.)

## EUROPEAN FREE TRADE ASSOCIATION

**PROPOSED WEST EUROPEAN FISHERIES CONFERENCE ON ACCESS TO FISHING GROUNDS AND MARKETS SUPPORTED:**

Senior fishery officials from countries of the European Free Trade Association (EFTA) and permanent EFTA delegates met in Geneva, Switzerland, June 12-13, 1963, for an exchange of views on fishery problems. There was general support for a previous British proposal to hold a West European fisheries conference on access to fishing grounds and markets in London during the fall of 1963. Delegates from the EFTA countries agreed that such problems could best be resolved on a wide European basis. EFTA countries planned further consultations on those questions before the London conference some time in the fall of 1963. (European Regional Fisheries Attache, United States Embassy, Copenhagen, July 10, 1963.)

## FISH MEAL

**WORLD PRODUCTION, MAY 1963:**

World production of fish meal in May 1963 was up 18.1 percent from that in the same month of 1962, according to preliminary data from the International Association of Fish Meal Manufacturers.

Most of the principal countries producing fish meal submit data to the Association monthly (see table).

Country	May		Jan.-May	
	1963	1962	1963	1962
..... (Metric Tons) .....				
Canada . . . . .	5,020	2,376	31,944	35,808
Denmark . . . . .	10,267	8,424	35,959	28,229
France . . . . .	1,100	1,100	5,500	5,500
German Federal Republic	5,795	5,485	1/33,128	32,264
Netherlands . . . . .	2/	600	2/	2,200
Spain . . . . .	1,673	2,578	10,869	11,476
Sweden . . . . .	754	459	2,783	2,329
United Kingdom . . . . .	5,752	6,939	32,193	30,861
United States . . . . .	36,056	188,433	1/50,479	1/55,023
Angola . . . . .	2,276	1,542	11,174	11,885
Iceland . . . . .	4,602	9,661	34,814	26,930
Norway . . . . .	10,649	3,822	25,019	19,945
Peru . . . . .	160,209	121,533	602,850	460,623
South Africa (including South-West Africa) . . .	33,200	31,945	114,526	134,596
Total . . . . .	277,353	234,897	991,238	857,669

1/Revised.

2/Data not available.

Note: Belgium, Chile, Japan, and Morocco do not report their fish meal production to the International Association of Fish Meal Manufacturers at present.

The increase in fish meal production in May 1963 was due in large part to greater output in Peru which accounted for 57.8 percent of world production during the month. In January-May 1963, Peru accounted for 60.8 percent of total fish meal production.

World fish meal production during the first 5 months of 1963 was 15.6 percent greater than in the same period of the previous year. Production in early 1963 was boosted by record landings of anchoveta in Peru and considerably heavier landings of industrial fish in Iceland, Denmark, and Norway. The increase was partly offset by a noticeable decline in production in South Africa, the United States, and Canada.

## FOOD AND AGRICULTURE ORGANIZATION

**SEMINAR ON FISHERY DEVELOPMENT HELD IN GHANA:**

A seminar on fishery development, planning, and administration was held July 8-13, 1963, at the University of Ghana in Legon. The Food and Agriculture Organization (FAO) of the United Nations sponsored the seminar which was attended by representatives from Ghana, Ethiopia, Basutoland, Liberia, Nigeria, Tanganyika, and Sierra Leone.

The seminar was opened by the President of Ghana who emphasized that African unity was required in economic and social as well as political fields. He called for an effective program for African fisheries "within a central continental framework."

The Ghanaian Minister of Agriculture in his talk to the seminar stressed the importance of the survey and studies being undertaken under the International Cooperative Investigation of the Tropical Atlantic (ICITA). The ICITA investigations include the Guinean Trawling Survey, scheduled to begin in August 1963, which is aimed at investigating the fisheries potential off the West African Coast from Cape Roxo, Portuguese Guinea, to the mouth of the Congo River. (United States Embassy, Accra, July 14, 1963.)

## INTERNATIONAL PACIFIC HALIBUT COMMISSION

**NORTH PACIFIC HALIBUT FISHING IN AREA 3A ENDED AUGUST 9, 1963:**

Fishing in Pacific halibut Area 3A ended at 6 p.m. (P.S.T.) on August 9, 1963. The International Pacific Halibut Commission estimated that by August 9 the catch limit of 34 million pounds for Area 3A would be reached. As of July 23, 1963, halibut landings from Area 3A totaled 26.1 million pounds, compared with 25.7 million pounds by the same date in 1962. The Area 3A closure this year was 2 days earlier than in 1962 when fishing ended on August 11. Area 3A includes the

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waters off the coast of Alaska between Cape Spencer and Kupreanof Point (near the Shumagin Islands). Fishing in Area 3A is ended until reopened in 1964.

There has been no announcement as to closure of either Area 2 or Area 3B North Triangle which are also subject to catch limits.

The Area 2 halibut quota in 1963 of 28 million pounds is the same as in the previous year. Halibut landings from Area 2 as of July 23, 1963, totaled 18.3 million pounds, compared with 20.2 million pounds by the same date in 1962. In 1962, Area 2 closed on September 8; in 1961, Area 2 closed on September 7; and in 1960, Area 2 closed on July 31. The Area 1 fishing season with no catch limit will end at the same time as that in Area 2.

The new Area 3B North Triangle (enclosing a heavily fished part of the Bering Sea) is subject to a halibut catch limit of 11 million pounds. On July 23, 1963, it was estimated that about 10.4 million pounds of that quota had been caught. The new area and catch limit were established as part of special conservation measures adopted when halibut in the eastern Bering Sea was opened to Japanese long-line fishermen in 1963.

Pacific halibut regulatory areas without catch limit include Area 3B North (that part of the Bering Sea not included within Area 3B North Triangle) and Area 3B South. Both of those areas will close on October 15, 1963.

If not closed by the specified dates or the attainment of catch limits, fishing in all Pacific halibut areas will terminate on November 30, 1963. In 1963, the official opening date for halibut fishing in Areas 1, 2, and 3A was May 9; Area 3B North Triangle and Area 3B North opened on March 25; and Area 3B South opened on April 19.

This year, Area 3A was open to fishing for 92 days--2 days less than the 94-day season in 1962. In 1961, the area was open to fishing for 105 days, in 1960 for 85 days, in 1959 for 92 days, and in 1958 for 119 days. Between 1945 and 1955, the trend had been towards a shorter fishing season in Area 3A, but then the trend changed and through 1957 the seasons were longer. Beginning in 1958, the trend was reversed again and, with some

exceptions, recent seasons have tended to become shorter.

Note: See Commercial Fisheries Review, August 1963 p. 70 and March 1963 p. 41.

## INTERNATIONAL PACIFIC SALMON FISHERIES COMMISSION

MEETS AT WASHINGTON, D. C.:

The Fraser River salmon program was discussed with the State Department and Congressional officials at a meeting of the International Pacific Salmon Fisheries Commission in Washington, D. C., on May 8, 1963. The day following the Washington meeting, the group flew to Ottawa for similar discussions with members of the Canadian Parliament and Canadian fisheries officials.

A reorganization of the research program of the Commission is under way to meet the conservation problems arising from rapid industrialization of the Fraser River Basin, according to the chairman of the Commission. The Fraser River salmon program is supported on an equal basis by the United States and Canadian Governments. The salmon catch, as near as possible, is also divided on an equal basis.

Note: See Commercial Fisheries Review, August 1963 p. 76.

**Argentina**FISHING INDUSTRY PLANS MODERNIZATION:

In late June 1963, a fishing cooperative in Mar del Plata, Argentina, was preparing to purchase two fully equipped 62-foot purse-seine vessels as the first step in a modernization program. An Argentine bank was to provide a loan of 15 million pesos to finance the major portion of the cost (estimated at 22 million pesos or approximately US\$170,000) of the two vessels.

According to the manager of the fishing cooperative, the two purse-seiners would be purchased in the United States or West Germany and used as training vessels. After modifications were made to suit local needs and conditions, the two vessels would serve as models for 100 additional craft to be constructed in Argentina. There are no firm plans to finance the additional vessels.

The large-scale vessel-building project, which is still in the early stages of planning,



**Argentina (Contd.):**

is part of an Argentine Government plan to obtain 25-30 million dollars in financing to modernize the fishing fleet, and install a fish-meal plant, fish-processing plants, refrigerated storage, and transportation facilities. The Government may submit a request to the Inter-American Development Bank to finance the project. Argentine Government officials have also indicated they are considering a request to the United States Agency for International Development (AID) for assistance in financing the fisheries plan. (United States Embassy, Buenos Aires, June 29, 1963.)

**Australia****BLUEFIN TUNA SURVEY RESUMED:**

The tuna vessel Estelle Star was chartered for tuna investigations off Albany, Western Australia, in June 1963 by Australia's Commonwealth Scientific and Industrial Research Organization's (CSIRO) division of Fisheries and Oceanography.

The program is designed as a follow-up of the scientific work done by Estelle Star in that area during the Commonwealth survey of tuna resources (August 1961-July 1962) and includes:

1. A check on the age groups of southern bluefin tuna found off Albany at that time of year.
2. Blood sampling.
3. Further tagging (17 southern bluefin tagged off Albany have been recovered near Port Lincoln).
4. Comparative tagging tests designed to show whether there is any difference in the rate of recovery of tuna tagged in the normal way and tuna which are also injected with terramycin.
5. Comparative tagging tests using red tags and yellow tags to see which color is more likely to be noticed by fishermen. (Australian Fisheries Newsletter, July 1963.)

Note: See Commercial Fisheries Review, April 1963 p. 39 and March 1963 p. 45.

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**SHRIMP FISHERY IN SHARK BAY BEING EXPANDED:**

Shrimp fishing on new grounds north of Shark Bay (Australia), which are reported to be extensive, is planned by a fishing firm in Fremantle. Operations will start as soon as the firm activates a 125-foot supply and research vessel it recently purchased. She will be able to supply freezer-catcher boats, which will then be capable of operating north from Shark Bay.

The vessel (renamed Kwinana Empress) is capable of carrying 200 tons of fuel, 35 tons of refrigerated cargo, and 10 tons of deck cargo. The managing director of the firm stated the vessel was worth £100,000 (US\$240,000) and was expected to go into operation in August.

The Fremantle firm already has a freezer-catcher vessel fishing for shrimp in Shark Bay waters. Five other vessels of the same type were being outfitted at Fremantle for shrimp fishing.

The Kwinana Empress will be the largest of 70 boats operated by the company between Fremantle and Shark Bay in fishing, and crayfish and shrimp fishing. (Australian Fisheries Newsletter, July 1963.)

Note: See Commercial Fisheries Review, April 1963 p. 40.

**Brazil****FOREIGN TRADE IN FISHERY PRODUCTS, 1961-1962:**

Brazil's exports of fishery products in 1962 consisted mainly of 2,069 metric tons of frozen spiny lobsters valued at US\$4,039,000 as compared with shipments in 1961 of 1,741 tons valued at \$2,862,000.

Brazil's imports of fishery products in 1962 consisted mainly of 26,952 tons of salted cod valued at \$14,923,000 as compared with imports in 1961 of 25,714 tons valued at \$15,829,000. (United States Embassy, Rio de Janeiro, July 15, 1963.)

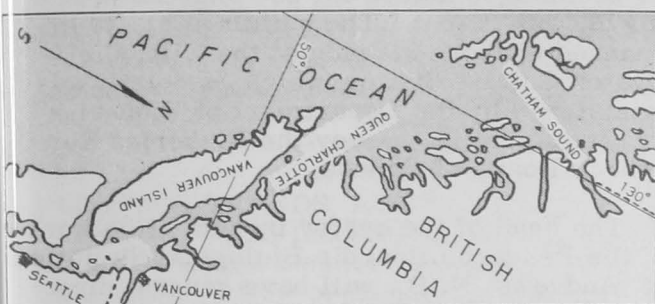




## Canada

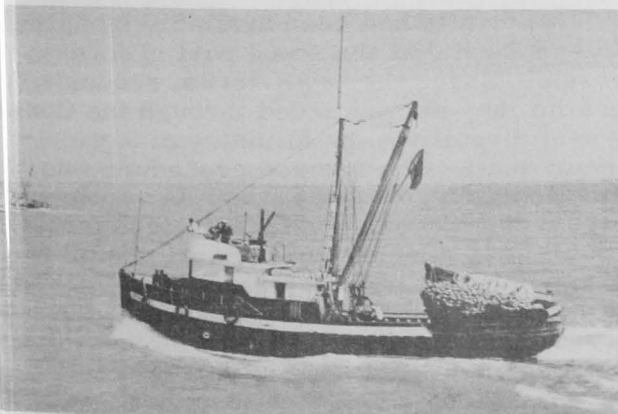
### BRITISH COLUMBIA FISHING INDUSTRY TIED-UP BY LABOR DISPUTE:

On July 29, 1963, the 70-million-dollar British Columbia fishing industry had moved into the third week of a labor dispute which had halted production and idled over 10,000 workers. About 6,000 salmon fishermen and an unknown number of groundfish and halibut fishermen were tied-up.



About 81 percent of British Columbia's salmon fishermen voted for the tie-up in a union-supervised poll. Shore workers favored the work-stoppage by a 54 percent majority in a Government-supervised vote. British Columbia tendermen rejected the walk-out by two votes in a Government-supervised vote. The salmon fishermen asked for higher ex-vessel prices while the shore workers sought higher wages.

When work was halted on July 15, 1963, union-company talks had been stalemated for six weeks. Although an important run of sockeye salmon was expected in late July 1963, industry officials did not expect an early settlement.



British Columbia purse-seiner sailing out to seek the schools of salmon.

Canadian vessels willing to fish were unable to land their catches in British Columbia. Some British Columbia fishermen investigated the possibility of landing their catches at United States ports.

United States independent commercial salmon troller fishermen of Washington and Oregon were inactive for a short period in late July, but they returned to fishing after some adjustments were made in ex-vessel troll salmon prices. (United States Consulate, Vancouver, July 15, 1963, and newspaper reports.)

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### BRITISH COLUMBIA FISHING INDUSTRY TIE-UP ENDS:

The British Columbia fishing industry tie-up ended August 4, 1963. A recommendation that British Columbia fishermen submit their ex-vessel price dispute to arbitration and return to work immediately was made by the Canadian Government after the Federal Minister of Fisheries and the Minister of Labor for British Columbia met in Vancouver, B.C., on July 29, 1963, to consider the crisis in the British Columbia fishing industry. It was pointed out that unless fishing was resumed at once, some salmon runs would be missed completely. A failure to harvest can result in overseeding of spawning grounds. This can be as damaging as overfishing.

Anticipating the end of the tie-up, the International Pacific Salmon Fisheries Commission met on August 2, 1963, and recommended to the Canadian Government that fishing for sockeye and pink salmon in the Canadian Convention waters lying easterly of the William Head-Angeles Point line start 6:00 p.m., August 4, and continue until 8:00 a.m., August 8. The Commission was to meet again on August 6 to examine further the situation involved in the Fraser River sockeye fishery.

British Columbia fishermen returning to fishing grounds found that the industry-wide tie-up permitted the bulk of the Fraser River salmon run to slip past. An official of the International Pacific Salmon Fisheries Commission said the returning fishermen "just got in on the tail end of the run."

The Canadian Federal Government and the British Columbia Provincial Government agreed to appoint a committee consisting of 3

## Canada (Contd.):

representatives of the Federal Government and 3 representatives of the Provincial Government to examine in detail the problems associated with price and wage disputes in the British Columbia fishing industry. The committee would recommend actions necessary to minimize interruptions of fishing operations in the future.

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NEW METHOD TESTED FOR UNLOADING SALMON FROM VESSEL:

A new method of unloading salmon so fast that conventional handling at the cannery can't keep up with the pace has undergone successful trials in British Columbia. The Vancouver technological station of the Fisheries Research Board of Canada worked in collaboration with a Vancouver fishing company in developing the new system which is described as "pneumatic unloading." The system involves the use of air pressure to force fish out of specially constructed tanks and onto the dock. This it does at remarkable speed. Installation of the system on the salmon packer vessel Derek Todd, the only vessel equipped for pneumatic unloading, also incorporates the use of a mechanically operated refrigerated sea-water unit. The vessel has four tanks with a total capacity of 129,000 pounds.

The future operations of the "pneumatic unloader" will be observed with interest by Canada's fishing industry. (Trade News, July 1963.)

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EXPERIMENTAL OYSTER HATCHERY BEING BUILT:

Canada's first experimental oyster hatchery is to be built this summer at the Oyster Culture Station of the Federal Department of Fisheries at Eilerslie, P.E.I., the Canadian Fisheries Minister announced on July 23, 1963. The purpose of the project is to further develop and stabilize the oyster fishery of the Maritime Provinces.

A contract for the construction of the hatchery and a stand-by generator house was awarded in July. Construction is to be according to specifications prepared by fisheries biologists and engineers.

The new hatchery is intended to provide oyster seed-stock to Maritime oyster farmers in sufficient quantities to ensure a continuing harvest. Of late years, oyster spat

has not been available from its natural habitat, and experience has shown that no reliable prediction of the wild supply can be made in time to avoid waste effort. The uncertainty of supply of spat for seeding purposes should be relieved if the oyster hatchery is as successful as expected.

Costing approximately \$38,000, the new hatchery includes a controlled sea-water system to provide an environment as close as possible to nature for the successful rearing of oyster spat. The buildings are to be annexed to those already at the Eilerslie Oyster Culture Station which is jointly administered by the Department of Fisheries and its scientific agency the Fisheries Research Board of Canada.

The head of the oyster investigation work of the Research Board's Biological Station at St. Andrews, N. B., will have general direction of the new hatchery operation. It is expected that the work will be completed before the end of October 1963.



## Chile

CONTROL OVER FOREIGN FISHING VESSEL LICENSES TIGHTENED BY NEW DECREE:

Chilean Decree No. 332 designating the Chilean Ministry of Agriculture as the sole authorizing agency for foreign fishing vessel permits was published in "Diario Oficial" on June 27, 1963, and became effective as of that date.

The permits had been available from the Chilean Consul at the home port of foreign vessels. Under the new Decree, requests for permits may be forwarded through the Consul or sent directly to the Ministry of Agriculture by mail. The revised procedure was established to give the Chilean Government more control over permits issued to foreign vessels (not working for national plants) to operate within Chile's declared 200-mile fishing limits. An official of the Chilean Government has stated that the use of motherships within the 200-mile zone will be prohibited.

Chile expects a substantial increase in its tuna fleet and feels that there must be more effective protection of its marine resources. In mid-1963, a tuna cannery and freezing plant

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was being established at the port of Iquique by the Corporacion de Fomento de la Produccion de Chile (CORFO). The project received a \$5 million loan from the Inter-American Development Bank which included funds for the purchase of 18 vessels. By July 1963, part of the equipment for the canning and freezing plants had arrived at Iquique, and one Chilean vessel has started fishing for tuna. Several other fish meal plants in northern Chile were considering the feasibility of processing fresh fish--primarily tuna and bonito. (United States Embassy, Santiago, July 15, 1963.)

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FISHERIES TRENDS, APRIL-JUNE 1963:

The fish-meal industry of northern Chile has experienced a spectacular growth under the Fisheries Law of March 31, 1960 (Decree Law No. 266) which authorized special concessions and exemptions for individuals or companies engaged in any phase of the fishing industry. In the Province of Tarapaca, the 12 plants in operation in mid-1963 had a combined production capacity using 280 metric tons of fish per hour. Within a year that capacity should be more than doubled by the completion of expansion plans and new plants under construction.

Chilean fish-meal companies are increasing their fishing fleets both in number and size of vessels. Several new boatyards opened in Chile in 1963 to help satisfy the demand for fishing vessels. Plants and fishing captains now favor 120-150 ton vessels over the 100-110 ton vessels popular in 1962. The Corporacion de Fomento de la Produccion de Chile (CORFO) has provided substantial financing for both fish processing plant installations and vessel purchases.

CORFO and the Chilean fishing industry have also undertaken an extensive program designed to increase national consumption of fish and shellfish. The present annual per capita consumption is estimated at 9 kilograms (19.8 pounds) of fish and 5.3 kilograms (11.7 pounds) of shellfish, but those figures are weighted by the high consumption of the coastal population. The sponsors believe that a potentially large market exists in the interior population centers if a quality product is produced. The promotion program envisions marketing terminals, refrigerated storage, and transportation facilities on a country-

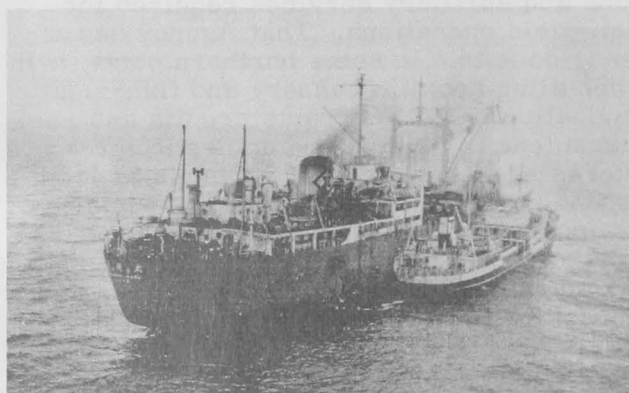
wide basis. (United States Embassy, Santiago, July 25, 1963.)

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JAPAN-UNITED STATES-CHILE JOINT FISH-MEAL OPERATION:

The president of a large Japanese fishing company was scheduled to return to Japan on July 18, 1963, after spending over six weeks (since late May) in Chile negotiating the establishment of a joint fish-meal enterprise in that country. According to press reports, the participants to the proposed joint enterprise, which include a large United States tuna packer and Chilean interests, have reached agreement on the major issues involving the establishment and operation of the joint enterprise, although details have yet to be worked out.

The joint fish-meal venture in Chile involves the operation of the Japanese fish-meal factoryship Renshin Maru (14,094 gross



Japanese fish-meal factoryship Renshin Maru. (Smaller vessel alongside is a Japanese oiler vessel.)

tons) which would be anchored offshore to receive fish for processing. (Suisan Tsushin, July 17, 1963, and other sources.)

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DEMAND FOR SHRIMP AND LANGOSTINO CAN'T BE MET:

For lack of processing plants, Chile can't keep up with the demand for her frozen shrimp and langostino. Last year exporters were able to fill only a third of the orders received. They shipped some 1,100 metric tons (worth US\$1.7 million) to the United States and Europe, barely scratching the surface of the world market, according to a June 1963 report from Chile.



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The frozen shrimp and langostino industry (plate lobster) is less than a decade old in Chile, and is now confined to the central part of that 2,600-mile coastline. The major ports are Coquimbo, Quintero, Valparaiso, and San Antonio, where the climate permits year-round fishing. Virtually untapped are the vast shellfish resources of the southerly waters of the Gulf of Arauco, Chiloe, and the Straits.

Like most countries, Chile wants to step up exports, and for several years has had legislation providing tax and other special incentives to fishing and export industries. In order to increase plant capacity and promote new foreign and domestic investments, the Chilean Development Corporation (CORFO), the Government agency in charge of bettering the national economy, offers direct and indirect aid to the fishing industry. For instance, CORFO will build industrial sites in many ports, to provide the installations and auxiliary services required for high-yield operations. That Agency has already done this in some northern ports, with a resulting boom in cannery and fish-meal production. CORFO grants credits and loan guarantees to foreign and domestic investors interested in new or joint ventures to establish or expand plants and fleets. It is also in a position to offer investors technical assistance and general information on resources and markets. Over the years (CORFO was founded in 1939), its own studies and those undertaken with foreign experts have been complemented by practical experience in various phases of the fishing industry.

CORFO, which has offices in New York, is hopeful that these incentives will generate more industrial know-how and investments from abroad, so that Chile will no longer have to turn down sales.

The "plate lobster" or langostino consists of two species: Munida gregaris and Gulothus monodon. The Chilean shrimp species is Phynchocinetes typus.

Note: See Commercial Fisheries Review, March 1961 p. 49.



## Denmark

FISHERY EXPORTS TO UNITED STATES  
DECLINE IN JANUARY-JUNE 1963:

Preliminary data on Denmark's 1963 fishery exports to all countries during January-June 1963, indicate a 16-percent increase in quantity and a 9-percent increase in value as compared with the record exports in the first half of 1962. Danish exports to the United States, however, dropped 15 percent in quantity and 13 percent in value. Exports of pond trout, and cod and flatfish fillets were higher but canned herring and frozen lobsters dropped sharply. (Regional Fisheries Attache for Europe, United States Embassy, Copenhagen, July 17, 1963.)

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FISHERY PRODUCTS EXPORTS AND  
FISHING INDUSTRY TRENDS:

A review of Denmark's role in the export of fishery products to outside markets was given in a leading article in the July 19, 1963, issue of Denmark's Udenrigs-Ministeriets Tidsskrift (The Foreign Ministry's Weekly), titled "Danish Fish Exports and Its Organization," by the Department Chief of Denmark's Ministry of Fisheries. The article stated that the earliest period in which Danish-caught fish played a role in European markets was in the 12th century when herring was first exported to Northwest Europe, especially the Hanseatic States (a medieval association of merchants in various free German cities which traded abroad).

Denmark's big surge in fishery products exports came after World War II (table 1).

Table 1 - Danish Fishery Products Exports, 1930-62

Year	Quantity	Value	
	Metric Tons	1,000 Kroner	US\$1,000
1962	320,000	595,000	86,275
1960	221,000	408,000	59,160
1950	123,000	172,000	24,940
1940	92,000	60,000	8,700
1930	61,000	34,000	4,930

Note: Does not include exports from Faroe Islands.

The following reasons are given for Denmark's large increase in fishery products exports:

1. Location: Denmark has a favorable location with regard to export markets and to fishing grounds populated with a number of different varieties of fish. This is important to marketing, and to establishment of a certain "rhythm" in the fisheries whereby fishermen can fish the year-round without long periods of idleness.

With regard to its best customers, Denmark has a land boundary and land transport to West Germany, ferry connections and short water transport to West Germany, Sweden, and the United Kingdom, and some direct fishing vessel landings in ports of those coun-

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tries. There are favorable rates for plane transportation of fresh fish to Italy because of return loads of flowers to Scandinavian countries.

Denmark's fishery landings consist of about 50 species of some importance of which plaice, herring, and cod account for about 60 percent of the total value (table 2).

Table 2 - Leading Species--Importance of Relationship of the Value of Each to Total Value, 1961

Leading Species	Percent of Total Value
Plaice . . . . .	24.0
Herring . . . . .	20.6
Cod . . . . .	15.0
Other soles and flounders . . . . .	7.2
Eels . . . . .	7.0
Industrial fish (sand eels, Norway pout, etc.) . . . . .	6.5
Salmon . . . . .	5.0
Whiting . . . . .	3.0
Deep-water shrimp . . . . .	2.4
Norway lobster . . . . .	1.8
Other . . . . .	7.5
Total . . . . .	100.0

When there are significant changes in market demand or prices, Danish fishing vessels are able to shift from catching food fish to catching industrial fish, and vice versa, without costly changes in equipment or grounds fished. It has been estimated that 35 to 40 percent of the Danish catch is taken within territorial waters, of which 10 percent is caught by fixed gear. Thus, Danish vessels compete with foreign vessels for 70 to 75 percent of the catch they make.

2. Fishing Fleet: There has been continual modernization of the cutter fleet and the use of modern technical accessories and gear. The Danish fisheries are among the few in Europe using cutter fleets exclusively.

Unlike most other important European fishing countries, Denmark offers no subsidies or similar financial support to its fishing vessels. Since most other countries have fishing fleets with large vessels, often including stern trawlers and factoryships which fish distant grounds, it seems obvious that an important reason for the lack of subsidies in Denmark is the relatively small size of the cutters and the fact that they fish only in nearby waters and in the North Sea. In 1961, the largest vessel measured only 183 gross tons. Of the 8,347 motorized vessels, slightly less than half (4,045) are over five gross tons (table 3).

Gross Tons	Number of Vessels
Over 100 . . . . .	57
50 to 100 . . . . .	106
15 to 50 . . . . .	1,770
5 to 15 . . . . .	2,112
Under 5 . . . . .	4,302
Total . . . . .	8,347

3. Quality of Fish: The quality of the fish is high resulting from the short distance to the fishing grounds and a very comprehensive quality control. The quality of Danish food fish is excellent because trips are short,

the fish are carefully handled, and there is a control and inspection system which functions from landings through processing and exports. Most Danish export products generally are recognized as of high quality. The fishery exports have helped to develop this recognition and the fishing industry seeks to maintain it as a selling point. For example, fresh cod fillets shipped to Switzerland are cut only from cod landed alive at the filleting plant. About 13 percent of Denmark's pond trout exports in 1962 were shipped alive. At the Copenhagen wholesale fish market, there is an absence of fish odors. A request by filleting plants to freeze surplus plaice supplies for thawing, filleting, and refreezing (after not more than a month's storage) was denied by the Fisheries Ministry because laboratory tests, not yet completed, indicated such a product would be equal only to fillets processed in the usual manner after two months of storage.

4. Improved Products: Despite the important exports of fresh fish, there has been an increasing trend toward improvement and refinement of fishery products. Cod and flatfish, for example, are filleted in increasing quantities while filleted herring has had an explosive development. The newest filleting machines are in wide use, but hand-filleted fish are available for the customer who demands them. Fillet waste is sold to local animal farms and trout farms for food. Some producers maintain that, because of the very strong competition in the fish-filleting industry, the waste provides the only profit. In addition to producing single fillets and blocks of fillets, some producers are manufacturing fish sticks, fish portions, etc., which are breaded and sometimes partially cooked. Denmark must compete with many countries in the production of cod fillets, but it has been the leader for years with respect to plaice. Developments in freezing techniques have nullified, to some degree, Denmark's geographical advantages in fresh fish production and marketing, but it is difficult to judge if the wider markets created by frozen fish balance the new and greater competition from producers who were unable to compete with Danish fresh fish.

Table 4 shows increased values for all major categories of fishery products exports in 1962 as compared with 1960 and 1961. The trend toward a greater proportion of fillets in the "fresh" and "frozen" categories is marked.

Fish-Canning Industry: The fish-canning industry began long before the World War II, but many canners have taken up new products and rationalized their operations with modern equipment. The most important products are packed from herring, brisling, mackerel, and shrimp. Fish specialties successfully introduced on the world market include caviar from lumpsucker roe, cod roe, and smoked cod liver.

Meal and Oil: An important fish meal and oil industry was built up after World War II, utilizing herring, sand eels, whiting, and Norway pout. It reached an export peak in 1959 but barely survived after that year because of very strong competition from Peru. Denmark's fish-meal industry now operates in a more stable market with high-quality Danish fish meal being exported in substantial quantities.

Danish herring meal is highly regarded in the British market and brings a premium price over Peruvian fish meal.

Pond Trout: About 650 Danish trout farms, with an annual production of about 18 million pounds, export

## Denmark (Contd.):

Product	1962		1961		1960		Change from 1960 to 1962 %
	Million Kroner	US\$1,000	Million Kroner	US\$1,000	Million Kroner	US\$1,000	
<b>Fresh Fish:</b>							
Fillets . . . . .	53.3	7,728	22.6	3,277	15.9	2,305	+235
Other . . . . .	258.7	37,512	229.5	33,277	200.4	29,058	+ 29
Total . . . . .	312.0	45,240	252.1	36,554	216.3	31,363	+ 44
<b>Frozen Fish:</b>							
Fillets . . . . .	92.0	13,340	82.8	12,006	64.5	9,353	+ 43
Other . . . . .	40.5	5,872	39.4	5,713	32.1	4,654	+ 26
Total . . . . .	132.5	19,212	122.2	17,719	96.6	14,007	+ 37
<b>Other Products:</b>							
Salted fish . . . . .	21.1	3,047	17.3	2,509	16.7	2,422	+ 26
Smoked fish . . . . .	5.9	855	4.6	667	3.7	537	+ 59
Canned fish . . . . .	38.2	5,539	29.4	4,263	26.1	3,784	+ 46
Semipreserved . . . . .	8.4	1,218	5.1	739	3.7	536	+127
Fish meal, etc. . . . .	66.3	9,613	37.3	5,409	30.8	4,466	+115
Fish oil . . . . .	10.7	1,551	8.5	1,232	6.2	899	+ 73
Grand total . . . . .	595.0	86,275	476.5	69,092	400.1	58,014	+ 49

practically all the fish as live, iced, or frozen trout. The exports are largely the result of a tremendous postwar development.

Danish pond trout are raised for export at a very low cost because of: (a) good water supplies, (b) the use of inexpensive earthen pond construction, (c) the availability of large quantities of fresh fish for food only a short distance from the trout farms, and (d) a resulting high trout production per worker. More than 95 percent of the pond trout production was exported in 1962.

**Other Products:** In addition to the products mentioned, most of which appeared after the war or became significant then, there are such important export items as fresh and frozen salmon, eels, lobster, and shrimp.

**Importing Countries:** The largest importers of Danish fishery products are European countries, but the United States ranked third in 1962 as shown in table 5.

Country	Million Kroner	US\$Million
West Germany . . . . .	156	22.6
United Kingdom . . . . .	106	15.4
United States . . . . .	52	7.5
Sweden . . . . .	48	7.0
Italy . . . . .	32	4.6
Benelux . . . . .	32	4.6
Switzerland . . . . .	29	4.2
France . . . . .	21	3.0

Denmark's exports to various markets differ greatly, and generally supplement each other. West Germany imports mostly herring and eels with lesser quantities of plaice, fish meal, and some trout. The United Kingdom takes plaice and other flatfish, cod, trout, canned fish, and fish meal. Thus, the purchases of the two largest importers are largely different. Imports to the United States are mainly cod blocks, trout, lobster tails, and canned fish. Sweden takes numerous products--the most important are plaice, cod, trout, salmon, and smoked and canned fish. Italy, despite its distance, imports large quantities of fresh

salt-water fish and is the largest importer of trout. Exports to the Benelux (Belgium-Netherlands-Luxembourg) countries are hampered by quotas but include mostly salt-water fish, eels and trout. Denmark is the largest exporter of fishery products to Switzerland, mostly salt-water fish and trout. France takes fresh salt-water fish, salmon and canned fish. Some products like trout, are hindered by quotas from supplying a probable larger French market. The Soviet Union takes only salted herring from the Faroe Islands. Other East Bloc countries import fresh and frozen herring, canned mackerel, cod fillets, and fish meal.

Exports to the United States were down 15 percent in quantity and 14 percent in value in the first six months of 1963. Danish canned sardines could not maintain the foothold gained in United States food stores when the Maine sardine pack was about one-third normal in 1961. Frozen lobster tail imports also declined drastically. Danish fishery exports go to over 110 countries in about 50 significant categories. New record export totals set in 1961 were exceeded in 1962 and the first half of 1963 is 16 percent ahead of 1962 in quantity and 9 percent in value. As a result of the Danish Fisheries Minister's recent trip to the U.S.S.R., an attempt will be made to sell frozen herring fillets, canned fish, and fish meal to the Soviet Union.

**Number of Associations Aid Exporters:** Most of the Danish fishery products exporters are members of fishery organizations. A number of them belong to several. Danish fish exporters generally belong to the following organizations:

- Denmark's Fish Trade and Marine Fisheries Association;
- The Association for Denmark's Fish-Canning Industry;
- The Association for Denmark's Fish-meal and Fish-Oil Industry;
- Danish Fish Fillet Factories Export Association;
- Danish Export Association for Export of Flatfish Fillets; and
- Union of Danish Trout Exporters.

There are also several smaller groups, for example, exporters of salt fish.



## Denmark (Contd.):

The associations care for the interests of the exporters, including those involving the Government. In no instance do their duties include management of exports. Only to a minor degree have the associations sought to develop a cooperative effort with regard to exports. In the broad view, those efforts have had no lasting effect.

The several associations are represented in the Fishery Council. With respect to exports, the Council supplies information for the member organizations and manages fishery participation in various exhibitions. The Fisheries Ministry supports exports by maintaining attaches in London and Bern, and formerly, in New York. Exporters and fishermen are represented on the Ministry's Export Committee where all important export questions are discussed.

One consequence of the lack of organization is that individual exporters export in sharp competition with each other. That type of exporting has important advantages and, without doubt, has been of great benefit to Danish fishery exports up to now. In many instances, the personal trust built up between the exporter and importer has been of great importance, just as the stiff competition has contributed to a high quality and expansion of exports. The contention in regard to lack of organization is not without an exception, however, for the local cooperatives, which sell 20 percent of the Danish fish, are joined together in a central export organization, "Dansk Andelsfisk" (Danish Fish Cooperatives). Some filleting companies also belong to "A/S Dansk Dybfrost" (Danish Deepfrost).

Danish exporters of fishery products have not received any financial aid from the Government since December 31, 1961, when the approximately four-percent premium for sales to the dollar areas lapsed. Participation in the more important European food fairs, usually including the sale of fried plaice portions, has been reported as successful.

As a greater concentration of the wholesale fishery trade, and therefore, the import business, takes place in the importing countries, it becomes a question whether a greater concentration of the larger export activities, than heretofore, is also desirable in Denmark. The concentration mentioned joins, for example, the sale of frozen fillets with investments in the cold chain and means of transportation, and the supplying of freezer cabinets to retail stores. Also, in Denmark, the increasing industrialization of the wholesale link requires greater and greater capital investments which lead to some danger that the present operations, in the future, may have difficulty in meeting competition with strongly capitalized concerns, if they wish to preserve their independence. The great demand for investment in business makes it difficult for many to obtain the necessary funds to finance purchases and storage. Export credit arrangements, in this connection, undoubtedly have been of great help, especially to fishery exports.

Some European fishery experts, for example, the head of the Department of Fisheries, Federal Ministry for Food, Agriculture, and Forestry, West Germany, believe strongly that fisheries activities should be vertically integrated from catching through marketing. An example of this type is the joining of a Scandinavian processor and marketer of food products, including fish, with an internationally known firm based in Swit-

zerland. Vertical integration is one of a number of allied topics on the agenda for a Food and Agriculture Organization (FAO) meeting on Business Decisions in Fishery Industries which is being planned for the late summer or early fall of 1964 in Europe. (Regional Fisheries Attache for Europe, United States Embassy, Copenhagen, July 31, 1963.)

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### FISHERMEN'S MINIMUM PRICE PROGRAM FOR PLAICE WITHDRAWN:

The Danish fishermen's minimum price program for plaice was started in June 1963 after months of discussion, but it had to be cancelled early in July because of heavy landings of small plaice. Other contributing factors to cancellation of the program were: (1) the vacation period in filleting plants, (2) auction prices well below the minimum of 1.05 kroner per kilo (6.92 U.S. cents a pound) agreed to early in 1963, and (3) sales by fishermen at some Danish ports at prices below that level despite the program restrictions. Also, the reserve established by a levy of 0.02 kroner per kilo (0.13 cents a pound) was practically exhausted.



Danish fisherman standing on a typical live box or float in which live plaice are held for marketing. Fish shops throughout Denmark carry live plaice.

While the minimum price program was in effect, substantial plaice landings at Esbjerg, which did not reach the minimum price, were diverted from human consumption. These were sold for industrial use or mink food at prices as low as 0.30 kroner per kilo (2 cents a pound). Fishermen were reimbursed for the difference in the price they received and 0.70 kroner per kilo (4.6 cents a pound). Accompanying the collapse of the program were the following developments:

1. With the benefit of the experience gained in their unsuccessful effort, the fishermen's associations are working on a new minimum price program for plaice. It is reported that a new program will not be instituted until a larger reserve has been accumulated to reimburse fishermen for sales below the minimum level. Fishermen will be bound more rigidly to observe the pool regulations,

## Denmark (Contd.)

and efforts may be made to curtail landings when filleting plants are unable to handle large supplies due to the vacation season.

2. At the request of the Association, the Fisheries Ministry increased the minimum size limit for plaice from 265 to 270 millimeters (10.43 to 10.63 inches) for the period of heavy landings from July 1 to September 1.

3. Fish exporters, some of whom deliberately limited their bids to 1.04 kroner (6.84 cents a pound) were denied their request to freeze small plaice and to thaw and fillet them within one month, as a means of relieving the situation.

In refusing the exporters' request to freeze small plaice, the Fisheries Ministry stated that the Ministry's Technological Research Laboratory had not yet completed its experiments on freezing and later thawing and processing plaice, but that the tests already conducted definitely demonstrated a decrease in quality. The deterioration in quality corresponds to that in a normal frozen fish fillet which has been in storage for about two months. (Regional Fisheries Attache for Europe, U. S. Embassy, Copenhagen, July 17, 1963.)

Note: See Commercial Fisheries Review, April 1963 p. 48, January 1963 p. 86.

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#### FISHERIES ASSOCIATION MAKES RECOMMENDATIONS:

The Dansk Fiskeriforening (Danish Fisheries Association), an organization composed of 155 local associations with a total membership of 9,508 members, met in Copenhagen in early July 1963 to review developments in the 1962/63 fiscal year.

Recommendations made at the meeting were:

1. An agreement should be negotiated for voluntary group life insurance for active fishermen between the ages of 20 and 67 to take effect October 1, 1963.

2. A final disposition of the proposal to increase the size limit of plaice to 270 millimeters (10.63 inches) should be undertaken with the West Jutland Fisheries Association. (The West Jutland Fisheries Association is the second of the only two large Danish associations. It includes 19 associations with about 4,000 members who fish mostly in the North Sea. The Fisheries Minister agreed to act promptly on a joint request from the associations and has already placed the 270-millimeter limit in effect.)

3. Proposals for a new pool arrangement to insure a new minimum price program for plaice should be sent promptly to the local associations. (The Fisheries Minister stated

he did not have authority to institute the continued payment of 0.02 kroner per kilo, or 0.13 U.S. cents a pound, of plaice landed to a minimum price pool.)

4. The lower limit should be 15 gross tons instead of 20 for fishing vessels required to carry rubber life rafts. It was believed possible to obtain rafts which would meet inspection requirements for US\$260-275. Inshore boats might obtain smaller ones for \$100-115. (Rubber life rafts have been effective in several instances in saving Danish fishermen from their sinking vessels.) (Regional Fisheries Attache for Europe, United States Embassy, Copenhagen, July 17, 1963.)

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#### FISHERY PRODUCTS SALE TO THE SOVIET UNION DISCUSSED:

The sale of Danish fishery products to the Soviet Union and the possibility of further Soviet purchases of fishing vessels built in Denmark were subjects discussed during a visit to the U.S.S.R. in June 1963 by the Danish Fisheries Minister. The Fisheries Minister was accompanied by two officials of the Danish Department of Fisheries.

According to Danish newspaper reports, the Soviet Fisheries Minister was invited to visit Denmark to continue the conversations carried on in Moscow.

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#### HERRING SHARK FISHERY:

The year's first Danish catch of herring sharks or porbeagles (Lamna cornubica) was landed by a Skagen cutter in mid-July 1963. The 95 sharks weighed 5,500 pounds and were bid in at the auction hall for 25.7 cents a pound, mainly for shipment to Italy. (Regional Fisheries Attache for Europe, United States Embassy, Copenhagen, August 7, 1963.)



#### Ghana

##### FISHERIES EXPANSION PROGRAM:

Fishing Vessels: Ten years ago, Ghana's fishing industry was dependent on some 6,700 traditional canoe fishermen whose annual landings totaled about 20,000 metric tons. Mechanization programs raised landings to about 40,000 tons by 1962. The Government of Ghana is pressing a development plan to increase landings to 150,000 tons by 1966-67.

## Ghana (Contd.):

An agreement was signed on July 9, 1963, by the Government of Ghana and a shipyard in Oslo, Norway, providing for the construction and delivery to Ghana of 6 stern trawlers. Each vessel will have a refrigerated cargo space of approximately 35,000 cubic feet, capable of holding 450 to 500 tons of fish per trip. The first vessel is scheduled to arrive in Ghana by July 1964, and all 6 are to be delivered within 2 years. The Norwegian firm will supply key officers for the fleet of 6 trawlers and arrange for the training of Ghanaian crews.



The signing of the Norwegian contract means that Ghana has completed arrangements for the purchase of 18 stern trawlers (6 from Norway, 2 from the United Kingdom and 10 from Japan). Ghana has also ordered 8 side trawlers and 10 purse seiners from the Soviet Union. The new vessels will be operated by the Government-owned Ghana Fishing Corporation.

Information on privately-owned vessels was provided during a question period in the

Ghanaian National Assembly on June 18, 1963, as follows:

One Ghanaian fisheries firm owns 8 fishing vessels; another owns 7 fishing vessels and has 1 foreign vessel under charter; and a third Ghanaian firm owns 1 fishing vessel and has 4 foreign vessels under charter.

In an announcement in the local press, an official of one of Ghana's privately-owned fishery firms stated that his company would charter 10 Polish fishing vessels in order to increase the company's annual fish catch from 16,000 to 36,000 tons. The contract for the charter was to be signed in Poland during July 1963.

**Distribution and Marketing:** The development of domestic and export markets for fishery products is an important objective of the Ghana Fishing Corporation. It has been authorized to build plants for freezing, storing, canning (for sardines and other fish), and processing fish. In the past, Soviet, Japanese and Polish vessels have supplied the Corporation with fish. In the 9-month period ending June 30, 1963, the Corporation distributed about 15,000 tons of fresh and frozen fish through its wholesale and retail outlets.

In a statement to the Ghanaian National Assembly on July 3, 1963, the Minister of Agriculture said that the Ghana Fishing Corporation maintains 1 refrigerated truck, 3 insulated vans, and 8 open trucks to deliver fish. The Corporation plans to acquire 18 more transport vehicles by June 1964.

With increasing production, the Ghana Fishing Corporation plans to expand greatly its distribution and cold-storage facilities.

The Minister of Agriculture said that cold-storage warehouses are now located at Tema, Kumasi, Takoradi, Cape Coast, Accra, Ho, Nsawam, Obuasi, and Tamale. Most of those, especially those in the rural areas, will be developed into modern fishery distribution centers with capacities ranging from 500 to 5,000 tons. The Government also has plans to erect cold-storage units with a capacity of 10 to 100 tons at Bolgatanga, Tarkwa, Mampong/Ashanti, Akropong, Mim-Ahafo, and Fosu.

The Ghana Fishing Corporation usually arranges sales on a wholesale basis. To



## Ghana (Contd.):

cater to the small consumer, however, retail outlets have been attached to the fishery distribution centers at Kumasi, Takoradi, Cape Coast, and Koforidua.

Other Government actions affecting the marketing of fishery products include the Wholesale Fish Marketing Act of 1963 authorizing a Marketing Authority to operate the established fishing markets at Takoradi, Elmina, and Tema as well as new markets which may be developed. Proposals for setting up the Marketing Authority were being developed, the Minister of Agriculture announced on July 3, 1963.

The Ghana Fishing Corporation is also developing a fish-smoking plant, and the Government plans to establish a fish cannery to pack sardines and other fish products.

Inland Fisheries: The Minister of Agriculture also expressed the Government's desire that all inland waters be used for fisheries production. Under the Government's irrigation plan, 213 dams have been built. All new lakes created by dam construction have been stocked with fish. Completion of the Volta Dam will create a new lake covering 3,000 square miles which can also be used for fisheries development. (United States Embassy, Accra, July 7, 11, and 14, 1963.)

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TRAWLERS FROM JAPAN:

A large Japanese shipbuilding firm has been conducting private negotiations with the Ghanaian Government for the construction and export of fishing vessels to Ghana. Reportedly, a contract will be concluded to build 12 large stern trawlers of three size classes--1,200, 1,350, and 1,800 tons--for export to Ghana. The Ghanaian Government is reported to have offered to pay 75 percent of the total construction cost of 4,800 million yen (US\$13.3 million) over a period of 7 years. The Japanese Government, which was originally reported to be reluctant to permit the export of such a large number of fishing vessels for fear they would compete with Japanese fishing vessels (Japanese-caught fish landed and sold in Ghana are said to average about 1,000 tons a month in 1963), is now said to have approved informally their export. (Suisan Keizai Shimbun, July 6, 1963.)

## Iceland

## FISHERY LANDINGS BY PRINCIPAL SPECIES, JANUARY-MARCH 1963:

Species	January-March	
	1963	1962
	. . . (Metric Tons) . . . .	
Cod . . . . .	71,530	83,201
Haddock . . . . .	16,590	15,528
Saithe . . . . .	3,166	5,682
Ling . . . . .	2,784	4,305
Wolffish (catfish) . . . . .	6,329	4,960
Cusk . . . . .	3,535	3,399
Ocean perch . . . . .	3,987	2,530
Halibut . . . . .	284	440
Herring . . . . .	62,420	27,442
Shrimp . . . . .	291	187
Other . . . . .	1,305	1,248
Total . . . . .	172,221	148,922

Note: Except for herring which are landed round, all fish are drawn weight.

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## UTILIZATION OF FISHERY LANDINGS, JANUARY-MARCH 1963:

How Utilized	January-March	
	1963	1962
	. . . . (Metric Tons) . . . .	
<u>Herring</u> <sup>1/</sup> for:		
Oil and meal . . . . .	43,812	12,552
Freezing . . . . .	9,059	7,385
Salting . . . . .	4,646	2,060
Fresh on ice . . . . .	4,904	5,375
Canning . . . . .	-	69
<u>Groundfish</u> <sup>2/</sup> for:		
Fresh on ice . . . . .	11,417	13,662
Freezing and filleting . . . . .	52,401	53,335
Salting . . . . .	20,982	35,109
Stockfish (dried unsalted) . . . . .	20,165	14,961
Home consumption . . . . .	3,767	3,452
Oil and meal . . . . .	778	776
<u>Shrimp</u> for:		
Freezing . . . . .	267	180
Canning . . . . .	23	6
Total production . . . . .	172,221	148,922

<sup>1/</sup> Whole fish.  
<sup>2/</sup> Drawn fish.



## Italy

FROZEN TUNA IMPORT QUOTA:

A Japanese press report states that the Italian Government is said to have approved the request of the Italian tuna-packing industry to increase the 1963 quota for duty-free frozen tuna imports by an additional 8,000 metric tons. This is the second increase granted to the industry, which now brings the total amount of duty-free frozen tuna imports to 40,000 metric tons (regular duty-free import quota--25,000 metric tons; first increase of 7,000 metric tons granted late 1962).

Italy (Contd.):

According to the press report, it is not clear whether the request for the 8,000-ton quota increase was approved by the Italian Government or by the Common Market, of which Italy is a member. Reportedly, this is of little consequence since the Common Market, based on past actions, can be expected to approve the recommendation for a quota increase submitted by the Italian Government.

Italian tuna packers are reportedly planning to seek an additional increase to 60,000 tons in 1964. To secure the 60,000-ton quota, they are said to be planning on launching an extensive tuna promotional campaign through the media of television, radio, press, and magazine, in an attempt to increase domestic tuna consumption. For this campaign, the Italian National Fish Cannery Association is reported to be planning on assessing a fixed fee per ton of tuna imported into Italy in order to raise 300 million liras (US\$480,000). However, since that amount is not expected to be sufficient for promotional purposes, the Association reportedly has asked the Japanese to contribute a similar amount.

The Association is also said to have urged the Japanese to give sufficient attention to the quality and kind of tuna they export to Italy, pointing to the frequent claims arising out of recent deliveries of unacceptable quality tuna. Reportedly, the Association is seeking to have the following provisions added to tuna purchase contracts concluded with the Japanese: (1) seller, buyer, and a Japan Export Trade Promotion Agency (commonly referred to as JETRO) representative personally confirm damages to fish; (2) for every one kilogram (2.204 lbs.) of precooked tuna which is rejected because of poor quality, buyers to be reimbursed a sum equal to the c.i.f. price of 2.2 kilograms of frozen tuna; and (3) 10 percent of the sales contract price to be held in reserve for one month for settling claims against poor quality fish.

The Japan Frozen Foods Exporters Association met on July 16, 1963, to study the Italian proposal but the Association was not expected to respond to the Italian request until after July 19 due to the absence of its chairman. (Suisan Tsushin, July 10, 13, & 17, 1963.)

Note: See Commercial Fisheries Review, August 1963 p. 92.



Japan

FROZEN ALBACORE TUNA EXPORTS:

The market for Japanese albacore tuna exports to the United States, which began to show signs of improving in mid-June, is reported to have firmed up more in July 1963. The rising trend in exports is attributed in part to the likelihood that the United States summer albacore catch off the Pacific Coast may be light this year. Albacore transshipments to Puerto Rico were reported to have been contracted at a c.&f. price of \$345-350 a short ton and direct shipments from Japan to the United States at \$340 a short ton, c. & f. Pacific Coast. (Suisan Tsushin, July 30, 1963.)

Note: See Commercial Fisheries Review, August 1963 pp. 93 & 94.

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EXPORTS OF FROZEN TUNA FOR FISCAL YEAR 1962:

Data compiled by the Japan Export Frozen Tuna Producers Association on direct exports of frozen tuna (shipments made from Japan proper and approved by the Association) indicate that exports of round albacore declined by 24 percent in fiscal year 1962 (April 1962-March 1963), from

Table 1 - Japanese Direct Exports of Frozen Tuna to United States and Canada, Fiscal Years, 1962/63 and 1961/62 1/

Product	Albacore		Yellowfin		Big-eyed		Bluefin		Skipjack	
	1962	1961	1962	1961	1962	1961	1962	1961	1962	1961
. . . . . (Short Tons) . . . . .										
Round . . . . .	18,901	25,024	-	-	218	621	-	48	226	572
Gilled & gutted . . . . .	-	-	32,809	23,689	-	-	-	-	-	-
Dressed . . . . .	-	10	21	484	-	-	-	-	-	-
Loins . . . . .	1,153	1,355	3,732	3,157	349	88	135	83	-	1
Fillets . . . . .	-	-	2,840	3,980	-	-	-	-	-	-
Transshipments 2/ . . . . .	4,419	4,732	991	1,018	-	-	-	-	-	-

1/ Japanese fiscal year begins in April of the given year and ends in March of the following year.  
2/ Transhipped through Suva, Fiji Islands. Transshipments made through this port considered direct exports under Japanese tuna export control regulations.

Table 2 - Japanese Direct Exports of Frozen Tuna to Europe, FY 1962/63 and 1961/62

Country	FY 1962	FY 1961
. (Short Tons) 1/.		
France . . . . .	1,155	-
Italy . . . . .	2,952	83
Yugoslavia . . . . .	1,282	-
Spain . . . . .	55	-
Other . . . . .	5	6
<b>Total . . . . .</b>	<b>5,449</b>	<b>89</b>

1/ Exports to Europe compiled in short tons so as to make them comparable to exports to United States. This is common practice with Japanese tuna industry.

Table 3 - Japanese Direct Exports of Frozen Round Albacore to the United States and Canada, FY 1962/63 and 1961/62

Type of Fishery	1962	1961
. . (Short Tons) . .		
<b>Pole-and-Line Fishery:</b>		
Fresh 1/ . . . . .	9	450
Iced 1/ . . . . .	111	1,657
<b>Long-Line Fishery:</b>		
Clipper . . . . .	14,601	15,664
Mothership . . . . .	4,180	7,253
<b>Total . . . . .</b>	<b>18,901</b>	<b>25,024</b>

1/ Products subsequently frozen for export.

## Japan (Contd.):

Species	1962	1961	1960
	... (Short Tons) ...		
Albacore.....	14,111	12,570	5,938
Yellowfin.....	10,958	13,547	24,025
Other.....	3,553	2,152	-
Total.....	28,622	28,269	29,963

Transshipment Port	1962	1961	1960
	... (Short Tons) ...		
Cristobal, Panama, Canal Zone ...	457	1,719	8,243
Port-of-Spain, Trinidad .....	8,899	7,925	11,146
Freetown, Sierra Leone .....	3,353	12,843	7,774
Dakar, Senegal .....	2,222	3,896	2,800
Tema, Ghana.....	3,587	1,667	-
Las Palmas, Canary Islands .....	4,390	219	-
Abidjan, Ivory Coast.....	3,108	-	-
Santa Cruz de Tenerife, Canary Is..	2,606	-	-
Total.....	28,622	28,269	29,963

25,024 short tons in FY 1961 to 18,901 tons in FY 1962. Exports of gilled-and-gutted yellowfin increased by 38 percent, from 23,689 short tons to 32,809 tons. Most notable was the large increase in direct exports of frozen tuna, primarily yellowfin, to European countries.

Data compiled by the Association on tuna transshipments indicate that FY 1962 transshipments totaled 28,623 short tons, compared to 28,269 tons in FY 1961 and 29,962 tons in FY 1960. Transshipments of albacore increased by 12 percent over FY 1961 and by 138 percent over 1960, while transshipments of yellowfin in FY 1962 declined by 19 percent and 54 percent, respectively, from FY 1961 and FY 1960. (Suisan Tsushin, August 8 & 12, 1963.)

\* \* \* \* \*

#### FROZEN TUNA EXPORT PRICES:

Prices of Japanese-caught frozen yellowfin tuna exported to Italy were reported declining slowly at the rate of about US\$5 a short ton every 10 days as of July 1963. This trend started in May. Dressed yellowfin (gilled, gutted, without head but with tail), which sold in May for \$400 a short ton (c. & f. Italy), were reported selling in mid-July for \$360-365 a short ton.

In contrast to the Italian market, the United States market for Japanese tuna was clearly showing signs of improvement. Offers for frozen round albacore at \$290-295 a short ton and for frozen gilled-and-gutted yellowfin at \$250 a ton (all prices f.o.b. Japan) were reported in Japan, according to a press report dated July 19. This was about \$5-10 a ton higher than prices quoted in an earlier (July 9) press report. Despite the higher prices offered by United States tuna

buyers, Japanese exporters are reported to be reluctant to sell at those prices in view of market trends in Japan, and they are reported to be holding firm for higher offers for fish to be delivered after September. (Suisan Tsushin, July 9 & 19, 1963.)

Note: See Commercial Fisheries Review, August 1963 p. 92.

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#### TUNA MOTHERSHIP OPERATING IN EASTERN PACIFIC:

The Japanese portable-vessel-carrying tuna mothership Keiyo Maru (3,700 gross tons) was reported in mid-July to be operating in the eastern Pacific Ocean south of Clipperton Island in the vicinity of 6°32' N. latitude-107°08' W. longitude. As of July 20, she was reported to have landed a total of 454 metric tons of fish--207 tons of big-eyed (45 percent of total catch), 73 tons of yellowfin (16 percent), 62 tons of spearfish (14 percent), and 112 tons of shark and other miscellaneous species (25 percent).

The Keiyo Maru, which departed Japan on June 5, is fishing with eight 20-ton portable fishing boats. Daily average catch per portable boat is reported to be about 2.5 metric tons. (Hokkai Suisan, August 5, 1963.)

\* \* \* \* \*

#### ALBACORE FISHING IN SOUTH PACIFIC POOR:

The two Japanese mothership fleets operating in the South Pacific Ocean, Nojima Maru (8,800 gross tons) and the Yuyo Maru (5,500 gross tons) reported in mid-July 1963 that fishing in general was poor. Fishing for albacore was said to be especially poor, with catches running about 15 percent of total landings. Reportedly, albacore usually make up from 30-40 percent of a mothership's total landings. Indications are Japanese tuna vessels operating from fishing bases in the South Pacific Ocean are also experiencing poor albacore fishing. (Suisan Tsushin, August 13, 1963.)

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#### CANNED TUNA IN BRINE SALES TO UNITED STATES INCREASED:

The Japan Export Canned Tuna Packers Association the latter part of July 1963 proposed 300,000 cases as the July-August regular sale of canned tuna in brine for export to the United States, plus an additional lot of



Japan (Contd.):

200,000 cases. However, the packers asked that the additional lot be set at 250,000 cases, even if it meant they had to pay the promotion expenses for the increased amount. It was finally agreed that the planned July-August sale would be 550,000 cases. The industry hopes to reach this year's export target of 2,310,000 cases with the allocation of 150,000 cases for the October sale and the same amount for the November sale. (Japanese periodical, July 31, 1963.)

\*\*\*\*\*

CANNED TUNA IN BRINE SEVENTH SALE TO UNITED STATES:

The seventh sale of canned tuna in brine for export to the United States was approved by the Canned Tuna Sales Standing Committee of the Japan Canned Foods Exporters Association on July 16, 1963. The quantity approved for export was 150,000 cases, which is 20,000 cases more than the sixth sale. Like the sixth sale (June 25), the amount of each kind of pack (white meat or light meat) to be offered for sale was not specified. Export prices are US\$10.50 a case for white meat tuna and \$7.65 a case for light meat tuna, both prices f.o.b. Japan, for No. 1/2 (7-oz.) 48's, the same as for earlier sales. (Suisan Tsushin, July 18, 1963.)

Note: See Commercial Fisheries Review, August 1963 p. 91.

\*\*\*\*\*

EXPORT MARKET FOR CANNED TUNA IN OIL DULL AS OF MID-JUNE:

Packing of canned tuna in brine in Japan was at a normal pace as of the middle of June 1963. It was believed that it would come up to expectations, with the white meat pack comprising 80 percent of the total. With the packing of tuna in brine almost at an end, packers are inclined to shift to packing tuna in oil but are greatly concerned with the poor export market of canned tuna in oil, white meat in particular.

Landings of skipjack tuna suddenly increased since the middle of June but as packers became interested, the price of canned skipjack dropped to ¥2,350 (US\$6.50) a case from ¥2,400 (US\$6.63) in May. The landed price of skipjack to the packers ranged from ¥75-80 a kilogram (US\$188-200 a short ton), which is not an attractive price to the canners.

\*\*\*\*\*

EXPORT TRENDS FOR CANNED TUNA IN BRINE, CANNED SALMON, AND CANNED CRAB MEAT, 1962:

The Japanese Ministry of International Trade and Industry on June 28, 1963, released a report on Japan's foreign trade in 1962. A section of the report contained information on selected canned fishery products as follows:

**Canned Salmon:** Japanese exports of canned salmon in 1962 were up about 108 percent in quantity and 146 percent in value from those in 1961. The increase was due mainly to larger shipments to Great Britain, which actively began to purchase Japanese canned salmon in late 1961. Canned salmon exports to Australia declined somewhat due to competition from United States and Canadian products. Canned salmon

Table 1 - Value of Japanese Exports of Selected Canned Fishery Products, 1961-1962

Product	1962	1961
	..... (US\$1,000) .....	
Tuna in brine .....	19,487	19,172
Salmon .....	91,231	37,094
Crab .....	10,867	11,856

Table 2 - Japanese Exports of Selected Canned Fishery Products, by Country of Destination, 1962

Commodity and Destination	Quantity 1/		Value US\$1,000
	Metric	Tons	
<b>Tuna in brine:</b>			
United States .....	12,612		12,868
Canada .....	1,599		1,594
West Germany .....	2,228		1,578
Switzerland .....	888		844
Lebanon .....	479		439
Belgium .....	395		355
Aden .....	288		225
Netherlands .....	264		211
Ryukyu Islands .....	222		147
Kuwait .....	219		159
Saudi Arabia .....	191		142
Australia .....	153		103
Other countries .....	1,075		822
<b>Total canned tuna in brine</b>	<b>20,613</b>		<b>19,487</b>
<b>Salmon:</b>			
Great Britain .....	44,863		79,246
Australia .....	3,167		3,845
United States .....	2,294		2,580
Belgium .....	1,246		1,414
Netherlands .....	1,237		1,294
Ireland .....	578		788
France .....	472		518
New Zealand .....	342		355
South Africa .....	190		226
Sweden .....	141		159
West Germany .....	111		121
Italy .....	106		109
Other countries .....	497		576
<b>Total canned salmon</b> ..	<b>55,244</b>		<b>91,231</b>
<b>Crab Meat:</b>			
United States .....	1,579		4,504
Great Britain .....	1,390		3,574
France .....	302		814
Belgium .....	160		527
Australia .....	122		304
Sweden .....	109		262
Netherlands .....	87		235
Canada .....	66		135
Other countries .....	171		512
<b>Total canned crab meat</b> ..	<b>3,986</b>		<b>10,867</b>

1/Quantities are net content weights.

### Japan (Contd.):

sales to the United States showed only a slight increase in 1962.

Canned Tuna in Brine: Japanese canned tuna in brine exports in 1962 were about the same as in the previous year. In addition, there were exports of canned tuna in oil which were not shown separately. Any future expansion of Japanese canned tuna exports will depend mainly on whether Japan can acquire additional tuna supplies.

In the United States, Japanese canned tuna products are competing with Portuguese, Ecuadorean, and Peruvian products; and, in West Germany, with French, Portuguese, and Spanish products.

Canned Crab Meat: Japanese canned crab exports reached a peak in 1959 and then began to decline as a result of (1) growing domestic demand for canned crab meat; (2) competition in the United States market from Alaskan products; and (3) the large influx of Soviet canned crab meat into the European market. The 1962 Japanese canned crab pack surpassed 1961 production, but in 1962 the downward trend in export was further accelerated as a result of increased competition from Alaskan products in the United States market and Soviet price reductions in the European market. Nihon Suisan Shimbun, July 1, 1963.)

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### ASSOCIATION CONTRIBUTES TO UNITED STATES CANNED TUNA PROMOTION:

The Japan Frozen Tuna Producers Association's Executive Committee, after a meeting held on July 18, 1963, announced that the Association will contribute \$50,000 to the U. S. Fish Cannery Association for the joint canned tuna sales promotion campaign to be conducted in the United States during August-September. One-half of that amount is expected to be contributed by the Japanese Government. The Frozen Tuna Producers Association was planning to meet with the Japan Canned Tuna Producers Association to discuss the canning group's participation in the joint promotion effort. (Nihon Suisan Shimbun, July 22, 1963.)

\* \* \* \* \*

### PACKERS PLAN TO CONTRIBUTE TO PROMOTION OF CANNED TUNA:

The Japan Export Canned Tuna Manufacturers Association as of late July 1963 was examining a plan for the special sale of about 250,000 cases of canned tuna over and above the normal open sale for that period and for the packers to pay for the sales promotion expense of US\$250,000. The promotion is to be used by exporters for the special sale of 250,000 cases. The plan had been drafted because:

1. The pace of open sales for canned tuna this year has been extremely slow due to the

drop in demand during the second quarter of 1963 in the United States.

2. The pack, on the other hand, progressed at such a swift pace as to nearly fulfill this year's quota by the end of July.

3. Next year's quota would be cut substantially because the pressure from accumulated stocks would be stronger.

4. There is some margin for packers to contribute to the expense of the sales promotion because production costs for this year's pack have been lower than last year.

The sales promotion money would be distributed among the trading firms according to the amount of canned tuna they handle. On July 25, the department of the exporters' association came to an agreement to cooperate with the packers. (Japanese newspaper item, July 26, 1963.)

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### JAPANESE PLAN TO SUPPORT ITALIAN CANNED TUNA PROMOTION:

The Japanese frozen tuna industry is reported to be planning on financially supporting the joint Italian-Japanese tuna publicity campaign proposed by the Italian Tuna Packers Association. The Italian Association proposes to spend a total of 600 million liras (US\$960,000) for advertising and plans to assess 10 liras (US\$0.016) per kilogram (2.2 lbs.) of imports, with each country contributing one half that amount. Italian imports of Japanese frozen tuna in 1964 are anticipated to total 60,000 metric tons. (Editor's Note: At present only 40,000 metric tons per year are admitted duty free into Italy.)

Prevalent view of the Japanese frozen tuna industry is that Japan should participate in the promotion, particularly in view of the enormous growth of the Japanese frozen tuna market in Europe. The amount of contribution has yet to be decided. (Suisan Tsushin, August 7, 1963.)

\* \* \* \* \*

### ECONOMIC STUDY OF TUNA FISHERY:

The Japanese Fisheries Agency, which has been conducting a series of basic investigations of the Japanese fishing industry, recently compiled a report entitled, "Observations on the Economy of the Tuna Fishery." The report contains an analysis of tuna fishery problems, such as decline in hook rate (catch per 100 hooks), labor shortage, labor recruitment, and management practices. In particular, it clarifies the nature and extent of the decline in hook

## Japan (Contd.):

rate and presents an analysis of the effect of this decline on fishery production and management.

Essentially, the report points out that: (1) productivity (catch per tonnage of vessel) of the tuna fishery, particularly the pole-and-line skipjack fishery (which is subject to drastic fluctuations in production), has declined; (2) profits of fishing vessel owners have increased due to rising fish prices despite decline in fishing effort after 1959 peak year; and (3) wages earned by fishermen on small tuna vessels are at a low level and small vessel operators are thus faced with recruiting problems; consequently, the need for improving management on their part.

The report points out:

The Japanese tuna fishery achieved a spectacular growth after World War II. However, in recent years catch of skipjack tuna by the coastal combination tuna fishing vessels (vessels engaged in more than one fishery) have shown marked fluctuations. In addition, the landings made by the Japanese tuna fleets have annually shown a smaller rate of increase.

The postwar expansion of the Japanese tuna fishery can be attributed to the expansion of the tuna long-line fishery in the Atlantic Ocean and in distant waters through the establishment of overseas fishing bases. Up until 1952, pole-and-line fishing occupied a dominant position in the Japanese tuna fishery, but since 1959 catches by that fishing method began to fall off. The increase in tuna landings can be attributed to the enlargement of fishing vessels but it cannot be denied that the increase in the number of 39-ton tuna vessels or under, for which licensing requirement was removed, has contributed to the increase in production after 1957.

In order to evaluate the effect that the increase in the number of 39-ton tuna vessels had on production, the Fisheries Agency conducted a study on tuna fishing vessels operating out of Japan. Vessels were classified according to size so as to obtain catch per tonnage of vessel.

The study revealed that production by tuna long-liners under 500 tons gross was stabilized, their catch varying according to intensity of fishing effort. Productivity (catch per tonnage of vessel) of long-liners in the 200- to 500-ton class fell off somewhat after reaching a peak in 1958. Productivity per day at sea showed a decline among long-liners in the 100- to 200-ton class. Pole-and-line skipjack vessels were shown to have a productivity at least about twice that of the long-line vessels. It became clear that their productivity fluctuated drastically from year to year.

Tuna hook rate was found to increase with increasing distance of the fishing grounds from Japan. Also, the yearly variation in hook rate indicated that the higher the hook rate the greater the decline in productivity. Thus, the productivity of fishing grounds is of such character that it cannot be considered apart from the size of fishing vessels employed in the fishery, where the trend is to use larger vessels. This trend toward enlargement of vessels is really not for the purpose of making it possible to fish in more highly productive waters. Rather, employment of large vessels makes it possible to reduce the frequency of trips from fishing port to fishing ground. This in turn increases the number of days that the vessels can operate at sea. It is for this reason that fishing vessel owners are striving to enlarge their vessels.

Examination of fluctuations in economic productivity reveals that the intensity of catch effort of vessels in the 30- to 50-ton class during the period between 1957 and 1959 increased 3.9 times but productivity, as measured by effort, declined after 1957. Intensity of fishing effort of vessels in the 50- to 100-ton class reached a peak in 1959 but productivity declined to 1.03 (catch per tonnage

of vessel). Thereafter, fishing effort yearly declined, and in 1961 dropped to 64 percent that of 1957. Productivity of the 200- to 500-ton vessels yearly declined, from 1.4 in 1957 to 1.15 in 1961.

In 1957 all vessels under 200 tons gross showed financial losses. Only vessels in the 200- to 500-ton class recorded a profit rate of 25 percent. However, from 1958 vessels of all classes began to show profit. In 1961 the 30- to 50-ton vessels realized a profit rate of 26 percent. The 50- to 200-ton vessels all achieved remarkable profits in 1959 and subsequently continued to increase their profits. What is important is that after 1959 fish price increased, which helped offset declining productivity. It is conceivable that profitability as measured by effort was uniformly maintained as a result of the rise in fish price (more basically the rise in demand) and this contributed to the growth of the tuna fishery.

Fishing vessels of all sizes have shown yearly increases in profits. However, vessels in the 100- to 500-ton classes showed a slight decrease in profits in 1961 as compared with 1960. A comparison of profits earned by vessels of different sizes in 1961 shows that vessels in the 30- to 50-ton class realized the highest profit rate of 12.5 percent, followed by vessels in the 50- to 100-ton and 200- to 500-ton classes, which netted around 7 percent. Vessels in the 100- to 200-ton class earned the lowest profit (3 percent).

The reason for the high rate of profit earned by the 30- to 50-ton vessels is that fishermen on those vessels are paid low wages, corresponding to about one-half the wages paid to fishermen employed on 200-ton vessels. Fishermen on 30- to 50-ton vessels receive about the same wages as those paid by medium and small business enterprises employing 5-29 workers. At such a low wage level, it is difficult to recruit labor for the fishing fleet, and that is why fishing vessel owners are being urged to improve promptly their management of operations. However, the fact is that if owners of 30- to 50-ton vessels were to raise fishermen's wages now to the wage level of fishermen employed on vessels over 200 tons, they would have to operate in the red throughout this year. (Suisan Keizai Shimbun, June 20, 1963.)

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## TUNA FISHERMEN SIGN NEW WAGE CONTRACT:

A new Japanese fishermen's wage contract, described as radically different from existing agreements, was concluded on July 1, 1963, between the Yaizu Vessel Owners Association and the Yaizu chapter of the Japan Seamen's Union. The main feature of the new contract, which affects all tuna fishermen employed on tuna long-line vessels operating out of Yaizu, is the payment of monthly minimum guaranteed wages. The agreement was the outcome of the 18-month study by a 14-man committee composed of an equal number of representatives from the Vessel Owners Association and the Japan Seamen's Union. Forerunner to that agreement was a labor contract signed in December 1961 between the Association's Tuna Committee (involving 39 Association members operating 53 tuna vessels, with a total crew of 1,500 men) and the Japan Seamen's Union, which had attracted considerable attention at that time for having broken the 400-year-old traditional Japanese management concept regarding the operation of fishing vessels.

Principal provisions in the new wage contract are as follows:

1. Minimum guaranteed wages shall be paid to crew members sailing on tuna long-line vessels and they shall be determined on the basis of vessel carrying capacity. For this purpose tuna long-liners shall be grouped into two classes, over and under 200 tons. Wage paid to one deckhand shall be used as a standard in calculating all wages. Vessel crews shall be



## Japan (Contd.):

grouped into nine wage classes, the highest being that of fishing captain, whose guaranteed wage shall be 1.7 times that of a deckhand, followed by ship master, chief engineer, and chief radio operator, in that order.

2. Monthly minimum guaranteed wage shall be 13,500 yen (US\$37.50), payable on the 25th day of each month.

3. In addition to guaranteed wages, vessel crews shall receive shares of the landings (after they have been landed) based on a fixed percentage established for all vessels.

4. Crew members debarking during periods of vessel repair shall be paid guaranteed wages in full if they are on duty status. However, those on duty status but

## KING CRAB FISHERY TRENDS IN BRISTOL BAY, EARLY JULY 1963:

In early July 1963, the two Japanese king crab factoryships, Dainichi Maru (5,858 gross tons) and Tokei Maru (5,385 gross tons), operating in Bristol Bay reported fishing to be poor and on the decline, with catches averaging 4-5 crabs per tan (shackle). As of July 9, the Dainichi Maru was reported to have produced well over 70,000 cases or over 60 percent of her production quota of 115,000 cases of king crab, and the Tokei Maru 61,900 cases or barely half her target of 120,000 cases.



Japanese king crab mothership Tokei Maru.

who return home shall be paid 60 percent of their guaranteed wages.

Reportedly, under the new wage system, fishermen are assured a stable livelihood for they will have a guaranteed income at all times, even during periods when they are off the vessel or when fishing is poor. Besides, all trip expenses other than for those clearly established as consumption items (i.e., food, medicine) are to be borne by the vessel owner and, unlike before, will not be shared between vessel owner and crew.

Under the old system of compensation, vessel earnings, after deducting such items as expenses for fuel, bait, vessel maintenance, and gear repairs, were shared between vessel owner and crew members at rates varying between 60-70 percent for management and between 30-40 percent for labor. Vessel crews received no fixed wages and their earnings varied with catch quantity. The share system, therefore, resulted in very unstable living conditions for fishermen and their families.

Concerning the adoption of the new wage system for tuna fishermen, the chairman of the Yaizu Vessel Owners Association commented as follows:

"Adoption of the guaranteed wage system imposes a much heavier burden on vessel owners, but such a system is necessary to modernize fishing vessel management. Vessel owners must realize this and earnestly endeavor to abide by the contract. We have decided to initially adopt this system in the relatively stable tuna long-line fishery but hope to study next the possibility of applying it in the skipjack pole-and-line fishery." (Nihon Suisan Shimbun, July 5, 1963.)

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For the over-all fishing season to July 9, the Dainichi Maru was said to have averaged 10 crabs per tan, and the Tokei Maru 8 crabs per tan. In 1962, the Japanese king crab fleets averaged 10.8 crabs per tan, and in 1961 (spring operation), 11.7 crabs per tan. (Suisan Tsushin, July 11, 1963, and other sources.)

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## FISHING COMPANY COMMENTS ON 1963 BERING SEA OPERATIONS:

Officials of a Japanese fishing company which operated two mothership fleets in the Bering Sea during the first half of 1963 have stated that fishery resources south of the Aleutian Islands are not as abundant as those to the north. They commented that large-scale mothership-type operations would not be desirable south of the Aleutian chain. The company's 1,500-ton stern trawler Akebono Maru No. 51 worked the Gulf of Alaska during the 1963 season.

The company's mothership Chichibu Maru (5,500 gross tons), and the stern trawlers Ake-

## Japan (Contd.):

bono Maru No. 51 and Akebono Maru No. 52, were scheduled to return from northern waters to Japan in mid-July 1963. The vessels were expected to return to the Bering Sea fishing grounds in August 1963.

The company's other mothership, the Chichibu Maru No. 2, was scheduled to return from the eastern Bering Sea to Hakodate, Japan, on July 9, 1963. It was then expected to be assigned as a carrier vessel to a fishing base at Las Palmas, Canary Islands.

Officials of the Japanese company said that a mistake had been made in dispatching the Chichibu Maru No. 2 to the Bering Sea very early in the 1963 season on February 25. Reportedly, the 80-ton catcher vessels assigned to the mothership were not able to fish during most of March because of rough sea conditions. (Suisan Tsushin, July 6, 1963.)

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## FACTORYSHIP FISH-MEAL PRODUCTION AND SALES:

The two large Japanese fishing companies operating the fish meal factoryships Soyo Maru (11,192 gross tons) and Gyokuei Maru (12,100 gross tons) in the eastern Bering Sea in 1963 are reported to have contracted agreements to release on the Japanese domestic market a total of 9,000 metric tons of factoryship-produced fish meal at 62,500 yen (US\$174) a metric ton. This represents a price increase of about 10,000 yen (US\$28) a metric ton over 1962 prices. Production of the two factoryships is expected to total about 17,000 metric tons for the 1963 season, of which 8,000 metric tons are to be diverted to their company's affiliated enterprises.

In view of the excellent demand for fish meal in Japan, another Japanese company, which pioneered the development of the factoryship-type fish-meal operations and which in 1963 terminated its Bering Sea fish-meal operations (two factoryships) after suffering large losses in 1962, is reported to be considering the possibility of reactivating its Bering Sea fish-meal operations in 1964. In hopes of establishing a joint fish-meal operation in Chile, that company has been negotiating with Chilean interests for several months, but the negotiations are reported not to be progressing smoothly. As a result,

that company is now reported to be studying the feasibility of dispatching its 14,000-ton fish-meal factoryship Renshin Maru to the Bering Sea in 1964 instead. (Suisan Tsushin, August 9, 1963.)

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## EXPORTS OF FISHERY PRODUCTS, JANUARY-JUNE 1963:

Japan's exports of fishery products during January-June 1963 totaled 166,015 metric tons valued at US\$78.8 million, a decline of 1.6 percent in quantity and 29.7 percent in value from shipments during January-June 1962 of 168,741 metric tons valued at \$112.1 million. (United States Embassy, Tokyo, July 26, 1963.)

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## EXPORTS OF FROZEN HALIBUT, JANUARY-JUNE 1963 AND 1962:

Japanese exports of frozen halibut in the first 6 months of 1963 were up 20.4 percent in quantity and 40.6 percent in value from those in the same period of 1962, according to data reported by the Japanese Frozen Food Export Association.

Month	Destination	1963		1962	
		Qty.	Value <sup>1/</sup>	Qty.	Value <sup>1/</sup>
		Short Tons	US\$	Short Tons	US\$
January	United States . . .	47.6	39,766	57.0	34,820
	United Kingdom .	3.5	1,934	-	-
	West Germany . .	1.0	760	-	-
February	United States . . .	59.6	50,039	50.0	33,510
March	United States . . .	56.3	43,219	26.0	16,084
April	United States . . .	22.5	18,042	12.3	8,208
	United Kingdom .	14.7	9,129	-	-
	Lebanon . . . . .	0.6	440	-	-
May	United States . . .	6.0	3,810	19.4	15,381
June	United States . . .	11.6	7,290	35.0	23,192
	United Kingdom .	14.7	10,030	-	-
Total exports Jan.-June . .		238.1	184,459	197.7	131,195

<sup>1/</sup>Value f.o.b. Japan.

Shipments to the United States accounted for 85.5 percent of the quantity and 87.9 percent of the value of Japan's total halibut exports in January-June 1963. Shipments to the United States in the first half of 1963 were up 3.0 percent in quantity and 23.6 percent in value from those in the same period of 1962 when the United States was Japan's only market for frozen halibut. (United States Embassy, Tokyo, July 30, 1963.)

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## EXPORT PRICES FOR CANNED SHRIMP REDUCED:

Prices of canned shrimp for export were reduced recently by Japan's two leading shrimp processing firms.

## Japan (Contd.):

Prices per case of 24 1/2-lb. cans were cut US\$0.75-1.00 effective June 26 (retroactive to June 10), and cases of 48 1/4-lb. cans were cut \$1.00-1.10 as of July 10.

No. of Cans Per Case	Size Classification of Shrimp	Revised Price (f.o.b. Yokohama)	Previous Price (f.o.b. Yokohama)
. . . . . (Per Case) . . . . .			
24 1/2-lb. flats <sup>1/</sup> . .	Small	\$6.25	\$7.00
	Tiny	5.75	6.75
	Broken	5.25	6.00
48 1/4-lb. flats <sup>2/</sup> . .	Small	8.50	9.60
	Tiny	7.50	8.50
	Broken	6.50	7.50

<sup>1/</sup>Drained weight 4 1/2 ozs.  
<sup>2/</sup>Drained weight 2 3/4 ozs.

According to an official of one of the firms, it was necessary to reduce export prices of Japanese canned shrimp for the United States market if they were to sell their product. The reason given was because of sharply lower prices for United States canned shrimp resulting from increased Gulf of Mexico shrimp landings. (Fisheries Attache, United States Embassy, Tokyo, July 19, 1963.)

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#### JAPANESE FIRM CONCLUDES CONTRACT TO EXPORT HAKE TO SPAIN:

A large Japanese fishing company is reported to have concluded an agreement to deliver to Spain hake caught by its large stern trawlers operating off the Republic of South Africa. In 1963 about 3,000 metric tons of hake are expected to be delivered to Spain.

To transport the hake, the Japanese firm is planning to dispatch in September the refrigerated carrier vessel Banshu Maru No. 36 (998 gross tons) to South Africa. The Banshu Maru is scheduled to make three trips to Spain by the end of March 1964. The first shipment of hake is now being transported to Spain by another carrier vessel. (Minato Shimbun, July 26, 1963.)

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#### EXPORTS OF CANNED SAURY:

Data tabulated by the Japan Canned Sardine and Saury Sales Company show that Japanese canned saury contracted for export during the August 1962-July 1963 (adjusted) business year totaled 1,055,071 cases, a new high. Consignments to the Sales Company during the business year, including 156,381 cases of carry-over from the previous busi-

Destination	Cases <sup>1/</sup>
Philippines . . . . .	404,518
New Guinea . . . . .	171,889
Egypt . . . . .	148,053
Ceylon . . . . .	119,875
Burma . . . . .	100,105
Malaya . . . . .	64,410
West Africa . . . . .	19,631
Others . . . . .	26,590
Total . . . . .	1,055,071

<sup>1/</sup>Believed to be actual cases.

ness year, totaled 1,121,445 cases. (Suisan Keizai Shimbun, August 11, 1963.)

\* \* \* \* \*

#### BUDGET INCREASE PROPOSED FOR JAPANESE EXPORT TRADE PROMOTION FOR FISHERIES:

The Japanese Ministry of Agriculture and Forestry is reported to have included in its budget proposal for FY 1964 (April 1964-March 1965) a request for additional funds to expand the Japan Export Trade Promotion Organization's (commonly referred to as JETRO) activities in the field of fisheries. The increase in JETRO's FY 1964 budget would be for stationing a fisheries representative on American Samoa and for expanding tuna promotional activities in Europe. (Suisan Keizai Shimbun, July 30, 1963.)

\* \* \* \* \*

#### FROG INDUSTRY AND EXPORTS:

The North American edible species of common bullfrog (Rana catesbeiana) was first introduced to Japan in 1917 when a shipment of 24 frogs from New Orleans, La., was sent to the University of Tokyo. The frogs were raised and propagated at the University's Institute of Infectious Diseases, and the stock was distributed in the swampy regions of the Tome River estuary located north of Tokyo and to areas in Osaka Prefecture. The estuary of the Tome River is considered the most important frog production area in Japan, and is followed in importance by the Osaka, Ehime, and Togawa Prefectures.

Bullfrog farming in Japan was discontinued after World War II and has not been resumed since. Japanese frogs presently marketed, both for domestic use and for export, are entirely wild-caught frogs from the regions listed.

Destination	1962		1961		1960	
	Qty.	Value	Qty.	Value	Qty.	Value
	1,000 Lbs.	US\$ 1,000	1,000 Lbs.	US\$ 1,000	1,000 Lbs.	US\$ 1,000
United States . . . . .	1,323	1/	1,433	772	824	630
Other countries . . . . .	447	1/	9	6	7	7
Total . . . . .	1,770	1,383	1,442	778	831	637

<sup>1/</sup>Value not shown separately.



## Japan (Contd.):

Japan's frog production is largely for export with only about 10 percent used locally. (United States Embassy, Tokyo, July 3, 1963.)

\* \* \* \* \*

ATLANTIC OCEAN FISHERY TRENDS:

The Japanese vessel Taiyo Maru No. 15 (270 gross tons), which was converted from a trawler into a carrier vessel, departed from Las Palmas, Canary Islands, from the port of Shimonoseki in southern Japan on July 2, 1963. She was scheduled to be used to transport catches from the fishing grounds to the fishing base at Las Palmas.

A large Japanese fishing company was planning in early August 1963 to fly 51 fishermen from Japan to Las Palmas, Canary Islands, as replacements for the crew members presently sailing on the trawler Taiyo Maru No. 63 (1,500 gross tons). The company was reported to have arranged with an air-line company to fly the 51 fishermen at a reduced rate amounting to about 160,000 yen (US\$444) per person.

The 51 crew members presently sailing on the Taiyo Maru No. 63, which departed Japan in June 1962, are to be flown back to Japan. They are expected to form the crew for a 2,500-ton class stern trawler now under construction. (Nihon Suisan Shimbun, July 8, 1963.)

The Japanese Foreign Ministry is reported to have received word that the United Nations Food and Agriculture Organization, after convening an executive session in Rome, June 24 to July 4, 1963, has formally announced its decision to establish a working party to evaluate the effects of increasing fishing pressure on the tuna resources in the Atlantic Ocean, where the fishery has rapidly developed in recent years, and thereby contribute to the conservation and rational development of those resources. Japan, which sent a delegate to attend the Rome session, has declared her intention to participate in the working party. (Suisan Keizai Shimbun, July 11, 1963.)

\* \* \* \* \*

PROPOSALS FOR DISTANT-WATER TRAWLER OPERATIONS:

The Japanese Central Fisheries Coordination Council (highest Government-industry advisory group on fisheries), at a meeting

with the concerned Government agencies on July 10, 1963, presented its views on three proposals on fishing vessel licensing regulations being studied by the Japanese Government. They are: (1) licensing fishing vessels to engage in the distant-water trawl fishery; (2) licensing transfer of vessels diverted from other fisheries to the northern waters (Okhotsk Sea, Bering Sea, and North Pacific Ocean) trawl fishery; and (3) renewing fishing licenses for long-line and gill-net vessels engaged in the northern water fishery. (Under Japanese law, proposals adopted by the Council must be published in the Government Official Gazette to become legally effective.)

Concerning proposal 1, the Council recommended that the Government license a total of 48 standard vessels (50- to 300-ton class) for distant-water trawl operations--32 for the Atlantic Ocean (off African coast) and 16 for the South Pacific Ocean (off Australian and New Zealand coasts). However, the Japanese Government had in mind licensing vessels over 1,000 gross tons only as distant-water trawlers, based on the vessel replacement rate of four standard vessels for every one 1,000-ton vessel. Accordingly, the Government had been planning to license the operation of a total of 12 trawlers over 1,000 gross tons--eight for the Atlantic Ocean and four for the southwest Pacific. The Council, therefore, recommended that for licensing purposes three size categories be established, i.e., 50-300 tons, 300-1,000 tons, and over 1,000 tons.

The Council's recommendations concerning proposal 1 were:

1. Operational Area: (a) African Coast: The Atlantic and Indian Oceans lying within latitudes 40° N. and 40° S. and longitudes 25° W. and 55° E. However, the Mediterranean Sea east of 5°30' W. longitude, the Gulf of Aden west of 50° E. longitude, and the Red Sea are excluded. (b) Southwest Pacific: Area east of 105° E. longitude bound by latitudes 25° N. and 50° S.

2. Minimum Vessel Tonnage Requirements for Trawlers: Fifty gross tons for trawlers operating in the areas defined in "1."

3. Number of Vessels to be Licensed for Trawl Operations: (a) African Coast: <sup>1/</sup> 32 standard vessels or larger-size vessels. A standard vessel is a vessel over 50 gross tons but under 300 gross tons. Number of

<sup>1/</sup>Japanese press reports indicate that a total of nearly 30 large Japanese trawlers (mainly in the 1,500- to 2,500-ton class) are already operating in the Atlantic Ocean.

## Japan (Contd.):

larger-size vessels to be licensed shall be calculated at the rate of 2 standard vessels for every 1 vessel over 300 tons but under 1,000 tons, and 4 standard vessels for every 1 vessel over 1,000 tons. (b) South Pacific: 16 standard vessels or their equivalent in larger-size vessels, as stipulated in "3 (a)."

4. License Expiration Date: August 31, 1967.

Proposal 1 was to be published in the Japanese Government's Official Gazette on July 16, 1963.

Concerning proposal 2 (transfer of vessels to the northern waters trawl fishery), the Council approved the licensing of 5 vessels for trawl operations in the northern waters. The license applications were submitted to the Government by vessel owners seeking to enter into the northern waters trawl fishery under the three-year transfer program initiated by the Japanese Government in 1961.

The Council's recommendations concerning proposal 2 were:

1. Operational Area: North Pacific Ocean north of 48° N. latitude, east of 153° E. longitude, and west of 175° W. longitude. Five distant-water bottom trawlers of 70-300 gross tons shall be licensed to operate in that area. Additional vessels shall be licensed in accordance with the progress of the vessel transfer program.

2. Vessel Licensing Standard: Priority shall be granted to the licensing of vessels over 50 gross tons belonging to Hokkaido off-shore trawl operators who wish to switch to distant-water trawling.

3. License Expiration Date: Vessel licenses granted in accordance with this public notice shall expire August 31, 1967. Licensing restrictions and conditions shall be the same as those applicable to existing licenses.

In regard to proposal 3 (renewal of licenses), which affects 19 long-line and gill-net vessels currently engaged in the northern waters fishery and whose licenses expire on October 31, 1963, the Council adopted the following recommendations:

1. Licenses for the 19 long-line and gill-net vessels (only those with actual catch performance records) shall be renewed.

2. The 19 vessels shall be authorized to operate in the North Pacific Ocean (including Bering Sea) north of 50° N. latitude, east of 170° E. longitude, and west of 175° W. longitude.

3. Licensing of fishing vessels shall be restricted to powered vessels of 100-500 gross tons.

4. Licenses granted in accordance with this public notice shall expire on August 31, 1967. (Suisan Keizai Shimbun, July 11, 1963.)

\* \* \* \* \*

LANDINGS BY MAJOR FISHERIES, 1961-1962:

Japan landed a total of 6,864,000 metric tons of fish, shellfish, and aquatic products (including seaweed and kelp but not whales) in 1962, a new record according to data released by the Japanese Government's Statistics and Survey Division, Ministry of Agriculture and Forestry. The record landings were attributed to: (1) development of new fishing grounds in the Atlantic and Pacific Oceans, (2) increased fishing effort (expansion of the fishing fleet), and (3) increased fishing efficiency of newly constructed vessels.



Fig. 1 - A large catch of yellowtail unloaded at a Japanese port. Kumanonada, where these fish were caught, is considered one of Japan's best fishing areas.

Although Japan's 1962 landings of fish and shellfish increased only 2.3 percent (154,000 tons) over 1961, they were reported to be about 5 million tons more than the estimated 1962 fishery landings of Peru and Communist China.

Japan (Contd.):

Japan's fishing industry is not only one of the most highly developed, but it is the largest in the world today. In addition to occupying an important position in Japan's economy in terms of monetary income, the industry provides the people of Japan with about 68.6 percent of their meat protein.

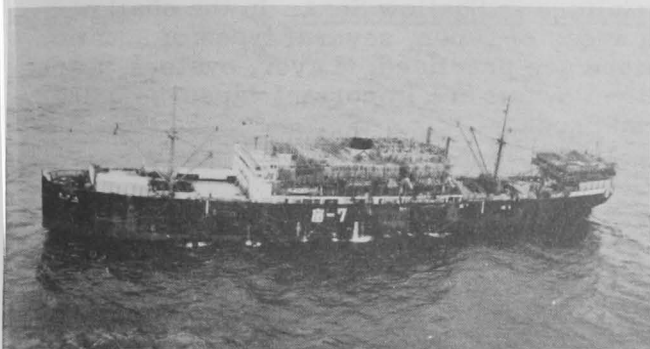


Fig. 2 - Japanese crab factoryship operating in the Bering Sea: Note large wooden structures which are used to dry nets.

Of Japan's 1962 landings, 1,713,000 metric tons were from the high-seas fisheries; 4,670,000 metric tons from the homeland marine fisheries; 362,000 metric tons from Japan's inland fisheries; and about 20,000 metric tons from fish culture in inland waters.

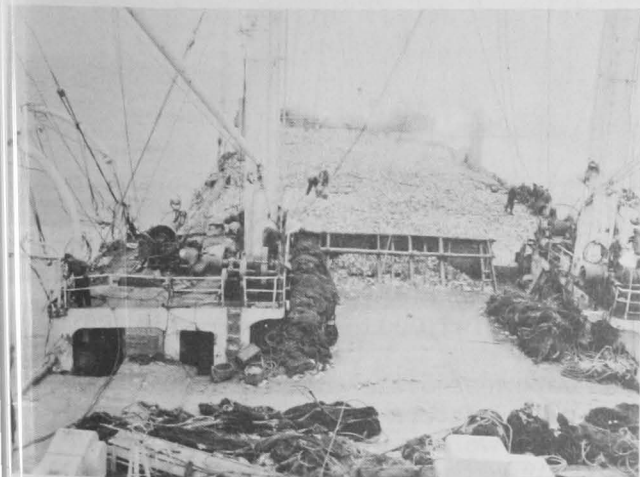


Fig. 3 - Forward deck of Japanese factoryship Renshin Maru. Shows fish catch while operating in the Bering Sea.

The fisheries of Japan are classified under the following 6 broad categories: (1) pelagic or distant-water fisheries, (2) domestic marine fisheries, (3) inland-water fisheries, (4) culture in shallow seas, (5) culture in inland waters, and (6) whaling. In 1962, Japanese fisheries production (ex-

cluding whales) was divided as follows: 1,713,000 tons distant-water fisheries; 4,676,000 tons domestic marine fisheries; 362,000 tons culture in shallow seas; 84,000 tons inland-water fisheries; and 20,000 tons fish culture in inland waters.

Table 1 - Japanese Landings of Fishery Products by Major Fisheries, 1961-1962

Type of Fishery	1962	1961
	(1,000 Metric Tons)	
Otter-trawl, mothership (North Pacific) . . . . .	6	4
Otter-trawl, high seas (excluding North Pacific) . . . . .	52	33
Otter-trawl (South China Sea) . . . . .	1/	-
Trawl, large, mothership (North Pacific) . . . . .	510	622
Trawl, carrier-type vessel . . . . .	24	16
Trawl, large (South China Sea) . . . . .	1/	1
Salmon fishery, mothership . . . . .	44	53
Crab fishery, mothership . . . . .	25	21
Long-line, tuna (based at overseas ports) . . . . .	25	17
Long-line, tuna, mothership (Pacific and Indian Oceans) . . . . .	64	33
Long-line, tuna (Atlantic) . . . . .	60	82
Otter-trawl (west of 130° east longitude) . . . . .	15	18
Trawl, large (west of 130° east longitude) . . . . .	314	356
Long-line, tuna (Japan based) . . . . .	386	351
Pole-and-line, skipjack . . . . .	188	167
Trawl, 1- and 2-vessel (east of 130° east longitude) . . . . .	629	648
Purse-seine . . . . .	970	957
Dip-net, stick-held, saury . . . . .	475	461
Gill-net, salmon . . . . .	42	75
Pole-and-line, Pacific mackerel . . . . .	178	155
Trawl, small sail . . . . .	200	204
Angling, squid . . . . .	533	377
Seine, beach and boat . . . . .	123	112
Set-net, large . . . . .	128	150
Set-net, small . . . . .	82	83
Shellfish and seaweed collection . . . . .	529	460
Inland water fishery . . . . .	84	81
Other fisheries . . . . .	796	834
Laver culture (shallow seas) . . . . .	154	147
Oyster culture (shallow seas) . . . . .	203	172
Other culture (shallow seas) <sup>2/</sup> . . . . .	5	2
Fish culture (inland waters) . . . . .	20	18
Total . . . . .	6,864	6,710

<sup>1/</sup>Less than 1,000 metric tons.  
<sup>2/</sup>Includes fish and other culture, and pearl culture.  
 Note: Does not include production of whale fisheries.

**Distant-Water Fisheries:** Japan's major distant-water fisheries include: (1) mothership otter-trawl fishery (North Pacific); (2) otter-trawl fishery on high seas (excluding North Pacific); (3) otter-trawl fishery (South China Sea); (4) mothership large trawl fishery (North Pacific); (5) carrier-type trawl fishery (North Pacific); (6) mothership large trawl fishery (South China Sea); (7) large trawl fishery by other than motherships (South China Sea); (8) mothership salmon fishery; (9) mothership crab fishery; (10) tuna long-line fishery based at overseas ports; (11) mothership tuna long-line fishery (Pacific and Atlantic Oceans); (12) tuna long-line fishery (Atlantic); and (13) pearl-shell fishing in Arafura Sea (Australia).

Japan's distant-water fisheries have expanded rapidly in recent years. In 1956, distant-water landings totaled 165,000 tons and accounted for only 3.5 percent of Japan's total catch, whereas in 1962 distant-water landings made up 25 percent of the total catch. But the 1962 landings were 3.5 percent below the 1961 level of 1,774,000 tons. The decline from 1961 was attributed to decreased catches in the following fisheries: mothership large trawl fishery--North Pacific (-112,000 tons or 18 percent); mothership salmon fishery



## Japan (Contd.):

(-9,000 tons or 17 percent); and tuna long-line fishery--Atlantic (-18,000 tons or 27 percent). The decline was partly offset by gains during 1962 in the otter-trawl high seas fishery--excluding North Pacific (+19,000 tons or 58 percent); carrier-type trawling--North Pacific (+8,000 tons or 50 percent); mothership crab fishery (+4,000 tons or 19 percent); tuna long-line fishery based at overseas ports (+8,000 tons or 47 percent); and mothership tuna long-line fishery in Pacific and Indian Oceans (+31,000 tons or 94 percent).

Inland-Water Fisheries: During 1962, landings of fish and shellfish from inland-water areas amounted to 84,000 tons, an increase of 4 percent over 1961 production. The gain was due mainly to a good harvest of fresh-water clams from the Tone River estuary in Chiba Prefecture. Clam production in 1962 totaled 28,776 tons as compared with 26,775 tons in 1961.

Culture in Shallow Seas: In the shallow sea areas of Japan, several types of aquatic culture are practiced. Laver, oysters, pearls, and yellowtail are important Japanese cultured products.

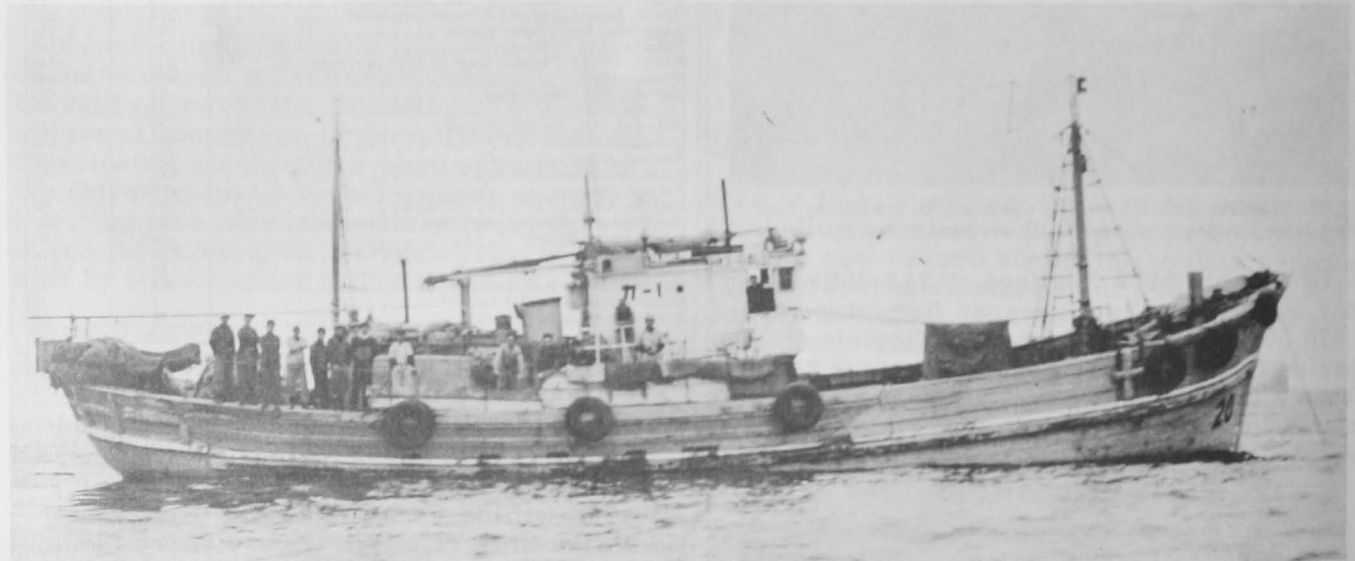


Fig. 4 - Japanese trawler fishing for a factoryship, Tokei Maru, in Bering Sea.

Domestic Marine Fisheries: In 1962, Japan's domestic marine fisheries landings were 3.7 percent greater than those in 1961 which totaled only 4,502,000 tons. In 1962, gains were recorded for the following major domestic marine fisheries: tuna long-line fishery based in Japan (+35,000 tons or 10 percent); skipjack pole-and-line fishery (+21,000 tons or 12 percent); purse-seine fishery (+13,000 tons or 1 percent); saury stick-held dip-net fishery (+14,000 tons or 3 percent); Pacific mackerel pole-and-line fishery (+23,000 tons or 15 percent); squid angling (+156,000 tons or 41 percent); and beach-and boat-seine fishery (+11,000 tons or 16 percent). Significant declines were reported in the trawl fishery west of 130° east longitude (-45,000 tons or 12 percent); trawl fishery east of 130° east longitude (-19,000 tons or 3 percent); salmon gill-net fishery (-33,000 tons or 44 percent); and the large set-net fishery (-22,000 tons or 15 percent).

Laver, or nori, is a special Japanese food produced from several species of red algae which are artificially grown and then prepared in thin sheets for drying. In 1962, Japanese laver production totaled 154,000 tons, up 5 percent from the 147,000 tons prepared in 1961.

The Japanese oyster culture industry produces edible oysters for domestic and export markets, as well as seed oysters for export. In 1962, approximately 203,000 tons of oysters were harvested, an increase of 18 percent over production in the previous year.

Pearl culture is one of the most unique industries in Japan. The process is started by inserting spherical nuclei (made from mussel shells) into oysters. This acts as an irritant which leads to pearl formation. Pearl oysters are transferred to areas of favorable water temperatures during the winter season.

Japan (Contd.):

and then returned to the original growing areas during the spring, summer, and fall months.

In 1962, 68 tons of pearls were produced, a decline of 12 tons from output in 1961. The decrease was caused by postponing the period of take from the early fall months to December in order to produce a better quality pearl.



Fig. 5 - Japanese trawler No. 18 Soho Maru operating in the Bering Sea as part of a mothership fleet.

Yellowtail culture in 1962, although small compared to production in other fisheries, increased twofold over the previous year. Production in 1962 amounted to 4,315 tons as compared to 2,337 tons in 1961.

Culture in Inland Waters: In 1962, inland fish culture yielded 20,000 tons of fishery products, an increase of about 11 percent over the previous year. Carp, eel, and rainbow trout are the most important food species of fish reared in inland waters. All three species were produced in larger quantities in 1962. The output of rainbow trout increased from 3,023 tons in 1961 to 3,505 tons in 1962; carp from 5,142 to 6,344 tons; and eel from 7,105 to 7,572 tons.



Fig. 6 - Close up of catch on the deck of the Japanese trawler No. 18 Soho Maru fishing in the Bering Sea.

Shellfish Landings: Japanese landings of most shellfish food products in 1962 were higher than in the previous year. The Japanese shellfish catch is produced by many different fisheries within the main categories described above. Distant-water motherships take king crab from the Bering Sea while

Table 2 - Japanese Landings of Leading Shellfish Products,<sup>1/</sup> 1961-1962

Species	1962	1961
	(1,000 Metric Tons)	
Abalone and topshell .	9	8
Hard clams . . . . .	11	12
Shortneck clams . . . .	114	108
Hen clams . . . . .	5	5
Scallops . . . . .	10	10
Oysters . . . . .	203	172
White-lip shell . . . . .	-	362
Other shellfish <sup>1/</sup> . . . .	155	179
Squid . . . . .	612	455
Octopus . . . . .	65	56
Shrimp . . . . .	84	74
King crab . . . . .	33	27
Other marine animals <sup>1/</sup>	75	85

<sup>1/</sup>The Japanese Ministry of Agriculture and Forestry generally applies the classification "shellfish" to hard-shelled species. The classification "marine animals" includes squid, lobster, crab, frog, sea urchin, and sea cucumber.

Japan (Contd.):

clams are harvested from Japanese coastal estuaries. Oyster culture in shallow seas was described before. For statistical purposes, a large part of the Japanese shellfish catch is covered by the category "domestic marine fisheries" under the classifications "squid, angling" and "shellfish and seaweed collection."

Squid landings in 1962 totaled 612,000 tons, of which 533,000 tons were caught by angling. The remainder was taken by purse-seine and beach-seine fishing as incidental catches while fishing for other species. Squid landings in 1962 were the largest since 1953, and were 34 percent greater than in 1961. The squid fishing fleet has become more effective with the addition of larger vessels and the development of improved fishing methods and gear.

Whaling: Japanese whalers operating in the Antarctic, Bering Sea, and Japanese coastal waters caught 22,237 whales in 1962

Table 3 - Japanese Whale Catch by Area and Species, 1961-1962

Area and Species	1962	1961
	(No. of Whales)	
<u>Antarctic:</u>		
Blue . . . . .	489	1,144
Fin . . . . .	11,855	8,912
Humpback . . . . .	2	211
Sei . . . . .	941	1,773
Sperm . . . . .	1,064	1,552
Total Antarctic catch . .	14,351	13,592
<u>North Pacific:</u>		
Blue . . . . .	48	70
Fin . . . . .	1,166	1,452
Humpback . . . . .	17	9
Sei . . . . .	260	4
Sperm . . . . .	2,549	1,800
Total North Pacific catch	4,040	3,335
<u>Coastal Area of Japan:</u>		
Blue . . . . .	5	3
Fin . . . . .	39	71
Humpback . . . . .	1	4
Sei . . . . .	1,229	782
Sperm . . . . .	1,685	2,101
Mink . . . . .	238	322
Bottlenose . . . . .	145	133
Pilot . . . . .	80	133
Killer . . . . .	47	54
Others . . . . .	377	305
Total Coastal catch . . .	3,846	3,918
Grand total . . . . .	22,237	20,845



Fig. 7 - Japanese catcher boat towing a whale.

compared with 20,845 in the previous year. (Fisheries Attache, United States Embassy, Tokyo, July 19, 1963.)

Note: See Commercial Fisheries Review, Aug. 1963 p. 96.

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FISHING INDUSTRY OF HOKKAIDO PREFECTURE:

The fishing industry in the Hokkaido Prefecture of Japan has undergone important changes since 1940. It has been necessary to adapt to Japan's postwar loss of the Kurile Islands, the Habomai Islands, and Karafuto (Sakhalin). Some 40,000 fishermen were repatriated from those areas. In addition, there has been a drastic decline in the herring catch which had been the mainstay of Hokkaido's fishing industry. The decline in the herring catch is associated with the shifting of certain cold ocean currents northward.

In spite of changing conditions and declining herring catches, there has been an upward trend in Hokkaido's fishery landings since 1945. The catch of salmon, haddock, mackerel-pike, and squid in 1961 was several times larger than in pre-war years. Mechanizing

Landings of Principal Marine Products in Hokkaido Prefecture (Japan), 1961 with Comparisons

Products	1961	1960	1955	1950	1945	1940
	(Metric Tons)					
Atka mackerel	102,912	116,415	118,612	55,794	73,525	19,257
Salmon and trout . .	87,582	77,131	56,409	21,495	7,130	13,085
Crab . . . . .	18,991	22,642	39,752	12,929	5,033	8,206
Haddock	304,626	320,041	225,513	99,441	25,420	79,159
Cod . . . . .	30,363	43,414	17,747	32,692	8,794	73,117
Herring . . . . .	21,395	14,276	37,950	183,904	322,866	237,378
Squid . . . . .	214,501	253,097	237,120	291,842	54,411	88,102
Flat fish . . . . .	30,868	43,009	33,885	43,402	26,255	39,559
Seaweed	30,772	34,285	29,662	24,909	17,782	69,504



## Japan (Contd.):

and adapting fishing fleets to new conditions was an important factor in the recovery of Hokkaido's fishing industry. Improved techniques of exploratory fishing also helped boost landings.

With the reopening of the North Pacific to salmon fishing in 1952, and crab fishing in 1953, large Japanese floating canneries (motherships) accompanied by smaller catcher vessels began operating in northern waters near the Aleutians and in the Sea of Okhotsk. In 1956, the Soviet Union, however, began imposing restrictions which have limited catches in the Northwest Pacific. The best fishing grounds for Hokkaido's fishing fleets have been in the Sea of Okhotsk and near the Soviet-held Kurile Islands. Future negotiations on fishing grounds are thus of deep concern to Hokkaido's fishing population. For example, some 3,500 Hokkaido fishing families engaged in coastal crab fishing off the Japanese Nosappu Peninsula have suffered a sharp decline in their catch. The Nosappu Peninsula is within sight of the Soviet-held Habomai Islands, and Soviet patrol vessels have confiscated fishing vessels in the area infringing upon what the Soviets consider their territorial waters.

The value of marine products landed in Hokkaido in 1961 totaled US\$130 million. Salmon accounted for about 25 percent of the value of the 1961 Hokkaido catch. In 1961, Hokkaido produced about 450,000 metric tons of processed fishery products. (This included dried, smoked, frozen, and canned fishery products.) The value of Hokkaido's processed fishery products in 1961 totaled \$149 million, up 27 percent from the previous year. In 1961, the value of Hokkaido's production of canned fishery products, such as canned salmon, trout, mackerel-pike, squid, and crab meat, totaled \$30 million, up 70 percent from 1960.

The value of Hokkaido's exports of fishery products in 1961 amounted to \$15.3 million, compared with \$17.8 million in 1960 and \$20.9 million in 1959. Hokkaido's exports of fishery products to the United States in 1961 were valued at \$4.0 million. (Data on Hokkaido fishery exports include products prepared in Hokkaido and shipped from Japanese ports in other Prefectures.) Fishery products prepared in Hokkaido for export include canned salmon, canned crab

meat, frozen scallops, fish meal, vitamin oils, and frozen whale meat. (United States Consulate, Sapporo, June 26, 1963.)

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### PERFORMANCE REPORT ON ELECTRICALLY-POWERED FISHERIES TRAINING VESSEL:

A study on the one year's operation of the electrically powered fisheries training vessel Fuji Maru (325 gross tons), belonging to the Shizuoka Prefectural Government, Japan, is reported to have shown that electrically powered commercial fishing vessels can have many advantages lacking in conventional Diesel-powered vessels. They are: saving in engineroom space; simplicity of operation and rapid detection of engine trouble; saving in engineroom manpower; safety in operation; and more efficient utilization of available sources of power. Some disadvantages cited are the higher cost of construction (from 10-20 percent) and slightly higher rate of fuel consumption.

Fuel consumption is said to depend on the running time to the fishing grounds and the number of days spent on the fishing grounds. Compared to Diesel-powered vessels, electrically powered vessels would consume greater quantities of fuel while running to and from the fishing grounds but less fuel while actually fishing.

Fuel Consumption Rates of Propellent Motor of Fuji Maru

R.P.M.	Electrical Output	Fuel Consumption per Day	Speed
	Kilowatt	Metric Tons	Knots
240 . . . . .	250	2.16	9.1
250 . . . . .	280	2.31	9.4
260 . . . . .	320	2.50	9.7
270 . . . . .	360	2.71	10.0
280 . . . . .	400	2.94	10.3
290 . . . . .	440	3.21	10.5

Specifications and complement of the Fuji Maru, which was built at a cost of 120 million yen (US\$333,000), are:

Gross tonnage . . . . .	325
Total length . . . . .	126.3 feet
Beam . . . . .	24.6 feet
Speed . . . . .	11 knots
Generator motor (2) . . . .	430 horsepower each
Generator (2) . . . . .	360 kilovolt-ampere each
Propellent motor . . . . .	485 kilowatt
Crew . . . . .	31
Student trainees . . . . .	41
Instructors . . . . .	4

In the case of the Fuji Maru, on her first trial fishing trip (65-day trip to Sunda Islands in the Indian Ocean), she consumed an average of 3.2 tons of fuel per day while running to and from the fishing ground, less than 1.2 tons per day while fishing (even on days when the weather was bad), and averaged 1.86 tons per day for the entire trip. Diesel-powered long-line fishing vessels of the same size as the Fuji Maru are estimated to consume 2.5 tons of fuel per day while running to and from fishing grounds and 1.5 tons per day while fishing, and average from 1.6-1.8 tons per day per trip. (Suisan Keizai Shimbum, August 4, 1963.)

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### "KURUMA" SHRIMP-BREEDING EXPERIMENTS SUCCESSFUL:

A Japanese scientist claims that after 30 years of study he has succeeded in breeding

### Japan (Contd.):

the "kurma" shrimp artificially. In the course of his researches he discovered the breeding behavior of this species, which calls for precisely regulated conditions. He also had difficulty in finding a suitable food for the larvae, finally choosing Skeletonema costatum, a type of diatom, which he grew himself.

The young shrimp were fed on brine-shrimp eggs and clam eggs and larvae. In the final stage, they are transferred to salt-water tanks and fed on chopped trash fish.

The "kuruma" shrimp grows to a length of about 6 inches and is considered a great delicacy by the Japanese, who eat it raw or fried. In 1962, Japanese fisheries yielded about 3,000 tons of this species and about 4,000 tons were imported for Japanese consumption. (World Fishing, May 1963.)

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### WHALING INDUSTRY TRENDS:

Japan was reported to have completed arrangements in July 1963 to purchase two whaling factoryships, the Thorshovdi from Norway and the Southern Harvester from the United Kingdom. This would increase Japan's share of the annual Antarctic whale-catch quota, as established by the International Whaling Commission, from 41 percent to 50 percent. The International Whaling Commission, at its Fifteenth Annual Meeting in London, England, in early July 1963 had reduced the 1963/1964 (winter) whaling season catch quota by 5,000 blue-whale units to a total of 10,000 units. As a result of this action, Japan (which operated seven whale factoryships in the Antarctic whaling grounds in the 1962-1963 season) was temporarily faced with the prospect of reducing her fleet to five factoryships in order to place her whaling operations on a profitable basis. Purchase of the Thorshovdi and the Southern Harvester and the transfer of their share of the total seasonal Antarctic whale catch quota to Japan will now permit Japan to continue to operate seven fleets, one of which is expected to be used exclusively for sperm whale fishing. The Thorshovdi and the Southern Harvester are expected to be scrapped. (Suisan Keizai Shimbun, July 24, 1963, and other sources.)

Beginning in November 1963 Japan is expected to operate two fleets of whale catcher vessels from the whaling bases located at South Georgia Island (England) in the South Atlantic Ocean. They are expected to be operated by the two largest fishing companies in Japan. (Suisan Tsushin, August 2, 1963.)

The Japanese Fisheries Agency is reported to have granted, on a profit-sharing basis, to two large fishing companies a special whale-catch quota of 60 blue-whale units for the 1963 North Pacific-Bering Sea whaling season. Including the catch quota already assigned to one of the two companies, this brings the 1963 North Pacific whale catch quota assigned to that company to a total of 287 blue-whale units.

Reportedly, the Fisheries Agency granted the special quota of 60 blue-whale units to the two companies to compensate them for losses they had incurred in preparing for experimental king crab pot fishing in the Gulf of Alaska in 1963. The two companies had intended to use jointly a mothership accompanied by a fleet of catcher vessels for the Gulf of Alaska king crab operation, which initially had been informally approved by

the Agency. Accordingly, they had proceeded to make extensive preparations but, as a result of protests registered by the United States, the Fisheries Agency ultimately postponed approving the project in 1963. Both companies are reported to have spent a total of about 120 million yen (US\$333,000) in preparing for the cancelled Gulf of Alaska king crab operation. (Suisan Tsushin, August 2, 1963, and other sources.)

The Japan Whale Oil Joint Sales Company (composed of six whaling companies) is reported to have concluded an agreement to sell 5,000 metric tons of baleen whale oil to an independent European fat-and-oil producer. The sale was reported to have been concluded at a c.i.f. price of 78 pounds 1 shilling (US\$218) a metric ton.

In Japan, sperm whale oil is reported to have been sold on the domestic market for 80,000 yen (US\$222) a metric ton. (Suisan Keizai Shimbun, July 30, 1963.)

\* \* \* \* \*

### PURCHASE OF BRITISH WHALING MOTHERSHIP STIRS CONTROVERSY:

The purchase of the British whaling mothership Southern Harvester by one of the 3 Japanese fishing companies engaged in whaling has been of growing concern to the other 2 whaling firms, according to an article published in the July 15, 1963, issue of Nihon Keizai, Japan's authoritative economic daily. During the 1962/63 whaling season, the 3 Japanese companies had 7 fleets operating in the Antarctic.

The article stated that in order to cope with the reduction in the whale-catch quota for the 18th Antarctic whaling season, moves for the reorganization of whaling fleets to take part in the program were becoming active in Japanese fisheries circles. It was reported by influential sources that the Japanese Fisheries Company in late July initialled an agreement for the purchase of a whaling mothership, the Southern Harvester, from a South Georgia company, an affiliate of a large British whaling firm. Included in the purchase is the 5 percent catch-quota rights (the quota for the 18th whaling season is 500 whales in terms of sulfur bottoms). The purchasing Japanese company is also reported to have concluded a one-year lease contract at the same time for the use of the British firm's whaling base on British-owned South Georgia Island south of Argentina. The reasons given for the Japanese company's deciding on the purchase of the British mothership were to: (1) be in a position to operate the vessels it now owns (refrigerated factoryships, carriers, and catcher boats) at their maximum; (2) obtain raw materials for canning whale meat and production of meat (hams and sausages), which constitute an important part of the company's domestic marketing business; and (3) fit into the company's long-

Japan (Contd.):

range prospects that whaling will become commercially profitable because of price increases for whale meat on the domestic market, and the higher price of whale oil on the international market. The whale oil price is already double the 1962 price because of very light supplies. The article pointed out that there would likely be some disagreement between the other two whaling companies in which the Japanese Government would also figure because of a reorganization study toward cutting down the whaling fleets.

The Southern Harvester is a sistership of the Southern Venturer (20,330 gross tons) which was jointly purchased by Japan's three whaling companies in conjunction with another Japanese fishing firm in June 1962. The catch quota for the vessel at the time of the purchase was 600 whales and the price paid for it was ¥2.15 billion (\$5.9 million). It was said, however, that the Southern Harvester is newer than the Southern Venturer, larger in size, and has better facilities. The vessel's actual catches in the past three years were 659.5 whales in the 15th whaling season, 605 whales in the 16th, and 502 whales in the 17th whaling season.

The article said that the other two whaling companies negotiated with the British firm to purchase both the Southern Harvester and the Venturer in 1961, but that one of the companies changed its plan and purchased the No. 3 Cosmos from Norway. Eventually, the Venturer was purchased jointly by the three whaling companies. Although the purchase price of the Southern Harvester was not known, it was expected to be about ¥1 billion (US\$2.8 million) which is considerably lower than the ¥2.8 billion (US\$7.7 million) paid for the Cosmos 3 (the catch quota at the time of purchase was 600 whales), and the ¥2.15 billion paid for the Venturer.

Japan's catch quota for the 18th whaling season is, according to the decision made by the International Whaling Commission, 4,100 whales, which is 33.4 percent less than the previous season. If seven fleets are to take part in the whaling season, the quota per fleet will be 585.7 whales, which would be far below the 800 whale quota which is considered a normal average catch per fleet. The total catch quota for the Japan Fisheries Company, combining the quota for the vessels Ton-

an-Mar and No. 2 Tonan-Mar, is 1,171.4 whales, and when the 500 whale quota allocated to the Harvester is added, the average quota per fleet will be 835.7, somewhat over that figure. The article continued that in Japanese whaling circles concerned, the example is recalled of the fishing company that purchased the Cosmos 3 which released the surplus quota to other companies. Therefore, the fishing company which is purchasing the Southern Harvester hopes to reach an understanding with the circles concerned by offering the surplus quota to the other two whaling companies, although strictly insisting on buying the vessel on its own.

The article said it was expected that the other companies will naturally oppose that plan on the strength of the agreement reached among the three whaling company presidents to cooperate with each other in the planned reorganization. It was reported that the President of 1 of the 3 fishing companies involved has worked out a joint management plan based on the principle of equality among all three companies.

According to the article, one of the companies avoided clarifying its official attitude for the time being, but it was expected that as a matter of course the company will work out effective countermeasures. The article concluded with the statement that the authorities concerned are attaching importance to the point that with the purchase of the Southern Harvester, the United Kingdom will become a nonwhaling nation, and as their stand is to avoid disagreement between Japan and the Soviet Union in the field of whaling by some means or another, they were expected to try to adjust the situation. (Fisheries Attache, United States Embassy, Tokyo, July 30, 1963.)

Note: See Commercial Fisheries Review, April 1963 p. 62.

日本

## Kuwait

### SHRIMP INDUSTRY:

From 1959 through 1962 there has been a steady growth in the shrimp operations of a private commercial enterprise in Kuwait since its formation in 1959. Four up-to-date trawlers built in Florida were added to the company fleet in 1962. Two retail outlets were set up and both appeared to be doing well. But the emphasis of the company has



## Kuwait (Contd.):

remained on freezing shrimp for export to the United States, Lebanon, and elsewhere. Air shipments have become more frequent and sales to Lebanon especially have been expanding. In mid-1962, the company obtained a license from Iran to fish (on a percentage basis) in Iranian waters. Plans to increase its fleet and shore plant were being readied for implementation in 1963 or 1964.

Fish in the territorial waters of Kuwait are plentiful but little had been done by the Government up to the end of 1962 to encourage exploitation on an organized and scientific basis. Thus in 1962, the Kuwait market continued to be supplied mainly by the traditional fisherman and fishing fleet.

In March 1963, Kuwait invited an FAO fisheries expert to survey its resources and to draw up a preliminary program leading to the creation of a State-sponsored fishing industry. The finding of the FAO report is probably reflected by the recent announcement of the formation of the Kuwait National Fisheries Company. Details of plans for that company have not been made public. (United States Embassy, Kuwait, July 27, 1963.)



## Liberia

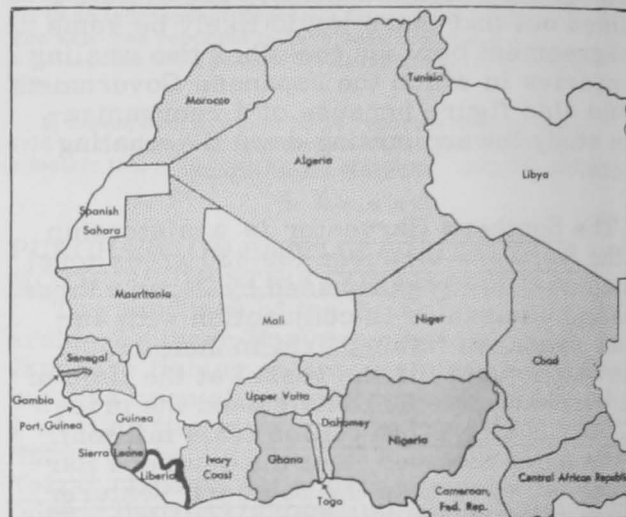
FISHING COMPANY  
EXPANDS OPERATIONS:

A Liberian fishing company started replacing its small trawlers with deep-sea fishing trawlers in the spring of 1963, in order to broaden the quality and variety of its catch. About 100 metric tons of fish were caught on the first trip of one of the vessels which are manned by professional Japanese crews and are equipped with freezing and packing facilities. The company has also hired a Norwegian commercial fisheries expert as its new manager who will supervise an expansion program which includes additional cold-storage facilities in Monrovia and new facilities in other parts of the country. It was expected that the new facilities will assure a more constant supply of fishery products in the Liberian diet at steady prices. This has not always been the case in the past. (United States Embassy, Monrovia, June 30, 1963.)

\* \* \* \* \*

## FISHING INDUSTRY TO BE REORGANIZED:

A new Liberian Bureau of Commercial Fisheries is to be set up within the Department of Agriculture and Commerce under the control of the Liberian Government's Commerce Division. Its purpose will be to regulate the Liberian fishing industry which has been unable to provide a reliable supply de-



spite its rapid growth in recent years. Periodic shortages of fishery products are accompanied by high prices. The new Bureau will regulate the fishing industry by centralizing the landing and marketing of fish. It will also control the distribution of fish from the central area to the consuming areas, control prices, and collect statistics. No official announcements have yet been made as to how the first two functions would be carried out. (United States Embassy, Monrovia, June 30, 1963.)



## Malaya

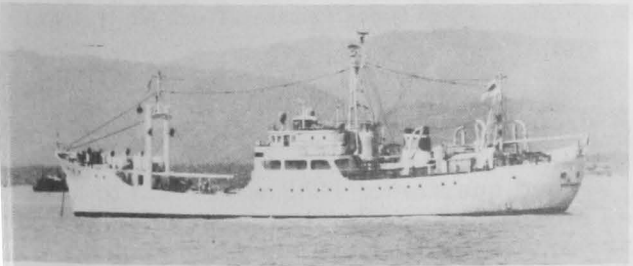
JAPANESE TUNA OPERATIONS AT  
PENANG TO BE EXPANDED:

The Japan National Federation of Tuna Fisheries Cooperatives (NIKKATSUREN), at a special general meeting convened on July 25, 1963, voted a 50-percent increase in capital--64 million yen (US\$178,000)--for the Overseas Fisheries Company, Ltd., to be used for expanding that company's overseas tuna enterprise at Penang, Malaya. That enterprise (a joint Japanese-Malayan firm) has a productive capacity of 500 cases of tuna a day, a quick-freezing capacity of 40 metric tons a day, and a cold-storage holding capacity of

Malaya (Contd.):



600 metric tons of frozen tuna a month. The capital increase is to be used to expand by December 1963 the present cold-storage holding capacity to 1,200 metric tons a month.



Japanese research vessel Shoyo Maru of the Japanese Fisheries Agency docked at Penang, Malaya. In 1962, this vessel searched for tuna in the vicinity of Mauritius.

Also at the July 25 meeting, NIKKATSUR-EN decided to remodel the present building occupied by the Federation into a five-story complex, including a basement. Construction is expected to start in October 1964. Details regarding the funding of the building remodeling program, estimated at 80 million yen (US\$222,000), are now being worked out. (Suisan Tsushin, July 27, 1963.)

Note: See Commercial Fisheries Review, July 1963 p. 87.



Netherlands

DISTANT-WATER FISHING BY TRAWLERS:

An annual subsidy of one million florins (US\$278,300) over a three-year period has been granted by the Netherlands Government to the owners of 10 trawlers which will fish the distant waters off Iceland, the Lofotens, and the White Sea.

The first of these trawlers left in February 1963 for the waters off Iceland. Among them were stern trawlers of the Rijmond class. The results of the first trips were not entirely satisfactory because of bad weather, but the vessel owners have decided to continue fishing.

It is reported that an Ijmuijen vessel owner plans to have built in Poland six large stern trawlers capable of operating equally well off Iceland, in the Barents Sea, and off North America. (Translated from Le Marin, June 28, 1963.)



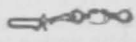
New Caledonia

FREEZERSHIP TO SERVE AS FLOATING TUNA COLD-STORAGE PLANT:

The Japanese freezer ship Eiyo Maru (2,617 gross tons) departed Yokosuka, Japan, on July 11, 1963, for Noumea, New Caledonia, where she will be anchored and utilized as a floating cold-storage plant to receive tuna from Japanese tuna vessels based at Noumea.

The joint Japanese-French tuna base at Noumea, which was established this year with a capital of 20 million yen (US\$55,556), does not presently have cold-storage facilities. The Japanese firm involved in that enterprise estimates that it will probably take a minimum of 3 years and a maximum of 5 years before adequate cold-storage facilities are built at that port. In the interim, the Eiyo Maru, which has a capacity of rapid-freezing 50 metric tons of fish per day, producing 20 metric tons of ice per day, and holding 1,200 metric tons of frozen fish, will serve as a floating cold-storage plant. A total of 33 100-ton tuna vessels is expected to supply the freezer ship with tuna. (Nihon Suisan Shim bun, July 15, 1963.)

Note: See Commercial Fisheries Review, March 1963 pp. 64 & 67.



## Peru

FISHING INDUSTRY STATUS  
AS OF JULY 1963:

Fishery products, especially fish meal, constitute one of Peru's primary exports. Beginning in the second quarter, and expanding during the month of July, a critical situation appeared to be in the making. Although the full story is not yet known, the problem seems to be compounded of several elements, but to be attributed largely to the intensive debtor position of the industry (it is estimated that it owes some four billion soles or nearly \$150 million to banks, suppliers and other local and foreign creditors) and to recently instituted restrictive credit policies on the part of local banks. The ramifications of this important industry throughout the entire economic structure are extensive. Whatever happens in the industry will surely be reflected in the economy of the country as a whole.

Is there a crisis in Peru's fish-meal industry? Yes, say organizations representing workers, owners of fishing boats, boat builders, and independent fish-meal producers. No, say the National Fisheries Society, the Consorcio Pesquero del Peru (the marketing organization which represents between 70 and 85 percent of Peru's fish-meal production), Pesca (a monthly magazine devoted to the fisheries industry), and experts who have made public statements about the present situation. It is clear that the fish-meal industry is passing through a difficult period but it is doubtful that the situation has reached a critical state. Pesca, in an article entitled "Fishing in a Sea of Debts" in a recent issue, summed it up as follows:

"... the fisheries industry is not in a critical situation or anything like it. However, it certainly is passing through a bad financial moment, fundamentally as a consequence of lack of foresight..."

No trade data for the second quarter of 1963 are available, so it is not possible to give figures for fish-meal production and export. There were reports in mid-June that the Consortium had unsold stocks of about 200,000 metric tons, valued at approximately \$20 million. Normally, fish-meal producers take Consortium documents showing sales to commercial banks which discount paper. However, with unsold fish-meal and with credit restrictions announced by commercial banks early in May, many fish-meal producers were unable to obtain funds for current expenses. Therefore, the report continued, the Consortium was seeking a short-term loan from the Industrial Bank to help finance the accumulated stocks.

During the same period anchovy (anchoveta) fishing slackened, the fish virtually disappeared from their usual areas. This is generally attributed to normal seasonal phenomenon expected each year between June and September, when changes in ocean conditions drive the fish farther out from shore and to greater depths. Unlike those months in 1961 and 1962, when fish remained unusually abundant, fishing this year has dropped off 70 to 80 percent, with a resulting decline in work for fishermen, boats, and plant personnel, and an intensification of the financial problems for numerous producers. The present slack period is expected to terminate by the end of September. Then, given the production capacity of Peruvian fish-meal plants, the problems of overproduction, markets, and prices will replace existing problems. There is considerable difference of opinion within the fish-meal industry regarding Peru's adherence to the international quota system established in 1960. Certain elements, generally the larger producers, favor maintenance of prices through control of the supply, whereas smaller producers, who do not have the financial resources necessary to hold stocks, favor selling more than the quota even though at lower prices.

The "bad financial moment" of the fish-meal industry mentioned was brought to public notice in mid-July. The

Pesca article, based on a study of the industry by the staff of the periodical, called attention to the financial situation of the industry: Investment in the industry totals some \$190 million, of which \$37 million represent invested capital; the remainder represents credits from banks (\$56 million), from national and foreign suppliers supported by guarantees of various kinds (\$56 million), from national and foreign suppliers without guarantees (\$19 million), and from national financing firms whose interest rates are higher than those of commercial banks (\$19 million).

The industry finds itself in a tight financial spot at the moment, heavily in debt and without working capital, because it has generally continued, with credits, to expand existing plants or build new ones, and to buy new boats and equipment, rather than to take advantage of good production and sales by paying debts and accumulating reserves. "Pesca" believes Peru's fish-meal industry has a promising future, but that, to ensure it, measures must be adopted to restore a balance between fish-meal production and consumption, new markets must be found, production costs (which reportedly have increased from \$58-\$60 per ton to \$85-\$90 or more per ton) must be revised, credits must be used to consolidate existing enterprises, not to enlarge them, and commercial bank credit must be made more flexible.

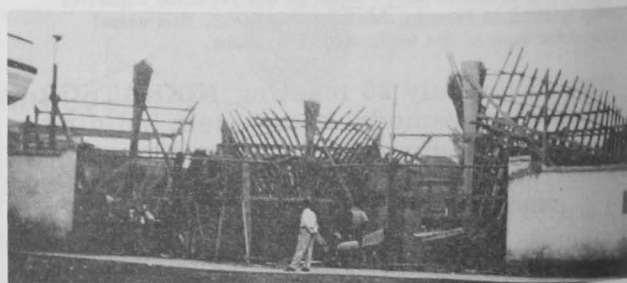
At the end of July, most of the organizations representing fisheries activities announced the creation of a Coordinating Committee for Fisheries Activities, to examine and find solutions for the problems of the industry. The immediate task of the Committee will be:

1. To obtain medium-term and long-term financing to permit consolidation of the industry;
2. To ensure the harmonious development of the industry (i.e., to assure that financing obtained will be used to pay off debts and to consolidate the industry, not to increase production capacity); and
3. To fully support national and international fish meal quota systems. (United States Embassy, Lima, July 31, 1963.)

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FISH MEAL AND OIL INDUSTRY  
TRENDS, APRIL-JUNE 1963:

Peruvian fish oil and meal exports during the second quarter of 1963 were said to have been affected by production losses during February and early March 1963 when anchovy fishing was halted for 22 days by a labor dis-



Portion of a Callao shipyard in 1962 where anchovy fishing vessels were being built.

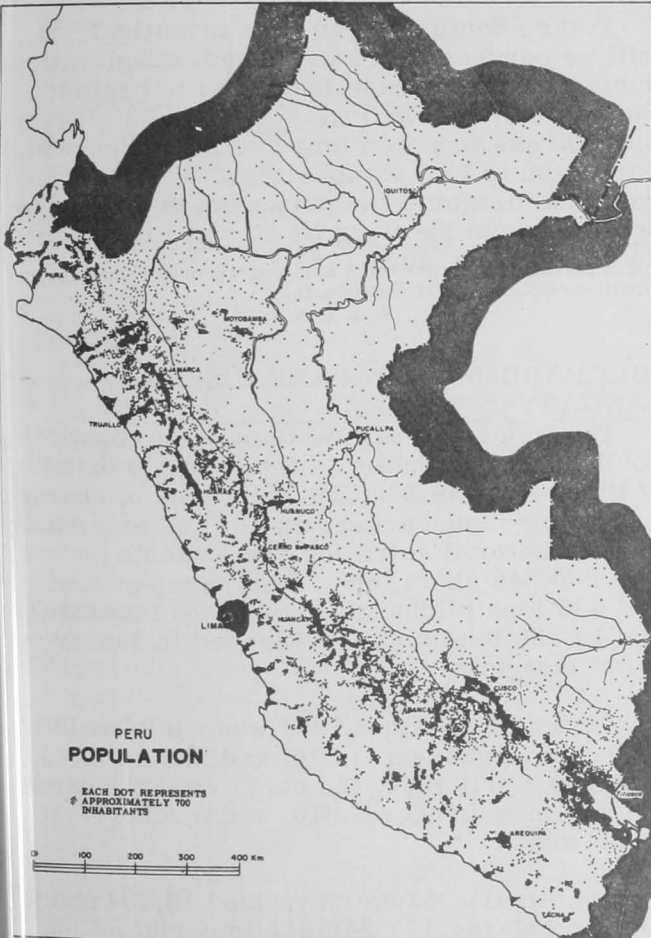
pute. It is estimated that the lost production time will cost Peru 9 million dollars in foreign exchange in 1963. (Editor's Note: In spite of the production loss, Peruvian fish-meal production in January-May 1963 totaled 602,850 metric tons, up 30.9 percent from



Peru (Contd.):

that in the same period of the previous year, according to preliminary data.)

New fish-meal factories continue to be established in Peru. In the mid-coastal area of Peru, the Bay of Vegueta (near the port of Huacho) has been converted into a high-speed processing center. The 3 factories in that area in early July 1963 had an average fish-meal production of 40 tons per hour. Some 30 other plants are planned for the area. The region provides excellent production conditions and an abundant labor force.



As part of a project to increase fishery landings for domestic consumption, the Bay of San Jose, near Chiclayo, is to be converted into a model fishing port. (United States Embassy, Lima, July 11, 1963.)



Portugal

CANNED FISH TRENDS, JANUARY-MAY 1963:

The Portuguese canned fish industry, one of the principal factors in its export trade, was struggling to counteract adverse publicity arising from the unfortunate exportation of certain lots of poor fish to Germany and Italy, which resulted in a shakeup in the Directorate of the Canned Fish Institute.

Table 1 - Value of Portuguese Exports of Canned Fish (in oil or sauce) to the United States, January-May 1963 with Comparisons

Product	1963		1962	
	Million escudos	Million US\$	Million escudos	Million US\$
Sardines . . . . .	29.8	1.0	32.1	1.1
Anchovies . . . . .	25.2	0.9	26.1	0.9
Other 1/ . . . . .	4.0	0.2	1.4	0.1
Total . . . . .	59.0	2.1	59.6	2.1

1/Includes tuna and tuna-like pack.

Table 2 - Portuguese Canned Fish (in oil or sauce) Exports and Pack

Product	Exports			Pack		
	January-May			January-April		
	1963	1962	1961	1963	1962	1961
	. . . . . (Metric Tons) . . . . .					
Sardines . . . . .	19,365	17,824	19,417	1,563	4,079	3,173
Anchovies . . . . .	1,956	2,288	2,309	1,503	2,209	2,180
Tuna & tuna-like . .	625	575	727	481	541	258
Other . . . . .	2,382	840	720	180	122	188
Total . . . . .	24,328	21,527	23,173	3,727	6,951	5,799

Production of canned fish showed a sharp decline during the first quarter, presumably due to the particularly unfavorable weather conditions prevailing during that period. Exports during that period, however, showed an almost 25 percent rise from 1962. Exports of canned sardines (in oil or sauce) of 19,365 metric tons during January-May 1963 were somewhat more than the 17,824 tons exported in the same period of 1962. But the value of the canned sardine exports in 1963 was slightly less than in 1962 indicating that sardines were sold at lower prices this year.

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CANNED FISH EXPORTS, JANUARY-APRIL 1963:

Portugal's total exports of canned fish during the first 4 months of 1963 were 11.4 percent greater (in quantity) than those in the same period in 1962, due primarily to higher exports of sardines (up 6.8 percent) and a sharp increase in the exports of mackerel. The increase was partly offset by smaller shipments of anchovy fillets. Sardines accounted for 78.6 percent of the 1963 exports of canned fish.

## Portugal (Contd.):

Portuguese Canned Fish Exports, January-April 1963				
Product	January-April			
	1963		1962	
	Metric Tons	1,000 Cases	Metric Tons	1,000 Cases
<u>In Oil or Sauce:</u>				
Sardines . . . . .	16,805	884	15,729	827
Chinchards . . . . .	404	21	385	20
Mackerel . . . . .	1,755	70	389	16
Tuna and tuna-like . . . . .	529	17	545	18
Anchovy fillets . . . . .	1,783	178	2,061	206
Others . . . . .	110	6	90	4
Total . . . . .	21,386	1,176	19,199	1,091

Portugal's principal canned fish buyers during January-April 1963 were Germany with 3,286 metric tons, followed by Italy with 3,070 tons, United States 2,629 tons, United Kingdom 2,372 tons, and France 1,878 tons. (Conservas de Peixe, June 1963.)

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CANNED FISH PACK,  
JANUARY-APRIL 1963:

Portugal's total pack of canned fish in oil or sauce in January-April 1963 was down about 46 percent (in quantity) from that in the same period in 1962. The combined sardine and anchovy fillet pack during January-April 1963 accounted for 82 percent of the total pack. Compared with the first 4 months of 1962, the January-April 1963 pack of sardines dropped 62 percent and the anchovy

Portuguese Canned Fish Pack, January-April 1962-63				
Product	January-April			
	1963		1962	
	Metric Tons	1,000 Cases	Metric Tons	1,000 Cases
<u>In Oil or Sauce:</u>				
Sardines . . . . .	1,563	82	4,078	214
Chinchards . . . . .	12	-	32	1
Mackerel . . . . .	128	5	49	2
Tuna and tuna-like . . . . .	482	16	542	19
Anchovy fillets . . . . .	1,502	150	2,209	221
Others . . . . .	38	2	40	2
Total . . . . .	3,725	255	6,950	459

pack was down about 32 percent. During February and March 1963, a closed season for sardine fishing was in effect, and the sardine pack in April 1963 totaled only 386 metric tons as compared to 2,379 tons in April 1962.



## South Africa Republic

TUNA INVESTIGATIONS OFF  
WEST COAST:

Four species of tuna exist in considerable numbers off the Cape west coast of the South Africa Republic and they can be caught by Japanese-type long-line gear, according to the results of a survey conducted by the exploratory fishing vessel R. V. Kunene. The project was initiated by the South African Director of Sea Fisheries. The survey indicated that commercial fishing might be profitable. But long-range forecasts of tuna occurrence off South Africa will require additional information.

Future South African tuna investigations will be conducted in two phases. Explorations during the first phase (expected to begin in the summer of 1963) were designed to locate those areas in which tuna are most likely to occur and to test various types of fishing gear, particularly the purse-seine net. (The South African Shipping News and Fishing Industry Review, June 1963.)

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PILCHARD-MAASBANKER FISHERY,  
JANUARY-APRIL 1963:

The fish catch off the Cape west coast of South Africa Republic in the first 4 months of this year was 238,239 short tons pilchards, 7,673 tons maasbanker, and 14,634 tons mackerel. The total catch for the 4-month period was 260,546 short tons. This compares with 353,656 tons pilchards, 5,521 tons maasbanker and 15,555 tons mackerel landed in January-April last year.

The catch in April 1963 was: pilchards 67,941, maasbanker 3,676, and mackerel 401 tons. In April 1962, the catch was: pilchards 70,043, maasbanker 1,070, and mackerel 6,348 tons.

The April 1963 catch yielded 16,694 short tons of fish meal, 1,340,951 imperial gallons of fish body oil, 4,108,192 pounds of canned pilchards, 177,294 pounds of canned maasbanker, and 69,168 pounds of canned mackerel. (The South African Shipping News and Fishing Industry Review, June 1963.)



## South-West Africa

### SOVIET TRAWLERS FISH IN INSHORE PILCHARD GROUNDS OFF COAST:

In mid-July 1963, up to 7 Soviet trawlers were active 3 to 20 miles off the coast of South-West Africa, according to newspaper reports in Capetown, South Africa. Although Soviet fishing vessels have operated off South Africa before, this was believed to be their first significant move into inshore pilchard grounds. South-West African fishermen said their livelihood was being threatened by the action of the Soviet vessels, which were reported to be close to the existing 3-mile territorial limit.

A bill providing territorial waters of 6 miles and fishing limits of 12 miles for both South-West Africa and the South Africa Republic has passed the South African parliament, but not yet been proclaimed into law. (United States Embassy, Capetown, July 16, 1963.)

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### FIRM PLANS TO EXPORT FROZEN PILCHARD FILLETS:

A Walvis Bay processing plant has been awarded a special 5,000-ton pilchard quota to be used for trial exports of frozen pilchard fillets. It is believed that a market has been found in West Germany for the frozen fillets.

Two new vessels will be built to catch the extra pilchard quota, according to the manager of the Walvis Bay firm. The new vessels will also be outfitted for tuna fishing. In addition, the firm has plans to enter the white fish (groundfish) field and has drawn tentative plans for the construction of a steel stern trawler. (The South African Shipping News and Fishing Industry Review, June 1963.)

Note: The new 5,000-ton pilchard quota is in addition to the regular 540,000-ton pilchard quota for 1963 which was divided equally among the 6 reduction and canning plants at Walvis Bay.



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### JAPANESE FIRM SIGNS FIVE-YEAR CONTRACT TO BUY SPANISH-CAUGHT FISH:

A Japanese fishing company has concluded a five-year contract, beginning in 1963, to purchase annually 6,000 metric tons of "mon-

ko" squid, sea bream, and octopus from a prominent fisheries company located at Las Palmas, Canary Islands (Spain). The Japanese firm plans to use the Awazu Maru (8,500 gross tons) as a floating freezer ship. The freezer ship would be anchored off Las Palmas for approximately five months (from May to October) to receive fish from about forty 150-ton Spanish trawlers operating out of Las Palmas.

Reportedly, the Japanese firm is said to have received authorization to operate the Awazu Maru within the Spanish territorial sea limit of six miles. This arrangement is said to be significant for two reasons: (1) the mothership will be buying fish from Spanish fishing vessels which can freely operate in Spanish territorial waters, which are abundant in resources; on the other hand, the waters beyond six miles are being heavily fished by Japanese trawlers and some concern is already being expressed over the condition of the stocks; and (2) the Spanish Government is reported to be considering expanding her territorial waters to a distance of 12 miles from shore.

Part of the fishery products frozen on board the Awazu Maru is expected to be exported to Europe, but the greater portion is expected to be transported to Japan towards the end of the year when domestic demand in Japan is said to be greatest. Reportedly, the importation into Japan of foreign-caught "monko" squid is restricted, but the Japanese firm is said to have received special authorization from the Japanese Government to import a fixed quantity of that species, which is highly prized in Japan as "sashimi" (raw fish).

The Japanese firm, which is reported to be operating 16 large tuna long-line vessels in the Atlantic Ocean, plans on enlarging that fleet by dispatching two more large tuna vessels of the 1,000-ton class (Hoko Maru, No. 56 and 58) to the Atlantic Ocean. In addition, the company plans to dispatch in November 1963, the mothership Ishiyama Maru (3,500 gross tons) deck-loaded with eight 20-ton portable vessels to the Atlantic tuna-fishing grounds. (Nihon Keizai Shimbun, August 2, 1963.)





## U.S.S.R.

### KING-CRAB FLEET LEAVES GULF OF ALASKA:

According to reports, the Soviet king-crab fleet fishing in the Gulf of Alaska in the area south of Kodiak Island had left that area as of the latter part of July 1963.

Early in July 1963, two Soviet king-crab factoryships and their accompanying fishing vessels moved from the Bering Sea into the Gulf of Alaska to a location about 30 miles south of Kodiak Island. This was the first time the Soviets had entered the commercial fishery for king crab south of the Alaska Peninsula. Soviet fishing vessels use tangle nets to fish king crabs and this type of gear handicaps United States fishermen fishing the same area with pots.

King crab is Alaska's fastest growing fishery and its year-round nature makes it particularly important to the State's economy. Alaska fishermen took a record 52 million pounds of king crab in 1962, compared with approximately 43 million pounds in 1961, 28 million pounds in 1960, 19 million pounds in 1959, and only about 1 million pounds in 1949. The combined Soviet and Japanese king-crab catch in the eastern Bering Sea in 1962 was estimated at about 50 million pounds. (The Seattle Times, July 22, 1963, and unpublished sources.)

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### FOUR FISH PROCESSING AND FREEZING VESSELS TO BE BUILT IN THE NETHERLANDS:

An order for four automatic fish processing and freezing vessels was placed recently with a Netherlands shipyard for V/O Sudoimport, Moscow, according to Dutch newspaper reports. The Soviet vessels will have a deadweight of 2,600 tons each with 3,000 horsepower engines. They are scheduled for delivery in 1965.

The same Soviet firm ordered four of the same type vessel from a Copenhagen, Denmark, shipyard early in 1962. The third Danish-built vessel in that series for the Soviets was delivered in June 1963. (United States Embassy, The Hague, July 27, 1963, and Fishing News, July 19, 1963.)

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### THIRD DANISH-BUILT FISH-FREEZING VESSEL DELIVERED:

The M/S Davydov, the third in a series of four fish-freezing vessels being constructed by a Copenhagen shipyard for V/O Sudoimport of Moscow, was delivered to the Soviet organization at the end of June 1963. The 2,600-ton vessel made 14 knots, loaded, on its trial trip.

The first vessel of this group was the M/S Skryplev, which was launched in May 1962. The second vessel, the M/S Vitus Berling, was delivered to its owners in January 1963. (Regional Fisheries Attache for Europe, United States Embassy, Copenhagen, July 17, 1963.)



## United Kingdom

### TWO NEW SEMIAUTOMATED STERN TRAWLERS TO FISH IN NORTH SEA:

"Ross Daring:" The first of a revolutionary new class of stern trawlers was launched at a Selby, England, shipyard the latter part of May 1963. The vessel (named Ross Daring) is owned by a large British fishing company. It is the first attempt to create a vessel capable of gaining a better return on the capital invested in North Sea fishing. A second vessel (Ross Delight) of the same class was launched in August 1963.



Fig. 1 - The Ross Daring, the first semiautomated trawler to be built in England, was launched on May 25, 1963.

Ross Daring is not "just another" stern trawler, state the owners. The new vessel embodies numerous features which, though novel in practice, are based on the sound reasoning of vast operating experience by the owners.

Economy in operation through distinct attempts at automation, plus a more pleasant life for the fisher-

## United Kingdom (Contd.):

man, has guided the planning of the Ross Daring. This hypothesis has yet to be proved but an analysis of the main points of innovation indicates a great potential. The new vessel has:

1. An entirely redesigned deck layout which allows the whole of the framework of the trawl to be taken on board with only one set of links to disconnect;
2. Facilities to enable all the catch to be gutted and washed under cover at waist level, thereby relieving fishermen of the stooping and stretching which has been their experience since trawling began;
3. A 4,800 cu.ft. fish room, giving the crew of four men ample room for working, and for stowing the fish quickly and efficiently; and
4. Remote control of sealed engine, and trawl winch, from the bridge--a further economy measure which obviates engineroom personnel and relieves a man of winch duties.

Crew requirements have been reduced to a hitherto unheard-of minimum on the premise that, if more men are required to run the vessel and handle the gear than to handle the catch, then the basic design is at fault. This is what the owners write about the vessel.

Side trawling, of course, has been standard for years. It has demanded large crews to handle the many duties on board--duties which, by imaginative and courageous planning, can be largely mechanized and simplified. In a mechanized age with automation in every activity of life, the adoption of labor-saving devices at sea is a logical and inevitable step. Ross Daring is a great advance on any trawler yet designed for service in home waters. Her many innovations and revolutionary methods of operation are entirely practical, so practical in fact, that their success is virtually assured.

Following the reasoning that the ideal length of ship for year-round operation in the North Sea is about 100 feet, with a catching capacity of around one ton a day, the Ross Daring was planned to an over-all length of 99 feet with sufficient crew to handle the catch comfortably: i.e. a skipper and four men. Once decided, this intriguing proposition required development and, as will be seen, a number of interesting problems had to be overcome in its accomplishment.

Ross Daring, the first of two similar ships, is scheduled to enter service in October, to be followed after a few months by the second of her class, the Ross Delight. Together, these revolutionary vessels represent the spearhead of a very definite effort to make the North Sea more profitable by providing owners with equipment capable of effecting real economies. The Ross Daring class of stern trawlers may well be setting the near-water standards of tomorrow.

The Basic Ship: The basic ship is of combined welded-riveted construction incorporating the shipbuilder's latest techniques in unit prefabrication and assembly. It has a bar keel, transom stern, and raked star stem. The long raised forecastle encloses all crew accommodation, storage space, toilets, workrooms,



Fig. 2 - Launching of the Ross Delight at Selby, England, shipyard. This is the second of a new class of stern-trawlers termed "push button" trawlers.

etc., and the single tier deckhouse incorporating the bridge, is mounted amidships. Single-arm galleys are mounted at the after end of the upper deck, port, and starboard side. Each has a harging block sheave but no foot roller. Main dimensions are length: 85'0" between perpendiculars; 89'0" reg.; 99'0" over-all. Moulded beam: 23'0"; moulded depth: 12'6"; draft aft: 11'0"; draft forward: 8'6".

The designed service speed of  $10\frac{1}{4}$  knots will be obtained through an all 8-cylinder type RPHCM, 4-stroke Diesel engine, which (pressure-charged and inter-cooled) develops 407 s.h.p. at 1,200 r.p.m. at a propeller speed of 300 r.p.m. The power transmission machinery consists of a CRVP Size 3 gearbox and hydraulic unit giving a 4:1 reduction; a 6'5 $\frac{1}{4}$ " diameter variable pitch propeller, and propeller shafting. Remote control of the propeller from the bridge is effected through a balanced telemotor valve actuating a servo-operated push-pull-rod down the center of the propeller shaft.

The vessel has a fuel capacity of 29 tons giving a maximum range of approximately 30 days.

Deck Lay-Out: Unlike many stern trawlers, the Ross Daring has no stern chute down to the water line. To avoid the risk of swamping the fishing deck in rough winter conditions, the gear is taken over a wide roller across the transom and the bobbins are contained on sloping trays at either side. The cod end is brought in over the starboard quarter.

The twin, port, and starboard mounted trawl winches are bridge-controlled, enabling the skipper to bring the wings up to the winches and the bobbins on to the tray. Local control is then taken over by the deck crew who have a small centrally-mounted twin-drum warping winch which is used for lifting the cod end, and other general duties.

The fish is emptied into the fish pounds on the fish deck starboard side, immediately to the rear of the forecastle. Here weed and dross are separated and the fish is passed into the gutting and washing house where the provision of waist-high troughs eliminates the traditional stooping and stretching. From there, after processing, it is passed forward down a chute to the fish room where it is stored on ice in the traditional manner. Fish unloading is through a large trunked hatch from the fish room opening on to the forecastle deck forward of wheelhouse.

## United Kingdom (Contd.):

**Winch Equipment:** All winches are hydraulically-operated and have been specially developed for the Ross Daring.

The trawl winches, mounted one either side of the vessel and remotely controlled from the bridge, posed a number of problems, among which, the drum speed synchronization (so critical when the fluctuating hauling strains on individual drums have a severe retarding effect) was foremost. In effect, the hydraulic drive is so arranged that excessive strain on either winch automatically slows down the other. Each winch can take up to 400 fathoms of 2½" circular warp on 42" o.d. barrel and has automatic guiding-on gear.

Another problem created by remote control was the actuation of clutches and brakes. This has been overcome through a separate hydraulic system which, for the brakes, can be preset at the bridge according to the braking power required. Clutch actuation is a straight-forward "in-out" control, multitooth clutches being chosen in preference to dog clutches for their more positive characteristics.

The twin-drum warping winch is also hydraulically-operated and fitted with integral controls.

Power for all hydraulic services is provided by a 6-cylinder-type Diesel engine giving 87 b.h.p. at 1,800 r.p.m. and driving a hydraulic pump. The complete engine and pump unit is mounted on a bedplate which also serves as a supply tank for the hydraulic system.

**Bridge Controls:** The nerve-center of any vessel is the bridge. On the Ross Daring this is particularly so, and every fishing operation, complete control of engine, propeller, pumps, and gearbox clutch can be achieved at the touch of a button by the skipper through specially-designed equipment.

The employment of a sealed engineroom with no maintenance staff has necessitated an extremely accurate control system. This has been designed and manufactured by a Colchester engineering firm.

From a relatively small console, set crosswise on the starboard side to allow the skipper maximum fore and aft vision, the following can be controlled: start-stop main propulsion engine; trawl winch engine; two general service, fuel oil transfer and slushwell pumps; engine speed; variable pitch propeller and gearbox clutch.

Integral control of the engine speed and propeller pitch is by a single lever. This is made possible by the 16-step, rail-traction-type governor fitted to the engine embodying a load control valve which, in turn, actuates a propeller pitch controller. Movement of the single lever causes a simultaneous change in engine speed and propeller pitch--the correct and automatic interrelation of both preventing overloading of the engine.

The control console is equipped with a comprehensive system of telltale lights which enable at-a-glance perception of all main mechanical functions. Red lights indicate low oil pressure on main engine, auxiliary engine and gear box, and high cooling water temperature at main engine. They also show when the

main and auxiliary engine is not running. Greenlights indicate that the main and auxiliary engines, slushwell, fuel oil transfer, and general service pumps are running. An amber light which cuts out when the main engine is running indicates that its lubricating oil priming pump is functioning correctly.

Other fittings incorporated in the console are a main engine r.p.m. indicator; sequence re-set buttons for the main and auxiliary engines, and circuit test buttons for the malfunction indicators.

A separate console for trawl winch control is located on the bridge at the rear of the wheelhouse, easy to hand and in such a position as to allow the skipper full view of the fish deck while giving him equal access to the main console.

**Accommodation:** A single berth cabin for the skipper is situated on the forecastle deck, port side. Opening on to a landing, it permits easy access to the bridge above by means of a steel ladder. Immediately adjacent is the four-berth crew's cabin. All berths are fitted with spring interior mattresses and the necessary storage furniture.

Natural ventilation and space heating by hot-water radiators are provided in wheelhouse, skipper's cabin, crew's cabin, galley, messroom, and drying room.

Toilet facilities, jointly shared by skipper and crew, include a shower, toilet, and washbasin. Hot water for washing is supplied by a 3 kw. immersion heater.

Hot water for space heating is taken from the main engine cooling system when at sea. A standby 10 kw. immersion heater is fitted in the heating system for use when main engine is inoperative.

**Anchor Windlass:** A single gipsey hydraulic type with single cable-lifter, mounted on forecastle deck, forward, and powered by a 20-hp. electric motor, fitted underneath the fore deck. The control pedestal is conveniently to hand.

**Fishroom:** The fishroom, of 4,800 cu.ft. with a theoretical maximum capacity of approximately 140,000 pounds of fish, is insulated on sides and bulkheads and, overhead with insulation and wood lining.

All stanchions fixed wing bulkheads and shelf boards are of aluminium alloy. A proportion of the fish pens are close-shelved.

**Galley:** The combined galley-messroom is on the forecastle 'tween deck, port side. It is equipped with a "calor-gas" cooking range and stainless steel sink. A deep-freeze cabinet is provided in the forward store-room and access to it is gained through an adjoining door.

**Life Saving Appliances:** Two inflatable, 6-man life rafts to Ministry of Transport requirements, packed in fibreglass containers, are carried, together with one 14-ft. Class "C" work boat, stowed on the boat deck aft under a single-arm davit.

**Main and Auxiliary Electric Power:** Main electric power is supplied by a 20-kw. generator belt-driven from the main engine. Standby electric power is provided by a 10-kw. generator set.



## United Kingdom (Contd.):

**Steering Gear:** Donkin-hand-hydraulic-ram-type fitted in a separate compartment and coupled direct to rudder head. Independent hydraulic steering is also fitted with lever control in wheelhouse.

**Wireless and Electronic Equipment:** Included are a transmitter and receiver; direction finder; talk-back equipment, and cabin receivers for crew entertainment. There are also a V.H.F. transmitter and receiver; radar equipment; and a Simrad "Skipper" sounder.

**"Ross Delight."** The second of a new class of stern trawlers for North Sea service follows, in all main details, the well known features of her sistership and predecessor, *Ross Daring*. *Ross Delight*, when completed in December 1963, will be operated out of Grimsby. (Press releases, May 20 and August 14, Ross Group, Grimsby, England.)

Note: See *Commercial Fisheries Review*, August 1963 p. 110.

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### NEW TRAWL DEPTH TELEMETER DEVELOPED:

A new "trawl depth telemeter" has for several years been in the process of development by the British National Institute of Oceanography. Research biologists at the Institute have been seeking a device that could tell them at what depth their nets are fishing, so that they can adjust the depth to that of the plankton organisms they see on the echo-sounder. A number of difficult problems were encountered during the development period, but a satisfactory and effective enough instrument was completed and put in use about three years ago. Now, there are five of the instruments in service.

The instrument itself consists of three parts. Attached to the net is a roughly cylindrical "transmitter," 19 inches long, about 6 inches in diameter at its widest point, and weighing 28 pounds in air. The "transmitter," which is sparked by its own battery, measures the water pressure (which indicates its depth), and projects into the water a sound wave whose frequency varies according to the pressure. A hydrophone, which receives these sound waves, is trailed in the water from the side or stern of the ship on a short, lightly-armored cable. The top end of the hydrophone cable plugs into a small deck unit, where the received signal is amplified and its frequency measured. This measurement is done in a way which is very much like tuning a radio receiver. The deck unit has a dial and a loudspeaker, and when it is "off tune," a loud whistle is heard. As the knob is turned the pitch of the whistle changes, and the tuning is adjusted until the pitch of the note drops so low that it can no longer be heard. At that point the dial indicates the depth of the net.

This system has proved to be very convenient for use on research ships. For example, the scientist reads the depth of a layer of plankton from the echo-sounder, sets the depth-meter dial to that value, and then veers or hauls his towing warp until the note from the deck unit drops to a very low pitch. During that period he can attend to the winch and warp without having to watch a dial, and once the net is towing, he can hear immediately if it departs from the correct depth.

The whole device is transistorized and works from its own batteries. The "transmitter" uses ordinary 6-volt lantern batteries which last for 10 hours of continuous operation. The frequency of the sound used is about 60

kilocycles, which is about twice that used in most fishing echo-sounders.

The instrument has been named "The N.I.O. Depth Telemeter," and two models have so far been made, one with a depth range of 0 to 100 fathoms and an accuracy of 1 fathom and the second with a depth range of 0 to 300 fathoms and an accuracy of 3 fathoms. In both cases the maximum permissible distance between the transmitter and receiver is about 1,200 yards.

Early attempts to use echo-sounders with a transmitter on the trawl headline and connected to the vessel by an electric cable (or a pressure-measuring device similarly mounted) made it fairly obvious that handling a long cable of that type was not practical for routine use.

In 1955, a scientist with the Woods Hole Oceanographic Institution described how he had managed to transmit depth information to the vessel using sound waves in the water instead of a cable. Subsequent development of his system by two U. S. Fish and Wildlife Service staff members began to give evidence that it might really develop into a practical system. The United States experiments, however, were not carried any further. But the British National Institute of Oceanography became interested in the principle as an answer to their problem, and started their own development work.

Early in 1962, arrangements were made with a firm to manufacture these instruments on a commercial basis but the firm later decided that it could not. The British National Institute of Oceanography hopes that it will now be made by another firm, and that the price will be less than £800 (US\$2,240). (*World Fishing*, July 1963.)

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### NEW TYPE FLASHING MARINE BUOY LIGHT DEVELOPED:

A new type flashing buoy light designed primarily for guiding seine netters to their moorings, as well as for use by other craft, was exhibited for the first time at the World Fishing Exhibition held in London during May 1963. According to the British manufacturer, it has created such widespread interest that the initial demand has exceeded the firm's original estimate of the demand.

The special features of the buoy light have been patented because it is the first of its type to switch on automatically at dusk and switch off at dawn. This is controlled by a light-sensing cell. It is reported to be an entirely new invention, and that nothing similar was previously available. It is made of brass, and the case and assembly are waterproof and shockproof to the extent that the light continues to operate when the case is submerged. There are no moving parts. The electrical wiring is in the modern printed circuit form and a transistorized system controls the flashing light, the timing of which may be regulated during manufacture to customers' requirements. The flasher mechanism can be omitted if a continuous light is needed.

The buoy light is easily fitted to the buoy pole which passes through a hollow tube welded to the buoy light and is locked in position by a knurl-headed screw. Weighing only 3-1/2 pounds, the buoy light body is 12 inches long by 2 inches in diameter and contains 3 small hand-torch batteries which can operate the flashing light for up to 5-6 nights. The light is visible from up to 3 to 4 miles distance depending on the viewing height, as the glass dome contains a small lens producing a narrow intensive beam upwards.

The buoy light is described as not only a practical aid to seine netters and for line fishermen as a means by which

## United Kingdom (Contd.):



The smaller of two versions of a new flashing marine buoy light developed in Great Britain.

their lines are quickly found, but also helpful to pleasure craft in picking out their positions by its light. Trawler owners are also using them in quantity for marker buoys from which to plot their trawling sweeps. Generally, buoy lights carried by trawlers have a radar reflector fitted for observation by the vessel's radar equipment, and the light insures that the buoy is recovered quickly as the reflector signal often becomes obscured by sea clutter when the vessel is still some distance away.

An illustration of the sound construction of the buoy light and also of another interesting application is its use by geophysical survey teams carrying out seismographic research at sea in the search for oil. They are fitted to the buoys to show the location of the wires attached to the explosive charges in or on the sea beds.

For vessels requiring a more powerful light, another type of buoy light is being manufactured by the British firm. With the body lengthened to 15 inches to hold 5 batteries, the output is increased to 2 kilowatts producing a light that is visible from up to 4 to 5 miles but the life of the batteries is reduced to last approximately three nights. The weight increases to about 4 pounds. The smaller buoy light is priced at £8 (about US\$22.40) and the larger unit £8 10s. (\$23.80). There is an extra charge for adding the radar reflector.

During the World Fishing Exhibition a large number of orders for it were received by the manufacturer. The firm reported that shipments were being made to France, South Africa, and Greece, and that their agents in about a dozen other countries would be supplied with the device so as to meet the demand there.



#### NEW SAMPLER TO SKIM OCEAN TOP INVENTED BY NEW ZEALANDER

According to a New Zealand release in mid-1963, the surface of the ocean can now be investigated with the assistance of an ocean surface sampler invented by R. P. Willis, technical officer of the New Zealand Oceanographic Institute of the Department of Scientific and Industrial Research. The sampler will enable that Department to obtain specimens that live only the first centimeter of the sea.

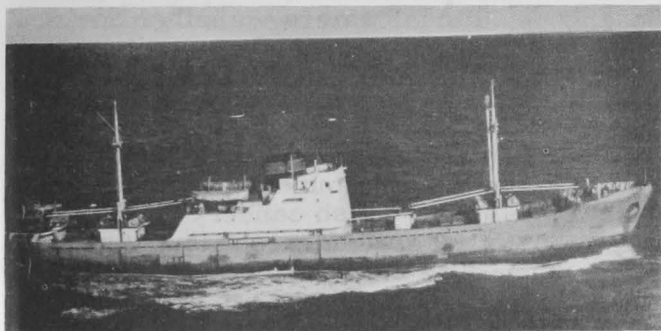
The device is a nylon net with a simple bridle attached to a pair of catamaran-like floats. Buoyancy is adjusted to obtain an average sample depth of one centimeter. The sampler was first tested from the Institute's launch on Wellington Harbour and necessary adjustments were made to the bridle length and lower spar angle.

Initial sampling from a vessel in open water was carried out during an institute cruise over the Chatham Rise. In the initial and subsequent samplings a wide variety of surface layer materials have been obtained, components of the normal "surface" animal and plant plankton, fragments of seaweeds, barnacles, and shells have been taken. (National Oceanographic Data Center Newsletter, July 31, 1963.)

## Foreign Fisheries Briefs

### EASTERN NORTH PACIFIC AND BERING SEA FISHING, FIRST HALF 1963:

**Soviet Activities: VESSELS:** Soviet fishing in the eastern North Pacific and Bering Sea involves close to 200 vessels, mostly operating in the Gulf of Alaska. Since March 1963, the Soviet fleet operating in the Gulf of Alaska has been growing steadily. In late March it numbered 35 to 40 vessels, in April 100 vessels, in May 140 to 160 vessels, and in June and July 160 vessels. Last year the greatest fleet strength reported in that area was approximately 70 vessels in late June and early July. Aside from the increased Soviet fishing effort in the Gulf of Alaska in 1963 as compared with 1962 and previous years, the most important development in Soviet fishing activities in the Gulf has been a move into the king crab fishery. Early in June 1963, one 15,000-ton crab factoryship was reported about 30 miles southwest of Kodiak Island in the Gulf of Alaska. By early July, a second crab factoryship had moved from the crab fishing grounds off Port Moller in the Bering Sea to the area off Kodiak Island. These factoryships are each served by two SRT trawlers which set the tangle nets. The nets are later picked by the 12 picker boats that are carried in davits on each factoryship. By mid-July, the Soviet king crab fleets had departed from the area south of Kodiak Island. It was determined that they had joined the saury fishing fleets off the Kuril Islands north of Japan.



A large Russian transport vessel under way in the Bering Sea.

A Soviet whaling fleet of 2 factoryships and 20 to 25 whale killers has been operating along the Aleutian Island chain and southeast of Kodiak Island.

**SPECIES TAKEN:** In the Gulf of Alaska the Soviets were again trawling primarily for Pacific ocean perch as they did in 1962. Some herring, Alaska pollock, cod, and sablefish have also been reported in Soviet catches. This year king crab were also being fished in the Gulf of Alaska and catches were reported to be good.

In the Bering Sea, catches include herring, flounders and soles, cod, Alaska pollock, king crab, and perhaps some shrimp.

**Japanese Activities: VESSELS:** In late April 1963, the Japanese fleet strength in the eastern North Pacific Ocean and Bering Sea was estimated at 40 to 50 vessels. At the end of May this number had increased to about 160, and in June to about 180 vessels. July reports showed that this fleet numbered approximately 210 to 215 vessels. This includes whaling craft but does not include the salmon craft operating in the western Aleutian area. The latter vessels include 11 factoryships and nearly 300 catcher boats. In 1963 the Japanese effort generally followed the same pattern of the past several years, but with some reduction in fleet strength from 1962 levels.

The most significant development in the Japanese fisheries of the eastern Bering Sea was the entry into the halibut fishery in early May. About May 9, when the halibut season south of the Alaska Peninsula opened, the Japanese entry into the eastern Bering Sea halibut fishery had been approved. The Japanese long-line fleet began to operate along the 100-fathom curve from Unimak Pass to the Pribilof Islands, an area fished previously for halibut only by about 100 American and Canadian boats. The Japanese long-line fleet fishing this so-called "triangle area" numbered 6 factoryships and 75 trawlers.

In July 1963, the Japanese shrimp fleet in the eastern Bering Sea consisted of 2 factoryships and 26 trawlers operating north of the Pribilof Islands. Two king crab factoryships, with 4 trawlers and 16 picker boats, have been operating in the eastern Bering Sea in an area centered in the Port Moller region. Fish meal and oil operations have been curtailed to one mothership with 30 trawlers, compared with the 4 motherships and 100 trawlers that operated in Bristol Bay in 1962. Fish meal operations have been localized in the area north and east of Unimak Pass.

During May and June 1963, three Japanese whaling factoryships, each accompanied by several killer vessels, operated in the Gulf of Alaska south of the Kenai Peninsula (about 59° N. latitude and 149° W. longitude). A fourth whaling fleet was reported operating at the far end of the Aleutian Islands. Early in July the Japanese whaling fleets in the Gulf of Alaska (off the Kenai Peninsula) had moved south and were operating off Cape Ommaney, on Baranof Island in Southeastern Alaska. This constitutes the farthest penetration south and east of any Japanese whaling fleet to date.

As of July 1963, Japan had not conducted large-scale operations in the Gulf of Alaska. In 1962, one Japanese freezer vessel, accompanied by two purse seiners and two gill netters, fished for herring in the Kodiak area. So far, in 1963, no Japanese herring fishing has been reported in the Gulf of Alaska, perhaps as a result of the seizure of two vessels in Shelikof Straits by the State of Alaska in 1962.

#### Foreign Fishing Fleets in Eastern Bering Sea and North Pacific As of July 10, 1963

##### Eastern Bering Sea:

**Soviet--about 40 vessels consisting of:**  
 20 trawlers and crab-picker boats  
 12 whale killers  
 1 crab factoryship  
 1 whale factoryship  
 6 support vessels (tugs, tankers, cargo vessels)

##### Japanese--about 175 to 180 vessels consisting of:

155 trawlers (shrimp, crab, longline)  
 9 factoryships (shrimp, crab, fish meal)  
 15 support vessels (tugs, tankers, cargo vessels)

##### Eastern North Pacific:

##### Soviet--about 160 vessels consisting of:

120 large and medium trawlers  
 12 stern trawlers  
 12 whale killers  
 2 crab factoryships  
 1 whale factoryship  
 13 support vessels

##### Japanese--about 40 vessels consisting of:

6 "exploratory" fishing trawlers  
 30 whale killers  
 3 whale factoryships  
 1 support vessel (cargo)



## Foreign Fisheries Briefs (Contd.):

**SPECIES TAKEN:** The major species of bottomfish, excluding halibut, taken in the Bering Sea and utilized by the fish meal fleet were soles and flounders, Alaska pollock, and Pacific ocean perch. Although those species were taken by the fish meal factoryship fleet, the catch was sorted out and fish suitable for human consumption was prepared for market primarily in the form of fillets. Other species of fish and shellfish taken by the Japanese in the Bering Sea include sablefish, cod, shrimp, and king crab.

A small fleet of six Japanese "exploratory" fishing vessels operating in the Gulf of Alaska in 1963 has taken sablefish and Pacific ocean perch, and halibut amounting to generally less than one percent by weight of the total catch. Some good catches of shrimp were also reported. In April 1963, reports were received that the Japanese Government had licensed a king crab mothership operation to commence "experimental fishing" in May with crab pots south of the Alaska Peninsula. The catch limit was set at 400 metric tons (882,000 pounds). After considerable discussion between representatives of the United States and Japanese Governments in both Washington and Tokyo, the Japanese Government on July 10 deferred issuance of the license pending further discussions at the September 1963 North Pacific Fisheries Commission meeting. In effect, king crab operations in that area will not be conducted by the Japanese this year.

The Japanese have been taking whales in the Gulf of Alaska, off the far end of the Aleutian Islands, and more recently off Southeastern Alaska.

### FISHERIES TRAINING FOR GHANAIANS IN SOVIET UNION:

The Ghanaian Government has selected 91 men for training in the Soviet Union as "officer cadets" in the Ghana Fishing Corporation, a state-owned enterprise. The men were to be available by the end of July 1963. In December 1962, an announcement was made that the Soviet Union would award 180 scholarships for training of Ghanaians in fishing techniques. (U. S. Embassy, Accra, July 28, 1963.)

### CONSTRUCTION OF COLD-STORAGE PLANT AT ABIDJAN:

A decree was signed by the Ivory Coast Government in March 1963 approving the statutes of the Societe de Construction et d'Exploitation du Frigorifique (cold storage) du Port d'Abidjan (SOCEF).

The Society is charged with the construction of, or contracting for, installations needed for the expansion of the Port of Abidjan, to promote the establishment of fish and auxiliary industries, and the organization of maritime, rail, and road transportation for fish and fish products, in response to the needs for internal consumption and for export. It is capitalized at 100 million francs (US\$20.4 million).

For this purpose, the Administrative Council of SOCEF has opened bids for the

construction of the entrepot (cold-storage plant) from plans submitted by the Societe d'Equipement de la Cote d'Ivoire. (Translated from Le Marin, June 28, 1963.)

### TAIWANESE FISHING VESSELS WILL USE SOUTH AFRICAN PORTS:

Ten Taiwanese fishing vessels have been granted permission to use the port of Durban, South Africa, on a one-year trial basis. The Taiwan Provincial Fishery Bureau has adopted a plan to expand Taiwan's fishing operations in distant waters and has therefore begun to obtain permission for the use of foreign ports. (U. S. Embassy, Taipei, July 13, 1963.)

### SOVIET FISHERIES AID TO SUDAN:

A group of Soviet fisheries specialists arrived in Port Sudan in late June 1963, aboard a Soviet research vessel to study the commercial fishery resources of the Red Sea in Sudan's territorial waters. Another Soviet team is expected to conduct research on the commercial fishery resources of the Nile River.

The Sudanese hope that these studies will reveal large local resources sufficient in quantity to supply a fish cannery to be built with a Soviet loan. (Sudanese News Agency, Port Sudan, June 26, 1963.)

### SOVIET FISHING OFF WEST AFRICA:

Soviet fishermen from Batumi, on the Black Sea, are experiencing excellent fishing in the eastern Atlantic Ocean off Walvis Bay, South-West Africa. The trawl catches are used in the production of frozen fishery products and fish meal, of which a large part is shipped back to Black Sea ports in the Soviet Union. (Unpublished sources.)

### SOVIET TUNA FLEET FISHING OFF SPAIN:

A Soviet tuna fleet was reported in early July fishing 40 miles off the coast of Huelva, Spain, near the entrance to the Mediterranean Sea. The fleet was said to be using electric shocking gear to stun the fish. Spanish fishing circles were reported concerned that the operation might decrease the tuna resource off the Spanish Mediterranean coast. (U. S. Embassy, Madrid, July 12, 1963.)

### SOVIET FISHING IN RED SEA:

Soviet exploratory fishing has yielded commercial quantities of fish in Bab al Mandab, the strait connecting the Red Sea and the Gulf of Aden. A fleet of trawlers and seiners has

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been dispatched from Kerch, a Black Sea port, to fish for sardines and mackerel on the newly discovered fishing grounds. (Unpublished sources.)

SOVIET CRAB FACTORYSHIPS CANNING SAURY IN NORTH PACIFIC:

Three crab factoryships and their accompanying trawlers had completed king crab fishing in Bristol Bay and had joined the saury (mackerel pike) fishing fleets off the Kuril Islands, north of Japan, according to a July 23, 1963, news item in a Soviet newspaper. The article did not mention that two of the factoryships had operated in the Gulf of Alaska. (Krasnoe Znamia, Vladivostok, July 23, 1963.)

FISHERY RESEARCH BY SOVIET SUBMARINE:

The Severyanka, a Soviet fishery research submarine, returned to Murmansk in mid-1963 after a voyage of 17,000 miles. Scientists aboard the vessel studied the behavior

of schools of fish in relation to fishing trawls. (Unpublished sources.)

SOVIET STUDY OF CRAB RESOURCES OF OKHOTSK SEA:

Soviet scientists are studying the crab resources of the Okhotsk Sea along the western coast of the Kamchatka Peninsula. According to a recent Soviet announcement, this is the world's most important crab fishing area. The Soviets claim that studies of crab larvae will be done for the first time by skin divers. (Unpublished sources.)

SOVIET FISHERY LANDINGS UP IN FIRST HALF OF 1963:

The Soviet catch of fish and shellfish, including whales, amounted to 2.5 million metric tons in the first half of 1963. This was an increase of 8 percent over the catch in the same period of 1962. (Pravda, July 19, 1963.)

Notes: (1) These briefs were abstracted and compiled by the U. S. Bureau of Commercial Fisheries, Branch of Foreign Fisheries and Trade.

(2) See Commercial Fisheries Review, August 1963 p. 112.

CORRECTION

On page 112 of the August 1963 issue, an error was made. The item titled "Soviet Trawler off California Coast" should have read: "SOVIET TRAWLER OFF VANCOUVER ISLAND COAST: A 150-foot Soviet trawler was reported off the northern coast of Vancouver Island on June 15, 1963. The vessel's gear was described as 'similar to that used for fishing shrimp.'"

COMPRESSED AIR USED IN TAKING EGGS FROM FISH

The Eagle Creek National Fish Hatchery, Oregon, in mid-1963 began experimental steelhead spawn-taking with compressed air, a method which has proved successful at the Washington game department hatchery at Skamania. Initial spawning operations at the Eagle Creek Station appeared to be satisfactory. A complete report was planned on the method at the close of the egg-taking season.