International

BERING SEA

U. S. NAVAL OBSERVATIONS ON SOVIET FISHING FLEETS:

United States Navy planes from Kodiak or Adak, in the Aleutian Chain, Alaska, regularly observe fishing fleets in the Bering Sea while on routine flights. Planes have reported a large number of U.S.S.R. vessels conducting fishing operations in the North Pacific.

All during the winter, the Russian fishing fleets hug the ice pack in the Bering Sea. They have factoryships and reefers (refrigerator ships) coming and leaving the year-round.

There are maybe 4 or 5 motherships, with perhaps ten trawlers each, spaced across the Bering Sea.

Soviet whalers worked both sides of the Aleutians.

FISH OILS

WORLD FISH OIL EXPORTS SET NEW RECORD IN 1959:

World exports of fish oils (including fish-liver oils) reached a record 265,000 short tons in 1959, reflecting resurging United States exports, record shipments from West Germany, Denmark, and the Union of South Africa, and the emergence of Peru as an important world exporter. Exports in 1959 were one-third above 1958 and were almost double the 1935-39 average.

Following two years of sharply declining exports, shipments of fish oil from the United States in 1959 rose to a new peak of 72,200 tons, exceeding the previous record of 71,300 tons shipped in both 1955 and 1956. United States exports to Europe were up 74 percent from 1958 and accounted for virtually all of those exports. The larger European imports of fish oil stem from an increased demand for all fats and oils following general stock depletion during 1958. Canadian exports were also up sharply in 1959 as a result of a return-to-normal output late in 1958 and throughout most of 1959.

Although several European countries export sizable quantities of fish oil, the area is a net importer--in fact, the market for a large share of world exports. Most of the oil exported from European countries goes to other countries in the same region.

The record quantities shipped from Denmark and West Germany reflect larger imports for processing and reexporting, since domestic production in both countries changed little from the previous year. Norwegian exports last year were down slightly from 1958. Most of the fish oil included in Norway's share of world exports is fish-liver oil. However, Norway exports around 60,000 tons of hardened marine oils each year. These exports include both fish and whale oil, but are not identified by kind in trade statistics. Thus, Norway's exports of fish oil probably are much larger than indicated.

Peru became an important supplier of fish oil in 1959, and the large volume shipped last year may be exceeded in 1960. Although Peru had facilities to produce large quantities of fish oil prior to 1959, restrictive regulations prevented the industry from any rapid expansion of output. These regulations were relaxed in 1959 and production of fish oil rose to 27,500 tons, an increase of 17,200 tons from 1958. An even larger output is forecast for 1960.

Fish-Oil (Including Liver-Oil) Exports from Specified Countries and Estimated World Total, Averages 1935-39 and 1950-54, Annual 1956-59

Continent and Country	1/1959	1/1958	1957	1956	Average 1950-54	Average 1935-39
	(1,000 Short Tons)					
North America:						
Canada	14.4	5.7	2.7	9.3	11.6	12.0
United States	72.2	47.0	58.5	71.3	42.2	1.2
Total	86.6	52.7	61.2	80.6	53.8	13.2
Europe:						
Denmark	15.6	12.6	9.8	9.7	6.3	2.5
West Germany	31.6	17.9	14.3	9.3	3.0	2/4.4
Iceland	18.6	27.0	20.9	21.3	19.6	24.5
Netherlands 3/	16.0	13.0	7.1	9.1	14.5	.2
Norway 4/	21.0	22.3	18.6	23.7	30.4	38.0
Portugal	5.6	5.5	4.2	4.7	3.8	.1
United Kingdom	3.7	3.6	3.4	3.8	4.0	6.0
Total	112.1	101.9	78.3	81.6	81.6	75.7
Others:						
Angola	8.8	9.4	13.4	5.7	6.7	.7
Japan	3.6	6.6	3.5	5.0	6.8	35.0
Peru	18.9	1.8	4.8	1.9	.1	-
Union of South Africa	26.2	18.1	11.4	5.4	8.9	2.2
Total	57.5	35.9	33.1	18.0	22.5	37.9
World total 5/	265.0	200.0	180.0	190.0	165.0	135.0

1/Preliminary.
2/Prewar Germany.
3/May include some whale oil.
4/Does not include sizable quantities of hardened marine oils.
5/Includes estimates for minor exporting countries.

International (Contd.):

A record volume of fish oil was exported from the Union of South Africa in 1959, mainly because of a larger catch of maasbanker and pilchard. To help preserve stocks, an annual quota is imposed on the catch of those fish, and in 1959 the quota was increased to allow fish-meal producers to step up production and compensate for declining world prices. Since fish oil is largely a byproduct of the fish meal industry, oil production also increased. Another factor responsible for the larger output was a planned 25-percent reduction in canned pilchard production, which released further quantities of fish for oil and meal production. Exports probably will be large in 1960 because the higher catch limit again will be in effect. (Foreign Crops and Markets, U. S. Department of Agriculture, June 30, 1960.)

FOOD AND AGRICULTURE ORGANIZATION

FISH FARMING STUDIES IN UGANDA MAY INCREASE YIELD:

The mixed cultivation of tilapia, carp, and Nile perch in fish pounds in Uganda, Africa, has the promise of quadrupling fish production from ponds in that country in a few years, according to an inland fisheries biologist of the Food and Agriculture Organization (FAO), who has just returned from a year's assignment in Uganda. The fisheries biologist said, that the experimental work which he had undertaken during the past year at the Kajansi fish farm, Uganda, showed that the 5,000 ponds in Uganda could support more and other varieties of fish than their current occupants--tilapia.

"Uganda now produces roughly 500 metric tons of fish from her ponds each year," said the biologist. "With a mixed fish population, improved management, the right gear, and fertilization, the yield from the ponds might reach 2,000 tons yearly in 4 or 5 years."

Fish farming began in Uganda in 1953, when the government found that, although Uganda had many lakes, the lack of transportation and processing of fish in the hot African country tended to keep fish out of the diet of Uganda people. Fish could not be found for sale 25 miles north of Lake Victoria--a lake with an area of 26,928 square miles and the world's second largest body of fresh water.

Since fish, a relatively cheap source of animal protein, could not be brought to the people, the Government decided to bring people to the fish, by means of ponds. Tilapia, a small, rapidly multiplying and hardy fish was selected, the ponds were built and then stocked with three varieties of tilapia--Tilapia zillii, T. nilotica, and T. leucosticta.

Farming the fish ponds developed rapidly in Uganda but, as the program went on, it became necessary to obtain more information on scientific fish production and its allied physical and biological research. At the request of the Ugandan Government, the FAO's Fisheries Division supplied technical aid. The FAO biologist began his work at the Kajansi experimental fish farm, aided by British and African fishery officers. A building was outfitted as a laboratory. There, the biologist began to do chemical analyses of the composition of pond water. Once he knew the ingredients of the water, including the amount of algae it contained, he could predict how much fish could be supported under given conditions. In all, he analyzed about 2,000 samples of water.

He then ran through some 500 samples of water containing plankton, to see how much food for the fish was available. Next was analyzing the stomach contents of 300 fish to find out the relation between the food available for the fish, the food eaten, and the food actually digested.

Then came the question of optimum density in a pond--just how many fish the pond could support. Eleven of the fish farm's 30 ponds, ranging in size from $\frac{1}{100}$ of a hectare to two hectares (about $\frac{1}{40}$ to 4.94 acres), were set aside and stocked with the three species of tilapia, and with carp and Nile perch fry of various sizes.

The biologist then turned his attention to the three species of tilapia already inhabiting the ponds. Tilapia nilotica and Tilapia leucosticta live on the ponds' natural production of small aquatic organisms. On the other hand, Tilapia zillii needs to be fed artificially on foods such as elephant grass, sweet potatoes, etc., in addition to the natural resources of the pond.

If the African forgets to feed his fish, then why bother with Tilapia zillii when Tilapia nilotica and Tilapia leucosticta can feed themselves?

"Tilapia nilotica and Tilapia leucosticta now yield only 300 kilos (661 pounds) of fish per hectare (2.471 acres) a year, just using the ponds' natural resources," said the biologist. "However, by feeding these fish, the production could be boosted to 2,000 kilos (4,409 pounds) of fish per hectare per year. Under experimental conditions in small ponds, the production of fish may be extremely high.

International (Contd.):

For example, a maximum of 3,500 kilos (7,716 pounds) of fish per hectare per year has been produced in one small pond. However, such high production can in no way be expected by the average fish farmer of today."

Why were carp and Nile perch selected to be put into the ponds?

"The average carp attains a weight of 1.500 grams (3.3 pounds) in the first year," the biologist stated. "The idea of mixing in carp with the tilapia was first broached in Uganda in 1958, when fingerlings were brought to the fish farm from Israel. Some of these carp now weigh 4.500 grams (9.9 pounds)."

The predatory Nile perch was introduced to the ponds' population of carp and tilapia to keep down the number of small tilapia. The Nile perch, which is also excellent eating, averages about 50 kilos (110 pounds) in lakes when fully grown and has reached a record weight of 175 kilos (386 pounds) in Lake Albert. This gives the ponds a mixed population of the quickly-multiplying tilapia, the rapidly-growing carp, and the Nile perch as a control.

INTERNATIONAL ASSOCIATION OF FISH MEAL MANUFACTURERS

MORE INFORMATION ON HAMBURG MEETING:

The International Association of Fish Meal Manufacturers met in Hamburg during the second week of June 1960, to discuss future cooperation on scientific research. Participants included delegates from the United Kingdom, West Germany, Norway, South Africa, Spain, Iceland, Portuguese Angola, France, and Belgium. Holland, which is not yet a member, sent an observer. Also an observer from the Food and Agriculture Organization (FAO) and the Federal Research Institute for Fishery in Hamburg took part in the meeting. This meeting established a Scientific Subcommittee to work out chemical and physical examination methods with the view in mind of making it possible to eliminate fish meal of poor quality. Efforts shall be made to have included uniform quality requirements for fish meal in the feed legislation of the member countries.

The delegate of FAO read a paper suggesting a plan of organization to carry out a study of the present and the prospective future trends on the international fish meal markets. The study shall also deal with the future importance of fish meal in animal feeding and in human consumption. FAO solicited the support of the International Association for this work. The participants welcomed the plans of FAO and pointed out that in the long run the carrying out of these plans could be of great benefit.

The Executive Committee discussed organizational problems. The submitted draft statutes of the Association were approved by the members.

The first regular annual meeting of the International Association was expected to take place in Paris by the end of September this year.

Three United States companies have applied for membership to the Association. (United States Embassy, Bonn, August 6, 1960.)

Note: Also see Commercial Fisheries Review, September 1960, p. 42.

INTERNATIONAL COMMISSION FOR NORTHWEST ATLANTIC FISHERIES

PROGRESS ON STUDIES OF EFFECT OF NET MESH SIZES ON FISH STOCKS:

The International Commission for Northwest Atlantic Fisheries reports considerable progress on a study of the immediate and long-term effects that otter-trawl mesh sizes have on various stocks of fish in the northwest Atlantic.

The progress of the study was reported at the 10th annual meeting of the of the Commission which was held in early June 1960, in Bergen, Norway. Representing the United States as Commissioners at the Bergen meeting were Thomas G. Fulham of Boston, Mass., and Arnie J. Suomela, Commissioner of the U. S. Fish and Wildlife Service. Suomela is the present chairman of the Commission.

The Commission is composed of members from 12 nations whose fishermen operate off New England, Nova Scotia, Labrador, the west coast of Greenland, and in the Gulf of St. Lawrence. It is primarily concerned with groundfish including cod, haddock, hake, halibut, flounders, whiting, and ocean perch. Member nations are Canada, Denmark, France, Iceland, Italy, Norway, Portugal, Russia, Spain, the United Kingdom, West

International (Contd.):

Germany, and the United States. Delegates from Poland were present as observers at the Bergen meeting.

The mesh-size study was decided on at the ninth annual meeting of the Commission in Montreal, Canada, June 1959. Mesh-size regulations for a part of the area with which the Commission is concerned have been in effect for several years, but the present study is more directed toward determining the effects of various mesh sizes if applied to the entire area, or to all of the north Atlantic fishing grounds. The objective of the study is to see if one mesh size can be applied to all fishing activities in that area.

The technical work of the Commission is done by the fishery biological research units of the member nations. Recommendations for conservation measures, such as mesh-size limitations, when adopted by the Commission are passed on to the member nations. It is the responsibility of each member nation to effect the necessary measures for the guidance of its own fishermen.

The next annual meeting of the Commission will be held in Washington, D. C., in June 1961.

NORDIC FISHERIES CONFERENCE

CONFERENCE MET IN MID-AUGUST 1960:

Representatives of the Scandinavian fishery organizations and Ministries of Fisheries met in Karlskrona, Sweden, August 16-18, 1960, to discuss current problems. Denmark was represented by a 35-man delegation, including members from the Faroe Islands.

All the delegations--from Norway, Sweden, Iceland, Finland, and Denmark--were led by their respective Ministers of Fisheries, who, following the Karlskrona session, held a separate meeting at Kristianstad.

Among the topics discussed at the Karlskrona meeting were fish protection, effects of radioactivity on life in the sea, and marketing problems posed by development of the European Economic Community and the European Free Trade Association. In addition, the Ministers discussed fishery problems connected with the territorial waters issue. (United States Embassy, Copenhagen, August 15, 1960.)

Angola

FISHING INDUSTRY FACES CRISIS DUE TO LOW FISH MEAL PRICES:

The crisis in the Angolan fishing industry is becoming more and more serious and is having grave effects on the economies of the fishing centers. Mocamedes is particularly hard hit because most of the industry, commerce, and agriculture of that area is related directly or indirectly to fishing. Representatives and members of the various business associations in Mocamedes met there on July 21, 1960, to discuss the depression in the industry. The associations passed a motion in the form of a letter which was presented to the District Governor, who was to deliver it to the Governor-General of Angola.

The letter points out that the present crisis has lasted almost two years. The drop in the quantity of the fish catch, the inefficient organization of the industry, the total paralysis of sales, and the catastrophic decline in fish-meal prices threaten the industry with a complete breakdown and endanger the related sectors of the district's economy. While financial and technical assistance will be needed from the Government to solve the long-term problems, the associations declare, it is first necessary to attack the short-term problem--that of preserving what remains of the fishing industry. The assistance given until now by the Government--suspending taxes, cutting export duties, and reducing the price of fuel to the industry--has been helpful but it has not been sufficient to solve the difficulties.

The letter states that 22,000 metric tons of fish meal (43 percent of the amount of fish meal exported by all of Angola in 1959) are stocked at Mocamedes. Exportation has been held back because of the low prices on the international market. Also, the Bank of Angola holds part of these stocks as collateral for loans, the collateral being based on fish-meal prices above the present market prices. The associations declare that it is a primary necessity to export these stocks at least at a price which covers the cost of production.

The motion passed by the meeting also states that the fishing industry owes its fish-

Angola (Contd.):

ermen about 12,000 contos (US$419,520) in back wages. These should be paid immediately, and the payment of wages coming due in the future should be assured until such time as the industry can be reorganized.

To avoid the complete collapse of the Mocamedes fishing industry and the breakdown of the economy in that district, the motion states that a loan from the Government of 50,000 contos ($1,748,000) is indispensable. A committee would oversee the expenditure of the money. The Government would be repaid at a convenient time in the future by the levy of a 1- or 1½-percent tax on goods passing through the port of Mocamedes.

In his reply to a telegram from the associations, the Governor-General reviewed actions taken by the Government to aid and solve the problems of the fishing industry, including a recently-allowed subsidy of US$10 a metric ton on fish meal exported after July 1, 1960, the United States Consul in Luanda reported on August 2, 1960.

Argentina

FISH MEAL AND OIL INDUSTRY:

There are four reduction plants in Argentina--two in Mar del Plata, one in Bahia Bustamante, and a new one in Puerto Deseado. While the capacity of the two plants in Mar del Plata is unknown, their combined annual production has averaged 3,000 metric tons of fish meal during recent years. The plant in Bahia Bustamante (not in operation at the present time) is known to have a very small capacity. The Puerto Deseado plant (due to open in August 1960) expects to have a capacity of 6,000 tons of fish meal annually.

Production of fish meal in Argentina amounted to 3,000 metric tons in 1959. No fish oil was produced in commercial quantities and no exports of fish meal or fish oil were made in 1959.

Fish used for reduction in Argentina are not differentiated by species; reduction plants pay one peso a kilogram (about US$11 a short ton) for hake and sardines, which are the principal species used for reduction. However, the two Mar del Plata plants rarely purchase whole fish, but use cannery waste for which they pay 30 centavos a kilogram (about $3.30 a short ton). Officials of the Puerto Deseado plant estimate that their production costs for fish meal will be $80 a metric ton (about $72.58 a short ton).

There has been no recent development or plans for the development of the reduction industry in Argentina other than the new Puerto Deseado plant. Neither the Argentine federal nor provincial governments offer any form of aid to the reduction industry, according to a July 25, 1960, dispatch from the United States Embassy in Buenos Aires.

Australia

THREE-YEAR SHRIMP SURVEY ENDS:

Australian survey of shrimp resources off the eastern Australian coast, which began in July 1957, ended according to plan in June 1960. The survey was carried out by the Fisheries Division, Department of Primary Industry, with the 85-foot chartered vessel Challenge, and was financed by the Fisheries Development Trust Account.

The survey got off to a good start with the discovery, in July 1957, of a new shrimp ground near Fraser or Great Sandy Island, in southern Queensland, covering some 750 square miles and extending from Double Point Light to Indian Head. King prawns were predominant, with tiger prawns the second species.

In November 1959, another new ground was found, extending for at least 15 miles from NE. to NW. of Cape Moreton, also in southern Queensland. This also was a king prawn ground.

The best catches elsewhere were taken in May 1959, off Lakes Entrance, in eastern Victoria, where 100 pounds of king prawns were obtained in 8-9 fathoms. Trawling in deep water was discouraging.

Australia (Contd.):

During the three years of the survey the Challenge covered over 2,000 miles along the coast from Princess Charlotte Bay in northern Queensland to Wilson's Promontory in Victoria. Up to May 2, 1960, a total of 1,942 drags had been carried out, the majority in 20-100 fathoms but some over the "Shelf" in up to 160 fathoms.

The work on the Queensland coast has shown that banana prawns may be found from Indian Head northwards. This is the species favored by the United States market.

Westerly weather towards the end of April 1960 made it necessary for the Challenge, which was then on the New South Wales south coast, to work inshore waters.

Areas searched included Cape St. George to Beecroft Head in 6-30 fathoms, Crookhaven Bight, northern end of Shoalhaven Bight, Black Point to Bass Point (from Kiama), Bass Point to Big Island, Windang Island, NE. of Bellambi Reef. On April 25, the vessel was at Wollongong.

A few school prawns were taken at the northern entrance to the Shoalhaven River and in the vicinity of Windang Island where seven juvenile king prawns were also obtained.

During the last week of April and into May, the Challenge worked inshore waters in the vicinity of Lake Illawarra, Shell Harbor, and Bate Bay, and trawlable ground in 50-120 fathoms from Bass Point to Botany Bay and from South Head to Broken Bay.

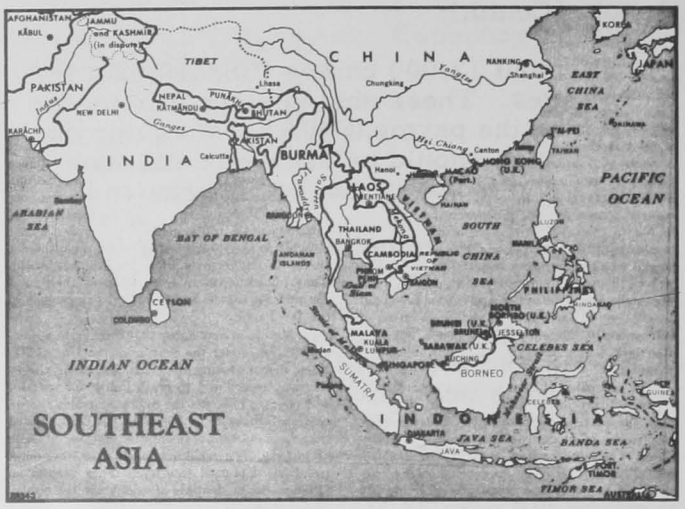
Following a report by Dr. Racek of Sydney University that royal red prawns had been taken in quantity in New Zealand in 80 fathoms, it was decided to trawl to 120 fathoms but no results were obtained. Working over the edge of the "Shelf" east of Sydney to Broken Bay, one king prawn was obtained in a night drag in 120 fathoms, but eight day drags yielded nothing.

During the last three weeks of the survey, in May 1960, the Challenge worked northwards from Sydney without obtaining any commercially-significant results. (Australian Fisheries Newsletter, June 1960.)

British North Borneo

JAPANESE REVIVING FISHING INDUSTRY:

The first consignment of frozen fish from North Borneo to the United States was shipped in June by a North Borneo trading company, according to British North Borneo newspapers. A Japanese firm has revived the prewar Japanese fishing operations on Si Amil Island off the Semporna Peninsula in the Celebes Sea area of North Borneo. Pending reconstruction of the canning and processing factory on the Island, a factoryship, the Ginyo Maru, which has cold-storage facilities, has anchored off the Island for processing operations. Reportedly, 300 Japanese fishermen and technicians are operating 30- to 40-ton trawlers in deep-sea areas in the surrounding waters.



A 1959 Japanese economic mission to British North Borneo seems to have been successful in reviving the fishing industry, states a July 7, 1960, dispatch from the United States Consul in Singapore.

Canada

TRAWLERS TO BE PERMITTED TO FISH IN 3-12 MILE ZONE OFF EAST COAST:

Canadian newspapers announced on August 7, 1960, that Canada's Fisheries Act will be amended at the next session of Parliament to permit large otter trawlers to fish in the 3-12 mile zone off Canada's Maritime Provinces on the east coast. The vessels now by law confine their fishing in the area outside the 12-mile limit, while foreign fishing vessels are permitted to fish off Canada's east coast up to the 3-mile limit. The amendment would give large Canadian fishing vessels equal fishing rights with foreign fishing fleets off the coasts of Prince Edward Island, Nova Scotia, and New Brunswick. The present law does not apply to the coast of Newfoundland.

The Canadian Minister of Fisheries in reply to a question raised in Parliament on August 9 as to whether the Government was contemplating a change in present Canadian law which prohibits the larger Canadian trawlers from fishing within 12 miles of the coast of the Maritime Provinces noted that the Government was concerned with the matter and "is studying possible means of remedying this anomalous situation." (United States Embassy report from Ottawa, August 9, 1960.)

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Canada (Contd.):

LAKE ERIE SMELT TRAWL MAY BE ADAPTABLE TO SARDINE FISHERY:

Catches of up to 5,000 pounds of smelt in 10-minute tows have been achieved with an improved combination bottom, midwater, and surface trawl designed by the Industrial Development Service, Department of Fisheries of Canada, and operated in Lake Erie. This development led to the idea of modifying this trawl for the catching of sardines in the Bay of Fundy. Stretched-mesh sizes ranged from 4 inches in the wings and fore section of the body, 3 inches in the second section, and 2 inches in the third section of the body, then one inch in the tapered lengthening piece and $\frac{1}{8}$ inch in the cod end. The net has a square section and the dimensions of the mouth are 30 feet square. The first trials with the sardine trawl were carried out by a 50-foot dragger in the Bay of Fundy near Beaver Harbor, New Brunswick.

The results of the preliminary trials indicate that the trawl has a potential application to this particular fishery. The dragger's captain feels confident that a winter trawling operation on scattered schools of herring when using this gear will create a new source of income for draggers which, otherwise, would be idle.

* * * * *

MECHANICAL DIGGER DEVELOPED FOR SOFT CLAMS:

Considerable success has already been achieved by the Fisheries Research Board of Canada in the development of a mechanical shellfish harvester to replace manual digging operations which are both inefficient and destructive to the small clams which the fishermen leave behind.

It is reasonable to expect that the use of more efficient and less destructive harvesting tools will bring about a long-term increase in clam production.

In order to provide a manually-operated machine within the means of the average fisherman which will operate in places that are inaccessible to the mechanical harvester, a new piece of equipment is being developed. The design and development of the machine are being undertaken by the Fisheries Research Board at its St. Andrews Biological Station in cooperation with the Department of Fisheries' Industrial Development Service.

Cuba

CLOSED SEASONS FOR CERTAIN SHELLFISH REVISED:

By a resolution dated July 11, 1960 (published in the Official Gazette, July 14, 1960), the Cuban National Fishery Institute decreed that the closed season on tortoise and turtle species previously ordered to be in effect from June 15 through August 30, 1960, would be lifted on August 10, 1960, in consideration of the precarious economic situation of the fishermen. A closed season on river shrimp or prawns announced in the Official Gazette of June 30, 1960, is effective from June 15 to August 30, 1960, and on the same date the closed season on spiny lobster (Panulirus argus langosta) was lifted effective June 15, 1960.

In another resolution published in the Official Gazette of June 30, 1960, the Institute ordered a closed season from July through October 15, 1960, on moro crabs (Menippe mercenaria). (U. S. Embassy, Habana, July 25, 1960.)

Denmark

FISHERIES TRENDS, SECOND QUARTER, 1960:

Although statistics on the landings of fish and shellfish in Denmark for the second quarter of 1960, are not complete, it is estimated that landings improved somewhat over the first quarter, but still lagged behind the record set in 1959. Decreased landings of fish for reduction into fish meal and oil were responsible for the drop this year as compared with last year. Low ex-vessel prices for fish for reduction have forced the Danish vessels to turn to fishing for edible fish. A few of the modern steel vessels, which were designed for industrial fishing, have been leased to foreign countries.

Beached Danish fishing boats.

Denmark (Contd.):

The sharp drop in world fish meal prices is attributed partly to Peruvian competition, and the low price for solubles to the poor market in the United States which is Denmark's principal customer for that product.

During April-June 1960, attempts by rainbow trout exporters to stablize the market were unsuccessful. The Association of Trout Producers disbanded after failing to reach a workable agreement on price controls.

In Greenland a new shrimp-canning factory was opened at Christianshaab in mid-June. This new factory will double Greenland's capacity for packing canned shrimp. Shrimp-peeling machines from the United States are being used in the new cannery. (United States Embassy, Copenhagen, report of July 12, 1960.)

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EXPANSION OF GREENLAND'S FISHERIES UNDER CONSIDERATION:

A project for joint Danish-Faroese-Greenlander exploitation of the Greenland fishing banks is currently under consideration, according to a July 31, 1960, press statement by the Director of Royal Danish Greenland Trade. Should the plans materialize, Godthaab would become the base for a fleet of larger fishing boats and trawlers, with the catch to be landed and processed at that port. Only through the development of greater processing facilities, said the Director, could the Greenlanders themselves benefit economically from any extension of their territorial waters, since they lack vessels large enough to exploit the farther reaches of those waters. And inasmuch as the cod, Greenland's principal commercial fish, appears periodically to forsake the coastal waters for the banks, it is feared that without vessels to follow any such move the fishing industry, so vital to Greenland's economy, would be subject to sudden collapse.

The Director estimated that Greenlanders take less than 10 percent of the current catch in Greenland waters, and stated that at present not a single Danish-based fishing vessel is operating there. Faroese fishermen appear to be fairly active there, however. Fragmentary figures cited in the press statement indicate that this season the Faroese and Greenlanders have already taken upwards of 2,500 metric tons of fish in the Sukkertoppen and Egedesminde districts, currently the best Greenland waters for cod.

When the Minister for Greenland recently visited Greenland, he promised that the improvement of fishing facilities would receive top priority in plans for Greenland's economic development, states an August 3, 1960, dispatch from the United States Embassy in Copenhagen.

El Salvador

SHRIMP FISHERY TRENDS, JULY 1960:

Shrimp is El Salvador's third major export (after coffee and cotton), and the bulk of the catch is flown frozen to United States markets.

Despite intermittent talk of possible conservation measures, a new firm with subtantial capital is planning to enter the fishing industry and will probably lead to further development of fishery resources. In another development, the major firm now fishing in El Salvadoran waters is building its own pier and handling facilities at La Union on the Gulf of Fonseca (U. S. Embassy in San Salvador, July 15, 1960.)

Fiji Islands

TUNA CANNERY WITH JAPANESE INTERESTS:

An important planter on Ovalau, Fiji Islands, has reportedly with Fiji Government approval entered into an agreement with Japanese interests to establish a tuna cannery at Lovuka and utilizing the existing wharf and sheds. In this connection, a partner in a Japanese firm recently visited Fiji. It is believed that Japanese personnel would be brought in to operate the cannery and that the fish (mostly tuna) would be provided by one or more of the Japanese fishing companies now operating in South Pacific waters. (United States Consulate, Suva, July 28, 1960.)

France

FISH MEAL AND OIL INDUSTRY AND MARKETS:

French imports of fish meal from the United States and other General Agreement on Tariffs and Trade (GATT) countries are theoretically subject to a 15-percent duty; however, in practice, the duty since 1955 has been 10 percent. The theoretical duty could be reverted to at any time. The duty for fish meal of Common Market origin (German, Italian, or Benalux) was reduced to 8 percent on July 1, 1960, and is due to disappear gradually. From November 5, 1959, to February 29, 1960, the duty on fish meal regardless of its origin was completely suspended. There are no quantitative restrictions on the import of fish meal.

Table 1 - French Imports of Fish Meal

Country of Origin	Quantity Imported		Average Import Price	
	1st Half 1960	1959	1st half 1960	1959
	. . (Metric Tons) . .		(US$ Per Metric Ton[1/])	
Belgium-Luxembourg	90	-	118	-
Chile	792	-	112	-
Denmark	-	534	-	209
Iceland	-	1,384	-	193
Japan	-	565	-	174
Morocco	1,279	9,653	128	150
Norway	4,488	16,971	137	179
Peru	7,938	1,871	127	147
Portuguese territories in Africa	148	1,442	101	160
St-Pierre & Miquelon	191	-	132	-
Tunisia	83	-	82	-
Union of South Africa	302	2,741	170	167
United Kingdom	20	3,461	152	189
Others	251	1,240	-	-
Total	15,582	39,862		

1/Values converted at rate of US$1.00 equals 4.93 new francs.

Halibut oils coming from the United States and other GATT countries are theoretically subject to a 30-percent duty; however, this duty has been completely suspended since 1955. Halibut oils of Common Market origin are exempt from duty. There are no quantitative restrictions on the import of halibut oils.

Oils and fats of other fish coming from the United States and other GATT countries are theoretically subject to an 18-percent duty, but this duty has also been suspended since 1955. Imports from Common Market countries are exempt from duty. Crude herring oils, alimentary fluid oils, and refined oils are still subject to quota restrictions, but other fish oils and fats are free of quantitative controls.

French production of fish meal increased from 6,000 metric tons in 1952, to 8,500 tons in 1955, to 14,000 in 1958, and to 18,000 in 1959. This increase is primarily attributable to a larger supply of raw materials, particularly waste from canning, filleting, etc. Nevertheless, the supply of waste products is limited (less than 20 percent of France's fish production is canned and less than 10 percent is filleted), and further expansion of fish-meal production will depend to a large extent on better methods of collecting and preserving the waste, the level of production activity in the canning and filleting industry, and the possibility of using more whole fish.

While the fish meal produced in France is of an acceptable grade, the principal raw material (waste products) is poor in quality and low in protein content compared with whole fish. The industry has been trying to improve the quality of its fish meal by using a greater quantity of whole fish, and efforts were made in recent years to persuade fishermen to fish for the reduction industry. These efforts resulted in an increase in the amount of whole fish supplied to the industry, but the total quantity remained small compared with the amount of waste products used. Damaged and unsold fish are also used in the production of meal.

The price of whole fish, of course, is much higher than that of fish waste--2.0 U.S. cents to 3.2 cents per kilo (US$18-29 a short ton) for whole fish as compared with 1 cent a kilo for waste ($9 a short ton), and the use of whole fish depends on the price that can be charged for fish meal. The trend toward greater use of whole fish came to an abrupt end in November 1959, when the suspension of the fish-meal duty lowered the price of imported fish meal. In spite of the restoration of the duty in February 1960, competition from low-priced Peruvian fish meal has prevented the industry from renewing its effort to use more whole fish.

Fish oil, a byproduct of the fish-meal industry, is produced in very limited quantities in France, and some of the fish-meal plants discard the oils derived from the production of fish meal. Fish-oil production in 1956 was estimated to be 2,000 to 2,500 metric tons and may have risen to 3,000 tons in 1959.

Table 2 - French Imports of Fish Oils

Type and Country of Origin	Quantity Imported	
	1st Half 1960	1959
	. . . . . (Metric Tons)	
Halibut:		
Norway	1	40
Other:		
Belgium-Luxembourg	21	124
Japan	92	164
Madagascar	-	87
Morocco	1,786	3,259
Norway	291	734
Peru	-	325
Portugal	186	543
Spain	90	30
United States	23	51
Viet Nam	-	71
Other	10	40
Total imports	2,500	5,468

Note: The French customs nomenclature does not distinguish between fish-body oil and other fish oils. In addition to the two categories of fish oils, the customs statistics also show imports of "oils from sea mammals" and "cod-liver oil," which are not included.

Fish meal and fish oils are produced in France by about 20 plants located on the North and Atlantic coasts and in the Paris area. None are situated along the Mediterranean coast. A trend toward concentration has been taking place in recent years, particularly in the port areas where the supply of raw materials can generally support a single plant and no more. However, most French fishery reduction plants are overequipped, and can cope with an irregular supply of raw materials; it is believed that total capacity of the industry is several times actual production.

French consumption of fish meal (about 2.2 pounds per capita) is relatively low compared with such countries as Great Britain (11.0 lbs.), the Netherlands (22.0 lbs.), and Denmark (40.0 lbs.); however, consumption is increasing and it is expected to continue to increase because of the growing demand of cattle breeders, dairy and poultry farmers.

While the industry is probably capable of satisfying the domestic demand for fish meal and fish oil, it is unlikely that production will increase significantly in the foreseeable future because of the lack of further supplies of low-

France (Contd.):

cost raw materials. Imports can therefore be expected to continue and purchases will be made where the most favorable price can be obtained. (United States Embassy, Paris, August 3, 1960.)

French West Indies

UNITED STATES TUNA CANNER INTERESTED IN BUILDING COLD-STORAGE PLANT IN MARTINIQUE:

The Prefet of Martinique in August 1960, had a visit from a group of United States and French industrialists interested in building a cold-storage plant for fish in Martinique, French West Indies. The Americans represented a large California tuna canner and the French represented the French subsidiary of the California firm. The visitors explained that they wish to ship to the United States French-caught tuna coming from off the west coast of Africa, However, in order to avoid the reportedly high costs which would result from shipments in French vessels, they plan to transship in United States vessels. For this, cold-storage facilities at the point of transshipment are necessary. The Prefet said that other United States fish-packing interests had similar arrangements at Trinidad and Haiti.

The Prefet expressed his complete support of the proposal and said that he has requested 100 million old francs (US$203,000) from the French Government to enable the Department of Martinique to put into usable condition a pier and to dredge the approaches in the area where the industrialists plan to build the cold-storage plant, at the eastern edge of the Fort-de-France port area. Next year, he said, as construction on the cold-storage plant gets under way, he will request an additional sum of from 500 million to 700 million old francs ($1.0 to $1.4 million) in order for the Department to build much better dock facilities.

He added that the industrialists were particularly interested in plans now under way for the construction of a new pineapple packing plant in the area where they intend to put up the cold-storage plant. It seems as if it recently has been discovered that fish meal used in animal or poultry feeding is enhanced if mixed with the waste from pineapple packing. (United States Consulate, Martinique, August 13, 1960.)

German Federal Republic

TECHNOLOGIST DEVELOPS NEW METHOD FOR PRESERVING FISH AT SEA:

A technologist of Hamburg, West Germany, has announced the development of a new method of preserving fish aboard vessels. The method would entail the storage of freshly-caught fish in airtight tanks. The air would then be evacuated from the tanks and temperatures reduced quickly to about 1° C. below the freezing point in a vacuum. This process would not only remove gases from the body of the fish but also, through the evaporation of moisture, freeze the surface of the fish to prevent it from drying out and to keep it fresh. In the absence of oxygen, the development of aerobic bacteria would be virtually eliminated.

The cost of a vacuum plant for installation aboard West German trawlers is estimated at about DM600,000 (about US$142,900). A trawler thus equipped would save present expenses for ice and possibly improve the value of its catch by as much as 10 percent.

The Federal Fisheries Research Institute of Hamburg has tested the new preservation method in a shore installation with very good results. The Institute recommends the experimental installation of such a vacuum plant aboard a commercial trawler or aboard a West German fisheries research vessel. (United States Consul in Bremen, August 3, 1960.)

Greece

FREEZER-TYPE TRAWLERS REPORT GOOD CATCHES IN JUNE:

The four freezer-type trawlers fishing off the coast of Northwest Africa (Mauretania), in June 1960, caught and froze 1,300 metric tons of fish. The freezer-trawlers were expected to exceed this amount in July.

The new freezer-trawler Zephyros II returned to Piraeus from the Northwest African fishing grounds about June 1 with 352 tons of frozen fish. (Alieia, July 1960.)

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Greece (Contd.):

SARDINE AND ANCHOVY LANDINGS GOOD IN JUNE:

During June, landings of anchovies and sardines in Greece were very good, according to the July 1960 Greek fisheries periodical Alieia. The fish canneries and salting plants were busy processing the catches.

As a result of the plentiful supplies, ex-vessel prices dropped to 13 drachmas per kilo (about 5.9 U. S. cents a pound) for large anchovies (about 6 inches).

Greenland

SHRIMP INDUSTRY EXPANDS:

Shrimp production in Greenland is expected to double this year with the operation of a new shrimp-processing plant in Christianshaab as part of a large investment.

Later a shrimp plant will be built in Jacobshavn, and there is a proposal to give a private Danish company permission to build a shrimp plant in Godhavn on Disko Island. Fishermen receive 50 to 80 øre per kilo (3.3 to 5.3 U. S. cents a pound) for heads-on shrimp. The shrimp grounds in Disko Fjord are considered to be the world's richest by biologists. They are considered to be inexhaustible because they are steadily replenished by the addition of young shrimp from the ocean. (Fiskeritidende, July 13, 1960.)

Guatemala

JAPANESE COMPANY GRANTED PERMIT TO FISH OFF COASTS OF GUATEMALA:

A Japanese fishing company has been granted a commercial fishing permit for both coasts of Guatemala up to the 12-mile limit for a period of 10 years. The permit includes the following provisions: (1) Fishing operations may be subcontracted with approval of the Ministry of Agriculture. (2) Foreign fishing boats may operate in Guatemalan waters for 6 months before having to secure Guatemalan registration. (3) Refrigerator boats of the company must be Guatemalan-registered. (4) The company must sell to the Guatemalan Government all that the latter may require at prices fixed by the Ministry of Agriculture (but in no case at less than production costs). The company must start operations by August 5, 1961. The company may rent national land for 5 years for warehouses, housing, refrigerator space, etc., and its installations and boats may enjoy concessions under the Industrial Development Law. (United States Embassy, Guatemala, August 11, 1960.)

Hong Kong

GOVERNMENT AIDS FISHING INDUSTRY:

Typhoon "Mary" which hit Hong Kong in June, damaged 123 fishing craft beyond recovery or repair and washed out the oyster beds north of Castle Peak. Rehabilitation loans and grants were quickly made available to the fishermen affected for the purchase of new boats and gear, and in general, fishing operations were soon resumed. Fresh marine fish landings declined successively during the April-June 1960 quarter from March levels.

The Fisheries Development Loan Fund Advisory Committee held its first meeting in April to establish the principles under which fishermen will be enabled to buy through the HK$2-million (about US$350,000) fund Diesel engines, navigational aids, motor winches, and other modern fishing gear. (United States Consulate, Hong Kong, July 18, 1960.)

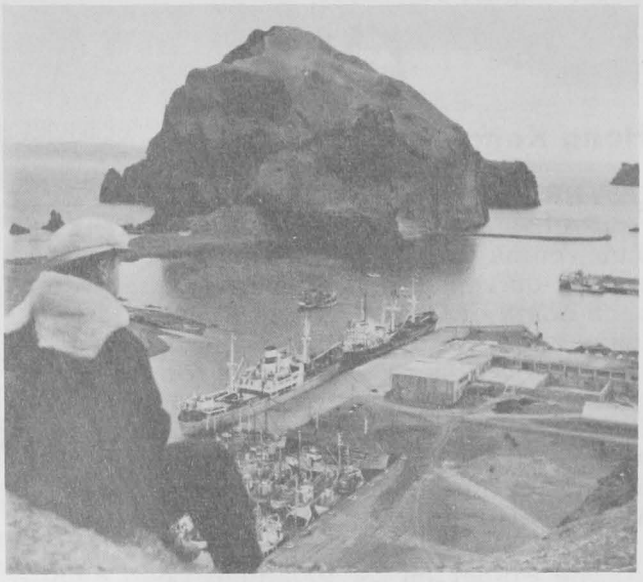
Iceland

FISHERIES TRENDS, MID-JULY 1960:

The Icelandic north coast herring season by July 9, 1960, had far exceeded even the high levels of the 1959 season. The over-all quality of the herring catch has been comparable to last year's. As of July 9, 1960, 48,033 metric tons had been delivered for processing as compared to 21,235 tons for the same period last year. Most of this year's catch (43,861 tons) went to the reduction plants and most of the balance went for salting, except 83 tons exported directly to Denmark on ice. The lean herring was still being processed for meal and oil despite the decline of world market prices for those products, and large stocks stored in Iceland.

Iceland (Contd.):

The controversial new small trawler flounder fishing arrangements within Iceland's 12-mile fishing limits now permit small vessels to bring this catch in to the Westman Islands.



Westman Island, Iceland, fishing harbor, showing vessels at dock and processing plant.

Various plans are being tried in selling this product, including flounder shipments on ice directly to Denmark. This type of landing was protested on July 12 by Danish fishermen. One enterprising Icelandic exporter is shipping the flounder by air in plastic bags to Amsterdam for the Dutch market. The planes also carry other fishery products.

Municipal authorities on the Westman Islands insist that the shipments not take place unless there can be a guarantee of high quality. Flounder shipments, it is understood, must arrive at the market within 36 hours after being caught. Shipment by air in aluminum boxes has been advocated.

Icelandic whaling operations, which are based on a single shore plant, have been progressing quite satisfactorily this season. By July 7, 153 whales had been landed, compared with 128 for the same period of 1959. (United States Embassy, Reykjavik, July 15, 1960.)

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HERRING FISHERY TRENDS, JULY 1960:

During the latter half of July 1960, the Icelandic north coast herring landings began to lag behind the very good landings made during the same period of 1959. As of July 24, about 68,220 metric tons of herring had been landed compared with 77,522 tons by the same date in 1959. A far smaller amount was of good enough quality to deliver for salting--10,090 metric tons as compared with 16,933 metric tons by July 24 last year. Most of the remainder was used for meal and oil.

India

NEW FIVE-YEAR PLAN PROVIDES FOR RAPID EXPANSION OF FISHERIES:

Landings of fishery products in India, estimated at 1.0 million metric tons at the end of the First Plan, is expected to increase to 1.4 million tons by 1960/61 and to 1.8 million tons by 1965/66, according to the Third Plan Draft Outline. Nearly two-thirds of the increased production during the Third Plan is expected from marine fisheries.

A view of the quay-side, Cochin, India, where the fish catch is auctioned. Dugouts shown are traditional small fishing vessels of the region.

The mechanization of fishing craft and development of designs for fishing craft suitable for different sections of the coast were taken up in the First Plan. By the end of First

India (Contd.):

Plan, about 650 boats had been mechanized, mostly in Bombay. Another 850 boats have been mechanized since the beginning of the Second Plan in Bombay, Kerala, Mysore, Madras, Andhra Pradesh, and Orissa. Training in the use and maintenance of mechanized boats is being provided at 9 centers in different states.

During the Third Plan, the program of mechanization of fishing craft will be expanded to effect mechanization of about 4,000 boats. Special emphasis is to be given to the exploration of new fishing grounds and to the exploitation of marine resources through cooperatives as well as through private fishing companies.

Development of fishing harbors and berthing facilities will also be taken up. The provision of refrigerated rail cars and insulated trucks for the transport of fish over long distances has been included in the program. As regards inland fisheries, about 300,000 acres of inland waters have been surveyed, about 13,000 acres have been reclaimed, and over 600,000 acres have been stocked through 1958/59. A training course in inland fisheries and management has also been organized. The program for the Third Plan will include survey of about 300,000 acres, reclamation of 6,500 acres, and stocking of another 200,000 acres, states a July 21, 1960, report of the U. S. Foreign Agricultural Service in New Delhi.

Italy

FISH MEAL AND OIL MARKET:

The domestic production of both fish-meal and fish-body oil in Italy is limited and the annual requirements of those products must be met largely by imports. The annual requirements for fish meal are estimated to be 13,500-14,500 metric tons and for fish-body oil about 7,500 tons. Imports of fish meal in 1959 amounted to 13,258 tons valued at US$2,248,000. Of this amount 6,321 tons (47.7 percent) was imported from Angola. Other suppliers were Norway, Denmark, Portugal, and to a limited extent, Communist China. Imports of fish-body oil totaled 7,780 tons valued at $1,599,000 in 1959. Among the principal suppliers were the United States (1,215 tons) and Norway (965 tons).

Prices c.i.f. Italian port for imported fish meal quoted by the National Association of Feed Producers and the Cooperative Organization of the Agricultural Farmers in July of this year were: Angola fish meal, mechanically-dried, 65-percent protein, $85-87 a metric ton; naturally-dried, 60-65 percent protein, $82-83 a ton; and Peruvian fish meal, 65-percent protein, $84 a metric ton.

Average prices for marine oils (all taxes and fees paid) as of early August this year were as follows: whale oil, 165 lire a kilo (about 12.05 U. S. cents a pound); shark-liver oil, 160 lire a kilo (about 11.68 U. S. cents a pound); sardine oil, 135 lire a kilo (about 9.86 U. S. cents a pound); and cod-liver oil, 160-220 lire a kilo (about 11.68-16.07 U. S. cents a pound).

Imports of fish-meal and fish-body oil into Italy are unrestricted. Duties as of June 30, 1960, applied to the c.i.f. value are 8.1 percent ad valorem for fish meal from European Common Market countries and 9 percent for fish meal from other countries. Other charges or taxes include an administrative fee of 0.5 percent on the c.i.f. value and an Italian Government exchange tax of 3.3 percent on the c.i.f. value. These latter charges are also applied to the c.i.f. value of fish oil imports which are otherwise free of duty. (United States Embassy, Rome, July 22, 1960.)

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SUBSIDIES FOR FISHING INDUSTRY AS OF JUNE 30, 1959:

Italian legislation passed in 1957 authorizes subsidies for fishermen, fishing cooperatives, and fishing concerns up to 40 percent of the cost of new or improved craft, fishing equipment, works and installations for preserving or processing, and transporting products for coastal fishing operations only. As of June 30, 1959, 460 subsidies were granted totaling 786 million lire (US$1,267,000) for investments of 2.2 billion lire (US$3,545,000). Of these, 132 had received actual payment of 176 million lire (US$284,000) for total investments of 459 million lire (US$740,000). (United States Embassy, Rome, July 11, 1960.)

Japan

AUGUST PRICE FOR FROZEN YELLOWFIN TUNA EXPORTS TO UNITED STATES LOWER:

The Japanese Export Tuna Freezers' Association held a meeting of its Directors on July 29, 1960, to discuss the basic export price for shipments of frozen yellowfin tuna to the United States for August. This meeting followed a meeting held on July 25, between this association and the Frozen Foods Export Association which ended in disagreement on the August export price. At the July 29 meeting, the producers voted to make an across-the-board cut of $20 a ton from the US$260-a-ton base price which had prevailed from April to July. The new base price will be US$240 f.o.b. Japan for 20-80 pound gilled and gutted clipper-frozen yellowfin tuna.

The meeting also decided to add the port of Willemstad on the Island of Curacao in the Caribbean to the list of approved ports for transshipment of tuna to the United States. One Japanese fishing company had asked for approval of this transshipment port some time ago.

The $260-a-ton price for yellowfin for the the United States market held up strongly during April and May, but thereafter, as the American purse-seiners continued to make good catches of yellowfin, and the United States canned tuna market softened, the price gradually fell. At present, deals at $235 are considered the usual thing, and for this reason the exporters' association had asked that the price be brought down to $230. Since the producers have agreed to the price of $240, it looks as if the exporters will compromise at that figure. (The Suisan Tsushin, July 30, 1960.)

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BASE PRICE FOR TUNA EXPORTS TO ITALY TO BE REEXAMINED:

The Japan Frozen Foods Export Association's agreed price for export of tuna to Italy is at present US$270 per metric ton c. & f., but it is reported that the actual market has already fallen below $220. Since the spread from the agreed price is so great, sentiment is rising for doing away with the agreed price or establishing a new agreed price consistent with the actual situation. The Association's committee on Italian exports is expected to produce a decision shortly.

At present there is in Italy about 8,000 metric tons of frozen tuna in storage, of which the packers are holding 3,000 tons and the Japanese 5,000 tons, so that there is no prospect at present of the market's recovering. However, there are prospects for Yugoslavia to resume import licensing in September, and in the autumn all of the boats fishing the Atlantic will switch over to albacore and stop catching yellowfin, so the trading companies are hoping that the situation will recover considerably by the end of the year. (The Suisan Tsushin, July 30, 1960.)

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ITALY BUYS FROZEN TUNA ONLY IN SMALL LOTS:

The attitude of the Italian fish-canning industry on purchases of Japanese frozen tuna is showing a big change since the recent sharp drop in the world tuna market. Up through July 1960, they bought entire vessel trips, but in August there were no such purchases. Italy is reported buying in small lots of 5, 10, or 30 metric tons, or as they need the fish. This is because of the accumulation of frozen tuna stocks in Japanese hands, which makes it possible for the Italian packers to buy whenever they need tuna. This accumulation of stocks and the fact that future market prospects are completely unstable have brought about this situation.

Furthermore, at present quality claims are being filed on 50 to 60 percent of the tuna sold to Italy. Second-grade tuna is not, as in the United States, completely discarded, but is used as raw material for second-grade canned tuna. However, the second-grade product is retailed much cheaper than first-grade tuna, 300 lire as compared with 500 lire (48 U. S. cents as compared with about 80 cents) a can. With the increase in second-grade raw tuna, the price for frozen tuna is tending to drop even lower. The discount in price on fish against which quality claims are made has recently been more than 40 percent. (The Suisan Tsushin, August 8, 1960.)

The Vice-President of the Japanese Tuna Fishery Federation stated recently in the Nippon Suisan Shimbun that all of the salmon and mackerel fishermen who want to get into tuna fishing do not realize the real situation in tuna. They all think tuna fishing is profitable, but the fact is that of the 1,800 tuna operators, half are in business difficulties.

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Japan (Contd.):

CANNERS HAVING TROUBLE MEETING CONTRACTS FOR LIGHTMEAT TUNA IN OIL:

According to a Japanese fisheries periodical, the Japanese fishermen are experiencing the worst skipjack season in 10 years or more, and the packers are short on canned lightmeat tuna contracts for Europe. They had hoped that the July 1960 big-eyed tuna landings would help, but that species is not coming in either. It was estimated that for June and July there would be about 100,000 to 150,000 cases that were contracted for but could not be delivered.

Traders are seeking extensions of contracts, but it is thought penalties will have to be paid on most of the contracts as future production prospects are poor.

With an export price of US$6.20 to $6.30 a case f.o.b. for lightmeat tuna in oil, and a domestic price of $6.11-$6.39 a case, the market is somewhat above normal, but as the ex-vessel price of skipjack is staying above 70 yen a kilogram (about $176.00 a short ton), the canners are losing more than 300 yen (about $0.83) a case.

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EDITORIAL HIGHLIGHTS CANNED TUNA EXPORT PROBLEMS:

An editorial ("On Solutions to Canned Tuna Export Problems") in the Japanese periodical Suisan Keizai highlights Japanese canned tuna export problems. The editorial points out that it has been decided to cut the price of canned white meat tuna for export to the United States by $1 a case. There was an earlier cut of $1 at the end of February 1960, which means that within only one year the price of white meat tuna, which was $11 a case last summer, has been cut by $2. This softening of the United States market is reported to reflect the effects of an increase in imports into the United States of third-country merchandise and good tuna catches by the United States tuna fleet. In particular, the invasion of the United States market by third countries was beyond expectations, and it has forced Japanese goods into a stiff competitive struggle. Concerned industry circles appear to consider that by the end of the export year the quantity of third-country goods will be double that of last year.

It has to be admitted, continues the editorial, that this is a depressing development for the Japanese canning industry, which has assiduously cultivated the United States market. The Japanese canned tuna production quota for this year is 2.28 million cases, and with a hold-over of 120,000 cases from last year, this makes a total of 2.4 million cases to be disposed of this year. However, the amount offered for sale as of July 1960, was 1.58 million cases, and a considerable quantity of that is still not contracted for, the amount actually having been disposed of being reported as about 1 million cases. At this time of the year, if things had been going smoothly, 1.7 or 1.8 million cases would have been sold, but the movement of merchandise has been unexpectedly slow and there has been no expansion of sales at all. Consequently, the joint sales company's inventories are just increasing, and appear to have reached about 1 million cases.

The industry is trying to figure out what to do to remedy the situation, according to the editorial. However, in the present buyer's market, with the Japanese industry not in a position to take the initiative in the United States market, there does not seem to be any brilliant solution in sight, and that has led to the $1 cut in the white meat price in an attempt to step up sales. This has been a real headache for the industry, for this year ex-vessel prices for both albacore and skipjack are unusually high, and the canned tuna price cut is making it more and more a situation of "buy high and sell low." Since the price of skipjack is more than twice that of last year, it has brought packing of light meat in oil to a complete stop. It is calculated that with the ex-vessel price of albacore at 120 to 140 yen per kilogram (approximately US$302 to $353 a short ton), $10 a case is barely breaking even. Consequently the recent price cut means that most of the packers are operating in the red.

There is no possibility, as there was last year, of covering the loss with skipjack packing, says the editorial. The tuna canning industry, which has been carefully fostered since the mid-1920's, now has problems. Of course, the industry should get together, and with the trading companies and financial agencies, should get itself into a firm position for the long haul, in order to overcome its difficulties. But may it not be necessary at this juncture to forget about prestige as the biggest canned tuna exporting country in the

Japan (Contd.):

world, and cut back production temporarily in order to put the industry's house in order?, asks the editorial. (Suisan Keizai, July 22, 1960.)

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FISHERIES AGENCY TO REEXAMINE TUNA FISHERY POLICIES:

Tuna fishing is so much a feature of Japanese overseas fishery developments that it is the first thing the Japanese think of when such developments are mentioned. Recently countries of Southeast Asia, such as New Guinea and Ceylon, have been trying to develop their own tuna fishing industries, and within Japan, too, there is a growing desire to change from coastal fishing to tuna fishing brought on by the recent transfer of vessels from the salmon fishery to the tuna fishery. It appears that the Japanese Fisheries Agency, taking this situation into consideration, is getting set for a fundamental examination of the tuna fisheries and a revision of the present licensing policy. When this is undertaken, it is expected that there will be pressure from the Federation of Tuna Fishing Associations.

The moves being made by New Guinea and Ceylon are natural for countries which are backward in fishery technology. Recently the Ceylonese have asked to buy 20 tuna vessels, and the large number of vessels involved has given the Japanese industry pause. At this rate the South Pacific and Indian Ocean tuna fisheries may in the near future cease to be a Japanese monopoly, and the real wish of the Japanese industry is that insofar as possible such requests should be met by despatching Japanese tuna boats.

In Japan, since the authorities permitted the changeover of some salmon boats to tuna fishing, the coastal fishermen have repeatedly made representations to the Fisheries Agency to permit depressed coastal fishermen to also enter the tuna fishery. In short, the tuna fishing industry is facing an important period of change, both at home and abroad, and the situation can no longer be dealt with under the present licensing policy, which has been repeatedly patched up with partial remedies.

At present the Fisheries Agency sections concerned are thinking in terms of the fishermen who have been squeezed out of their fishing grounds by the "Rhee Line" (between Korea and Japan) and those who have lost their coastal fishing grounds because of the mysterious "Minamata" disease. They are also examining new licensing policies which would apply to public fishery corporations which are having business difficulties in various parts of the country. These probably can not, however, be solidified into a plan without considerable dissension. (The Fishing Industry Weekly, July 15.)

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FROZEN TUNA EXPORTS LAG:

Japanese exports of frozen albacore and yellowfin tuna to the United States are almost at a complete standstill. This is attributed to the excellent landings by the California converted clipper-seiners, according to the August 8, 1960, issue of The Suisan Tsushin. Due to the good California yellowfin fishery, it is probable that all United States tuna packers have ample raw material on hand. For this reason Japan's export market for yellowfin in the United States, despite the new export price of $240 a short ton established early in August, is so poor that the agreed price is not being observed. It is reported that offers are already being made at $230, but even at that price there are no sales contracts being made.

The article also points out that because of the good catch, the price of California albacore was recently lowered from $375 to $325 a short ton, but according to advice received by Japanese trading companies, the big California packers have announced that after August 8, they are reducing the price to $300.

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MARKET FOR TUNA VESSELS WEAKENS:

The recent moves in the direction of a revision of tuna vessel licensing policies have produced unexpected repercussions in the Japanese tuna fishing industry, and the progress of events is being watched. Particular attention is being paid to the activities of the subcommittee of the Fisheries Regime Survey Council, which is gathering concrete data for its meeting in September 1960.

The extension of the tuna fishing grounds to greater distances has stimulated construction of larger vessels, and has given rise to excessive competition in the process. This phenomenon has produced various problems, particularly: (1) the cost per ton for larger

Japan (Contd.):

tuna vessels has risen very high, about 270,000 yen (about US$750) per ton for 70 gross ton vessels, 250,000 yen (US$694) per ton for 100-ton vessels, and 230,000 yen (US$639) per ton for 180-ton vessels; (2) under the Special Exemption Law, medium and small vessels were replaced with larger ones, and the total number of operators was reduced, but despite this there was an increase in the catch, though at the same time domestic processors began to suffer a shortage of raw material; (3) in connection with mothership-type tuna operations, there was a tendency for tuna fishing rights to become concentrated in the hands of large enterprises; (4) a rise in costs brought about by construction of larger vessels and changes in working conditions has had a bad effect on distribution and consumption; and (5) a question had arisen with regard to the suitable size of the tuna fleet, and there is great concern over what measures the subcommittee will work out to meet these problems.

Because of these developments, the trade in tuna vessel construction rights, which has been a seller's market, has shown a slow down of buying, and there are some reports that trading in tonnage rights has stopped. (The Suisan Tsushin, August 3, 1960.)

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NEW CANNED TUNA PRODUCT ON MARKET:

A new canned tuna product, "Tender Tuna," which a Japanese processing firm put on the Japanese market late in June 1960, is enjoying good acceptance. Consumption has been about twice as high as expected.

Characteristics which have made the new product a hit with the consumers are: (1) the flavored oil and water sauce in which it is packed can be used in cooking as a flavoring agent; (2) it has a distinctive flavor and a tender texture; (3) it is processed so as to resemble chicken; (4) the tuna meat is packed in the form of blocks; (5) no fish design is used on the label; and (6) it is comparatively cheap.

At present the product is put up in flat No. 2 and No. 3 cans in four different flavored sauces: soy, tomato, stew, and curry. The No. 2 can sells at retail for 55 yen and the No. 3 can for 35 yen (approximately 15 cents and 10 cents, respectively). The Suisan Tsushin, July 20, 1960.)

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PURSE-SEINERS DEMAND LICENSES FOR TUNA FISHING:

A big deputation of seiners from western Japan called on the Japanese Fisheries Agency on August 1, 1960, to demand that operators of about 40 seiners be granted tuna-boat licenses totaling 4,000 gross tons to compensate them for being squeezed off their fishing grounds by the Rhee Line. (The Suisan Keizai, August 2, 1960.)

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SKIPJACK TUNA LANDINGS LIGHT IN KOCHI PREFECTURE:

Skipjack tuna fishing by Japanese vessels from Kochi Prefecture in July 1960 should have been at its seasonal peak, but the catch was very poor. If it continues at this rate, this may be the poorest season ever experienced.

Japan (Contd.):

According to a survey by the Kochi Prefecture Fisheries Department, there are about 400 skipjack vessels in the Prefecture, including part-time skipjack vessels of less than 5 gross tons, and they are principally based at Tosa Shimizu, Usa, and Suzaki. They fish off the Kochi coast, making trips of at most 2 days, and produce from 3,800 to 5,600 metric tons of skipjack each year.

However, this year the vessels of the Tosa Shimizu Fisheries Association landed from January through May only 78 tons of skipjack, less than one-fourth of the 358 tons landed in the same period last year. Other associations, such as those of Usa and Suzaki, also reported landings of $\frac{1}{4}$ to $\frac{1}{3}$ last year's.

The Experiment Station blames the poor fishing on unfavorable oceanographic conditions, among them lower than average water temperatures and a displacement southward of the Kuroshio Current away from the Japanese Islands. (The Fishing Industry Weekly, July 15, 1960.)

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SUPER TUNA LONG-LINER LAUNCHED:

The Japanese super tuna long-liner No. 1 Seiju Maru was launched on August 10, 1960, at a Shimizu shipyard. The vessel, built at a cost of about 260 million yen (US$723,000), was started May 21, 1960, and was scheduled to be completed in mid-September. She has 1,680 cubic meters (59,327 cubic feet) of refrigerated hold space and can carry about 1,000 metric tons of tuna. The No. 1 Seiju Maru is 1,175 tons gross, 67.5 meters (221 feet) long, 11.5-meter (37.7-foot) beam, 5.3 meters (17.4 feet) deep. There is one 150-hp. refrigeration machine and two 100-hp. machines. The main engine is 1,700 hp., giving a speed of 14 knots, and fuel tanks are 510 cubic meters (18,010 cubic feet). (The Suisan Keizai, August 10, 1960.)

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TUNA FISHING VESSEL SENT TO OKINAWA IN JULY:

The Japanese Fisheries Agency, which some time ago received a request from the Government of the Ryukyus for Japanese tuna vessels, decided as of July 1, 1960, to send on charter to Okinawa three vessels, the No. 13 Kaiko Maru (352 tons gross), the No. 28 Yusei Maru (194 tons gross), and the Maguroyama Maru (110 tons gross), the latter vessel to be built in Okinawa.

The Ryukyu Government had asked for the chartering of 3,200 gross tons of deep-sea tuna vessels over a 5-year period, as a means of promoting the fisheries of the Ryukyus. After considering the matter, the Japanese Government decided to permit the supplying of vessels up to a limit of 2,250 tons over a 5-year period, and further decided to send 650 tons by the end of the 1960 Japanese fiscal year. The three vessels are the first part of this tonnage to be sent.

The No. 13 Kaiko Maru sailed for Okinawa late in July, and will be taken over by a local company. Tuna caught in the Ryukyus will be imported into Japan up to a limit of 500 metric tons annually. (The Fishing Industry Weekly, July 15, 1960.)

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TWO MORE TUNA MOTHERSHIPS TO FISH FIJIAN WATERS:

At present two tuna motherships, the No. 3 Tenyo Maru and the Nojima Maru, are operating in the Fiji Islands area. After the wind-up of North Pacific salmon mothership fleet operations, two more ships, the Jinyo Maru and the Koyo Maru were expected to sail for the Fiji area to operate as tuna motherships.

The Jinyo Maru was expected to return to Hakodate on August 5, and arrive at Tokyo before August 10. After unloading salmon, the vessel was to sail for the tuna grounds about August 20. Her fleet will consist of about 50 fishing vessels scheduled to sail from Misaki, and also more than half of the catchers of the Nojima Maru and No. 3 Tenyo Maru fleets will transfer over to this fleet. Planned production is 5,600 metric tons, and the fleet will return to Japan the latter part of November 1960.

The Koyo Maru also was expected to return from salmon fishing about August 5 and to sail for the tuna grounds on August 18. Her fleet of about 60 fishing vessels was expected to arrive on the tuna grounds late in September to take over for the Tenyo Maru, which will return to Japan. The Koyo Maru fleet will fish until next January, when it will again be replaced by the No. 3 Tenyo Maru

Japan (Contd.):

fleet. The production plan is for 5,600 tons. (The Suisan Keizai, August 4, 1960.)

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FROZEN SALMON SHARK EXPORTED TO ITALY:

Large quantities of frozen salmon shark are being exported to Italy as a special product of the Kesennuma area of northeastern Japan. The first inquiries about shark came from Italy to Kesennuma in 1957. At that time the shark was tied in with barter trade for rice and mercury, so the quantity exported to Italy was only 50 metric tons a year, but the product was well received and orders increased rapidly, until this year exports amount to 300 tons. The price of US$245 per metric ton is as good as that for Atlantic yellowfin tuna.

As a result of this development, the so-called "summer salmon shark," which used to be sold cheap for fish cakes, is now bringing 57 to 58 yen per kilogram (about 7 U. S. cents a pound), twice the usual price in the past, and there are even signs of a shortage in the supply. Kesennuma produces 50 percent of the salmon shark caught off northeastern Japan. (The Suisan Keizai, August 4, 1960.)

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EARNINGS BY CATCHER VESSELS IN NORTH PACIFIC MOTHERSHIP SALMON FISHERY:

The last of the Japanese North Pacific mothership salmon fleets was expected to finish operations August 5 or 6, 1960. Despite the reduction in catch quotas this year, the fishing boats have good earnings because of 20-percent higher salmon prices this year over last year, and because the proportion of reds and chums in the catch was higher than normal. It looks as if the catcher vessels will average 18 million yen (US$50,040) for the season. In fleets which had a particularly high proportion of red salmon, some vessels have earnings of 21 million yen (US$58,380). Considering that expenses for outfitting for the season averaged 15 million yen, each catcher vessel is assured a net profit of about 3 million yen (US$8,340). (The Suisan Tsushin, July 29.)

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NORTH PACIFIC MOTHERSHIP SALMON FISHERY SEASON ENDS:

This year's Japanese mothership-type North Pacific salmon fishing has ended. During this year's Japan-Soviet fishery negotiations, the Japanese salmon catch quota was cut by the Soviets from last year's 85,000 metric tons to 67,500 tons. Furthermore, closed areas were enlarged and finally a special area was closed for this year only. The mothership fishery was allocated 54,000 tons of the catch quota as compared with 70,830 tons in 1959, and each fleet's quota was about 4,600 tons.

In addition to this being a year of low abundance of pink salmon, the beginning of the fishing season was delayed by the negotiations. The fleets did not leave Hakodate until May 19 and fishing did not start until May 25. Although the catch quota had been cut, the closing date of the season was set as August 10, and there was some fear that the quota could not be filled by that date because of the expected scarcity of pink salmon. However, fishing was better than expected, and although pinks were certainly scarce, red and chum salmon were abundant. The Japanese salmon fishermen, while admitting that the abundance of Asian pink salmon was at a low level this year, ascribe their poor catches of the species in part to the action of the Japan-Soviet Fisheries Commission in closing some of the best salmon grounds to high-seas fishing and in requiring the use of large-meshed nets, which allow the pink salmon to escape.

According to preliminary estimates by the fisheries trade journals, the total Japanese salmon catch, including that south of the Japan-Soviet treaty area, will be about 120,000 tons as compared with about 154,000 tons in 1959.

The price of salmon was 20 percent over last year's and the boats appear to have done well financially because of their good catches of high-priced red and chum salmon. Even the mothership operators appear to have come through in reasonably good shape, in what was anticipated to be a money-losing season, because of the shorter fishing period.

A total of 12 mothership fleets with 410 catcher boats participated in this year's offshore salmon fishing--4 mothership and 50 catcher boats less than in 1959.

Japan (Contd.):

According to the accounts of the returning fleet personnel, inspection by the Soviets was rather severe. But the Japanese Fishery Agency's patrol boats were also active in citing violators. Seven boats were caught violating regulations. The Soviets had 13 or 14 patrol craft out, and three 500-ton naval vessels. Most fleets seem to have been inspected about seven times. It is reported that especially thorough inspections were made toward the end of the season. (Nippon Suisan Shimbun, August 10, 1960.)

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INCREASED ALLOCATIONS FOR SALMON ROE IMPORTS PROPOSED:

The Japanese Ministry of International Trade and Industry has requested the opinion of the Japanese Fisheries Agency on increasing the foreign exchange allocation for imports of salmon roe in the Japanese 1960 fiscal year. The Fisheries Agency was of the opinion that the increase would have no bad effects on Japanese producers. Up to the present, the allocation has been US$100,000, but if 227 metric tons are to be imported in the 1960 fiscal year, $165,000 would be required, so the Agency will approve the Ministry's scheduled increase of $70,000.

For the 1959 fiscal year Japanese coastal production of salmon roe is not known (it was 220 tons in 1958), but the salmon mothership produced 726 tons. (The Suisan Tsushin, August 2, 1960.)

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SALMON SHARK EXPLORATORY FISHING OPERATION IN NORTH PACIFIC:

According to word received by the Japanese North Pacific Salmon Predator Research Headquarters, the salmon shark fleet (2 long-liners and 4 gill-netters) operating in the Aleutians area had taken a total of 765 shark as of August 9. Examination of the stomach contents showed that 217 shark, or about 30 percent, had eaten salmon. Some of the sharks examined contained 7 or 8 juvenile salmon. The analysis of the stomach contents is being done by an investigator from the Hokkaido Regional Fisheries Laboratory.

The objective of the predator survey fleet is to provide data for the Japanese delegation in the next fisheries conference with the U. S. S. R. However, Japanese fishing industry circles doubt that the expedition will produce results commensurate with its cost of 60 million yen (US$167,000), which is equivalent to the operating costs of a salmon mothership fleet.

According to the North Pacific Mothership Association, in spite of the number of shark taken, there seems to be little likelihood of the survey's producing important data to show how much salmon is being consumed by predators and what the effect of this is on the salmon resources. In this view, the only real result of the investigation is to show where salmon shark occur most abundantly. (The Suisan Keizai, August 12, 1960.)

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BRISTOL BAY FISH-MEAL FACTORYSHIP PRODUCTION AS OF JULY 31:

As of July 31, 1960, the Japanese fish-meal factoryship fleets in Bristol Bay had produced a total of 30,346 metric tons of fish meal. It is expected that they will meet their total production goal of 50,000 tons in the latter part of October. In addition, the fleets have produced solubles, fish oil, salt cod, and a reported total of 13,816 tons of "frozen products." (The Suisan Keizai, August 2, 1960.)

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FISH MEAL PRICES:

The production cost of Japanese factoryship fish meal during the period when loans are being paid off is about US$157 a metric ton. After the loans are paid off, it will be $132 a ton. The 1958 production was all exported at $171, but only about 40 percent of the 1959 production was exported at $172 a ton.

These data were revealed in a study of the world fish-meal situation from the Japanese point of view. The study, made by the Japanese Ministry of Agriculture and Forestry, pointed to the low price of Peruvian fish meal. The study apparently concludes that, while continuing efforts to develop export markets, the meal will have to be sold domestically in some way that will not hurt too badly the small producers of crude meal in Japan.

The study also contains some projections to 1969, when it is estimated that Japan's requirements will be equivalent to 882,000 tons of raw fish.

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Japan (Contd.):

FACTORYSHIP FISH MEAL TO BE SOLD ON DOMESTIC MARKET:

The Japanese Fisheries Agency has for some time been considering the advisability of permitting fish meal produced on Japanese factoryships to be sold on the domestic market in Japan. The Agency in mid-August was expected to announce that such meal may be sold domestically under limitations as to quantity and price. On August 9 the authorities called in a representative of the Saury Council and the Fisheries Agency's Production Division tried to persuade him to accept this decision. The chief of the Agency's Products Section stated that release of the factoryship meal on the domestic market would be permitted as soon as the understanding of the various groups concerned was obtained.

It is certain that the factoryship fish meal cannot be exported because of the softening of the world market, and it is clear that there is no way to overcome the situation but to sell the meal domestically at a price that will not be below cost. The domestic groups concerned, although opposed to domestic sale of the meal, are asking that if it must be sold domestically, it be released at such time as to avoid conflict with the saury season. It is expected that the Fisheries Agency will release about 15,000 metric tons, at an estimated price of 53,000 or 54,000 yen (about US$150 a ton).

During the budgeting of foreign exchange allocations for the second half of the year, the Animal Husbandry Bureau strongly urged the Ministry of International Trade to make an allocation for the import of Peruvian fish meal, but the Fisheries Agency has opposed this, claiming that emergency imports can be made if necessary. The matter is still under negotiation. (The Suisan Tsushin, August 10, 1960.)

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FISHING COMPANIES PLAN TO RAISE POULTRY AND LIVESTOCK:

Three of the largest Japanese fishing companies are planning to establish livestock and poultry farms in Kanagawa Prefecture. One of the companies has already begun construction of a large livestock farm at Atsugi City where some 350,000 chickens, hogs, and cows will be raised. At the same time, the company is planning a feed factory at the newly-reclaimed Daikoku-cho section of Yokohama. Following this example, the other two fishing companies are both planning to build poultry farms at Sagamihara and feed factories at Daikoku-cho. The primary reason, is the steadily decreasing amount of fish being caught by mainland Japanese fishermen. Also, there is an acute fear among the Japanese companies that the restrictions placed upon Japanese fishermen by other countries, principally Russia and Korea, will become greater, thus further decreasing the annual fish catch.

Chicken-raising on a modest scale has proved successful in Japan previously and the fishing companies are apparently planning to have a portion of their stock raised by independent farmers as well as maintaining their own large farms. These announcements have stirred an interest among the present feed-producing companies in the Yokohama-Kawasaki area. One of the largest feed companies in the district has already announced plans to increase its capacity by expanding its present plant in August and five smaller firms in the area are studying similar expansion programs. This development should expand the market for fish meal in Japan as large quantities are used in poultry and hog rations. (United States Consulate in Yokohama, July 14, 1960.)

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KING CRAB MOTHERSHIP RETURNS FROM BRISTOL BAY AFTER FILLING QUOTA:

The Japanese king crab mothership Tokei Maru (5,385 gross tons), which is jointly operated in Bristol Bay by three large Japanese fishing companies, returned to Hakodate on July 19, 1960, with three of her catcher vessels. The fleet operated with good success for a period of 79 days, and the 80,000-case canned crab meat quota was filled in two days less than last year. The fleet commander stated that the catch rate averaged 17.3 crabs per unit of tangle net, 0.9 crab higher than last year.

The United States fleet appeared to have completed 80 to 90 percent of its fishing before the Tokei Maru fleet reached the grounds. The Soviet fleet was operating on the grounds before the Tokei Maru arrived, and is thought to be still fishing there. As for the prospects for the resource, the fleet commander thought it would be all right with the present single

Japan (Contd.):

Japanese fleet operating, but that two fleets would be too much. (Hokkai Suisan, July 25, 1960.)

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HERRING-CRAB FACTORYSHIP REPORTS GOOD CATCHES IN BERING SEA:

The Shinyo Maru, operated by a Japanese firm this year as the first Bering Sea combination herring and frozen crab factoryship, had as of July 20, 1960, produced about 900 tons of frozen herring. At first the herring were small, but in July large 6- and 7-year old fish were taken at the rate of about 25 tons a day.

As of July 18, the fleet had also produced 6,179 cases of frozen king crab. In addition, the operation had produced 309 metric tons of flounder, 57 tons of cod, 11 tons of arrow-toothed halibut, 252 tons of rockfish, and 29 tons of other species. (The Suisan Keizai, July 21 and July 22, 1960.)

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SIX FACTORYSHIPS TO FREEZE FLATFISH IN NORTH PACIFIC:

The 1960 season for the Japanese factoryship flatfish fishery in North Pacific waters began in August, and it was decided that this year six freezerships will participate--Kyokuzan Maru, Otsu Maru, Miyajima Maru, Kashima Maru, Chiyo Maru, and Eijin Maru. Three of these fleets completed operating plans, and applications for fishing permits were made to the Japanese Fisheries Agency. The plans are as follows: Kyokuzan Maru will employ 8 trawlers from the ports of Kushiro and Nagasaki. The factoryship expected to sail from Yokohama on August 20, and planned production is 4,450 metric tons.

The Miyajima Maru fleet, with 5 trawlers, expected to sail at the end of August and planned to produce 4,500 metric tons. The Kashima Maru, with 10 trawlers, expected to sail early in September to fill a production plan of 5,000 tons. The Otsu Maru fleet, with 10 to 12 catcher boats, will produce about 7,000 tons. The Chiyo Maru, sailed about August 20 with 8 fishing boats, and will produce 5,000 tons. The Eijin Maru fleet's plan is similar to that of the Chiyo Maru.

There is some uneasiness about the ability of some of the fleets to fill their production plans, as they will be fishing the same grounds exploited by the fish-meal factorship fleets. The fish-meal fleets are taking about 300,000 tons of fish to produce their 50,000 tons of meal, and the frozen flatfish fleets will be taking about 30,000 tons of fish. Even if they fill their production quotas, there is some concern about the effect on the market. This year 3 of the fleets will fish the Bering Sea and 3 the Sea of Okhotsk. It is considered that 6 fleets is about the limit from the point of view of what the resource will support. (The Suisan Keizai, August 5, 1960.)

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SARDINE CANNERS MAY HAVE TROUBLE MEETING CONTRACTS:

Japanese sardine canners have been awarded bids for 23,250 cases by the Philippine National Sales Company (NAMARCO), and an additional 26,750 cases conditioned on ability to produce. Shipment must be made within 45 days after credit is established. But as of late July, the Japan Sea coast was not producing sardines at all, and if this condition continues into September, the contracts cannot be honored.

The four trading companies had to give NAMARCO 20-percent security money, and if they cannot fill the contracts, this will be forfeited. If none of the contract can be filled, the canners will have to pay about 13 million yen (about US$36,100) in penalties. However, if the canners don't care what price they pay for raw material, they can pack about 10,000 cases.

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FISH CONSUMPTION SURVEY SHOWS TRENDS OF FOOD PREFERENCES:

Some interesting trends in Japanese food preferences are pointed up in a study ("A Survey of the Consumption of Fishery Products") published by the National People's Livelihood Research Association.

In five cities of Japan, 1,910 high-school girls were asked whether they preferred to eat meat and fowl, fish, or whale meat. Of those surveyed, 84.7 percent preferred meat and fowl, and only 22 percent said they liked fish. Only 2.2 percent of the girls expressed a liking for whale meat, and 1.8 percent re-

Japan (Contd.):

plied that they liked neither meat, fish, nor whale.

The study pointed out that the retail price of fresh fish in Japan is by no means low, being higher on the average than in such western European countries as Norway, the Netherlands, and West Germany. Although the Japanese consume more fish per capita than any other people in the world, their consumption of animal protein is the lowest of 26 leading countries. It was found that the high-school girls covered by the survey showed a trend in preference away from traditional Japanese cooking methods in favor of European-style cuisine. (Nippon Keizai Shimbun, July 31, 1960.)

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MACKEREL FISHERMEN CHANGE TO "PORGY" LONG-LINING IN MARSHALL ISLANDS:

There are 24 mackerel pole-and-line fishing vessels in Nagasaki Prefecture, Japan, which have given up fishing in the peak of the season because the distance to the fishing grounds has become too great, and because the heavy catches made by seiners lately have pushed the price of mackerel down to where a pole-and-line vessel cannot make money. These vessels are working as carriers for the seiner fleet or are switching over to long-lining for "porgy" (yellow sea bream).

The owners of the pole-and-line vessels have asked the Fisheries Agency for licenses for lift-net fishing, when the time comes for issuance of new licenses in September 1960, but the hopes for getting these licenses are not bright. Therefore, they are resolving to outfit four vessels of 70 to 80 tons gross as "porgy" long-liners around October 1960 and begin fishing around the Marshall Islands. In this area fish resembling Japanese sea bream and weighing 4 to $6\frac{1}{2}$ pounds each can be caught. An exploratory fishing vessel from Oita Prefecture has already tried this once and had good success. (Nippon Suisan Shimbun, August 1, 1960.)

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OVERSEAS FISHERY OPERATIONS AS OF JULY 1960:

According to a summary of information on Japanese overseas fishery operations by the Japanese Fisheries Agency, there are a total of 57 ventures, using 102 fishing vessels and 2,438 men. In Central and South America there are 16 operations, mainly trawling and tuna fishing, employing 39 vessels and 821 men. In Southeast Asia there are two ventures, using 24 vessels and 487 men. In the Mediterranean, Australia, and elsewhere there are 20 operations with 39 vessels and 1,130 men.

By type of fishery, the largest category is trawling, with 21 ventures employing 34 vessels. Tuna fishing operations, in Central and South America, Samoa, and elsewhere, total 18, with 47 vessels. There are 11 pearl-culturing and shell-gathering ventures in Burma and Australia, one whaling operation in Brazil, one mackerel fishing venture, one bottom gillnet operation, and three programs for technical assistance to coastal fisheries. The ventures in Central and South America are mainly by large-capital enterprises, while those in Southeast Asia and other areas are principally by medium and small operators, with some participation by big companies. (The Suisan Tsushin, July 30).

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SOVIETS OBSERVE JAPANESE FISHERIES CLOSELY:

The Japanese Fisheries Agency inspector who recently returned from the west Kamchatka crab fishing grounds aboard the mothership Yoko Maru has reported that the Russians are diligently studying the fishery situation and are most assiduous in their efforts to find out about the Japanese situation. According to his report, the Soviets do not change inspection personnel every year, as the Japanese do. They assign the same specialists permanently, and these inspectors study their subject very hard and have a detailed knowledge of the situation, appearing to be much concerned about the future. They are not only interested in Japanese fishing, but show a strong interest in the political side and ask many questions on every subject from personnel to policies.

The Russians use cotton nets and are backward in technique, so they want to know everything about Japanese fishing technology. The Soviet fishermen, seeing the difference between their catches and the Japanese, accuse the Japanese of violating regulations. When the Japanese assert that they have stayed on the prescribed grounds, the Russians say the Japanese charts are incorrect. As a matter

Japan (Contd.):

of fact, it appears that the Soviet charts are more accurate, because they are plotting the ships' position by radar, while the Japanese, who use celestial navigation, apparently do make mistakes. However, when the Japanese ask to see the Soviet plotting charts, they will not show them. The only way to persuade them that the Japanese ships are not off limits is to take celestial observations together. (The Suisan Keizai, July 27, 1960.)

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TRAWLERS FIND GOOD FISHING OFF FOREIGN COASTS:

The trawling operations conducted off Africa, New Zealand, and Australia by a large Japanese fishing company from its Shimonoseki base are going well in all areas. Off northwest Africa nearly 1,000 cases of snapper are caught per day's fishing. Of the company's two 1,500-ton trawlers which are working off Africa, the No. 62 Taiyo Maru is scheduled to return to Shimonoseki September 15, 1960, with about 1,000 tons of frozen fish. The No. 63 Taiyo Maru will remain longer in the area, returning to Japan at the end of next January. Therefore the No. 63 Taiyo Maru's catch will be shipped to Japan by freighter, the first shipment being expected at Yokohama in mid-September.

The No. 3 Taiyo Maru (500 tons gross), which has been operating off northern Australia, has completed fishing on her 5th voyage, and was expected to return to Shimonoseki on August 13 with 16,000 cases of fish. Ever since the first trawler sailed to that area in August 1959, landings have been good on every trip. At present it has become a regular routine to take 32 days for the round trip to and from the grounds, and to fill the ship in 30 days of fishing.

The New Zealand grounds also continue to offer good fishing, and the company's three trawlers which operate there, the 750 gross tons Nos. 56 and 57 Taiyo Maru and the 1,490 gross ton No. 61, Taiyo Maru, are continuing profitable operations, taking catches which run steadily about 60 percent snappers. In August, the No. 61 Taiyo Maru was expected to return to its base with about 1,000 metric tons of fish, having completed a total of 8 trips.

With most of the company's trawlers either working distant grounds or acting as carriers for the North Pacific fisheries, the company now has only three trawlers still assigned to the East China Sea, and as two of those were in dock during July, there was only one fishing the nearby Japanese grounds. (Nippon Suisan Shimbun, July 25, 1960.)

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NORTH PACIFIC WHALING OPERATIONS, JULY 1960:

The Japanese North Pacific sperm whaling fleet (No. 2 Zunan Maru) completed its catch quota of 1,600 whales on August 1, 1960, after a 2-months voyage. As of that date the baleen whale fleet (Kyokuyo Maru) had taken 689.83 blue-whale units, out of a quota of 800. Production as of August 1 for the No. 2 Zunan Maru was 12,924 metric tons of sperm oil, 4,384 tons of frozen meat, 1,989 tons of salted meat, and 109,511 pounds of liver oil. For the Kyokuyo Maru it was 9,108 tons of baleen whale oil, 16,489 tons of frozen meat, 537 tons of salted meat, and 93,735 pounds of liver oil. The meat is expected to sell for about the same as last season's Antarctic production, 85,000 yen (US$236) a metric ton.

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WHALING INDUSTRY FAILS TO AGREE ON USE OF FORMER BRITISH FLEET:

On August 1, 1960, Japanese Fishery Agency officials met with representatives of the three Japanese Antarctic whaling companies and the Whaling Association to try to work out an acceptable arrangement for the addition of the recently-purchased British Balaena whaling fleet. The conference ended in failure as the Japanese purchasers of the Balaena fleet will accept no special conditions limiting operations, and the other two whaling companies refuse to accept her on the Antarctic grounds on an equal basis with the present six fleets. (The Suisan Keizai, August 2, 1960.)

Liberia

MARITIME AND INLAND FISHING REGULATIONS PUBLISHED:

The Liberian Department of Agriculture and Commerce has published the first detailed Maritime and Inland Fishing Regulations to go into effect in Liberia. These regulations establish mandatory license fees, authorize the Bureau of Fisheries to prohibit

Liberia (Contd.):

fishing gear harmful to fishing resources, to close any fishing zone because of overfishing, establish mesh regulations, and require monthly reports from the commercial fishing industry. (United States Embassy in Monrovia, August 5, 1960.)

Mexico

SHRIMP FISHERY TRENDS, EARLY AUGUST 1960:

A sudden drop in ex-vessel shrimp prices, reopening of negotiations between boat owners and cooperative fishermen, and a late rainy season were among the noteworthy developments in Mexico's shrimp fishing industry during late July and early August 1960.

On August 4, following lower prices in the United States shrimp market (reportedly due to heavy shrimp landings in Texas), Mexican ex-vessel prices at Carmen-Campeche dropped from 11 to 19 U. S. cents a pound. The sizes most heavily hit were 21-35 count, which dropped 16 cents for 21-25 count, 19 cents for 26-30, and 18 cents for 31-35. The smallest drop (11 cents) was for 51-65 count. The remaining size categories dropped 13 cents a pound. The drop in ex-vessel prices was not so sharp on the Mexican west coast. Prior to August 4, ex-vessel prices at Salina Cruz had averaged 10-26 cents a pound lower than those quoted at Carmen-Campeche.

Ex-Vessel Shrimp Prices at Carmen-Campeche and Salina Cruz, August 4, 1960

Size Count Per Pound	Carmen-Campeche (All Species)		Salina Cruz (Brown Only)
	Independent Vessels	Nonindependent Vessels	
	(U. S. Cents a Pound)		
U/15	68	63	50
15/20	63	63	50
21/25	55	50	42
26/30	47	43	35
31/35	41	39	-
31/40	-	-	26
36/40	36	34	-
41/50	31	29	21
51/65	26	24	-
51/over	-	-	16

The shrimp fishery out of Salina Cruz in early August was in the slack season. The vessels were reported to be averaging around 3,300 pounds for a 12-day trip.

Since the beginning of the closed season on July 16 along the west coast areas of Sonora-Sinaloa, the Guaymas and Mazatlan boats that are still operating have switched to the west coast of Baja California. The trawling season in the Sonora-Sinaloa area was expected to reopen in mid-September.

Carmen-Campeche landings in July improved slightly over those for June. Carmen landings averaged around 1,700 pounds per trip while those for Campeche were about 1,500. The run of white shrimp in this area which started in mid-June passed its peak during the first week in July. Landings at Carmen during the first week of July averaged over 50 percent whites. For the remainder of the month whites accounted for about 30 percent of the landings. At Campeche whites dropped from about 10 percent during the first week to less than 5 percent for the rest of the month. For the month Carmen landings averaged about 50 percent pink and those for Campeche were about 90 percent pink.

Carmen shrimp landings, as usual, were of smaller size than those for Campeche. About 40 percent of the shrimp landed at Carmen were 30 count and under, whereas about 70 percent of the Campeche landings were in this size group.

Negotiations between boat owners and cooperative fishermen on the price of shrimp for the 1960/61 season were resumed late in July. The deadline was August 13 and unless an agreement was reached or another extension arrived at by that date, a tie-up on the part of the fishermen was probable.

The late rainy season along the coasts of Sinaloa and Sonora is likely to produce a smaller crop of shrimp than that of the previous two years--which were record ones for that area. As late as July 15 great expanses of nursery-ground areas were still not covered by water. (United States Embassy in Mexico City, August 15, 1960.)

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FISHERY PRODUCTS REQUIRING IMPORT LICENSES:

Effective June 4, 1960, Mexico has added certain fishery products to the list of products requiring a prior import license from the Ministry of Industry and Commerce. The fishery products included in the list are: (1) crustaceans and mollusks, fresh, chilled, or frozen not specified; (2) preserved tuna, herring, shrimp, crayfish, mackerel, and oysters in airtight containers; and (3) preserved salmon and sardines in airtight containers, weighing with the immediate container up to 5 kilograms (about 11 pounds), provided containers are labeled to indicate contents.

The list of fishery products requiring prior import licenses now includes canned shrimp and other canned fish and shellfish. Smoked, dried, cooked, or salted shrimp were listed prior to the additions made effective by the June 2 regulation.

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IMPORT PERMIT FOR FISH MEAL REQUIRED:

Effective July 15, 1960, fish meal imported into Mexico was placed on the list of articles subject to prior import permits from the Ministry of Industry and Commerce. This restriction includes the free zones and perimeters of the country.

The purpose of this action is to assure that Mexican-produced meal will be utilized before permits will be granted to import foreign meal. It is reported that before this

Mexico (Contd.):

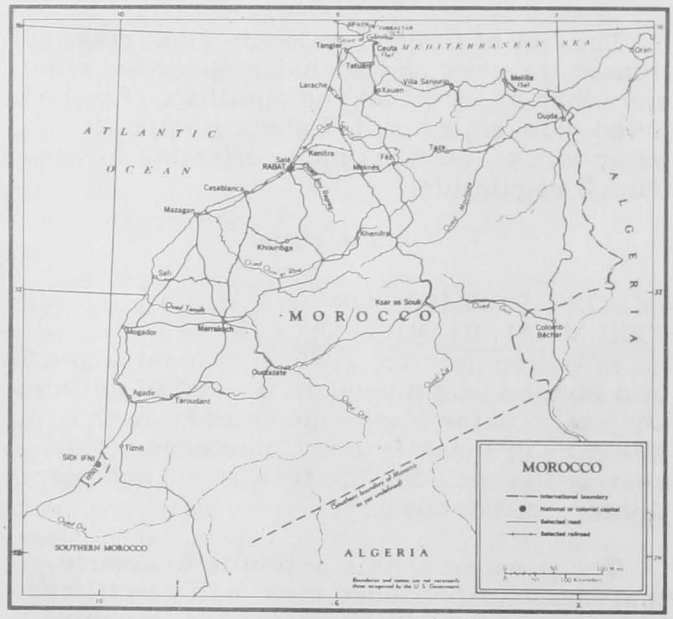
order was issued sanitary permits had been granted for the importation of about 15,000 tons of fish meal (mostly from Peru) since the first of the year. (United States Embassy in Mexico City, August 5, 1960.)

Morocco

FISHERIES TRENDS, APRIL-JUNE 1960:

The Moroccan Central Committee for Marine Fishing met in April of this year to study the problems of fishing in Morocco and to draw up recommendations for presentation to the Government. The subcommittee which examined the status of coastal fishing recommended that construction be begun on trawlers with more powerful motors so that the fishing fleet could keep abreast of the demands of the market. The committee also recommended that studies be begun of the eventual construction of a Moroccan deep-sea fishing fleet. The subcommittee also recommended that the port of Mehdia (Kenitra) be rebuilt because of its location near the most productive fishing banks.

Export figures for canned sardines were announced during the second quarter. The fish-canning industry, which was pessimistic at the beginning of 1960, is now optimistic. The final export total of canned sardines for 1959 was 29,906 metric tons as compared with 26,468 tons in 1958. France was the largest importer of Moroccan canned sardines (12,475 tons, an increase of 60 percent over 1958). Other large importers were West Germany (5,399 tons, up from 2,500 in 1958); British territories in Africa, 1,839 tons; and French territories in Africa, 2,050 tons. The United States imported 885 tons of canned sardines from Morocco in 1959.



Exports of canned fish for the first four months of 1960 showed an increase over the same period of 1959. La Vie Economique of May 20, 1960, without giving specific figures, stated that France remained the principal importer, the devaluation of the "Moroccan franc in October 1959 having enabled Morocco to place its canned fish products on the French market at an advantageous price." Following are comparative export figures for the first four months of 1958, 1959, and 1960:

Canned Product	1960	1959	1958
	(Metric Tons)		
Sardines	6,900	7,000	7,100
Tuna	410	350	600
Other	1,750	650	130
Total	9,060	8,000	7,830

The Federation des Industries de la Conserve au Maroc (the Moroccan Canner's Association) signed a contract during the April-June 1960 quarter with the Soviet Union to deliver 65,000 cases of sardines from this year's catch. In 1959, the canner's association agreed to send 35,000 cases to the Soviet Union, but it was unable to deliver more than 15,000 cases since the contract was not signed until too late in the year.

The fish-canning industry is satisfied with the progress of the 1960 fishing season. The supply of fish has been more than adequate, and, there being no serious labor difficulties, no difficulty is foreseen in meeting the demands of the market. In this connection it has been noted that the earthquake at Agadir in February has not affected the supply of fish in Moroccan waters. It was feared that the earthquake might in some way have upset the natural balance of marine life in that area. The good run of fish this year and studies of the ocean floor, which revealed no major changes, have laid these fears to rest. (United States Embassy, Rabat, July 15, 1960.)

Netherlands

WITHDRAWAL FROM WHALING CONVENTION APPROVED BY PARLIAMENT:

The Netherlands Second Chamber of Parliament on July 13, 1960, passed a bill endorsing Dutch withdrawal from the International Whaling Convention. The actual withdrawal took place in the summer of 1959 after the Whaling Commission had refused to grant the Dutch whaling fleet 8 percent of the 15,000 blue-whale units set as the season's maximum total Antarctic pelagic catch. The Minister of Agriculture and Fisheries stated that in fact the Dutch whaling fleet had caught only 6.7 percent of the total number of blue-whale units in the 1959/60 season, while in the previous season it had caught slightly over 6.7 percent of the quota for that season. (United States Embassy in the Hague, July 15, 1960.)

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TWO BILLS ON WHALING PASSED BY SECOND CHAMBER OF PARLIAMENT:

On July 13, 1960, the Second Chamber of the Netherlands Parliament approved two bills concerning whaling. The First Chamber, however, adjourned on July 26 without considering them, so their enactment could not take place until after the First Chamber reconvened on September 13.

The first bill, consisting of only two articles, ratifies the Netherlands' withdrawal from the International Whaling Convention, 1946. (Netherlands withdrew from the Convention effective June 30, 1959.) The second bill prohibits the taking of whales by Dutch vessels without a permit from the Ministry of Agriculture and Fisheries and provides that the issuance of permits shall be subject to regulations designed to protect whale stocks and to further scientific research in this field. The regulations are to be issued by the Minister of Agriculture and Fisheries and may be repealed or amended by him. A procedure for appealing against the Minister's decision is also provided.

The bill concerning Netherlands' withdrawal from the International Whaling Convention is intended merely to ratify action already taken by the Netherlands Government. Should the Government decide in the future to re-adhere to the Convention, it could presumably do so on its own initiative and then subsequently seek Parliamentary approval, just as it is now seeking such approval for its withdrawal.

The intention of the second bill is to give the Government legal competence to regulate whaling by Dutch vessels, since Dutch whaling is no longer subject to the provisions of the International Whaling Convention or to the regulations of the International Whaling Commission. In explaining the provisions of the bill to the Chamber, Minister of Agriculture Marijnen stated that the Government considers it its duty to cooperate in conserving whale stocks, but he indicated that for the time being there would be no regulations limiting the size of catches or fixing the opening and closing dates of the whaling season.

Debate on the two bills was largely limited to statements by a Socialist member of Parliament known for his interest in conservation. He strongly attacked the Government's withdrawal from the Convention as a coercive measure which did not reflect to the Netherlands' credit in international affairs and characterized the regulations proposed by the Government under the second bill as inadequate for the conservation of whale stocks. (United States Embassy in the Hague, August 1, 1960.)

Norway

FISH MEAL AND OIL INDUSTRY:

Production of fish meal in Norway is based mainly on herring and waste from the fish-filleting plants. As the demand from the rapidly expanding mink farms for filleting plant waste has been increasing, less waste has been available for fish meal. The prices paid by the mink farms for fish waste are substantially higher than those which the fish-meal indus-

Table 1 - Norwegian Production of Fish Meal and Oil, 1958-1959

Product	1959	1958
	(Metric Tons)	
Fish Meal:		
Herring meal	110,000	100,000
Other fish meal 1/	2/	18,900
Total	110,000	118,900
Fish Oil:		
Cold-cleared cod-liver oil	15,900	11,900
Other fish-liver oil	1,400	4,600
Herring oil	40,000	34,000
Total	57,300	50,500

1/Production of solubles included.
2/Not available.

Norway (Contd.):

try can afford to pay. Norwegian winter herring are therefore the principal raw material for reduction into fish meal. The average ex-vessel price for herring in 1959 was 25.75 kroner per hectoliter (1.8 U.S. cents a pound) compared with 21.78 kroner per hectoliter (1.5 cents a pound) in 1958.

During 1957 production of fish solubles was slightly above 2,000 metric tons. Production has been declining since 1957 and it is now negligible. The reason is that the market price for solubles has been low. The reduction plants have found it more advantageous to mix the solubles with the meal, thereby raising the meal's protein content.

The average prices to the principal export markets as of March 1960 were as follows:

Product	US$ a Metric Ton
Fish (herring) meal	131
Fish (herring) oil	48

There are approximately 70 reduction plants in Norway with a capacity of approximately 37,200 metric tons per day of raw material.

Imports of raw herring oil amounted to 39,478 tons in 1959 as compared with 6,632 tons in 1958. No other fish body oils were imported.

With a few exceptions, marine oils may be imported free of duty. There is no duty on the following: crude whale oil, crude sperm and bottlenose oil, crude herring oil, crude seal oil, shark-liver oil, and all fish-liver oils. The rate of duty on marine fats, including spermaceti, is 0.16 kroner per kilogram (1 cent a pound).

All types of marine oils are free of import restrictions except refined fats and refined oils which are subject to import licensing by the Ministry of Commerce. (United States Embassy, Oslo, July 12, 1960.)

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EXPORTS AND IMPORTS OF MARINE OILS AND THEIR PRODUCTS; EXPORTS OF HERRING MEAL, 1959:

In 1959, Norwegian imports of all types of marine oils and byproducts amounted to 56,548 metric tons, valued at almost US$11.0 million. Imports of marine oils exclusively, amounted to 56,547 tons--12,333 tons, or 21.9 percent, of the total was imported from the United States (table 1).

The same year, Norwegian exports of all types of marine oils and byproducts amounted to 186,265 tons, valued at US$40.9 million, of which 757.3 tons, or 0.5 percent were exported to the United States (table 2). The amount of marine-oil exports to the United States may have been greater, but the exact amount cannot be ascertained because certain categories of exports do not show country-of-destination detail.

The United States was the principal buyer of medicinal cod-liver oils, and also bought some residual fish-liver oils.

Norwegian exports of herring meal in 1959 amounted to 71,101 tons, valued

Table 2 - Norwegian Exports of Fish Oils, 1958-1959

Product and Destinations	1959	1958
	(Metric Tons)	
Raw Herring Oil: Total	625	240
Cold-Cleared Fish-Liver Oil:		
Finland	115	126
Yugoslavia	-	48
Czechoslovakia	571	720
East Germany	-	40
Spain	-	60
Greece	-	90
Italy	-	107
Switzerland	-	60
West Germany	155	185
Austria	58	59
Turkey	440	111
Belgium and Luxembourg	-	40
France	-	72
Netherlands	301	335
Canada	-	11
United States	729	642
Mexico	-	69
Brazil	167	180
Colombia	73	31
Peru	-	25
Indonesia	-	34
Israel	-	59
Others	1,514	579
Total	4,123	3,683
Veterinary Fish-Liver Oil:		
Finland	151	173
Italy	545	522
Switzerland	477	534
Sweden	1,449	1,112
Austria	144	154
Belgium and Luxembourg	-	67
Great Britain	101	-
Denmark	1,353	746
Netherlands	147	160
Mexico	-	130
Brazil	106	125
Peru	-	31
New Zealand	56	49
Hong Kong	138	-
Others	836	460
Total	5,503	4,263
Other Fish-Liver Oil:		
Poland	503	506
Czechoslovakia	1,947	4,407
Spain	594	744
Italy	490	740
Sweden	133	185
West Germany	2,158	772
Austria	-	109
Belgium and Luxembourg	-	197
Denmark	-	25
France	137	218
Netherlands	226	161
Great Britain	72	92
United States	-	241
Mexico	260	293
Brazil	465	215
Israel	75	27
Others	1,712	974
Total	8,772	9,906

Table 1 - Norwegian Imports of Marine Oils and Their Products, 1959

Type	Country of Origin	Metric Tons	1,000 Kr.	1,000 US$
Whale Oil, Crude:	United Kingdom	5,429.5	8,565.4	1,200.0
	Japan	2.7	13.9	1.9
	Total	5,432.2	8,579.3	1,201.9
Sperm and Bottlenose Oil:	Peru	50.1	58.1	8.1
	Total	50.1	58.1	8.1
Herring Oil, Crude:	United States	12,110.2	15,393.5	2,156.5
	Denmark	5,909.3	7,387.0	1,035.0
	Sweden	1,860.5	2,086.9	292.3
	United Kingdom	2,112.8	2,499.5	350.1
	West Germany	15,063.8	19,639.1	2,751.3
	Iceland	1,274.9	1,614.6	226.1
	Portugal	371.3	353.7	49.5
	Morocco	100.1	135.1	18.8
	Portugese W. Africa	180.2	170.3	23.9
	Others	495.3	472.3	66.8
	Total	39,478.4	49,752.0	6,970.3
High Potency (Vitamin A), Fish-Liver Oil:	United States	43.1	1,560.7	218.7
	Netherlands	12.3	279.3	39.2
	Union of S. Africa	792.3	1,976.5	276.9
	Japan	106.7	2,436.3	341.3
	Canada	5.4	169.5	23.7
	Others	1.5	2.4	0.3
	Total	961.3	6,424.7	900.1
Medicinal Cod-Liver Oil:	Denmark	511.6	784.8	110.0
	Total	511.6	784.8	110.0
Veterinary Fish-Liver Oil:	Denmark	-	0.1	1/
	West Germany	0.1	0.7	1/
	Total	0.1	0.8	-
Industrial and Mixed Fish-Liver Oil, Pale:	France	17.0	23.1	3.2
	United Kingdom	56.5	77.2	10.8
	Iceland	4,992.3	6,950.1	973.8
	Peru	353.1	331.1	46.4
	Others	0.5	0.8	0.1
	Total	5,419.4	7,382.3	1,034.3
Industrial and Mixed Fish-Liver Oils, Red	Iceland	1,579.7	2,188.4	306.6
	Peru	125.0	126.3	17.7
	Others	0.4	0.9	0.1
	Total	1,705.1	2,315.6	324.4
Residual Fish-Liver Oils:	United States	179.5	98.6	13.9
	Sweden	1,446.0	736.1	103.1
	West Germany	573.9	304.2	42.6
	Total	2,199.4	1,138.4	159.6
Refined Marine Oil Edible:	Iceland	50.0	60.1	8.4
	Total	50.0	60.1	8.4
Other Marine Oils:	Denmark	25.8	26.3	3.8
	West Germany	200.1	1,105.6	154.9
	Union of South Arfica	4.8	107.4	15.0
	Japan	3.6	190.0	26.6
	Peru	505.2	480.5	67.2
	Total	739.5	1,909.8	267.5
	Total Marine Oils	56,547.1	78,406.4	10,984.7
Refined Marine Fats:	Sweden	0.9	1.6	0.2
	Total	0.9	1.6	0.2
Other Marine Fats:	West Germany	-	0.1	1/
	Total	-	0.1	-
Spermaceti, Crude, Pressed or Refined:	West Germany	0.3	1.7	0.2
	Total	0.3	1.7	0.2
	Grand Total	56,548.3	78,409.8	10,985.1

1/Less than US$100.

Norway (Contd.):

Table 2 - Norwegian Exports of Marine Oils, and Their Products, 1959

Type	Country of Destination	Metric Tons	1,000 Kr.	US$ 1,000
Whale Oil, Crude	Total	92,719	131,421	18,412
Sperm and Bottlenose Oil, Crude	Total	13,408	14,890	2,086
Seal Oil, Crude:	Finland	13	22	3
	Sweden	4	7	1
	France	196	304	43
	Italy	5	7	1
	Netherlands	2	3	1/
	West Germany	3,016	4,069	570
	Others	12	22	3
	Total	3,248	4,434	621
Herring Oil, Crude:	Italy	18	22	3
	Czechoslovakia	94	94	13
	West Germany	465	488	68
	Austria	21	25	4
	Australia	27	36	5
	Total	625	665	93
Medicinal Cod-Liver Oil:	United States	729	1/1,552	217
	Finland	115	354	50
	Netherlands	301	592	83
	Czechoslovakia	571	1,193	167
	Turkey	440	1,061	149
	West Germany	155	357	50
	Brazil	167	335	47
	Others	1,691	3,582	502
	Total	4,169	9,026	1,265
Veterinary Cod-Liver Oil:	Denmark	1,353	2,244	314
	Finland	515	306	43
	Sweden	1,449	2,226	312
	Italy	545	825	116
	Netherlands	147	244	34
	United Kingdom	101	159	22
	Switzerland	477	715	100
	Austria	144	229	32
	Hong Kong	138	237	33
	Brazil	106	164	23
	Others	528	1,559	218
	Total	5,503	8,908	1,247
Residual Fish-Liver Oils:	United States	28	21	3
	Denmark	9	8	1
	France	53	35	5
	Italy	79	87	12
	Spain	32	38	5
	United Kingdom	78	53	7
	West Germany	223	124	18
	Brazil	86	102	14
	Mexico	104	114	16
	Others	11	12	2
	Total	703	594	83
Marine Oils, Refined, Edible:	Denmark	158	287	40
	Sweden	77	146	20
	France	231	457	64
	West Germany	406	695	97
	Panama	140	257	36
	Others	14	26	4
	Total	1,026	1,868	261

1/Less than US$1,000.

(Continued on the following page.)

Norway (Contd.):

Table 2 - Norwegian Exports of Marine Oils, and Their Products, 1959 (Continued)

Type	Country of Destination	Metric Tons	1,000 Kr.	US$ 1,000
Marine Oils, Refined, Inedible:	Sweden	41	76	11
	France	375	588	82
	Italy	245	374	52
	Spain	303	523	73
	Switzerland	27	44	6
	Czechoslovakia	950	1,316	184
	West Germany	37	61	9
	Austria	35	70	10
	Brazil	264	424	59
	India	22	35	5
	Israel	13	23	3
	Pakistan	15	22	3
	Others	32	65	9
	Total	2,359	3,621	506
Other Fish-Liver Oil, Except Residual and Brown Oil:	Sweden	133	387	54
	France	137	382	54
	Italy	490	720	101
	The Netherlands	226	1,016	142
	Poland	503	708	99
	Spain	594	1,069	150
	United Kingdom	72	1,296	182
	Czechoslovakia	1,947	2,921	409
	West Germany	2,158	2,920	409
	Israel	75	317	44
	Mexico	260	372	52
	Brazil	465	697	98
	Others	1,712	2,764	387
	Total	8,772	15,569	2,181
Marine Oils of All Kinds, Boiled, Oxidized, Sulphurated, Blown or Polymerized by Heat in Vacuum or in Inert Gas:	Denmark	137	246	34
	Finland	130	246	34
	Sweden	46	94	13
	Belgium & Luxembourg	7	11	2
	West Germany	111	198	28
	Netherlands	76	122	17
	Greece	16	24	3
	Algiers	114	199	28
	Indonesia	14	28	4
	Pakistan	27	54	8
	Others	1/	1	1/
	Total	678	1,223	171
	Total Marine Oils	133,210	192,219	26,926
Edible Marine Fats and Oils, Hydrogenated:	Total	44,651	85,111	11,924
Other Marine Fats and Oils, Hydrogenated:	Total	8,329	14,137	1,981
Spermaceti, Crude, Pressed or Refined:	Italy	11	42	6
	Czechoslovakia	6	27	4
	Poland	6	26	4
	Rumania	2	10	1
	Others	7	31	4
	Total	32	136	19
	Spermaceti, Other Total	32	42	6
	Other Marine Oils and Fats, Crude or Refined Total	11	14	2
	Grand Total	186,265	291,659	40,858

1/Less than 1,000 tons and US$1,000.

Norway (Contd.):

Table 3 - Norwegian Exports of Herring Meal, 1959.

Country of Destination	Metric Tons	1,000 Kr.	US$ 1,000
Herring Meal:			
Sweden	4,601	5,794	811.8
Belgium & Luxembourg	6,125	7,639	1,070.2
France	12,637	15,280	2,140.7
Italy	2,362	2,890	404.9
Netherlands	6,995	8,857	1,240.9
United Kingdom	25,361	31,694	4,440.3
Switzerland	1,077	1,391	194.9
West Germany	5,138	6,444	902.8
East Germany	2,360	3,061	428.8
Austria	1,687	2,077	291.0
Others	2,758	3,364	471.3
Total	71,101	88,491	12,397.6

at US$12.4 million or close to US$174.36 a metric ton. None was shipped to the United States (table 3). (United States Foreign Agricultural Service Report, Copenhagen, April 12, 1960 and July 27, 1960.)

Note: Values converted at rate of 1 Norwegian krone equals US$0.1401.

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FISHERIES TRENDS, APRIL-JUNE 1960:

Total landings from the Norwegian cod fisheries during the second quarter of 1960, declined to 40,475 metric tons from about 63,638 tons for the same period of 1959. Total cod landings January 1-June 18, 1960, were only 111,059 tons as compared with 139,649 tons during the same period of 1959. The five-year average for 1955-1959 was 136,482 tons.

The Parliament on June 2, appropriated 20 million kroner (US$2.8 million) to aid fishing vessel owners who have encountered financial difficulties as a result of the failure of the winter herring fisheries during the last three years. The money is to be used for low-interest loans to the owners for maintenance, repair, and purchase of fishing equipment.

North Norway fishermen have persisted in their demand that the Government should extend the fishing limit to 12 miles. Following the breakdown of the Law of the Sea Conference at Geneva, the Norwegian Foreign Minister stated in the Storting that Norway would in time move to extend its territorial waters for fisheries purposes. West Coast fishermen have objected to this announced delay by the Government. The Minister of Fisheries subsequently indicated in a press statement that it was not likely any extension would occur before 1961. Meanwhile, the Norwegian Government has undertaken bilateral discussions with the United Kingdom on fishing limits. (United States Embassy in Oslo, report of July 19, 1960.)

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WHALING INDUSTRY TRENDS, JULY 1960:

The Norwegian whaling expeditions participating in the 1959/60 Antarctic pelagic whaling season ended operations on April 7, 1960, with production sharply below that of the preceding season. Total whale-oil production dropped from 118,800 long tons in the 1958/59 season to 98,000 tons in 1959/60, and sperm-oil production dropped from 14,000 tons to about 10,600 tons. The drop in production is reported to be due to stormy weather and to declining whale stocks.

No official statement as of mid-July had been made on Norway's participation in the 1960/61 whaling season in the Antarctic. However, newspaper articles have pointed to the possibility of a reduction in the number of Norwegian expeditions because of the generally unfavorable results of the past season. These articles appeared after it had been announced that the International Whaling Commission at its London meeting in June had recommended the suspension of the over-all whaling quota for the next two years, subject to the retention of national quotas.

Although Norway is no longer a member of the International Whaling Convention, the Government nevertheless sent an official observer to the London meeting. As of the end of June the Norwegian Government had given no public indication of its reaction to the Commission's recommendation. (U. S. Embassy in Oslo, July 19, 1960.)

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NORWEGIAN COMPANY SELLS LAND-BASED WHALING STATION:

According to recent press reports, a Norwegian firm of Tønsberg, Norway, has sold its land-based whaling station, Husvik Harbour, in South Georgia, together with the supply ship Teie and two catcher boats. (United States Embassy, Oslo, August 19, 1960.)

Panama

FISH MEAL AND OIL INDUSTRY:

There are two fish-meal plants in Panama, one on Taboga Island and the other at Puerto de Caimito, about 15 miles west of Panama City. Each plant has a capacity of 8 to 10 short tons of raw fish per hour. Both have unloading pumps. The Taboga plant dries by hot air through a cyclone dryer, reputedly the only one in Latin America. The Caimito plant uses indirect heat from steam to dry the fish meal. The cooker and press of the Taboga plant are used equipment from the United States, and the dryer was constructed locally. The machinery of the Caimito plant was all used previously in the United States. Both plants now use settling tanks for separating the oil but expect to install centrifuges to improve the quality of the oil in the near future. The two plants have no plans at present to utilize the stickwater or for the production of fish solubles.

The Taboga plant started with the idea of using the fish caught by the shrimp trawlers, but soon abandoned this as impractical and turned to purse seines for catching anchoveta or "sardina agallona" (Cetengraulis mysticetus) and thread herring or "arenque" (Opisthonema libertate).

In 1959 about 9,500 short tons of fish were processed which yielded an estimated 2,000 tons of fish meal. The composition of the catch used for reduction was about 62.5 percent anchoveta and 37.5 percent thread herring. The processors much prefer the thread herring to the anchoveta as it is easier to work and yields a greater percentage of oil. If the anchoveta is not strictly fresh, it is difficult to press and the resultant meal contains a very high oil content. At times it is impossible to press at all unless mixed with thread herring or very fresh anchoveta. This same complaint against anchoveta was encountered in Venezuela. Neither in Venezuela nor in Panama do the plants use formalin and/or sodium nitrite. It is likely, however, that these preservatives will be used in Panama in the near future.

The fish oil produced by the two reduction plants is sold locally, reportedly for soap making. The producing plants do not analyze the oil. Oil yield varies considerably depending upon the species and condition of the fish. The thread herring, it is claimed, produces more oil than the anchoveta. Recovery of as much as 6 percent, on a raw-fish weight basis, has been reported for thread herring. At times no oil is recovered from anchoveta.

Generally a higher protein percentage is yielded by thread herring meal than by anchoveta meal. Anchoveta meal usually runs between 60 and 65 percent protein and thread herring between 65 and 70 percent.

Table 1 - Analyses of Three Samples of Panamanian Fish Meal

Product	Anchoveta	Anchoveta	Thread Herring
	(Percent)		
Protein	59.0	65.60	67.10
Fats	12.0	4.06	2.75
Moisture	6.7	8.10	6.07
Sand	0.7	0.55	0.13
Salt	0.6	0.23	0.30

The vessels used in the fish-meal industry are factory-owned. Only two vessels were operating in late June as the Taboga plant was shut down for repairs. The Caimito plant has only one purse-seiner, but is purchasing the catch from another vessel at a reported US$10 a short ton. The same price is paid for thread herring as for anchoveta. Paper-lined burlap bags holding 100 pounds of fish meal are made locally and cost 30 cents each.

The price of local fish meal depends upon whether it is sold in small amounts or in quantity lots, and whether it is picked up at the plant or delivered to the buyer's warehouse. One firm quoted a price of 7 U.S. cents per pound for fish oil.

Table 2 - July 1960 Prices Quoted for Fish Meal by Panamanian Reduction Plant

Quantity	Delivered at Plant	Delivered to Customer's Warehouse
	(US$)	
Up to 1 ton	-	140.00
2 to 5 tons	-	135.00
Up to 5 tons	130.00	-
More than 5 tons	125.00	130.00

The Panamanian fish-meal producers are well protected by tariff. Import duty on fish meal is US$0.20 per gross kilo plus one percent of the f.o.b. valuation at port of embarkation. On fish meal valued at $100 a short ton at port of embarkation, the per-ton duty would amount to over US$182.

No severance tax is charged for catching fish for reduction purposes. There are no export duties or restrictions on exports. Although one government source stated that there were no restrictions on imports of fish meal other than duties, the producers claimed that imports are not allowed if local fish meal is available.

In spite of heavy import duties, during 1959 Panama imported about 1,700 metric tons of fish meal and exported about 1,400 metric tons. The producers operated only during part of 1959 and for about five months no local fish meal was available; consequently, imports were permitted. It was reported that supplies of this imported meal were still on hand in late July 1960 and sales of local meal were moving slowly. According to official records, no fish meal was imported during 1958.

The Caimito plant recently installed a pump for unloading fish, but the problem still remains that only 2 or 3 hours at each high tide are available for unloading. The plant is under new management and plans are being considered for providing longer unloading periods and at least two additional vessels for its fleet.

The Toboga plant, during the height of the 1959 season had five seiners working. Three of these have been reconverted to shrimp trawling because of the amount of fish meal on hand and world marketing conditions.

Panama fish-meal producers claim that the local market absorbs less than 1,000 tons of meal a year. Local consumption probably will increase since it is understood that the government is sponsoring programs for increasing poultry and livestock raising.

There appears to be sufficient raw material available for the two Panama plants to supply the country's present and future fish meal needs for some time to come. With the current world price of meal, Panama producers claim they cannot now export at a profit. When marketing conditions improve, Panama should be in a position to export several thousand tons of fish meal a year. It does not seem likely that Panama will ever be able to export large quantities of fish meal since the supplies of raw material appear to be limited, according to a July 29, 1960, dispatch from the United States Embassy in Mexico City.

Portugal

FISHERY TRENDS, JULY 1960:

As of mid-July 1960, the Portuguese fishing season was not sufficiently advanced for accurate assessment of the prospects for 1960. However, the catch on the Greenland Banks, where the cod-fishing fleet was fishing in July, was much more favorable this year. This is welcome news after the poor catches of 1958 and 1959. According to reliable sources, the cod-fishing fleet caught fish at a rate of 50 percent higher than that of the 1959 season, in which the catch was 53,344 metric tons of wet-salted cod. Dried cod was in adequate supply for consumers during the second quarter of 1960 and the press has not reported further incidents of hoarding and sales at prices above those fixed by the government.

Reports from the sardine fishing areas indicated that the catch promises to be a large one again this year, but this will remain uncertain until after the important months of August and September. Preliminary figures on the sardine catch for January-May provided by the Fisheries Commission show a total of 15,314 tons as compared with 11,586 tons for the same period of 1959.

Prices paid for sardines have been higher this year. During the first quarter, the value per ton of the respective catches was about 3,652 escudos (US$127.69) a ton for 1960 as against 2,619 escudos (US$91.57) a ton during the first quarter of 1959. One factor in the higher prices paid this year is the substantial reduction of stocks of canned sardines which had affected the market, particularly in the northern part of the country, ever since the high production years of 1957 and 1958. The reduction of those stocks is a healthy development which should make for a more orderly market.

Canned fish production in the first quarter of 1960 exceeded that of 1959. According to official statistics, 2,295 tons of sardines and 504 tons of tuna were produced as compared with 1,907 tons and 126 tons, respectively, in 1959. Canned anchovy production, however, is less so far this year. Production is thought to be affected by the large volume of 1959 production and exports (6,210.4 tons), and the relatively low prices obtained recently for anchovies. Exports of canned fish declined during the first quarter of 1960, and canned sardine exports were 11 percent less than in the first quarter of 1959.

The Portuguese Government by Decree No. 43056 of July 8, 1960, authorized the Fund for the Renovation and Reequipment of the Fishing Industry to issue its third series of bonds to finance projects under the Second Six-Year Development Plan. The new financing is in the amount of 24 million escudos (US$840,000) and is not earmarked for specific projects, but will assist in the financing of any projects which may have been included in the development plan. (United States Embassy report from Lisbon, July 22, 1960.)

* * * * *

FISHING INDUSTRY RENOVATION AND REEQUIPMENT BOND ISSUE AUTHORIZED:

The Portuguese Ministries of Finance and Navy have published a joint decree (No. 43056 published in the Diario do Governo of July 8, 1960), authorizing the issuance of bonds to a total of 24 million escudos (US$840,000) bearing an interest rate of 4 percent for the use of the special Government Fund for the Renovation and Reequipment of the Fishing Industry. The Fund authority is also authorized to make appropriate arrangements with the Caixa Geral de Depositos, Credito e Previdencia or any other national credit institution for the sale of these bonds either to said institutions or to the public. (United States Embassy, Lisbon, July 21, 1960.)

* * * * *

FISH MEAL AND OIL INDUSTRY:

Production of fish meal in Portugal is small. In 1958, the most recent year for which statistics are available, 230 metric tons of fish meal and 150 tons of fish oil were produced. Both meal and oil are produced almost exclusively from waste of sardine canneries.

The fish meal and oil industry in continental Portugal is an adjunct to the sardine canning industry rather than an industry in its own right. There is no fishing of any importance directly for the reduction plants.

There are no special government aids to the industry and no special taxes or restrictions on foreign trade. As might be expected from the type of production, there are practically no exports. On the contrary, some imported Angolan fish meal is consumed in continental Portugal. There is also a substantial transit trade in fish meal from the Portuguese African provinces through metropolitan Portugal to European countries, chiefly Germany.

It may be of interest to mention the prices currently quoted in Lisbon for Angolan fish meal and oil. Angolan fish meal with a protein content of 60 percent or more, and without a guarantee as to the absence of salmonella, is quoted at about $70 per metric ton f.o.b. Angola. Fish oil is currently quoted at 10.5 to 11.2 U. S. cents (3.00 to 3.20 escudos) per kilo f.o.b. Angola.

Two of Portugal's cod trawlers and four high-seas trawlers have pilot installations on board for the production of fish meal. Annual production of these vessels is estimated by a trade source at about 10 metric tons. (United States Embassy, Lisbon, August 5, 1960.)

Sierra Leone

FISHING INDUSTRY DEVELOPING RAPIDLY:

Tuna: In recent months large schools of tuna have been found in the Atlantic Ocean well outside the territorial waters of Sierra Leone (in West Africa next to Liberia), but within easy reach of Freetown, the capital, states an information release by the Sierra Leone Department of Information.

United States and Japanese tuna fishing vessels have undertaken exploratory surveys in the coastal waters with the result that a large United States tuna canning firm has started buying tuna from Japanese and Spanish clippers in Freetown. The landing and storage are carried out by an Italian firm at Kissy, near Freetown, for ultimate shipment to the United States.

Between January 20 and May 24 this year, 30 tuna vessels arrived in Freetown. At present 29 Africans are permanently employed by the Italian firm for handling tuna.

According to the news release, this could be the beginning of a new industry. If a cannery can be set up in Freetown (which has the best natural harbor in West Africa) and worked with local labor, Sierra Leone canned tuna might one day bring a valuable income from the markets of the world.

The officer-in-charge of the Sierra Leone Government Fisheries Development and Research Unit states that, "the future of the fishing industry in Sierra Leone is tuna; it's a big earning crop and it is highly valuable."

Other Fishery Developments: From an undeveloped industry which mainly consisted of indigenous fishermen going out to fish in small canoes, Sierra Leone's industry has developed into an organized industry. This progress is reflected in the increase in the tonnage and value of fish landings; the techniques, the encouragement by Government of foreign firms, and the benefits accrued from research carried out by the Government Fisheries Development and Research Unit at Kissy, which replaced the West African Fisheries Research Institute in October 1957.

In 1959, landings by ten trawlers were about 273,301 cases of demersal fish, weighing about 2,375 metric tons and having a landed value of £146,796 (US$411,000). The species landed included skate, shark, ladyfish, whiting, gwangwa, sheephead, crocus, snapper, catfish, and sole.

Total fishery landings in Sierra Leone for 1959 are estimated at 23,750 metric tons, compared with an estimate of 5,000 tons in 1945.

In Sierra Leone there has been an enormous increase in the number of fishermen--there are now about 3,000 bonga canoes, where there were only 300 in 1945. Yeligungu nets are now used for bonga fishing as well as the original cast nets, and the latest novelty is the Ghanaian "ali-net."

At Lumley Beach and at Murray Town (about 4 miles from Freetown) trawlers land their catch. In 1945 there were no trawlers in Sierra Leone; now there are 10, some owned by European companies, others by Africans.

The Government encourages foreign investors, especially those who welcome Sierra Leonean participation and provide training facilities for Sierra Leoneans. This policy has yielded good results.

One of the fishing companies participating in Sierra Leone's fishing industry was originally formed in Liberia seven years ago. The company started operating in Sierra Leone in December 1959 when it bought up an Italian firm. Its headquarters are at Murray Town. It owns 3 large trawlers which go out fishing every other day and 2 small ones which fish daily. They go as far as 60 miles down the coast. This company has a staff of 14 Italians and 100 Sierra Leoneans who are employed as fishermen, net menders, carpenters, machinists, mechanics, salesmen, and clerks. It has two stores in Murray Town.

There are other fishing enterprises in Sierra Leone run jointly by foreign and local capital. One example of this is one in Sawpit, Freetown.

Sierra Leone is the only country on the West Coast of Africa which has passed legislation to conserve its fisheries. The Fisheries Development and Research Unit has implemented protective measures to prevent overfishing. Big trawlers are not allowed to fish within one mile of the coast and in any of of the estuaries. The Unit has introduced

Sierra Leone (Contd.):

set nets to charter boats and it conducts fish preservation experiments. In addition, it carries out biological work to assist in the implementation of mesh-size regulations.

Fishing boats 28 feet long built in Ghana are made available to local fishermen by the Unit. Applications are received from local fishermen, and successful applicants are given a loan which they repay under a revolving loan scheme. Local fishermen are also trained by the Unit. The fishing boats are for the development of inshore fisheries. The Unit helps indigenous fishermen with set nets. Those with money buy the charter boats which cost £1,700 ($4,800) each.

Sierra Leone's fishing industry falls into two categories: (1) inshore fishing which consists of the charter boats and the large Italian-type trawlers; and (2) the offshore pelagic fishery for tuna.

A recent successful introduction has been the set net which is now in great demand by Sierra Leone canoe fishermen and promises to be a useful means of increasing their catch rate. (United States Consulate, Freetown, July 27, 1960.)

Turkey

TERRITORIAL WATERS LIMIT SET FOR NAVIGATION AND FISHING:

According to a report published in the Greek fisheries periodical Alieia (July 1960), the Turkish Committee of the National Salvation of the General Gioursel Government has voted a new law for Turkish territorial waters. The law fixes Turkish territorial waters at six nautical miles for navigation and 12 nautical miles for fishing.

Union of South Africa

IMPORTS AND EXPORTS OF FISHERY PRODUCTS, 1959:

In 1959, the Union of South Africa imported almost 11.9 million pounds of fish and shellfish products valued at US$4.1 million. The same year the Union of South Africa exported 132.9 million pounds of edible fish and shellfish products, valued at $28.7 million; 5.8 million Imperial gallons of fish-body and liver oils, valued at $3.9 million; and 219.2 million pounds of fish meal, valued at $13.0 million.

Table 1 - Union of South Africa Imports of Fish and Shellfish Products, 1959

Item	Quanity	Value	
	1,000 Lbs.	£	US$
Fish Fry and Ova:			
Total	N. A.	207	579
From United States	N. A.	90	252
Caviar, Lox, Lobster & Anchovies:			
Total	389.3	112,226	313,672
From United States	1.0	910	2,543
Fish Paste:			
Total	279.8	66,285	185,266
From United States	-	66	184
Sardines in Oil, Canned (Includes Sild, Brisling, and Sildines):			
Total	3,746.9	482,522	1,348,648
From United States	-	-	-
Other Preserved, Canned Etc.:			
Total	1,303.3	164,980	461,119
From United States	27.8	11,902	33,266
Salmon, Canned:			
Total	1,206.1	208,607	583,057
From United States	3.8	1,137	3,178
Fish, Fresh, South African-Caught:			
Total	532.1	131,909	368,686
Fish, Fresh, not South African-Caught:			
Total	450.4	39,665	110,864
From United States	-	-	-
Fish, Dried, Salted and Cured:			
Total	3,384.9	191,682	535,751
From United States	3.1	530	1,482
Fish, Preserved, not Canned:			
Total	582.9	77,524	216,680
From United States	5.9	1,757	4,911
Grand Total	11,875.7	1,475,607	4,124,322
Grand Total from United States	41.6	16,392	45,816

N. A. - Not Available.

Union of South Africa (Contd.):

Table 2 - Union of South Africa Exports of Edible Fish and Shellfish Products, by Country of Destination, 1959

Product and Destination	Quantity	Value	
	1,000 Lbs.	£	US$
Fish, fresh and frozen:			
United States	361.3	19,554	54,654
United Kingdom	1,351.2	82,421	230,367
Australia	10,175.3	608,676	1,701,249
Nigeria	238.9	6,866	19,190
Rhodesia and Nyasaland	6,207.6	289,131	808,121
Mozambique	868.5	26,629	74,428
Angola	619.5	16,651	46,540
Ships' Stores	608.0	49,395	138,060
Mauritius	536.0	24,510	68,505
Others	414.7	18,853	52,694
Total	21,381.0	1,142,686	3,193,808
Pilchards, canned:			
United States	458.5	21,157	59,134
United Kingdom	23,679.6	1,258,656	3,517,944
Ceylon	1,621.2	62,262	174,022
Malaya	8,465.7	413,984	1,157,086
Ghana	12,125.7	686,466	1,918,672
Nigeria	1,246.2	64,513	180,314
Pacific Islands	1,202.0	54,017	150,978
Congo	1,392.7	63,768	178,232
Philippine Islands	24,200.0	1,266,208	3,539,051
Burma	4,152.0	179,003	500,313
Canada	1.5	56	156
Others	7,126.3	376,223	1,051,544
Total	85,671.4	4,446,313	12,427,446
Fish, dried, salted and cured:			
United States	N.A.	3	8
Australia	5,944.0	325,743	910,452
Ghana	1,074.1	44,873	125,420
Mauritius	1,423.5	59,663	166,758
Rhodesia and Nyasaland	501.9	25,308	70,736
Belgian Congo	4,382.9	188,364	526,477
Reunion	134.5	5,991	16,745
Fr. Equatorial Africa	225.0	9,700	27,112
Others	181.8	15,312	42,797
Total	13,867.7	674,957	1,886,505
Spiny Lobster Tails, frozen:			
United States	9,387.5	2,729,979	7,630,291
United Kingdom	80.0	22,000	61,490
Rhodesia and Nyasaland	65.9	20,343	56,859
France	38.1	9,766	27,296
Others	67.5	21,891	61,185
Total	9,639.0	2,803,979	7,837,121
Spiny Lobster, canned:			
United States	185.1	72,912	203,789
United Kingdom	7.5	2,925	8,175
Canada	8.3	3,250	9,084
Belgium	29.8	11,701	32,704
Congo	9.3	3,707	10,361
France	124.4	49,043	137,075
Western Germany	105.7	41,538	116,099
Others	13.7	5,064	14,154
Total	483.8	190,140	531,441
Fish Fry and Ova: Total	N.A.	404	1,129
Fish Pastes: Total	16.5	3,227	9,019
Fish, other--canned, other than canned, etc.:			
United States	2,719.2	123,402	344,909
United Kingdom	591.0	28,307	79,118
Ceylon	148.6	7,506	20,979
New Zealand	566.1	51,451	143,806
Malaya (Singapore)	402.5	46,542	130,085
Ghana	5,300.1	288,315	805,840
Nigeria	115.4	5,390	15,065
Mauritius	431.9	23,741	66,356

(Continued)

Table 2 - Union of South Africa Exports of Edible Fish and Shellfish Products, by Country of Destination, 1959 (Contd.)

Product and Destination	Quantity	Value	
	1,000 Lbs.	£	US$
Br. West Indies	428.2	23,853	66,669
Rhodesia and Nyasaland	876.4	53,365	149,155
Pacific Island	1,293.6	66,701	186,429
Congo	530.4	21,203	59,262
Philippines	3,468.7	167,973	469,485
Venezuela	132.0	6,325	17,678
Liberia	867.6	34,340	95,980
Burma	720.0	30,000	83,850
Others	289.1	18,872	52,748
Total	1,808.8	997,286	2,787,414
Grand Total, Edible	132,940.2	10,258,992	28,673,883

South African imports of fishery products from the United States amounted to US$45,800 or 1.1 percent of the total value of fishery products imported. Exports of edible fish and shellfish products to the United States totaled US$8.3 million. Frozen spiny lobster tails was the principal fishery product exported to the United States; in fact, the United States bought 97.4 percent of those exports.

Table 3 - Union of South Africa Exports of Fishery Byproducts, by Country of Destination, 1959

Product and Destination	Quantity	Value	
	1,000 Lbs.	£	US$
Fishery Byproducts:			
Fish Meal:			
United States	23,510.4	475,383	1,328,695
United Kingdom	79,580.4	1,712,297	4,785,870
Canada	660.0	13,200	36,894
Malaya	9,391.0	234,390	655,120
Kenya	829.4	22,140	61,881
Rhodesia and Nyasaland	11,052.8	243,456	680,460
Congo	514.0	10,941	30,580
France	6,346.6	135,070	377,521
Western Germany	32,664.7	633,620	1,770,968
The Netherlands	8,403.2	161,435	451,211
Italy	1,521.0	38,477	107,543
Yugoslavia	12,462.8	276,476	772,750
Philippines	534.5	11,054	30,896
Israel	29,491.8	626,415	1,750,830
Others	2,204.9	48,325	135,069
Total fish meal	219,167.5	4,642,679	12,976,288
	Imp. Gals.	£	US$
Fish-Liver Oil:			
United States	29,276	12,668	35,407
United Kingdom	3,047	4,613	12,893
Norway	149,303	67,727	189,279
Others	3,102	2,632	7,357
Total	184,728	27,640	244,954
Fish-Liver Oil, concentrated--Total	4,619	18,012	50,344
Fish-Body Oil:			
United States	10,215	4,240	11,851
United Kingdom	5,125,757	1,148,653	3,210,485
Australia	31,693	11,002	30,750
The Netherlands	424,964	105,339	294,423
Italy	27,765	9,882	27,620
Others	8,223	3,278	9,162
Total fish-body oil	5,628,617	1,282,394	3,584,291
Grand Total fish oils	5,817,964	1,388,046	3,879,589

The most important customer for all South African fishery products and byproducts in 1959 was the United Kingdom, which dollar-wise imported US$11.9 million, followed by

Union of South Africa (Contd.):

the United States which imported US$9.7 million. (U. S. Consulate dispatch, Cape Town, June 29, 1960.)

Note: Values converted at rate of £1 equals US$2.795.

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LANDINGS OF PILCHARD-MAASBANKER AS OF JUNE 30 EXCEEDED 1959 SEASON TOTAL:

The Union of South Africa's commercial fishing industry has had exceptionally good landings of pilchards, maasbanker, and mackerel during the current fishing season. Up to the end of June 1960, about 150 vessels landed 300,000 short tons of pilchards and maasbanker, and 27,000 tons of mackerel. The landings through June exceeded the entire landings for the 1959 season which ended on July 31.

The landings by the Union of South African vessels as of the end of June do not include the South-West African landings, usually equal to the Union's. The next pilchard season will begin in Union waters on January 1, 1961, and the maasbanker and mackerel season on November 1, 1960. (United States Embassy, Pretoria, August 11, 1960.)

Union of South Africa and South-West Africa

FISH MEAL AND OIL INDUSTRY TRENDS, JANUARY-MAY 1960:

The production capacity of fish meal and oil reduction plants in the Union of South Africa and South-West Africa is limited by annual quotas on the pilchard-maasbanker catch. The limit in effect this year in South-West Africa is 310,000 short tons for the combined catch of pilchards and maasbanker. The annual quota limit for pilchards and maasbanker in the Union of South Africa still remains at 250,000 tons. In the event that the landings have not reached the quota limit by September 1, it has been the policy of the South African Division of Fisheries to permit the season to remain open until such time as the limit is reached, or to December 31, the close of the quota year. In theory, fishing vessels may continue catching pilchards and maasbanker until September 1 even though the quota has been exceeded before that date. Actually the 1959 season was declared closed on August 14, due to the high proportion of immature fish being landed and it was voluntarily agreed between industry and the Division of Fisheries that the 1960 season close on July 31 because of heavy landings.

Fishing vessels until June 1960 were paid a uniform price of £4.12.6d. per short ton (about US$12.95) in the Union of South Africa for pilchards, maasbanker, and mackerel. Because of the sharp drop in fish-meal prices, fishermen accepted a voluntary 12½-percent reduction for the months of June and July.

Available information indicates that reduction plants in South-West Africa (Walvis Bay) are paying the vessels £4.10.0. ($12.60) a short ton for pilchards and maasbanker this year.

Fish-meal production by the Union of South Africa for the first five months of 1960 amounted to 61,287 short tons as compared with 39,167 tons produced in January-May 1959. Production of fish meal by South-West Africa January-May 1960 totaled 20,381 short tons, an increase of 27.8 percent from the 15,949 tons produced in the same 5-months period of 1959. The production of fish meal during January-May 1960 by both South Africa and South-West Africa totaled 81,668 tons or an increase of 48.2 percent from the 55,116 tons produced in the same period of 1959. Export prices for fish meal c.i.f. United Kingdom as of mid-1960 were about £35.00 per long ton or US$87.50 a short ton.

Estimated production of fish oil from January-May 1960 in the Union is 20,000 long tons and 5,000 long tons in South-West Africa. This compares with 11,159 long tons in the Union and 4,201 long tons in South-West Africa for the same period of 1959. Export prices for fish oil c.i.f. United Kingdom in mid-1960 were about £55.00 a long ton or about US$137.50 a short ton.

Fish-solubles production statistics are not available. A considerable portion of this production is mixed with fish meal. Actual exports of solubles are estimated to be between 2,500 and 3,000 tons per year. The last sale of this item from the Union was made in May 1960 at a price of £45.0.0d. per long ton (about US$126.00 a long ton or $110.50 a short ton) c.i.f. Europe.

Aside from the exceptionally large landings of pilchard-maasbanker made in South African and South-West African waters, another feature of the present season is the good oil yield. It is estimated that the total fish-oil production for the Union and South-West Africa will amount to approximately 75,000 long tons in 1960.

U.S.S.R.

FISHERY CONFERENCE IN RIGA:

During January 7-9, this year, there was a conference in Riga of fishery people from the northwestern part of the Soviet Union and of scientists from all over Russia. The trade paper Rybnoe Hozjaistvo, issue no. 4, 1960, reported that there was good fishing in the Atlantic Ocean in 1959. The catch was 13 percent greater than in 1958 despite smaller herring catches. The average yield, both for herring trawlers and bottom trawlers increased in 1959--"Murmanseld" in Murmansk especially showed good results.

In 1959, 36 medium trawlers each caught over 10,000 hectoliters (930 metric tons) of herring. A trawler from Karelen had the largest catch--12,750 hectoliters (1,186 tons).

The fishing area was enlarged, especially for the medium trawlers, which, in addition

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

to gill-net fishing for herring in the Norwegian Sea also did well fishing with bottom trawls for groundfish and herring in the Western Atlantic, North Sea, and Barents Sea.

Good catches were obtained in the sardine fishery in the central Atlantic. Vessels from Kalingrad and Kherson took part in that fishery.

There were deficiencies and weaknesses in many areas--especially in the utilization and disposition of vessels and raw material. Also organization and experience were lacking in important areas.

The planned U. S. S. R. goals for 1959 were not met. During the first 9 months barely two-thirds of the active portion of the fleet fulfilled the planned quota. The catch of the remaining vessels was, in part, well under the average for the fleet as a whole.

Personnel, especially in the fleet from Kalingrad and Latvia, were unstable and there was considerable replacement. For example, 80 percent of the captains in Kaliingrad's fleet were replaced in 1958/59, and for Latvia there was even greater turnover.

The fishing fleet lost considerable time waiting for the floating factoryships and the motherships as well as when going to and from the fishing grounds. Some of the vessel groups used up to 16 percent of their time in unproductive cruising.

The use of mechanical equipment and fishing gear was not efficient. Expenses were heavy, which led to a significant increase in the cost of fish, especially herring.

The effort to find and utilize new fishing grounds was not given adequate attention. Therefore, too great a concentration of fishing vessels occurred in the Norwegian Sea which led to poorer yields and reduced effectiveness.

The lack of research vessels in the fishery research service hindered, to a great degree, the Kalingrad area in increasing its fishing operations in the central and western parts of the Atlantic.

For 1960, there is foreseen a significant intensification of effort to discover new fishing areas in the northwesterly and central parts of the Atlantic. The scientific institutions--Vairo, Baltniro and Pinro--were given the task of developing a concrete plan, by March 10, 1960, for expanding the herring fishery in the northwestern Atlantic areas together with working out a cooperative method for research. To carry out the work the Murmansk and Kalingrad areas are being allotted four vessels of the "Ocean" type.

To meet the increasing demand for research and to discover new fishing grounds, it is considered necessary to build a series of exploratory vessels and fishery research vessels of the "Orlik" trawler-type which was built in East Germany.

It is also considered necessary to expand international cooperation in the fields of fishery research and regulations for the fisheries--especially an intimate cooperation with Poland and East Germany which are said to have greater experience than the Russians about fishing in the North Atlantic and the North Sea.

A further curtailment of the spring herring fishery is considered worthwhile. In its place a maximum number of medium trawlers will fish in the spring and summer seasons for groundfish and herring in the northwestern part of the Atlantic, North Sea, and Barents Sea. A concrete plan has been developed for organizing the 1960 fishing of the medium trawlers for the ocean perch and herring fisheries in those areas. (Fiskets Gang, July 14, 1960)

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FISHING FLEET ON NEWFOUNDLAND BANKS:

The biggest fishing fleet ever sent by the Soviet Union to the Newfoundland banks is re-

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

ported to have arrived this season, putting in the shade the "traditional" fleets of Portuguese, Spanish, and French vessels fishing there.

A total of 160 Russian vessels with total crews of 25,000 are reported to be fishing in the area.

The result is a renewed appeal from the Newfoundlanders themselves that fleet strength should be limited by the International Commission for Northwest Atlantic Fisheries.

As the Russian vessels bring their own supplies, even the advantage of stocking up in Newfoundland has been denied to the islanders. (The Fishing News, July 29, 1960.)

United Kingdom

NEW INTEREST RATES ON FISHERIES LOANS EFFECTIVE JUNE 20:

The British White Fish Authority announced that, as a result of a recent increase in the rates of interest charged to them by H. M. Treasury, some of their own rates were changed as from June 20, 1960.

The new rates are:--

On loans for not more than 5 years, $5\frac{1}{2}$ percent: no change.

On loans for more than 5 years but not more than 10 years, 6 percent: increase $\frac{1}{4}$ percent.

On loans for more than 10 years but not more than 15 years, $6\frac{3}{8}$ percent: increase $\frac{1}{8}$ percent.

On loans for more than 15 years, $6\frac{1}{4}$ percent: no change.

* * * * *

THREE FREEZER-TYPE TRAWLERS TO BE ADDED TO FLEET:

British distant-water trawler owners, faced by the dual menace of dwindling catches and narrowing fishing limits, are building what promises to be the world's finest fishing fleet of trawlers for freezing fish at sea.

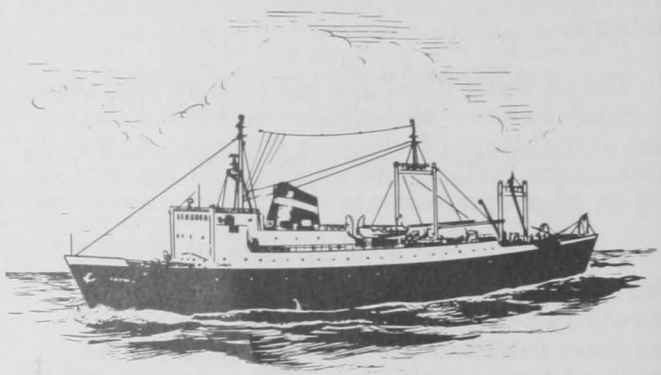
The latest, largest, and most up to date of the vessels has been ordered by a Hull company. She will be the first British side-trawler to freeze the whole of her catch at sea. This means that she will sail farther and can stay out longer, yet her catch will be landed in good condition.

The first all-freeze vessel will be 230 feet in length (214 feet between perpendiculars)--nearly 30 feet longer than the largest British trawlers at present in commission. She will be Diesel-electric powered, and have a hold capacity of 560,000 pounds per trip.

An Aberdeen firm has been given the contract to build the revolutionary new vessel. The vessel will have a freezing capacity of about 49,000 pounds a day. The trawler will be capable of making trips of about four weeks' duration, but it is not certain yet how many men will be carried. The vessel is expected to have a speed of about $14\frac{1}{2}$ knots, and delivery is expected towards the end of 1961.

Two other British companies are already engaged in building freezerships. In September 1959 a Hull firm announced its plan to build a super-trawler of 220 feet in length, which will be named the Lord Nelson. She will be launched from a German shipyard this autumn.

The Lord Nelson will freeze only part of her catch. She will be Britain's first distant-water stern-fishing vessel, as distinguished from the Fairtry factoryship-type vessel.



The Fairtry II, a British factoryship trawler.

A third Hull firm has now entered the field, and has also placed an order for a freezer-trawler. This vessel may freeze all or part of her catch, but details of her size and equipment still remain to be decided. Like the first freezer-trawler, she will be built in Britain.

The three Fairtry vessels also freeze their catch at sea, but they are factoryships of more than 2,000 tons. Double the size of an average trawler, they process and fillet their catch on board. They carry a crew of 50 or more, and stay at sea for three months at a time against the conventional trawlers' average of three weeks per trip. (Fish Trades Gazette, July 9, 1960.)

Venezuela

FISH MEAL INDUSTRY:

Venezuela has five fish-meal plants in operation and two under construction. The operating plants are all located on the Gulf of Cariaco and were installed to handle the waste from the sardine (Clupanadon pseudohispanicos) canning

Venezuela (Contd.):

operations. Four of these plants are located in or near Cumana and one is on the Isla Mariquitar. The total capacity of the 5 plants is about 22 tons of raw fish or fish waste per hour. One of the new plants will be located on the Isla Mariquitar and will have a capacity of 5 tons of raw fish per hour. The second new plant will be a floating reduction plant with a capacity of $7\frac{1}{2}$ tons of raw fish per hour.

Four of the active fish-meal plants have used equipment from the United States. The plant with the smallest capacity was purchased new from Denmark. Three of the plants use steam as a source of heat for drying the fish meal and two use a direct flame process.

The operating plants produce fish meal only and no oil or stickwater is saved. Of the plants under construction, one--being mounted on a barge--is planned for producing both oil and solubles. The solubles will be put back into the fish meal. The other will produce fish meal and oil but no solubles. Both will use indirect heat for drying the fish meal.

Total consumption of fish meal in Venezuela in 1959 is estimated to have been about 7,000 metric tons. Of this amount, 2,300 tons were produced locally and the remainder imported. The production of fish meal in 1959 was up about 10 percent from the 2,100 tons produced in 1958. No fish oil was produced locally.

Imports of fish body oil during the first 11 months of 1959 amounted to 3.5 tons, valued at US$2,460. Of this total the United States supplied 1.1 tons, valued at $1,832 and Norway 2.4 tons valued at $630.

The bulk of the fish meal is from sardine waste from the fish canneries, but some fish meal is produced from tuna waste. In August 1959, the Government permitted the use of whole "rabo amarillo" (Centengraulis edentulus) for making meal. About 1,500 tons of "rabo amarillo" were taken during 1959, but owing to processing difficulties, only about 180 tons of fish meal were produced.

Of the three types of fish meal, that produced from tuna waste yields the highest protein content and that from sardine waste the lowest. Tuna-waste meal generally has 65-70 percent protein. "Rabo amarillo" runs 60-65 percent, and sardine waste from 50-60 percent.

Most of the fishermen in the sardine fishery are on a straight salary basis during the fishing season, the height of

Table 1 - Venezuela's Fish Meal Production, 1955-59

Year	Metric Tons
1959	2,303.1
1958 1/	2,100.0
1957	1,479.6
1956	973.2
1955	859.2

1/Approximation.

which is between November or December through July or August. The fishermen are provided with nets (now nylon) and are paid a daily wage of about US$2.25 a day plus 15 U.S. cents for each trip of fish. The fishermen usually average one or two trips a day and consequently their wage runs between $2.40 and $2.55 a day. The factory supplies the fishing gear and picks up the fish. The fishermen provide the labor and their own food.

The nets are beach seines from about 136.7 yards to 328.1 yards long and 19.7 to 26.2 yards deep. The mesh of the body is $\frac{1}{2}$-inch square and that of the wings 1-inch square. From 10 to 20 or more men are employed for each beach seine.

All fishing is during the day. A lookout is maintained on a hilltop and as a school of sardines approaches shore the fishermen, using non-motored skiffs, are directed from the hilltop on the setting of the seine. The catch, which may run as much as 400 tons but usually between 15 and 30 tons, is towed to the beach and maintained there alive either in the seine in which it was caught or in a smaller net. If additional fish are caught before the first catch has gone to the cannery the later arrivals are incorporated with the earlier by bringing the net and catch around the first impounded fish and removing the inner net. By this means, if fishing is good, some fish may be in the impoundment for two or three months. The fish are transported to the cannery at night either in motor launches or in barges towed by motor launches.

The "rabo amarillo" is captured in the same fashion as the sardine. It is not taken in the Gulf of Cariaco but along the north shore of the Peninsula de Araya and around the Islands of Coche and Margarita. For "rabo amarillo" the fishermen are paid 25 to 30 bolivars (US$7.51-9.01) a metric ton. The nets are furnished by the plant.

If a cannery does not have reduction equipment or if its equipment is not operating, the usual practice is to send the cannery waste to another plant where the processing is done for 50 percent of the meal produced.

The Venezuelan Government does not permit the use of whole sardines for making fish meal. Until 1959 (with the exception of a few months in 1957) the use of any whole fish for making fish meal was prohibited. In 1959, after the sardine season was about over, the Government, in attempting to encourage greater fish-meal production, allowed the use of whole "rabo amarillo," "machuelo" (Opisthonema oglinum) and bagre (marine catfishes) for meal production.

Table 2 - Venezuelan Fish Meal Analyses

Product	Tuna Waste	"Rabo Amarillo" (Whole)	Sardine Waste	Sardine Waste
	(Percent)			
Water	5.9	7.8	6.9	7.1
Protein	68.0	62.3	53.8	56.8
Fat	7.6	9.0	6.4	15.5
Fiber	0.5	0.7	0.6	0.7
Nitrogen-free extract	4.9	0.0	5.6	0.4
Ash	13.1	20.2	26.7	19.5

Import duty on fish meal is high. It is 0.15 bolivars per gross kilogram, which amounts to over US$41 per gross short ton. Import duty on fish oil (not including cod-liver oil) is also high at 1.20 bolivars per gross kilogram which is over US$0.16 per gross pound.

Meal in large amounts sells for 500 bolivars a metric ton and in small amounts for 560 bolivars. These prices are f.o.b. plant and amount to about US$132 and $152, respectively, a short ton. It is understood that locally-produced meal must first be used before meal can be imported.

Although no fish meal is exported from Venezuela, there are no export duties or restrictions on the export of fish meal or fish oil. No severance taxes are charged for catching fish for meal or for canning.

One of the two plants under construction will be mounted on a barge and based at Isla Coche. The equipment for this plant is used machinery of conventional design purchased in the United States. Plans call for producing oil and concentrating the stickwater and putting it back into the fish meal. The fish meal will be dried by indirect heat produced by steam. The principal source of raw material will be "rabo amarillo."

The processing machinery for the Punta de Piedras plant is locally designed and is being constructed locally. The design is somewhat revolutionary in concept in that it is understood that the fish, chiefly "rabo amarillo," will be cut by hand, cooked, drained, pressed under cloth and dried on a

Venezuela (Contd.):

Table 3 - Venezuelan Fish Meal Imports, 1955-58 and First 11 Months of 1959

Country of Origin	11 mos. 1959		1958		1957		1956		1955	
	Metric Tons	Value $1,000	Metric Tons	Value $1,000	Metric Tons	Value $1,000	Metric Tons	Value $1,000	Metric Tons	Value $1,000
United States	3,136	517	1,583	271	443	70	99	15	110	10
Canada	-	-	-	-	828	155	404	78	1,805	359
Denmark	-	-	-	-	-	-	900	84	400	69
Sweden	-	-	-	-	-	-	500	66	-	-
Chile	-	-	452	64	97	15	-	-	-	-
Peru	602	103	401	49	380	45	-	-	-	-
Portugal	-	-	138	20	-	-	-	-	-	-
Mexico	466	75	-	-	-	-	-	-	-	-
Other 1/	-	-	-	-	25	4	5	1	20	5
Total	4,204	695	2,574	404	1,773	289	1,908	244	2,335	443

1/Includes 20 tons from Norway in 1955 and 5 tons in both 1956 and 1957, plus 21 tons from Panama in 1957.

conveyor mechanism under indirect heat. Half way through the conveyor the drying product will be given one turn. On completion of drying, which will take about one hour, the product will be double milled and sacked.

According to the designer the drying mechanism will serve a dual purpose. In addition to drying meal it will be used to precook sardines prior to canning. The immediate use, however, will be for drying fish for meal from "rabo amarillo" and machuelo. The canning machinery will be installed at a later date.

The local Venezuelan market now consumes about 7,000 metric tons of fish meal a year. At present fish meal is sold at a fixed price per ton irrespective of protein content. The same price is paid for 50 percent protein fish meal as for 70 percent. It is expected, however, that this procedure will change in the near future and prices will be based on actual protein value. Current annual production of meal is 4,000 to 5,000 tons below annual consumption. Government policy is protectionist and is encouraging meal production.

The Government is sponsoring programs for increased egg, hog, and cattle production which should, as these programs develop, stimulate increased fish-meal consumption.

Waste from sardine and tuna canneries has been able to produce less than half the fish-meal requirements of the country. There is little likelihood that there will be any great increase in fish-meal production from these sources in the immediate future, and it is unlikely that the use of whole sardines for making fish meal will be permitted.

However, there appear to be relatively large resources of "rabo amarillo" and "machuelo" which probably can supply the local fish-meal demand for the immediate future. The plants, in their initial experiments with "rabo amarillo," encountered technical difficulties in processing this fish when it was not extremely fresh. It is believed, with proper technical direction, that these difficulties can be overcome. Consequently it is anticipated that within the next few years Venezuela probably will be self sufficient with respect to fish meal.

It is unlikely, owing to fishing methods and production costs, that Venezuela will be in a position to export fish meal in the foreseeable future. (American Embassy, Mexico, D.F., July 29, 1960.)

ALGAE BANK GETS FUNDS FOR NEXT FIVE YEARS

An algae "bank" of more than 800 strains, studied as a possible food to meet the threat of overpopulation, will be supported by a grant of $34,600 for the next five years from the National Science Foundation. The research is being carried on at Indiana University.

The algae are grown in glass tubes in a constant temperature under continuous fluorescent lighting. They are studied as a food and used in genetics research. They may possibly be grown on future space flights as food for space travelers. Science News Letter, April 2, 1960.