International

FISH OIL

WORLD EXPORTS, JANUARY-JUNE 1963-64:

Exports of fish and fish-liver oils from the major exporting countries totaled 198,700 short tons in January-June 1964, down 11 percent from the 223,500 tons exported by the same countries in January-June 1963. The major exporting countries shown in the table below accounted for 92 percent of total estimated world trade in fish oil during 1963.

Gross Exports of Fish and Fish-Liver Oils from Selected Countries, January-June 1964 with Comparisons

Country	Jan.-June 1/1964	Jan.-June 1/1963	1/1963
	(1,000 Short Tons)		
Canada	7.6	2.4	6.4
United States	28.1	48.9	131.2
Chile	5.3	11.4	12.7
Peru	76.0	82.2	121.3
Denmark	14.5	9.0	22.9
West Germany	6.0	8.3	19.7
Iceland	17.5	22.4	71.2
Portugal	3.6	6.0	10.5
Angola	5.1	1.8	3.4
Morocco	1.8	2.9	5.7
South Africa Republic (incl. S.-W. Africa)	33.2	28.2	35.3
Total	198.7	223.5	440.3

1/Preliminary.

The United States, Peru, Chile, and Iceland were primarily responsible for the decline in fish oil shipments. Among the countries to register an increase in shipments during the January-June 1964 period were Denmark, South Africa, Canada, and Angola. (Foreign Agriculture, U. S. Dept. of Agriculture.)

FISHING VESSELS

INTERNATIONAL MEETING ON WOODEN FISHING VESSEL DESIGN AND CONSTRUCTION:

An International Meeting on Structural Research on Wooden Fishing Vessels was held September 15-18, 1964, in Copenhagen, Denmark, with 40 participants from 15 countries. The Meeting was convened by the Danish Wood Council in cooperation with the Fishing Boat Section of the Food and Agriculture Organization.

Subjects discussed at the Meeting included: (1) functional demands and strength requirements for fishing vessels; (2) principles of design specially concerning smaller fishing vessels; (3) methods of constructing wooden fishing vessels; and (4) materials used in wooden shipbuilding.

The participants agreed that careful consideration should be given to new design principles, such as shell construction, with a view to simplifying the construction of strong vessels. In this respect, the influence of hull shape on the strength of vessels was stressed. During the discussion of fishing vessel construction it was pointed out that cost was an important factor as to whether improved construction methods proposed by experts could be adopted.

The Meeting considered at some length the problems of bent-frame construction versus sawn-frame and laminated-frame construction methods. A floor discussion among the participants at the Meeting revealed that national preferences play an important part in wooden fishing vessel construction methods. Bent-frame construction is well established in the United States and Canada, but builders in other countries have some reservations about its use. Nevertheless, considerable interest was shown in the possibility of lowering hull construction costs by the use of bent-frame construction. The use of laminated frames was generally favorably commented upon. Laminated frames may not reduce costs in those countries where bent-frame construction is well established for vessels under 80 to 100 feet in length. But in Norway, which has traditionally used sawn-frame construction, good results are being obtained with laminated framing for vessels in the 50-foot range.

The main theme of the Meeting concerned research on scantling schedules for vessels. Those schedules set forth the size of structural materials required in a vessel in order for it to have seaworthy rating. In the past, scantling schedules have usually been related to the dimensions of a vessel and there has

International (Contd.):

been some variation in the requirements from country to country.

An important conclusion of the Meeting was that a nondimensional approach to scantling schedules should be encouraged. It was recommended that scantling requirements should be based on expected strains and stresses applicable to diverse methods of construction. Other conclusions of the meeting concerned international cooperation in scantling research.

The Meeting was attended by participants from Canada, Denmark, England, France, West Germany, Iceland, Ireland, Italy, Japan, Norway, Portugal, Scotland, Sweden, Turkey, and the United States. (Regional Fisheries Attache for Europe, United States Embassy, Copenhagen, December 2, 1964.)

Note: See Commercial Fisheries Review, Sept. 1964 p. 64.

EUROPEAN ECONOMIC COMMUNITY

FISHERY POLICY DECISION MADE BY COMMISSION:

A Decision by the European Economic Community (EEC) Commission on the fishery policy of the Common Market was made on July 30, 1964, and was to have become effective November 1, 1964. Later, amendments to the Decision postponed the effective date to January 1, 1965, and also clarified certain articles of the July 30, 1964, Directive and Decision of the EEC Commission. One of the amendments had been made at the request of the German fishing industry to make it clear that frozen fish blocks were covered by the Decision.

The Decision relates to the establishment of a special method of administrative cooperation for the application of intra-Community treatment to products of the fish catch by vessels of Member Countries.

France had originally notified the Commission it was unable to conform to the Commission Decision. In defending their inability to live up to the Decision, the French stated the inequalities of social and safety regulations for the fishing trade. The French were given some additional time in which to explain their views but the Commission subsequently rejected the French request to postpone the application of the EEC fishery directive allowing direct importation of the catch of Member State fishing vessels into any EEC country. As of December 12, 1964, the Directive and Decision of the EEC Commission was in force. Commission sources, however, indicated they might not be fully complied with.

CEE ⊖ EWG ⊖ EEG **D.D.5**

CERTIFICAT DE CIRCULATION DES MARCHANDISES — WARENVERKEHRSBESCHEINIGUNG
CERTIFICATO PER LA CIRCOLAZIONE DELLE MERCI — CERTIFICAAT INZAKE GOEDERENVERKEER

A 000000

A. ATTESTATION DE LA DOUANE

Le fonctionnaire des douanes soussigné certifie que les conditions prévues par la législation ..... sont réunies pour que les produits pêchés et, le cas échéant, traités ensuite par le navire désigné ci-après :

Nom et type du navire : .....

Numéro d'enregistrement ou d'immatriculation : .....

Port d'attache ou d'armement : .....

Armateur : ..... (nom ou raison sociale et adresse complète)

soient considérés comme originaires de ..... (Etat membre) au sens de l'article 9, § 2, du Traité.

Bureau de douane de .....

Cachet du bureau

Le ..... 19....

(Signature du fonctionnaire)

B. DECLARATION DU CAPITAINE

Je soussigné ..... (nom et prénom) capitaine du ..... (nom du navire)

déclare que les produits désignés ci-après :

Nombre et nature des emballages (1)	Désignation des produits	Poids brut

ont été pêchés par ledit navire.

L'établissement du présent certificat a été relaté à la page ..... du livre de bord.

Fait à ....., le ..... 19....

(Signature du capitaine)

(1) Le cas échéant, indiquer „en vrac".

D.D.5 Trading Certificate used to obtain Community treatment on fish products.

For Community trade in fishery products, the European Common Market had previously been unable to adopt a common fishery policy. However, by the application of the Rome Treaty intra-Community trade has been liberalized by tariff reductions and by the total elimination of quotas on most fish or fish products, or at least enlargement of the few remaining quotas under Article 33-34 of the Rome Treaty. This means that intra-Community trade has a preference over external fish imports. In order to be designated as fish for which Community treatment is to be applied, each Community fishing vessel up to now has had to return to a port of its home country and obtain a customs statement. With this statement the fishing vessel can then go and sell its fish catch in any Member State port.

International (Contd.):

Certain Community fishing interests--French tuna fishing vessels selling to Italy, Dutch herring fishermen selling to France, and German frozen fish block factoryships--all wanted to be able to go directly to other Member State ports without first stopping in their home countries to get the necessary certificates of origin. The present decision allows fishing vessels to present a specified form (Form D.D.5) and obtain Community treatment for their fish. The fish may be "either as is, or after having been subjected to a simple process to ensure preservation." Germany has requested the Commission to define broadly the meaning of that descriptive phrase, but the Commission has not acted on it. The Decision includes warehousing in associated States or territories: Greece, Turkey, and the African Associated States, etc.

Form D.D.5 only gives the fish or fish products the right of entry and Community treatment. It does not change any other Member State fishery laws or practices, so that the catches so entering cannot obtain the right to be sold at the fish auctions of unloading ports and are subject to embargoes under national minimum price plans. France notified the Commission in early September that imports of herring would be stopped when the price goes below the French minimum price. Thus catches entering another Common Market Member State port must be ordered in advance for it to be worth a captain's risk to unload there.

The Decision made by the EEC Commission is limited and a common fishery policy does not seem about to happen. A Commission source indicates they do have a general outline of a common fishery policy, but the most encouraging element was the probability of appointing a new director just for fishery matters.

In the discussion with the French on this matter, the Commission promised to attempt to accelerate the work on a common fishery policy. (United States Mission to European Communities, Brussels, November 20, December 8 and 9, 1964.)

GREAT LAKES FISHERY COMMISSION

EXTENSION OF SEA LAMPREY CONTROLS APPROVED:

A program to complete sea lamprey control treatment of streams feeding into Lake Michigan and for preparations to extend it to Lake Huron tributaries has been approved by the Great Lakes Fishery Commission which met at Washington, D. C., December 2-3, 1964, for a two-day interim meeting. The Commission is made up of three members each from Canada and the United States.

Donald L. McKernan, Chairman of the Commission and Director of the U. S. Bureau of Commercial Fisheries, said lampreys in Lake Superior have been reduced by about 80 percent as a result of stream treatment with selective chemicals. He recommended that research agencies study the desirability of allowing a limited commercial lake trout fishery in Lake Superior in the near future.

Lake trout, prized by both sport and commercial fishermen, were virtually eliminated by sea lampreys in Lake Huron in the 1940's and in Lake Michigan in the 50's. The lake trout in Lake Superior had fallen to dangerously low levels when stream treatment to destroy young lampreys was started in 1958.

Scientists reported a further decrease in lamprey attacks on lake trout in Lake Superior in the fall of 1964, and also described a widespread resumption of spawning which had been negligible since 1959 because of the scarcity of mature trout.

The Commission's chairman emphasized that scientists should continue to seek inexpensive chemicals effective against lampreys, but even less toxic to other organisms than chemicals presently known. He urged them to seek solutions which dissipate rapidly in water without contributing to pollution. He said that although problems in the upper Great Lakes are considerable, the Commission must direct more attention to fishery problems in Lakes Erie and Ontario.

It was also announced that the Governments of Canada and the United States have each agreed to appoint an additional member to the Commission to better represent interests in the lower lakes.

The Great Lakes Fishery Commission was established by Canada and the United States in 1955 and is responsible for the joint program to control sea lamprey and for recommending other measures to improve commercial and sport fishing in the Great Lakes.

Note: See Commercial Fisheries Review, February 1964 p. 62.

International (Contd.):

KING CRAB

ALASKAN FISHERY GIVEN PROTECTION BY NEW UNITED STATES-SOVIET AGREEMENT:

The United States and the Soviet Union on December 14, 1964, concluded an agreement relating to fishing operations in the Northeast Pacific Ocean. The agreement is designed to minimize damage by Soviet trawlers to the fishing gear of United States king crab fishermen in the Kodiak Island area of Alaska.

The agreement was recommended to the two governments by delegations of the two countries following discussions in June 1964 at Juneau, Alaska. It provides for the establishment of a number of areas in the vicinity of Kodiak Island (where United States king crab pots are concentrated) in which mobile gear (trawls used by the Soviets to catch bottomfish) will not operate during the period July-October, inclusive. The agreement establishes procedures for amending, by mutual agreement between the Chief of the Soviet fishing fleet and local United States fishery officials, the boundaries of those areas or the periods during which they are reserved for fixed gear. It also provides for establishing new such areas by mutual agreement.

The agreement establishes in addition a system of direct radio communication between the Soviet fleet and fishery officials in Alaska. This system can be used for reporting to the Soviet fleet the positions of the United States king crab vessels outside of the areas mentioned above in order that special precautionary measures can be taken to avoid damage to them.

Under the provisions of the agreement the United States will undertake special research in cooperation with the Soviet Union in order to develop more effective means of marking and detecting fixed gear of various types.

The agreement will not prejudice existing rights of either Government.

Note: See Commercial Fisheries Review, Sept. 1964 p. 51.

* * * * *

JAPAN-UNITED STATES AGREEMENT ON FISHING IN EASTERN BERING SEA:

An interim two-year agreement between Japan and the United States for fishing king crab in the Eastern Bering Sea was effected November 25, 1964, in an exchange of notes between Japan's Ambassador to the United States and the U. S. Secretary of State.

Following the exchange of notes, the Secretary said, "For a month, representatives of Japan and the United States discussed important issues affecting the fishermen of both countries arising from the presence of a Japanese king crab fishery on the Continental Shelf of the United States in the Bering Sea. When President Johnson signed the Bartlett Act, which makes possible the enforcement of rights which now exist or may be established in the resources of the Continental Shelf, he assured Japan that we would give full consideration to her long established king crab fishery in the Eastern Bering Sea.

"I am deeply gratified that our two Governments have agreed on an interim two-year modus operandi for accommodating our separate interests. Our representatives have faced the question of conservation of the resource, how to take account of Japan's historical fishery, our different legal concepts on the Continental Shelf Convention and the interest of the United States crab fishing industry in the area previously fished predominantly by Japan. The king crab in the east Bering Sea is not the only issue upon which we have, and can be expected to have in the future, differing interests and perspectives. I consider it encouraging for the future that by mutual understanding and rational balancing of our respective national interests we have reached an agreement which is equitable and to our common benefit. . . ."

In response, the Japanese Ambassador said, ". . . .The core of the problem lies in the fact that the two Governments hold fundamentally different legal positions with respect to the king crab resource in the said area. As a result of the long and patient consultation aimed at a realistic solution of the problem between two friendly nations, we have reached agreement in spite of difficulties.

"As the relationship between our two countries becomes closer and closer, we are bound to encounter many difficult problems. But, I believe that the present agreement very clearly demonstrates that, however demanding they are, these problems can be solved if we discuss matters frankly and constructively with determination and mutual understanding in the interest of firmer bond of friendship." (Department of State, November 25, 1964.)

International (Contd.):

Editor's Note: Japan's king crab catch in the Eastern Bering Sea was limited to 185,000 cases per year for the next two years. The Japanese cabinet was reported to have agreed to the proposals and ratification was imminent. The two-year agreement reduced the present Japanese catch by about 21 percent. Included in the agreement are numerous other conservation measures.

Note: See Commercial Fisheries Review, January 1965 p. 26.

ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT

FISHERIES COMMITTEE MEETS:

The Fisheries Committee of the Organization for Economic Cooperation and Development met for its 11th Session December 7-8, 1964, in Paris. The agenda for the meeting included: (1) a study on price systems; (2) general services to the fishery industry; (3) impact of recent changes in customs duties; (4) changes in import restrictions on fish and fishery products in member countries; and (5) the 1964 and 1965 work programs.

Note: See Commercial Fisheries Review, Sept. 1964 p. 56.

INTERNATIONAL CONVENTION FOR THE NORTHWEST ATLANTIC FISHERIES

PORTUGAL RATIFIES PROTOCOL CONCERNING HARP AND HOOD SEALS:

On October 2, 1964, Portugal deposited ratification of a Protocol to the International Convention for the Northwest Atlantic Fisheries of February 8, 1949. The Protocol (done at Washington, July 15, 1963) relates to harp and hood seals and is intended to bring those species within the responsibility of the Northwest Atlantic Fisheries Commission. The Protocol is not yet in force. (Bulletin, U. S. Department of State, November 2, 1964.)

Note: See Commercial Fisheries Review, Mar. 1964 p. 45.

FISH MEAL

PRODUCTION AND EXPORTS FOR SELECTED COUNTRIES, JANUARY-SEPTEMBER 1963-1964:

Member countries of the Fish Meal Exporters' Organization (FEO) account for about 90 percent of world exports of fish meal. The FEO countries are Chile, Angola, Iceland, Norway, Peru, and South Africa/South-West Africa. Production and exports of fish meal by FEO countries during January-September 1964 were up substantially from the same period of the previous year. During the first 9 months of 1964, Peru accounted for about 66.7 percent of total fish meal exports reported by FEO countries.

Table 1 - Exports of Fish Meal by Member Countries of the FEO, January-September 1963-1964

Country	September		Jan.-Sept.	
	1964	1963	1964	1963
	. . . (1,000 Metric Tons) . . .			
Chile	7.3	4.6	105.6	79.0
Angola	6.0	1.5	43.0	17.7
Iceland	12.3	6.1	90.1	56.6
Norway	12.8	5.6	141.9	56.6
Peru	82.2	73.3	1,098.6	881.1
So. Africa (including S. W. Africa)	18.3	20.2	168.5	125.8
Total	138.9	111.3	1,647.7	1,216.8

Table 2 - Production of Fish Meal by Member Countries of the FEO, January-September 1963-1964

Country	September		Jan.-Sept.	
	1964	1963	1964	1963
	. . . (1,000 Metric Tons). . .			
Chile	10.8	2.4	114.2	75.0
Angola	6.4	1.3	42.1	17.4
Iceland	15.7	13.3	102.3	77.3
Norway	12.3	14.1	146.9	102.1
Peru	49.5	47.8	1,059.4	826.7
So. Africa (including S. W. Africa)	18.3	20.8	231.4	216.1
Total	113.0	99.7	1,696.3	1,314.6

Canada

BRITISH COLUMBIA CANNED SALMON PACK, 1964:

The pack of canned salmon in British Columbia in 1964 of nearly 1.3 million cases was slightly higher than the 1963 pack and was about 2 percent more than the 1959-1963 five-year average pack of a little over 1.2 million cases.

British Columbia Canned Salmon Pack, 1959-1964

Species	1964	1/1963	1/1962	1/1961	1/1960	1/1959
	. . . . . (Standard Cases--48 1-Lb. Cans)					
Sockeye (red)	343,276	158,375	297,717	398,236	226,912	256,388
Spring (king)	9,033	10,000	7,174	7,927	5,935	15,703
Steelhead	1,211	771	815	979	530	871
Blueback	36,392	11,384	12,097	12,527	23,345	10,114
Coho (silver)	167,883	146,099	175,638	234,047	69,237	215,098
Pink	463,968	757,452	1,188,661	661,458	219,658	458,747
Chum (keta)	229,855	119,190	134,483	95,400	87,884	138,865
Total	1,251,618	1,203,271	1,816,585	1,410,574	633,501	1,095,786

1/ Totals are based on final revised figures.

The pack from year to year is usually dependent on the cycle years for pink and sockeye salmon. The 1964 sockeye salmon pack was more than double that for the previous year, with the chum salmon pack nearly twice as much as was packed in 1963. The 1964 pack of pink dropped about 40 percent from

Canada (Contd.):

1963 and was only about one-third the 1962 pink salmon pack of 1.2 million cases.

Note: See Commercial Fisheries Review, January 1964 p. 43.

* * * * *

BRITISH COLUMBIA HERRING FISHERY LABOR DISPUTE SETTLED:

A labor dispute in the British Columbia herring fishery was settled November 19, 1964, when fishermen voted to accept a medical plan offered by processors. Fishermen and processors had already agreed on a landed price of C$14.48 (US$13.41) per short ton for reduction herring, or C$2.08 (US$1.92) more than the C$12.40 (US$11.49) paid for British Columbia herring going for reduction during the 1963/64 season. According to some reports, the processors have estimated that the medical plan will add between 10 and 18 Canadian cents to the landed cost of a ton of herring. (The Fisherman, Vancouver, British Columbia, November 20, 1964.)

Editor's Note: Ex-vessel prices for herring in British Columbia are not comparable to prices in certain other countries because British Columbia processors furnish much of the equipment used in the fishery.

Note: US$1.00 equals Canadian $1.08.

* * * * *

EXPANDED FISHERY PRODUCTS INSPECTION PROGRAM PLANNED:

An expanded inspection program of the Canadian Federal Department of Fisheries to ensure consistently high Canadian fishery products was forecast by Canada's Fisheries Minister in a statement on November 23, 1964. Opening the sixth biennial meeting in Ottawa of senior field and headquarters inspection officers of the Fisheries Department, the Minister said it was necessary for Canada to have uniform standards of fishery products to bring to consumers at home and abroad the best possible quality fish. Only in this way also, he said, could Canada compete successfully in world markets.

The Minister forecast stepped-up inspection activities within the next year to help maintain uniform quality standards of fishery products from the time the fish are caught, and through the processing and distribution stages until they reach the consumer. Steps already taken to maintain high-quality fishery products from the time of catching to the consumer were outlined by the Director of the Department's Inspection Service, who presided over the four-day meetings. He said new draft regulations were already in the hands of the provinces and the fishing industry and it was hoped that further discussions on the draft regulations could be held in the next few weeks when the provinces and the industry would have an opportunity to make their observations. He pointed out that the goal of both the Department of Fisheries and the industry was to make available to the consumer the best products possible.

The Director of Inspection Service also drew attention to the part Canada is playing in bringing about uniform world standards of fishery products through the Codex Alimentarius Commission, under the joint auspices of the Food and Agriculture Organization (FAO) and the World Health Organization (WHO) of the United Nations. Although Canada has one of the most progressive inspection programs in the world there was still much to be done, he added. International representation at the opening sessions of the meeting included the Director of Inspection, Department of Fisheries, Copenhagen, Denmark; the Assistant Director, Bureau of Standards, Pretoria, South Africa; and the Chief of Inspection, U.S. Bureau of Commercial Fisheries, Washington, D. C., as well as technologists of that Bureau's Technological Laboratory, Gloucester, Mass.

Following the opening session, various subcommittees were formed to discuss a wide range of subjects including the qualifications for inspectors; fresh and frozen fish plant registration; dockside inspection programs and boat inspection; the icing, processing and storage of fish; and the procedures for the inspection of fishery products.

The chiefs of inspection branches of the Canadian Fisheries Department, and other inspection officers, who attended the meeting, were from Newfoundland, the Maritimes, Quebec, the Central and Pacific Areas, and also from the Fisheries Research Board of Canada's technological station, Halifax, Nova Scotia. (Press release, Canadian Department of Fisheries, Ottawa, November 23, 1964.)

Canary Islands

FISH MEAL PLANTS RESTART PROCESSING:

The fish-meal processing plants at Las Palmas, Canary Islands, reported to total

Canary Islands (Contd.):

about 7, have all recommenced operations. The plants are said to have started processing again as a result of the improved market outlook for fish meal. (Suisan Tsushin, November 20, 1964.)

Cape Verde Islands

LONG-LINERS FISH OUT OF CAPE VERDE ISLANDS TUNA BASE:

A total of 18 Japanese long-line vessels as of mid-November 1964 were fishing out of the Japanese tuna base at Sao Vicente, Cape Verde Islands. The vessels were mainly fishing off Recife, Brazil, primarily for albacore tuna, and landing about 1,000 metric tons of frozen tuna a month at the base. (Suisan Tsushin, November 19, 1964.)

Denmark

FISHERIES TRENDS--EXPORTS, LANDINGS, AND PROCESSING--JANUARY-SEPTEMBER 1964:

Exports to all Countries: Denmark's total exports of fishery products and byproducts (other than fish oil) in January-September 1964 increased 12 percent in value over those in January-September 1963, although the total quantity of the exports was almost identical in both periods. Exports of fresh fish and frozen fish, the 2 most important categories, increased 12 percent and 22 percent, respectively, in value. Danish exporters of fishery products enjoyed a good market in the first 9 months of 1964; their main problem was a shortage of supplies to meet the good demand. Total landings in Danish ports in the first 9 months of 1964 were up only 2 percent from the same period in 1963.

Prices have been profitable for Danish fresh and frozen products. The good market for fresh and frozen cod fillets is expected to continue into 1965. Fresh cod fillets are shipped as far as Italy, Switzerland, and Austria. Frozen fillets are exported to about 60 countries. A proposal by a large European distributor of frozen fish to take the surplus daily production of fish fillets from 6 processors in Esbjerg, Denmark, is being watched with interest by other Danish firms.

A large Danish processor and exporter in Fredericia has offered Esbjerg fishermen 7.56 U.S. cents a pound for gutted and iced haddock (medium and large size). The processor is seeking daily deliveries of 22,000 to 33,000 pounds, but fishermen may not respond because the small Danish crews find it difficult to clean fish at sea.

The leading buyer of Danish fishery products in January-September 1964 was West Germany, followed by the United Kingdom. Shipments to West Germany were up 21 percent in value from those in January-September 1963 due to larger deliveries of pond trout, herring fillets, and marine fish (other than unprocessed herring). The United Kingdom received fewer direct landings by Danish vessels, but much larger shipments of Danish frozen fillets.

Exports to the United States: Denmark's total exports of fishery products and byproducts to the United States in January-September 1964 were down 39 percent in quantity and 29 percent in value from those in the same period of 1963 due mainly to smaller shipments of cod fillets and pond trout. Exports of frozen cod fillets to the United States dropped because of greater demand and better prices in the United Kingdom and in Continental Europe. Exports of frozen pond trout to the United States were down because of Japanese price competition in the U. S. market, although Danish exporters are expected to re-enter selected U. S. markets. The decline in exports of frozen fishery products to the United States was partly offset by larger shipments of frozen flatfish and Norway lobster.

Danish exports of canned shrimp to the United States were down 23 percent in value and exports of canned herring and sprat were down 2 percent in value. Exports of canned herring and sprat may increase in late 1964 and early 1965 if Maine sardine canners in the United States end the 1964 season with a below-normal pack.

Table 1 - Danish Exports of Fishery Products to All Countries, January-September 1964 with Comparisons

Products	1/Jan.-Sept. 1964 Qty.	Value		Jan.-Sept. 1963 Qty.	Value	
	Metric Tons	1,000 Kr.	US$ 1,000	Metric Tons	1,000 Kr.	US$ 1,000
Fresh fish. products	139,967	250,856	36,374	140,700	222,800	32,306
Froz. fish. products	34,691	127,349	18,466	32,500	104,400	15,138
Processed fish	2/ 9,164	2/46,997	2/6,815	11,200	50,100	7,265
Fish meal, solubles, ensilage, & trout food	55,690	52,030	7,544	55,100	50,200	7,279
Total.	239,512	477,232	69,199	239,500	427,500	61,988
Fish oils 3/	18,161	21,197	3,074	15,600	13,300	1,929

1/Preliminary data from Ministry of Fisheries.
2/Includes the following: cured fish 2,442 tons valued at Kr. 13.9 million ($2.0 million); canned fish 4,182 tons valued at Kr. 15.8 million ($2.3 million); canned shellfish 902 tons valued at Kr. 7.1 million ($1.0 million); and semipreserved fish 1,638 tons valued at Kr. 10.2 million ($1.5 million).
3/Fish oil data are shown separately because they are sometimes delayed.
Note: Danish kroner 6.9 equal US$1.00.

Table 2 - Danish Exports of Fishery Products to the United States, January-September 1964 with Comparisons

Product	1/ Jan.-Sept. 1964 Qty.	Value		Jan.-Sept. 1963 Qty.	Value	
	Metric Tons	1,000 Kr.	US$ 1,000	Metric Tons	1,000 Kr.	US$ 1,000
Fresh & Frozen:						
Fillets:						
Cod	2,154	6,729	976	4,484	13,901	2,016
Other fillets	90	393	57	135	545	79
Pond trout	346	2,685	389	562	4,399	638
Trout eggs	1	75	11	1	67	10
Flatfish 2/	228	2,020	293	110	650	94
Norway lobster	160	3,102	450	142	2,953	428
Other	3/	3	4/	9	22	3
Cured Products 5/						
Salted & smoked	27	103	15	34	73	10
Canned Products:						
Herring & sprat	434	2,133	309	401	2,182	316
Shrimp	93	950	138	130	1,228	178
Mussels	46	277	40	34	209	30
Other	25	157	23	31	154	23
Semipreserved products	12	153	22	13	140	20
Fish solubles	300	284	41	300	254	37
Total exports to U. S.	3,915	19,064	2,764	6,386	26,777	3,882

1/Preliminary data from Ministry of Fisheries.
2/Mostly turbot, brill, plaice, and sole.
3/Less than 0.5 metric tons.
4/Less than $500.
5/Mostly cod, salmon, trout, and eels.

Denmark (Contd.):

Table 3 - Value of Danish Exports of Fishery Products by Groups and Major Countries, January-September 1964 1/ with Comparisons

Destination	Value		Change from Jan.-Sept. 1963	
			Plus	Minus
	1,000 Kr.	US$ 1,000	. (Percent). .	
By Groups:				
Common Market (EEC)	207,000	30,015	16	-
European Free Trade Assn. (EFTA-including Finland)	198,000	28,710	18	-
East Bloc countries	22,000	3,190	-	10
Other countries	50,000	7,250	-	30
Total	477,000	69,165	12	-
Major Importers by Country:				
West Germany	129,000	18,705	21	-
United Kingdom	97,000	14,065	15	-
Sweden	59,000	8,555	37	-
Italy	33,000	4,785	18	-
Switzerland	30,000	4,350	11	-
United States	19,000	2,755	-	29

1/Preliminary data from Ministry of Fisheries.
Note: (1) Values do not exactly agree with those in table 1 due to rounding of figures.
(2) Fish oils not included.

Table 4 - Danish Production of Processed Fishery Products, Jan.-Sept. 1964

Product	Quantity
	Metric Tons
Canned:	
Herring & sprat	2,216
Mackerel	1,114
Other fish	3,800
Mussels	351
Other shellfish	821
Semipreserved:	
Herring & sprat	3,301
Other fish	305
Mussels	489
Fresh & frozen fillets:	
Cod	17,871
Cod-like fish 1/	1,002
Plaice	14,108
Other flatfish	787
Herring	25,584
Other fish	163
Smoked:	
Herring & sprat	1,554
Mackerel	1,486
Eels	520
Salmon & trout	345
Other fish & shellfish	152
Miscellaneous:	
Force meat 2/	1,259
Salted herring	92
Dry-salted cod	398
Other fishery products 3/	5,731
Industrial products:	
Meal	78,529
Oil	20,856
Ensilage 4/	6,106
Solubles	8,188

1/Haddock, coalfish, hake, ling, etc.
2/Ground fish, milk, and flour.
3/Excluding industrial products.
4/Chemically treated raw fish.

Processing: The data in table 4 listing the quantities of fishery products processed in Denmark have been available only since January 1964. Comparative data for 1963 are not available. Danish export data for the first 9 months of 1964 indicate, however, that more fish were frozen, smoked, canned, and semipreserved--and more fish meal and fish oil produced--than during the same period in 1963. In January-September 1964, it appears that a higher proportion of Danish groundfish landings was processed into fresh and frozen fillets, and a smaller proportion was sold as unprocessed fresh and frozen fish. Less fish was salted and less shellfish was semipreserved.

Between one-third and one-fourth of Danish herring landings in January-September 1964 were used for food. The balance went for meal and oil.

Table 5 - Danish Fishery Landings, January-September 1964 with Comparisons

Item	Quantity	Change from Jan.-Sept. 1963	
		Plus	Minus
	Metric Tons	. . (Percent) . .	
Landings in Danish Ports:			
By Danish vessels:			
Flatfish 1/	55,859	1	-
Cod	52,641	-	7
Cod-like fish 2/	38,137	-	200
Herring	256,185	23	-
Brisling	6,887	32	-
Mackerel	5,180	-	11
Eels	1,678	-	16
Salmon	777	-	59
Pond trout	6,405	12	-
Other fish 3/	196,250	-	23
Norway lobster	1,782	57	-
Shrimp	2,965	-	35
Mussels	11,058	37	-
Other shellfish	52	-	48
Starfish	2,449	151	-
Total by Danish vessels in Danish ports	638,305	-	4
By foreign vessels in Danish ports	135,739	45	-
Total landings in Danish ports	774,044	2	-
Landings in foreign ports by Danish vessels	3,649	-	6

1/Plaice, flounder, dab, common sole, etc.
2/Haddock, coalfish, hake, ling, etc.
3/Mostly industrial fish such as sand eels, Norway pout, etc.
Source: Ministry of Fisheries.

Landings: Total landings of fish and shellfish in local ports by Danish fishing vessels during the first 9 months of 1964 were 4 percent less than during the same period in 1963. Heavier landings of herring, brisling, pond trout, Norway lobster, mussels, and starfish almost offset substantial decreases in industrial and cod-like fish. Landings by foreign vessels (mainly Swedish deliveries of herring) were up 45 percent. Total Danish and foreign landings in Danish ports were up 2 percent. Danish landings in foreign countries (mainly cod and plaice in the United Kingdom) dropped considerably during the third quarter of 1964.

Ex-vessel prices generally have been good. With favorable weather during the final quarter of 1964, the 1964 landings by Danish fishing craft should match or exceed those of 1963. (Regional Fisheries Attache for Europe, United States Embassy, Copenhagen, November 11, 1964.)

* * * * *

Denmark (Contd.):

AVERAGE PRICES FOR FISHERIES LANDINGS HIGHER IN JANUARY-JUNE 1964:

Prices received by Danish fishermen and vessels for landings at Danish ports were better in the first 6 months of 1964 than in 1963. This is confirmed in part by fewer complaints from fishermen, as well as the prices paid at auction and the prices fixed for industrial fish. In his speech at the opening of the 5th International Fisheries Fair at Copenhagen in September 1964, the Chairman of the Danish Fisheries Council pointed out that the higher prices made exporting of Danish fishery products more difficult. Later, in the weekly publication of the Danish Fisheries Association, a fishermen's representative concluded that most of the significant increases were in the higher-priced species while the more common varieties showed both increases and declines. He doubted that the increases were sufficient to bring average prices to the economic level that fishermen should have. On the contrary, he believed the prices indicated that a minimum price regulation was needed as much now as earlier.

Fig. 1 - Wooden craft of the Danish fishing fleet being buffeted by rough weather. Most fishing vessels are smaller than 50 gross tons.

Fig. 2 - Fishing craft such as the RI 55 at the small fishing port of Hvide Sande catch mostly plaice and herring.

Table 1 - Comparison of Average Prices of Selected Species Received by Danish and New England Fishermen (U.S.), 1963 and January-June 1964

1963				January-June 1964			
Denmark		New England1/		Denmark		New England1/	
Name2/			Name3/	Name2/			Name3/
	(U.S. Cents Per Lb.)				(U.S. Cents Per Lb.)		
Cod (Torsk)			Cod	Cod (Torsk)			Cod
live	5.33	8.21(B)	large	live	5.33	7.50(B)	large
drawn	5.39	8.05(B)	market	drawn	5.59	8.29(B)	market
dressed	5.59			dressed	5.59		
Coalfish (Sej)	7.76	6.07(B)	Pollock	Coalfish (Sej)	8.02	6.05(B)	Pollock
Haddock			Haddock	Haddock			Haddock
(Kuller)	7.83	11.49(B)	large	(Kuller)	8.02	10.05(B)	large
		10.55(B)	scrod			8.91(B)	scrod
Hake (Kulmule)	24.93	6.91(B)	White hake	Hake (Kulmule)	18.15	11.12(B)	White hake
Wolffish (Havkat)	8.42	8.63(B)	Wolffish	Wolffish (Havkat)	7.56	5.93(B)	Wolffish
Halibut			Halibut	Halibut			Halibut
(Helleflynder)	38.54	32.73(B)		(Helleflynder)	34.00	28.57(B)	
Whiting			Whiting	Whiting			Whiting
(Hvilling)	5.72	4.60(G)	H & G	(Hvilling)	6.05	4.50(G)	H & G
		2.18(G)	Round			2.31(G)	Round
Dab (Ising)	7.70	6.75(NB)	Yellowtail	Dab (Ising)	9.01	8.18(NB)	Yellowtail
Witch (Skaerising)	11.44	11.56(G)	Gray sole	Witch (Skaerising)	10.06	10.34(G)	Gray sole

Note: Comparisons are for the same or similar species.
1/Prices at port of largest landings (B-Boston, G-Gloucester, and NB-New Bedford).
2/English and Danish names as used in Ministry of Fisheries annual report. Species listed are landed as drawn fish unless otherwise indicated.
3/U. S. names as used by U. S. Bureau of Commercial Fisheries. Groundfish are landed drawn, except hake which is dressed; flatfish are landed round; and whiting are landed headed and gutted or round.

Denmark (Contd.):

Table 2 - Average Prices for Selected Fish Species Landed at Danish Ports, 1963 and January-June 1964

Species English (Danish)	1963 January-December	1964 January-June
	. . . (U.S. Cents Per Lb.) . . .	
Angler (Havtaske)	29.93	27.03
Brill (Slethvar)	19.99	21.64
Common Mussel (Blaamusling)	.53	.39
Common sole (Tunge)	50.05	62.28
Eel (Aal)		
Silver (Blanke)	53.73	58.21
Yellow (Gule)	34.99	41.90
Eel pout (Kvabber)	9.21	9.93
Flounder (Skrubbe)	6.64	5.85
Gurpike (Hornfisk)	3.88	3.49
Herring (Sild)	3.42	3.55
Industrial (Industrifisk)	1.18	1.38
Lemon sole (Rødtunge)	17.89	20.06
Ling (Lange)	7.76	5.20
Liver (Lever)	3.29	4.08
Lobster (Hummer)		
Norway (Dybvands)	31.24	27.23
Common (Almindelige)	111.35	108.32
Lumpsucker (Stenbider)		
Male	3.55	2.57
Female	2.24	2.96
Mackerel (Makrel)	6.05	5.33
Octopus-Squid (Blaeksprutte)	15.00	12.96
Pike (Gedoe)	26.97	25.39
Piked dogfish (Pighaj)	4.67	5.99
Plaice (Rødspaette)		
Living	10.98	12.69
Drawn	10.52	13.04
Porbeagle (Siloehaj)	19.14	25.45
Rays & Skates (Rokkerskader)	10.39	12.56
Roe (Rogn)	15.13	15.59
Salmon (Laks)	121.94	129.37
Shrimp (Rejer)		
Deepwater (Dybvands)	22.23	25.78
Ordinary (Almindelige)	108.92	115.69
Sprat (Brisling)	8.55	7.37
Tunny (Tunfisk)	29.33	-
Turbot (Pigvar)	22.76	27.10
Weever (Fjaesing)	4.74	6.64

The conclusions of the fishermen's representative were based on average prices obtained from the Ministry of Fisheries. Some of the species for which average prices were higher in the first 6 months of 1964 than in

Table 3 - Percentage of Quantity and Value of Selected Species Landed at Danish Ports in 1963

Species	Quantity	Value
	. . . (Percent) . . .	
Plaice	7.3	24.2
Herring	34.9	18.2
Cod	8.3	14.3
Industrial fish (mostly sand eels, Norway pout, etc.)	34.8	12.6
Eels	0.5	6.3
Salmon	0.1	4.3
Shrimp	0.6	3.8
Whiting	6.9	2.8
Other	6.6	13.5
Total	100.0	100.0

Fig. 3 - Fish auction at Esbjerg, one of Denmark's leading fishing ports.

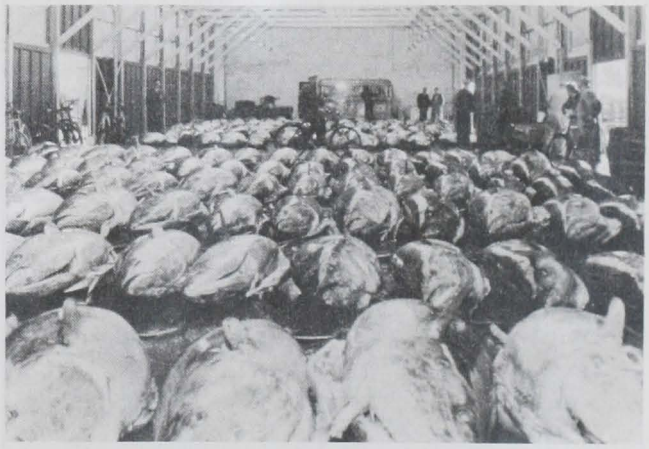


Fig. 4 - Bluefin tuna ready for auction at Skagen, another leading Danish fishing port. Tuna are fished mostly in the summer months.

1963 included: pollock, haddock, halibut, plaice, salmon, turbot, and shrimp.

A substantial increase in plaice prices (about 4 cents a pound) for the first 6 months of 1964 over prices for 1963 was due, in part,

Denmark (Contd.):

to the relatively low prices paid during the summer of 1963 when an unsuccessful minimum price plan was instituted and later withdrawn. (Regional Fisheries Attache for Europe, United States Embassy, Copenhagen, November 24, 1964.)

* * * * *

RINSING WATER PURIFICATION PROCESS FOUND PROFITABLE IN FILLETING PLANT:

Purification of the rinsing water used in a Danish herring filleting plant has resulted in a very profitable yield of oil and solids. The plant operator encouraged a centrifuge manufacturer to devise the process which has been operating satisfactorily and most profitably for several months in Hirtshals, a large herring fishing and processing port in Jutland.

In machine filleting of fish there is an appreciable loss of solids during the filleting and handling processes and a substantial loss of oil if fat fish such as herring are being used. The solids and the oil are mixed in the large volume of water used for rinsing and cleaning purposes during the operation. This mixture usually is discharged into the sea and is a source of pollution.

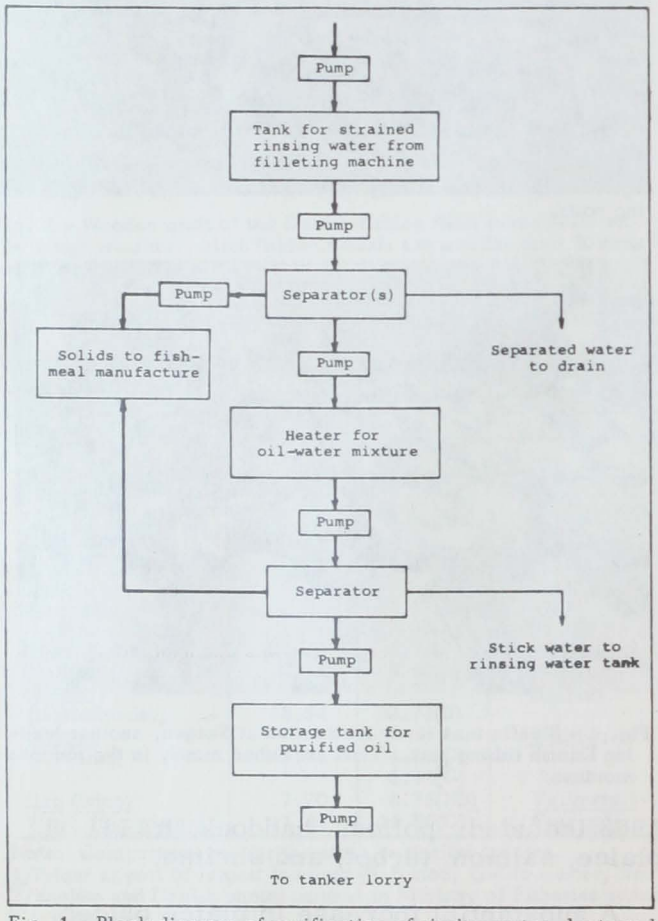


Fig. 1 - Block diagram of purification of rinsing water plant used in herring filleting factories.

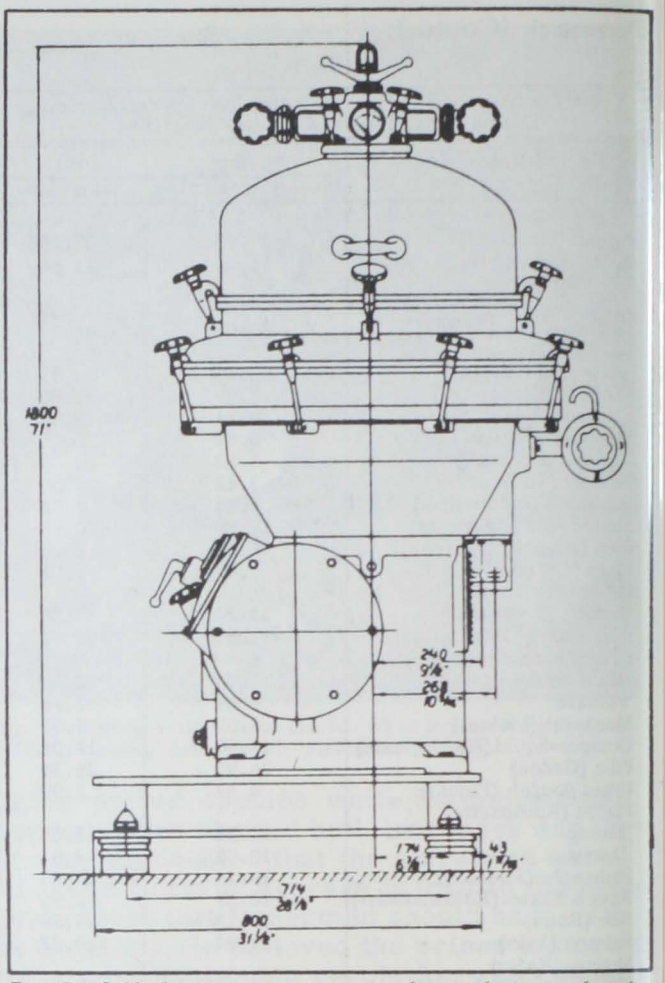


Fig. 2 - Self-cleaning separator, one of several pieces of equipment used in purifying rinsing water.

Experiments conducted in Denmark to recover oil and solids from the rinsing water resulted in a relatively simple centrifuging process. It handles a large volume of rinsing water (of which only a small portion needs to be heated) and produces readily salable oil and solids.

Process: In the process, all water and waste material are collected continuously in the plant and screened. The larger pieces of fish meat are screened out and sent to a fish-meal plant. The screened rinsing water is then pumped from the receiving tank to a centrifugal sludge separator and centrifuged without being heated. The separator produces a three-phase separation of solids, an oil and water mixture, and waste water. The solids are ejected periodically and automatically. They contain about 25 percent dry matter and are sold to a fish-meal plant which feeds them directly into its cooker. The oil and water emulsion contains about 70 percent oil. It is pumped to a tank where it is heated to 60°C. (140°F.) by a gas flame under the tank. A heat exchanger was tried but clogged quickly. Steam caused emulsions difficult to break. The waste water is discharged with about 2 percent solids and about 0.4 percent oil. (Precipitation of the protein in the waste water, using Kremodan as a precipitating agent, has been tested experimentally, but it is not yet certain that the protein precipitated could be sold for enough to make the operation profitable.)

The heated oil and water mixture is pumped to a centrifugal separator which also performs a three-phase separation. The small amount of fine solids is ejected at intervals by manual rather than automatic control, and added to the solids from the first sludge separator. The purified oil is pumped to storage. The waste water is piped back to the rinsing water tank.

Denmark (Contd.):

The sludge or wet solids produced have been sold to a fish-meal plant for the same price as industrial fish--about 18 øre a kilo (1.18 U.S. cents a pound). Since the oil comes from fresh herring it contains 1 percent or less of free fatty acids and has sold for 1.35 kroner a kilo (8.9 cents a pound) to a fish-meal plant. It is especially desirable for mixing with other fish oils to average down their much higher free fatty acid content.

The Danish filleting plant has made very substantial profits on its purification process in recent months while filleting herring. Tests showed that from herring averaging 16.5 percent oil, the purification process recovered from the rinsing water about 5.5 percent wet solids and 2.2 percent oil, expressed as percentages of the amount of herring received for filleting, excluding overweight which may be about 5 percent.

Plant specifications: The manufacturer supplies plants in the following capacities:

Size	Rinsing Water from Raw Herring	Equal to U. S. Gallons Per Hour
I	12 metric tons (26,400 lbs.) raw herring per hour	6,600
II	6 metric tons (13,200 lbs.) raw herring per hour	3,435
III	1.8 metric tons (3,960 lbs.) raw herring per hour	1,055

The manufacturer states that the Size I plant, operating on rinsing water from filleted herring with 16.5 percent oil, would produce:

650 kilos (1,430 lbs.) per hour of wet solids worth 1.05 cents per lb.
260 kilos (570 lbs.) per hour of purified oil worth 8.9 cents per lb. for a gross profit of about $65 an hour.

All sizes of plants are automated to the point where they may be operated with one man. Cost, power consumption, and space requirements are:

Size	Cost	Power Required 1/	Space Required 2/
I	$72,500	60 kw.	32' 2" x 22' 11"
II	$43,500	35 kw.	2211" x 18' 1"
III	$29,000	20 kw.	19' 8" x 16' 5"

1/Power consumption is lower during operation.
2/Ceiling height required is 10'8". Plant can be installed in smaller space and with lower ceiling, if necessary. Measurements assume collecting tank for rinsing water and purified oil storage tank are outside room.

The first plant was conceived by a large and progressive processor and exporter of Danish fishery products, and the process and plant were developed and installed by a Copenhagen engineering firm. Additional plants are on order by several fishery firms in Denmark and West Germany. Outside of Denmark, the Faroe Islands, and Iceland, the plants will be sold and serviced by an internationally known worldwide distributing organization. The distributing firm's United States representative is located in Poughkeepsie, N. Y. However, the plant and process are so new that it is doubtful that the United States affiliate has much, if any, knowledge of it. Additional technical information may be available from the Copenhagen firm which has issued an illustrated leaflet briefly describing the process in English.

In view of the highly competitive nature of the filleting industry in Denmark, it is expected that all filleting plants of appreciable size which fillet oily fish will have to install purification plants. Production and sale of the formerly wasted oil and solids will be as necessary and profitable an adjunct to filleting operations as the sale of frozen fillet waste to mink farms.

Pressure to install such plants also may come from municipal sources as a means of preventing harbor pollution. Skagen, which is Denmark's second largest fishing port, already is requiring fish plants to clean up their waste water.

The ability to centrifuge rinsing or waste water without heating it makes it possible to install a sludge separator on fishing vessels to process the drainage from the catch and recover an oil and water mixture (mostly oil) for further purifying ashore. This is expected to be profitable for all vessels carrying oily fish for either food or industrial use. Installations in plants that salt herring and canneries also are being contemplated.

In the United States it would appear that the composition of rinsing or waste water in filleting (ocean perch) plants, canneries (which pack sardines, mackerel, salmon, and tuna) and the drainage water in fishing craft might be checked. If the content of oil and solids is high enough, a profit might be made while at the sametime a source of pollution is being eliminated. (United States Regional Fisheries Attache for Europe, Copenhagen, December 9, 1964.)

Note: (1) One Danish krone equals US$0.145 and one kilo equals 2.2046 lbs.
(2) See Commercial Fisheries Review, August 1964 p. 61.

Faroe Islands

FISHERIES TRENDS, NOVEMBER 1964:

Faroese-West German Landings Agreement: On November 18, 1964, representatives of the Faroese Government signed an agreement with West German authorities which permits direct landings of fresh white fish in German ports by Faroese vessels. The term "white fish" includes cod, haddock, coalfish (pollock), plaice, and halibut, but not ocean perch or herring. The agreement became effective December 1, 1964, but can be terminated on April 30, 1965. Unless terminated, it continues automatically for additional one-year periods. Under the agreement, the Faroe Islands are given the same rights as Iceland with regard to direct landings on West Germany. The mutual prohibition against direct landings by Danish vessels in West Germany or by Germany vessels in Denmark is not affected.

The Faroese expect that the new agreement will aid them in marketing fresh fish formerly delivered to Great Britain. Limits have been placed on Faroese direct landings in Great Britain which may divert sizable Faroese landings elsewhere, particularly in the October and January quarters. It has been estimated that as much as 6,000 to 8,000 metric tons of Faroese fresh fish might be landed in West German ports during the October and January quarters. A Faroese representative in Hamburg will inform the Faroese fishermen of market conditions in Germany so that the Faroese landings may be regulated to obtain the best possible prices.

Rumanian Factory Trawlers off Faroe Islands: A State-operated Rumanian fisheries company has sent 2 new 4,000-ton factory trawlers to fish the waters between the Faroe Islands and Iceland, according to a November 24, 1964, report in a Danish newspaper. One of those vessels, the "Constanta," stopped in Thorshavn for minor repairs. The vessel is a stern-trawler with a crew of 81. It is equipped with the most modern technical fishing and navigating equipment and also serves as a mothership for two 50-ton motor cutters. The two factory trawlers were built in Japan and carried Japanese technicians on their first voyage.

United States Charter of Faroese Vessel for Tuna Fishing in Somali Not Completed: Plans for a United States charter of a Faroese fishing vessel for use in Somali were cancelled at the last moment because a concession from the Somali Government to the United States firm was changed from 15 to 8 years. The Faroese freezer vessel Skugvur was to have been chartered by a Massachusetts cold-storage firm for 4 to 6 months to operate in the tuna fisheries off Somali. It was to fish for tuna and also accept the catches of other vessels until a freezing plant had been completed in the Gulf of Aden by the United States firm. Its crew was to teach Somali fishermen fishing and catch handling methods. Since the charter plans were cancelled, the Skugvur will take a cargo of frozen cod blocks to Gloucester, Mass., after which the vessel may long line for tuna in the Caribbean area.

Norwegians Desire Landing Rights in the Faroe Islands: Norwegian fishermen are reported to be dissatisfied because they have no landing rights in the Faroe Islands while Faroese fishermen may land fish in Norway. Norwegian fishermen would like permission to freeze bait and process fish in

Faroe Islands (Contd.):

Faroese waters, especially when forced to seek shelter during stormy weather. In addition, they would like to land and sell the fish which they can not process on the trip back to Norway. The Norwegians say they often have had to throw fish overboard. (Regional Fisheries Attache for Europe, United States Embassy, Copenhagen, December 2, 1964.)

French Somaliland

TUNA EXPLORATIONS IN THE GULF OF ADEN:

In late 1964, the French tuna vessel Tutina was exploring tuna prospects in the Gulf of Aden with a view toward establishing a tuna fishing installation in French Somaliland at the port of Djibouti. For the same reason, the exploratory fishing vessel Tadjourah has been investigating tuna fishing possibilities since July 1964 in the Gulf of Tadjourah off French Somaliland. (United States Embassy, Addis Ababa, December 19, 1964.)

Ghana

JAPANESE COMPLETE SECOND STERN TRAWLER FOR GHANA:

The second of 10 large stern trawlers ordered by the Ghana Fisheries Corporation was completed in early December 1964 by a Japanese shipbuilding firm in Osaka. The vessel was scheduled for delivery to her owners on December 17, 1964. The vessel (1,850 gross tons) will be manned by 25 Japanese nationals in accordance with a technical services agreement concluded between Japan and Ghana. (Suisan Tsushin, December 11, 1964.)

Greece

OFFSHORE FISHING FLEET, 1963:

The Greek fleet of trawlers and purse-seiners operating in offshore waters of the Atlantic and Mediterranean as of December 31, 1963, included 23 Atlantic freezer-trawlers with a total tonnage of 14,558 tons; 364 other trawlers with a total tonnage of 15,383 tons; 293 purse-seiners with a total tonnage of 4,652 tons; and 139 mixed vessels (serving as trawlers and seiners) with a total tonnage of 2,849 tons. Total tonnage of the 819 vessels in the offshore fishing fleet amounted to 37,442 tons. (Alieia, September 1964.)

Haiti

CONSTRUCTION OF NEW FISH PROCESSING PLANT COMPLETED:

The construction of a fish freezing and packing plant in Haiti by a United States firm was completed this past summer. Dedication ceremonies held on August 27, 1964, were attended by United States and Haitian officials. The plant, which is designed for freezing and exporting fish and shellfish products, is reported to be completely equipped but as of the end of November had not started operating. The exact location of the plant was not given but is believed to be in Port-au-Prince. (United States Embassy, Port-au-Prince, November 27, 1964.)

Iceland

EXPORTS OF FISHERY PRODUCTS, JANUARY-SEPTEMBER 1964:

During January-September 1964, there was an increase in exports of salted fish (uncured), frozen fish fillets, cod-liver oil, fish

Icelandic Fishery Exports, January-September 1964 with Comparisons

Product	Jan.-Sept. 1964 Qty.	Jan.-Sept. 1964 Value f.o.b.		Jan.-Sept. 1963 Qty.	Jan.-Sept. 1963 Value f.o.b.	
	Metric Tons	1,000 Kr.	US$ 1,000	Metric Tons	1,000 Kr.	US$ 1,000
Salted fish, dried	728	18,425	427	1,579	32,065	744
Salted fish, uncured	22,756	352,316	8,174	17,569	221,266	5,133
Salted fish fillets	1,014	14,656	340	969	12,291	285
Wings, salted	1,173	14,765	343	1,504	18,484	429
Stockfish	7,317	203,796	4,728	5,202	146,323	3,395
Herring on ice	19	140	3	7,224	23,417	543
Other fish on ice	23,835	139,415	3,234	22,960	121,199	2,812
Herring, frozen	15,098	90,264	2,094	26,159	144,498	3,352
Other frozen fish, whole	2,654	26,817	622	2,265	24,133	560
Frozen fish fillets	44,359	888,421	20,611	41,535	767,720	17,811
Shrimp and lobster, frozen	960	87,477	2,029	438	44,495	1,032
Roes, frozen	1,389	23,775	552	788	13,227	307
Canned fish	204	11,203	260	174	9,036	210
Cod-liver oil	8,714	80,331	1,864	7,175	52,337	1,214
Lumpfish roes, salted	419	10,606	246	324	5,322	123
Other roes for food, salted	2,644	39,515	917	3,176	44,919	1,042
Roes for bait, salted	2,422	20,161	468	1,745	12,571	292
Herring, salted	24,530	264,743	6,142	29,098	295,780	6,862
Herring oil	29,605	231,194	5,364	29,981	139,055	3,226
Ocean perch oil	28	188	4	754	5,130	119
Whale oil	2,812	23,944	556	3,298	23,093	536
Fish meal	25,135	156,172	3,623	11,535	64,317	1,492
Herring meal	65,037	386,693	8,971	44,608	266,186	6,176
Ocean perch meal	1,599	9,354	217	2,953	13,754	319
Wastes of fish, frozen	5,038	15,732	365	4,452	12,426	288
Liver meal	457	3,023	70	371	2,563	59
Lobster and shrimp meal	129	475	11	72	193	4
Whale meal	1,211	6,694	155	100	558	13
Whale meat, frozen	1,809	14,395	334	1,967	13,564	315

Note: Values converted at rate of 1 krona equal 2.32 U. S. cents.

Iceland (Contd.):

meal, and herring meal as compared with the same period in 1963, according to the Icelandic periodical Statistical Bulletin, November 1964. Exports of herring on ice, frozen herring, salted herring, and ocean perch meal showed a considerable decrease in the first 9 months of 1964.

* * * * *

FISHERY LANDINGS BY PRINCIPAL SPECIES, JANUARY-JULY 1964:

Species	January-July	
	1964	1963
	. . . (Metric Tons) . . .	
Cod	253,919	203,157
Haddock	30,431	30,007
Saithe	16,488	8,270
Ling	3,335	4,149
Wolffish (catfish)	7,387	11,921
Cusk	2,766	4,826
Ocean perch	16,227	19,648
Halibut	644	695
Herring	289,033	196,026
Shrimp	202	349
Capelin	8,640	1,077
Lobster	2,156	3,068
Other	5,301	4,469
Total	636,529	487,662

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

* * * * *

UTILIZATION OF FISHERY LANDINGS, JANUARY-JULY 1964:

How Utilized	January-July	
	1964	1963
	. . . (Metric Tons) . . .	
Herring[1/] for:		
Oil and meal	263,707	126,696
Freezing	12,573	20,605
Salting	21,300	43,982
Fresh on ice	-	5,617
Groundfish[2/] for:		
Fresh on ice	21,019	19,139
Freezing and filleting	141,618	125,304
Salting	82,984	65,793
Stockfish (dried unsalted)	79,915	65,971
Canning	117	237
Oil and meal	2,547	2,290
Crustacea for:		
On ice	-	2
Freezing	2,322	3,334
Canning	36	82
Home consumption	8,391	8,610
Total production	636,529	487,662

1/Whole fish.
2/Drawn fish.

Indonesia

JAPANESE-INDONESIAN SHRIMP FISHING VENTURE:

An Indonesian company in Djakarta has signed an agreement with the Wakayama Prefecture Fishing Company of Japan for a fishing venture off Indonesia, according to the Indonesian periodical Antara. Under the agreement the Japanese firm will provide a first installment of credit amounting to US$1.5 million to purchase vessels and equipment. The equipment is scheduled to start arriving in Indonesia in January 1965 and production is to be under way by mid-1965. After production gets started, 20 metric tons of shrimp a month are to be exported to Japan to repay the loan. (United States Embassy, Djakarta, November 27, 1964.)

Japan

EXPORT VALIDATIONS OF FROZEN TUNA AND TUNA LOINS TO UNITED STATES, JANUARY-OCTOBER 1964:

Japan's export validations of frozen tuna and cooked frozen tuna loins to the United States in October 1964 totaled 7,728 short tons, of which 57.2 percent was albacore, 35.3 percent yellowfin tuna, 0.1 percent bigeyed tuna, 0.8 percent skipjack and 6.6 percent tuna loins.

During January-October 1964, export approvals amounted to 96,757 short tons, an increase of 31,270 short tons (47.7 percent) from the 65,487 short tons exported during the comparable period in 1963. On a species basis, albacore exports were up 62.6 percent, yellowfin 40.5 percent, skipjack 22.6 percent, tuna loins were up 17.2 percent. Big-eyed exports were down 3.2 percent. One short ton of bluefin tuna was exported compared with 374 short tons shipped during the comparable period in 1963.

In January-October 1964, direct shipments accounted for 57.4 percent of the total tuna exports to the United States and transshipments accounted for 42.6 percent. In the comparable period of 1963, total exports were about equally divided between direct shipments and transshipments.

Frozen tuna approved for export during the period January-October 1964 exceeds the

Japan (Contd.):

Japan's Export Validations of Frozen Tuna and Tuna Loins to U. S., Oct. 1964 and Jan.-Oct. 1963-1964

Species	October 1964			January-October 1964			January-October 1963			Total 1963
	Direct	Trans-shipped	Total	Direct	Trans-shipped	Total	Direct	Trans-shipped	Total	
	(Short Tons)									
Albacore, round	1,945	2,473	4,418	23,004	28,621	51,625	10,490	21,268	31,758	36,737
Yellowfin:										
Round	-	317	317	-	1,405	1,405	-	781	781	-
Gilled and gutted:										
20/100 lbs.	1,638	282	1,920	24,204	3,541	27,745	15,750	3,853	19,603	-
100 lbs. up	111	-	111	2,347	-	2,347	890	-	890	-
Dressed with tail	3	380	383	78	4,351	4,429	-	3,926	3,926	-
Fillets	-	-	-	33	12	45	294	104	398	-
Total yellowfin	1,752	979	2,731	26,662	9,309	35,971	16,934	8,664	25,598	33,370
Big-eyed:										
Gilled and gutted	-	5	5	30	35	65	24	4	28	-
Dressed with tail	-	4	4	-	201	201	-	240	240	-
Fillets	-	-	-	37	3	40	6	42	48	-
Total big-eyed	-	9	9	67	239	306	30	286	316	316
Bluefin, fillets	-	-	-	-	1	1	-	374	374	374
Skipjack, round	-	60	60	8	3,029	3,037	70	2,407	2,477	3,762
Loins:										
Albacore	310	-	310	2,746	-	2,746	2,130	-	2,130	-
Yellowfin	200	-	200	3,071	-	3,071	2,677	-	2,677	-
Bluefin	-	-	-	-	-	-	157	-	157	-
Total loins	510	-	510	5,817	-	5,817	4,964	-	4,964	6,183
Grand Total	4,207	3,521	7,728	55,558	41,199	96,757	32,488	32,999	65,487	80,742

Source: Japan Frozen Food Exporters Association.

total amount of tuna exported during the entire year in 1963 by 16,015 short tons. (Fisheries Attache, United States Embassy, Tokyo, December 1, 1964.)

* * * * *

APPROVED EXPORTS OF FRESH AND FROZEN TUNA:

The quantity of fresh and frozen tuna approved for export for the 7-month period April-October 1964 totaled about 102,000 metric tons, according to data compiled by the Japan Frozen Foods Exporters Association. The 1964 exports approved by the Association exceed comparable 1963 exports by some 25 percent. (Suisan Tsushin, November 26, 1964.)

Japanese Exports of Fresh and Frozen Tuna, April-October 1964

Item	Exports to:		
	U. S.	Overseas Bases[1]	Other[2]
	(Short Tons)		Metric Tons
Albacore (round)	38,876	4,272	4,214
Skipjack (round)	26,305	1,484	13,759
Yellowfin[3]	303	564	5,848
Big-eyed[3]	1,991	19	101
Bluefin[3]	-	-	7,811
Loin[4]	4,449	-	-
Total April-Oct 1964	71,924	6,339	31,733
April-Oct. 1963	39,229	11,474	35,885

1/Primarily to American Samoa and Penang, Malaysia.
2/Europe, Africa, and Australia.
3/Actual weight of gilled-and-gutted, dressed (with tail), and filleted tuna.
4/Includes mixture of different tuna species.

* * * * *

PRICES DROP FOR ATLANTIC FROZEN ALBACORE TUNA IN DECEMBER 1964:

The sharp price drop in December 1964 for frozen Japanese albacore tuna on the United States market, brought about by unusually good Japanese fishing in the tropical Atlantic Ocean and by lack of buying interest among U. S. packers, created an excess supply of 3,000-4,000 tons of Japanese frozen Atlantic albacore. According to reports in December 1964, one major U. S. tuna packing firm had not bought any Japanese tuna since the fall of 1964.

Reportedly, some frozen Atlantic albacore tuna sold in early December 1964 for as low as US$325 a short ton, c.&f. Puerto Rico.

Japan (Contd.):

The ex-vessel price for albacore tuna in Japan in December 1964 was 115 yen a kilogram ($290 a short ton). (Suisan Tsushin, December 4, 1964, and other sources.)

* * * * *

COST OF SHIPPING INDIAN OCEAN FROZEN TUNA TO PUERTO RICO:

The cost of shipping to Puerto Rico Japanese-caught Indian Ocean frozen tuna from the transshipment ports of Port Louis, Mauritius Island, and Durban, South Africa, was estimated to be US$70-80 a short ton in November 1964. Japan is mainly transshipping frozen albacore to the United States canneries in Puerto Rico at $355-360 a short ton c.i.f., or at the same price as that for albacore of Atlantic origin. To reduce shipping costs, the Japanese firms operating the two tuna bases are jointly using the same carrier vessels. (Suisan Tsushin, November 13, 1964.)

* * * * *

NEW TUNA PURSE-SEINE OPERATION OFF AFRICA OBSERVED BY FISHING COMPANY OFFICIALS:

Two officials of a leading Japanese fishing company arrived in West Africa early in December 1964 to study their company's new purse-seine operation. They were scheduled to spend about 2 weeks at sea observing the 2-vessel seining of the Kuroshio Maru Nos. 81 and 82. Plans called for those vessels to work together in setting a purse-seine net 2,000 meters (6,560 feet) long and 200 meters (656 feet) deep. The Japanese believe the use of two vessels to set the net on a school of tuna will speed the surrounding operation. The two vessels also jointly purse the net. The two Japanese seiners are supported by the mothership Chichibu Maru No. 2. Yellowfin and skipjack tuna are the objectives of the purse-seine fleet off Africa.

(Editor's Note: Japanese newspaper reports have indicated that the Kuroshio Maru Nos. 81 and 82 are equipped with a newly patented net hauler. Called the "side hauler," this gear consists of a number of rubber "balls" mounted at 2-meter intervals on a hydraulically-operated rotating shaft located on the side of the vessel. During net hauling, the "balls" on the rotating shaft cause the net to fold between them, thus facilitating hauling. The "side hauler" is reported to greatly reduce the manpower needed for net handling.)

If the two-vessel purse-seine operation proves successful off West Africa, it may result in major changes in the fishing gear and methods used by one of Japan's leading fishing companies.

While in Africa, the Japanese company officials observed tuna shipping activities in Freetown, Sierra Leone; Monrovia, Liberia; and Accra, Ghana.

Another purpose of the Japanese officials' visit to Africa was to work out plans for a live-bait supply operation that could save the tuna live-bait fleet valuable time. Plans were reported for a local bait fishery to supply shore-based storage facilities with a continuous supply of live bait. If successful, such a service is expected to save tuna vessels fishing with bait about 36 hours each trip. (Fisheries Attache, United States Embassy, Abidjan, December 8, 1964.)

* * * * *

TUNA PURSE-SEINE FLEET REPORTS POOR FISHING OFF WEST AFRICA:

The Japanese Chichibu Maru No. 2 (1,639 gross tons) purse-seine fleet, accompanied by the new seiners Kuroshio Maru Nos. 81 & 82 (each of 145 gross tons) as of early December 1964 reported poor fishing. As of early December, landings totaled 200 metric tons, mainly skipjack tuna. The fleet commenced fishing November 17. (Shin Suisan Shimbun Sokuho, December 9, 1964.)

* * * * *

FLEET FISHING TUNA IN GULF OF GUINEA:

A Japanese fishing company's five-vessel purse-seine fleet (led by the 1,600-ton mothership Chichibu Maru No. 2) commenced fishing in the Gulf of Guinea on November 7, 1964. On the first day the fleet caught about 7 metric tons of tuna; on the second day 25 tons (mainly skipjack). Subsequently, the fleet caught 3-4 tons a day.

The Chichibu Maru fleet (scheduled to operate in the Atlantic Ocean for two years) is experimenting with a mechanical net hauler called the "side hauler." High expectations are held for that device. (Suisan Tsushin, November 26, 1964.)

* * * * *

Japan (Contd.):

TUNA MOTHERSHIP FLEET FROM SOUTH PACIFIC LANDS:

A large Japanese fishing company's tuna mothership fleet, led by the mothership Shinyo Maru (3,800 gross tons), landed in Japan with 1,244 metric tons of tuna, spearfish, and shark, on November 18, 1964. The tuna catch was 206 tons of yellowfin, 506 tons of albacore, and 102 tons of other tuna species. The catcher vessels averaged 1.9 tons of fish a day. The fleet was last reported operating the Fiji Island waters at latitude 18° 43' S. and longitude 172° 54' E. (Suisancho Nippo, November 21, 1964.)

* * * * *

TUNA MOTHERSHIP OPERATIONS IN SOUTH PACIFIC SHOW LOSSES:

The large Japanese fishing company which operated the Yuyo Maru (5,500 gross tons) tuna mothership fleet in the South Pacific off the Fiji Islands in the summer of 1964 reported a loss of about 8 million yen (US$22,222) for that operation. The loss was attributed to the failure of some of the accompanying large catcher vessels (180-220 gross tons) to deliver all their catches to the mothership, with the result that the fleet catch target could not be met. In view of the loss, the Japanese firm (which in December 1964 was conducting winter operations with the tuna mothership Shinyo Maru, 3,800 gross tons) may reduce its mothership operations to 1 fleet in 1965. In 1963 that firm was reported to have lost 150 million yen ($416,667) in its tuna mothership operation.

Another large Japanese firm which also operated a tuna mothership (Nojima Maru, 8,800 gross tons) fleet in the South Pacific in the summer of 1964, is reported to have lost 150 million yen ($416,667) in 1964 and 70 million yen ($194,444) in 1963. Reportedly, that firm may not conduct mothership-type operations in the South Pacific in 1965. (Suisancho Nippo, December 11, 1964.)

* * * * *

TUNA FISHING TRENDS IN ATLANTIC OCEAN:

The Japanese tuna long-line fleet in the Atlantic Ocean as of early December 1964 continued to catch large quantities of albacore tuna. This resulted in driving down albacore export prices. Reportedly, some albacore sold for as low as US$325 a short ton c.& f. Puerto Rico (the check-price level). Informed sources claim that the excessive competition between Japanese exporting firms has not helped the situation, and has contributed to the price decline.

The ex-vessel price for albacore in Japan was about 115 yen a kilogram (US$290 a short ton). (Suisan Tsushin, December 2 & 4, 1964.)

* * * * *

TUNA RESOURCES IN ATLANTIC TO BE SURVEYED:

The 500-ton guidance vessel Iwaki Maru of the Fukushima Prefectural Fisheries Research Laboratory was to have departed Onahama on December 5, 1964, for the Atlantic Ocean. The Iwaki Maru, at the request of the Food and Agriculture Organization (FAO), is cooperating in the Atlantic tropical tuna survey and will remain at sea for 18 months. Tuna caught by that vessel will be handled for sale by a Japanese trading firm. (Suisancho Nippo, December 3, 1964.)

* * * * *

TUNA FLEET IN TROPICAL ATLANTIC:

About 140 Japanese tuna vessels were reported to be operating in the tropical Atlantic Ocean, as of early December 1964. The combined carrying capacity of the 140 vessels totaled about 48,000 tons.

The carrying capacity of the 82 vessels operated by the 5 large Japanese fishing companies and their affiliated firms totaled over 35,000 tons or over 70 percent of the combined capacity of the entire Japanese tuna fleet in the tropical Atlantic. (Suisan Tsushin, December 12, 1964.)

* * * * *

POOR SAURY SEASON CREATES TUNA BAIT SHORTAGE:

The 1964 saury fishing season in Japan as of early December 1964 was extremely poor and the light landings forced ex-vessel prices up to a high of over 100 yen a kilogram (US$252 a short ton) at Choshi, Chiba Prefecture (east of Tokyo), and to 60-80 yen a kilogram ($151-202 a short ton) in the Sanriku region (northeastern Japan).

Saury are used extensively as bait in the tuna long-line fisheries and the poor saury

apan (Contd.):

eason threatens to create a severe shortage r bait in 1965. Yearly consumption of saury tuna bait totals an estimated 40,000-60,000 etric tons, but the saury bait supply, as of rly December, was estimated at only 25,000 etric tons, thus leaving a forecasted short-e, as of early December, of at least 15,000 ns.

The Japanese pack of canned saury, as easured by consignments made to the Can-d Saury Sales Company as of December 8, 64, was reported at 500,400 actual cases. wing to poor fishing conditions, difficulty of ocuring supply, and the high prices for the w product, the saury packers were expected end packing operations for the 1964 season rly in December. (Suisan Tsushin and Suis-ncho Nippo, December 10, 1964.)

* * * * *

EFUELING OF TUNA VESSELS AT SEA:

The 1,983-ton tanker Tofuku Maru, char-red by the Japan National Federation of una Fishermen's Associations to refuel the ederation's tuna vessels operating in the stern Pacific, was scheduled to return to okohama in late November 1964 after a 195-y trip. The tanker refueled at sea a total 119 vessels and contributed substantially the improvement of their operations and rnings since those vessels, as a result of t having to run into port to refuel, were le to spend that many more days fishing. linato Shimbun, November 19, 1964.)

* * * * *

UNA VESSEL DESIGN PROVEMENT STUDIES:

To reduce manpower requirements in the na fishery, the Japanese Fisheries Agency ay start a vessel design study. The Agency reviewing a plan to construct and test a odel tuna vessel for operation in the dis-nt-water tuna fishery, where the need for ssel improvement is most critical. Con-truction of the model vessel is expected to undertaken sometime after 1966. In the eanwhile, the Agency hopes to establish a search group, to be formed by Government nd industry scientists, fishing experts, and ipbuilding and equipment engineers, to study nd develop recommendations. (Suisan Tsu-hin, December 14, 1964.)

* * * * *

EXPORTS OF CANNED TUNA TO UNITED STATES SUSPENDED:

The Japanese Ministry of International Trade and Industry (MITI) on December 1, 1964, suspended all canned tuna exports to the United States. The reason is that despite the expiration on November 20, 1964, of the agreement for business year 1964 (concluded among the export traders concerned on the basis of the Export-Import Transactions Law), a new agreement for business year 1965 (begins December 1) has not been concluded among those traders because of the conflict between the traders and canners. Attaching importance to this situation, MITI and the Japanese Fisheries Agency are making efforts to mediate between the two groups.

At present, 18 trading companies are exporting canned tuna to the United States at a fixed quota allotted under the agreement concluded among those companies. The canners involved, however, have strongly asked for a revision of the agreement since the spring of 1964. But the trading circles concerned tried to maintain the existing agreement by rejecting the canners' request. The assertions of the two groups have followed parallel lines and the agreement has finally expired. The result is that no agreement was concluded since December 1, 1964. MITI, therefore, has adopted measures not to approve exports until conclusion of a new agreement because of apprehension that it might adversely affect the pattern of exports. Some quarters fear that if this situation continues it may seriously affect exports for the new business year.

The canners are strongly opposed to the agreement concluded among the trading companies because the amount of exports for 1964 was 2,204,000 cases (48 No.2 or 7-oz. cans/cs.) which was below the level of 2,270,000 cases for 1963 and the level of 2,300,000 cases for the year before that. The canners also believe that under the selling methods based on the agreement there is a gap between the quota and the trading companies' selling capacity and that this is the greatest cause for the deterioration of the export pattern.

The trading circles concerned, however, attribute the export decline for 1964 to the fact that in 1963 stocks were carried over to 1964 due to the canned tuna botulism incident in 1963 and that production in the United States has increased. Those circles emphasize that it is not true that the responsibility for the situation lies in the agreement, as the canners concerned say it does. Under such circumstances, MITI and the Fisheries Agency are strongly asking the two sides to settle the problem through immediate negotiations. MITI also plans not to approve exports until a new agreement is concluded. (Nihon Kogyo, December 3, 1964.)

* * * * *

PACKERS AND EXPORTERS FAIL TO MAKE CANNED TUNA EXPORT AGREEMENT:

As a result of the failure of Japanese tuna packers and exporters to settle a new export agreement covering the export of canned tuna to the United States for the business year December 1964-November 1965, the Japanese Ministry of International Trade and Industry (MITI) provisionally extended the old agreement which expired November 31, 1964. Some members of the Japan Packers Association (formerly shared the minority view but have managed to gain adherents to their views to a point where they have a powerful voice in the Association) feel that the old export agree-

Japan (Contd.):

ment should be completely revised so as to cope with declining canned tuna exports to the United States.

At the request of the Fisheries Agency, the Packers Association was to hold an executive meeting on December 9, 1964, to consolidate the views of the group. The views held by the Association and those held by the exporters are said to be irreconcilable. It is reported that in the end the Fisheries Agency (which is said to lean toward the packers' viewpoint) and MITI (which shares the views of the exporters) may have to get together in an attempt to reach settlement on a new agreement. (Suisan Tsushin, December 5, 1964, and other sources.)

* * * * *

FUNDS BUDGETED FOR CANNED TUNA PROMOTION IN UNITED STATES:

The International Tunafish Association of Japan has budgeted 48,501,000 yen (US$134,725) for promoting the sale of canned tuna in the United States. Half of that sum is to be subsidized by the Japanese Government.

The sum of 24,250,680 yen ($67,363) is to be used for public relations aimed at promoting the demand for canned tuna in the United States through a national program directed at the American family. In addition, efforts will also be directed toward increasing use of tuna in the hotel and restaurant trade and at government facilities. This phase of the program is directed by a United States public relations firm to promote tuna packed by United States packers who are the customers of the Japanese export frozen tuna industry.

The sum of 23,250,320 yen ($67,362) is to be spent on 10- and 20-second television spots promoting Japanese canned tuna in brine. The spots are to be televised in the New England and New York areas for two months (February 1-March 30, 1965). That part of the promotion is being handled by a New England advertising agency. (Suisan Tsushin, December 3, 1964, and other sources.)

* * * * *

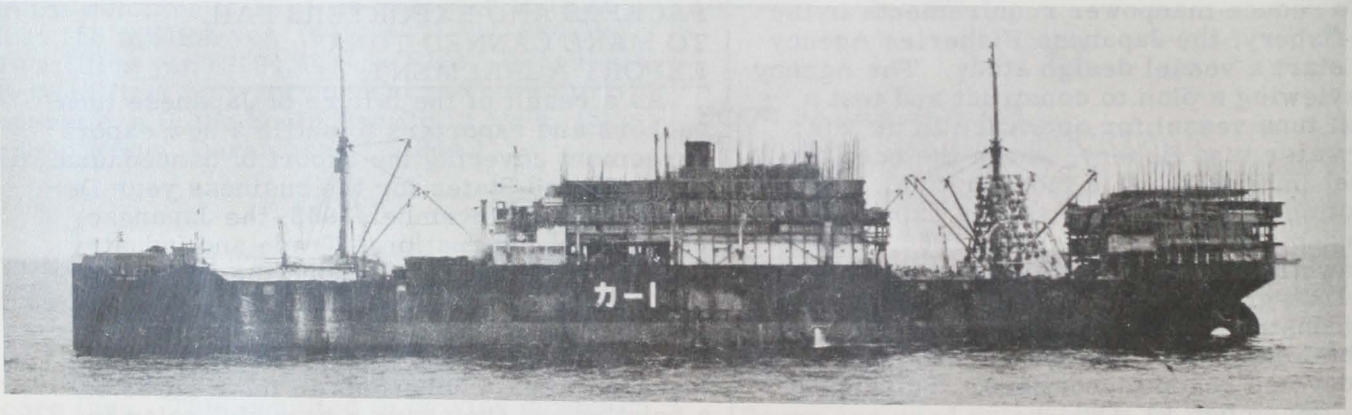
CANNED TUNA MARKET SURVEY CONDUCTED IN U. S. CITIES:

A canned tuna market survey of the Boston (Mass.) and New York areas made by the Japan External Trade Organization (JETRO) reveals that October 1964 sales of brand-name Japanese products were steady but those of lesser known brands were poor. Except for one case where solid white tuna in brine (7 oz. 48's) sold at a promotional discount of US$0.20 a case, all Japanese brands were being sold at list price. Sales in October were reported at the same level as in September. (Suisan Tsushin, December 2, 1964.)

* * * * *

KING CRAB TRAP FISHING PLANNED IN BRISTOL BAY:

The Japanese Fisheries Agency has decided to license trap fishing for king crab in 1965 in the waters set aside specifically for trap fishing in Bristol Bay. That decision follows the United States-Japan king crab fishery agreement to establish an area off Alaska especially for crab fishing by traps and to



Japanese king crab factoryship Tokei Maru.

Japan (Contd.):

prohibit the use of any other crab fishing method in that specific area.

The 9 Japanese fishing companies which jointly operate the Dainichi Maru (5,858 gross tons) and Tokei Maru (5,385 gross tons) king crab factoryship fleets in Bristol Bay are reported to have agreed to a Fisheries Agency recommendation that they employ crab-pot gear in 1965. Each of the 2 fleets are expected to employ 1 crab-pot fishing vessel in 1965. (Shin Suisan Shimbun Sokuho, December 11, 1964; Nihon Kogyo, December 14, 1964.)

* * * * *

POTS MAY BE USED TO FISH KING CRAB IN BRISTOL BAY IN 1965:

The Japanese fishing companies which operate the king crab factoryships Tokei Maru (5,385 gross tons) and the Dainichi Maru (5,858 gross tons) are planning to fish with crab pots in Bristol Bay in 1965. Reportedly, the use of crab pots will add to their operational cost, but they are expected to follow the recommendation of the Fisheries Agency to experiment with pot fishing in Bristol Bay. Although plans have not been completed, each of the two fleets is expected to operate one crab-pot fishing vessel in 1965. (Shin Suisan Shimbun Sokuho, December 4, 1964.)

* * * * *

JAPANESE FEEL SOVIETS MAY START MOTHERSHIP-TYPE SALMON FISHERY IN NORTH PACIFIC:

According to unofficial Japanese sources, some elements within the Soviet fisheries structure are hopeful of developing a high seas salmon fishery in the North Pacific off the Soviet coast. In June 1964 the Soviet Union was reported as having conducted experimental high-seas salmon operations, employing a mothership. Details concerning that vessel's operations have not been divulged. The Japanese fishery delegation which visited the Soviet Union this year (1964) is said to have explored this matter but received no response from the Soviet Union. However, Japanese sources believe the operation was not very successful.

According to those sources, the Soviet Union attributes the decline in Asian salmon runs to the effect of the Japanese high-seas fishery. As a result of declining runs, the Soviet Union reportedly has had to gradually reduce the scope of her shore-based fishing operations, even to the extent of causing the closure of some facilities, and some Russian circles are now said to be strongly pushing for the development of a high-seas salmon fishery. Reportedly, many within the Soviet Government fisheries structure oppose such a plan. However, the Soviet Union has the technical knowledge and fishing vessels to enable her to conduct a high-seas fishery for salmon, if she so wishes.

The Japanese sources believe that the Soviet Union will likely not undertake to develop immediately a high-seas salmon fishery like that of Japan, but may begin by conducting mothership-type operations off the Soviet coast between Olyutorski and Cape Anadyr to exploit the chum and pink salmon resources of those regions. (Suisan Keizai Shimbun, November 29, 1964.)

* * * * *

LICENSING OF VESSELS FOR NORTHEASTERN PACIFIC TRAWL FISHERY TO BE STUDIED:

The Japanese Fisheries Agency, which was expected to announce in January 1965 vessel licensing regulations for the northeastern Pacific trawl fishery, was requested to study the situation carefully before licensing additional trawlers in 1965. The request was made not in complete opposition to an increase in vessels to be licensed in 1965. The reasons for that point of view were: (1) an increase in vessels over the 1964 fleet of 6 trawlers would further disrupt the market for rockfish (main species taken in that fishery), the prices for which declined drastically in 1964; (2) high-priced fish, such as sablefish, are not abundant and shrimp can only be fished in confined areas; and (3) good trawling grounds are limited and spotty. It is believed vessels licensed for that fishery would find it difficult to operate on a profitable basis, as indicated during the 1964 season which was barely satisfactory. Therefore, if the Agency should plan on licensing additional trawlers for operation in the northeastern Pacific in 1965, then the increase should not be large.

The Fisheries Agency was studying plans on licensing a total of less than 10 trawlers in the northeastern Pacific in 1965. (Suisan-cho Nippo, December 7, 1964.)

* * * * *

Japan (Contd.):

TRAWLERS LICENSED FOR NORTHEASTERN PACIFIC IN 1965:

The Japanese Fisheries Agency is planning on authorizing the operation in the northeastern Pacific in 1965 of not more than 2 or 3 trawlers in addition to the 6 vessels licensed in 1964. The Agency is also expected to remove the seasonal restriction placed on that fishery and to permit year-round operation. Further, the trawlers engaged in that fishery will be permitted on a gradual basis to fish with 1 or 2 smaller vessels. (Suisan Tsushin, November 30, 1964.)

* * * * *

BOTTOMFISH MOTHERSHIP ASSOCIATION SUBMITS RECOMMENDATIONS ON NORTH PACIFIC-BERING SEA FISHERY:

The Japan Northern Waters Bottomfish Mothership Association, on December 7, 1964, presented the following recommendations to the Japanese Fisheries Agency for the 1965 bottomfish fishery in the Bering Sea and the North Pacific:

1. The Government should not permit an increase in fishing effort in the Bering Sea beyond the 1964 scale of operations. Despite the reduction in mothership-type operations enforced by the Association to stabilize the bottomfish fishery, success has not been achieved due to the entry into the Bering Sea fishery of additional independently operating trawlers withdrawn from other fisheries.

2. The valid period for licenses should be extended from the present one year to two years or more, and the Government should take appropriate action to cope with any changes in fleet composition during the effective period of the licenses.

3. The North Pacific waters south of the Aleutian Islands west of 165° W. longitude should be combined with the eastern Bering Sea as an operational area for the mothership-type bottomfish fishery. Inclusion of the waters south of the Aleutians west of 165° W. longitude, where four trawl fleets fished experimentally in 1964, would permit wider distribution of fishing effort and thus contribute to the conservation of resources of the Bering Sea.

4. Operational order should be firmly established for the northern waters bottomfish fishery. Independently operating trawlers diverted from other fisheries and licensed to operate in the western and central Bering Sea have, in some instances, extended their operations beyond their licensed area. These violations unfortunately have served to invite the distrust of foreign fishermen.

5. The Gulf of Alaska fishery, presently regulated as an experimental fishery, should be established as a regular licensed fishery in 1965. Fleet operations should be maintained at the 1964 level due to the limited grounds where commercial fishing is possible and since these grounds are being developed.

6. The eastern limit of the operational area for the Gulf of Alaska fishery should be expanded from the present line at 135° W. longitude to the waters off Vancouver. In addition to Japan, the Soviet Union is operating a huge fleet in the Gulf of Alaska. Canada is also reported to be getting ready to fish bottomfish in the Gulf. It would be desirable that the operational areas be expanded to permit Japan to expand her operations into those international waters and to develop a fishery by exploring and using the unexploited resources.

7. The number of trawlers to be authorized for operation in the Gulf of Alaska should be held at the same level as in 1964. However, in licensing additional vessels, preference should be given to firms engaged in the mothership-type bottomfish fishery.

8. Transfer of catch at sea should be permitted. (Suisan Tsushin, December 8, 1964.)

* * * * *

BERING SEA FISHERY OPERATIONS, DECEMBER 1964:

The Japanese Chichibu Maru (7,420 gross tons) fleet ended its second half year of shrimp fishery operations in the eastern Bering Sea on December 10, 1964, and was to have returned to Hakodate on December 15. The Chichibu Maru's production totaled about 60,000 cases (48 $\frac{1}{4}$-lb. cans) of shrimp and 5,500 metric tons of frozen fish (consisting of rockfish 1,600 tons, yellowfin sole 1,200 tons, black cod 800 tons, herring 700 tons, and heads-off shrimp 50 tons). The Chichibu Maru's operation ended with a deficit in 1964 since the mothership was unable to meet her production target, reportedly due to loss of fishing time resulting from bad weather in

Japan (Contd.):

October and November. Additional fishing time was lost when that vessel was diverted to Prince William Sound in late summer to pick up fresh salmon purchased from Alaskan fishermen.

The same firm's trawler Akebono Maru No. 71 (3,500 gross tons) concluded her first phase of operations in the eastern Bering Sea and was scheduled to return to Kurihama, Japan, on December 14, 1964. The Akebono Maru's production totaled 1,888 metric tons of bottomfish (1,600 tons of rockfish, 200 tons of black cod, and 88 tons of miscellaneous species). After unloading her catch, the Akebono Maru was scheduled to depart for the Bering Sea again.

Three other 3,500-ton Japanese trawlers (Akebono Maru No. 72, Aso Maru, and Taiyo Maru No. 82) as of mid-December 1964 were still operating in the eastern Bering Sea and were scheduled to continue operations until January or February 1965. (Suisan Tsushin, December 12, 1964.)

* * * * *

TRAWL OPERATIONS IN NORTHWEST ATLANTIC:

The 3,700-ton Japanese stern trawler Tenyo Maru, which operated in the Northwest Atlantic Ocean on an experimental basis for approximately one year, was scheduled to return to Japan in mid-December 1964. The fishing company which operates that trawler is undertaking a study to determine whether or not to send a vessel to the Northwest Atlantic in 1965.

The Tenyo Maru landed 15,000 metric tons of fish (mainly cod), or 62 percent of her production target. Reasons ascribed to the poor catch were: (1) rough seas and the unsuitability of the vessel for operation in the North Atlantic; (2) severe competition on the fishing grounds; (3) poor cod season in general. (Suisan Keizai Shimbun, November 14, 1964.)

* * * * *

NEW STERN TRAWLER SCHEDULED TO FISH IN ATLANTIC OCEAN:

The 3,500-ton Japanese stern trawler Kirishima Maru was delivered to her new owners on November 30, 1964. The trawler was built at a shipyard in Okayama Prefecture and will be dispatched to the Atlantic Ocean following a shakedown cruise. (Suisancho Nippo, December 1, 1964.)

* * * * *

LARGE TRAWLER DEPARTS FOR ATLANTIC:

The 1,500-ton Japanese stern trawler Daishin Maru No. 15 was scheduled to depart Osaka on November 28 1964, for the trawling grounds off west Africa. The Daishin Maru operated in the Gulf of Alaska in the summer of 1964. (Suisan Tsushin, November 21, 1964.)

* * * * *

CANNED SALMON EXPORTS DOWN IN 1964:

The value of Japan's export of canned salmon in 1964 was expected to drop to the lowest level in the past seven years, mainly due to poor catches, according to the Japan Canned Salmon Sales Company. Exports for 1964 were expected to total about 2,020,000 cases (48 $\frac{1}{2}$-lb. cans) or about 110,000 cases less than in 1963. Red salmon were expected to account for 850,000 cases (1.1 million cases in 1963); silver 400,000 cases (300,000 cases); pink 600,000 cases (same as 1963); and chum salmon 170,000 cases (130,000 cases). (The Japan Economic Journal, November 10, 1964.)

* * * * *

SALTED SALMON, AND HERRING AND SALMON ROE PRICES:

Herring roe, a traditional New Year's food in Japan, in mid-November 1964 was sold to Japanese wholesalers at prices ranging from 6,000 yen a kilogram (US$7.57 a lb.) for extra large, 3,800 yen a kilogram ($4.79 a lb.) for medium, and 2,000 yen a kilogram ($2.52 a lb.) for small. Prices were for roe of Hokkaido origin. The product was said to be beyond the reach of ordinary consumers and virtually all of it was being purchased by business firms for use as year-end gifts or by high-class restaurants. Domestic roe products being in very short supply in Japan, 120 metric tons of herring roe were imported from the Soviet Union. Of that quantity 70 tons as of mid-November 1964 had been sold and only 40 tons were expected to be available for the year-end trade. The Soviet product (medium and large roe) was selling at 3,000-4,000 yen a kilogram ($3.79-5.05 a lb.)

Other fishery products which generate tremendous demand in Japan as year-end gifts

Japan (Contd.):

are salmon roe and lightly salted salmon. Japanese domestic salmon roe was selling for 2,000-2,500 yen a kilogram ($2.52-3.15 a lb.) for high-quality and 1,700-1,800 yen a kilogram ($2.14-2.27 a lb.) for medium roe. However, much of the salmon roe in supply was imported from the Soviet Union, which was sold at 1,600-1,700 yen a kilogram ($2.02-2.14 a lb.).

Lightly salted salmon (species not designated but believed to be chum salmon) was quoted at 440-470 yen a kilogram ($0.56-0.59 a lb.), 10 percent above the price in 1963. (Hokkai Suisan, November 23; Suisan Keizai Shimbun, November 20, 1964.)

* * * * *

DELEGATION NEGOTIATES PURCHASE OF SOVIET HERRING:

A seven-man Japanese delegation was scheduled to leave for Moscow on December 10, 1964, to negotiate the purchase of Soviet herring. The delegation hoped to negotiate a three-year contract calling for the delivery of 4,000 metric tons of (frozen) herring in 1965; 5,000 tons in 1966; and 6,000 tons in 1967. In 1964, Japan contracted for the delivery of 3,000 tons of herring. (Suisancho Nippo, December 3, 1964.)

* * * * *

HERRING ROE PRICES:

Herring roe, a traditional Japanese New Year's food referred to in Japan as the "yellow diamond," reportedly were sold in mid-December 1964 for a new high on the Tokyo wholesale market at the fantastic price of 17,000 yen a kilogram (US$21.43 a pound) for the top-quality dried product. That price exceeds the 1963 year-end high price of 16,500 yen a kilogram ($20.80). Lower grade salted herring roe imported from the Soviet Union reportedly are being sold at around 5,000 yen a kilogram ($6.30 a pound) as compared with 3,500 yen a kilogram ($4.41 a pound) in 1963. (Suisan Keizai Shimbun, December 11, 1964, and other sources.)

* * * * *

SHRIMP IMPORTS, JANUARY-AUGUST 1964:

Japanese shrimp imports for January-August 1964 totaled 12,299 metric tons on a customs clearance basis. This was an increase of about 4,500 metric tons, or over 50 percent, above the January-August 1963 imports of 7,737 tons, and also surpasses the overall 1963 imports of 11,533 tons.

Imports from Communist China totaled 4,289 metric tons as compared to total 1963 imports from that country of 2,663 metric tons. Imports of Mexican shrimp (transshipped from U.S.) totaled 3,897 metric tons, or 762 metric tons more than total 1963 imports. (Suisan Tsushin, October 21, 1964.)

* * * * *

KOREAN FISHERY PRODUCTS TO BE IMPORTED:

The Japanese Government announced on December 1, 1964, that it was permitting on a special basis the importation of US$2 million worth of South Korean fishery products. Products to be imported are squid ($1 million), yellowtail ($700,000), and sea bream ($100,000). Allocation of the remaining sum ($200,000) is to be determined after examination of domestic market developments. The first shipment of fish was expected to arrive in Japan about mid-December.

The reasons given for the Japanese Government's action are stated to be: (1) strong request made by South Korean Government; (2) shortage of squid, yellowtail, and sea bream in Japan; (3) stabilization of prices for those products in short supply. Political considerations (e.g., improved foreign relations climate, release of Japanese fishing vessels and crews by Korean Government) are said to have played some part in the Government's decision. (Suisan Tsushin, December 2, 1964.)

* * * * *

SHORTAGE IN OKINAWAN LABOR FORCE FOR USE ON JAPANESE FISHING VESSELS:

A survey of the Okinawan labor force conducted in November 1964 by a Japanese official revealed that it may be practically impossible for the Japanese coastal fishery operators to attract young Okinawans to sail on their vessels due to the great shortage of labor in Okinawa. Japanese coastal fishery operators, experiencing great difficulty in attracting young Japanese men into the fishery, had hoped to employ Okinawans and had

Japan (Contd.):

initiated the survey. (Suisan Keizai Shimbun, December 1, 1964.

* * * * *

NEW STERN TRAWLER LAUNCHED:

The 3,470-ton Japanese stern trawler Takachiho Maru, owned by a large Japanese fishing company, was launched November 17, 1964, at a shipyard in Okayama Prefecture. The trawler was expected to be completed in January 1965. The vessel's specifications are: length 88 meters (289 feet); beam 16 meters (53 feet); gross tonnage 3,470; deadweight tonnage 3,400; speed about 15.5 knots; cold-storage holding capacity 3,500 cubic meters (123,585 cu. ft.); main engine 3,900 brake hp.

Press reports indicated that the trawler would be assigned to the Gulf of Alaska in 1965. (Suisancho Nippo, November 11, 1964, and other sources.)

* * * * *

BOTTOMFISH RESOURCES IN WATERS OFF AUSTRALIA TO BE SURVEYED:

The Japanese Fisheries Agency is proceeding with plans to explore the bottomfish resources in the waters off Australia. The investigation is expected to begin in 1965. The survey is part of the Agency's plan to promote the development of new fishing grounds to counteract the growing trend where Japan is gradually being squeezed out of existing fishing grounds by various coastal states. Reportedly, the high seas off Australia were selected since they hold promise and other foreign countries are not now engaged in fishing those waters. (Suisancho Nippo, November 19, 1964.)

* * * * *

FISHERY REPRESENTATIVES TOUR COMMUNIST CHINA:

Three Japanese fishery representatives departed Japan on November 21, 1964, on a one-month tour of Communist China at the invitation of the Chinese Fishery Association. Purpose of the tour was to study: (1) Chinese fishery policy, administrative structure, and training and research programs (particularly program changes subsequent to the Second Five-Year Plan); (2) structure of fishery production organizations, living conditions of fishery workers, and relationship between fishing industry and agriculture; (3) fishing port facilities, distribution, and fish prices; and (4) marine resources conservation programs and Chinese views on international treaties, such as the Conventions on the Law of the Sea and on the Continental Shelf. They were scheduled to visit Hong Kong, Kwangchow, Peking, Shanghai, and Tsingtao.

The Japanese team was Masataka Ide (President, Japan National Fishing Port Association), Shigehisa Matsuda (member of the Japan Marine Products Research Institute), and Makoto Tange (Planning Section, Japanese Fisheries Agency). (Suisan Keizai Shimbun, November 19, 1964.)

* * * * *

CANNED HAKE MARKETING PROJECT POSTPONED:

The Japanese firm, which had been planning on marketing canned merluza (hake) in Japan beginning in November 1964, was reported to have postponed the sale due to lack of favorable response to the product. Merluza or hake taken in waters off west Africa were packed in oil by the Japanese firm and submitted to a series of taste panels in Japan, as well as exported to Europe on an experimental basis. The product failed to create a favorable reaction reportedly due to the undesirable fish odor present in the pack. (Suisancho Nippo, December 4, 1964.)

* * * * *

SOVIETS FISHING SAURY OFF NORTHEASTERN JAPAN:

The Soviet fleet fishing for saury off the northeastern coast of Japan was reported in late November 1964 to be operating 20-30 nautical miles off Kinkazan, Miyagi Prefecture. The fleet was said to consist of two 8,000-ton-class motherships and 30 fishing vessels. (Shin Suisan Shimbun Sokuho, November 28, 1964.)

* * * * *

FIRM BUILDING NEW FREEZER FACTORYSHIP-MOTHERSHIP:

A large Japanese fishing company is constructing a 9,300-gross-ton freezer factoryship-mothership at a shipyard in Yokohama. The mothership, to be called Meisei Maru No. 2, was scheduled to be launched on November 30 1964, and is expected to be opera-

Japan (Contd.):

tional in spring 1965. The Meisei Maru will be used as a salmon mothership during the summer salmon season and for bottomfish fishing in the northern waters (North Pacific, Bering Sea, etc.) during the winter (November through March).

The firm owning the mothership plans to divert the 7,400-ton factoryship Chichibu Maru as a carrier vessel on the Atlantic Ocean run during the winter months. The Chichibu Maru would then replace the Meisei Maru in the spring when the Meisei Maru switches to salmon fishing. (Suisan Tsushin, November 19, 1964.)

日本

Republic of Korea

OFFSHORE FISHING FLEET EXPANDED:

As of November 30, 1964, there were 21 Korean tuna long-line vessels in operation. Those included one 378-ton vessel delivering catches to Port-of-Spain, Trinidad, for a United States firm; two 148-ton vessels delivering to Santos, Brazil, for a British-Japanese firm; and 18 vessels (ranging from 103 to 145 tons) delivering catches to American Samoa for United States firms.

The Korean Government has contributed to the expansion of the Korean fishing fleet by guaranteeing the repayment of certain loans arranged by private Korean firms to finance new fishing vessels. In 1963, the Korean Government approved payment guaranties totaling US$6.2 million for the following groups of vessels.

(1) Nine 145-ton tuna vessels financed by United States companies and intended for fishing in the South Pacific. The vessels were delivered by August 1964 from shipyards in Pusan, Korea.

(2) Ten 135-ton tuna vessels financed by a European company and intended for fishing off western Africa. The vessels were scheduled for delivery in December 1964 by a European company.

A Korean mackerel seiner equipped with a power block for hauling in the seine net.

(3) Eight 135-ton tuna vessels and two 290-ton tuna vessels financed by a United States firm and intended for Indian Ocean fishing. The vessels, which are being built in Japan, had not been delivered as of November 1964.

(4) Eleven 140-ton refrigerated vessels financed by a United States company and intended for fishing in the South Pacific. The vessels, which are being built in Japan, had not been delivered as of November 1964.

Late in 1964, the following additional moves to expand Korea's fishing fleet were reported:

(1) On November 20, 1964, the Korean Government approved, subject to approval of the Japanese Government, a payment guaranty for a loan of $2,735,600 (including $518,258 in interest) from a Japanese firm. The Korean recipient is a Government-run shipyard in Pusan, Korea. Terms call for 5.5 percent annual interest and repayment of the loan in 7 years after a 6-month deferment. The original purpose of the loan was to build 19 tuna vessels aggregating 2,660 tons. However, if interested parties in Japan concur, the Korean interests now propose to build 2 freighters (one of 4,000 tons and one of 2,600 tons) in lieu of the tuna vessels.

(2) On October 29, 1964, representatives of a Korean fishing company and a United States processing firm signed an agreement for a loan of $310,000 for the construction of two 200-ton steel vessels for tuna long-lining. Materials and equipment are to be imported and the vessels are to be constructed in Pusan, Korea, from March to September 1965. In October 1965, the vessels are scheduled to be completed and to sail for fishing grounds near American Samoa where the catch will be delivered to the processing facilities of the United States firm making the loan. The loan terms call for repayment in 5 years at 6-percent interest.

(3) Another Korean fishing company and a United States processor have also negotiated a new agreement whereby the United States company is to make a cash loan of $1,490,000 to enable the Korean firm to purchase materials to build five 200-ton and five 180-ton tuna-fishing vessels at Pusan. The agreement calls for the Korean Government to subsidize part of the vessels' construction cost, but as of late 1964, the Korean Government had not approved the arrangement. It is believed that the United States and Korean interests will go ahead and build the vessels even if the subsidy is not approved. Terms of the loan call for 6 percent annual interest and repayment in 6 years after a grace period of 2 years. The new vessels built with the loan are to fish off Western Africa in the vicinity of Freetown, Sierra Leone.

(4) Possible foreign financing to build three 350-ton tuna vessels has been discussed by still another Korean firm which is seeking Korean Government approval of the project. Prospects for the proposal were not clear late in 1964.

The initial deliveries of vessels under the agreement between the Korean Government and a French-Italian consortium are expected in early 1965. The agreement, which can be expanded, calls for delivery of 91 vessels for a total of 22,740 gross tons. Those include 76 tuna long-liners, 2 offshore trawlers, and a research laboratory vessel for deep-sea fishing, plus 12 trawlers for fishing in Korea's coastal waters. Delivery is due to be completed in 1967. Vessels received under this agreement are to be managed by the Korea Marine Industrial Development Corporation, a Korean Government corporation. Some of the new vessels will deliver their catches to a United States processor at American Samoa. (United States Embassy, Seoul, December 9, 1964.)

* * * * *

TRAINING PROGRAM FOR FISHERMEN SPONSORED BY UNITED NATIONS SPECIAL FUND:

On November 13, 1964, representatives of the United Nations Special Fund and the Ko-

Republic of Korea (Contd.):

rean Government signed an agreement for the peration of a fishing training center. The roject will be executed by the Food and Agri- ulture Organization, with the Korean Minis- ry of Agriculture and Forestry as the coop- rating agency. The Special Fund is to con- ribute US$1,013,500 and the Korean Govern- ent is to provide goods and services valued : $919,696 for the training center which is o operate for 5 years.

The program at the training center will mphasize fishing techniques, particularly una fishing and various types of trawl fish- ng. The center will be located at Pusan, but ost of the training will be given aboard 2 ishing vessels where the trainees will re- eive instruction and practical training for a eriod of 6 to 12 months. A tuna long-liner 280 gross tons) and a trawler (150 gross ons) are to be imported to serve as training essels. FAO is trying to expedite delivery f the training vessels because fishing ves- els ordered from France and Italy are cheduled to begin arriving in early 1965. The training program will help supply crews or the new vessels. (United States Embassy, Seoul, November 23, 1964.)

Mexico

EXPANDED FREEZING AND DISTRIBUTION CENTER FOR FISHERY PRODUCTS OPENS NEW MARKETS:

An important new component of the Mexican Government program to bring low-cost seafood to more people is the freezing and storage plant located in Tepepan, a suburb of Mexico City.

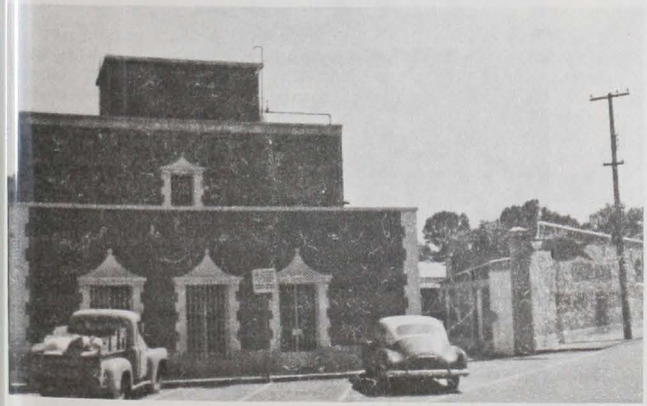


Fig. 1 - Headquarters of Frigorificos de Tepepan, the new Mexican distributing center for refrigerated fishery products.

The plant, formerly a general cold-storage installation, was acquired by the Mexican National Consultative Fisheries Commission in mid-1964. The plant has been converted to handle seafood only. Its present freezing capacity is 15 metric tons a day and storage capacity is 750 tons. Both freezing and storage capacity are being doubled with the addition of new buildings and the installation of new refrigeration equipment--mostly of United States manufacture. Investment in the plant is 8 million pesos (US$640,000).

Three 15-ton tractor-trailer refrigerated trucks have been acquired to haul fresh fish from coastal ports to the plant. During the first few months of operation, fish was brought to the plant by trucks using ice. Ports supplying fish are Mazatlan in Sinaloa, Progreso in Yucatan, and ports in Veracruz State.

Fig. 2 - One of three refrigerated trucks which haul fish from fishing ports to the freezing plant at Tepepan.

Fig. 3 - Plant engineer and general manager of the Tepepan center standing by refrigerated truck. Partly visible on the truck is the slogan, "Bueno. . .el pescado" (Fish is great). That slogan is broadcast day and night on Mexican radio and television in the campaign to increase fish consumption.

Mexico (Contd.):

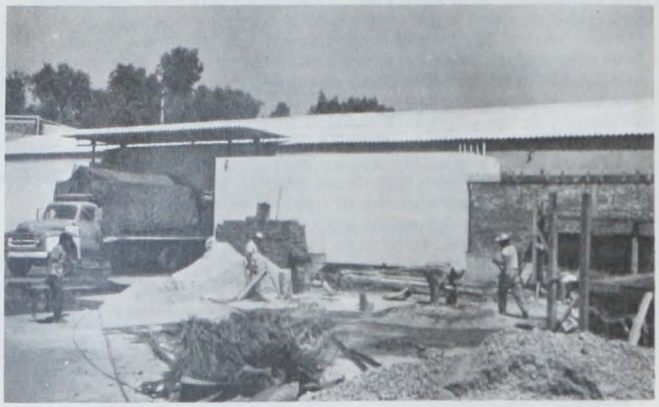


Fig. 4 - Shows new construction which will double the freezing and storing capacity of the Tepepan center. At left, a truck unloads Mazatlan fish into the old freezing plant which continues to operate during the new construction.

Most of the fish is received whole. Some is filleted or cut into pieces at the plant. The fish is packed in plyofilm bags for storage and for sale. Shrimp is handled in addition to finfish.

Although a small retail shop is located on the premises, the principal objective of the plant is to act as a distribution center. Twice weekly, pickup trucks fan out from Tepepan for circuits of the cities and towns of the Mexican highlands from the State of Puebla to the State of Guanajuato. The trucks (which may be replaced by better equipment later) deliver seafood on a regular schedule in protein-deficient areas to towns that rarely saw acceptable fish in the past.

According to those in charge, the new program is meeting with great favor, and more fish could be sold than is available. Prices are rather low and considerably under the going prices on the open market in Mexico City. No additional charge is made for fish sold in the outlying areas, as there is one fixed price for each product whether sold in the city or in a country town.

Frigorificos de Tepepan is the first of a series of distribution centers planned by the Mexican Fisheries Commission. If its initial success is sustained, others will be built in strategic locations throughout the country; hauling and distribution truck fleets will be augmented; and production facilities at the fishing ports will be increased. (Regional Fisheries Attache, United States Embassy, Mexico, D.F., December 15, 1964.)

* * * * *

NEW PORT FACILITY AT ALVARADO (VERACRUZ) COMPLETED:

Mexico's first complete fishing port at Alvarado, Veracruz on the Gulf of Mexico, was inaugurated by Mexico's President Mateos on November 13, 1964. The dedication ceremony on that day marked the end of two years of planning and construction work, the end result being what is considered an up-to-the-minute installation equipped for handling and processing all types of fishery products. The new port facility is administered by the Banco Nacional de Fomento Cooperativo, and was financed by Dutch capital at a reported cost of US$9.6 million.

Built on some 25 acres of filled land on the shore of a protected harbor 45 miles south of the port city of Veracruz, the "pilot" port has every type of facility for complete fishery operations. Both the buildings and the equipment are modern in every respect, and capable of carrying on every activity connected with the production of marine products. Facilities include (1) docks for unloading and servicing fishing vessels;

Fig. 1 - Alvarado fishing Port--left to right, boat dock, marine ways and net locker, mooring inlet, offices for fish buyers, ice plant, fish receiving and auction area, fillet lines, processing plants (freezing, canning, salting, smoking, drying), reduction plant for offal.

(2) dredged channels and a protected mooring basin; (3) boatyard and marine ways capable of handling large fishing vessels; (4) machine shops; (5) net and gear building (with adequate space both indoors and outside for making and drying nets); (6) offices for fish buyers; (7) ice making plant; (8) ice-storage and crushing facilities and for loading boats and trucks; (9) fish unloading conveyors and sorting area; (10) auction area for fresh fish; (11) filleting lines; (12) freezers and cold storage; (13) a canning line and smokehouses; (14) artificial dryers; (15) salting and pickling facilities; (16) a meal and oil plant for fish waste; (17) central offices, dining room, kitchen, and dormitories; (18) auxiliary electric plant; and (19) paved roads and rails connecting all areas. One of the more important facilities is a well equipped quality control laboratory to be staffed by experienced technologists.

The cost breakdown is reported as: (1) dredging, filling, compacting and leveling the land US$3,598,000; (2) construction of buildings and cost of equipment $2,310,000; (3) 5 fishing vessels $1,604,000; (4) nets and other fishing gear, radio communications, 5 refrigerated trucks $1,168,000; (5) elevated water tank, water system, streets, railways, etc. $959,000. Of the total, 75 percent of the funds were spent in Mexico and 25 per-

Fig. 2 - Second of 5 Dutch-built all-purpose fishing vessels for new fishing port--about 100 feet long.

Mexico (Contd.):

ent went toward purchases of vessels and plant equipment broad, much of it in the Netherlands but some in West Germany and Great Britain and a little in the United States. A Netherlands bank provided 85 percent of the financing and the company that built the port provided the remainder.

The planned capacity of the plant is over 100 tons of fish day as it is received from the vessels. Adequate space is provided for doubling the capacity of any and all units of production. For example, if the market for any particular product should increase, additional equipment can be installed to put out that product. Original daily capacity is reported to be: fresh fish auction sales, 80 metric tons; cleaning and filleting lines, 48 tons; freezing, 32 tons; canning, 12.5 tons; drying and salting, 16 tons; smoking (hot and cold smoke), 4 tons; reduction plant for waste and inedible fish, 25 tons of raw material; ice, 100 tons. Storage is provided for 298 tons of refrigerated fish, 400 tons of frozen fish, and 350 tons of ice.

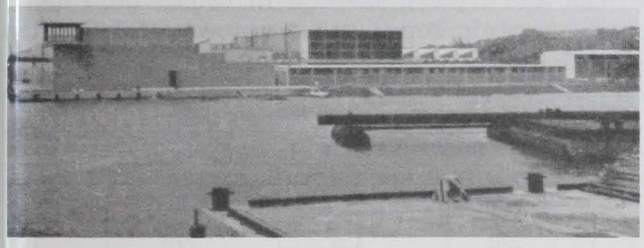


Fig. 3 - View of port from dock at net locker, across from mooring basin. Buyers' offices center foreground, ice plant at left, unloading conveyors at extreme left.

Fig. 4 - Net loft at new fishing port.

The fishing fleet to supply the plant will consist initially of 2 local wooden trawlers and 5 steel trawlers built in the Netherlands. Two trawlers from the Netherlands have already been delivered. The vessel Alvarado has been conducting exploratory fishing and gear tests since January 1964, as have the local trawlers. Another vessel, the Tlacotalpan, is being outfitted for early operations, and the other 3 are due for early delivery from the Netherlands. The steel vessels are modern in every respect, carry a variety of electronic aids to navigation and fishing, and can be used with all types of gear. Their reported cost of $320,000 each represents a considerable portion of the total investment in the port. In addition to the project fleet, the plant also plans to buy fish from local trawlers and canoes.

The technical director of the project, both the plant and the fleet, is the former director of the marine station of the Veracruz Institute of Technology. The Food and Agriculture Organization has provided some administrative assistance and has furnished an expert master fisherman to design and demonstrate new kinds of gear and help train local fishermen in their use.

With good highway and rail connections to Mexico City, Puebla, Veracruz, and other centers of populations, Alvarado is expected to play a key role in Mexico's campaign to supply more fishery products to supplement the protein diet of the people.

The director of the National Bank for the Development of Cooperatives, who is in overall charge of the project, has listed the following objectives: (1) a regulator for supplying fish to the centers of consumption; (2) concentrate the production of the Gulf of Mexico, by means of which the stature of the fisheries will be raised; (3) offer the fishermen a guaranteed price; (4) control the sanitary quality of marine products; (5) regulate fish prices; (6) contribute to the supply of fish for the inland consumer at low prices; (7) provide installations and services that will encourage investment in vessels by private owners and cooperatives; (8) promote experiments in modern fishing techniques for the fisheries of the Gulf of Mexico and in methods of industrial packing, for the purpose of planning other installations in other coastal areas. (Fisheries Attache, United States Embassy, Mexico, D. F., November 19, 1964.)

Note: See Commercial Fisheries Review, September 1964 p. 84.

Norway

FISHERIES TRENDS, NOVEMBER 1964:

Fish Stick Production Plant in Trondheim: A company which was established in 1963 for large-scale production of fish sticks has decided to build a processing plant in Trondheim. The company is owned by a number of fish freezing companies in north Norway and it is affiliated with the marketing organization for more than 100 Norwegian fish processing plants.

The new company plans to start operations at Trondheim in February 1965 with an initial plant capacity of about 2,000 metric tons of fish sticks annually, to be increased to an annual output of 10,000 tons.

Norwegian Fishing Off the Coast of West Africa: Experimental trawling by 2 Norwegian and 1 Israeli fishing company off the coast of West Africa during the last 3 years has shown promising results and the cooperating companies have now decided to put the operation on a permanent basis. The group has reported plans to operate freezer-trawlers and line-fishing vessels off Africa. The group has recently opened an office in Las Palmas on the Canary Islands, and fishing will take place in the area between the Canaries and Dakar. At present the group operates one trawler, the Havkvern. (United States Embassy, Oslo, December 3, 1964.)

Herring Oil: Norwegian production of herring oil during the first 9 months of 1964 increased to 68,900 short tons from 47,400 tons in January-September 1963. (U. S. Department of Agriculture.)

Norway (Contd.):

Canning Firms May Sponsor Joint Foreign Sales Promotion: Two leading fish canneries in Sweden and Norway have agreed to coordinate their production and distribution. Possibilities for developing joint foreign sales promotion will also be explored. (News of Norway, December 3, 1964.)

* * * * *

EXPORTS OF CANNED FISHERY PRODUCTS, JANUARY-JUNE 1964:

Norway's exports of canned fishery products in January-June 1964 were up 9 percent in both quantity and value from those in the same period of 1963. The gain was mainly due to larger shipments of smoked brisling and soft herring roe. A decline in exports of smoked sild in oil was offset by a gain in exports of sild sardines packed in other styles.

The leading buyers of Norwegian canned fishery products in the first half of 1964 continued to be the United States and the United Kingdom. (Norwegian Canners Export Journal, September 1964.)

* * * * *

SALMON SEASON GOOD:

With Norwegian fishermen enjoying one of their best salmon seasons in many years, estimates indicated that Norwegian exports of fresh and frozen salmon in 1964 would reach 1,000 metric tons with a value of £1.6 millio

Table 1 - Norwegian Exports of Canned Fishery Products by Type, January-June 1964 and 1963

Product	January-June 1964			January-June 1963		
	Quantity	Value		Quantity	Value	
	Metric Tons	1,000 Kroner	US$1,000	Metric Tons	1,000 Kroner	US$1,000
Smoked brisling in oil	2,540	17,262	2,414	2,224	15,559	2,176
Smoked brisling in tomato	349	1,930	270	139	778	109
Smoked small sild in oil	4,924	20,656	2,889	5,552	23,338	3,264
Smoked small sild in tomato	989	3,477	486	590	2,116	295
Unsmoked small sild in oil	214	723	101	112	391	55
Small sild packed otherwise	242	891	125	15	56	8
Kippered herring (Kippers)	1,530	6,695	936	1,570	6,539	914
Mackerel	327	1,563	219	330	1,557	218
Roe, unclassified	816	3,284	459	789	2,821	395
Soft herring roe	957	4,631	648	473	2,293	321
Fish balls	250	641	90	270	700	98
Other canned fish	58	411	57	86	641	90
Shellfish	830	8,610	1,204	766	8,330	1,165
Total	14,026	70,774	9,898	12,916	65,119	9,108

Table 2 - Norwegian Exports of Canned Fishery Products[1] by Country of Destination, January-June 1964 and 1963

Country of Destination	January-June 1964			January-June 1963		
	Quantity	Value		Quantity	Value	
	Metric Tons	1,000 Kroner	US$1,000	Metric Tons	1,000 Kroner	US$1,000
Finland	166	838	117	59	392	55
Sweden	281	1,261	176	156	817	115
Belgium-Luxembourg	333	1,593	223	345	1,632	228
Ireland	165	599	84	130	414	58
France	126	509	71	149	617	86
Netherlands	87	300	42	92	320	45
United Kingdom	3,406	15,932	2,228	2,337	9,839	1,376
Japan	9	42	6	170	800	112
West Germany	373	1,420	199	337	1,258	176
East Germany	-	-	-	982	3,532	494
South Africa Republic	898	3,545	495	671	2,806	392
Iraq	68	258	36	7	27	4
Canada	432	2,688	376	331	2,019	282
United States	4,707	25,576	3,577	5,566	29,349	4,105
Australia	713	2,919	408	713	2,841	397
New Zealand	174	750	105	246	1,060	148
Other Countries	1,676	6,055	847	527	2,010	281
Total[2]	13,614	64,285	8,990	12,818	59,733	8,354

1/ Does not include exports of canned shellfish.
2/ Totals are slightly larger than the combined exports of canned fish (excluding shellfish) shown in table 1.
Note: Norwegian kroner 7.15 equals US$1.00.

Norway (Contd.):

(US$4,480,000). Norwegian salmon exports in 1963 were reported as 856 tons.

Prices to Norwegian fishermen during 1964 for large salmon reached 16-20 shilling per kilo (US$1.02-1.27 per pound), according to reports. (Fishing News, London, October 2, 1964.)

* * * * *

FISH MEAL INDUSTRY TRENDS, 1964:

Norwegian total fish meal exports in 1964 may reach 150,000 metric tons and Norwegian sales of fish oil are also expected to reach a high level, according to the Norwegian Ministry of Fisheries. In the first half of 1964, Norwegian exports of fish meal totaled about 100,000 tons valued at £5 million (US$14 million). Norwegian total fish meal exports in 1963 amounted to about 100,000 tons. (Fishing News, London, October 2, 1964.)

(Editor's Note: Norwegian production of fish meal in January-September 1964 totaled 147,000 tons compared to 102,000 tons in the same period of 1963, according to preliminary data from the International Association of Fish Meal Manufacturers.)

Peru

FISH MEAL AND OIL INDUSTRY TRENDS AND OUTLOOK, OCTOBER 1964:

Peruvian fish meal production picked up sharply in October 1964 as the usual third quarter seasonal slump in anchoveta fishing ended. In the first 10 months of 1964, Peruvian fish meal production was up 32 percent from that in January-October 1963. Anchoveta fishing is usually good late in the year so total Peruvian fish meal production in 1964 may reach a record 1.5 million metric tons.

Peruvian fish meal exports through the first 10 months of 1964 totaled almost 1.2 million tons, up 23 percent from the same period in 1963.

Prices for Peruvian fish meal in November 1964 continued to ease off from the high levels of late September 1964. Two factors may have helped reduce fish meal prices.

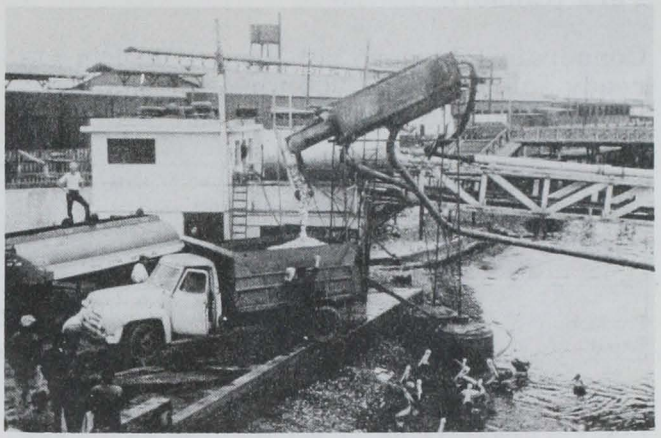


Fig. 1 - Anchovetas being pumped from fishing vessel directly into the truck at Callao.

First, soybean meal prices declined in the United States. Since fish meal and soybean meal can, within limits, be substituted for one another in the preparation of commercial animal feeds, demand for fish meal has been affected. Second, there were reports of European speculative buying of fish meal during the July-September months when anchoveta

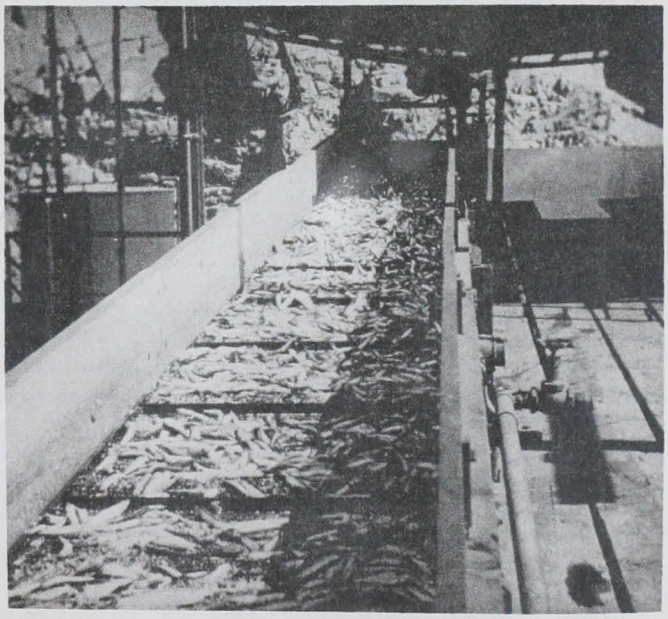


Fig. 2 - Conveyor belt system is being used to transport anchovetas into fish meal plant for processing at Chimbote.

fishing usually slumps in Peru. Apparently, the demand anticipated by certain fish meal dealers did not materialize and prices declined under pressure. Spot prices in late November 1964 for fish meal f.o.b. Peru were reported in the US$110 range, with demand for forward shipments reportedly light. (Editor's Note: Earlier reports indicate that the

Peru (Contd.):

Consorcio Pesquero del Peru S. A. has already sold over 500,000 tons of fish meal forward for the first half of 1965.)

Peruvian Fish Meal Production and Exports, January-October 1963-64

Item	October		Jan.-Oct.	
	1964	1963	1964	1963
	. . . (1,000 Metric Tons) . . .			
Production	130	77	1,190	904
Exports	84	83	1,183	963

Peruvian fish oil exports in January-October 1964 totaled 100,000 metric tons including 15,000 tons of crude oil and 85,000 tons of semirefined oil. By way of comparison, Peruvian fish oil exports totaled 110,000 tons in all of 1963 and 151,000 tons in the year 1962. (United States Embassy, Lima, November 30, 1964.)

Poland

FISHERIES TRENDS, SEPTEMBER 1964:

African Trawling: The Polish freezer-trawlers Belona, Barakuda, Dorada, and Albakora began fishing off the North African coast in September 1964. The four vessels planned to sell part of their catches in Nigeria, Ghana, and Liberia.

In early September 1964, the Polish trawlers Wieczno sailed from Swinoujscie for fisheries explorations off West Africa. Aboard the vessel was a team of scientists from the Polish Sea Fisheries Institute.

Harbor Expansion Project at Szczecin: The Polish Government has approved a plan for expansion of the fishing harbor at Szczecin, a Baltic port which serves as a base for offshore fishing vessels. The plan calls for 500 million zloty (US$125 million at the official Polish rate of exchange) to be spent during 1966-1980 for expansion, modernization, and new facilities at Szczecin.

Bulgaria Included in Soviet Bloc Cooperative Fishery Agreement: Officials of Poland, the Soviet Union, and the German Democratic Republic met in Riga (Soviet Union) in early September 1964 for a session of their Joint Committee on fisheries cooperation. Their tripartite agreement on fisheries cooperation was extended to include Bulgaria. (Polish Maritime News, No. 74, October 1964.)

* * * * *

NEW FACTORY-TRAWLER LAUNCHED AT GDANSK:

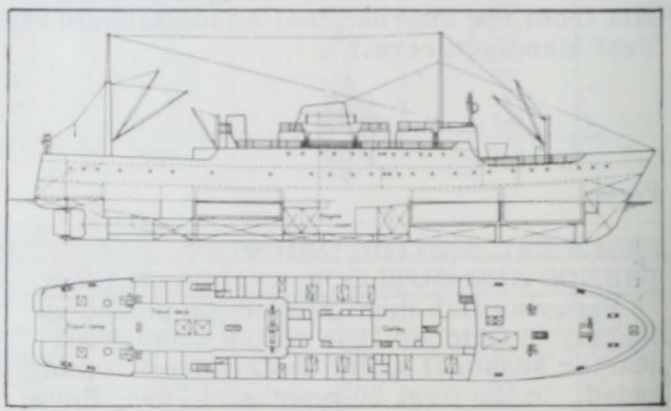
In late August 1964, the Polish shipyard at Gdansk launched the factory-trawler Andromeda. The new vessel was the 11th successive factory-trawler built by the Gdansk Shipyard for the "Dalmor" Deep-Sea Fishery Cooperative of Gdynia.

Dalmor of Gdynia is Poland's largest fishery cooperative. With a quota of 64,000 metric tons of fish in 1964, crews of Dalmor's factory-trawlers and trawlers had landed 54,000 tons of fish by mid-September 1964. (Polish Maritime News, No. 74, October 1964.)

* * * * *

SIZE OF FISHING FLEET, 1961-1963 AND ESTIMATES FOR 1964:

Poland's fishing fleet continued to expand in 1963 and even greater expansion was ex-



Profile and deck plan of a Polish fishing factory trawler, Type B-26. Overall length 272 feet.

Poland's Fleet of Fishing Vessels, 1950, 1955, and 1961-1963

Type of Vessel	1963	1962	1961	1955	1950
	. . . . . (Number of Vessels)				
Factory trawlers .	7	5	2	-	-
Super trawler . . .	52	53	53	8	-
Other trawlers . . .	24	22	15	20	24
Lugger-trawlers . .	46	46	46	34	-
Luggers	-	1	3	3	3
Cutters	546	545	538	397	338
Auxiliary vessels .	3	3	3	2	-
Total	678	675	660	464	365
Total gross registered tons	120,400	110,700	91,700	43,200	18,200

Source: Maly Rocznik Statystyczny, 1962 and 1963.

Poland (Contd.):

pected in 1964. Construction timetables called for the delivery to the Polish fleet in 1964 of 3 "B-15-type" factory-trawlers, 1 "B-18-type" large freezer-trawler, and 6 "B-23-type" freezer-trawlers, as well as seven $2\frac{1}{2}$-meter cutters. (United States Consulate, Poznan, November 25, 1964, and Polish Maritime News, No. 65 and No. 66.)

Note: See Commercial Fisheries Review, Nov. 1964 p. 107 and June 1964 p. 55.

South-West Africa

PILCHARD AND ANCHOVY FISHERY TRENDS, SEPTEMBER 1964:

Pilchard: By September 1964, 6 of the 8 pilchard processors in South-West Africa had taken their 1964 pilchard catch quota of 90,000 short tons. They reported a catch of exceptionally high quality yielding nearly 30 gallons of fish oil per ton of fish during the height of the season. The remaining 2 factories were expected to take their quotas by mid-October and mid-November 1964 to bring the total 1964 pilchard catch in South-West Africa to a record 720,000 tons. The industry expected to easily dispose of its record production. There is a strong demand for South-West African fish meal, and South-West African producers also have an order for about one million cases of canned pilchards for the Philippines.

Frozen pilchards were exported by South-West Africa for the first time in September 1964. The first shipment consisted of 170 tons for Liverpool, England, by a Walvis Bay factory which has a license to catch 5,000 tons of pilchards for export in frozen form.

Fig. 2 - A 51-foot forward-cabin pilchard fishing vessel, built in Cape Town, operating off Walvis Bay.

Anchovy: By the end of September 1964 there were five fishing vessels engaged in catching anchovy off the South-West African coast. The vessels were having some difficulty handling the heavy purse-seine net and equipment in rough seas.

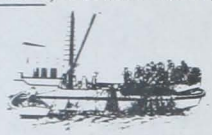
The quality of the anchovy caught in September did not come up to expectations. However, with the advent of warmer weather in October 1964, the anchovy appeared to be im-

Fig. 1 - Vessel mooring jetties and canning and reduction plant on the banks of the Berg River.

South-West Africa (Contd.):

proving in quality; larger catches were also made in early October.

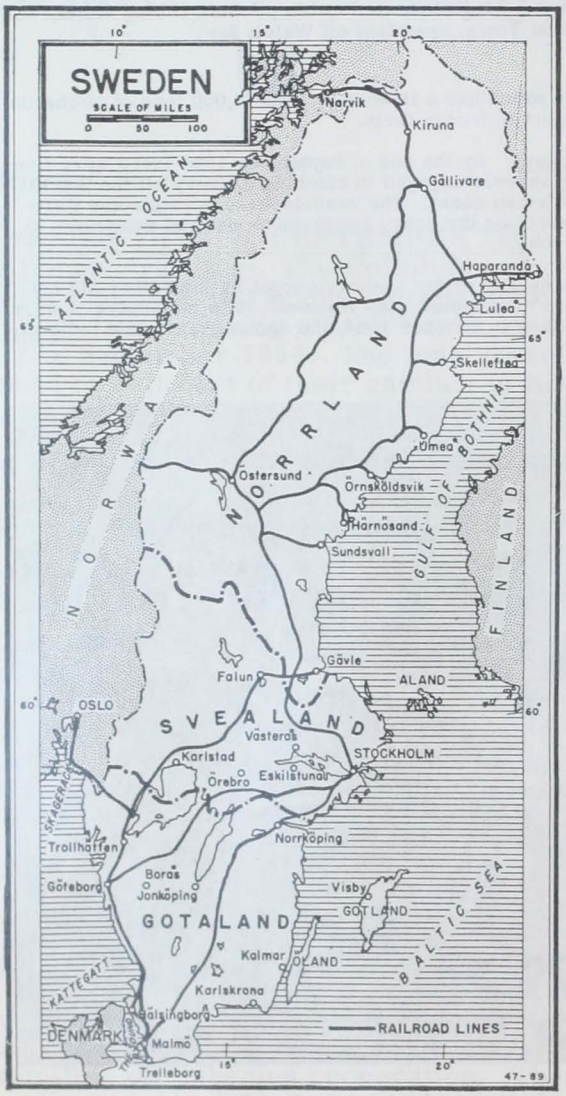
The South-West African Administration has granted the 7 pilchard processing factories at Walvis Bay permission to operate 2 anchovy nets each. No restriction has yet been laid on the quantity to be caught or the season in which catches may be made. (South African Shipping News and Fishing Industry Review, October 1964.)



Sweden

SHRIMP INDUSTRY TRENDS:

Swedish consumption of shrimp--fresh, frozen, or otherwise preserved--has been growing steadily during recent years. Swedish shrimp production satisfies a relatively small portion of domestic requirements so



Sweden Exports of Shrimp, January-June 1964	
Country of Destination	Quantity
	Metric Tons
United States	2
Norway	14
Denmark	41
Finland	18
West Germany	7
Netherlands	1
United Kingdom	17
France	7
Portugal	1
Italy	5
Switzerland	13
Austria	5
Australia	2
Total	133

there is a rather substantial volume of imports. Swedish imports of shrimp during the first 6 months of 1964 totaled 1,139 metric tons, of which Norway supplied 812 tons. Swedish exports of shrimp are small--amounted during the first half of 1964 to 133 tons, of which the United States received only 2 tons. Sweden's fishing industry (including shrimp) is concentrated along the southwest coast in the vicinity of Goteborg. (United States Embassy, Stockholm, December 1, 1964.)

U.S.S.R.

NEW FREEZER-TRAWLERS FOR SOVIETS BUILT IN DENMARK

The 2,550-ton freezer-trawlers M/S Gletcher and M/S Zelenoborsk were launched November 26, 1964, by a Copenhagen shipyard for V/O Sudoimport, Moscow. The vessels

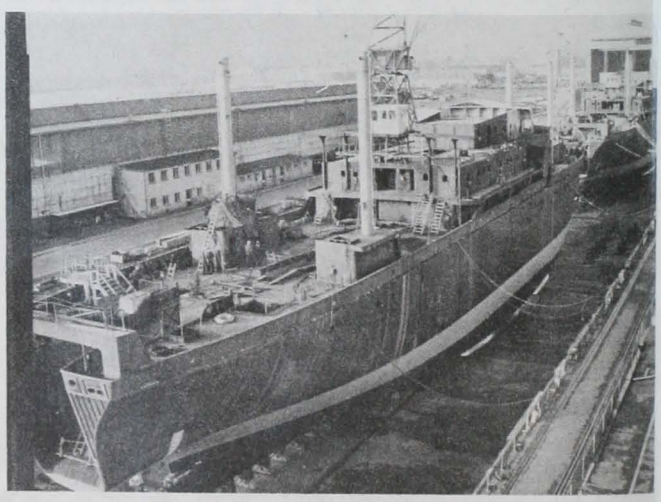
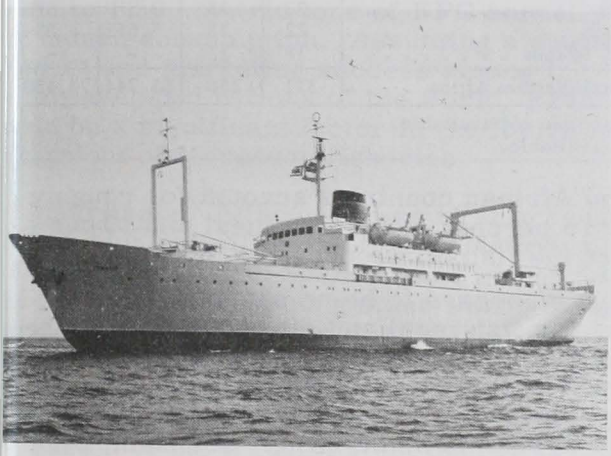


Fig. 1 - M/S Gletcher and M/S Zelenoborsk under construction in Copenhagen.

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

ere the 9th and 10th in a series of 11 freez-r-trawlers for the U.S.S.R. being built by ie Danish shipyard to the following specifi-ations: length between perpendiculars 91 ieters (298.5 feet), breadth 16 meters (52.5 et), and deadweight tonnage 2,550 to 2,600 ns.

The M/S Grumant, the 5th vessel in the eries, was completed and delivered to Sudo-nport, Moscow, December 7, 1964.



g. 2 - New Soviet freezer-trawler M/S Grumant. The vessel as a speed of 14 knots.

The first vessel in the series was the I/S Skryplev, launched May 10, 1962. An-ther series of 4 freezer-trawlers has been rdered by the Soviets from the Danish ship-rd for delivery in 1966.

Since 1932, the Copenhagen shipyard has unched 43 vessels for Sudoimport, of which were fish-freezer vessels. (Regional Fish-ies Attache for Europe, United States Em-ssy, Copenhagen, December 9 and 15, 64.)

West Africa

ANNED SARDINE INDUSTRY OUTLOOK:

Summary: Sardines are believed to be plentiful all along e Atlantic Coast of West Africa, but Morocco and the South rica Republic are the only countries in the area with a sig-ficant canned sardine industry. (In Africa the term sar-ne includes the Sardina pilchardus of Morocco, the rdinella aurita and Sardinella eba of the Gulf of Guin-, and the Sardinops or pilchard of the South Africa Re-blic.)

No large increase in canned sardine production in West African countries is expected in the near future. Senegal and Ghana have plans for entering the canned sardine industry, but their effect on the world market will probably be slight. A small cannery in the Congo may resume sardine packing, but its capacity is very small. In the South Africa Republic, production is expected to keep pace with world demand and perhaps show a moderate increase. On the other hand, the Moroccan canned sardine industry may not be able to survive if it loses its special privileges in the French market.

Morocco: The Moroccan canned sardine industry produces for the export market. Moroccan canned sardine exports have ranged from 1.4 million cases during the 1955/56 season to 2.1 million cases in the 1962/63 season. Moroccan sardines are usually canned in oil in 4.5-ounce or 3.75-ounce cans (100 cans to the case).

A total of 700,000 cases of Moroccan sardines is allowed to enter France duty-free each year. In the 1962/63 season, Moroccan canned sardine exports to France amounted to 759,766 cases; other leading buyers were Ghana with 201,171 cases, West Germany with 234,197 cases, Italy with 100,974 cases, the Soviet Union with 87,698 cases, and Madagascar with 65,386 cases. Morocco exported only 26,152 cases of canned sardines to the United States in 1962/63.

The Moroccan canned sardine industry in 1963 consisted of 80 plants supported by a fishing fleet of about 195 vessels--mostly Diesel-powered purse-seiners ranging in length from 15 to 18 meters (49 to 59 feet).

Production and export quotas for each sardine plant are assigned by the Moroccan Government, based upon the French duty-free quota, general market conditions, and carryover inventories. For some years, exports to France have been the mainstay of the Moroccan canned sardine industry. One report indicated that the profit per case for Moroccan exports to France has been as high as US$5.50, while canned sardine exports to other countries often result in losses. The continuation of the duty-free French market is obviously of critical importance to the Moroccan industry. Associate membership for Morocco in the European Common Market would probably result in continued access to the French market and even in opening up of other Common Market countries to Moroccan sardines on the same basis. But Morocco may be reluctant to join the European Common Market because of an unfavorable trade balance. It is expected that this question will be resolved one way or the other by 1966 or 1967.

To survive without the privileged French market, the Moroccan sardine industry would have to reorganize its entire canning program to improve efficiency, cut costs, and achieve a competitive position in the world market. As an alternative, the Moroccan sardine industry might consider switching to fish meal and oil production exclusively.

South Africa Republic: Canneries in the South Africa Republic account for roughly 10 percent of world production of canned sardines and herring-like fish. The South Africa Republic (including the Territory of South-West Africa) produced 50,586 short tons of canned pilchards in January-June 1964 (the main canning season), as compared with 40,498 short tons in the year 1963. Accounting for the bulk of South African production, the 8 plants in South-West Africa packed 47,859 short tons of pilchards in January-June 1964 and 32,053 short tons in the year 1963. The remainder of the South African production was canned in 15 plants on the Cape west coast. Most of the pilchard pack was canned as 1-pound talls and 1-pound ovals in tomato sauce.

In 1963, the South Africa Republic exported a total of 25,673 short tons of canned pilchards valued at US$7.4 million. The leading buyers were the United States, the United Kingdom, Belgium, Italy, and Asian countries such as the Philippines.

Production and exports of canned sardines in the South Africa Republic are regulated by the South African Canners Association. That group assigns production quotas to individual

West Africa (Contd.):

plants, allocates orders for exports, and handles sales of all canned fishery products. Some sales assistance is provided by the Export Promotion Division of the Government Department of Commerce and Industry.

Senegal: Limited production of canned sardines has been started by a tuna cannery in Senegal which hopes to export canned sardines to France, Nigeria, the Ivory Coast, and Ghana. But a small purse-seiner based at Dakar is the only vessel in Senegal now fishing for sardines (aside from the traditional canoe fleet). The present Senegalese ex-vessel sardine price of about US$48 per metric ton is considered high for large-scale canning. The Government of Senegal hopes to reduce that price to about US$24 per metric ton by subsidizing local construction of fishing vessels of 30 meters (98 feet). New vessels are to be sold on easy credit terms to local cooperatives. One of the new vessels should be completed in 1965, and two each in subsequent years. If the sardine ex-vessel price drops, the Senegalese Government plans to subsidize at least one sardine canning plant.

Ghana: Construction of two sardine canneries has started in Ghana. A total pack of 9,720 metric tons of canned sardines per year is scheduled at the plants when they enter production. Completion of the plants is scheduled for the end of 1965, with production to start early in 1966. Nationalization of Ghana's fishing industry is virtually complete and a number of ambitious plans have been announced for the development of the industry. Sardine canning is prominent among those. Carrying out the plans, however, will require the solution of several problems, such as the severe foreign exchange difficulties. Another problem is the comparatively high prices set for fish by the Ghana Fishing Corporation. A wholesale price list of that company dated September 1, 1964, listed frozen sardines packed in 30-kilogram (66-pound) cartons at approximately 17 U.S. cents per pound. A drastic change in price structure, plus a sizable increase in production, will obviously be necessary for an economically successful canning operation in Ghana.

Congo: At Pointe-Noire in the Congo there is a small tuna and pilchard cannery which has operated in recent years on a somewhat spotty basis. Its production is sold mostly in the countries of the Union of Equatorial Africa. The plant has a daily canned pilchard capacity of about 5,000 cans (1-pound ovals) in tomato sauce. In 1961 a total of 215 metric tons of canned pilchards was produced by the plant. In the summer of 1964 after a lapse of two years in pilchard production, the cannery reported plans for a resumption of pilchard canning on a limited basis. (Fisheries Attache, United States Embassy, Abidjan, November 20, 1964.)

* * * * *

FISH MEAL AND OIL INDUSTRY OUTLOOK AND GENERAL FISHERIES SITUATION:

Summary: With the recent awakening of most of the developing West African countries to the potential of their fishery resources, some important developments are certain to be realized in the next few years. These, however, are not expected to have any disturbing effect on the world fish meal and oil industry. In Western Africa, the major developments will probably take place in the field of fish for human consumption. A protein deficiency and a growing population will create strong demands for low-cost food from the sea.

As of November 1964, production of fish meal and fish oil along the western coast of Africa was confined to four areas: the South Africa Republic (including South-West Africa), Angola (a Province of Portugal), Morocco, and the Canary Islands (a Province of Spain). Following are fish meal and oil production data in those areas in 1962-1963:

Country	Fish Meal		Fish Oil	
	1963	1962	1963	1962
	1,000 (Metric Tons)		(Short Tons)	
South Africa Republic:				
Cape West Coast	100	1/	28,000	39,600
South-West Africa	137	1/	18,500	26,300
Total South Africa Republic	237	207	46,500	65,900
Angola	33	33	3,579	3,676
Morocco	22	18	5,665	4,854
Canary Islands	19	2/	-	-
Total Western Africa	311	258	55,744	74,430

1/Breakdown not available.
2/Not available.

The African countries account for roughly 10 or 15 percent of the fish meal and 10 percent of the fish oil produced in the world.

There appears to be no shortage of fish stocks for fish meal and oil production on the west coast of Africa, either in areas of current production or in areas being considered for production. On the contrary, sardine stocks appear to be strikingly abundant, particularly in the Gulf of Guinea. While there are plans for new fish meal plants in Mauritania, Senegal, Ivory Coast, Ghana, and the Canary Islands, none of those will be large enough to have any far-reaching effect on the world market. In the case of the South Africa Republic--the largest producing area--moderate expansion of the fish meal and oil industry is to be expected. Firm control by the South African Government and industry should keep the expansion carefully attuned to world market conditions.

Morocco: Significant expansion in the Moroccan fisheries is not expected in the near future. Although a joint French-Moroccan tuna exploration project is planned, there are no plans to expand the sardine fishery which supplies the Moroccan fish meal industry.

Fishermen of Morocco are reluctant to leave the waters near their home ports (no trip lasts more than 24 hours). As a result, they fail to follow the seasonal movements of the sardine schools. Another factor hampering development of the Moroccan fish meal industry in a competitive world market is the large labor force--both at sea and ashore--imposed by the labor unions with Government

Vest Africa (Contd.):

pproval. Crews of 20 to 24 men are often equired aboard vessels well able to operate ith a dozen or less.

On the brighter side of the picture is a nt for the production of fish protein con-ntrate (FPC), or fish flour, built at Agadir h the aid of the Food and Agriculture Or-nization. The plant, which was scheduled be completed late in 1964, is to have a ca-city of 6,000 to 8,000 metric tons of sar-nes a year, and is expected to produce from 00 to 1,500 metric tons of FPC annually r human consumption. Assuming a quality oduct and marketing success among the derdeveloped nations of the world, FPC uld be a significant factor in the future de-lopment of Moroccan fisheries.

Mauritania: Although there is at present fish meal or oil production in Mauritania, fishing treaty with Spain signed in February 64 provides for, among other things, a fish eal plant capable of producing 11,000 metric ns of fish meal annually. Sardinella eba are undant off Mauritania, particularly in the rt-Etienne area. In addition, the expected pansion of the trawling fleet operating out Port-Etienne could provide in excess of ,000 metric tons of "trash" fish annually r fish meal purposes. The completion in e summer of 1964 of a 20-ton per day freez-g and processing plant at Port-Etienne, and e scheduled completion of a 75-ton per day eezing plant by late 1964 (about 80 percent mplete in July) lend credence to the pre-tion that by 1967 Port-Etienne will be ndling 100,000 metric tons of fish a year r various purposes.

Canary Islands: All of the Canary Islands h meal production (about 19,000 metric s in 1963) is shipped to Spain. On the is-nds of Gran Canaria, Tenerife, and Lanza-te there are a total of 16 fish meal plants. US$8 million fishing port expansion plan at s Palmas, scheduled to be started in 1965, cludes plans for at least one new and mod-n fish meal plant. The port expansion plan Las Palmas is to be financed in part by the orld Bank.

Senegal: There is no current production fish meal or fish oil in Senegal. In the negalese development plan for a "tuna com-ex" at Dakar, however, provision is made r a fish meal plant capable of handling 40,000 metric tons of "trash" fish and 22,500 metric tons of tuna waste annually, with a production of 12,500 metric tons of fish meal a year. But the likelihood of that much fish meal actually being produced is considered rather slim in view of (1) the demand for practically all of the present Senegalese fish catch for human consumption; (2) the preference of the Senegalese Government for a pet food industry rather than a fish meal plant; and (3) the uncertain status of the proposed "tuna complex."

At Djifere in south Senegal there are also plans for a fish meal plant with a capacity of 50 to 100 metric tons of raw fish daily. But the proposed Djifere Project, which would include a number of processing activities, probably won't be completed for a number of years, since it seems to have a low priority. The Government of Senegal is giving top priority to developing a Senegalese tuna fleet.

Ivory Coast: At Abidjan a comprehensive fisheries development project is actively under way, participated in by both Government and private industry. While the primary emphasis of the project is on processing and freezing, it includes provisions for a fish meal plant with a capacity of 50 metric tons of raw material a day. A new tuna cannery is also envisioned. If raw material for the fish meal plant is limited to tuna and processing waste, Ivory Coast fish meal production will be of minor importance in the world picture. However, during the several months when heavy catches of Sardinella eba and Sardinella aurita are taken from the abundant stocks in nearby waters, it is quite possible that some sardine landings would be diverted to fish meal manufacture. The traditional floor price in the Ivory Coast for sardines for human consumption is about US$72 per metric ton, but vessels are subject to production limits. Therefore, during the heavy production season (about 3 months in the fall) a fish meal plant buying sardines might be attractive to the fishing fleet, even at ex-vessel prices of $15 to $20 a metric ton. This is still a future project, however, since it is not expected that such a plant will be built for at least two years.

Ghana: This country presents a different picture from any of the other West African fishing countries. Having now completely nationalized its fisheries under the Ghana Fishing Corporation, Ghana has started an ambitious program of fisheries development. This involves adding some 44 offshore vessels

West Africa (Contd.):

(trawlers and purse-seiners) to its fleet, and constructing 2 canneries, a smoked fish plant, a fried fish section, cold-storage plant, and a fish meal plant, all at Tema. It is believed that the fish meal plant will operate on an intake of some 30 metric tons of fish waste per day from canning and processing operations, in which case meal production would be of little importance. As in other areas of the Gulf of Guinea, sardines are abundant off Ghana. However, current sardine landings in Ghana are in strong demand for human consumption at prices normally of about 1 shilling (14 U.S. cents) a pound. Even with a very radical price drop, it is difficult to conceive of Ghana using sardines for fish meal or canning. As an added complication, Ghana's monetary and foreign exchange problems make it extremely doubtful that its fish meal or oil activities will have any appreciable impact on the competitive world market in the near future.

Angola: Having been severely hit by the world fish meal crisis of the early 1960's, Angola's fishing industry is still in a rather depressed condition. Fish meal production in Angola during January-September 1964, however, was estimated at 42,000 metric tons, which was more than double that in the same period of 1963. Stocks of horse mackerel, sardines, and pilchards--the three species going for meal and oil in Angola--appear to be holding up well, but there are no plans for a significant increase in production.

South-West Africa: As was noted previously, South-West Africa (a Territory of the South Africa Republic) is the major producer of fish meal on the African continent. South-West Africa is favored with an extensive continental shelf and an upwelling of the Benguela Current which provides an abundance of fish, particularly pilchard, for fish meal and oil. The industry is tightly controlled, both by Government regulations and by trade associations. At Walvis Bay there are now seven plants producing fish meal and oil. At Luderitz, farther south, there is one new fish meal plant. Each of those plants is assigned an annual catch quota of 90,000 short tons of pilchards. It is expected that the fish meal industry of South-West Africa combined with that of the Cape West Coast will come close to filling the 1964 export quota of 300,000 short tons of fish meal assigned by the Fish Meal Exporters Organization to the South Africa Republic and South-West Africa combined.

In addition to fishing for their quota of pilchards, some of the Walvis Bay plants have experimented with the newly developing anchovy fishery which is not subject to quota. The new anchovy fishery has allowed several of the plants to extend their fishing season and their meal production. Although the presence of anchovy has been known for at least 10 years, they were not fished until late in 1963. Stocks of pilchard are still considered to be large, but an effort is being made to diversify the fisheries in order not to place too much dependence on a single species. It is widely believed that pilchard stocks in South-West African waters are adequate for present operations and for expanded production if necessary. Under the system of Government and industry controls, however, such expansion will take place only if world market conditions indicate its desirability.

South Africa Republic: Like South-West Africa, the Cape West Coast of the South Africa Republic enjoys favorable fishing conditions and abundant stocks of pilchards, maasbanker, and mackerel. With 17 plants producing fish meal and oil on the Cape West Coast, production is controlled by limiting the pilchard season to the period from January 1 to July 31. In addition, during the special maasbanker and mackerel fishing season from November 1 to December 31 the catch may include 10 percent pilchard.

Experimental anchovy fishing, under strict control of the South African Fisheries Development Corporation, was started in October 1963 and has continued on an expanded basis. Some say that the presence of anchovy in substantial numbers may harm the pilchard resource since both fish compete for the same feed.

But that is only speculation, and for the time being operations are continuing on the basis of a controlled season for pilchard, supplemented by an anchovy fishery in its developing stages. It would appear that this will tend to increase fish meal and oil production but only within limits firmly established by Government and industry controls. (Fisheries Attache, United States Embassy, Abidjan, November 13, 1964.)