



FOREIGN

International

FISH MEAL

PRODUCTION AND EXPORTS FOR SELECTED COUNTRIES, JANUARY-FEBRUARY 1966:

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.

Table 1 - Exports of Fish Meal by Member Countries, of the FEO, January-February 1966

Country	Feb.		Jan.-Feb.	
	1966	1965	1966	1965
	..(1,000 Metric Tons)..			
Chile	20.1	6.2	26.8	15.2
Angola	1/	4.7	2/3.4	12.1
Iceland	12.3	6.0	26.2	15.6
Norway	14.3	12.5	36.9	25.7
Peru	118.2	130.2	263.0	295.1
So. Africa (including S.-W. Africa)	3.9	4.6	10.6	15.9
Total	168.8	164.2	366.9	379.6

Table 2 - Production of Fish Meal by Member Countries of the FEO, January-February 1966

Country	Feb.		Jan.-Feb.	
	1966	1965	1966	1965
	..(1,000 Metric Tons)..			
Chile	26.8	10.9	60.6	23.7
Angola	1/	3.7	2/3.4	10.6
Iceland	7.4	5.0	12.8	9.2
Norway	29.2	18.7	32.6	24.6
Peru	179.3	122.3	421.7	316.4
So. Africa (including S.-W. Africa)	17.0	22.6	21.2	31.3
Total	259.7	183.2	552.3	415.8

1/ Data not available.

2/ Data available only for January 1966.

INTERNATIONAL NORTH PACIFIC FISHERIES CONVENTION

JAPAN ASKS REMOVAL OF ABSTENTION LINE:

Removal of the "abstention line" which bars Japan from taking North Pacific salmon

on the high seas east of 175° W. longitude was called for in a speech on May 25, 1966, by Japanese Consul General Yoshio Nara. The Consul General told a meeting of the Seattle (Washington) Junior Chamber of Commerce that "salmon fishing on the high seas would then be carried on from the practical and scientific view point of conservation and the fullest possible utilization of the salmon stocks." He described the salmon as a special kind of fish which returns to its homeland to spawn.

The Consul General pledged his country to the cause of conservation saying "Japan pays great respect to the United States' effort for conservation of salmon stocks. At the same time my country thinks that the growth of salmon from two or three inches to several feet is due to the heavenly benefits of the high seas." He pointed out that Japan has adopted conservation measures including a system to limit the number of fishing vessels in some areas. He believed that prospects were bright for fisheries cooperation between Japan and the U.S. He pointed out that two Japanese companies had entered into joint ventures with American companies in Alaska to can salmon and to produce other fishery products. He cited the growth of Japanese imports of salted salmon roe from the United States from a value of \$330,000 in 1961 to an estimated \$4 million in 1966. (*Post Intelligencer*, Seattle, May 26, 1966.)

CODEX ALIMENTARIUS

THIRD MEETING OF COMMITTEE ON FOOD HYGIENE:

The Third Meeting of the Committee on Food Hygiene of the Codex Alimentarius Commission was held in Rome, May 31-June 3, 1966. (The Codex Alimentarius Commission is working to establish international food standards. Through its various committees, the Commission provides a mechanism for preparing and obtaining Government acceptance of these uniform standards. The Food Hygiene Committee is concerned with hygiene codes of practice which can be incorporated

International (Contd.):

to individual commodity standards by the separate Commodity Committees. The entire program is jointly sponsored by the Food and Agriculture Organization and the World Health Organization.)

The main work of the Food Hygiene Committee at its Rome meeting was the revision of the paper on "General Principles of Food Hygiene." The revised document reflects many comments offered by member countries and interested groups. An important revision was to broaden the use of clean water permissible for such purposes as washing, so as to include clean sea water where applicable. This takes into consideration the limited supply of potable water aboard fishing vessels and at some shore facilities.

The revised "General Principles of Food Hygiene" was considered ready for submission to the Codex Alimentarius Commission.

No draft hygiene codes of practice for fish and shellfish were presented at the Meeting. Countries having responsibility for items concerning fish and shellfish directly or indirectly were instructed to revise their reports so as to take into consideration the amended basic document, "General Principles of Food Hygiene," and the instructions of the Hygiene Committee to use sections of these principles in their reports whenever possible.

The question of including retail food handling in hygiene codes was discussed briefly. The Chairman concluded this discussion by stating that the Hygiene Committee should consider hygiene codes from production to retailing for certain products, for example, molluscan shellfish.

The Committee also discussed problems concerned with standards for feedstuffs and frozen foods. The Committee decided that it would be necessary to maintain a distinction between frozen foods generally and frozen precooked foods.

The Food Hygiene Committee will probably hold its next meeting in June 1967. (U.S. Embassy, Copenhagen, June 15, 1966.)

Notes: (1) The Third Meeting of the Committee on Food Hygiene was attended by delegates from Australia, Canada, Cuba, Denmark, Ireland, Italy, Netherlands, Poland, Portugal, Sweden, Switzerland, Turkey, United Kingdom, and the United States, as well as by representatives from the World Health Organization, Food and Agriculture Organization, European Economic Community, and the Organization for Economic Cooperation and Development.

(2) See Commercial Fisheries Review, Feb. 1966 p. 44.

OCEANOGRAPHY

UNITED STATES EXHIBIT IN GERMANY RESCHEDULED:

The U. S. Department of Commerce has rescheduled its oceanographic equipment symposium and exhibition in Frankfurt, Germany, to capitalize on a rising tide of international interest in the event. The symposium and show at the U.S. Trade Center in Frankfurt, originally set August 31-September 7, will be held November 2-9, 1966, by the Department's Bureau of International Commerce.

After the first announcement of the symposium-exhibition in early April, preliminary development work indicated such widening interest that it was decided to reschedule the event to permit a broader development campaign.

The Trade Center symposium will feature technical papers by U. S. and foreign experts on ocean sciences and engineering. The exhibition will be a show-and-sell promotion of the newest in U. S. oceanographic equipment, systems, and services.

U. S. firms interested in the event may obtain additional information from the Bureau of International Commerce, U. S. Department of Commerce, Washington, D. C. 20230.

NORTH-EAST ATLANTIC FISHERIES COMMISSION

FOURTH ANNUAL MEETING:

The North-East Atlantic Fisheries Commission (NEAFC) held its Fourth Annual Meeting, May 10-13, 1966, at Edinburgh, Scotland. The meeting was attended by delegates from all member countries (Belgium, Denmark, West Germany, France, Iceland, Ireland, the Netherlands, Norway, Poland, Portugal, Spain, Sweden, U.S.S.R., and the United Kingdom). Observers were present from the United States, the International Council for the Exploration of the Seas (ICES), the International Commission for the Northwest Atlantic Fisheries (ICNAF), and the Food and Agriculture Organization (FAO).

The NEAFC is concerned with the conservation of fish stocks and the rational exploitation of the North-East Atlantic Ocean. The NEAFC may make recommendations to member countries for measures concerned with (1) fish gear, (2) size limits of fish, (3) closed seasons, (4) closed areas, and (5) improvement and the increase of marine resources.

International (Contd.):

The main subjects on the agenda of the Fourth Annual NEAFC Meeting were (1) report by the Committee for Liaison with ICES; (2) second report of the Committee on International Control; (3) mesh size in the Northern part of the Convention area; (4) general principles of effort regulation; (5) conservation of herring stocks in the Convention area; and (6) use of topside chafers.

The Committee for Liaison with ICES reported that there was widespread failure to achieve the Commission's requirements with respect to minimum mesh sizes and the use of topside chafers.

The report of the Committee on International Control included the question of mesh regulation. Delegates agreed that there was a need for early institution of international

Argentina

TUNA FISHERIES, 1960-1964:

La Pesca de los Trinidos en la Republica Argentina, Años 1960-1964 (Fishing of Tuna in the Argentine Republic), issued by the Department of Fishery Investigations (November 1965), reviews the activities of the Argentine tuna fleet for 1960 through 1964. Reported are the catches made and the areas of tuna fishing activity, which is still in the beginning stages in Argentina.

The tuna fishery started in 1959 as a joint Japanese-Argentine enterprise with operations by the vessels Eisei Maru and Foca I.

Table 1 shows the catch of tuna by species and by year for 1960-64. Albacore tuna was by far the dominant species taken in the catch, followed by big-eyed tuna. The fishing method used was the long line.

Table 1 - Argentine Annual Catch of Tuna and Related Species, By Species, 1960-1964

Species	1964	1963	1962	1961	1960	Total
	(Metric Tons)					
Tuna:						
Albacore	1,492.8	1,546.5	749.1	1,471.9	1,802.3	7,062.6
Yellowfin	128.5	78.0	22.9	25.3	1.9	256.6
Bluefin	204.1	270.7	105.5	-	-	580.3
Big-eyed	187.0	235.0	213.4	162.5	56.1	854.0
Total tuna	2,012.4	2,130.2	1,090.9	1,659.7	1,860.3	8,753.5
Swordfish	507.9	399.5	196.2	110.9	281.2	1,495.7
Snake mackerel	14.2	18.2	14.2	7.3	-	53.9
Grand Total	2,534.5	2,547.9	1,301.3	1,777.9	2,141.5	10,303.1

control, but there was insufficient time to review the Committee report in detail. Therefore, the NEAFC has called a special meeting in London beginning November 15, 1966 (tentative date), to discuss international control. Member countries have been asked to submit written comments before the opening of the special meeting in London.

Other developments at the meeting included provisions for member countries to submit their views by February 1, 1967, on the problem of effort regulation so that this subject can be discussed at the next NEAFC annual meeting. During a discussion of topside chafers, hope was expressed that chafers could be completely forbidden by 1968.

At the invitation of the French Government, the Fifth Annual NEAFC Meeting will be held in Paris, beginning May 9, 1967. (Regional Fisheries Attache for Europe, U. S. Embassy, Copenhagen, May 25, 1966.)

Note: See Commercial Fisheries Review, Aug. 1965 p. 64.



For the purposes of this report, the fishing areas have been divided into statistical rectangles of 5° latitude and longitude as recommended by the "panel of experts of FAO in order to facilitate investigations regarding the tuna".

Table 2 gives the catch of tuna and related species by statistical area for the South At-

Table 2 - Argentine Catch^{1/} of Tuna and Related Species By Major Statistical Area and Number of Vessel Trips

Statistical Area	Catch	Trips	Catch Per Trip
	Metric Tons	No.	Metric Tons
Between lat. 30° and 35°, long. 45° and 50°	984.9	16	61.6
Between lat. 30° and 35°, long. 50° and 55°	2,552.5	66	38.7
Between lat. 35° and 40°, long. 50° and 55°	1,685.2	19	88.7
Between lat. 15° and 20°, long. 20° and 25°	2,584.4	13	198.8
Between lat. 20° and 25°, long. 20° and 25°	873.4	6	145.6
Other	1,622.7	16	101.4
Totals	10,303.1	136	75.8

^{1/}Includes albacore, yellowfin, bluefin, and big-eyed tuna; swordfish; and snake mackerel.

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Argentina (Contd.):

During the 5 years under consideration, the highest catch per trip (198.8 metric tons) was obtained off Brazil between latitudes 15° and 20°, and longitudes 20° and 25°.

Most of the 1966 Australia catch was canned for local consumption; 5 shipments totaling 2,400 tons were exported, mostly to the United States where tuna prices were at a record level.

Table 3 - Argentina Catch of Tuna and Related Species, By Month, 1964, and Vessel and Gear Efficiency

Month	Trips	Number of Hours		Long-Line Sets	Total Catch	Average Catch Per Trip	Average Catch Per Long-Line Set
		For Trips	Fishing Time Only				
		(Number)		(Metric Tons)			
January	3	3,248	2,364	115	451.6	150.5	3.9
February	1	1,024	810	43	105.6	105.6	2.4
March	1	1,091	850	45	106.1	106.1	2.3
April	2	2,866	1,190	65	119.5	59.7	1.8
May	2	2,535	1,130	93	242.3	121.1	2.6
June	1	915	570	30	125.1	125.1	4.1
July	2	2,224	1,325	96	270.8	135.4	2.8
August	3	3,363	1,350	93	414.5	138.1	4.4
September	1	1,045	600	35	101.7	101.7	2.9
October	3	2,385	1,458	81	317.4	105.8	3.9
November	-	-	-	-	-	-	-
December	2	2,297	890	59	279.9	139.9	4.7
Totals	21	22,993	13,037	755	2,534.5	120.6	3.3

Includes albacore, yellowfin, bluefin, and big-eyed tuna; swordfish; and snake mackerel.

The fleet consisted of three vessels in 1964, the Centauro, Eikyo Maru, and Foca II. Those 3 vessels were each about the same length (118 feet) and size (275 gross tons), and possessed about the same hold capacity (230 cubic meters). Each vessel operated with a crew of about 27 members. The catch during 1964, by month, for those vessels, including data on vessel and gear efficiency, are given in table 3. January, June, August, October, and December were the best fishing months in 1964.



Australia

TUNA CATCH, 1965/66 SEASON:

South Australia's 1966 tuna catch was a record 6,482 short tons on April 24, when the season was drawing to a close. This was 419 tons more than the previous highest total of 6,063 tons in 1964, and 1,263 tons more than in 1965. The season's record catch was made by a larger fleet--31 vessels at the peak, 10 more than in 1965.

The 1965/66 New South Wales season was disappointing; the catch was 2,476 tons as compared with 2,600 tons the previous season, but the overall Australian total by April 4 was 8,954 tons, only 20 tons short of the 1963/64 record. Twenty-three vessels were still fishing at that date, and the season appeared likely to continue for another 3 weeks.

The Espirito Santo, which acted as a mothership for tuna vessels during the New South Wales and South Australian seasons, sailed late in April 1966 from Melbourne to purse seine for tuna in eastern Bass Strait. The former United States clipper planned to work in close cooperation with a spotting aircraft used in the Tasmanian and Victorian tuna survey. (Australian Fisheries Newsletter, May 1966.)



Brazil

NEW OCEANOGRAPHIC VESSEL TO BE LAUNCHED IN 1967:

Dr. Martha Vannuzzi, Director of the Oceanographic Institute of the University of São Paulo, reports that the Institute's new oceanographic research vessel will be ready for delivery at Bergen, Norway, in April 1967. The vessel will be boarded at that time by a crew composed half of Norwegians and half of Brazilian scientists. On departure it will start a 4-months cruise for shakedown and delivery to the Port of Santos in Brazil. The cruise will take it along the African and Brazilian coasts and will provide an opportunity for comparative study of the Brazilian Current.

A name has not yet been chosen for the craft, but it will probably be called N. OC. W. Besnard. Dr. Besnard, a Norwegian scientist, was the founder of the Oceanographic Institute in São Paulo.

Brazil (Contd.):

The Institute Director intends to strengthen ties with United States oceanographers and marine biologists.

At this time, the Institute Director is endeavoring to recruit researchers, particularly specialists for fisheries, including fish technology, but also experts in shrimp biology and the basic chemical composition of species of commercial interest. Exploratory and stock fishery specialists assessment experts are also desired. Dr. Vannuzzi's main problem is in recruiting the specialists for fisheries and fish technology.

It will be recalled that the Institute is recipient of a Ford Foundation grant of \$545,000 for a 5-year period. According to its approved program, this grant is to be used for visiting researchers; for specialists on fishery methods and fish processing; on post-graduate training; for fellowships abroad and for equipment. The latter item includes some funds for the new building being constructed on the campus of the University of São Paulo, for a pier-side laboratory for fisheries to be constructed this year at Santos, and for some of the equipment on board the new oceanographic vessel. The Institute obviously has funds to move forward in its program, and is planning on the wise utilization of the funds. (U.S. Embassy, Rio de Janeiro, May 20, 1966.)



Bulgaria

IMPORTS OF GREEK FISHERY PRODUCTS:

During 1966, Bulgaria's imports of fresh, frozen, salted, and canned fishery products from Greece will amount to about US\$600,000 or 5 percent of all Greek exports to Bulgaria. This year's export commodity list (no details given) is based on a 1964 Trade Agreement between both countries (U. S. Embassy, Athens, April 20, 1966).



Canada

LOBSTER FISHERMEN IN NEWFOUNDLAND TO BE COMPENSATED FOR STORM LOSSES:

A joint Federal-Provincial program to compensate Newfoundland lobster fishermen

who suffered heavy trap losses in the severe storm of May 8, 1966, was announced May 17, 1966, by the Canadian Federal Fisheries Minister. The storm struck the west and south coasts of the Province.

The Federal and provincial governments will provide compensation to lobster fishermen in the area damaged by the storm at the rate of \$2.00 per trap. The compensation will be paid to each fisherman on the basis of the number of traps which he had in the water on May 8, 1966, providing that more than 35 percent of his traps were lost or destroyed.

No compensation will be paid under this program to any person who owned less than 35 lobster traps as evidenced in the declaration made when they applied for a lobster license for the 1966 season.

Any fisherman who receives compensation under this program must undertake during the 1966 season to replace the number of traps for which he claimed compensation, and must insure the replaced traps with the Canadian Fishermen's Indemnity Plan. (Canadian Department of Fisheries, Ottawa, May 17, 1966.)

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FIRM PROMOTES FRESH-WATER FISH EXPORTS TO EUROPE:

For expanding exports of fresh-water fish to Europe, a Canadian firm won an award from the Manitoba Department of Industry and Commerce, March 31, 1966. The prize-winning firm was formed by two Manitoba fish processors for the sole purpose of exporting Manitoba fresh-water fish to Europe.

As the first stage in its export sales campaign, the firm concentrated on distributing a sales brochure, illustrating Manitoba's fresh-water fish, to fish importers throughout all of Western Europe. The president of the firm then made a sales trip to Europe. He covered 9 countries in 5 weeks and made sales presentations to 52 different importers. Since his return, an average of 2 shipments per week of 10,000 pounds each of northern pike and whitefish have been shipped from Manitoba to 21 active customers in France, West Germany, Belgium, Denmark, Sweden, and Finland. The company's export sales in 1966 are running 33 percent ahead of last year and should reach close to a million pounds. (U. S. Embassy, Ottawa, May 18, 1966.)



Cuba

SPINY LOBSTER LANDINGS AND EXPORTS:

In 1964, Cuba produced 900,000 pounds of spiny lobsters for export, primarily to West European countries (France and Spain). Cuba's total 1964 spiny lobster catch amounted to about 16 million pounds. In 1965, Cuba produced 19.8 million pounds, a record in recent years and more than in 1961 when about 18 million pounds were landed.

The Cuban Government, however, wants to increase landings and exports and has passed a special lobster plan. Under the plan several fishing methods harmful to the species are prohibited, spiny lobsters longer than 15 centimeters only can be landed, catching berried lobsters is outlawed, and the "shaving" of berried lobsters is punishable. The use of traps is now widely recommended. In addition to regulations, the Cuban regime hopes to promote future production by (1) building artificial corrals, (2) developing new coastal lobster grounds, and (3) initiating deep water fishing (exploratory testing is conducted by a French expert).

Spiny lobsters are landed by more than 20 fishery cooperatives as well as by the State-owned fishery located on one of the keys offatabano Bay, the largest lobster fishing center in Cuba. Cuban lobsters are exported as frozen tails and as canned meat. Cuba hopes in the future to export up to 50 percent of the total landed weight by the reintroduction of deliveries of live lobsters.

Editor's Note: After the revolution, lobster fishermen converted water tanks on lobster boats into ice boxes which tripled the storage capacity of the boats. At the same time lobster fishermen began to practice il-

legal methods of fishing to increase the catch. Experience, however, has shown that only live lobsters can be processed into a product exportable to western countries. To increase such exports, the Cuban regime by law now has reintroduced the delivery of live lobsters.

PLANS FOR REVIVAL OF SPONGE INDUSTRY:

The sponge industry in Cuba flourished until 1937 when sponge diseases and over-exploitation reduced the resource. The National Institute of Fishing is now studying the possibility of introducing artificial sponge cultivation. Editor's note: A French expert is at present advising Cuban divers and modern diving equipment has been purchased in West European countries and the U.S.S.R. The main reason for the revival of the sponge industry is Cuba's need for foreign exchange obtainable by sponge exports.



Denmark

FISHERY EXPORTS, JANUARY-MARCH 1966:

Exports to All Countries: Total Danish fishery exports in January-March 1966 were down somewhat from the same period of 1965, reflecting the drop in landings during the first quarter of 1966. Average prices in 1966 were higher for all categories except fish oil. The leading markets for Danish fishery exports continued to be the European Common Market and the European Free Trade Association, although the Soviet Bloc countries increased their purchases of Danish fish meal during the period. West Germany was the leading

Table 1 - Danish Fishery Exports to All Countries, January-March 1966

Classification	January-March 1966			Change from 1965	
	Quantity Metric Tons	Value Kr. 1,000	Value US\$1,000	Quantity Percentage	Value
Fresh	40,661	92,561	13,412	- 26	- 3
Frozen	11,160	50,794	7,360	- 2	+ 10
Canned	1,544	6,710	972	- 15	- 14
Smoked	190	3,155	457	+ 2	+ 26
Canned:					
Fish	1,379	5,989	868	- 19	- 9
Shellfish	379	3,234	469	- 8	- 4
Unpreserved:					
Fish	503	3,460	501	- 4	+ 6
Shellfish	204	2,275	330	- 3	+ 35
Meal, solubles, ensilage, trout food, etc.	18,308	22,979	3,330	+ 2	+ 21
Total	74,328	191,157	27,699	- 17	+ 3
Fish oil 1/	7,772	10,289	1,491	- 9	- 12

January-February data only; fish oil data are shown separately because they are collected separately and are often delayed. Source: Danish Ministry of Fisheries.

Denmark (Contd.):

Commodity	January-March 1966			Change from 1965	
	Quantity Metric Tons	Value Kr. 1,000	Value US\$1,000	Quantity ... (Percentage) ...	Value
Fresh and Frozen:					
Pond trout	70.4	460.5	66.7	- 16	- 22
Trout eggs	0.1	12.1	1.8	- 67	- 66
Flatfish 1/	6.3	72.4	10.5	- 54	+ 5
Fillets and blocks:					
Flatfish	11.4	52.2	7.5	+ 533	+ 358
Cod	1,966.2	8,847.5	1,282.0	+ 30	+ 47
Other	1.4	5.7	0.8	- 26	- 20
Norway lobster	11.8	346.3	50.2	- 56	- 42
Total fresh & frozen	2,067.6	9,796.7	1,419.5	+ 26	+ 33
Salted 2/	3.0	9.7	1.4	- 40	- 56
Smoked 3/	0.4	8.1	1.2	- 20	- 35
Canned:					
Sprat & herring	151.9	903.3	130.9	- 37	- 13
Shrimp	19.0	200.4	29.0	+ 1	+ 13
Mussels	29.6	140.0	20.3	+ 2	+ 27
Other	14.1	71.4	10.3	+ 166	+ 174
Total canned	214.6	1,315.1	190.5	- 27	- 3
Semipreserved:					
Caviar	10.9	125.9	18.2	+ 65	+ 123
Other	16.6	25.6	3.7	+ 622	- 26
Total semipreserved	27.5	151.5	21.9	+ 209	+ 66
Fish solubles	125.0	125.0	18.1	- 17	- 18
Grand Total	2,438.1	11,406.1	1,652.6	+ 16	+ 27

1/Mostly turbot, brill, plaice, and soles.
2/Mostly cod.
3/Mostly salmon, trout, and eels.
Source: Danish Ministry of Fisheries.

country of destination, followed by the United Kingdom, Sweden, and the United States.

Exports to the United States: Danish fishery exports to the United States in the first quarter of 1966 were up 16 percent in quantity and 25 percent in value from the same period of 1965. The gain was due to larger shipments of frozen cod fillets and blocks which make up the bulk of Danish fishery shipments to the United States. There was a decline in shipments of pond trout and canned herring. (U. S. Embassy, Copenhagen, May 18, 1966.)



Ecuador

SHRIMP EXPORTS, 1965:

Ecuador's shrimp exports have increased steadily since 1962. There are seven firms now engaged in this export market and shrimp is shipped mainly to the United States. (U. S. Embassy, Quito, June 1, 1966.) Shrimp exports during 1962-65 and January-April 1966 were:

Year	Quantity Pounds
January-April 1966	1,481,556
1965	5,646,825
1964	5,384,759
1963	5,255,455
1962	5,095,374



Fig. 1 - Shrimp vessels at the dock of a shrimp firm in Guayaquil



Fig. 2 - Shrimp vessels and plant of another shrimp firm in Guayaquil

Ecuador (Contd.):



Fig. 3 - Small shrimp plant in Guayaquil. Refrigerated truck hauls shrimp from Esmeraldas.



PROPOSAL TO DEVELOP OFFSHORE FISHING FLEET:

A Committee for Ocean Fishing, which was appointed by the Finnish Agricultural Ministry, has recommended that Finland should make a greater effort to develop its Atlantic fishing fleet. Finland has at present only two vessels operating in the Atlantic, and these only in the summer months. (U. S. Embassy, Helsinki, June 11, 1966.)



France

FISHERY TRENDS, 1965:

Landings: French production of fish and shellfish was lower in 1965 than in 1964. This was due largely to the smaller than usual production of seasonal fish, notably herring, sardine, and tuna. In general, the French catch of the species for which demand is highest continued to decrease. In order to meet growing consumption, imports increased.

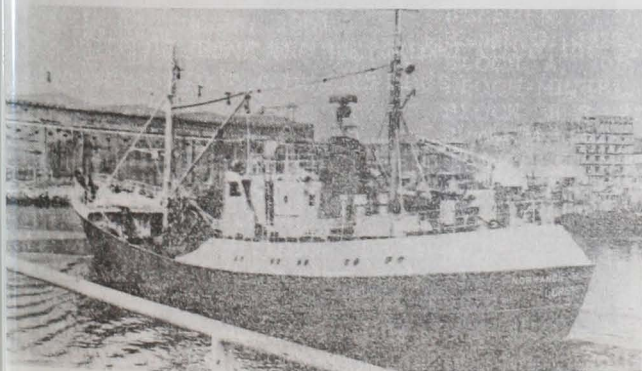


Fig. 1 - French conventional high-seas trawler (Normandie-Bretagne), operating out of Lorient.

Fishing Fleet: Construction of fishing vessels of modern design is being stepped up in France with a view to increasing competitiveness. This program while undertaken by private firms is being helped by the Government. The result hoped for is to reduce imports of fish. Artisan-type fishing still accounts for half of French production. But in 1965, a total of 52 vessels of more than 100 tons were placed in service. Of those, one was 70 meters (230 feet) in length and equipped for stern-trawling; 15 (including 7 stern trawlers) were from 40-52 meters (131-171 feet) in length (those 16 vessels were built in non-French yards); and 4 were 36 meters (118 feet) in length. By the end of 1965,

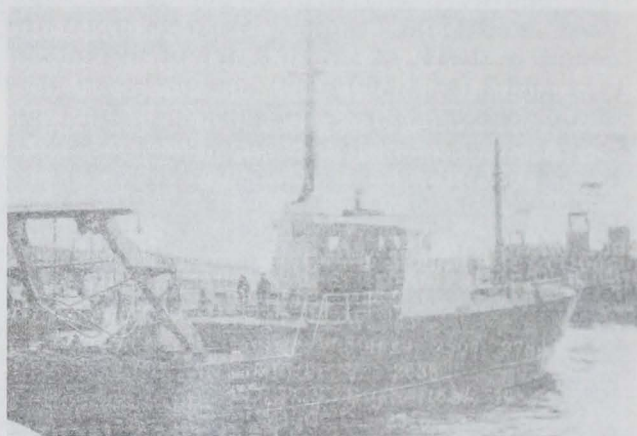


Fig. 2 - Stern trawler, Adrien-Pla, from the French port of La Rochelle.

the French fishing fleet had 3 freezer vessels, 2 of which were mixed vessels equipped for freezing and chilling). The other is the all-freezer vessel Viking which entered serv-



Fig. 3 - Emptying the cod end aboard a stern trawler.

France (Contd.):



Fig. 4 - Fishing vessels docked at the French port of Concarneau. ice in June 1965 and produced over 1,000 metric tons of frozen fish in the last half of 1965. Four additional freezing vessels were ordered in 1965, of which 2 are of the mixed type and 2 (of 1,100 tons) are designed especially to produce frozen fillets.



Fig. 5 - Selling fish at auction, Lorient, France.

Marketing: According to studies made by the European Economic Community (EEC), France is the largest per capita consumer of fish within the Common Market. In France annual per capita consumption is estimated at 13.9 kilos (30.6 pounds); in Germany 10.9 kilos (24.0 pounds); Italy, Belgium, and Luxembourg 10.0 (22.0 pounds), and the Netherlands 8.9 (20.0 pounds). The French government, together with the industry, is making an effort to increase fish in the diet and increase the number of days a week on which the average Frenchman eats fish.

With the Government's assistance, fish marketing in the northeastern part of France has been organized on a prototype basis for



Fig. 6 - Herring fillets ready for packaging.

the purpose of (1) stabilizing the size of the catch in order to avoid periodic market saturation, (2) balancing more effectively the rotation of the fishing vessels, and (3) improving quality control and the manner in which fish is presented to the ultimate purchaser. It is quite probable that similar efforts will be made in other areas of France during 1966.

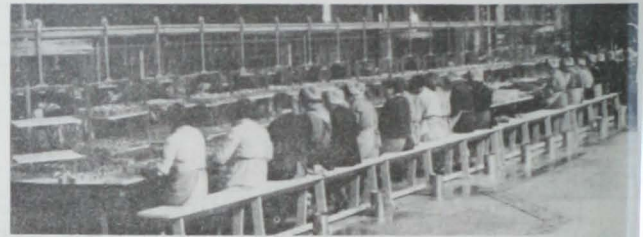


Fig. 7 - Packing cans with fish in a French cannery.



Fig. 8 - Attractive retail fish shop in France.

France (Contd.):

Consumption of frozen fish in France is over 15,000 metric tons a year and is expected to reach 50,000 tons a year by 1970. Fish sticks and portions account for about 45 percent of present frozen fish consumption in France. At present, frozen fish is sold in only 10,000 retail outlets in France out of a total of 200,000 retail outlets devoted to food products. This indicates the capacity for expansion. (U. S. Embassy, Paris, June 11, 1966.)



Guyana

SHRIMP EXPORTS AND VESSELS, 1965:

Shrimp is the mainstay of the Guyana fishing industry; 7,907,635 pounds were exported in 1965: over 7.6 million pounds to the United States (Guyana is said to be the third largest foreign supplier of shrimp to the United States). Value of the shipments totaled US\$5,443,876. A U. S. investor has a new 750,000 plant and another firm has doubled its freezing capacity since 1963.



Freezing plant at Georgetown, Guyana.

About 107 shrimp trawlers operate out of Georgetown, fishing as far south as the Amazon river.

In 1965 Guyana became a participant in an FAO/United Nations Special Fund regional fisheries project. It is hoped red snapper fishing will increase as a result of training given fishermen under the project.

Local fishing is not sufficient for the market that could be developed. It is an area where small investments in vessels and equipment should bring a fair return. (U. S. Embassy, Georgetown, June 21, 1966.)

Formerly British Guiana.



Japan

FISHERY LANDINGS SET RECORD IN 1965:

Japan's fish landings in 1965 reached a new record high of 6,879,000 metric tons (excluding whales), according to preliminary data released by the Statistical Research Department, Ministry of Agriculture and Forestry. The 1965 catch exceeds by 15,000 tons the peak year 1962 production of 6,864,000 tons and reverses the previous two years' downward trend. In 1964 Japan's production totaled 6,350,000 metric tons, in 1963 it was 6,698,000 tons. Compared to 1964, the sea fisheries production of 6,372,000 tons was up 9 percent, shallow seas culture production held steady at 361,000 tons, and inland fisheries and fish farming production increased 27 percent to 146,000 tons.

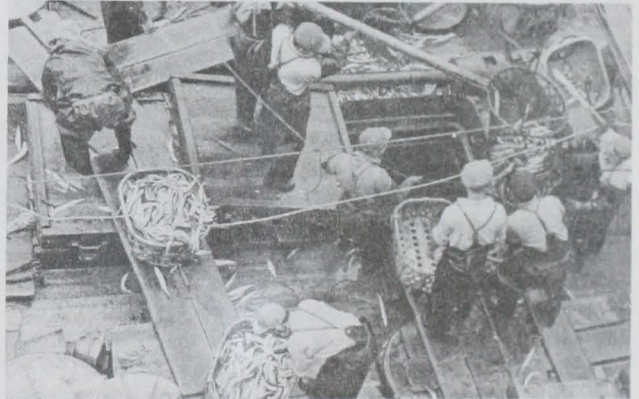


Fig. 1 - Packing and washing mackerel prior to stowing them in the hold aboard a Japanese fishing vessel.

Of the sea fisheries production, the trawl fisheries (mothership-type, distant-water, coastal trawl, etc.) yielded 1,913,000 metric tons, up 38,000 tons over 1964; the salmon fisheries yielded 127,000 metric tons, up 26,000 tons. Most of the increase in salmon was due to the larger catches made by the land-based salmon gill-net and long-line fisheries with a combined total catch of 81,000 tons, up 24,000 tons. The tuna fisheries was down--688,000 tons as compared to 691,000 tons in 1964, but the Atlantic tuna catch was up sharply from 1964's 69,000 tons to 83,000 tons (20 percent increase). Skipjack tuna production was up also by 10,000 tons, totaling 194,000 tons. These increases were offset by lower catches by the mothership-type, overseas-based, and Japan-based tuna fisheries.

Squid production was up sharply at 387,000 tons, an increase of 150,000 tons. The coastal purse-seine fishery catch of 1,276,000 tons

Japan (Contd.):



Fig. 2 - Weighing black marlin aboard a Japanese tuna mothership.

showed the largest quantitative increase (264,000 tons) of all the fisheries. (Suisan Tsushin, June 8, 1966.)

* * * * *

FISH CATCH IS DOWN AND IMPORTS ARE UP:

The Japanese Government, at the February 22, 1966, Cabinet meeting, adopted the "1965 Annual Report on Fisheries Trends," the so-called "Fisheries White Paper," and submitted it to the National Diet. The report describes the production, economic, and management trends in the Japanese fisheries primarily for the year 1964, as well as the proposed administrative measures for the coastal fisheries in 1966. Highlights of the "White Paper" are as follows:

- (1) The fishery economy in 1964 was affected by the tight money situation, labor shortage, growing international restrictions on fisheries, and increasing imports of fishery products. However, the fishery management, while having experienced two consecutive years of decline in production, was sustained by the rising fish prices.
- (2) In 1964 fishery production (excluding whales) was valued ex-vessel at 497.5 billion yen (US\$1.38 billion). Although there was a 5.2-percent decline in production from 1963, the value increased 3 percent because of the rise in fish prices.
- (3) Owing to the production decline, the supply of edible fishery products on the domestic market in 1964 declined as follows compared with 1963: fishery products 5 percent; whale meat 8 percent; seaweed 12 percent. Domestic demand for fishery products continues to grow, and in 1964 household spending on fishery products increased 10 percent in cities and 16 percent in farm villages as compared with 1963.
- (4) Value of marine products exported in 1964 totaled 112 billion yen (\$311 million), an increase of 10 percent over 1963 but falling slightly below the high recorded in 1962. Imports of marine products in 1964 drastically increased, totaling 32.3 billion yen (\$89.7 million) in value, a gain

of 51 percent over 1963. Increase in imports of fresh, frozen and salted fish, and fish meal was particularly great.

- (5) Despite the decline in production, average earnings by the medium and small fishery enterprises in 1964 increased by 10 percent due to the rise in fish prices. Earnings for the tuna long-line fishery improved for operators of 30- to 50-ton and 100- to 200-ton vessels but declined for those operating 50- to 100-ton and 200- to 500-ton vessels due to longer trip lengths and increasing interest payments on loans.
- (6) The number of fishery managements is yearly decreasing, and by the end of 1964 there were 229,000 management units. (Note: In 1963, there were 234,000 enterprises according to the fishery census conducted by the Ministry of Agriculture and Forestry.) The number of people engaged in fisheries in 1964 totaled 612,000 persons, a 2.2-percent decrease from 1963 and a 15.4-percent decline from 1960. Owing to the outflow of youths to other industries upon graduating from school, the average age of the fishing population is yearly rising.
- (7) Average annual wage of fishermen employed in the medium and small fishery enterprises was 446,000 yen (\$1,239) in 1964, an 11-percent increase over 1963, and approximately equaled that of workers employed in the manufacturing industries. (Nihon Suisan Shimbun, February 23, 1966.)

It is also said that fishing opportunities in the world were growing tight because of the current trend toward expansion of territorial waters and other deterrents to fishing operations.

The measures introduced for the promotion of the Japanese fishing industry envisioned the development of untapped marine resources, improvement of productivity in the case of coastal fishing and small fishing interests, promotion of fish cultivation, and creation of shallow-water fishing grounds through public works, as well as increased financing for fishermen. (The Japan Times, February 23, 1966.)

* * * * *

FRESH AND FROZEN TUNA EXPORTS TO OVERSEAS BASES, BUSINESS YEAR 1965:

A total of 24,555 short tons of fresh and frozen tuna valued at US\$7.2 million was val-

Overseas Base	BY 1965		BY 1964		BY 1963	
	Qty. 1/	Value	Qty. 1/	Value	Qty. 1/	Value
	Short Tons	US\$	Short Tons	US\$	Short Tons	US\$
American Samoa	12,501	3,756	12,457	3,609	14,563	4,088
Penang, Malaysia	6,036	1,890	3,305	890	1,552	497
Fiji Islands	3,353	916	1,777	468	-	-
Saint Martin, Neth. Antilles .	1,412	368	665	211	-	-
Espiritu Santo, New Hebrides . .	1,253	304	1,226	302	2,014	508
Others	-	-	668	172	2,101	547
Total	24,555	7,234	20,098	5,652	20,230	5,633

1/Includes round and dressed tuna and fillets.

Japan (Contd.):

dated for "export" to overseas bases in business year 1965 (April 1965-March 1966), according to data released by the Japan Frozen Foods Exporters Association. This represents increases over the previous year's exports of 22 percent in quantity and 28 percent in value. (Suisan Tsushin, May 18, 1966.)

* * * * *

NEW CANNED TUNA EXPORT VALIDATION STANDARD ADOPTED:

The Japanese Ministry of International Trade and Industry (MITI), following conclusion of an exporters' agreement in April 1966 between packers and exporters on exports to the United States of canned tuna in brine, announced on May 17 the adoption of a new canned tuna export validation standard for the period May 14, 1966-March 31, 1967. Under the new standard, MITI will approve for export during the 11-month period a total of 2.54 million cases of tuna packed in brine, 70 percent to be allocated to exporters on the basis of past performance and 30 percent to be reserved as adjustment quota. Adoption of the new export validation standard resolves the 6-month long controversy between packers and exporters over canned tuna in brine exports to the United States. (Suisancho Nippo, May 18, 1966.)

* * * * *

FISH LANDINGS IN YAIZU, MAY 1966:

May 1966 landings of fish at the Japanese port of Yaizu (principal tuna port) totaled 20,919 metric tons valued at 2,530 million yen (US\$7 million) as compared to April landings of 20,197 metric tons valued at 2,288 million yen (\$6.4 million), according to data compiled by the Yaizu Fishermen's Cooperative Association. Albacore landings were up slightly (187 tons) from April, but com-

Table 2 - Yaizu Fish Landings and Values, January-May 1966 with Comparisons

Species	Quantity		Value	
	1966	1965	1966	1965
	.(Metric Tons).		.. (US\$1,000)..	
Tuna:				
Bluefin 1/	31,800	28,765	16,752	10,050
Albacore	8,622	17,354	3,825	5,170
Skipjack	21,971	9,817	5,868	2,387
Mackerel	14,696	9,139	1,471	1,018
Other fish	3,637	3,287	991	818
Total	80,726	68,362	28,907	19,443

1/Includes yellowfin and big-eyed tuna.

pared to May 1965 were down 7,438 tons. The average price paid per ton of albacore (about \$477) was \$99 above the April 1966 price and \$197 above the May 1965 price. (Kanzume Nippo, June 4, 1966.)

* * * * *

POLE-AND-LINE TUNA FISHING TRENDS:

On May 15, 1966, about 130 metric tons of pole-and-line albacore were landed at Yaizu. This was the first time since the beginning of the summer albacore fishery that over 100 tons of fish were landed in any one day. They sold for 170-185 yen a kilogram (US\$428-467 a short ton) ex-vessel.

Tuna Landings at Yaizu, Japan, May 1-10

Species	1966	1965	1964
 (Metric Tons)		
Skipjack	2,346	1,202	1,276
Albacore	225	1,434	489
		1/(45,000)	1/(32,000)

1/Estimated total albacore landings for season. Note: Japanese sources earlier forecast a poor summer albacore season in 1966. The general feeling was that this year's catch will not exceed 20,000 tons, and possibly will fall far below that figure unless fishing picks up. The fishery ends in early July.

Albacore fishing was reported to have picked up in mid-May, with about 25 vessels concentrated in the area bounded by latitudes 34°-35° N. and longitudes 151°-153° E. (about 700-800 miles due east of Tokyo). The catch in that area was as high as 40-50 metric tons a day, but the fish were small, mostly averaging 3-4 kilograms (6.6-8.8 pounds).

As of mid-May, Japanese canned tuna packers were reported unable to compete for the small quantities of albacore landed by the pole-and-line fishery due to high ex-vessel prices, but were packing some skipjack, the landings of which were averaging about 200 tons a day. The skipjack were reported also to be small, less than 2 kilograms (4.4 pounds) in weight, and selling for over 80 yen

Table 1 - Yaizu Fish Landings and Average Values, May 1966 with Comparisons

Species	Quantity			Average Value		
	1966		1965	1966		1965
	May	April	May	May	April	May
	. (Metric Tons).			. (US\$/Short Ton) .		
Tuna:						
Bluefin 1/	6,823	6,373	4,956	522	521	394
Albacore	2,834	2,647	10,272	477	376	280
Skipjack	6,825	5,293	2,706	250	265	287
Mackerel	2,698	5,234	1,858	73	88	97
Other fish	739	650	555	-	-	-
Total	19,919	20,197	20,347	-	-	-

1/Includes yellowfin and big-eyed tuna.

Japan (Contd.):

per kilogram (US\$202 per short ton). (Suisan Tsushin, May 19; Kanzume Nippo, May 20, 1966.)

* * * * *

REDUCES USE OF DECK-CARRIED TUNA-FISHING VESSELS:

It is reported that as a result of poor fishing conditions Japanese vessel owners operating portable boat-carrying tuna mother-ships are reducing the number of portable vessels carried by motherships or seeking permission to convert their vessels to regular distant-water tuna vessels. The owners of one large tuna mothership reduced the number of portable vessels from 8 to 6, while another mothership owner reduced portable vessels from 5 to 4. The somewhat lower catch of the mothership resulting from the employment of fewer deck-carried fishing vessels is said to be more than compensated for by large savings in labor costs, averaging a crew reduction of about 12 men per vessel. (Shin Suisan Shimbun Sokuho, May 11, 1966.)

* * * * *

REFUELING BASE IN INDIAN OCEAN PLANNED FOR TUNA LONG-LINERS:

The Japan Federation of Tuna Fishermen's Cooperative Associations (NIKKATSUREN), which is planning on sending to the Indian Ocean this year (1966) an oil tanker to service at sea the tuna long-liners operating in that ocean, is studying the possibility of establishing a refueling base in the Seychelles Islands. (Suisancho Nippo, May 18, 1966.)

* * * * *

FISHING AFFECTED BY MAURITANIA'S EXTENSION OF FISHING LIMITS:

The Government of Mauritania established, effective May 15, an exclusive fishery zone extending seaward 6 miles from her 6-mile territorial sea. This action by Mauritania shut out Japanese trawlers from the octopus fishing grounds off that country. Japanese trawl operators have requested their government to negotiate an agreement with Mauritania to permit their vessels to operate within the newly established fishery zone. (Nihon Suisan Shimbun, May 23, 1966.)

Note: See Commercial Fisheries Review, June 1966 p. 55.

* * * * *

TUNA FISHERMEN REQUEST LOWER INTEREST RATES ON GOVERNMENT LOANS:

The Japan Federation of Tuna Fishermen's Cooperative Associations (NIKKATSUREN) on April 27 held a general membership meeting to discuss NIKKATSUREN's plans for the current business year and to seek ways and means of improving management. Discussion was centered on the financial condition of the fishery, particularly on the interest rate charged for government loans to industry. The recommendation was made to seek a reduction in the current 7.5-percent rate on government loans to the fishing industry since government loans to the maritime industry are granted at 4 percent interest.

Also discussed at the meeting was the proposed transshipment of Atlantic-caught albacore to the U. S. west coast and other measures to stabilize prices, and the promotional work to expand canned tuna in oil consumption in Japan. It was decided that these matters should be further studied pending the outcome of the summer albacore fishery. However, the promotion of canned tuna in oil would be conducted on a limited scale. (Suisan Shuho, May 15, 1966.)

* * * * *

COMPUTER FOR IDENTIFYING TUNA SCHOOLS UNDER DEVELOPMENT:

The Japanese Fisheries Agency's Fishing Boat Research Office and the Tokai Regional Fisheries Research Laboratory are developing an electronic computer for the tuna industry which can identify species and determine sizes of fish schools. The device, to be used in conjunction with a fish finder, would analyze wave forms appearing on the finder in identifying tuna species. The first set was scheduled to be completed around September 1966, following which it will be tested at sea depths of 400-500 meters (13,000-16,400 feet). Initial production costs are estimated to be around 1 million yen (US\$2,778) a set. (Suisan Keizai Shimbun, May 13, 1966.)

* * * * *

SALMON LANDINGS HIGHER, PRICES LOWER THAN 1965:

Salmon fishing began on April 30 in the coastal areas of the North Pacific off Japan and in June was active both in Areas A and B. Landings of salmon in Hokkaido and in

Japan (Contd.):

The northeastern part of Honshu from fishing vessels engaged in fishing in the southern area have recently shown a large increase. Although salmon prices at first received much attention because of the big reduction in the catch quota this year, prices were staying about the same, even dropping to about 5 percent below those of last year. Pink salmon was the only exception and the price quoted was about 10 percent higher than last year.

The wholesale price at fish markets was substantially lower than last year, and it was likely that salmon would be sold at retail also at a rather low price.

In Area B south of 45° N., about 1,700 small drift-net fishing vessels were engaged in salmon fishing, and quite a number of vessels were delivering salmon to ports such as Kushiro, Akkeshi, Nemuro, Hachinoe, Miyako, and others. Most of the salmon, either salted or fresh, landed by those vessels were consumed at home.

Although at first salmon prices were expected to be fairly high because of the reduced catch quota, the wholesale prices per kilogram (2.2 lbs.) on June 1 at various ports were as follows:

Salted salmon:

410 yen (US\$1.14), about 200 yen (56¢) below last year.

Salted pink salmon:

300 yen (83¢), about 30-40 yen higher (8-11¢).

Fresh salmon:

420-428 yen (\$1.17-1.19), almost the same as last year.

Fresh pink salmon:

304-318 yen (84-88¢), 30 yen (8¢) higher.

(Extracted from Nihon Keizai Shimbun, June 2, 1966, by Fisheries Attache, United States Embassy, Tokyo, June 3, 1966.)

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FIRM EXPLORES FOR ARCTIC OCEAN SALMON:

A Japanese fishing firm dispatched to the Arctic Ocean in July 1966 a 200-ton fishing

vessel, the Dairin Maru, to explore the salmon resources of that Ocean. The vessel planned to test-fish with gill nets from July to September and was mainly after chum salmon.

Japan had informed the Soviet Government at the March 1966 annual meeting of the Pacific Northwest Fisheries Commission of her intention to explore the salmon resources in the Arctic Ocean, and the U.S.S.R. had given approval to the plan. The Fisheries Agency of Japan was said to look favorably on this plan. (Nihon Suisan Shimbun, May 25, 1966.)

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EXPORTS OF CANNED MACKEREL TO UNITED STATES INCREASING:

Exports to the United States of Japanese canned mackerel (natural) were reported to total as of mid-May 1966 about 190,000 cases as compared with about 80,000 cases at the end of March. The large demand in the United States this year for Japanese canned mackerel was attributed to the shortage of South African supplies and to the poor mackerel season in southern California. (Suisancho Nippo, May 18, 1966.)

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EXPLORING BOTTOMFISH RESOURCE OFF EAST AFRICA:

The Fisheries Agency planned to dispatch in July the 474-ton fishing vessel Eitai Maru to explore the fishing grounds in the eastern Indian Ocean. The Eitai Maru will carry portable fishing boats, and will fish with bottom long-line gear primarily seeking bottom-fish species, such as sea bream. She was scheduled to depart Japan on July 10 and return December 10. (Shin Suisan Shimbun Sokuho, June 7, 1966.)

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FISHING VESSELS LICENSED BY FISHERIES AGENCY:

Following are the fishing vessels licensed by the Japanese Fisheries Agency as of March 31, 1966 (1965 figures are in parentheses):

Offshore trawlers: 1,091 (1,111)
Trawlers west of 130° E.: 768 (779)
Pelagic trawlers: 272 (213)
Long-liners and gill-netters in the North Pacific: 19 (19)

Japan (Contd.):

Mothership-type trawlers: 241: 25 mother-ships and 216 catcher boats (228)
 Large and medium purse seiners: 635 (697)
 Large whalers: 17 (22)
 Small whalers: 22 (19)
 Mothership-type whalers: 125: 10 mother-ships and 115 catcher boats (122)
 Pelagic tuna-fishing vessels: 1,301 (1,315)
 Near-sea tuna vessels: 1,687 (1,705)
 Mothership-type tuna vessels with skiffs carried thereon: 181: 51 motherships and 130 skiffs (174)
 Mothership with catcher boat-type vessels: 168: 3 motherships and 165 catcher boats (167)
 Medium salmon drift-netters: 320 (317)
 Medium salmon long-liners: 369 (369)
 Mothership-type salmon vessels: 380: 11 motherships and 369 catcher boats (380)
 Mothership-type crab vessels: 91: 6 mother-ships, 26 catcher boats and 59 skiffs (89)

(Fisheries Attache, United States Embassy, Tokyo, from Suisancho Nippo, June 21, 1966.)

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INDUSTRY SUBMITS RECOMMENDATIONS ON FUR SEALS:

The Japan Fisheries Society on June 18, 1966, submitted to the Government industry's views on the harvesting and processing of fur seals and related studies. The Society made the following statements and recommendations:

1. The raw seal skins Japan sent to the United States firm in 1965 for processing were found to be somewhat unsatisfactory. Every possible step must be taken in 1966 to improve fur-seal harvesting and curing methods. In 1967, the International Fur Seal Commission is scheduled to study research and development work conducted in 1965-66 to improve the quality of seal skins. The Commission's findings will have a vital bearing on the revision of the present Convention, so Japan must carefully study this matter in order to achieve her original objectives. For the 1966 annual meeting, Japan should send a group of biologists and seal-skin experts as advisors to the Government delegation.

2. Concerning research and development work, the Soviets are said to be operating a new efficient research vessel to study marine animals. It is known that the quality of skins taken at sea is superior to those taken

on land, so Japan should proceed to build a special research vessel to thoroughly study methods of harvesting fur seals with minimum damage to their skins.

The behavior of the Pribilof herd (particularly females) in recent years deserves close study. Furthermore, the investigation of the herds on the Robben and Komandorskie Islands is also lagging, so the scientists of the countries concerned should jointly undertake studies of those herds. Salmon fishing grounds should also be investigated to explore possibilities of dealing with fur-seal predation which is causing extensive damage to the salmon fishery.

3. The Japanese Agriculture and Forestry Ministry's revenue from fur seal sales since 1958, totaling around 200 million yen (US\$555,000) annually, should be spent on the forgoing research and development work as well as on the promotion of the fur-seal processing industry. (Suisan Tsushin, June 20, Suisancho Nippo, June 21, 1966.)

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GOVERNMENT TO COMPENSATE OWNERS OF SEIZED VESSELS:

On June 13, 1966, the Fisheries Agency published a list of 214 vessels seized by the Republic of South Korea that have been judged to be eligible for government compensation totaling about 2,650 million yen (US\$7.4 million). The 214 vessel owners will be compensated as follows: vessels 920 million yen (\$2.6 million); cargo 570 million yen (\$1.6 million); administrative expenses 160 million yen (\$0.4 million); loss of fishing time 100 million yen (\$0.3 million). The 3,900 crew members that sailed on the seized vessels will receive financial assistance totaling 850 million yen (\$2.4 million). Small and medium vessel owners and all crew members will be exempt from paying tax on their compensation. However, the major fishing companies will have to pay a partial tax. (Suisan Keizai Shimbun, June 15, 1966.)

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UTILIZATION OF SAURY IN 1965:

A survey made by the Japanese Fisheries Agency on the utilization of saury in 1965 showed that over half (56.9 percent) of the total catch of 229,694 metric tons was frozen, 17.8 percent consumed fresh, and 11.3 percent canned. Of the total of 130,784 tons of

Japan (Contd.):

Utilization of Saury in 1965, with Comparisons						
	1965		1964		1963	
	Metric Tons	%	Metric Tons	%	Metric Tons	%
Fresh	40,929	17.8	37,410	17.8	53,449	14.6
Frozen	130,784	56.9	123,359	58.8	181,953	49.9
Canned	25,926	11.3	19,837	9.6	40,262	11.0
Meal and oil	6,846	3.0	12,470	5.9	47,069	13.1
Other ^{1/4}	25,209	11.0	16,639	7.9	41,523	11.4
Total	229,694	100.0	209,715	100.0	364,256	100.0

Processed and used as food, e.g., salted, dried.

Frozen saury, about one-third is expected to be consumed as bait by the tuna long-line fishery. (Suisan Tsushin, June 15, 1966, and other sources.)

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WHALING IN EAST CHINA SEA REACTIVATED:

A large Japanese fishing company has recommenced whaling operations in the Goto Islands in the East China Sea. The firm has assigned to the operation the 430-ton whaler Fumi Maru No. 5. On June 15 the Fumi Maru was reported to have landed her first fin whale. Another firm which had also until last year engaged in the Goto Islands whale fishery apparently does not plan on reentering the fishery. (Suisan Tsushin, June 21, 1966.)



North Korea

SOVIET-NORTH KOREAN FISHERIES COMMISSION MEETS:

The 17th session of the Korean-Soviet Commission on Scientific and Technical Cooperation in Fisheries took place in Pyongyang, North Korea, May 10-17, 1966. The Soviet delegation was headed by Minister of Fisheries A. A. Ishkov. The agenda of the 1966 meeting of this Commission is not known.

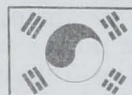
The Soviet-Korean Commission must not be confused with the multilateral Western Pacific Fisheries Commission of which both North Korea and the U.S.S.R. are members. Included in the latter Commission are Communist China, North Vietnam, and Mongolia; it was formed only 11 years ago.



Republic of Korea

REFRIGERATED TUNA VESSELS ASSIGNED TO AMERICAN SAMOA:

The Republic of South Korea assigned to American Samoa in April, 6 new 180-ton refrigerated tuna long-line vessels. Reportedly, this is the first case of countries other than Japan employing refrigerated tuna vessels out of Samoa. Japan was the first to employ them (in place of ice boats) and their use is expected to become more widespread. (Nihon Suisan Shimbum, June 1, 1966.)



Libya

FISHING VESSELS ORDERED FROM POLAND:

Polish shipyards have orders from Libyan owners for 33 small fishing vessels designed to fish in the Mediterranean. Included are two training and research vessels. Delivery is scheduled for the end of 1967. No details on specifications or financing arrangements are known.



Malaysia

SURVEY OF MARINE FISHERY RESOURCES IN COOPERATION WITH THAILAND:

The Malaysian Minister of Agriculture and Cooperatives announced on May 24, 1966, that Thailand has agreed to join Malaysia in a research survey of fishing resources in waters surrounding Malaysia. The survey, which is to be completed before the north-east monsoon begins late this year, will be carried out in three stages: (1) a six-week survey in waters between Songkla and southern Johore, (2) a survey along the east coast of Malaya, and (3) a survey in waters around Sabah and Sarawak.

The intent of the survey is to identify unexploited fishery resources. By developing new fishing grounds, the Minister hopes to increase Malaysia's annual marine catch (215,000 metric tons) by 100,000 tons.

The Minister also announced that the Malaysian Government is considering the purchase from Thailand of 1 or 2 90-ton fishery

Malaysia (Contd.):

research vessels. Costing about M\$150,000 each, the vessels will come equipped with echo-sounders and wireless sets. (U.S. Embassy, Kuala Lumpur, June 7, 1966.)

Editor's Note: Hopefully, the survey will help relieve the tension between trawlermen and inshore fishermen. The location of unexploited fishing grounds, which could be designated for trawling, would reduce the temptation for trawlermen to poach on inshore grounds inside the 12-mile, 15-fathom limit. On May 29, marine police used tear gas to disperse 500 inshore fishermen who had mobilized for another naval battle with Pangkor Island trawlermen who were reportedly violating the limit.

It remains to be seen whether improved relations with Indonesia will also help relieve tension. Repeated Indonesian attacks on fishing boats have made Malaysian trawlermen reluctant to fish more than a few miles off the Malaysian coast.



Mexico

SHRIMP TRENDS, FIRST QUARTER 1966:

Shrimp landings during the first quarter of 1966 were up somewhat over the same period of 1965, according to preliminary data of the Mexican Department of Fisheries. The total catch of January-March 1966 for the 9 principal shrimp ports was 7,046,960 kilograms (15,503,300 pounds), compared to 6,754,000 kilograms (14,858,800 lbs.) in 1965.



Fig. 1 - Mazatlan, Sinaloa, Mexico. Entrance to harbor.



Fig. 2 - Shrimp trawlers and freezing plants at Guaymas, Sonora. (Data are based on shrimp as landed--heads-on, heads-off, etc.)

The Pacific Coast fishery reversed the downward trend of the past several years, with a substantial increase in catch. In 1966, catches were 4,892,869 kilograms (10,964,300 pounds), compared to 4,129,336 kilograms (9,084,500 pounds) the preceding year.

Four Pacific Coast ports showed large increases. One port showed a slight increase, but Salina Cruz experienced a sharp drop (table 1).

Table 1 - Mexico's Principal Pacific Coast Ports Show Increased Shrimp Landings, First Quarter 1966 and 1965

Port	First Quarter			
	1966	1965	1966	1965
	. (1,000 Kilos)		. (1,000 Lbs.)	
Mazatlan	1,979	1,670	4,354	3,674
Guaymas	1,417	926	3,117	2,037
Puerto Penasco	396	287	871	631
San Felipe	115	31	253	68
Topolobampo	286	273	629	601
Salina Cruz	700	941	1,540	2,070

The fishery in the Gulf of Mexico, which had been on the increase for several years, suffered a setback. Production in 1966 was 2,154,091 kilograms (4.7 million pounds), compared to 2,624,664 kilos (5.8 million pounds) the preceding year.

The two principal Gulf ports had smaller production (table 2) whereas Tampico had a small increase.

Neither governmental nor industry statistics specify species nor size of shrimp.

In general, there are no ex-vessel prices in Mexico. Shrimp are delivered to proc -

Mexico (Contd.):

Table 2 - Mexico's Principal Gulf Ports Show Lower Shrimp Landings, First Quarter 1966 and 1965

Port	First Quarter			
	1966	1965	1966	1965
	. (1,000 Kilos).		. (1,000 Lbs.) .	
Ciudad del Carmen	1,383	1,580	3,043	3,476
Campeche	613	894	1,349	1,967
Tampico	158	151	348	332

...ssing plants on consignment and vessels share whatever the eventual sales price may be on the United States market. Part payment is made at time of unloading pending final settlement.

No data are available on processed products. All shrimp for export is frozen either as heads-off shelled, or peeled individually frozen, butterfly, with a small quantity breaded.

As customary, virtually all exports are to the United States. Because shrimp exports to the United States are such an important part of Mexican foreign trade, the Department of Statistics of the Secretariat of Industry and Commerce includes them in its "Principal Economic Indicators." According to its recent preliminary figures, shrimp exports during the first quarter of 1966 were valued at 119.9 million pesos (US\$9.6 million), up 16.5 percent from 1965's 102.8 million, (US\$8.23 million), which in turn was down 25.5 percent from 1964 when they were valued at 137.9 million (US\$11 million).

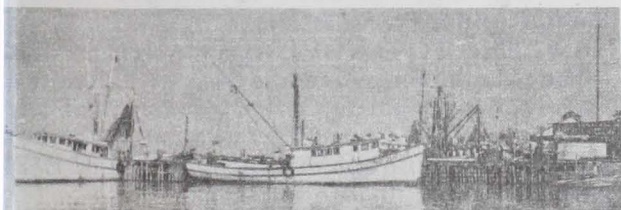


Fig. 3 - A few of Ciudad del Carmen's 250 shrimp trawlers.

The marketing situation early in 1966 was good as far as the producers are concerned. Prices and demand were at high levels in both the United States and Mexico. Producers are looking forward to moving all the shrimp they can obtain in the foreseeable future.

The most encouraging trend is the improvement of catches in the northern part of the Pacific Coast, which is by far the greatest producing area and where the largest decline has taken place in recent years.

After several years of overbuilding, followed by a decline in production accompanied by continual strife between boat owners and crews, the construction of new vessels (except for export) virtually ceased. Hence, the fleet as a whole is becoming obsolete as compared to the fleets of other countries that are competing for the United States market. Generally speaking, the older



Fig. 4 - Close-up of typical shrimp trawler operating out of Ciudad del Carmen.

Mexican vessels are not capable of fishing in deep water and hence cannot expand the present grounds. Without new replacements the fleet cannot be expected to increase production. However, a few new vessels are now under construction in Gulf ports, and the National Bank for the Development of Cooperatives is about to build ten very large vessels for deep-water trawling in an effort to convert its pilot fishing port at Alvarado into a shrimp port. These developments should maintain catches in Gulf of Mexico waters at a maximum level. (Regional Fisheries Attache, U. S. Embassy, Mexico, June 25, 1966.)

* * * * *

FISHING LIMIT OF 12 MILES PROPOSED:

The President of Mexico is said to have proposed that a law be formulated for sub-

Mexico (Contd.):

mission to the Mexican Congress during the next session, fixing Mexico's exclusive fishing zone to 12 miles. Mexico now unilaterally claims fisheries jurisdiction up to 9 miles off the Mexican coast. (U. S. Embassy, Mexico, May 27, 1966.)



Norway

SEED OYSTERS EXPORTED TO FRANCE AND DENMARK:

In the spring of 1966, a shipment of 24 tons of seed oysters was exported by a Norwegian firm to France. Three charter planes were used to carry the oysters from Vigra near Aalesund to France. The oysters were of the planting type and were carried live in plastic fish boxes. Previously Norway has exported large quantities of planting oysters to Denmark. Natural conditions for oyster breeding in Norway yield a grade of oyster spat that is hardy and adaptable to temperature fluctuations. (The Export Council of Norway.)



Peru

BANNER YEAR FOR FISH MEAL PRODUCTION:

The 1965/66 season wound up in May as a banner year for fish meal, confounding the earlier predictions of scientists that the anchovy catch would be small in tonnage and

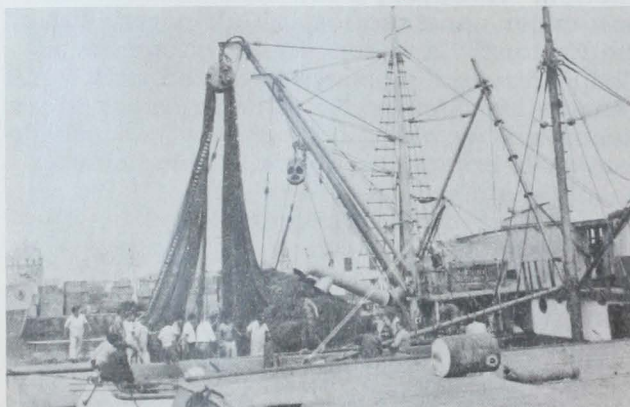


Fig. 1 - Using a power block to re-pile a purse-seine net aboard a Peruvian anchovy vessel.

poor in quality. The 9-month season produced almost 1.4 million metric tons of fish meal and left the industry with over half a million tons of inventory, more than enough to carry through until fishing resumes in



Fig. 2 - Sacks of fish meal curing for export. Meal is stored outdoors because it never rains.

September. During the first 5 months of 1966, the industry produced over 960,000 tons of meal, an extraordinary total far outstripping any comparable period on record. (U.S. Embassy, Lima, July 3, 1966.)

Note: See *Commercial Fisheries Review*, July 1966 p. 87, June 1966 p. 82, May 1966 p. 65, April 1966 p. 66, February 1966 p. 79, January 1966 p. 90.



Poland

NEW CLASS OF STERN FACTORY TRAWLERS TO BE BUILT BY 1967:

The Gdansk Shipyard has started building a new B-22 class factory stern trawler for Polish fisheries. When designing the new trawler, experience gained in operating the B-15 and B-26 trawlers was taken into account.

The trawler will fish in distant sub-Arctic fishing grounds of the northwest Atlantic. The stern fishing gear will be adapted to catch at great depths (up to 1,000 meters, 3,280 feet), as well as for pelagic fishing. The fish caught will be processed into frozen fish fillets in blocks, frozen fish in blocks, fish meal, and fish oil.

The main characteristics of the new B-22 class trawler are:

Length between perpendiculars.	80.0 meters (262.4 feet)
Breadth.	14.5 meters (47.6 feet)
Depth moulded.	9.75 meters (32.0 feet)
Deadweight capacity.	1,500 tons
Gross registered tonnage	2,700 tons

Poland (Contd.):

Capacity of reefer holds	1,530 cubic meters (54,025 cubic feet)
Capacity of fish meal holds	435 cubic meters (17,360 cubic feet)
Capacity of oil tanks	60 cubic meters (2,119 cubic feet)
Endurance	90 days
Main engine output	2,500 hp.
Speed (at trials)	13.8 knots
Crew	103 persons

The vessel's propulsion system will comprise main engine driving a controllable-pitch propeller through reduction gear. Two generators will be coupled to the transmission gear. Apart from these, in the engine room there will be two separate generating sets.

The trawler will have one wheelhouse for the conduct of both navigational and fishing operations. Remote control of the controllable-pitch propeller and trawl winch from the wheelhouse will be provided.

The electric trawl winch will have a pulling capacity of 12.5 tons at a rope-heaving speed of 110 meters or 361 feet per minute. The operations connected with hoisting the cod end on deck will be mechanized to a large extent.

The processing and freezing capacity will be 70 metric tons per day.

The mechanized fish-filleting lines will include: a large cod-processing line, a small cod-processing line, and an ocean perch or redfish-processing line.

Frozen products will be stored in holds at a temperature of 25° C. (-13° F.), in holds situated on both sides of the engine room.

The fish-meal plant's capacity will be 35 metric tons per day. In special boilers, technical or medicinal liver oils will be manufactured from cod livers.

The prototype unit in the series of the new factory trawlers will be handed over to Polish owners in 1967. (Polish Maritime News.)

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FISHERIES ATTACHE IN EAST BERLIN:

The former Director of the Gdynia Sea Fisheries Institute is scheduled to become Polish Fisheries Attache in East Berlin. He will be replaced by a technologist who was

formerly a professor in the Technological Division of the Fisheries Department of the Higher Agricultural School. The establishment of a fisheries attache position in East Germany is apparently recent and was made in connection with the 1962 Tripartite Agreement on Fisheries Cooperation concluded between the U.S.S.R., Poland, and East Germany (Bulgaria acceded in 1964, Rumania in 1966).

The Agreement, administered by a Joint Mixed Commission, stipulates a close collaboration between the signatory powers in fishery research, fisheries technology, and development of joint high-seas operations. The Commission also forecasts fish stocks in the Northwest Atlantic (ICNAF) and coordinates fishery research there. In addition to a fisheries attache in East Berlin, Poland has a similar position in Moscow, U.S.S.R., and Accra, Ghana. (U.S. Embassy, Copenhagen, June 20, 1966, and other sources.)

**Portugal**TUNA FISHERY DEVELOPMENT PLANS FOR CAPE VERDE ISLANDS:

To promote Cape Verde Island fisheries, especially tuna fisheries, the Portuguese Government announced a contract with the Portuguese firm which is expanding its cold-storage facilities at São Vicente. In essence, the Portuguese Ministry of Overseas agreed to provide the firm with about US\$1 million to build modern port facilities for use by the Cape Verde fishing industry.

Portugal had previously announced that West Germany had agreed to (1) provide two technicians to make a 6-months tuna survey off the Cape Verde Islands, and (2) help Portugal transform a vessel into a modern live-bait tuna-fishing vessel.

Note: See Commercial Fisheries Review, July 1966 p. 89.

**Saint Pierre-Et. Miquelon**POLISH VESSELS LAND FROZEN PACKED FISH AT SAINT PIERRE:

Polish fishing vessels use the port of Saint Pierre, a French possession south of Newfoundland, to transship their frozen pack-

Saint Pierre-Et Miquelon (Contd.):

aged fish to the United States. Traffic was especially active in the winter of 1964 and early spring of 1965 when a number of Polish fishing vessels anchored at this Common Market port. Most of the packaged fish was frozen cod, and some of it also went to Canada. (Canadian Fisherman.)

Editor's Note: During 1965 at least 10 fishing nations used the port of Saint Pierre. The Spanish vessels were most frequent visitors; Portuguese, Norwegian, Danish, Japanese, and Venezuelan vessels visited the port. To accommodate the increased traffic, a new fishing harbor is being completed at Saint Pierre, and negotiations are underway to obtain the necessary capital to build a large fish factory near the new fishing port.



South Africa

FISHING SEASONS CHANGED:

Changes in the fishing seasons for spiny lobster and for pelagic species of fish were announced by the Division of Sea Fisheries of South Africa. The lobster season along the west coast will be closed from June 1 to September 30 each year (previously September and October only). The open season for smaller fish, such as sardines, mackerel, and maasbankers, was extended to eight months, January 1 to August 31. (This season previously closed on July 1, with extensions in recent years for anchovies only.) (United States Embassy, Pretoria, June 7, 1966.)

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FISHING TRENDS, MAY 1966:

Fish Meal and Fish Oil: Good catches were reported during May, with the only limiting factor on occasions being the weather conditions. At Walvis Bay, South-West Africa, the last of the factories commenced operations and fairly heavy catches were landed. Cape operations were confined in the main to meal and oil production, owing to the unsuitability of the fish for canning purposes; at Walvis Bay, however, production included all the major products. The industry is now fully committed for the current year in accordance with sales programs, which have been based upon forecasts of likely availability.

Fish meal and fish oil prices on the world market tended to decline somewhat in May, owing mainly to continued heavy production in Peru. In view of the global availability of these products tending to equate generally with demand, no great fluctuations in price are anticipated, however.

Spiny Lobster: May spiny lobster operations reflected little change from the late March and early April pattern. Shipments were maintained to all markets at price levels which remained constant, despite the prevailing easier tone in the United States. Catching was affected to some extent by the heavy snoek runs which annually attract the attention of some fishermen.

Vema Seamount: Early in 1966, it was reported that the Division of Sea Fisheries was undertaking a scientific investigation of the lobster population around Vema Seamount. This area, some 16 square miles in extent, attracted an intensive concentration of fishing operations after the occurrence of a prolific lobster population on the summit zone of the Mount was discovered towards the end of 1964. After initial heavy catches, signs of rapid and early depletion soon became evident.

It was ascertained that the composition as such of the lobster population around Vema Seamount had not revealed any marked change. This conclusion was arrived at after a comparative examination of the average sizes of a fairly representative cross section of individual lobsters sampled before and after the period of exploitation. According to the survey, the decline in the availability of lobsters in this area may be attributable, therefore, in no small measure to a decrease in numerical strength. A further lack of availability may be, the report suggests, the possibility that the abundance of plant life around the rocky slopes of the Mount made baiting difficult. Malpractices of fishermen, moreover, could also have contributed to declining catches. Excessive dumping of lobster offal, for example (only the tail of each lobster is utilized, the remainder--some 60 percent of the total weight--is thrown overboard), was found to have not only a toxic effect on lobsters themselves but also a contaminating influence on supporting fauna and flora.

The possibility of, and probable length of time involved before the lobster population

South Africa (Contd.):

could be expected to recover, received close examination. It may be possible that floating larval colonies will be drawn from the lobster colonies occurring in the Tristan de Cunha area (which are composed of a species identical to that forming the colonies around Vema Seamount) by the South Atlantic Gyral current system; on the other hand, distances are great and migrating life is subject to the vagaries of the current.

Judging by the population growth on Tristan de Cunha, however, the lobster species concerned has a slow growth and, therefore, also a rate of increase. (Barclays Trade Review, June 1966.)

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EXPORTS OF LIVE SPINY LOBSTERS INCREASE:

South Africa's exports of live spiny lobster in 1965 were almost 10 times bigger than in the previous year, and after the first four months of 1966 it was indicated that last year's record would be surpassed within the next two months, an official of the Cape Lobster Exporters' Association in Cape Town said on May 13, 1966.

The exports of frozen whole lobster showed an even bigger increase in 1965, compared with the previous year (3,356 lbs. to 128,758 lbs.). France is by far the biggest customer for South African live spiny lobster, although exports to many other parts of the Continent and Britain are increasing rapidly. South Africa exported 35,128 lbs. of live lobsters in 1964, 349,128 lbs. in 1965, and 229,703 lbs. for the first four months of 1966. (United States Embassy, Pretoria, June 7, 1966.)

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CANNED PILCHARDS HAVE LOCAL MARKET BOOM:

The South African pilchard-canning industry is experiencing a boom, with home market sales having doubled in the last three years, from 625,000 cartons to 1,250,000 cartons in 1965. A further 20-percent increase in sales this year to around 1,500,000 cartons is expected.

For many years dependent on fluctuating export markets for the bulk of its revenue,

the industry is now finding a much more stable base in the rapidly-expanding home market.

The Director of Federal Marine, the fish-canning industry's sales organization, gives the low price of the product and the growing consumption of canned fish by the Bantu as reasons for the upsurge in local sales. As the basic price of canned pilchards has not risen for 18 years, they represent very good value for the money.

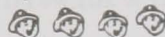
The favorable prognosis for local sales will only partially compensate the industry for the loss of the anticipated Philippine market, in the wake of a decision by the Philippine Government to prohibit further purchases of South African canned pilchards. Previous sales to the National Marketing Corporation of the Philippines had amounted to over 700,000 cases annually. (South African Digest, Pretoria, June 3, and United States Embassy, Pretoria, July 7, 1966.)

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FISHING INDUSTRY SEEKS GOVERNMENT CONTROLS ON FOREIGN OPERATIONS:

Four major South African fishing firms reportedly plan to seek South African Government action to control the activities of foreign fishing firms off South African waters. They will ask the Government to impose restrictions on the use of South African harbors by foreign firms and to require owners of foreign trawlers to pay customs duty on fish in cold storage, particularly in Cape Town. In addition, they will urge the Government to call an international conference to protect fish stocks in the Atlantic, and particularly around South Africa.

According to an industry representative, the South African problem is twofold: one of long-term preservation of fishing grounds and one of meeting foreign fishing competition. The press recalls Minister Diederich's statements to the recent conference in Cape Town of the International Association of Fishmeal Manufacturers. These statements dealt with the threat to South Africa's fishing industry posed by the extensive operations of foreign fishing interests, and called for observance by the respective foreign governments and interests of proper conservation measures. (United States, Embassy, Pretoria, June 21, 1966.)



South-West Africa

FISHING TRENDS, MAY 1966:

During May, fish were plentiful, and abundant catches were being taken not far out from Walvis Bay. Shoals were found within 1 to 1-1/2 hours sailing from the jetties, or about 8 to 12 miles offshore.

The general condition of the fish was described as very good and oil yield amounted to about 17 gallons per ton of fish.

As a result of a major boiler-breakdown at the Walvis Bay power station, processing factories were forced to curtail production.

Production of fish meal, fish oil, and canned fish during February and March 1966 was:

Product	1966	
	February	March
Fish meal (short tons)	9,083	16,649
Fish oil (long tons)	1,463	2,488
Canned fish (lbs.)	4,472,317	12,304,782

Production and export figures for frozen spiny lobster tails and canned lobster meat through Luderitz during April 1966 were:

Product	Weight	Value
	Lbs.	US\$
Spiny lobster tails, frozen	521,000	1,039,000
Spiny lobster meat, canned	31,800	34,000

(Barclays Trade Review, June 1966.)

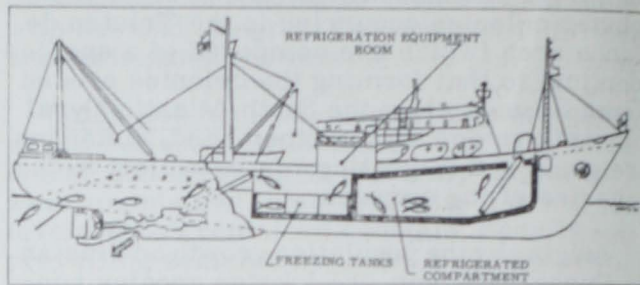


Spain

AUTOMATED TUNA VESSEL BEING BUILT:

The tuna purse-seiner *Sarasua* under construction in a Spanish shipyard is being equipped with an automated system for loading the catch and for freezing and storing the fish in an "assembly-line" operation. The system provides for a purse-seine filled with tuna to be coupled to an opening in the stern of the vessel below the waterline. An inflowing current is then created by the ship's two turbine engines to draw the fish into the vessel. As the water is expelled from the receiving tank through a second opening in the direction of the seine, the force of the outgoing current floats the net and prevents it from becoming fouled in the ship's propeller. The fish are emptied from the stern compartment into adjoining freezer tanks amidships by means of a conveyor belt. Once frozen, the fish are conveyed to a forward storage com-

partment which is also equipped with a conveyor belt for unloading the catch. Using this system the owners expect efficient operations with a substantially reduced crew.



Schematic drawing showing planned "assembly-line" operation of the *Sarasua*.

The *Sarasua's* 6 freezer tanks will have a freezing capacity of 100 tons of tuna a day. Capacity of the storage compartment is 1,000 cubic meters, with a temperature of -20°C . (U.S. Consul, Bilbao, June 15, 1966.)



Tanzania

FISHERY AID FROM U.S.S.R.:

On May 26, the Tanzanian Finance Minister Jamal signed an aid agreement with the Soviet Union during his visit to Moscow. The credits, amounting to 18 million rubles (about US\$20 million), were provided in an agreement reached in August 1964. Soviet credits will finance (among other projects) a fish-drying plant, 4 cold-storage plants, and fishing gear and equipment for both the Mainland and the Island of Zanzibar. Two of the cold-storage plants for keeping frozen fish will be located on Zanzibar and 2 on the Mainland. The loan will be repaid over a period of 12 years at $2\frac{1}{2}$ percent interest. The Soviets will use the loan payment moneys for the purchase of Tanzanian products. (U.S. Embassy, Moscow, June 10, 1966.)



Togo

FISHERIES DEVELOPMENT:

Continued German aid to Togo's modest ocean fishing industry bodes well for its future. In 1965, a cold-storage room, smoking and drying facilities, and related installations were completed with German assistance. A store equipped to sell fishing gear and boat supplies to fishing cooperatives was

Togo (Contd.):

established. Several German advisors are working with the Service de Pêche, and one of the long-awaited German fishing trawlers was finally delivered to Togo in early 1966. Small fishing vessels are now able to anchor in the lee of Togo's new port thus securing protection from the open sea.

A small Peace Corps inland fisheries project to alternate raising fish and rice in ponds supplied by dammed rain water progressed well in three locations in the north. Several pond systems were built, dams were improved, and both products were successfully harvested on a small scale. A related river fishing project by one volunteer has also registered success in terms of increased catches.

Construction continued throughout 1965 on Togo's new German-financed deep-water port, a few miles east of Lomé. The principal jetty is nearing completion, and work has begun on the pier and related installations. The port will probably be ready to handle its first ships toward the middle of 1967, several months ahead of schedule.

Togo's Fish Imports, 1965

	1964		1965	
	Value	Qty.	Value	Qty.
	US\$ 1,000	Metric Tons	US\$ 1,000	Metric Tons
Fresh Fish.	11.5	66.6	109.4	693.6
Frozen or chilled fish.	538.7	3,192.9	630.2	4,096.7
Dry, smoked, or salted fish.	295.1	905.2	354.7	1,002.2
Total	845.3	4,164.7	1,094.3	5,792.5

Togo imported more fish in 1965 than in the previous year, and its fish exports dropped from 44.8 tons in 1964 to an insignificant 7.6 tons, worth 559,000 CFA francs (US\$2,282) in 1965. Increased local consumption and more clandestine re-exports (principally to Ghana) probably account for both developments. (United States Embassy, Lome, May 17, 1966.)



Uganda

FISHERIES AID FROM ISRAEL:

Between 1962 and 1965 Israel sponsored three courses for fisheries officers. Six Ugandans attended a three-month course in February 1964 and an additional 5 fisheries assistants attended a similar course in June 1965. The subjects covered shore and lake fishing, construction and repairing of nets, construction of boats, sailing and navigation.

During their stay in Israel, the students visited fishing centers and artificial fish ponds. (United States Embassy, Kampala, June 29, 1966.)



U. S. S. R.

FLOUNDER FISHERY OFF KURILE ISLANDS:

In early June 1966, a Soviet fishing expedition began catching flounders off the South Kurile Islands. Soviet Pacific flounder catches have decreased markedly during the last three years. This was partially due to poor flounder catches in the eastern Bering Sea and a depletion of stocks off Kamchatka.

PACIFIC HAKE UTILIZATION:

The first deliveries of Pacific hake caught by Soviet fishing vessels off the Pacific Northwest had begun to arrive in the Siberian mainland in June 1966. Some hake is being sold in fish stores in Iuzho Sakhalinsk on Sakhalin Island. The Far Eastern Fisheries Administration is exploring new ways of using hake for human consumption and dishes prepared from Pacific hake were tested. Included were hake soup, hake cutlets, hake fillets in tomato sauce, fried hake with marinated sauce, hake loaf, and others.

DELIVERIES OF HERRING TO JAPANESE ON THE HIGH SEAS:

The Hokkaido Island Federation of Fishery Unions has made a contract with the Soviet Far Eastern Foreign Trade Office (DALINTORG) for the delivery of 5,000 metric tons of round herring to two Japanese herring motherships operating in the northern sea of Okhotsk. Despite occasional difficulties between the Japanese and Soviet fishermen, the relations between the Soviets and Japanese are taking a turn for the better. Increasing fishery trade between Soviet Far Eastern Regions and Japan's Northern Provinces plays a large role in this rapprochement. Ishkov's visit to Tokyo, which will deal mainly with (1) the problems of insuring safe Japanese operations near the Soviet coasts and (2) technical cooperation, presumably will further improve the U.S.S.R.-Japanese fishery relations.

Note: See Commercial Fisheries Review, May 1966, p. 55.

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

PACIFIC FISHING FLEET ADDITIONS:

By 1970, the Far Eastern Fisheries Administration at Vladivostok plans to buy 40 large factory stern trawlers for its Pacific fisheries. This will more than double the number of large stern trawlers operating in the Pacific Ocean and the Bering Sea as of June 1966. How many of these new stern trawlers fish off U.S. coasts will depend on the pace with which the U.S.S.R. develops fishing grounds elsewhere in the Pacific and Indian Oceans. During the latter part of 1965 and early part of 1966, the Pacific Research Institute of Marine Fisheries and Oceanography (TINRO) sent 3 fishery research expeditions to explore various Pacific areas: the Continental Shelf off Mexico; probably off western South America; off Australia, New Zealand; and elsewhere in the South Pacific as well as in the Indian Ocean. Almost 20 fishery research and exploratory vessels have been engaged in these expeditions--the largest number ever employed under a single Soviet fishery research program. The results are not yet known, but on the success or failure of these explorations will largely depend how intensive the Soviet fishing effort off United States Pacific shores in the future will be.

A pattern of Soviet fishing operations is emerging. The Soviets have developed the capability to capture and utilize a diversity of marine species in distant waters, and will undoubtedly continue to search out and develop new resources. This expansion into virgin grounds and little exploited resources will continue for several years to come, with concomitant additions to the Soviet fleet of larger vessels of broad range and great fishing capability. The pattern appears to involve intensive fleet concentration on a single species on one ground for relatively short periods. It results in a temporary increase of average landings. When fishing drops off, fleet effort is then diverted to the same species elsewhere, or to other species in the same general area. This does not preclude exploitation of the first species on the original grounds at some future date should the stocks rebuild.

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FAR EASTERN FISHERIES RECEIVE TWO NEW FACTORY STERN TRAWLERS:

At the end of May, the Kamchatka Fisheries Administration received two new large

factory freezer stern trawlers constructed in the Nikolaev-on-the-Black-Sea Shipyards. Both are about 3,200 gross tons, Maiakovskii class. One of them, the Voskhod, made a call at the port of Burgas, Bulgaria, where it loaded lumber for Cuba. In Cuba it picked up sugar for the U.S.S.R., which it will unload in Kamchatka prior to engaging in fishing in the North Pacific. The second trawler, the Trudovie Rezervy, was brought to Kamchatka by a Leningrad fishing captain. (Kamchatskaia Pravda, May 30, 1966.)

Editor's Note: These additions to the Kamchatka fleet are the first of the 12 new stern trawlers that will be delivered to Kamchatka by 1970. Another trawler was delivered to the Sakhalin Fisheries Administration in mid-April 1966. With the new additions, the U.S.S.R. now operates 38 large factory stern trawlers from its Far Eastern fishing ports. In 1959, the U.S.S.R. had only one large stern trawler in the Pacific. Soviets will most likely use these factory trawlers in the ocean perch and other bottomfish operations off United States coasts. Other additions will be used in expanding Soviet Pacific fisheries.

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NEW OCEANOGRAPHIC VESSEL:

During the second International Oceanographic Congress held in Moscow, the Soviets described to the Congress participants an oceanographic vessel recently built in East Germany for the Soviet Union. The Akademik Kurchatov, constructed at the Mathias-Thesau shipyard in Wismar, is a 370-foot vessel, has a 6,680-ton displacement, and is manned by a crew of 84. The ship has 22 research laboratories, will accommodate 84 scientists and technicians, and is equipped with a helicopter. The Akademik Kurchatov is the world's largest oceanographic vessel, and is assigned to the Institute of Oceanography of the Soviet Academy of Sciences.

The first cruise of this research vessel will probably take place in the Atlantic Ocean where, with the U.S.S.R. oceanographic vessel Vitiaz, geophysical research will be carried out. A group of East German oceanographers has been invited to participate on this cruise.

The East German shipyard has an order for 2 more similar oceanographic vessels for the U.S.S.R. to be delivered in the next few years. (U.S. Embassy, Moscow, June 10, 1966.)

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

EXPLORATORY FISHING IN NORTHERN BERING SEA:

The fisheries research vessel Kalmar of the Pacific Scientific Research Institute for Fisheries and Oceanography (TINRO) sailed on a research cruise to the Northern Bering Sea from her home port of Vladivostok at the end of June 1966. During the 4-month expedition, the TINRO scientists will study the possibility of developing commercial fisheries north of St. Lawrence Island in the northern Bering Sea to follow closely behind Japanese interest.

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FISHERY RESEARCH IN THE PACIFIC:

The Soviet oceanographic research vessel Voieikov began its 16th scientific cruise in mid-June 1966. In addition to hydrological investigations, research on fishery resources of the Pacific will also be conducted; the emphasis will be on whale and saury resources. Voieikov has conducted extensive research in the northeastern Pacific in the past (she was off United States and Canadian coasts in 1965 with the Shokalskii and 2 other hydrographic vessels). As far as we know, however, this is the first time that these vessels will also conduct fishery research.

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SAURY RESEARCH OFF U.S. COASTS:

The scientific fishery research vessel Ogon departed the home port of Vladivostok early June 1966 for an exploratory-research cruise that will last seven months and include the area from Vancouver Island to Mexico. She will first operate with the ocean perch fishing fleet off Vancouver Island. (It was the Ogon that in 1965 found large concentrations of ocean perch in that area.) The real purpose of her cruise is to confirm the occurrence of large concentrations of saury which she found around the 40th parallel last year.

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OCEANOGRAPHIC RESEARCH VESSEL ENDS ATLANTIC STUDIES:

The Soviet oceanographic research vessel Mikhail Lomonosov returned to her home port of Sevastopol on January 12, 1966, after a 3-month voyage in the Northeastern Atlantic and the Norwegian Sea. The vessel, which has a displacement of over 6,000 tons,

carried a team of 130 scientists (including 12 women) and was equipped with 16 modern laboratories. The Marine Hydrological Institute of the Ukrainian Academy of Sciences operates the vessel. During the trip the scientific party studied the formation of radioactive fields in the Northwestern Atlantic and came to the conclusion that in view of strong currents and intensive water exchange the Northwest Atlantic must be closed to radioactive waste disposal. The expedition also studied the directions of known currents with the use of an electronic computer installed on board the vessel.

Editor's Note: The Mikhail Lomonosov, the largest Soviet oceanographic vessel, has been in the forefront of Soviet oceanographic efforts for several years. During 1964-1965, she participated in the First Joint Soviet-Cuban Fishery and Oceanography Research Expedition in the Gulf of Mexico and the Caribbean Sea.



United Arab Republic

JOINT FISHERY RESEARCH WITH U.S.S.R.:

The Soviet Union and the United Arab Republic have concluded an agreement for joint fishery research in the southern part of the Mediterranean near the Egyptian coast. This scientific survey will begin in January 1966, and last one year. Participating will be eight Soviet and five Egyptian biologists and oceanographers aboard a Soviet vessel. The principal purpose of the survey is the discovery of new marine resources and the study of fish concentrations, and their food patterns.



United Kingdom

SUPPLY AND DISPOSITION OF FROZEN PROCESSED WHITE FISH, 1953-1965:

British production of frozen processed white fish has about doubled during the last 10 years, but domestic consumption has increased at an even faster rate. Domestic output has been insufficient to satisfy domestic consumption since 1960, and in 1965 imports made up about 30 percent of the British supply of frozen processed white fish.

United Kingdom (Contd.):

Year	Home Market			Exports ^{1/}		
	Total Home Market	Bulk or Int'l Packs	Consumer Packs	Total Exports	Bulk or Int'l Packs	Consumer Packs
	(Long Tons)					
1965	82,000	44,923	37,877	15,970	9,321	6,649
1964	80,053	42,660	37,393	11,442	7,293	4,149
1963	73,901	39,153	34,748	11,388	7,385	4,003
1962	63,186	34,809	28,377	8,773	5,872	2,901
1961	62,428	33,557	28,871	8,204	6,118	2,086
1960	57,391	30,409	26,982	8,475	6,375	2,100
1959	41,341	20,588	20,753	9,591	7,545	2,046
1958	35,131	19,919	15,212	12,030	10,453	1,577
1957	30,336	18,485	11,851	7,398	6,024	1,374
1956	32,527	2/	2/	7,567	2/	2/
1955	22,914	2/	2/	8,834	2/	2/
1954	17,320	2/	2/	8,008	2/	2/
1953	10,634	2/	2/	3,410	2/	2/

^{1/}Includes small amount of ship's stores and shipments for British Government installations abroad.
^{2/}Breakdown not available.
Source: British White Fish Authority.

WARP-LOAD METER FOR FISHING VESSELS DEVELOPED:

A warp-load meter for measuring strain or tension in seine-net warps has been developed by the White Fish Authority of Great Britain. Its purpose is to show skippers at a glance the tension in the warp and thus let them know at once when a net has hung up. This enables the skipper to take immediate steps to reduce the damage to gear.

A version of the warp-load meter proved useful on trawlers and was developed for purse-seiners to make it less costly for skippers to fish new grounds where nets could be lost or badly damaged on obstructions which have not been accurately located. (Trade News, April-May 1966, Canadian Department of Fisheries.)

Table 2 - British Frozen Processed White Fish Supply Situation, 1963-1965

Year	Domestic Production				Imports		
	Fish Used In Production	Total Production	Bulk or Institutional Packs	Consumer Packs	Total Imports	Bulk or Institutional Packs	Consumer Packs
	(Long Tons)						
1965	158,962	72,556	34,135	38,421	31,222	23,640	7,582
1964	136,408	1/62,601	1/30,054	1/32,547	23,439	14,969	8,470
1963	129,000	58,062	27,445	30,617	18,748	10,451	8,297
1962	128,442	57,799	33,763	24,036	20,314	11,774	8,540
1961	127,020	56,157	29,996	26,161	20,445	13,551	6,894
1960	116,500	52,417	29,930	22,487	16,187	8,233	7,954
1959	98,102	43,292	25,249	18,043	9,182	3,348	5,834
1958	94,037	42,747	28,751	13,996	5,169	1,944	3,225
1957	81,087	37,119	25,204	11,915	3,685	2,063	1,622
1956	78,309	36,629	2/	2/	3,154	2/	2/
1955	67,655	31,543	2/	2/	2,222	2/	2/
1954	54,612	25,929	2/	2/	1,638	2/	2/
1953	26,910	13,007	2/	2/	3/	3/	3/

^{1/}Revised.
^{2/}Breakdown not available.
^{3/}Included in production data.
Source: British White Fish Authority.

A sharp increase was reported in 1965 British production of frozen processed white-fish products, as British firms built up freezer trawler fleets and expanded distribution facilities for frozen products. Exports increased in 1965, but they were still only about half the volume of imports. One indication of the change in British marketing methods is that British output of consumer packs of frozen white fish has exceeded production of bulk packs since 1963.

British stocks of frozen processed white fish on January 1, 1965, totaled 16,977 long tons. Closing stocks on December 31, 1965, were 27,161 tons.

Note: See Commercial Fisheries Review, October 1965 p. 98.

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Foreign Fishing Off United States Coasts, June 1966

IN NORTHWEST ATLANTIC:

Soviet: The number of Soviet fishing vessels on Georges Bank in the Northwest Atlantic increased considerably during June from over 100 vessels early in the month to an estimated 150 by month's end.

A total of 161 vessels (exclusive of duplication) was sighted during the month and identified as 60 factory stern trawlers, 9 freezer stern trawlers, 24 medium refrigerated side trawlers, 53 medium side trawlers, 1 large

refrigerated side trawler, 4 refrigerated fish transports, 3 factory base ships, 4 cargo and supply ships, 2 fuel and water carriers, and one seiner-type vessel which was not rigged for fishing. This compares to 141 vessels sighted during May 1966 and 178 in June 1965.



Fig. 1 - Soviet factory-type stem trawler fishing in the Northwest Atlantic.

The fleet was dispersed in large groups along the 50- and 100-fathom curves from southeast of Nantucket Lightship (off Massachusetts) to the southeast part of Georges Bank, but about 25 vessels operated intermittently in the vicinity of Cultivator Shoals (northern Georges Bank).

The principal species taken by the Soviets appeared to be whiting (silver hake) and lesser amounts of herring. The Soviets apparently were exerting maximum fishing effort in areas where whiting and herring are normally found in abundance, yet their catches were only moderate to poor.

Romanian: One Romanian factory stern trawler was sighted among the Soviet fleet on the southeast part of Georges Bank. Two of those vessels were observed on Georges Bank in late summer and early fall of 1965.

Polish: No vessels were sighted.

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OFF MID-ATLANTIC:

Soviet: No vessels were sighted during June off the mid-Atlantic coast of the United States. The large Soviet fleet fishing off the mid-Atlantic in May 1966 moved north to Georges Bank accounting for most of the increase in that area. Some vessels left for Soviet ports to discharge their catch in frozen or processed form.

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IN GULF OF MEXICO AND CARIBBEAN:

Cuban: No Cuban vessels were reported fishing off U.S. coasts. Most of Cuban high-seas fishing operations take place off the Mexican coast where during the so-called "Campeche Patrol," the U.S. Coast Guard sighted 15 Lambda-class Cuban fishing vessels northwest of Progreso (Mexico) during its patrol from May 3 to May 11, 1966. They were fishing alongside 30 Mexican fishing vessels.



Fig. 2 - Cuban Lambda-class fishing vessel fishing on the Campeche Banks off Mexico.

Soviet: Most Soviet vessels operating out of Cuba are fishing with the Cuban fleet in the general area of the Campeche Banks on the wide Continental Shelf north of the Yucatan Peninsula. Their number was estimated at no more than about 12. Occasionally, however, those vessels do approach U.S. coasts. On May 6, a large modern refrigerated carrier was sighted anchored about 20 miles west of Anclote Keys (northwest of Tampa, Fla.) accepting fish from 2 medium stern trawlers. Because of darkness (11 p.m.), it was not possible to get vessel names or observe the species transferred.

Norwegian: On June 5, a U.S. shrimp vessel observed a Norwegian fishing vessel operating about 30 miles south southwest of Tampa, Fla., near Egmont Key.

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OFF PACIFIC NORTHWEST (Washington and Oregon States):

Soviet: The Soviet fleet (consisting of stern trawlers, side trawlers, and support vessels that had in previous months been fishing for ocean perch off the coast of Oregon) spent the month of June off the coast of Washington fishing for Pacific hake.

At the start, they were working off of Willapa Harbor, Wash., and from there worked up the coast of Washington to as far north as LaPush, Wash. Apparently the few boats that were left to work off Willapa Harbor found

the abundance of Pacific hake to be greater than was found by the fleet working off of La-Push and Destruction Island. As a result, the bulk of the Soviet fleet moved back south and joined the fleet working off Point Grenville and Willapa Harbor. When that area was checked on June 29, 1966, it was found that all but three of the Soviet vessels were operating there.

The first of June there were about 42 Soviet vessels working off the Washington coast. During a flight on June 29, a total of 105 Soviet vessels was sighted working off that coast.

The first midwater trawling activity was observed on June 27; at that time 4 vessels using this type of gear were observed. Later, 4 additional vessels were seen with midwater trawls. The midwater trawl is towed by two Soviet vessels and during the course of the tow, other Soviet vessels pass between the two towing apparently to spot schools of fish for them and also to check the depth the trawl is fishing. They primarily were catching hake. One catch of about 100 tons was taken in one haul by a pair of trawlers.

During the period while the Soviet fleet was under surveillance, no vessel was seen within five miles off the U. S. coast, nor were any of them seen fishing salmon. The surveillance from Coast Guard surface craft was continuous night and day.

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OFF ALASKA:

Japanese: At the end of June about 200 Japanese fishing and support vessels were operating in waters off Alaska. This was almost twice the number as at the end of May when 111 were sighted. However, this is a typical seasonal increase. In addition, 4 salmon motherships accompanied by 142 catcher vessels were fishing for salmon in the North Pacific between 175° W. longitude and 170° E. longitude. (The other 7 motherships with their 227 catcher vessels had moved west beyond 170° E.)

About 25 Japanese vessels (factoryships and trawlers) were fishing for ocean perch in the central and western Gulf of Alaska.

Four Japanese fish-meal factoryships with about 100 trawlers were fishing in the Bering Sea.

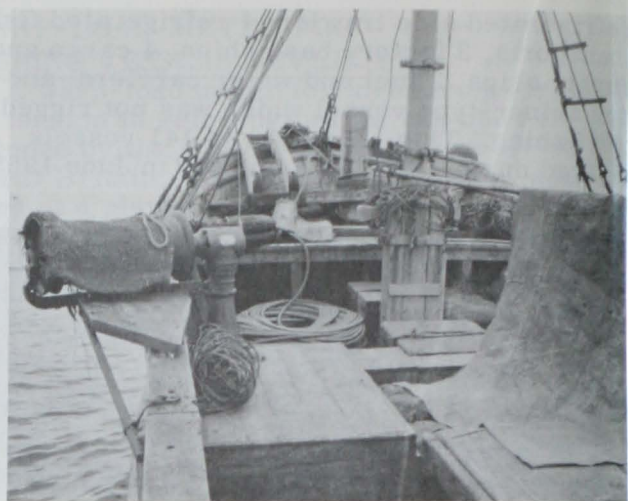


Fig. 3 - Hoisting gear in the bow of a trawler fishing for a Japanese factoryship in the Bering Sea.

In the shrimp fishery, 1 factoryship and about 15 trawlers remained on the grounds northwest of the Pribilof Islands. Several trawlers were fishing shrimp near the Shumagin Islands in the western Gulf of Alaska.



Fig. 4 - Squaring away the deck of a Japanese factory-mother ship preparatory to leaving the fishing grounds in the Bering Sea. Fillet-freezing pans in the foreground.

Two factoryships and 10 catcher boats continued king crab fishing on the Bristol Bay flats. One of these fleets moved eastward during the month.



Fig. 5 - Japanese fishmeal factoryship in the Bering Sea.

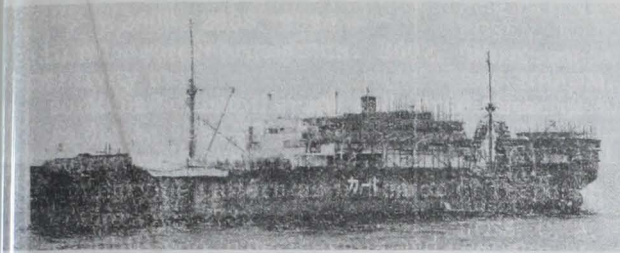


Fig. 6 - Japanese crab factoryship in Bristol Bay.

A total of 3 whaling factoryships with about 30 killer vessels were spread from the eastern Gulf of Alaska to the far Aleutian chain.

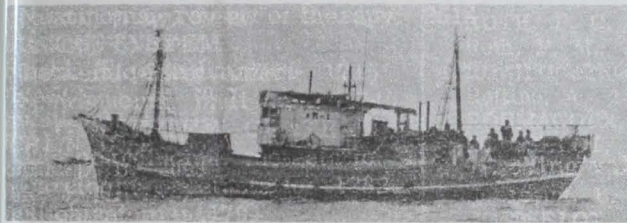


Fig. 7 - Trawler fishing for a Japanese crab factoryship in Bristol Bay.

Soviet: During June the number of fishing vessels operating off Alaska decreased. By the end of the month less than 100 Soviet vessels remained in the area, almost half the number fishing there in May and at the beginning of June 1966.

As it has been for the past year, trawling for Pacific ocean perch continues as the largest Soviet fishery off Alaska. Throughout May a fleet of from about 70 to well over 100 vessels fished for perch in the Gulf of Alaska and in the Bering Sea.

This large fleet was divided into 4 major operational areas. In southeast Alaska--almost 50 vessels engaged in perch fishing early in June, but their numbers dwindled down to about 12 towards the end of the month; by early July that fishery was abandoned by the Soviets. The vessels fishing there moved mostly southward accounting for the large increase in the number of vessels in the hake fishery off the Pacific Northwest.

In the Central Gulf of Alaska--a major change occurred about the middle of the month when most of the fleet moved from the Yakutat fishing grounds west to join the Soviet perch fleet on Portlock Banks. The Portlock fleet doubled during June to over 50 vessels. Some of the Alaska Gulf perch-fishing vessels had

excellent catches. At least one large stern trawler was reported as having caught a total of over 1,200 metric tons (2.6 million pounds) in June alone; the largest daily catch for that vessel was 60 metric tons of perch.

Off Western Aleutians--fishing for ocean perch did not change during June. An average of about 10 vessels operated intermittently in various areas of the Western Aleutians.

Bering Sea--a new fishery for Pacific ocean perch was started. In 1960, the Soviet fishing fleets began a short-lived perch fishery near the Pribilof Islands (after the herring season in that area was terminated) and caught about 7,000 metric tons. In subsequent years, however, when a highly successful Gulf of Alaska perch fishery was started, the fishing grounds off the Pribilofs received no attention. Early in 1966, the Soviet Far Eastern Fishery administrators ordered a renewal of perch fishing along the limits of the Continental Shelf off the Pribilofs. In May, an exploratory vessel discovered large Pacific perch concentrations in the central Bering Sea and the build-up of the fishing fleet followed. By the end of June about 12 medium trawlers operated in that area.

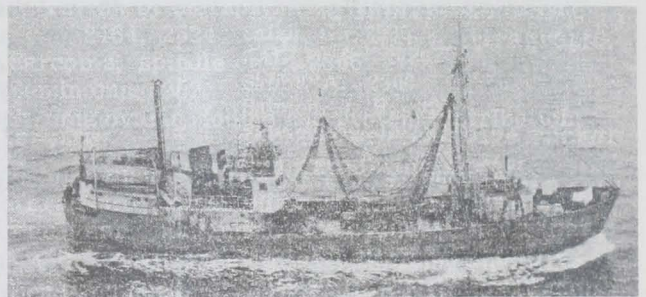


Fig. 8 - Older-type Soviet side trawler under way in Bering Sea with all nets aboard.

Soviet shrimp fishing in the Shumagin Islands area ended during June and the vessels either returned to their Siberian home ports

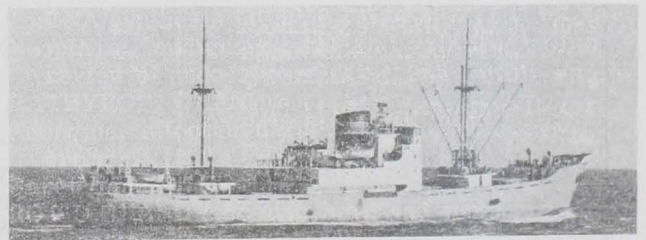


Fig. 9 - A Soviet refrigerated fish transport operating in the Bering Sea and Gulf of Alaska.

or were transferred to other fisheries. Shrimp from this fishery were mostly exported to: Japan which reportedly imported over 4,000 metric tons during January-May 1966 at a price of \$240 per ton c.i.f.; to France and Italy; in smaller amounts to Poland, Czechoslovakia, and North Korea. To continue earning hard currencies, the Soviets are now organizing in Vladivostok the second shrimp-catching fleet expedition.

The three king crab factoryships accompanied by tangle-net handling trawlers continued to operate during June on the Continental Shelf off the western Alaska Peninsula.

The whaling operations which began in May off the farthest Aleutians have moved, like in the past years, closer to the United States mainland. According to the Seattle Times of June 9, one of the whaling fleets (consisting of a factoryship and several whale catchers) operated about 600 miles off the State of Washington's coasts, making sizable catches. Navy fliers who flew over the Soviet whaling fleet reported that 6 or 7 whales were killed in the week of May 21 when the Navy patrol flew over the area.



LITTLE SMELT BELTS BIG PROTEIN PUNCH

Smelt scores again! The little fish with the big flavor has won new popularity in a Columbia River Smelt Sandwich. This unusual recipe comes to you from the Department of the Interior's Bureau of Commercial Fisheries. The delicate sweet-flavored smelt are rolled in egg and seasoned crumbs, then fried in deep fat. Served in rolls with tartar sauce, smelt brings a real protein punch to your eating enjoyment.

In nature smelt are found from the Gulf of St. Lawrence to the Virginia Capes, the Great Lakes area, and the mighty Columbia River. In markets they are found practically everywhere the year round. Economical too!



COLUMBIA RIVER SMELT SANDWICH

1 pound pan-dressed smelt or other small pan-dressed fish, fresh or frozen	2 teaspoons paprika
1 egg, beaten	2 teaspoons dried thyme
1 tablespoon milk	$\frac{1}{2}$ teaspoon salt
1 cup dry bread crumbs	6 hot dog rolls, heated
	Tartar sauce

Thaw frozen fish. Clean, wash, and dry fish. Combine egg and milk. Combine crumbs and seasonings. Dip fish in egg mixture and roll in crumb mixture. Place in single layer in a fry basket. Fry in deep fat, 350° F., for 2 to 3 minutes or until brown and fishflakes easily when tested with a fork. Drain on absorbent paper. Spread rolls with tartar sauce. Place 3 or 4 fried fish in each roll. Serve with additional tartar sauce. Serves 6.