



FOREIGN

International

INTEREST IN DEVELOPING SHRIMP FISHERIES OF LATIN AMERICA INCREASING

The most significant change in Latin America since 1955 is the increased interest throughout many countries in the development of shrimp fisheries for export to United States markets, according to a United States Embassy report from Mexico City, dated September 27, 1957. This can be attributed directly to the demand for and the high prices of shrimp in the United States. If the United States shrimp market continues as during the summer of 1957, increased imports can be expected from all of Latin America. The new or newer places of interest to watch are: (1) Brazil--near the mouth of the Amazon and around Santos; (2) Argentina--the coast of Patagonia; (3) Colombia--west coast from Buenaventura to Tumaco; (4) El Salvador and Guatemala--west coasts; and (5) Surinam.

NOTE: ALSO SEE PP. 76, 77, 79, 82, 84, 90, 95, 96, AND 102 OF THIS ISSUE.

JAPANESE FISHING SURVEYS OFF BRAZIL AND DOMINICAN REPUBLIC REVEAL TUNA RESOURCES

The *Toko Maru*, a fisheries trawler-type patrol ship (1,110 tons gross) belonging to the Japanese Fisheries Agency, returned to Tokyo July 25, after completing a 9-months' around-the-world voyage in the course of which surveys were made of fishing grounds off Brazil and the Dominican Republic. The scientific party aboard was headed by the Director of the Nankai Regional Fishery Research Laboratory, an outstanding authority on tunas and spearfishes.

In view of the topography of Brazilian waters, the surveys were carried out in three steps: (1) the southern part of the continental shelf, (2) the tuna long-lining grounds off the eastern part, and (3) the northern part of the continental shelf (vicinity of the mouth of the Amazon River).

The most interesting part was the survey of tuna long-lining grounds off the Eastern Area. From about 22° S. latitude north to the vicinity of the Amazon's mouth there are coral reefs along the coast, and the prospects for coastal fisheries are slight, so a tuna long-lining survey was made. Long lines were fished 13 times, and during this period 29 oceanographic stations were occupied. The stations were distributed north and south at 50 to 300 miles off the coast. The results were briefly as follows: (a) Catch rates (number of fish caught per 100 hooks fished) ranged from a low of 2.5 to a high of 20, or in terms of weight of a day's catch, from 700 pounds to an estimated maximum of 5,500 pounds. (b) A fishing ground boundary was found at about 4° S. latitude, where there was also a sharp change in oceanographic structure. North of the boundary yellowfin were the most abundant tuna in the catch, while south of it albacore were the main species. Quite a few bluefin tuna turned up in the vicinity of the boundary. (c) The northern limit of the northern yellowfin grounds was not made clear by the present survey. Albacore fishing appeared to fall off to the southward, but fair catches were still being maintained at 22° S. latitude. (d) Few sharks were caught, and shark damage to the catch was less than in the Indian or Pacific oceans. (e) There were steady force 3 winds, mainly from the northeast, which were not thought to be such as to hamper the operations of a regular long-liner.

In general the area can probably be said to be a superior tuna long-line fishing ground. Since the grounds are close to the coast, it is thought that it would be both possible and profitable to fish them with small vessels.

The scale of long-line fishing on this survey was held down to about one-eighth that of a commercial boat, but it is estimated that the catch per day for a regular long-liner would be 3-5 tons on the albacore grounds, or 10-15 tons on the yellowfin grounds.

It is difficult to form any definitive ideas of the structure of the South Atlantic tuna grounds as a whole, because of inadequate data, but (1) the different current systems form different habitats, and have different characteristics as fishing grounds, and (2) within a given current system the geographical differences in the character of the fishing grounds appear gradually, except where affected by the topography, and sharp changes, like those between current systems, do not appear. If this theory is admitted, the areas of each of the major currents, such as the South Equatorial and the Equatorial Countercurrent, each has its own different characters as fishing grounds, and they will preserve such characteristics as they are followed offshore to the eastward, with only gradual changes in fishing ground characteristics within the current systems.

In terms of distance to the fishing grounds, it will be most advantageous to base in such port cities of the northeast as Salvador, Recife, and Fortaleza, whereas southern cities like Rio and Santos are better from the point of view of markets and bait supply.

Survey work in waters of the Dominican Republic comprised 1 trawl haul (net torn), 5 hauls with a shrimp net, and 6 long-line sets, with 23 oceanographic stations occupied during the period. Because of the topography, there was thought to be little to be hoped for from the coastal fisheries, and results of the survey confirmed this belief. The area is thought to be fairly promising as a tuna long-lining ground. Within the scope of the survey, it was judged that the Caribbean side is mainly a yellowfin ground and the Atlantic side principally an albacore and spearfish ground. There were constant northeast winds of about force 3, which hampered operations of the small fishing boat used for long-lining but which would not bother a regular long-line vessel. Since the grounds are close in, operation by smaller vessels is probably quite possible. (*Nippon Suisan Shimbu*, Japanese periodical, July 31, 1957.)

WORLD EXPORTS OF MARINE-ANIMAL OILS LOWER IN 1957

Although world exports of all fats, oils, and oil-bearing material in 1957 are expected to be at a record high level, exports of marine animal oils are expected to decline slightly from the 1956 level. World exports of marine-animal oils in 1957 will total 725,000 short tons, a decline of about 4.6 percent from the total world exports of 1956, according to a September 1957 forecast by the Foreign Agricultural Service of the U.S. Department of Agriculture. However, total exports for 1957 will be about 2.1 percent higher than the 1935-39 average of 710,000 tons.

Exports of whale oil (other than sperm whale oil) in 1957 have dropped sharply from the prewar period of 1935-39, a decline of about 20.2 percent. On the other hand, world

exports of sperm oil have increased 300 percent and fish and fish-liver oils have increased 48.1 percent from the 1935-39 average. The decline in world exports of whale oil probably reflects the declining population of whales in the Antarctic where 85 percent of the world's whale oil is produced.

Sperm oil exports in 1957, however, are expected to be about 30 percent below 1956. Fish oil exports in 1957 are also expected to drop due to a poor spring herring catch in the North Atlantic by Norwegian fisheries. Whale oil exports are expected to be up slightly in 1957 as compared with 1956.

World Exports ^{1/} of Marine-Animal Oils, 1935-39 and 1945-49 Averages Annually, 1950-56 ^{2/} and Forecast 1957				
Year	Type of Oil			
	Whale	Sperm Whale	Fish and Fish-Liver	Total
	(1,000 Short Tons)			
Forecast 1957 . . .	435	90	200	725
1956	425	125	210	760
1955	420	100	205	725
1954	455	75	215	745
1953	420	55	195	670
1952	460	85	134	679
1951	435	120	155	710
1950	425	55	55	535
Average 1945-49 . .	280	40	85	405
" 1935-39 . .	545	30	135	710

^{1/}EXPORTS FROM PRODUCING COUNTRIES.

^{2/}REVISED.

Estimated World Production of Marine Animal Oils ^{1/} , Average 1935-39 and 1945-49, Annual 1950-56				
Year	Type of Oil			
	Whale	Sperm Whale	Fish (Including Liver)	Total
	(1,000 Short Tons)			
1956 ^{2/}	425	125	540	1,090
1955	420	100	515	1,035
1954	455	75	525	1,055
1953	420	55	455	930
1952	460	85	450	995
1951	435	120	475	1,030
1950	425	55	375	855
Average 1945-49 . .	280	40	275	595
" 1935-39 . .	545	30	480	1,055

^{1/}REVISED.

^{2/}PRELIMINARY.

WORLD MARINE-OIL PRODUCTION, 1956

Marine oil production in 1956 was slightly above 1955, a result of a 10-percent increase in sperm-oil output, a 5-percent increase in fish-oil production (largely a result of record spring herring catches by Norway and Iceland), and a slight increase in world whale-oil production. (Foreign Crops and Markets, September, 1957, U. S. Department Agriculture.)

FOOD AND AGRICULTURE ORGANIZATION

NINTH SESSION OF THE CONFERENCE OF FAO: The world food situation and outlook was studied at the Ninth Session of the Conference of the Food and Agriculture Organization of the United Nations in Rome November 2-23, 1957. Representatives of 74 member nations participated.

The Conference examined commodity problems, including food reserves and distribution of surpluses; FAO technical assistance operations; peaceful uses of atomic energy in agriculture; world agricultural, fishery, and forest resources as related to long-range needs; and the Fifth World Forestry Congress which is to be held in the United States in 1960.

After a plenary opening, the Conference was divided into three Commissions for consideration of specialized matters.



The first considered agricultural policies in relation to world problems of nutritional needs, agricultural production, international trade in agricultural products, and food reserves. The second Commission reviewed the programs of the major divisions of FAO--agriculture, economics, information, nutrition, fisheries, and forestry--dividing into individual panels for discussion of the work of each division. The third Commission considered the administrative and financial questions of FAO.

The United States delegation to the FAO conference was headed by Ralph S. Roberts, Administrative Assistant Secretary of Agriculture. Advisers to the delegation included A. W. Anderson, Assistant Director, Bureau of Commercial Fisheries; and Charles E. Jackson of the National Fisheries Institute.

GATT

TWELFTH SESSION OF THE CONTRACTING PARTIES MEETS IN SWITZERLAND: The Twelfth Session of the Contracting Parties to the General Agreement on Tariffs and Trade (the GATT) opened in Geneva, Switzerland, on October 17, 1957.

The Twelfth Session was expected to last about six weeks. It was to be concerned with problems that have arisen under the Agreement since the last meeting of its adherents which was held October 11-November 16, 1956.

A meeting of officials concerned with trade policy will be a feature of the Twelfth Session. At this meeting, which was scheduled to open on October 28, officials having responsibilities in the trade policy field were to present the views of their governments on the prospects for continued expansion of world trade under the GATT and discuss the European market integration projects, trends in commodity trade, and international trade cooperation.

The delegations were also to consider the relationships between the trade obligations provided for in the General Agreement on Tariffs and Trade, on the one hand, and, on the other hand, the new Common Market arrangements among the six European signatories of the treaty establishing the European Economic Community.

There will also be a report on the negotiations which have been taking place in the Organization for European Economic Cooperation (OEEC) between the six Common Market countries and the United Kingdom and other OEEC countries to establish a European free trade area in relationship with the Common Market.

Ghana and Malaya, which achieved independence this year, have become contracting parties to the GATT. The addition of these countries brings the total number of GATT parties to 37. These parties account for over 80 percent of international trade.

During the past few months consultations, originally proposed by the United States, have been held under the GATT with a number of countries looking toward the removal of quantitative import restrictions as balance-of-payments conditions permit. Consultations with certain countries will continue during the Twelfth Session. There will be a report to the Contracting Parties on the results of these consultations.

Though not a part of the Twelfth Session, multilateral renegotiations of certain tariff concessions granted by Austria, Canada, Ceylon, Greece, and the Union of

South Africa to the other GATT countries are also taking place in Geneva. These talks, in which the United States is participating, will continue during and after the session.

Other matters to come before the Contracting Parties included annual reports under certain decisions taken in previous years, customs administration matters, comments on trends and developments in trade in primary commodities, and an exchange of views on the related issue of disposal of agricultural surpluses.

INTERNATIONAL PACIFIC SALMON FISHERIES COMMISSION

REVIEW OF 1957 SOCKEYE AND PINK SALMON CATCH AND ESCAPEMENT:

In an October 24, 1957, information bulletin, the International Pacific Salmon Fisheries Commission points out that subject to minor corrections the total sockeye and pink salmon catch in Convention waters (Fraser River System) for 1957 was distributed as shown in table.

	Sockeye Salmon--1957		Pink Salmon--1957	
	No. of Fish	Percent	No. of Fish	Percent
United States .	1,526,502	53.0	2,777,000	51.5
Canada	1,349,041	47.0	2,624,000	48.5
Nondivisible . .	1/ 171,100			
Total Catch .	3,046,643		5,041,000	
Approximate Escapement .	1,603,357			
Total 1957 Run	4,650,000			

1/UNITED STATES CATCH DURING TIE-UP OF CANADIAN BOATS OVER PRICE DISPUTE.

The division of the catch of both species between the fishermen of the United States and

Canada was not up to previous standards of accuracy because: (1) the 1957 sockeye run was later and spread out over a longer period of time than the run in 1953 brood year, (2) the effect of the Bonilla-Tatoosh line on the efficiency of the Canadian fishing fleet, (3) a record-breaking jack or three-year old male sockeye run which made available a sizable catch of these small fish to the effective United States purse-seine fleet, but which were unavailable to the Fraser River gill-net fleet, (4) the failure of the Canadian gill-net fleet to catch a normal quantity of pink salmon during the fishing time provided, (5) the unprecedented early "drift back" of both sockeye jacks and large numbers of pink salmon from the Gulf of Georgia which resulted in unexpected high catches by United States fishermen in the Point Roberts area on September 2, 3, and 4, and (6) the necessary long weekend closed seasons in all fishing areas made it extremely difficult to anticipate either catch or escapement. Every action was taken consistent with the provision for adequate escapement to obtain equality in the catch, but the large number of variables during the 1957 sockeye and pink salmon runs made it impossible to reach the degree of accuracy usually obtained by the Commission.

The catches and total runs of both pink and sockeye were generally in accordance with the Commission's official preseason predictions. The 1957 sockeye run, instead of equalling the possible total of 6 or 7 million fish, totaled 4,650,000 fish, down 12 percent from the brood year. This decline was anticipated prior to the opening of the season and follows the pattern of poor ocean survival as set for the 1955 and 1956 annual runs.

The escapement of sockeye was not only greater in 1957 than in the brood year of 1953, but spawning conditions were far superior. In 1953, of the 105,000 sockeye spawning in the Horsefly River over 20,000 fish died unspawned due to early arrival and above normal water temperatures. The conditions affecting spawning of the Late Stuart run in 1953 were even worse than those of the Horsefly River and over 50 percent of the 350,000 spawners in the Late Stuart spawning area died without spawning. In 1957 the escapement to the Horsefly was over twice that of the brood year and three times as effective. The Late Stuart escapement in 1957 was over 500,000

fish or about three times as effective in eggs deposited than was the case in the brood year of 1953.

The remarkable rehabilitation record of the two main populations of the year, namely the Horsefly and Late Stuart runs, based on spawning escapement is shown in table.

The 1957 pink salmon run in Convention waters was the third poorest in the history of the fishery--the years 1941 and 1943 producing poorer catches than did the 1957 population. Present estimates of the total Fraser pink salmon escapement, possibly subject to important correction at a later date, is approximately 2 million fish. The major escapements are located in the following areas listed in the sequence of their importance: Harrison River; Main Fraser from Mission, British Columbia to Hope, British Columbia; and Thompson River below Kamloops Lake, Vedder River, and Seton Creek. The areas other than the Vedder and Harrison Rivers comprise the early segment of the annual run and the latter two streams produce the late segment of the annual run.

Year	Horsefly-Quesnel	Late Stuart
	.....(No. of Fish).....	
1941	1,100	5,500
1945	3,000	24,000
1949	20,000	147,000
1953	108,000	350,000
1957	1/225,000	1/525,000

1/SUBJECT TO POSSIBLE CORRECTION WHICH WOULD NOT SERIOUSLY CHANGE THE RELATIVE SIZE OF THE ESCAPEMENT.

INTERNATIONAL NORTH PACIFIC FISHERIES COMMISSION

FOURTH ANNUAL MEETING HELD: The attention of the fishing world was focused on Vancouver, B. C., during the week of November 4, 1957, when representatives of three of the world's greatest fishing countries gathered for the 4th Annual Meeting of the International North Pacific Fisheries Commission (INPFC).

The meeting was scheduled to review the scientific research and developments in the convention area during the past year and plan its programs of future investigations.

Created in June 1953, under a treaty between Japan, the United States, and Canada, INPFC has the responsibility of developing conservation programs for species of fish of joint interest in the North Pacific Ocean. This area, covering some 32,000,000 square miles, extends from the equator north to the Arctic Ocean and from the shores of Asia to those of North America. Besides the Pacific itself, it includes the adjacent seas, such as the Bering Sea and the Sea of Okhotsk.

Altogether, the North Pacific convention area encompasses about one-sixth of the earth's surface and yields some 20 billion pounds, about one-third of the world's fish landings. Japan is the leader in this annual production, her catch amounting roughly to 8 billion pounds each year. The United States catch in the convention area is about one billion pounds and Canadian fishermen account for approximately 700 million pounds. The balance is taken by various other nationals, particularly those of Russia and China.

The Commission is directly responsible for the development of the research program, for the coordination of the work, and for the interpretation of the results of the investigations in which the three countries participate. Management procedures recommended by the Commission on the basis of these scientific findings and other pertinent factors respecting each fishery are subject to individual ratification by the treaty nations.

While the Commission's broad terms of reference spread its responsibility over the fisheries generally, the research program has been primarily concerned, thus far, with the various species of Pacific salmon. Other important species are herring and halibut, and recently considerable attention has been given to the stocks of king crabs in the eastern Bering Sea which, at present, are exploited by Japan and the United States.

The meeting brought together delegates from as far apart as Washington, D. C., Ottawa, and Tokyo, from the coasts of the Bering Sea in the north and the Mexican Border in the south. Observers from various other international fisheries organizations were present.

The Canadian delegation, headed by Commission Chairman George R. Clark, included Commissioners John M. Buchanan and Roger T. Hager of Vancouver, B. C., and James Cameron, Madeira Park, B. C. The United States Commissioners were Milton E. Brooding, San Francisco, Calif., Edward W. Allen, Seattle, Wash., John H. Clawson, Anchorage, Alaska, and Hon. Ross L. Leffler, Washington, D. C. Representing Japan were Commissioners Iwao Fujita, Koh Chiba, Kenjiro Nishimura, and Kyuhei Suzuki, all of Tokyo. Each delegation was also accompanied by scientific and technical advisors.

Japanese catches of salmon in Aleutian waters by that country's mothership fishery dominated the thinking at the meeting. The subject was the main concern of the United States delegates. Intermingling of North American and Asiatic salmon in the area of Japanese fishing west of 175° west longitude, it is estimated by United States experts, gave the Japanese fleet a larger catch of red salmon of Bristol Bay (Alaska) origin than was taken by the United States fishery in Bristol Bay this year. The United States catch there was between 5 and 6 million red salmon. The total Japanese sockeye catch in Aleutian waters was just short of 20,000,000 fish.

Under the terms of the treaty, in an effort to establish a dividing line which would separate stocks of Asiatic and North American origin, a provisional north-and-south dividing line was established--the 175th West Meridian. Japan agreed not to fish east of this line, and has abided by this agreement. The present controversy is occasioned by the fact that the area of intermingling of the stocks is west of this line--where Japan is free to fish them. At least, that is what appears to be the case on the basis of 1957 experience. Further, evidence indicates that the salmon of North American origin in the area of intermingling are of Alaskan origin, but there is no evidence as yet that salmon of Canadian origin are involved.

The United States made two specific requests of the Commission in connection with the intermingling problem. These were contained in the opening address of one of the United States Commissioners. He said, in part:

"The data also show that the Japanese high seas salmon fleet has taken increasingly large numbers of salmon in the area of intermingling, particularly during the 1957 season.

"The United States Commissioners recognize that because of the breadth of this area of intermingling, the differences in distribution and migration pattern of the several species of salmon, and some variation in these characteristics from year to year, the problem of determining the line or lines which most equitably divide salmon originating from the two sides of the Pacific Ocean will not be an easy one to solve.

"In order to proceed expeditiously, we propose that an ad hoc committee be appointed immediately to undertake a suitable study of the problem and report its findings and recommendations at the earliest possible date. The United States Commissioners further recognize that this ad hoc committee may not be able to complete its assignment in time for action by the Commission prior to the next fishing season.

"In view of this situation we consider it essential that pending action changing the provisional lines in accordance with the provisions of the Convention, and in order to carry out the spirit and intent of the Convention, some interim steps should be taken by the Parties to the Convention without delay. We are convinced that there are a number of measures which can contribute toward achieving the desired objective.

"We propose therefore, pending an appropriate change in the provisional lines, that the Commission shall recommend to the respective Parties that the adverse effect of fishing in the area of intermingling be minimized by cessation of fishing in areas where, or at times when, a substantial proportion of salmon of North American origin are found."

The ad hoc committee to study the scientific evidence and whether or not the provisional line should be changed was established by the Commission. As anticipated by the United States Commissioners, this committee will not produce action before the next fishing season. Indeed, since its terms of reference were not detailed, this committee can do very little before the next meeting of the Commission.

On the second proposal--a cessation of fishing in the area of intermingling--the United States delegates were unable to obtain agreement that this question should be brought before the Commission, at this session, for discussion. Japan took the position that research was not adequate and that, further, a committee had been set up to study this question. Canada also felt that more research was necessary. Therefore, the proposal did not receive any formal consideration.

The first reaction of the United States salmon industry to the results of the Vancouver meeting were expressed on November 11 at a meeting of the Association of Pacific Fisheries in Seattle. At that meeting, one of the United States Commissioners gave a detailed report on the annual meeting of the Commission, and concluded by emphasizing the grave dangers facing the Bristol Bay red salmon fishery.

Under the terms of her treaty with Russia, Japan had a quota this year of 120,000 metric tons of salmon. This was divided as follows: motherships in the Pacific area--87,000 tons; motherships in Okhotsk Sea--13,000 tons; and land-based drift nets and long lines--20,000 tons.

The Japanese Fisheries Agency tabulates the 1957 catch of this 57,000 tons taken by the Japanese mothership fishery in Aleutian waters as follows:

Species	May	June	July	Total
	(Number of Fish)			
Sockeye . . .	5,874,765	10,322,415	3,604,711	19,801,891
Chum	3,839,355	4,177,023	1,213,653	9,230,031
Pink	330,833	8,320,625	12,402,557	21,054,015
Coho	34	7,726	331,769	339,529
Chinook . . .	2,270	19,129	9,714	31,113
Total	10,047,257	22,846,918	17,562,404	50,456,576

Speaking at the opening plenary session, the Commission Chairman had this to say about research results to date:

"First, the data obtained so far show that there is a continuous distribution of salmon across the North Pacific. But it does not necessarily follow that there is intermingling or mixing of the stocks of salmon of North American origin and of Asian origin throughout the entire area of distribution. However, there is apparently no line of separation between all stocks of Asian origin and all stocks of North American origin. Salmon have been taken from the shores of Asia to the shores of North America in all waters north of approximately 40° N. latitude in winter and 48° N. latitude in summer. The distribution extends as far northward into the Bering Sea as the research ships have been able to operate.

"Second, there is a strong indication from results to date that salmon from Asia and salmon from the portions of Alaska west of Kokiak mingle in the central areas of the North Pacific ocean. The degree of mixing and the extent of offshore movement appear to differ to some extent with the species involved.

"Third, the oceanographic investigations are giving us a broad general knowledge of the physical characteristics and variations in the water in which the salmon spend their ocean life. Such knowledge is of the utmost value in providing information which must, essentially, predict the movements of salmon from the two continents in future years.

"Fourth, we believe that we have largely passed through the stage of development of techniques and methods of coordination and, through the research agencies of the three countries, there is now a coordinated and efficient organization able to make an effective all-out attack on the most critical problems and areas.

"Fifth, we are convinced that every line of investigation which has been adopted is successfully leading to the required knowledge and that the various approaches, in general, are tending to lead to the same conclusions.

"I cannot say that we are yet in a position to recommend permanent changes in the position of the provisional line dividing the stocks of salmon. However, before this meeting is over I expect the scientists will have presented further evidence bearing on this question, which is foremost on our agenda."

NORTHWEST ATLANTIC FISHERIES COMMISSION

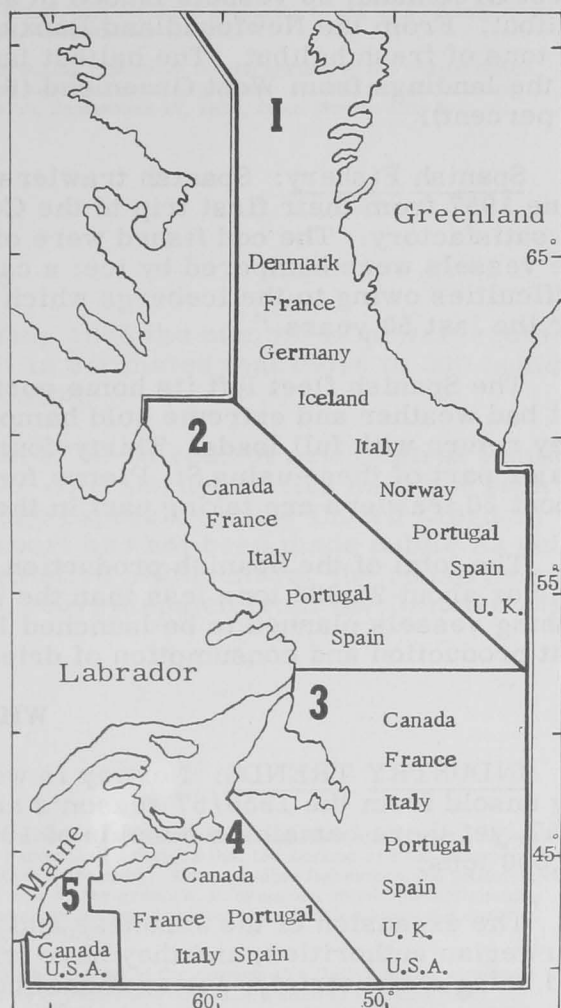
MEMBER COUNTRIES: With the adherence of the Federal Republic of Germany to the International Convention for the Northwest Atlantic on June 27, 1957, the following countries are now members of the Commission: Canada, Denmark, France, Germany, Iceland, Italy, Norway, Portugal, Spain, the United Kingdom, and the United States. At the request of West Germany and as decided at the 1957 Annual Meeting of the Commission, West Germany became a member, from July 1957, of Panel 1--the panel dealing with Subarea 1, the West Greenland waters, according to Newsletter No. 25 dated October 7, 1957, issued by the Commission covering its activities during July-September 1957.

COD AND HADDOCK TRAWL FISHERY REGULATIONS: The regulations of the trawl fishery for cod and haddock in Subareas 3, 4, and 5 proposed by the Commission at its 1955 Annual Meeting and slightly amended at the 1956 and 1957 meetings include as their main items: a minimum mesh size of 4½ inches or 114 mm. in Subarea 4 and 5 and of 4 inches or 102 mm. (stretched inside measure, wet and used); rules for the application of protective covers (prohibition of use of multiple cod ends); and minor exemption rules to avoid impairment of fisheries conducted primarily for other species.

The amendments approved in the 1957 Annual Meeting have been transmitted to the Depository Government, for circulation to and consideration by the Governments concerned.

In the meantime the regulations have been or are being enforced in part by various countries: Canada made the minimum mesh sizes effective March 13, 1957; France has enforced the minimum mesh sizes and according to a decree published in "Peche Maritime" (Aug. 1957) the regulations, including the 1957 amendments, will be enforced as of January 1, 1958; Italy and Portugal are preparing the enforcement to take place upon the ratification by the countries concerned; Spain enforced the minimum mesh size as from January 1, 1957; the United Kingdom enforced the regulations in Subarea 5, and prepares to enforce them in Subareas 3 and 4 as of January 1, 1958, provided they have by then been ratified by the countries concerned--in the meantime the fishing industry is following the regulations voluntarily; the United States has introduced the minimum mesh sizes for their vessels fishing in the Convention Area.

Thus all countries carrying out substantial fisheries in Subareas 3, 4, and 5 and being members of the corresponding panels have enforced the regulations or are preparing to do so in the near future. Four months after ratification by the countries being members of the panels concerned, the regulations become effective for all ICNAF countries.



It was expected that by the beginning of 1958 the regulations with their attached amendments would be effected to their full extent.

The accomplishment of these regulations affecting a vast area, 11 countries, and large fisheries is another important measure taken by ICNAF towards the "protection and conservation of the fisheries of the Northwest Atlantic Ocean, in order to make possible the maintenance of a maximum sustained catch from those fisheries" (the 1949 Convention for the Northwest Atlantic Fisheries).

FISHING IN NORTHWEST ATLANTIC: Danish Fishery on the Grand Banks:

This year for the first time a Danish vessel has been fishing on the Grand Banks of Newfoundland. The fishing schooner Hertha returned in August to its home port Esbjerg with 170 metric tons of salt cod from the Grand Banks. The captain stated that the fishery had been "over all expectations."

German Factoryship: The first German factoryship Heinrich-Meins, 825 gross tons, which left Germany for its first trip, sailed for the West Greenland waters. It is worth noting that the Convention Area has a pronounced attraction for factoryships.

Italian Trawler: The Italian trawler Genepesca I, 1,630 gross tons, returned in July to Livorno from a trip to the West Greenland fishing banks. The vessel carried nearly a complete load of salt cod and in addition 200 tons of frozen fish.

Norwegian Vessels: A number of Norwegian fishing vessels returned during July and August from fishing in the West Greenland and Newfoundland waters. From West Greenland, 20 vessels landed in all 2,570 tons of salt cod and 167 tons of fresh halibut. From the Newfoundland Banks, 7 vessels landed 1,130 tons of salt cod and 50 tons of fresh halibut. The halibut landings made up a somewhat higher percentage of the landings from West Greenland (6 percent) than of those from the Grand Banks (4 percent).

Spanish Fishery: Spanish trawlers and pair trawlers returned during May-June 1957 from their first trip to the Convention Area. Their results are considered satisfactory. The cod fished were of considerable size. During the campaign the vessels were hampered by ice; a captain reports "the fleet had to fight great difficulties owing to the icebergs which were more abundant than has been the case for the last 50 years."

The Spanish fleet left its home ports in January, earlier than in previous years, but bad weather and extreme cold hampered the fishery and only in May-June could they return with full loads. Thirty-four pair trawlers are fishing this year, the major part of these using St. Pierre for unloading their catches to cargo vessels. About 30 trawlers are taking part in the fishery.

The total of the Spanish production of dried cod last year was 45,000 metric tons or about 20,000 tons less than the amount consumed in Spain. When the new fishing vessels planned to be launched 1958-1961 enter the fishery, it is expected that production and consumption of dried cod will be on the same level.

WHALING

INDUSTRY TRENDS: Norway is worried about the amount of whale oil remaining unsold from the 1956/57 season's catch. The 1957/58 season began in October 1957, yet there remains a surplus of 100,000 long tons of which Norway possesses 30,000 tons.

The expansion of the Japanese and Russian industries is giving concern to the Norwegian authorities, and they have tried to restrict the building of whaling ships and bring about stricter international control.

Although Japan has shown some degree of willingness to consider the Norwegian proposals, the Russians have signified their disinterest with the announcement that they are building a floating whale-oil refinery of 45,000 tons which will start work in 1959.

An international agreement has been reached on the number of whale catchers to be used in the coming season. Norway will have a limit of 95, Japan 68, Britain 37, and Holland 14. The figures are virtually the same as last season's except in the case of Japan, whose acquisition of a South African expedition increased her total by 12. (The Fishing News, September 13, 1957.)



Argentine Republic

SHRIMP FISHERY TRENDS: Landings: The Argentine shrimp landings are separated into two categories: "langostino" or large shrimp (*Hymenopenaeus mulleri*) and "camarones" or small shrimp (a mixture of small *H. mulleri* and *Artemesia longinaris*). The best area and season for large shrimp is the coast of Patagonia between October and February. Landings fluctuate widely from season to season apparently owing to changes in the availability and/or abundance of shrimp.

Argentine Shrimp Landings (Heads on), 1955-56			
Year	Large	Small	Total
	..... (Metric Tons)		
1956	1,940	531	2,471
1955	973	562	1,535

Exports: Owing to fluctuations in landings, annual shrimp exports vary considerably. In 1955 only 2.8 metric tons of frozen shrimp were exported, whereas 45.6 tons were exported in 1956.

Developments and Outlook: Increasing interest in Argentine shrimp for export is being shown by Argentine, United States, and Japanese concerns. A Japanese subsidiary fishing company expected the arrival of one 500-ton trawler the latter part of September with a 7.5-ton freezing unit. This boat is to fish experimentally for shrimp and "centella" (the south-

ern king crab) for export. If the venture is successful, more trawlers will be brought from Japan.

One United States company, now operating on the Mexican Gulf Coast, was reported preparing to set up a shrimp operation in Patagonia for export.

Increasing exports of frozen shrimp to the United States can be expected from Argentina. (United States Embassy dispatch, September 27, 1957, from Mexico City.)



Barbados

FISHING INDUSTRY TRENDS, 1956: During 1956 the number of power-equipped fishing boats increased considerably and it is estimated that close to 300 boats will be power driven for the 1957/58 fishing season.

Problems of marketing and storage remain to be solved. A new Central Public Market is near completion, but facilities for the cold storage of fish have not been provided. Toward the end of 1956 a cold-storage expert from the United Kingdom surveyed the situation in Barbados, but this report has not been made public as yet. The Barbados budget for 1957/58 includes a tentative allotment for the construction of cold-storage facilities, states an October 2, 1957, dispatch from the United States consul.



Brazil

SHRIMP FISHERY TRENDS: Landings: In Rio Grande do Sul the 1957 shrimp run, though considerably better than in 1956, was about average. An estimated 1,600 metric tons were received at the plants in Rio Grande. Most of the landings were canned for local consumption and a few canned shrimp were for export to Canada and Uruguay. A small portion of the catch was frozen for local consumption. Landings, estimated at 10,000 tons, appeared to be normal for the remainder of Brazil.

Exports: Brazil, as yet, has very little export trade in shrimp. In 1957 one company reported that they exported 2,000 cases of canned shrimp to Canada.

Development and Outlook: The Brazilian Government has been changing its policy with respect to the operation of foreign boats. Previously, foreign boats and crews were prohibited. Now permits are being granted for the use in limited numbers and for a limited time (2 to 4 years) of foreign fishing boats and crews. One Japanese company has four trawlers of 60 to 100 tons storage capacity operating out of Santos and permission to bring in one more. These boats are catching fish and shrimp for the local markets. Their principal catch is corvina (*Micropogon*). Although they were not getting enough shrimp to develop an export market, their operations had just begun (early August 1957) and their explorations had not been of sufficient compass nor duration to determine abundance and availability of shrimp. The area be-

tween Santos and Rio Grande may soon start producing shrimp for export, or it may be that the shrimp are too scattered for economic trawling. Since capable fishermen and modern gear are now on the grounds, information should be forthcoming soon about shrimp trawling possibilities along the coast of southern Brazil.

In Belem, two of the owners of a United States company formerly owned and operated a shrimp freezing plant in Guayaquil, Ecuador, which they sold in mid-August 1957 to another United States concern. The firm at Belem was completing a shore freezing plant for shrimp for local and export markets and for fish for local markets. When completed the plant will be able to freeze about 12,000 pounds of shrimp daily, store 150 tons of frozen fish and shrimp, and make 20 tons of flake ice daily with storage for 50 tons. This concern had two shrimp trawlers and were expecting several more. Reports on their catches indicated that they were still in the exploratory stage. No large aggregations of shrimp had been found. Tidal currents were reported to be so strong as to hamper trawling operations.

It is too early to forecast the results of these two pioneering ventures in Brazil, one in the south and the other in the north near the mouth of the Amazon. If either or both are successful, Brazil will soon be exporting frozen shrimp to the United States. (United States Embassy dispatch, September 27, 1957, from Mexico City.)

* * * * *

SPINY LOBSTER INDUSTRY: During the two-year period beginning July 1, 1955, and ending June 30, 1957, 367 metric tons of frozen spiny lobster tails were exported to the United States from Recife and Fortaleza in Northeast Brazil, according to statistics furnished by the steamship line employed by the two American firms engaged in catching spiny lobsters in the northeast of Brazil. No tails were exported from Northeast Brazil until the second half of 1955 when 40 tons were shipped to the United States from Fortaleza. Recife began exporting the second half of 1956. As far as can be determined, all exports of frozen spiny lobster tails were made to the United States.

The spiny or rock lobster ("lagosta" in Portuguese) appears to be plentiful in the warm waters off the coast of the northeastern Brazil's bulge, especially from September to February. Lobster fishing seems to be especially good near Fortaleza. Spiny lobsters are trapped by local fishermen who use "jangadas" (balsa rafts with sails). Traps are somewhat like wicker baskets, some made of steel, often measuring as large as 3 x 2 x 2-1/2 feet. Baited with fish heads, they are lowered from the "jangadas" to the shallow ocean bottom. Lobsters are purchased by three firms, two American and one Brazilian, at designated points and times on the beach near Fortaleza and Recife. It is believed that

"jangada" fishermen are paid from 12-14 cruzeiros a kilo (7 to 8 U. S. cents a pound) for whole spiny lobsters, and that the export price for frozen tails is US\$0.50-\$0.60 a pound.

Production figures are hard to arrive at, but it is estimated that 841 tons of spiny lobsters were caught off the shores of Northeast Brazil in 1956. The estimate is arrived at as follows: Total export of spiny lobster tails was 187 tons, multiplied by 3, since but one-third of the lobster is exportable, gives 561 tons. Assuming about 50 percent more is caught for local consumption, the total amounts to 841 tons.

Northeast Brazil's Exports of Frozen Spiny Lobster Tails to United States			
Period	From Recife	From Fortaleza	Total from Northeast Brazil
	.....(Metric Tons).....		
1957: January-June	87	53	140
1956: January-June	-	36	36
July-December	68	83	151
Total	68	119	187
1955: January-June	-	-	-
July-December	-	40	40
Total	-	40	40

It is estimated that the two American companies have a monthly production capacity of approximately 120 metric tons, which is not reached because of the infrequent freighter service (with reefer space) to the United States and by the consequent lack of sufficient refrigeration storage in Recife and Fortaleza. As has been mentioned, both firms utilize freighters which stop at the two ports on an average of perhaps once every six weeks. It is also necessary to lighter the lobsters to ships at Fortaleza.

NOTE: VALUES CONVERTED AT THE RATE OF 80 CRUZEIROS EQUAL US\$1.

Of the three firms engaged in the lobster industry in Northeast Brazil, one is owned by an American, with offices in Recife. Formerly this company had three small boats which had been motorized, but due to difficulties in having repairs made and in getting parts, the boats were sold and the company now buys exclusively from local fishermen. This company is now operating out of Ceara and sends partially processed spiny lobster tails daily to Recife via air freight, where they are held in cold storage. The company is said to have its own freezer in Fortaleza with a capacity of 30 tons, but because of the lightening problem there, it prefers to use storage in Recife. The frozen spiny lobster tails are exported in 15-pound boxes under a label.

The second is a Brazilian company run by an Italian. It has a 45-ton freezer in Recife. This company ships an unknown quantity of tails to southern Brazil. Although it is believed to have exported some tails to the United States, it supplies principally the Brazilian market.

The third company, headed by an American, operates out of Fortaleza. According to *O Povo*, the Fortaleza periodical of November 30, 1956, this firm was authorized by the Ministry of Agriculture and the Ministry of the Navy to bring 12 vessels to Ceara for spiny lobster fishing, provided that half of the yield be used for Brazilian domestic consumption as lobster tails, while the other 50 percent could be exported. Up to that time *O Povo* stated that the company had been exporting all of its catch to the United States. After two years, the American company will have to be incorporated as a Brazilian company, and the ships pass to Brazilian command with two-thirds Brazilian crew. No information is available on the packaging of spiny lobster tails except that an article appearing in the January 12, 1957, issue of the *Folha da Manhã* of Sao Paulo probably refers to this company and points out that "1,900 boxes of cooked lobsters, each weighing 10.459 kilos (22 pounds), were loaded into the refrigerators of a foreign ship in Fortaleza, destined for the United States." This company is reported to have refrigerator storage space of 60 tons in Fortaleza.



Canada

REHABILITATION OF OYSTER BEDS IN NEW BRUNSWICK AND NOVA SCOTIA PLANNED: A three-year rehabilitation program for the stricken oyster beds in New Brunswick and Nova Scotia has been organized by the Fisheries Research Board of Canada, according to their General Series Circular No. 29 of April 1957.

In some of the areas concerned, up to 90 percent of the original stock was killed by the end of 1956. The Research Board is not absolutely positive of the cause of these oyster diseases, but has found the characteristics very similar to a past crisis which vexed Malpeque Bay, P. E. I., in 1918. By gathering the known resistant oysters into lease holds and crossbreeding them, all Prince Edward Island oyster beds were restored; also it was found that a large number of the oysters became resistant to the so-called Malpeque disease.

Accordingly the Canadian Department of Fisheries has planned to transplant 10,000 barrels of these disease-resistant oysters over a three-year period to the hard-hit zones in Nova Scotia and New Brunswick. The first transfer (1,500 barrels) was completed by June 1957.

In brief the method of distribution is as follows: three barrels will be given free to each lessee for each lease he or she has in good standing. The lessee will be responsible for keeping these oysters in their lease areas during the period of recovery.

The program will undergo its final phases in 1958 and 1959 when 3,500 and 5,000 barrels, respectively, of Prince Edward Island oysters will be transferred to nurse the faltering New Brunswick-Nova Scotia industry back to health. The Board is optimistic towards the success of the project.



Ceylon

FISHERIES CENTER COMPLETED IN OCTOBER 1957: The Mutwal Fisheries Center, under construction for about six years, was formally opened on October 2, 1957. The Center was made possible by a gift of rupees 5,000,000 (about US\$1,042,000) from the Canadian Government to the people of Ceylon under the Colombo Plan.

The Center includes a cold-storage and freezer plant, a byproducts plant, and a machine shop. Two fishing trawlers, one a gift from Canada, are employed in

catching fish for the new Center, states an October 4, 1957, dispatch from the United States Embassy in Colombo.

NOTE: SEE COMMERCIAL FISHERIES REVIEW, SEPTEMBER 1954, P. 58.



Chile

LANGOSTINO AND SHRIMP FISHERIES: **Shrimp:** The Chilean shrimp fishery is insignificant and for local consumption only. The record year was probably 1954 when 101 metric tons were landed.

Langostinos: The plated lobster or "langostino" has become important in recent years and has entered the United States import market. Three species of Galatheidae are called "langostinos." These are *Munida gregaria*, *Pleuroheodes monoden*, and *Cervimdnida johni*. The last apparently comprises the bulk of the catch. They are taken by trawls in the same general area as the hake, usually around 80 fathoms.

Before 1953, the landings were small and not recorded. In 1956 over 5,700 metric tons were taken. The "langostinos" are taken along the coast of central Chile. Of the total landed, 4,824 tons were landed in the Valparaiso area, 782 tons in the Coquimbo area, and 100 tons in the San Antonio area.

Year	Metric Tons 1/
1956	5,706
1955	2,049
1954	2,644
1953	930

1/Weight as caught.

The "langostinos" are landed whole, un-iced, usually in boxes, the same day they are caught. They are boiled in sea water, drained, allowed to cool, and then peeled by hand. The head (cephalothorax) is quite large compared to the tail (abdomen) and the yield of cooked meats is reported to be only about 7 percent of the total raw weight.

Two plants are reported processing "langostinos" for export. The cooked meats destined for export are layered-packed by hand in metal trays, covered with water and frozen in a compression-plate freezer. After freezing they

are packed in transparent plastic containers which are shipped in wooden boxes.

The heads and shells are processed into meal, but owing to the low protein content, the demand for the meal is very light.

Several trial shipments of "langostinos" were sent to the United States in 1954, but commercial-scale shipments did not begin until 1956. According to Chilean records, 0.3 metric tons of frozen "langostinos" were exported in 1955 and 99.7 tons in 1956 (these figures are lower than United States import records for 1956). It is believed that all of these exports were to the United States.

United States import records show that 84,000 pounds of fresh or frozen shrimp and 441,000 pounds of lobsters, not canned, were imported from Chile during 1956. It is believed that these two items are frozen "langostino" meats. The Chilean catch of lobsters is small (about 123 tons in 1956) and the local demand so great that better prices are obtained in Chile than could be obtained in the United States export market. Chile does not export lobsters to the United States. Some pandalid shrimps are taken along with the "langostinos" and it is possible that some were exported to the United States in 1956, but probably not in the amount of 84,000 pounds.

The Chilean Government is in the process of reviewing its financial policy and some of the privileges, which for practical purposes amounted to a subsidy, have been withdrawn, temporarily at least, from the fishing industry. The future of the "langostino" export business depends to a great extent upon Chilean policy and acceptance of the product by the United States market.

Undoubtedly the stocks of "langostinos" are sufficient to maintain present production. How much the catch can be expanded is a matter of conjecture because so little is known about the distribution, habits, and abundance of these forms. It is not likely though that they will be found in commercial quantities other than along the coast of central Chile. (United States Embassy dispatch dated September 27 from Mexico City.)



Colombia

SHRIMP FISHERY TRENDS: **Landings:** According to Colombian figures, 128 metric tons of shrimp were landed for local consumption in 1956. These figures are admittedly incomplete. It is estimated that about 750 metric tons of shrimp were consumed locally and that another 50 tons were exported during 1956.

Exports: The year 1956 was a poor year for Colombian shrimp exports to the United States. During 1954 and 1955 Colombia shipped an average of 350,000 pounds of frozen shrimp to the United States. Shipments dropped to 100,000 pounds in 1956. The drop was caused by governmental policy. With the new administration, which took over in mid-May 1957, governmental policy has become much more favorable and exports of shrimp to the United States should show considerable increase during the last six months.

Colombian export statistics group all fresh, frozen, cooked, or salted crustaceans under one heading. Furthermore, the figures are not complete.

Country of Destination	1956	1955	1954
. . . (Metric Tons) . . .			
United States	56.7	34.7	160.7
Dutch West Indies	0.0	0.0	1.2
Venezuela	1/	0.0	0.0
Total	56.7	34.7	161.9

1/LESS THAN 115 POUNDS.

Developments and Outlook: The atmosphere for fishery development is much more favorable than a year ago. The present administration is considering the immediate application of regulations that would aid fishery development. Among these are: (1) exemption from import duties on boats, gear, machinery, and equipment; (2) relief from certain taxes; (3) exemption from a portion of the 15-percent export tax that is applicable to all exports.

There are two shore plants in Buenaventura freezing shrimp. One, entirely locally-financed, is reported to be quite small and poorly equipped. Two trawlers (one small) are working for this company. The other company with local and United States capital is reported to be expanding. At present, this plant has a blast freezer and nine trawlers. Reports are that a compression-plate freezer and more trawlers will be added soon. In addition to the above, there are three independent trawler-freezer boats. One of these is United States-owned. The other two are locally-owned.

The Caribbean coast, other than for local consumption, can be ignored as a shrimp-producing area. The Pacific coast is rapidly increasing its facilities and exports of shrimp from Colombia can be expected to increase. If prevailing favorable circumstances persist and are extended, which seems likely, Colombia may soon approach Ecuador with respect to volume of shrimp exports. (United States Embassy dispatch dated September 27, 1957, from Mexico City.)



Cuba

JAPANESE TUNA FISHING VESSEL ARRIVES: The *Sumiyoshi Maru*, a Japanese vessel, arrived at the port of Habana on September 25, 1957, and unloaded the frozen fish catch of its initial voyage to Cuba. The 3-year-old long-liner's crew of 36 men unloaded about 330 short tons of frozen yellowfin and skipjack tuna, wahoo, and other species. The vessel planned to depart with six Cuban fishermen trainees on October 1, 1957, for a two months' cruise.

The long-line fishing gear used consists of about 35 miles of line, divided into 400 5-hook baskets or sections, according

to a September 27, 1957, despatch from the United States Embassy in Habana. The Japanese captain of the vessel stated that the maximum daily catch was about 66,000 pounds.

The next trip of the *Sumiyoshi Maru* from Cuba was planned for the windward side in the lesser Antilles near the area covering the northeast part of South America. The vessel had already fished this area with good success after transiting the Panama Canal, but had thereafter proceeded to a position off the coast of Africa near Angola before heading for Cuba.



Denmark

LOANS FOR RENEWAL OF FISHING FLEET TO BE CONTINUED: The Danish Ministry of Fisheries and the Fishery Bank announced early in October 1957 that loans for the renewal of the fishing fleet could now be made under the security of Government bonds, and provided for this purpose up to 5 million kroner (US\$724,000). Prior to this announcement it was possible for fishing vessel loans to be financed by funds made available from the operation of certain Government functions, such as the postal service, and by open market sales of Government obligations.

This new ruling does not mean an extension of credit for the construction of fishing vessels. It merely reflects the increase in interest rates which have forced the Government to use a contingency fund which had been specifically set aside for this purpose. This fund has been available upon application of the Minister of Fisheries with the approval of the Minister of Finance, states an October 21 dispatch from the United States Embassy in Copenhagen.

* * * * *

MANUFACTURE OF MEAL AND OIL FROM HERRING WITHOUT HEATING RAW MATERIAL: A Danish engineer, H. M. Ehlert, has developed a method which makes it possible by cold processing (without the traditional heating of the raw material to 212° F. or more) to extract the oil from industrial herring and fish. The manufacturing process is very simple, and it is claimed that the herring oil produced is odorless.

The unusual part of the method is that with the help of enzymes the fish is liquified by cold processing and the oil separated by centrifuging. The first machine installed by a Danish firm manufactures partly oil and partly de-oiled liquid herring. The de-oiled product has unusual keeping qualities, and the method indicates a possibility of almost unlimited preservation of ground raw material. Experiments have also indicated that it is possible to evaporate the mixture to 50-percent dry material from which it is possible to produce a herring powder of high quality.

Products produced experimentally by the new process to date are: (1) de-oiled herring pulp, (2) herring oil, (3) spray-dried herring pulp, (4) a fodder supplement, and (5) spray-dried cod fillet powder claimed to have a protein content of 81-84 percent.

The new cold treatment procedure is as follows:

The fish is transformed into fluent fish pulp by chopping and mixing with certain enzyme cultures which are extracted from bacteria and fortified by more enzymes. Two methods are used since two types of cultures are provided.

- (a) Using one type of culture with lean fish, the admixture can be acidulated to a pH making it adequate for storage as desired. The pulp is a highly valuable fodder supplement.
- (b) Using the second type of enzymes with fat fish, the admixture can be centrifuged into oil and pulp at a temperature not exceeding 122° F. The de-oiled fish pulp can be either acidulated, as under (a) for use as a fodder supplement, or spray-dried into almost nonperishable fish powder with all the good points of the fresh fish.

The new method claims the following advantages:

- (1) All the original characteristics (vitamins, enzymes, fish factors, etc.) of the fish are kept in the ideal proportion found in nature in the ready-made fish byproducts.

(2) Even big quantities of fresh fish can be treated immediately after landing, precluding thereby any spoilage of raw material. The process, being short and simple, demands only very simple machinery and allows storage of the semi-processed product for later successive processing into final products.

(3) The fish oil is centrifuged from fat fish under temperatures so low that the original characteristics of the fish pulp remain intact.

(4) The proteins of the fish are hydrolyzed into free amino acids, which are easily digestible for humans and animals. Pulp and the fish powder therefrom have long keeping qualities, and are rich in proteins, which to a high extent are hydrolyzed into vital as well as growth-stimulating amino acids. (United States Embassy dispatch of September 5, 1957, from Copenhagen.)

* * * * *

MINISTER OF FISHERIES REVIEWS FISHING INDUSTRY PROGRESS: The Danish Minister for Fisheries aroused by pre-election criticisms regarding State support for the fishing industry, responded at length with a defense of the State's activities and a report to the press on improvements in the industry under his administration. The Ministry for Fisheries was created as a separate ministry in 1947.

In his reply to the criticisms he stated that in the last ten years the catch has doubled and the value risen more than 100 million kroner (US\$14,478,000). In 1947 exports brought in 175 million kroner (US\$25,336,000) while in 1956 they were valued at almost 300 million kroner (US\$43,434,000). While there are only 17,000 active fishermen, there are between 75,000 and 100,000 persons employed in the entire fishing industry.

He also stated that State support has been found necessary by the decisions of Folketing sessions consistently for the last 20 years. For this reason the Fisheries' Bank was created, and beginning in 1938 was supported by State loans. Through the years this project has been enthusiastically supported by all parties, and the use of funds for this purpose is considered the most effective in trade economics.

The Minister contended that credit facilities available through State-supported loans have helped young fishermen to buy their own vessels, since first mortgages are more difficult to obtain for cutters than for real estate. Furthermore he maintained that not only have the loans been profitable to the industry, but have not caused loss to the State. On the other hand, private banks can only afford to make supplementary loans to borrowers who cannot obtain government loans, he stated, and accommodate borrowers for motor changes, new equipment, and new instruments, costing up to 40,000 kroner (US\$5,791), but not for new shipbuilding.

Since creation of a separate ministry of fisheries, the fishing interests had been advanced by a whole series of new legislation, including salt- and fresh-water fishing regulations, quality standards laws, laws regulating loans for sale and disposal of fish, laws regulating building and equipment of fishing vessels, and the proposal for abolishment of eel farming rights. An experimental hatchery was created in Brøns to further fresh-water fish production, and the experimental fishing vessel Jons Vaever has succeeded in transplanting plaice to better locations, among other successful experimental projects.

For future tasks of the Ministry, the importance of its furthering fishing in foreign waters and State support for the industry's efforts in this direction in the form of a limited State guarantee of the value of such catches were emphasized. In addition, the Ministry looks forward to the completion of a commission survey of water contamination, to protection of fishing rights in connection with land reclamation projects, and to efforts toward revision of the North Sea Convention according to Danish fishing requirements (United States Embassy in Copenhagen, dispatch May 3, 1957).

* * * * *

PLANS FOR A PLASTIC FISHING VESSEL COMPLETED: A Danish manufacturing firm, according to newspaper reports, has completed detailed plans for a fishing vessel made from plastic. It was also reported that the firm hopes to begin production of the plastic-hulled fishing vessel within a year.

The vessel is described as being of 15 tons deadweight, designed for a speed of 12-14 knots. This is about six knots more than the average Danish vessel of this size now in use. The selling price is estimated to be about 75,000 kroner (US\$10,858). These craft will be the first of this size to be made of plastic. (United States Embassy at Copenhagen, dispatch of October 25, 1957.)

* * * * *

STEEL BOTTOM VESSEL WITH TWO FISH HOLDS DEVELOPED: In order to more effectively separate and store the catch for food from the portion of the catch destined for reduction or industrial use, the Danes have developed a two-hold steel bottom fishing cutter or vessel. The double fish hold was designed for dual-purpose fishing trips--during the early part of the trip fish used for food is caught and stored in one part of the double fish hold and during the last part of the trip fish for industrial use is caught and stored in the second part of the hold.

The bottoms of these vessels (70- to 80-ton class) are presently made in the Netherlands, but an Esbjerg shipyard is preparing for their construction in Denmark.

Results obtained by an experimental vessel have been satisfactory, although information on the expense of upkeep and the rate of deterioration of the steel bottoms as compared with wood bottoms is still incomplete (United States Embassy dispatch, October 21, 1957).



Dominican Republic

CANNED MACKEREL MARKET: There is no packing of canned mackerel in the Dominican Republic. No statistics are available showing the quantity and value of canned mackerel imported during the last two years, states a recent dispatch (September 13, 1957) from the United States Embassy at Ciudad Trujillo. In 1956 the Dominican Republic imported US\$208,085 worth of all types of canned fish, of which Canada supplied US\$93,693, the Netherlands US\$30,932, the United States US\$25,278, Norway US\$21,614, and the balance from other countries.

Consumption of canned mackerel and similar canned fish is mostly limited to field laborers, sugar-cane cutters, and other low-income groups in general. Of the canned fish sold, 85 percent is packed in 6-7 oz. cans and 5 percent in 15-oz. ovals. About 10 percent of the canned fish is in tomato and 90 percent in vegetable, cottonseed, and other oils. The 6-7

oz. can of canned fish generally found in the markets retails for 15 cents and the 15-oz. oval can for 45 cents. Practically all canned fish, including mackerel, found in the Dominican Republic is sold as "sardines." Consumers have a marked preference for "sardines" canned in oil.

In order to expand the market for United States canned mackerel in the Dominican Republic, it is suggested by various leading importers that the lowest possible prices be offered to them as there is much competition from products originating in other countries, especially Canada. Shipments from Maine, Massachusetts, and Maryland are preferred by importers as there are regular weekly shipping connections between New York and the Dominican Republic. Recently Canadian "sardines" and mackerel were offered at US\$7.25 f. o. b. Halifax in cases of 100 cans (6-3/4 oz. net weight).



Ecuador

SHRIMP FISHERY: Landings: No official statistics are kept on shrimp landings in Ecuador. It is estimated that 1956 landings were about 4,000,000 pounds (headless weight), and 1957 landings are expected to run between 4,000,000 and 5,000,000 pounds.

Exports: Ecuadoran exports of shrimp to the United States are expected to continue rising. It is expected that by the end of 1957 all boats operating on shrimp in Ecuador will be

under local registry. During the past few years a number of vessels operating in Ecuador have been United States flag vessels.

Because of the above and also because Ecuador, in export statistics, groups frozen shrimp and fresh and frozen lobsters under the one category of "live lobsters," the export figures for Ecuador are greater than those shown under United States imports of shrimp from Ecuador. It is believed that a closer

approximation of actual shrimp imports from Ecuador can be obtained by subtracting United States imports of Ecuadoran lobsters from Ecuadoran exports of "live lobsters." This procedure has been followed in the accompanying table.

Estimated United States Imports of Frozen Shrimp from Ecuador			
Item	1956	1955	1954
	. . . . . (In 1,000 Lbs.)		
Ecuador's Exports of "Live Lobsters"	3,619	1,872	610
U. S. Imports of Lobsters from Ecuador	-26	-12	-4
Estimated U. S. Shrimp Imports 1/	3,593	1,860	606
Listed U. S. Shrimp Imports 2/	2,950	1,604	547

1/THIS IS OBTAINED BY STARTING WITH ECUADOR'S EXPORTS OF "LIVE LOBSTERS" (INCLUDING LOBSTER AND SHRIMP), SUBTRACTING ACTUAL LOBSTER IMPORTS AS LISTED BY THE UNITED STATES, AND ARRIVING AT THE ESTIMATED SHRIMP EXPORTS FROM ECUADOR.

2/ESTIMATED EXPORTS IN ALL INSTANCES SEEM TO BE HIGHER THAN THOSE LISTED AS IMPORTS FROM ECUADOR BY UNITED STATES IMPORT STATISTICS.

Ecuador exports of the "live lobsters" category, other than to the United States, are believed to be almost entirely lobsters to Peru.

Developments and Outlook: In the fall of 1955, there were about 35 trawlers, 1 freezer boat, 2 land freezers (one of which operated mostly on tuna), and 4 companies engaged in the capture and processing of shrimp in Ecuador. In July 1957, there were about 70 trawlers, 2 freezer boats, 4 land plants (two of which specialized in tuna), and 5 companies working on shrimp. Fifteen more shrimp trawlers were reported under construction and one land freezer (combined tuna and shrimp) was being erected. The shore plant at Posorja was adding more storage, office, and working space and was installing a still for fresh water and a 20-ton daily flake-ice machine with storage space for 50 tons of ice. The shore plant at Manta was reported to have been completely reconditioned with new equipment installed.

In 1955 small shrimp--the "titi" (*Xiphopenaeus*) and "pomada" (*Protrachypene*)--were either discarded by the trawlers along with the trash fish or sold on the local market. In 1957 both these species of shrimp, which are small in size, were being peeled and deveined by hand and frozen for the United States market. It is estimated that about 700,000 pounds of these small peeled and deveined shrimp will be exported to the United States in 1957.

Negotiations were in progress for an organization from the United States to purchase the two largest shrimp producing outfits in Ecuador. (Latest information indicates that the largest shrimp firm in Panama purchased the largest Ecuadoran operation and a United States firm purchased the other.)

With increasing numbers of trawlers and freezing facilities and greater use of existing stocks of shrimps, Ecuador can be expected to increase exports to the United States.



El Salvador

FISHING INDUSTRY UNDERDEVELOPED: The fishing industry of El Salvador, although potentially important, is very poorly developed. The average working man has a diet of tortillas (corn pancakes) and frijoles (red beans), the latter about the only source of proteins. The Pacific Ocean waters reportedly full of fish are only a few miles from any point in El Salvador and there are good arterial highways. It is, therefore, to be regretted that this great source of low cost protein, which it is estimated the El Salvadorans could consume at the rate of 10-15 million pounds a year, is not available in greater quantities.

Some of the reasons for this situation are apparent. Aside from an unknown number of canoe fishermen, there are only four sizable fishing boats in operation, the largest of which is capable of landing about a million pounds a year. There are only two very small ice plants to produce the ice necessary for handling fish in a warm climate.

The underlying reasons for the lack of interest in the fisheries resources are not clear. With a large quantity of fish available, a moderate investment in fishing vessels and ice plants would appear to be quite practical, but few investors (and none of any size) seem willing to venture into the business.

There are no statistics to show the quantity of fish landed in El Salvador; none are kept officially covering the four fishing boats, and there is no way of estimating the catch of numerous canoe fishermen. Perhaps the catch of the four modern-type boats is 2,500,000 pounds a year of fish and 250,000 pounds of shrimp. The fish are of several varieties, bearing local names which are not always subject to translation into English, but the best from the point of view of flavor are "boca colorada" and California corvina. Both of these, when obtained fresh and cooked properly, are very tasty, states a September 23, 1957, despatch from the United States Embassy in San Salvador.

In addition to the edible fish, it has been proposed that the non-commercial fish be utilized for fish meal. This proposition, too, has languished undeveloped.

The value of the catch is usually calculated at about 14 U. S. cents a pound for fish at dockside and about 50 U. S. cents a pound for shrimp ex-dock.

The catching, distributing, and marketing of the fish is done in a primitive manner. The four fishing boats discharge their catch at small piers at La Union in the Gulf of Fonseca. They necessarily carry a certain amount of ice, but the quantity is generally believed to be far too little. At the dock, the fish or shrimp are weighed--often in the sun--and packed in 100-pound boxes with crushed ice, again usually in insufficient quantities for safety. The boxes are then transported to inland cities and delivered to markets and fish stores. As a rule, a large quantity of the fish has spoiled during this procedure due to insufficient ice.

The Government's policies and programs have been for the most part directed toward the regulation of the fishing industry rather than its promotion and expansion. There are elaborate requirements for licenses, for fishing enterprises, and even for single embarkations for fishing purposes. These are set forth in the Government's decree 1961 of October 25, 1955, which consisted of a fisheries law, and decree No. 77 of September 12, 1956, which contained the regulations implementing the previous decree. Of significance to foreigners is the fact that, while the fisheries law (decree 1961) stated in its Article 17 that foreigners would be allowed to fish, at least for bait (anchoveta), in El Salvadoran waters, provided they had a license, the regulations which the law stated would be forthcoming have yet to be promulgated, and foreign boats now fish at their own risk.

The Government's industrial development corporation (INSAFOP) has made a survey of a potential fishing industry but has yet to find funds to establish one. There is in effect an industrial processing law, which was designed to encourage investment in new industries, and which would grant incentive tax concessions to such a new industry if it were founded.

The potentialities of the shrimp-fishing industry are good. The shrimp caught in El Salvador are considered to be second to none in quality, and there is no doubt that it could find a ready market in the United States.

SHRIMP FISHERY: Shrimp exports from El Salvador to the United States began during 1957. The freezer ship Leonardo I, formerly based at Acapulco, Mexico, transferred to Salvadoran registry early in 1957. It has been reported, but not confirmed, that six Mexican trawlers from the Carmen area will soon move to La Union.

El Salvador's maximum potential is estimated to be about 2 million pounds of headless shrimp a year. (United States Embassy dispatch from Mexico City dated September 27, 1957.)



German Democratic Republic

MARKET FOR CANNED SARDINES IN OIL GOOD: Canned sardines in olive oil are in great demand in East Germany and are imported mainly from Portugal and Morocco.

Due to a bad season, catches were only fair during 1956 in those countries. Prices of canned sardines in oil have increased and canners in those countries cannot obtain a sufficient quantity of olive oil to satisfy production needs.

Canned sardine stocks were scarce in East Germany, points out the Spanish fishery periodical Industria Conservera (March 1957).



Guatemala

SHRIMP FISHERY: Several ventures have started or are about to start on Guatemala's Pacific Coast. One included a freezer ship. The other was an experimental shore-based operation, probably out of San Jose. Recent reports are not available.

The maximum annual production potential of headless shrimp in Guatemala is estimated to be about one million pounds. (United States dispatch from Mexico City dated September 27, 1957.)



India

DEVELOPMENT OF FISHING INDUSTRY, 1956/57: The catch of fish in India during the fiscal year (April-March) 1956/57 totaled about 1.1 million long tons, as compared to a need for about 4 million tons to fulfill minimum nutritional standards (estimated by the Ministry of Food and Agriculture). The present per capita consumption of fish in India is estimated at 3.9 pounds a year. The industry employs about 75,000 craft of various types along a coastline of 3,000 miles and gives employment to about 750,000 fishermen.

A total of Rs.55 million (US\$11.5 million) was provided in the First Five-Year Plan for the development of fisheries and the production during the period increased by about 10 percent. The Second Five-Year Plan provides Rs.120 million (\$25.2 million) for fishery development and production is expected to rise by about 33 percent by 1960/61. Out of the Rs.120 million, Rs.37 million (\$7.8 million) will be Central Government expenditures toward improving fishing methods, development of deep-sea fishing, provision of fishing harbors, and organization of fish transport, storage,

and marketing. The work in respect to these activities was initiated during the period under review.

Marine fisheries development projects during the year related mainly to increasing the supply of fishery requisites, such as boats, yarn for nets, timber, sail cloth, and foodstuff at concessional rates, provision of quick transport, mechanization of fishing operations, and preservation. Inland fisheries development projects undertaken during the year included a survey of culturable waters, collection of fish seed, reclamation of derelict tanks, beels, swamps, and stocking them with fry and fingerlings. The activities of the deep-sea fishing station at Bombay were intensified with the three additional vessels received under Technical Cooperation Mission (TCM) aid for conducting exploratory fishing with gill nets and shrimp trawls. With the increase in the fleet, the scope and field for training were increased considerably. About 60 fishermen completed their training during the year.

Grants and loans given by the Central Government to the maritime states during the year amounted to about Rs.3.3 million (\$0.7 million) for providing financial assistance to fishermen for the purchase of fishing equipment and also for organization of fishermen's cooperative societies and transport. Material and equipment worth Rs.362,000 (\$76,020) received under an Indo-United States technical assistance program and other requisites worth Rs.600,000 (\$126,000) was allotted to the Kerala State under the Indo-Norwegian assistance program.

Three more marine fisheries training centers were opened at Veraval (Saurashtra), Tuticorin (Madras), and Cochin (Kerala) under the guidance of a Food and Agricultural Organization (FAO) expert. An FAO marketing specialist conducted a survey of marketing conditions and another marketing specialist also arrived in India just before the close of the fiscal year. Five extension units were established, one each at Gauhati, Hyderabad, Bhopal, Allahabad, and Mandapam in addition to the existing unit at Calcutta.

Under the TCM aid program additional equipment of 6 jeeps, 9 'dan' boats, 54 marine engines, 12 outboard motors, and machinery and parts for ice plants were received. The ice and cold-storage plant was allotted to Andhra Pradesh. The fisheries community development project under the Norwegian aid program made satisfactory progress in Kerala. The Norwegian fishing schooners continued their experimental trawling.

The monetary value of assistance received by India in the shape of specialists, fellowship grants, and equipment from all foreign sources totaled Rs.1.8 million (\$378,000) during the fiscal year.

An All-India Fisheries Conference was held in September 1956 at Madras. Various aspects of fisheries development, such as development of inland and marine fisheries, fish preservation, and utilization of fisheries byproducts, marketing and transport of fishery products, organization of fishermen's cooperatives, fisheries training and extension, and fisheries research and statistics were discussed. A meeting of the standing committee of the Indo-Norwegian fisheries project was held at Bombay in December 1956 and it was decided to establish a pilot project for the commercial exploitation of shrimp for purposes of export to the United States.

At the Central Inland Fisheries Research Station, Calcutta, there was all-round expansion in research activities and 33 trainees attended the training course. In addition, four trainees of the Philippine Fisheries Bureau and one from the Ceylon Fisheries Department were also given training in inland fishery work.

Exports of salted and unsalted dried fish and salted wet fish, during the year April 1, 1956-March 31, 1957 totaled 25,276 long tons valued at Rs.51 million (\$10.7 million) as compared to 20,505 tons worth Rs.38 million (\$8.1 million) in 1955/56. Ceylon, Burma, and Singapore were the principal importing countries of Indian dried

fish. Shipment of small quantities of frozen shrimp to the United States was started in 1955. During the first three months of 1957 exports to the United States totaled about 152 tons valued at Rs.733,972 (\$155,394). Unlike the small dried shrimp exported to Burma, exports to the United States were of selected types of larger shrimp.

Efforts were continued by the Government to organize multi-purpose cooperative societies to improve socio-economic conditions of fishermen and assist them to undertake cooperative fish marketing. (United States Embassy, New Delhi, October 11, 1957.)



Indonesia

FOREIGN TRADE IN FISHERY PRODUCTS, 1956: Indonesia's import trade in fishery products during 1956 totaled

Table 1 - Indonesia's Imports of Fishery Products, 1956

Country of Origin	QUANTITY				VALUE ^{1/}			
	Smoked Fish	Pickled Fish	Canned Sardines	Other ^{2/}	Smoked Fish	Pickled Fish	Canned Sardines	Other ^{2/}
	(1,000 Lbs.)				(US\$1,000)			
Thailand	-	42,733	-	3/38	-	1,787.0	-	3/1.6
Japan	-	241	10,377	941	-	15.0	578.5	56.8
Singapore	15	7,801	-	-	3.3	319.3	-	-
Hong Kong	-	6,836	22	30	-	382.2	1.6	2.2
Malaya	-	3,352	-	-	-	178.0	-	-
Netherlands	18	4/45	433	862	2.6	5/4.8	26.4	52.5
Rian Islands ^{5/}	-	761	-	-	-	72.1	-	-
China (Communist)	-	312	-	-	-	10.5	-	-
Indo-China	-	45	-	-	-	3.0	-	-
United States	-	-	42	-	-	-	3.2	-
Denmark	-	-	26	-	-	-	1.6	-
Total	33	62,126	10,900	1,871	5.9	2,792.0	611.3	113.1

^{1/} VALUES CONVERTED AT RATE OF 22.95 RUPIAH EQUAL US\$1.
^{2/} ALL OTHER FISHERY PRODUCTS AND FISH PRODUCTS MIXED WITH OTHER INGREDIENTS.
^{3/} PERLE AND KILAMIE.
^{4/} 23,000 POUNDS OF PICKLED FISH.
^{5/} US\$3,000 OF PICKLED FISH.
^{6/} PART OF INDONESIA BUT IN MALAYAN DOLLAR AREA.

close to 75 million pounds (valued at US\$3.5 million). The leading shippers of fishery products to Indonesia in 1956 were Thailand (57.1 percent), Japan (15.4 percent), Singapore (10.4 percent), and Hong Kong (9.2 percent). These four countries accounted for 92 percent of Indonesia's imports of fishery products (see table 1). The leading products imported were salted fish (82.9 percent) and canned fish (14.5 percent), with the balance made up of pickled, smoked, and fish preparations in combination with other foods.

The United States share in Indonesia's imports of fishery products was negligible and consisted of almost 42,000 pounds of canned sardines.

Fishery products exports from Indonesia in 1956 were quite light and consisted of only 2.4 million pounds of fresh fish (valued at US\$259,000). Of this total about 1.9 million pounds were shipped to Malaya and about 0.5 million to Singapore.



Irish Free State

EXPANSION OF SHARK FISHING FOR FISH MEAL PLANNED: The shark fishing industry along the west coast of Ireland is likely to be expanded. One firm, which anticipates a greater demand for fish meal, has been exporting considerable quantities of fish meal processed from sharks. Carcasses are transported from Irish Republic seaports to the company's plant at Lissue, near Lisburn (near Belfast). A new fish meal plant being built in Killybegs (County Donegal) will also process sharks.

Some 1,500 metric tons of shark are used each year by the Irish to manufacture fish meal and liver oil, but almost as many more are thrown back into the sea because of lack of demand.

Off Achill Island (a noted area for basking shark) where the sharks are caught in nets and speared to death, only 1 in every 3 carcasses goes for processing into meal. Once the liver has been removed the carcasses have been deemed worthless. Now, however, it is hoped to change this attitude when expansion of the fish meal industry comes into full operation. The shark-liver oil is exported to Great Britain and other European countries to be used chiefly in tanneries and for tempering steel.

Fishermen operating in Keem Bay, Achill, have welcomed the announcement. They claim they can provide all the sharks required. Sharks have been so numerous this season off Achill Island that crews have become selective in the types singled out for capture and liver extraction. (The Fishing News, August 30, 1957.)



Italy

MARKET FOR JAPANESE CANNED TUNA FAVORABLE: The current c. i. f. price in Italy of Japanese canned tuna in 7-oz. cans is approximately US\$7.20 a case of 48 cans. Recently the price was \$6.55 a case. Japanese light-meat tuna, the only type imported from Japan, is currently the least expensive in the Italian retail markets, and, because of this, has encountered considerable favor among the Italian consumers.

Through June 1956, the import of tuna from Japan was insignificant. Only 41 metric tons were sold in Italy during

the first half of 1956, but sales picked up during the second half of that year. Imports from Japan during the period July to December 1956 rose to 530 tons, or 6.5 percent of total canned tuna imports; during the first half of 1957 imports totaled 362.8 tons or 10.4 percent of total canned tuna imports.

Imports from Japan would probably have shown an even greater increase but for the quota imposed in line with the Italo-Japanese trade agreement and protection of the Italian fish canning industry.



Japan

BARTER OF CANNED SALMON FOR BRITISH ATOMIC POWER REACTOR PROPOSED: North Pacific mothership operators (led by a large Japanese fishing company) have asked the Japanese Ministry of International Trade and Industry to arrange the import of a British Calder Hall-type atomic power reactor in a barter exchange for 650,000 cases of canned red salmon to be exported to England this year. The Ministry replied unfavorably, to the effect that the British would probably not agree to such exchange for one year's exports alone, and since it appears that it will be difficult to get action on the request at the administrative level, a decision has been made to shift to negotiation at the political level. (Nippon Suisan Shimbun, Japanese periodical, July 31, 1957.)

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EXPORTS OF FISHERY PRODUCTS TO THE UNITED STATES, JANUARY-JUNE 1957: Exports of fish and fish preparations to the United States in May 1957 totaled 4,532 metric tons (valued at US\$3.3 million) and in June 1957 totaled 8,058 tons (valued at \$4.0 million). The total for the six months period ending June 1957 was 45,071 tons (valued at \$25.0 million) as compared with 43,894 tons (valued at \$23.7 million) for the similar period in 1956.

In addition, Japan exported to the United States in the first half of 1957 marine and fish oils valued at US\$2.0 million as compared with \$1.9 million in the first half of 1956.

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FOREIGN TRADE IN MARINE-ANIMAL OILS, 1955-56: Exports by Japan of marine-animal oils totaled 78,829 metric tons in 1956, an increase of 45 percent as compared with the 54,384 tons exported in 1955. The increase was due to a sharp rise in the exports of oils derived from whales, partially as a result of the increase in size of the Japanese Antarctic whaling fleet in 1956.

West Germany and the Netherlands were the largest importers of all types of Japanese marine oils in both 1956 and 1955. The United States was the most important importer of Japanese cod-liver oils in both 1956 and 1955. During 1956 and

Commodity	January-June 1957		January-June 1956	
	Quantity	Value	Quantity	Value
	Metric Tons	US\$ 1,000	Metric Tons	US\$ 1,000
Tuna, fresh or frozen	24,268	7,148	20,921	6,441
Tuna, canned	6,449	5,996	6,511	5,904
Crab meat, canned	1,458	3,543	1,199	2,716
Other canned fish .	4,853	4,862	5,593	4,838
Unclassified,	8,045	3,494	9,670	3,756
Totals	45,071	25,043	43,894	23,655

Type of Oil	Imports		Exports	
	1956	1955	1956	1955
..... (Metric Tons)				
Liver Oils:				
Cod	9	13	2,684	5,073
Shark 1/	45	-	803	-
Other fish	69	31	475	1,656
Body Oils:				
Fish	4	-	563	2,549
Whale 2/	13	-	60,955	45,106
Sperm 3/	-	-	13,349	-
Total	140	44	78,829	54,384

1/ INCLUDED IN "OTHER FISH-LIVER OILS" IN 1955.
 2/ FROM BALEEN WHALES.
 3/ EXCLUDING OIL FROM BALEEN WHALES.

1955 the United States received about 12 percent of Japanese exports of marine-animal oils.

Japan is primarily an exporter of oils derived from marine animals. Small quantities of crude fish oils were imported from South Korea and Taiwan. Imports into Japan from all sources in 1956 were only 140 metric tons and 44 tons in 1955. Imports were practically all liver oils (fish, shark, and cod). (United States Embassy in Tokyo dispatch dated April 18, 1957.)

Country	Cod-Liver Oil ^{1/}		Shark-Liver Oil ^{2/}		Fish-Liver Oil ^{1/}		Fish Oil ^{3/}		Whale Oil		Sperm Oil ^{4/}		Totals	
	1956	1955	1956	1955	1956	1955	1956	1955	1956	1955	1956	1955	1956	1955
..... (Metric Tons)														
West Germany	4	-	-	-	-	-	563	2,038	22,539	29,688	1,560	-	24,666	31,726
Netherlands	54	21	100	-	15	220	-	511	21,688	-	1,999	-	23,856	752
Canada	45	87	91	-	30	182	-	-	-	-	-	-	166	269
Norway	337	579	350	-	20	452	-	-	-	-	-	-	707	1,031
United States	2,101	4,244	102	-	244	552	-	-	-	6,614	9,787	-	12,234	11,410
United Kingdom	13	2	21	-	34	47	-	-	16,728	-	3	-	16,799	49
Sweden	14	19	-	-	17	26	-	-	-	8,804	-	-	31	8,849
All Other	116	121	139	-	115	177	-	-	-	-	-	-	370	298
Total	2,684	5,073	803	-	475	1,856	563	2,549	60,955	45,106	13,349	-	78,829	54,384

1/ MOSTLY CRUDE OIL.
 2/ INCLUDED IN FISH-LIVER OIL IN 1955.
 3/ IN 1955 SMALL QUANTITY OF MARINE MAMMAL OILS INCLUDED.
 4/ INCLUDED WITH WHALE OIL IN 1955.

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NORTH PACIFIC KING CRAB MEAT PACK AS OF AUGUST 1957: As of the end of August the five Japanese factoryship fleets operating in the North Pacific Ocean had packed 404,250 cases (48 6½-oz. cans). As of August 31, 1956, only 377,000 cases were packed and the final 1956 pack totaled 427,350 cases. The quota for the 1957 season was 337,000 cases. The factoryships fishing in the Okhotsk Sea (4-fleets) and the Bering Sea (1-fleet) ended the season in August, according to the September 1957 "Monthly Report of Fisheries Statistics" of the Japanese Fisheries Agency.

In addition to the factoryship operations, there will be additions to the final pack of crab meat from the shore-based crab fishery off Hokkaido. Based on the August 31, 1957, factoryship pack of 404,250 cases plus the Hokkaido shore-based pack, the total 1957 crab meat pack will be substantially higher than preliminary estimates of 400,000 cases from all sources made at the beginning of the 1957 season.

NOTE: SEE COMMERCIAL FISHERIES REVIEW, JULY 1957, P. 25.

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TUNA FISHING IN MARQUESAS AREA: For the first time a Japanese tuna long-line vessel fished off the Marquesas Islands. The No. 1 Seiju Maru sailed from Shimizu, Japan, on August 5 for the Indian Ocean, but receiving reports that the fishing was not very good there, it changed course completely and cut across the Pacific on a southeasterly course to a ground 800 miles east-northeast of the Marquesas Islands, around 2° S., 121° W. This is the first time a Japanese tuna boat has fished so close to South America.

At first the fishing was not so good, only about 4 tons a day, but the catch gradually picked up and lately has run about 14 tons a day, which is good for a vessel of

this class. The fishing was good for yellowfin and big-eyed tuna. The vessel was scheduled to fish about 70 more days and was expected to return to port early in December 1957. The area cannot be said to be an especially good fishing ground, and the operators are worried about how the fishing will hold up.

The area has been pointed out by United States biologists as a promising tuna ground because of differences in the surface and deeper currents. The attention of Japanese vessel operators has been attracted to the area. It is a completely unknown ground, but depending on fishing results, some vessels may work there, since in straight-line distance it is closer to Japan than the Indian Ocean. The area has no fueling bases, as the Indian Ocean area has, and because it is close to the American mainland the feeling of vessel operators is that they would rather land fish from the area in South America than bring them back to Japan. (Nippon Suisan Shim-bun, September 27, 1957.)

JAPANESE GOVERNMENT



Malaya

TUNA FISHING FIRM TO BE FORMED WITH JAPANESE AID: An agreement has been arranged with a Japanese fishing firm for technical assistance and advice in establishing a M\$2 to \$5 million (US\$730,000-\$1,800,000) tuna fishing venture, the Malayan Minister of Agriculture announced following a visit to Japan. He stated that two 300-ton tuna fishing vessels would be sent from Japan, probably to fish out of Penang or the Province of Wellsley. The venture will be financed by private capital and Malayan cooperatives would be encouraged to buy shares.

It is believed that the new firm's vessels will fish in the Indian Ocean and off the coast of Borneo, with the catch processed at a proposed cannery to be built in Penang. As most Malayan fishermen are inexperienced in deep-sea fishing and are reported to be reluctant to spend more than a few days at sea, the fishing vessels will initially be manned by Japanese crews (United States Embassy in Kuala Lumpur, dispatch dated October 11, 1957).



Mexico

CERTAIN FISHERY PRODUCTS PLACED UNDER IMPORT CONTROL: The Mexican list of commodities subject to prior import permit has been increased by the Ministry of Economy, and includes the following fishery items (tariff classification number in parentheses):

(043.00.00) Anchovies and pastes thereof, preserved.

(043.00.97) Foods containing fish, crustaceans or mollusks, hermetically packed, not specified.

(043.00.98) Crustaceans or mollusks, preserved, not specified.

(043.00.99) Fish, preserved, not specified.

The above items were added to the list of commodities under import control effective September 13, 1957.

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FISH CANNING TRENDS: As of the end of September 1957 there were seven major canneries operating in Ensenada, Baja California, processing a variety of fishery products and representing an investment of over 50 million pesos (US\$4 million). The largest cannery destroyed by fire in December 1956 has been rebuilt and is now operating at capacity. This plant is reported to have a maximum daily raw material capacity of 450 metric tons.

The suspension of letters of credit by United States banks for importers to Singapore and Taiwan raised some fears that the market for canned products in the Far East would disappear.

A campaign to stimulate the consumption of more canned fishery products in Mexico has been started, a dispatch dated October 7, 1957, from the United States Consul in Tijuana states.

NOTE: ALSO SEE COMMERCIAL FISHERIES REVIEW, JULY 1957, P. 28 AND MARCH 1957, P. 49.

MEXICO SHRIMP INDUSTRY: Landings: The 1956 Mexican shrimp landings, about 27,000 metric tons headless weight, were the largest on record. These were about 1,000 tons more than the 1955 landings which, in turn, were about 6,000 tons greater than during 1954. Increased production during 1955 and 1956 resulted primarily from: (1) an excellent harvest of shrimp along Mexico's Pacific Coast during the fall and winter of 1955/56; (2) an increase in the number of Mexican shrimp trawlers in the Gulf of Mexico; and (3) an increase in export demand and prices for the smaller sizes of shrimp.

Table 1 - Mexican Shrimp Landings, 1/ 1955, 1956, Jan.-June 1957

Year	Pacific Coast		Gulf of Mexico		Total
	..... (Metric Tons)				
1957 (Jan.-June)	5,918	3,621	9,539		
1956	17,887	9,080	26,967		
1955	18,114	7,824	25,937		

1/MOSTLY RAW HEADLESS, ALTHOUGH SOME RAW WHOLE, DRIED WHOLE, AND DRIED PEELER ARE INCLUDED.

For the first six months of 1957, Mexican shrimp landings were only about 77 percent of those for the same period in 1956. Gulf Coast landings were about the same for these two periods. The big drop occurred on the Pacific Coast where landings were only about two-thirds those during January-June 1956.

The percentage distribution of the landings has gradually been rising on the Gulf Coast owing to: (1) an increase in the number of shrimp trawlers in that area and (2) a decrease in the Pacific Coast catch.

Table 2 - Percentage Distribution of Shrimp Landings Between Pacific and Gulf Coasts of Mexico

Year	Percentage of Total Landings	
	Pacific	Gulf
	..... (Percent)	
1957 (Jan.-June)	62.0	38.0
1956	66.3	33.7
1955	69.8	30.2

The only available records as to sizes and species of shrimp landed in Mexico are those of a sample from Ciudad del Carmen taken by commercial trawlers and consisting of about 56 metric tons of headless shrimp covering the entire period from January 1 to June 30, 1957. In this sample, by weight, 39.2 percent were white shrimp (*Penaeus setiferus*), 18.3 percent were brown (*P. aztecus*), and 42.5 percent were pink (*P. duorarum*).

The brown shrimp averaged larger than the white and the white larger than the pink. About 76 percent of the browns, 47 percent of the whites, and 13 percent of the pinks were 25 count or under (headless) to the pound.

Table 3 - Shrimp Landings 1/ by Months, 1956 and January-June 1957

Month	Pacific Coast		Gulf of Mexico		Total	
	1957	1956	1957	1956	1957	1956
	..... (Metric Tons)					
January ..	1,232.9	2,843.7	482.3	606.8	1,715.1	3,450.5
February ..	883.2	1,724.1	752.7	664.0	1,635.9	2,388.1
March	1,646.8	1,133.6	184.1	452.2	1,830.9	1,585.8
April	539.8	485.0	618.9	555.6	1,158.7	1,040.6
May	432.5	976.9	813.9	671.6	1,246.4	1,648.5
June	1,182.7	1,483.0	768.8	784.3	1,951.5	2,267.3
July	-	1,002.8	-	899.9	-	1,902.7
August ...	-	994.4	-	988.4	-	1,982.8
September	-	2,147.7	-	869.9	-	3,017.6
October ..	-	2,148.8	-	1,019.9	-	3,168.7
November.	-	1,504.1	-	772.5	-	2,276.6
December.	-	1,442.3	-	795.1	-	2,237.5
Total:						
12 Months	-	17,886.5	-	9,080.2	-	26,966.7
Jan.-June	5,917.9	8,646.4	3,620.7	3,734.5	9,538.6	12,380.9

1/MOSTLY RAW HEADLESS, ALTHOUGH SOME RAW WHOLE, DRIED WHOLE, AND DRIED PEELER ARE INCLUDED.

Ex-vessel prices for shrimp in Mexico are based on current prices in the United States. In the Carmen area the general practice for noncompany-owned boats is to pay ex-vessel 14 to 15 cents U. S. currency per pound less than the going primary-wholesaler price in Brownsville for packaged frozen shrimp. It is reported that in some places on the Pacific Coast this differential may reach as high as 30 cents a pound. Liquidation is generally made on pack-out weight.

Table 4 - Size Distribution of a Sample 1/ of Ciudad Del Carmen Shrimp Landings in Percent

Number of Heads-Off Per Pound	Percentage of Total Landings		
	White	Brown	Pink
	..... (Percent)		
15-20	21.7	55.0	2.0
21-25	24.9	20.9	10.9
26-30	23.5	11.5	20.3
31-35	4.0	4.9	8.1
36-42	21.0	6.3	35.5
43-50	4.8	1.4	13.8
51-65	-	-	9.5
Total	99.9	100.0	100.1

1/ABOUT 56 METRIC TONS OF HEADS-OFF SHRIMP TAKEN BY COMMERCIAL TRAWLERS JANUARY 1, 1957-JUNE 30, 1957.

Vessels: In six months between March 15, 1957, and September 15, 1957, the Mexican shrimp trawler fleet increased by more than 20 percent--117 boats were added to the Gulf fleet and 47 to the Pacific fleet. The Gulf fleet increased by about 38 percent and the Pacific by about 10 percent.

Table 5 - Mexican Shrimp Fleet

	September 15, 1957		March 15, 1957	
	Trawlers	Freezers	Trawlers	Freezers
	..... (Number)			
Operated by Cooperatives				
Under Contract with Owners: 1/				
Pacific Coast	485	2/4	458	2/4
Gulf Coast	415	-	301	-
Cooperative-Owned:				
Pacific Coast	40	-	20	-
Gulf Coast	10	-	7	-
Total	950	2/4	786	2/4

1/ONLY LEGALLY-RECOGNIZED COOPERATIVE FISHERMEN ARE PERMITTED TO CATCH SHRIMP IN MEXICO. BOATS NOT OWNED BY COOPERATIVES ARE OPERATED BY COOPERATIVES UNDER CONTRACT WITH OWNERS.
2/AT LEAST TWO ARE TRAWLER-FREEZERS.

There appears to be no slackening in the construction of shrimp trawlers in Mexico. It is anticipated that Mexico will have at least 1,000 trawlers by the end of 1957. Construction and acquisition rates are greater on the Gulf than on the Pacific and the difference in the size of the fleets on the two coasts is rapidly diminishing. On March 15, 1957, there were 308 trawlers in the Gulf and 478 in the Pacific. On September 15, 1957, there were 425 trawlers in the Gulf and 525 in the Pacific.

The tendency is towards larger trawlers. Steel vessels are becoming more and more popular on the Pacific. The cost of producing steel trawlers in Mexico is somewhat under that for wooden.

There are four shrimp freezer vessels operating on the Pacific Coast of Mexico and none on the Gulf. Buy boats are not used in Mexico. The transport vessels, of which there are four, are not under Mexican registry. These vessels are used to transport frozen shrimp from ports on the Mexican Gulf coast to ports in the United States, usually Brownsville, Texas, and New Orleans, Louisiana.

Fishermen: There are an estimated 5,850 fishermen working full time aboard the Mexican trawler fleet. About 2,125 are aboard trawlers in the Gulf and 3,725 in the Pacific. In addition, there are about 5,500 fishermen working part time in the bays and lagoons along the West Coast and another 1,200 in the Gulf. In all, it is estimated that there are about 12,550 part- and full-time shrimp fishermen in Mexico. About 9,225 are in the Pacific and 3,325 in the Gulf.

Freezing and Canning Plants: There are 36 shore freezing plants in Mexico operating full- or part-time on shrimp. It was expected that the 37th plant in Coatzacoalcos, Veracruz, would be in operation by the end of October. This plant has a freezing capacity of 20,000 pounds daily and a storage capacity for 125,000 pounds.

There are 22 freezing plants in operation on the Pacific Coast and 14 on the Gulf of Mexico. Total daily freezing capacity is estimated at 750,000 pounds of which 450,000 is on the Pacific and 300,000 on the Gulf.

There are seven canneries, all on the Pacific, that operate part-time on shrimp. Another shrimp cannery is reported to be under construction in southwest Mexico. The pack, which is entirely wet pack, is estimated at about 25,000 cases a year, though this is highly variable depending on the runs of small shrimp and the price paid for competing sizes for freezing.

Types of Products and Packaging: By far the greater amount of frozen shrimp produced in Mexico is packaged in the 5-pound institutional pack. Most of this is headless, but some are peeled, or peeled and deveined. However, 3-pound and 2½-pound cartons of headless, peeled, and peeled and deveined are also produced as well as 12-, 10-, and 8-ounce consumer packages. There appears to be a trend towards producing more of the smaller size packages and more peeled and deveined shrimp.

Number of Employees: About 2,500 part- and full-time workers are employed in the freezing plants and another 350 in the canneries.

Fishing Seasons--Pacific Coast: The open fishing season for shrimp on the Pacific Coast for the inshore bays, estuaries, and lagoons is from September 1 through April 15 the following year. In southern Sinaloa and in Nayarit where "tapo" or weir fishing is permitted, inshore fishing, although permitted until April 15, generally stops around the first of December owing to scarcity of shrimp.

Trawling for shrimp is prohibited in all inshore waters of Mexico. In offshore waters along the Pacific Coast from Baja California through Nayarit, trawling is prohibited from March 16 to April 15. This closed season may be extended until May 15 depending upon the proportion of spawning shrimp appearing in samples taken by officials of the Bureau of Fisheries and Allied Industries. In 1957 the closed season lasted until May 15. It is probable that the 1958 closed season will be for two months also.

There is no closed season for trawling for shrimp in offshore waters south of the State of Nayarit.

Exports of Shrimp: Mexico's shrimp exports are principally frozen shrimp to the United States. In 1956 Mexico exported about 24,798 metric tons of frozen, 87 tons of fresh or iced, 34 tons of dried, and 1 ton of canned shrimp. During 1955, 1956, and the first six months of 1957, over 99.8 per cent of frozen shrimp exports and, during the last two periods, all of the fresh or iced shrimp exports were shipped to the United States.

Table 6 - Mexican Shrimp Exports, 1955-56 and January-June 1957

Product and Country of Destination	Jan. -June 1957	1956	1955
	..... (Metric Tons)		
Frozen:			
United States	8,702.0	24,746.6	20,539.6
Canada	-	19.1	20.1
Cuba	-	-	1/
Guatemala	6.0	10.0	4.9
Japan	-	22.7	-
Puerto Rico	-	-	10.3
Total	8,708.9	24,798.4	20,575.0
Fresh or Iced:			
United States	2.6	86.9	52.2
Guatemala	-	-	0.9
Total	2.6	86.9	53.1
Dried (with or without shell):			
United States	1/	0.2	1/
El Salvador	-	-	1/
Guatemala	-	33.6	1/
Japan	-	1/	1/
Panama	-	-	1/
Total	1/	33.8	1/
Canned:			
United States	-	-	1.1
British Honduras ..	1/	-	-
Guatemala	1/	1.4	1.8
Italy	-	1/	-
Spain	-	-	1/
Switzerland	-	-	0.2
Total	1/	1.4	3.0
Grand Total	8,711.5	24,920.5	20,631.1

1/LESS THAN 100 POUNDS.

About 34 metric tons of dried shrimp were exported in 1956. Most of this went to Guatemala.

Canned shrimp exports have been insignificant in recent years. Less than 1.5 tons were exported during 1956, mostly to Guatemala.

Outlook for Pacific Coast Landings: The 1955/56 fall and winter catch of shrimp on Mexico's west coast was the best in years. The 1956/57 catch was good but considerably below that of the previous season. The 1957/58 crop was just beginning to appear on the fishing grounds and it was too early to estimate accurately their abundance. The bay season opened in the Pacific on September 1 and from advance reports it appeared that a catch, much larger than last year's, was in evidence. The Topolobampo freezer was reported flooded with shrimp and many were being dried. In the first two weeks of this season, La Reforma landings were considerably ahead of those for the entire season last year, which was almost a complete failure for that area. The "tapo" or weir catches south of Mazatlan were reported to be running considerably ahead of last season's.

The trawlers were optimistic. They expected good catches when the season got into full swing in October.

Outlook for Gulf Landings: Although there is a tendency for the Gulf landings to rise during summer, the seasonal pattern of the shrimp catch is not nearly so pronounced as in the Pacific. Fishermen in this area were pessimistic. Even with many more boats than last year, the total catch was running about the same. Individual boat catches were down. It is not anticipated that there will be much change during the remainder of 1957. It is too early for a 1958 prediction.

Domestic Consumption: With a favorable bay crop in the Pacific, it looked like Mexico would have more dried and canned shrimp available for local consumption in 1957 than in 1956. The local fresh and frozen markets were expected to

remain about the same although some slight increase in local sales might occur. The market and sales prices are controlled primarily by export demand, which continues excellent.

Export Outlook: 1957 exports were expected to continue under the total for 1956, unless an excellent catch of shrimp was produced on the Pacific Coast this fall and winter. Early indications were that the West Coast would have a better than average run of shrimp for the remainder of the year.

It is much too soon to hazard a guess at 1958 exports. Mexico's catch and exports no longer depend on fishing and freezing facilities. There is a sufficiency, if not an overabundance, of both. Spawning success of the shrimp stocks and the United States market are now the controlling factors. (United States Embassy despatch from Mexico City dated September 27, 1957.)

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WEST COAST SHRIMP INDUSTRY DAMAGED BY STORM: Although the amount of damage to the Mazatlan shrimp industry from the hurricane of October 21 varies somewhat according to the source of the information, it is evident that the shrimp fleet of 182 vessels suffered serious losses. Damage to shore-side freezers and plants was not as serious as reports indicated.

Newspaper reports of October 29 stated that damage to the Mazatlan shrimp industry would amount to US\$8-9.5 million. It was reported that 40 shrimp trawlers were completely destroyed, 36 vessels seriously damaged, and 20 more slightly damaged. In addition, the four freezing plants were unable to freeze any shrimp and the freezers in Culiacan, Topolobampo, and other nearby ports had to be utilized. A later article by the same newspaper stated that the Mexican Minister of Marine reported that various accounts of the damage were contradictory and to arrive at the truth a careful investigation was under way.

Industry spokesmen have stuck to their figures of the losses to the shrimp fleet, but have stated that accounts of damage to processing and freezing plants were exaggerated. Actually only one plant was badly damaged and that two of the plants were back in operation. The major shipyard in Mazatlan was badly damaged and the slipways blocked by a grounded freighter. It is estimated that between the date of the hurricane and the end of the year there would be a loss of 2,000 metric tons in shrimp landings. Other sources of information estimated that the loss in shrimp landings would not exceed 1,000 tons, an October 30 dispatch from United Embassy in Mexico City reports.



Norway

BUILDING OF LARGER FISHING VESSELS URGED BY GOVERNMENT: A conversion to bigger and more modern fishing vessels for the Norwegian fishing industry is being urged by the Norwegian Fisheries Minister. In a talk at Norway's west coast port of Aalesund, he said such a move was essential to facilitate participation in offshore and ocean fisheries. He also stressed the need for reducing the number of fishermen and for changing operating methods. The government spokesman, moreover, suggested that the question of vacations for year-around fishermen should be considered.

The Minister said many factors accounted for the low earnings of fishermen. Prices in general have gone up and technological development of the fisheries, though necessary, is very costly. In regard to the important cod fisheries, modernization has failed to produce bigger catches. In recent seasons, both the cod and the fat herring fisheries have failed, more or less. At the same time, Norwegian fish and fish products are meeting keen competition in foreign markets.

Norway has some 7,500 full-time fishermen and nearly 70,000 part-time fishermen. Fish exports are valued at about Kr.700 million (US\$98 million) a year, or one-fifth of Norway's total exports.

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DEMAND FOR HERRING FILLETS FROZEN IN ALGINATE JELLY INCREASES:

The freezing of herring fillets in alginate jelly was introduced as a new product by a Norwegian firm in 1956 with the export of 200 metric tons to West Germany. In 1957 the same firm expects to export 400 tons. The herring fillets in alginate jelly have been well received, due to their superior keeping quality, as compared with the usual ice-glazed fillets.

When treated with the alginate jelly, the fillets are protected by a protective film that is practically impervious to air and thus dehydration. Fillets treated in this way retain the original fresh fish luster to a high degree. Tests have demonstrated that fillets coated with alginate jelly have retained their quality after 12 months of storage. Without the alginate, herring fillets become discolored and develop an off-flavor after a few months of cold storage (Norwegian Fishing News, no. 3, vol. IV, 1957).

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FISHERIES TRENDS, THIRD QUARTER 1957: On the whole returns from Norwegian fisheries reported in the third quarter of 1957 were fairly good as compared to the third quarter of 1956. However, fishing after the first half of the year is always of minor importance (about 80 percent of the total catch is landed in the first six months of the year). Accordingly, the third quarter's results will not counteract appreciably the poor winter and spring catches, an October 14, 1957, despatch from the United States Embassy in Oslo states.

The catch of cod and other groundfish from the major fishing grounds during the third quarter rose from about 50,000 metric tons in 1956 to about 70,000 metric tons in 1957. Only 29,600 metric tons of fat and small herring were caught during July-September 1957 as compared with 48,700 metric tons during the corresponding period in 1956.

After several years of very poor catches, the 1957 brisling herring season has been very encouraging. As of July 20 this year, the total canned pack of brisling sardines amounted to 412,000 cases, against only 108,000 cases as of the same date in 1956. A normal year's total pack amounts to about 500,000 cases, a level which may well be reached this year.

Herring fishing off Iceland for salting, which started July 5, was ended in September with a total production of 181,000 barrels of salted herring, compared with 193,000 barrels during 1956. All the salted herring has been sold. Sweden, the main buyer, took 110,000 barrels.

Encouraging results from the experimental herring fishing off Iceland for the fish oil and meal industry point to the possibility of expansion in this branch of the fishing industry. Only a very few vessels went to the Iceland grounds for this purpose this year. However, interest has been developed to such an extent that Farmand, a commercial weekly, reports that as many as 200 or 300 purse-seine fishing vessels may

participate next year. Conservatively estimated, on the basis of this year's results, if 150 vessels participate next year, the oil and meal industry will be supplied with an extra 55,000 metric tons of fish.

With rising operating costs and declining fish prices, the cod fishermen claim that they are not receiving a proportionate share of the general rise in the standard of living. During past boom years, export taxes were levied on high-priced cod and other fish and fish products and accumulated in a fish price regulation fund. It seems probable that this fund may be exhausted by the end of the year through its use in maintaining price levels higher than market prices. Accordingly, the fishermen have turned to the Government for financial support. A price regulation fund for herring also exists. However, prices paid from the fund to the herring fishermen have been kept in line with prices obtained in world markets. There has been no consequent drain on the fund and no special demands have been made on the Government from the herring fishermen.

The cod fishermen through their marketing association (Norges Raafisklag) issued demands upon the Government in July, the principal demand being for a guaranteed minimum price for fish. In September, at a meeting between the Government and a five-man delegation from the fishermen, the Government refused to take a position on this matter. However, with the consent of the fishermen, it appointed a committee under the chairmanship of the Director of the Bank of Norway, which is to submit a proposal for a permanent solution of the problems with which the fishing industry is faced. Its proposals are expected to be presented in the summer of 1958. At the same time the Government stated that it would assist the fishermen by extending until the end of the year a temporary fish price increase originally made effective until October 1, 1957. It also offered to reduce the price of fuel oil to the fishing fleet after the end of the year.

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GAS HARPOON TRIED OUT ON WHALES: The Norwegians are reported to have developed a whaling harpoon with a shell that releases 2.5 cubic feet of carbonic acid gas after entering the body of the whale. This new gas harpoon was due to be tested off Iceland. The gas released from the shell spreads rapidly through the body of the whale and kills the whale in two seconds. The gas then causes the whale to float to the surface without the necessity of pumping air into the body. (Fisheries Newsletter, Australian Commonwealth Director of Fisheries, September 1957.)

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SCIENTIST EXAMINES EFFECTS OF 12-MILE TERRITORIAL WATERS LIMIT ON FISHERIES: The effects of a 12-mile international fishery boundary or territorial waters limit on the Norwegian fisheries are examined by Birger Rasmussen, Research Scientist with the Norwegian Directorate of Fisheries Ocean Research Institute. He points out the following effects on Norwegian fisheries:

The herring fishery off Iceland would under normal conditions probably be reduced about 50 percent. However, the fishery occurs today, because of nature's whims, a long way from Iceland's coast. An extension of territorial waters to 12 nautical miles would, therefore, not make an immediate reduction in the Norwegian herring fishery off Iceland. The reduction mentioned is calculated on the basis that the fishery in the future would take place in the old area.

The line fishery off Iceland would be reduced about 10 percent.

The cod fishery off Greenland would be affected very little by an eventual 12-mile boundary. The reduction is estimated at about 10 percent of the volume. The Norwegian dogfish

fishery off the Shetland Islands in Scotland would be significantly reduced, probably by 50 percent.

Trawling for brisling off Skagen in Denmark will be greatly affected. The probable reduction is estimated to be 50 percent. The seal fishery off Newfoundland would be very greatly affected, with the reduction placed at 75 percent.

For the dogfish fishery off the Shetland Islands, the trawling for brisling in the Kattegatt, and the seal fishery off Newfoundland, territorial limits or fishery boundaries of 6 and 8 nautical miles would mean less of a loss to Norwegian fisheries than a 12-mile boundary.

If other countries' territorial waters were increased to 12 nautical miles, the Norwegian fisheries would suffer a total loss of 17,500 metric tons valued at about 15 million Norwegian kroner (US\$2.1 million). This is a reduction in the Norwegian fishery off other countries' coasts of about 25 percent. Including the Norwegian fisheries off the coasts of other countries outside the 12-mile zone, on the high seas, and the Norwegian coastal fisheries, an international 12-mile territorial waters zone would mean that the volume and value of the Norwegian catch would drop 10 percent.

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WHALING INDUSTRY TRENDS: A dispute over wages plus the percentage share of estimated earning profits which the officers and crews of Norway's Antarctic whaling fleet should receive continued for many weeks. It was resolved temporarily on October 15, 1957, with the appointment of a Compulsory Wage Board. Following this development the officers and crews agreed to man their ships and leave for the Antarctic whaling grounds. The dispute had delayed the departure of three expeditions planning on early season sperm whaling. Whether or not the delay in departure of the expeditions will affect the 1957/58 production remains to be seen. Prior to this settlement the engineering officers had agreed to an average increase of 3.4 percent (engineers aboard catcher boats received up to 8 percent). Deck officers and crewmen rejected an offer of a 3.4-percent increase.

The Norwegian whaling industry was pleased that the October 3, 1957, deadline had passed without any objections raised by the parties attending the International Whaling Convention in London to the 14,500-blue-whale-unit quota. This is the same total that was allotted for the previous 1956/57 season.

In the early part of October the remaining stocks of 20,000 metric tons of whale oil were sold for £75 (US\$210) a ton. The average price received for the 1956/57 production was close to £85 (US\$238) a ton, or about the same as the 1955/56 average price.

Norway's production of 904,453 barrels (about 6 barrels to the ton) of whale oil for the 1956/57 season was very good as compared with 720,013 barrels for the 1955/56 season. The production of sperm oil in the 1956/57 season of 99,241 barrels was lower by 33,228 barrels from the 1955/56 season. Prices for sperm oil, however, were better, £80 (US\$224) in 1956/57 as compared with £71 (about US\$199) a ton the previous season.

Nine Norwegian factoryships, assisted by 94 catcher vessels, will operate during the 1957/58 whaling season. This is the same number as last winter. However, the Norwegian land station at Husvik Harbor, South Georgia, which in 1956/57 operated 7 catchers, has now been discontinued.

Approximately 6,700 Norwegians will be engaged in Antarctic whaling during the next 5-6 months, or about 600 fewer than in the previous season. Some 4,400 man Norwegian expeditions and 2,300 serve aboard foreign flag vessels.

The 150,000 tons (904,453 barrels) of whale oil produced by Norwegian expeditions last season were sold for Kr. 255 million (US\$35.7 million) while 16,600 tons

(99,241 barrels) of sperm oil, plus byproducts, grossed Kr. 29.7 million (US\$4.2 million), to make a grand total of Kr. 284,700,000 (US\$39.9 million).



Panama

OPERATION OF FOREIGN VESSELS IN TERRITORIAL WATERS PERMITTED: The Director of the Consular and Shipping Section of the Ministry of Finance and Treasury stated informally that the Government of Panama does not prohibit the operation of foreign vessels within its territorial waters. The Government does, however, require compliance with provisions in its national navigation regulation. This regulation requires each foreign vessel to obtain a special navigation license from the Ministry of Finance and Treasury and to maintain on board the vessel, for the duration of validity of the license, a regular Panama customs inspector. The special license, which is valid for a period

of 90 days, may be renewed indefinitely for successive periods of 90 days each.

The Director also stated that foreign vessels operating within the jurisdiction of Panama for extended periods in excess of six months do not automatically become subject to Panamanian registry. However, some shipowners find that it is desirable to apply for Panamanian registry. Such procedure, he added, eliminates the requirement to renew the licenses every 90 days, as well as the necessity for maintaining a customs inspector on board, an October 16, 1957, dispatch from the United States Embassy in Panama states.

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SHRIMP FISHERY: Landings: No official records of shrimp landings are kept. From estimates of local consumption and exports of frozen peeled and deveined and unpeeled frozen headless, it is believed that landings during 1956 were about 8 million pounds, headless weight.

Exports: All exports of frozen shrimp, other than an estimated 100,000 pounds a year sent to the Canal Zone, are to the United States. Almost 6 million pounds of frozen shrimp were shipped to the United States in 1956. Between 15 and 20 percent was peeled and deveined. Exports to the United States in 1957 were expected to reach about 8 million pounds.

Year	Metric Tons	Percentage Increase Over 1954
1956 . . .	2,711.3	46.6
1955 . . .	1,919.8	3.8
1954 . . .	1,849.6	-

Developments and Outlook: The most striking change in Pan-

ama's shrimp fishing between November 1955 and June 1957 was the increase in the number of trawlers. In 1955 there was an estimated 90 trawlers and in mid-June 1957 there were 157 in operation and 50 under construction. The average trawler size is increasing. In 1955 the average was about 50 feet over-all length. The newer boats are now 60 feet.

All plants have expanded their facilities and capacities. Estimated daily freezing capacity (10-hour day) was 45,000 pounds in 1955. It is now about 90,000 pounds. Two plants have glucose-brine freezers; one with a continuous process can handle 2,000 pounds of individually-frozen tails an hour. Greater emphasis is being placed on peeling and deveining the smaller-size shrimp than in 1955. A project to rear shrimp in ponds is being sponsored by the Food and Agriculture Organization.

The rapid increase in number of boats, which began about mid-1956 and is expected to reach 200 in operation by January 1958, is causing considerable concern amongst the present boat owners. They are anticipating an appreciable decline in the catch per individual boat. They are already experiencing difficulty in obtaining suitable crews.

With the equipment now available and in the offing, Panama will soon be approaching maximum productivity of white shrimp. With the increase in boats and processing facilities, the landings and exports of pink shrimp should increase, providing the runs, which come between January and April, are as good as they have been the past two years. Fishing in waters deeper than now fished might produce

pink shrimp throughout the year. This has not yet started. At present when the pink shrimp runs occur, the plants sometimes become swamped and the boats are frequently placed on limits or required to behead the catch at sea.

In 1958 Panama shrimp exports can be expected to be as large as and probably greater than those for 1957. (United States Embassy dispatch from Mexico City, dated September 27, 1957.)



Peru

SHRIMP FISHERY: There was no appreciable change since 1955 in Peru's shrimp fishery and none is expected. Peru's shrimp fishery is limited by environmental conditions to a narrow strip of coast extending south about 30 miles from the Ecuadoran border. Probably most of the shrimp taken in Peru are migrants from the Gulf of Guayaquil. (United States Embassy dispatch from Mexico City dated September 27, 1957.)



Philippines

CANNED FISH PRICES, OCTOBER 1, 1957: Retail and wholesale prices on October 1, 1957, for canned sardines and canned salmon in Manila were:

Product	Wholesale		Retail	
	Canned Sardines: (48 15-oz. Cans)		Canned Salmon: (48 16-oz. Cans)	
	US\$/Cs.	U. S. ¢/Can	US\$/Cs.	U. S. ¢/Can
U. S. brand	Not quoted	38	31.50-32.00	70-73
Japan brand	10.80-11.00	20-25	31.75-32.00	63-73



Portugal

CANNED FISH PACK, JANUARY-JUNE 1957: The total pack of canned fish for January-June 1957 amounted to 15,508 tons as compared with 5,809 tons in the similar period of 1956. Canned sardines in oil (6,545 tons) accounted for 42.2 percent of the January-June 1957 total pack, much higher than the pack of 1,204 tons for the same period in 1956. For the first 6 months of 1955 the total pack of all canned fish amounted to 9,897 tons (5,779 tons was sardines in oil).

Product	Net Weight	Canners' Value
	Metric Tons	US\$ 1,000
In Olive Oil:		
Sardines	6,545	2,921
Sardinelike fish	3,557	1,834
Anchovy fillets	1,613	1,626
Tuna	972	710
Other species (incl. shellfish)	430	261
In Brine:		
Sardinelike fish	2,106	568
Other species	285	70
Total	15,508	7,990

The Portuguese pack of canned sardines in oil amounted to 2,156 metric tons during June 1957. The pack of all canned fish in June 1957 amounted to 6,305 tons, the October 1957 Conservas de Peixe reports.

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CANNED FISH EXPORTS, JANUARY-AUGUST 1957: For the first eight months of 1957, canned fish exports amounted to 30,886 tons, valued at US\$19.1 million. Sardines in olive oil exported during the first eight months of 1957 amounted to 19,927 tons, valued at US\$12.1 million (Conservas de Peixe, October 1957).

During January-August 1957 the leading buyers of canned fish were: Italy 5,549 tons (valued at US\$3,368,834), Germany 4,535 tons (US\$2,737,217), Great Britain 3,263 tons (US\$1,955,478), the United States 2,690 tons (US\$2,298,295), and France 2,299 tons (US\$1,443,373). These countries purchased 59 percent of the quantity and 62 percent of the value of all Portuguese exports of canned fish. Exports of sardines in olive oil for the first eight months of 1957 to the United States amounted to 1,093 tons (valued at US\$881,634), and 1,204 tons of anchovies (valued at US\$1,200,347).

Portuguese Canned Fish Exports, January-August 1957		
Product	January-August 1957	
	Metric Tons	US\$ 1,000
Sardines in olive oil	19,927	12,133
Sardinelike fish in olive oil	3,597	2,857
Sardines & sardinelike fish in brine	1,133	280
Tuna & tunalike in olive oil	1,719	1,400
Tuna & tunalike in brine	325	186
Mackerel in olive oil	3,481	1,902
Other fish	704	317
Total	30,886	19,075

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FISHERIES TRENDS, AUGUST 1957: Sardine Fishing: During August 1957, the Portuguese fishing fleet landed 10,634 metric tons of sardines (valued at US\$1,506,608 ex-vessel, or \$142 a ton). In August 1956, a total of 11,411 tons of sardines were landed.

Canneries purchased 57.9 percent or 6,165 tons of the sardines (valued at US\$955,234 ex-vessel or \$155 a ton) during August. Only 43 tons were salted, and the balance of 4,426 tons, or 42 percent of the total, was purchased for the fresh fish market.

Matosinhos lead all other ports in August landings of sardines with 5,270 tons or 49.5 percent, followed by Portimos 1,513 tons (14.2 percent), and Olhao 1,361 tons (12.7 percent).

Other Fishing: The August 1957 landings of fish other than sardines consisted of 705 tons (value US\$80,070) of anchovy, 3,109 tons (value US\$187,130) of chinchard, 1,146 tons (value US\$237,991) of tuna, and 99 tons of bonito (value US\$18,957). (Conservas de Peixe, October 1957.)



Republic of Korea

JINAM LONG-LINE FISHING VENTURE: The initial success of the deep sea long-line tuna fishing venture being carried out through the cooperative efforts of the Republic of Korea's Office of Marine Affairs' Fisheries Experiment Station, the Jae Dong Fishing Company, and the Office of Economic Cooperation (OEC) Fisheries Demonstration and Training Project has created widespread interest in both the Government and the fishing industry. The Korean Minister of Commerce and Industry has published an advertisement advising fishermen with suitable boats to contact him personally if they are interested in this type of fishing. OEC Fisheries Branch personnel are discussing the problems of outfitting other boats of Korean registry for this type of fishing. If successful, and supported by the Government to enable owners to obtain supplies for their boats, this type of fishing in near and distant waters could rather quickly increase the foreign exchange earnings of the country.

The former U. S. Fish and Wildlife vessel Jinam (ex-Washington) was brought to Korea under the ECA Program in January 1950. Some months after arrival she was operated by a Korean fishing company for a short time, then transferred to her present owner, another Korean fishing company. In 1951, the vessel was used to carry iced yellowtail tuna to Japan. Late that year attempts were made to carry live fish and eels to Japan, but the latter venture was not successful. After several years of inactivity, the OEC Fisheries Branch again held several discussions with the owner and local government officials in an effort to get the boat utilized. Up to this time

she had been a liability to her owner and to the entire program for improving fishing vessels and fishery methods. These discussions resulted in an agreement on May 15 between the owner, the Government, and OEC that the vessel would be outfitted for long-line operation under the Demonstration and Training phase of the OEC fiscal year 1956 Fisheries Project. The OEC Fishing Operations Adviser, in cooperation with the Fisheries Experiment Station, would assist in installing the equipment and training the crew in its use. The owner would put the vessel into condition and provide funds for operation of the vessel to fish for tuna on the deep-sea fishing grounds in the Southwest Pacific.

The vessel was ready for sea June 26, 1956, but a number of difficulties both ashore and at sea hampered the vessel operations. Reports from the vessel to the owner indicate that by August 20 about 50 tons of tuna had been caught and frozen southeast of Formosa.

The owner reports he has a verbal contract to ship up to 600 tons of fish from Singapore to the tuna cannery in Puerto Rico or Samoa by the end of December 1957. He, therefore, wants to keep the boat fishing in that area until the end of the year.

The success of Korea's first deep-sea fishing venture at this stage depends primarily upon the support given by the Government in making either British pounds sterling or dollars available to the owner in exchange for Korean hwan.



Spain

BILBAO FISHERIES TRENDS, SEPTEMBER 1957: Operators of fishing vessels in the Bilbao area report that the albacore tuna catches through September 1957 were not abundant, but because they were getting the excellent price of about 18.4 U. S. cents a pound for the whole fish the season was considered satisfactory. Last year the average price was about 13.9 U. S. cents a pound as compared with an average of 8.6-9.7 U. S. cents a pound in 1955.

As a rule about 60 percent of the albacore landings is set aside for canning and the remaining 40 percent sold for fresh consumption. This year, however, the local canners received inadequate supplies to meet their canning needs, and they have charged the fishermen with having illegally sold their catches at sea to French buyers at prices estimated between 20.8-27.0 U. S. cents a pound. The canners also charge that the Spanish market has been deprived in this fashion of approximately 11 million pounds of albacore (valued at US\$2.1 million).

The local press reports that the Comandancia de Marina has officially advised the fishing associations in the ports of Bermeo, Lequeitio, Ondarroa, and Elanchove that severe measures, including the confinement of the vessels to port, will be taken should further clandestine sales continue to be made at sea.

Reports from other sources indicate that although a certain amount of albacore has been sold illegally every year on the high seas (amounting to about 450,000 pounds), the scarcity of albacore in this area is due not to the unlawful sales as much as to the unusual course which the fish have traveled this season. Normally the albacore circle Spain from the Mediterranean waters and follow the coastline along Coruna, Santander, Bilbao, San Sebastian, and the southern part of France. This year after reaching Cabo Mayor, about 2 miles east of Santander, the albacore headed out to sea at a distance of more than 120 miles from the Spanish coast and did not return to the coast until the schools had passed Bordeaux, France.

Sardines in commercial quantities have practically disappeared in northern waters during the past few years. Those that are being sold locally are brought in from the Mediterranean. Some sardine canners have already either moved to or established branch factories in southern and eastern Spain.

Operational costs of fishing vessels are said to have increased about 35-40 percent since October 1956, an average "pareja" (a pair of vessels) costing about US\$7,140 a month. Fishing gear, such as steel cables, hemp, rope, nets, etc. has increased as much as 50 percent in price as compared with a year earlier (United States Consulate in Bilbao, October 2, 1957).

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VIGO FISHERIES TRENDS, JUNE-AUGUST 1957: Fishing: Fish catches landed at Vigo during June-August 1957 amounted to 38.5 million pounds (value about US\$4 million). This amounts to an increase of about 6 percent in quantity and over 10 percent in value as compared with the similar period of 1956.

The albacore (*Germo alalunga*) catch during July and August was 6.2 million pounds and sold ex-vessel for about 17.3 U. S. cents a pound on the average. For the similar period of 1956, the catch was about 7.4 million pounds with an average price of about 14 U. S. cents a pound.

The sardine (*Sardina pilchardus* W.) fishery shows an improvement over last year with an increase of over 265,000 pounds over the July and August 1956 catch of 735,000 pounds.

Aguja (*Scombrosox saurus*), although caught in lesser quantities than some other species, continued to be an important fishery, as it sells well in the interior due to its good quality and low price. The aguja catch was 3,100 pounds in June, 967,000 pounds in July, and 2.3 million pounds in August. The price dropped from 4.5 U. S. cents a pound in June to about 3.2 U. S. cents in August.

Jurel (*Trachurus trachurus*) competes favorably with aguja in interior markets because of its availability and low price, although less desirable as a food fish. A total of 7.8 million pounds of this species was landed during June-August. The average price in August dropped about 1.0 U. S. cent a pound from the June price of 3.5 U. S. cents.

Although no figures were available, it appeared that the September landings of sardines were better than the previous month. The rise in albacore catches was lower than anticipated. With the continuing good weather it was hoped that the aguja fishery would reach its peak in October, and that good jurel landings would continue through that month.

Canning: The tinplate shortage continued to plague the canners. Predictions were that with the newly-opened steel plant in Aviles the scarcity would be solved, once the plant is in full production. Spanish tinplate prices have risen, but those for imported tinplate remained the same.

Olive oil has been in good supply at reasonable prices, and the price of fuel and lubricating oil for the fishing fleet was stable and the supply adequate.

Exports of canned fishery products to the United States were still considered to be inadequate. Canners maintain that they need an exchange rate of over 50 pesetas to US\$1 to compete successfully with other countries.

Fish canneries were operating at 20-25 percent of capacity. This increase of about 8 percent over last year is attributed to the good aguja and jurel catches. In general, canneries were plagued with the persistent shortage of sardines, this year's leaner albacore catch, the slow but persistent rise in prices, the failure of fish to maintain its portion of the increased over-all consumer demand, illegal sale of fish to French ships on the high seas, the bleak export picture to the United States, and the shortage of tinplate.

The solution, according to industry spokesmen, is to cut costs and produce more. To this end the government has announced a credit of US\$6 million, matching a similar credit given in 1953. Most of the grant, according to editorials, should go towards modernizing of the fishing fleet. It is estimated that 70 percent of the 1953 credit went to ship construction, and it is felt a similar investment should be made in the next few years.

Efforts were made by a group in Galicia around two years ago to buy United States-type tuna clippers. Due to government reluctance in the face of a dollar shortage and fear of competition with Spanish shipyards, this group was allowed only to purchase plans and some equipment for the construction of these specialized ships in La Coruna, Spain. Two of these ships should be completed during October 1957.

If these tuna clippers are successful, it is hoped that the Government will allow the fishing industry to buy these ships complete from the United States since Spanish shipyard capacity is nearly full.

In a speech before "El Caudillo," the Chief of the National Fisheries Syndicate outlined the needs of the group as being: (a) enlarged financial assistance; (b) revision of tax laws adversely affecting the industry; (c) control of the fish exchanges (now Government-run) by the trade or the syndicate; (d) reduction of production costs; (e) more authority to the industry or the syndicate to control prices, and to police the market (October 2, 1957, dispatch from United States Consulate in Vigo).

NOTE: VALUES CONVERTED TO US\$ EQUIVALENT AT RATE OF 42 PESETAS EQUAL US\$1.



Sweden

FISHERIES LOAN FUND INCREASE REQUESTED: The Swedish fishery associations are requesting the Government to increase fishery loan funds from the 5 million krona (US\$965,000) proposed by the Fisheries Board to 7 million krona (US\$1,158,000 for next fiscal year. They also seek to have the minimum loan total increased from 120,000 krona to 150,000 krona (US\$23,200 to \$29,000). The fishermen believe that an increase in the maximum loan total is necessary because fishing boats have become larger and the required equipment is more expensive. A modern sea-going Swedish fishing vessel, built in accordance with the rules of the Sea Fishery Association, and approved by the Royal Department of Commerce, will cost about 400,000-460,000 krona (US\$77,200-\$88,780).

Loans from the Swedish government fund for the promotion of the fishing industry are granted for the acquisition of fishing boats, motors for such boats, fishing gear, or for vehicles intended for the transportation of fish, for the building of fish ponds, or for the building of minor establishments for the processing or refining of fish products. Loans are not granted for fish freighters or for the equipment of such vessels.

The loans are free from amortization or interest for two years and must thereafter be repaid during 4, 7, or 9 years. Loans to be repaid in 9 years are only granted for the acquisition of new-built large fishing vessels; loans for the purchase of older fishing vessels and motors must be amortized during 7 years, at the most, and loans for the purchase of fishing gear during 4 years. Upon the expiration of the interest-free period interest is paid at the rate of 3 percent.

Other terms are as follows:

1. All part-owners of fishing vessels or motors seeking loans must sign as borrowers.
2. Further, there must be at least three sureties, respectable persons who are not part-owners. For borrowers as well as sureties age certificates must be attached to the application.
3. To the application shall be attached an order contract or a purchase contract, showing that the vessel, motor, or gear for the acquisition of which a loan is sought, has been ordered or purchased.
4. Before a loan may be received a mortgage on the pledged vessel shall also be submitted, if possible.
5. A person under guardianship may not be a surety and, with the exception mentioned below, may not be a borrower.

The following general conditions also prevail:

1. In order that a loan may be granted for the ordering of a new fishing vessel or the purchase of an older fishing vessel of a length of 50 feet or over, the part-owners shall be at least three professional fishermen who are of age and who have

proved themselves, by means of certificates from trustworthy persons, to have participated in professional fishing for three years or longer. In exceptional cases and for particular reasons, the finance section of the loan granting authority may, however, permit that one of the part-owners be a minor, provided that he will reach an age of at least 18 years during the year when the loan is paid and provided he can prove that he has participated in professional fishing or theoretical fishing training for a total of three years.

2. A fisherman who will reach an age of 67 years during the year when the loan is to be paid will as a rule not be accepted as a borrower.

3. A part-owner of a vessel referred to above for the acquisition of which a fishery loan has been obtained, who has joined or formed another fishing team, will not be granted a fishing loan or part of such a loan for the acquisition of another fishing vessel until at least 5 years have elapsed since a loan for the vessel first above mentioned was received, unless the team first above mentioned has been dissolved entirely.

4. A new loan for the purchase, within the fishing team, of part of a vessel for which a fishery loan already exists, will not be granted.

5. The taking over of a fishery loan because of partial ownership changes for reasons other than deaths or compulsory sales, will not be permitted until at least 5 years have elapsed from the date when the loan was received.

6. When processing applications for fishery loans for smaller vessels the above prescriptions in the main serve as a guide, with such modifications, however, as may be caused by the circumstances.

Fishermen are discouraged from applying for loans unless the boat or the motor ordered is estimated to be ready for delivery before May 1, 1958. By applying for a loan prematurely the applicant himself will suffer a direct loss of interest and, further, as the means available for loans are limited, such an applicant may cause a reduction of the total amount available to other applicants for loans.

NOTE: SEE ALSO COMMERCIAL FISHERIES REVIEW, MAY 1957, P. 63.



Taiwan

TAIWAN-JAPANESE FISHING COMPANY PROPOSED: Following a meeting of the Joint Committee for the Promotion of Sino-Japanese Cooperation, a Japanese delegate stated that Taiwan and Japan had agreed during the meeting to establish a joint fishing company to engage in tuna and other types of fishing around Taiwan and areas to the south. The proposed company would be privately financed, with Taiwan and Japan each supplying four 350-ton vessels to be manned primarily by Japanese. It was also stated that Taiwan had agreed to allow Japanese fishing vessels to enter the ports of Keelung and Kaohsiung for fuel and provisions.

It is believed that a joint fishing venture would benefit Taiwan (1) by increasing the fish catch and (2) by training Taiwan fishermen in Japanese fishing techniques. The Taiwan Government now operates four 350-ton fishing vessels and the joint fishing venture, if successful, may lead to additions to the fleet.



Union of South Africa

ALUMINUM BOATS USED FOR SPINY LOBSTER FISHING: In the Union of South Africa, 12-foot long and 5-foot beam aluminum boats are used for spiny lobster fishing. The craft are so designed that they can be stowed one inside the other without damage and without wasting any time either when stowing or launching from the parent craft. The construction is arc-welded. Line production methods have reduced the cost and have made these aluminum boats competitive with wood and fiberglass ones. (The South African Shipping News and Fishing Industry Review, November 1956.)



United Kingdom

ALL-WELDED FISHING TRAWLER LANDS FIRST TRIP: The Aberdeen Enterprise, first all-welded trawler built in Britain, landed a £3,300 (US\$9,240) catch from her last 15-day trip, and her owners are well satisfied with her performance.

The managing director of the owners said that if the vessel turns out to be an efficient fish catcher, others of her class are likely to be ordered.

"While modifications have been found necessary," he said, "we are satisfied with the ship's performance, viewed from both her money-making and seaworthiness. She seems to have increased power and speed compared with orthodox trawlers of the same dimensions."

His firm has been able to make a big saving in costs with this type of trawler. The firm has not yet considered placing further orders, but at least two other Aberdeen firms have orders for similar vessels under consideration (The Fishing News, August 30, 1957.)

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IMPORT QUOTAS FOR JAPANESE CANNED SALMON AND TUNA: The British Board of Trade announced on October 25, 1957, that the import quota for Japanese canned salmon for the first six months of the 1957/58 quota period is £2,610,000 (US\$7,308,000) c.i.f. This exceeds half of the 1956/57 quota by £165,000 (US\$462,000).

The import quota of canned Japanese tuna for the first half of the 1957/58 quota period was reduced by £165,000 (US\$462,000).

In 1956/57 the quota for Japanese canned salmon was allocated in two parts, an interim allocation of £1,500,000 (US\$4,200,000) c.i.f. was announced in September 1956, and the balance of £3,400,000 (US\$9,520,000) was allocated in March 1957 following the completion of the Trade Agreement.

The distribution of the canned salmon by British importers remains unchanged, with 85 percent going to importers who were first-hand distributors for the Government during the period of control, and the remaining 15 percent through brokers or distributors of canned fish other than salmon.

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REPORT ON FREEZING-FISH-AT-SEA EXPERIMENT:

Experimental trips and shore tests carried out in 1956 by the British in a typical distant-water trawler, the Northern Wave, are described in a bulletin recently issued: "Report on an Experiment into the Freezing of Fish at Sea." The trawler used was converted for the purpose, but afterwards restored to her previous condition and returned to the owners, since it was not thought advisable for certain technical reasons to retain the plant on the vessel for commercial operation. The main purpose of the experiment was to discover whether it was practicable, from both the technical and commercial standpoints, to freeze at sea the early part of a distant-water trawler's catch. Such vessels operate at considerable distances from their home ports and their voyages normally last about 20 days. The experiment showed that to freeze whole white fish at sea is technically practicable, and the resulting product is generally acceptable. The economics of freezing fish at sea are less definite, but bearing in mind the experimental nature of the operation and factors which could offset higher operating costs, the conclusions tend to be favorable. However, they hinge on improved discharging-facilities (which would be necessary) and adequate cold-storage facilities on shore, should many vessels adopt quick freezing at sea.

The experiment was sponsored jointly by the Government, the Distant Water Vessel Owners' Development Committee, and the White Fish Authority. The Department of Scientific and Industrial Research carried out preliminary work on the experiment, and participated throughout in its supervision.

The experiment showed that it is technically practicable to freeze whole white fish at sea in a converted modern distant-water trawler under all weather conditions, and that the freezing operation can be handled by members of an ordinary fishing crew. Tests of the frozen fish carried out in the laboratory showed them to be suitable after thawing for filleting, smoke curing, and handling and distribution in the same way as unfrozen fish. Generally, the trade agreed with this conclusion; no difficulty was experienced in preparing and distri-

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REPORT ON INSHORE FISHING VESSEL EARNINGS FOR

1956: Findings of a study recently completed by the British White Fish Authority into the costs and earnings of inshore fishermen and vessels were given in its sixth annual report.

The inquiry covered 1956 and related to 264 vessels. The aggregate value of landings reported represented more than 15 percent of the total British white fish landings from inshore waters.

The analysis revealed that the average annual earnings of each man aboard the vessels was £507-551 (US\$1,420-1,543) in Scotland and £430 (US\$1,204) in England and Wales. There were 264 vessels in the sample--119 in Scotland, 145 in England and Wales--averaging 41-50 feet in Scotland, 33.5 feet in England and Wales.

buting the thawed fish in the form of wet or smoked fillets. At times, however, it was reported that the thawed fish lacked the typical "bloom" (attractive appearance) of top-quality iced fish and that some of the fish from certain voyages did not smoke well. The views of the retailers and fish friers, together with those obtained from a small sample of customers, were generally favorable.

Regarding the economics of freezing at sea, the report is not so definite. The frozen fish might be expected to sell for more than the early-caught wet fish which it would replace because it is of better quality and can be stored until market conditions are favorable; but the length of the experiment and the quantities of frozen fish produced were not sufficient to enable firm conclusions to be drawn about marketing possibilities. Further, the method of marketing necessary for experimental purposes did not give a clear picture of what might be realized commercially for the frozen fish. For these reasons, and because of production and operating considerations, it is difficult to give a firm assessment. It seems probable, however, that, if the fish were held for times of short supply, the higher prices received should normally cover the higher costs of production and storage.

The report gives some information about costs of production, which enables some tentative conclusions to be reached about the costs of operating a freezing installation. It concludes that the trawler with a freezing installation can have certain economic advantages over an ordinary trawler, which may in total offset the additional costs of production.

The report contains a suggested layout for a standard 185-foot steam trawler and the essential points of a design and specification for a freezing plant. It also states that if many vessels were fitted with quick-freezing equipment the facilities for discharging the cargo would be inadequate, especially in Hull, and a quicker and more satisfactory method would need to be evolved; and notes that considerable capital investment in suitable cold-storage facilities would be necessary before any significant quantities of sea-frozen fish could be effectively handled on shore.

Total earnings for boats from Scotland, England, and Wales were £1,307,731 (US\$3,662,000) and expenses amounted to £1,173,613 (US\$3,286,000), leaving a surplus of £134,118 (US\$376,000). For Scotland, earnings totaled £946,359 (US\$2,650,000), expenses £845,403 (US\$2,367,000), leaving a surplus of £100,956 (US\$283,000). For England and Wales, the earnings were £361,372 (US\$1,012,000), expenses were £328,210 (US\$919,000), leaving a surplus of £33,162 (US\$93,000).

The study revealed that 216 of the 264 vessels showed a profit on the year's earnings. In Scotland 104 out of 119 vessels showed a profit. In England and Wales 114 out of 145 showed a profit. The average net profit for all vessels in the sample was £508 (US\$1,422). For Scotland the average was £848 (US\$2,374) and for England and Wales it was only £229 (US\$641) per boat. (The Fishing News, September 13, 1957.)

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QUALITY GRADING FOR FISH CONSIDERED BY TRAWLER OWNERS: British distant-water trawler owners are considering introducing and operating a scheme for grading fish for quality. The White Fish Authority (WFA), which made the suggestion, believes grading would benefit the industry and consumer and is anxious to see it introduced.

The idea has been accepted in principle by the owners concerned. They are now grappling with the problem of introducing and administering a grading scheme.

News of this development emerged from a WFA press conference in London for the presentation of its sixth annual report.

The WFA chairman said quality was one of the four main problems that confront the industry. Many held the view that an improvement would lead to an increase in consumption. Quality in this sense was synonymous with freshness, and that was why a grading scheme was suggested. (The Fishing News, September 13, 1957.)



Venezuela

SHRIMP FISHERY: The only change reported in Venezuela's shrimp fishery was that a small cannery was in operation at Maracaibo. The product was for local consumption.

Some interest was being shown in trying to develop shrimp trawl fishing along the central Caribbean coast of Venezuela where several large lagoons occur. There does not appear to be any immediate prospects of Venezuela exporting any quantities of shrimp. Costs are high and trawling is prohibited within eight miles from shore. (United States Embassy dispatch from Mexico City dated September 27, 1957.)



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