



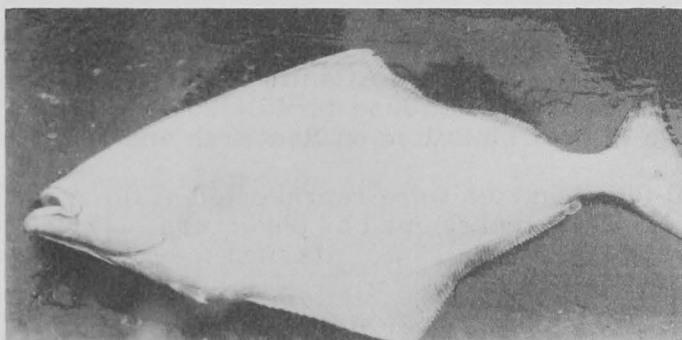
FOREIGN

International

INTERNATIONAL PACIFIC HALIBUT COMMISSION

AREAS 3A AND 3B CLOSED AUGUST 24: The closure of the first fishing season in Pacific halibut Areas 3A and 3B was set for August 24 (6 a.m. P.S.T.), according to an announcement of August 6 by the International Pacific Halibut Commission. The Commission estimated that by August 24 the catch limit of 28 million pounds for Area 3A would be reached. There is no catch quota for Area 3B, but that area closes on the same date as Area 3A.

The official opening date for all halibut fishing in the Pacific regulatory areas this year was May 12 (6 a.m. P.S.T.), but fishing did not commence until May 20 because of a voluntary delay agreed upon by all United States and Canadian halibut fishermen.



Halibut.

Areas 3A and 3B this year were open to fishing for 104 days--the longest season for those areas since 1947 when the season lasted for 109 days. For the last few years the trend has been towards a shorter season. However, this year fishing in those areas lasted longer because (1) fishing started 8 days later than the opening date established by the Commission, (2) most vessels voluntarily agreed to remain idle for 7 days after each trip, (3) there were a few days of inclement weather on the fishing grounds, and (4) fish were scarce in certain popular fishing sections. In view of the fishermen-agreed 8-day delay of the opening date, actual fishing in Areas 3A and 3B was possible for only 96 days. In 1955, Areas 3A and 3B were open to fishing for 81 days as compared with 58 days in 1954, 52 days (shortest on record) in 1953, 60 days in 1952, 56 days in 1951, 66 days in 1950, 73 days in 1949, and 72 days in 1948.

This year, according to the regulations, the second fishing season of 7 days in Areas 2 and 1B was scheduled to begin at 6 a.m. P.S.T. September 9 (16 days after the end of the first season in Area 3A, which was announced as August 24). The second fishing season was scheduled to end at 6 a.m. September 16, unless a later termination date was announced.

The second fishing season of 9 days in Areas 3A and 3B was scheduled to begin at the same time as that for Area 2, but was scheduled to end at 6 a.m. September 18 unless a later termination date was announced.

A third fishing season of 23 days in Area 3B only was scheduled to begin at 6 a.m., September 30 (12 days after the end of the second fishing season for that

area) and end at 6 a.m. October 23, 35 days after the end of the second season. In the event the Commission announces a date later than September 18 for the end of the second halibut fishing season in Areas 3A and 3B, the opening and closing dates of the third season in Area 3B shall be changed accordingly.

Area 1A, which has been open continuously to halibut fishing since May 12 is scheduled to close at 6 a.m. on the same day that the third halibut fishing season in Area 3B shall end.

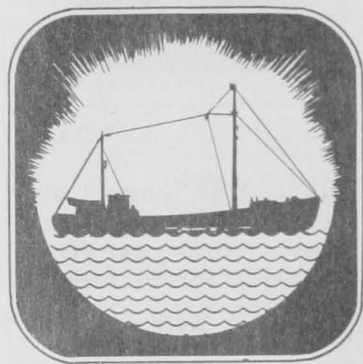
After the termination of the last of the fishing seasons in each area, that area shall be closed to halibut fishing until it is reopened in 1957.

Area 1A includes the waters south of Heceta Head, Ore.; Area 1B, the waters between Heceta Head and Willapa Bay, Wash.; Area 2, the waters between Willapa Bay and Cape Spencer, Alaska; Area 3A, the waters between Cape Spencer and the Shumagin Islands off the coast of Alaska; and, Area 3B, the waters west of Shumagin Islands and in Bering Sea.

NORTHWEST ATLANTIC FISHERIES COMMISSION

REPORT ON ANNUAL MEETING: The Annual Meeting of the International Commission for the Northwest Atlantic Fisheries convened at Commission headquarters in Halifax, Nova Scotia, June 11-15, 1956. The Annual Meeting was preceded by meetings of the Committee on Research and Statistics on June 8-9.

All ten countries were represented at the meeting. West Germany and the U.S.S.R. were represented by observers. The Commission would probably hold its next meeting in Lisbon on May 20, 1957.



Substantive questions of the Commission's recommendations for mesh-size regulation in Subareas III, IV, and V were of principal concern. Of the recommendations made by the Commission at its meeting in Ottawa in June 1955, only that for Subarea V, which involved minor amendments to the existing regulation, had received complete acceptance by the governments in the panel involved. The recommendations for 4½-inch mesh in Subarea IV and 4-inch mesh in Subarea III had been objected to by the French Government. The French Government had no objection to the mesh size in itself but found it impossible to accept the provision which restricted the use of chafing gear.

This objection stemmed from the fact that French trawlers operating in the Northwest Atlantic fished at great depths, and the French found it necessary to use double and sometimes triple cod ends in order to prevent the gear from bursting when brought to the surface. This question was discussed thoroughly during the Commission's meeting and the French Commissioners agreed that an investigation should be undertaken immediately by French scientists to find ways of strengthening the gear so that double and triple cod ends would not be necessary. The United States, United Kingdom, and Canada all agreed to cooperate with and assist the French Government to the greatest extent possible in this study. After some further discussion of the problem, the French Commissioners agreed to vote for an amendment to the regulations for Subareas III and IV, which would place the restrictions on chafing gear in abeyance until July 1, 1957. At that time they would go into effect automatically unless the French Government notified the United States of its continued objection. It was the hope of the Commission that this amended regulation could be brought into effect by January 1, 1957. If so, on that date the use of 4½-inch mesh in Subarea IV and 4-inch mesh in Subarea III would be required, but there would be no restriction on the use of chafing gear. It was the further hope of the Commission that

by the first of July 1957 the French Government would have solved its problem and be prepared at that time to accept the limitations on chafing gear. This proposed



Delegates, advisers, observers, and staff members of the Sixth Annual Meeting of the International Commission for the Northwest Atlantic Fisheries, Halifax, N. S., June 1956.

amendment to the regulations for Subareas III and IV was adopted by the Commission for transmittal to the governments for their final approval.

The question of the ten-percent annual exemption which the United States Commissioners proposed to the Commission met with considerable resistance, particularly from the United Kingdom because of the damaging precedent which that Government felt the exemption would establish in the North Sea and the Northeast Atlantic and from Canada because that Government felt that the administrative problems connected with such an exemption were insuperable. After much discussion, it was agreed that the ten-percent exemption might be adopted as an experiment in Subarea V only for a period of two years. If, at the end of one year, there was evidence that a ten-percent exemption permitted large numbers of small haddock to be taken, the percentage might be reduced. In any event, the results of the experiment would be reviewed by the Commission at the end of two years to determine whether or not it was successful and the ten-percent annual exemption might be adopted permanently.

The Standing Committee on Research and Statistics reported considerable progress was being made in tagging, in the standardization of methods of measuring fish, and in the coordination and research on cod, ocean perch (redfish), halibut, and haddock.

Iceland asked for a panel membership in Panel 1. The application was approved by Panel 1 and accepted by the Commission.

An application by United Kingdom for panel membership in Subarea 4 was, after some discussion, withdrawn by that delegation.

The question of the Italian membership in Panels 1, 2, 3, and 4 was considered. The Italian delegates stated that they had proposed to the Italian Government that it inform the Commission before the end of June 1956 if any changes were wished. Further action was deferred.

The Committee on Research and Statistics opened its session this year on June 8 by continuing study of the Commission's research needs which it had begun at Biarritz, France, in March. Its principal point of reference was the list of recommendations which the working parties of experts had made regarding gaps in knowledge that must be filled in order to carry out the Commission's functions. To fill these gaps requires a comprehensive research program throughout the Convention

Area. Such a program is beyond the capacity of any one member of the Commission; it must be carried out by all members closely collaborating in designing the work, coordinating the operations, and integrating the interpretations. Such collaboration is the principal function of this Committee and is the purpose of interim meetings such as that held at Biarritz.

Taking a long view of the research needs of the Commission, it will be necessary for all of the members to increase their support of research. The amount of increase which each country should plan must depend on its present expenditures for fishery research in the area and on the volume of fish which it harvests. During this year's session, the Committee outlined research programs dealing with cod, haddock, ocean perch, and halibut, and with several subjects that apply to all species, namely population dynamics, causes of natural mortality, and techniques of fishery research. These programs, which are appended to the report on the Biarritz meeting, are laid down as a guide for future planning, not as a prescription for full, immediate action. The Committee urges the Commission members to foster the orderly increase of support for fishery research in their respective countries as rapidly as feasible, beginning immediately by taking the essential first step of making provision for adequately sampling their fisheries at sea and also ashore.

Panel 1 met once. The Commission noted the Panel's statement that all countries should carry out samplings of their commercial catches and report these to the Secretariat for compilation, and that hydrographic data should be reported to the Secretariat in table form; further that the Panel considered the cooperation with ICES as to hydrographic reporting satisfactory, and agreed that the generous offer of the International Ice Patrol to furnish ICNAF with data on their sections in Subarea 1 should be gratefully accepted. The Commission noted with satisfaction the progress in research work in the area, especially as to cod and halibut.

Panel 2 met twice. The Commission noted that Portugal had initiated samplings of its cod catches in Subarea 2, that Canada hoped to do so in the future, and that this country had continued its explorations for ocean perch in the Hamilton Bank Area.

Panel 3 met once. The Commission noted with gratification that the Spanish researches on haddock had been developed considerably and that Portugal had initiated extensive samplings from its cod fishery in the Subarea. The Panel discussed the proposed mesh regulations, especially the French reluctance to accept the method of mesh measuring and the clauses as to chafing gear. Otherwise France had accepted the regulations, which in their entirety had been accepted by all other member countries. The question of the clauses on chafing gear were referred to the new ad hoc committee.

Panel 4 met once. The Commission noted that the United Kingdom had withdrawn its application for a panel membership in view of the lack of substantial exploitation. It was further noted that Portugal had commenced samplings of its commercial cod catches, and that joint researches by Canada and the United States regarding haddock were carried out. For France the same problems as to the trawl regulations were found in Subarea 4 as in 3; the problems were considered by the Panel and also in the joint panels' meeting.

Panels 3 and 4 met jointly to consider the problems of mesh proposals and of chafing gear for Subareas 3 and 4.

Panel 5 met twice. The Commission noted that the United States was facing minor difficulties in continuing the small mesh study boat program, but that the panel had agreed that this important study had to be continued.

The United States proposal to amend the present exemption of the haddock regulation to allow a 10 percent per annum exemption was considered. It was agreed that a series of questions had to be answered before a decision could be taken. These questions were formed and referred to the Committee on Research and Statistics. It was agreed that part of these questions, especially as to enforcement, were hardly within the province of the standing committees.

Therefore the Panel proposed to the Plenary to establish another committee for such problems, and the Plenary appointed an ad hoc committee to deal with any such problems.

GREAT LAKES FISHERIES COMMISSION

FIRST MEETING HELD: The Great Lakes Fisheries Commission met at Sault St. Marie, Ontario, July 30 and heard reports from United States and Canadian researchers working on the sea lamprey problem, states the July Official News Bulletin of the Michigan Department of Conservation.

Ann Arbor, Michigan, has been named the official headquarters for the Commission, an international six-member board recently set up to help fisheries research and to guide sea lamprey control on the Great Lakes.

Lampreys have devastated certain fish populations in the Great Lakes. Electrical weirs are blocking many rivers emptying into the Great Lakes to prevent lampreys from spawning. Also, certain chemicals have been found to kill young lampreys living in upriver mud and gravel banks.

At present, 97 weirs are in operation on Lakes Superior, Michigan, and Huron; 55 more are scheduled for construction on Lake Michigan streams and 10-26 on Lake Superior streams this year. Others will be built on other lakes in the next few years so that barriers will block all rivers on all the Great Lakes by the end of 1960.

The Commission was to hold its next meeting in Ann Arbor in mid-August and called its statutory annual meeting for late November 1956.

INTERNATIONAL LAW COMMISSION

INTERNATIONAL CONFERENCE SUGGESTED TO SETTLE BREADTH OF TERRITORIAL WATERS: The International Law Commission after five years of discussions voted in June 1956 to make no decision on the breadth of territorial waters within a limit of 12 miles, reports The Fishing News (June 15, 1956), a British fishery periodical. The Commission suggested that the subject should be settled by an international conference.

The Commission, who began its work in 1951, is preparing a draft report on The Regime of the High Seas for approval by the next session (November 1956) of the United Nations General Assembly.

The draft recognizes that "International practice is not uniform as regards the delimitation of the territorial sea;" and that, though many states have fixed a breadth greater than three miles, "many states do not recognize such a breadth when that of their own territorial sea is less."

Britain, the United States, and the Soviet Union were amongst the majority of nine who, believing that only an international conference could settle the matter, considered it advisable to go no farther at this stage than to lay down that: "The Commission considers that international law does not permit an extension of the territorial waters beyond 12 miles."

Before the vote was taken, Britain's representative stated that Britain had always championed the three-mile limit and declared that any extension above this figure would upset the balance of the Commission's work and some countries would have seriously to reconsider their position.

He pointed out that the Commission had already granted coastal states the right to take unilateral action to protect fisheries outside their territorial waters and, if further concessions were granted regarding the territorial sea, some states might well start claiming the continental shelf as well.

The Commission has still to complete its examination of the question of straight base lines where a coast is deeply indented.

For some weeks the International Law Commission, which consists of 15 legal experts from different countries, has been meeting in Geneva and discussing the codifying and developing of international law. The Commission approved the following text submitted by Greece's representative:

"(i) The Commission recognizes that international practice is not uniform as regards the delimitation of the territorial sea.

"(ii) The Commission considers that international law does not permit an extension of the territorial sea beyond 12 miles.

"(iii) The Commission, without taking any decision as to the breadth of the territorial sea within that limit, notes, on the one hand, that many states have fixed a breadth greater than three miles and, on the other hand, that many states do not recognize such a breadth when that of their own territorial sea is less.

"(iv) The Commission considers that the breadth of the territorial sea should be fixed by an international conference."

During the discussion of draft articles on fisheries at Geneva, an amended article was proposed by Judge Edmonds (U.S.) which said that where the yield of fish was dependent on the conservation program being carried on by the state or states whose nationals were substantially fishing such stocks, states not so fishing or which had not done so within a reasonable period of time, excepting the coastal state adjacent to the waters in which this stock was found, should abstain from fishing such stock.

Judge Edmonds described his proposal as a progressive step in the development of international law, reports a Geneva correspondent. Judge Edmonds was supported by Dr. P. Nervo (Mexico) who spoke of "the justified exclusion of third parties by abstention."

Sir Gerald Fitzmaurice (U.K.) pointed out that the principle might violate the doctrine of nondiscrimination enshrined in the Commission's draft. Mr. Francois (Netherlands), the special rapporteur, strongly approved the principle, which he said could hardly be regarded as a victimization of newcomers to fishing grounds. The Commission agreed with the chairman's view that the question should be taken up when the Commission dealt with the whole matter of exclusive rights in certain areas of the high seas.

FOOD AND AGRICULTURE ORGANIZATION

WORLD MARINE RESOURCES SURVEY MAY SUPPLY KEY TO FUTURE: Marine biologists of many nations employed by the Food and Agriculture Organization are engaged on complex work of collecting, sorting, analyzing, codifying, and recording by decimal classification, facts and information about the oceans, seas, rivers, and inland waters of the world.

These men are engaged on a task which will take many years to complete--a survey of the living aquatic resources of the world. It is a task which relates to the activities of the Member Governments of the 72 nations of FAO, and of marine biologists, and of fishery scientists studying the world's fisheries, as well as fishermen themselves. Ultimately, this resources survey, of which FAO acts as a clearing house and stimulator, not an originator, may determine the future welfare of fisheries throughout the world.

"Fisheries are still in a primitive state as compared with, say, farming," said Dr. G. L. Kesteven, Chief of the Biology Branch, Fisheries Division, FAO, who is in charge of the Organization's work on the survey. "The ultimate aim in fisheries is to conduct the industry with the same efficiency and certainty which now exists in agriculture, although, of course, we can never hope to 'farm,' as it were, all the oceans and seas. But we need to practice fish husbandry to the fullest extent within the limits possible. We need to manage, control, and breed fish as a farmer manages, controls, and breeds animals so that we can cultivate fish, whether at sea or in fresh water, for the benefit of mankind, that is to say, breed them for our purpose, pasture them as we do animals, and harvest them for food or commercial purposes as we do sheep or cattle.



"At the present time we are a great distance from such a goal," he continued, "although Governments have made the first tentative steps in that direction through the introduction of fishery controls such as closed seasons for catching certain fish and regulations concerning the size of nets to be used, and have, as in the case of whales, restricted the quantities that may be caught in one season."

The problem of management, control, and development of fisheries, is complicated by a number of factors. First, no individual or nation has property rights over the oceans and seas or the life in them. Even the extent of ownership of territorial waters is in dispute. Second, about 75 percent of the earth's surface is covered by water and knowledge of the life and resources of this vast area is limited. Third, the knowledge that does exist of well-known and exploited sea fisheries is inadequate for rational management on a national or international scale.

"According to statistical information available, only about 10 percent of animal protein food consumed by man comes from the waters of the world," said Dr. Kesteven. "Our present knowledge of resources indicates that we could gather much more food from this source and also use much greater quantities of sea products for commercial purposes. For example, Dr. Woodward of the United Kingdom, estimates that there are 10 million tons of brown seaweed available around Scotland and one million tons could be harvested each year to produce 70,000 to 110,000 tons of carbohydrate. He has also estimated that there are 60 million tons of such weed growing on the coasts of Norway, France, the British Isles, Canada, and the Falkland Islands. This is only one example of aquatic flora which could be used by man and, as always when one talks about marine life, the figures run into astronomical dimensions."

Fish and aquatic mammals are at the end of the food chain in the sea, but there are intermediate stages in this chain which might be of commercial value. Zooplankton is an example. This minute growth is a basic food for many creatures in the sea. Whales, for example, consume millions of tons of it. Man can use zooplankton and in Asian countries great quantities are used in the manufacture of pastes and other fishery products. Attempts have been made by governments of western countries to use zooplankton industrially but with little success so far.

"I mention these in passing to indicate that any survey of marine resources is concerned with much more than fish," explained Dr. Kesteven, "although, naturally, mankind is more directly interested in the food he can get for immediate consumption, that is to say, fish. We have gathered much more knowledge about the available commercial fish but before we can reach a point of conducting fish husbandry we need to know a tremendous lot more. What we do know has led to some conservation measures being taken as, for instance, in the North Sea where it has been recognized that unrestrained overfishing might lead to gross depletion of stocks. Fishery biologists believe that, through international agreement at government level and through other control and conservation activities, the yield of fisheries can be maintained at a determined level but we need full knowledge of all the factors involved before we can attain such results.

"Another practical result from a world survey of marine resources would be the discovery of the nature and extent of stocks in relatively unexploited grounds, of new grounds, and, perhaps, the commercial uses for trash fish or species which are not now considered to be of any value."

The discovery in recent times of new resources of fish and crustacea indicates that the oceans contain much unknown wealth. It is estimated, for example, that only 10 percent of known plaice grounds are being fished, and it is quite possible that there are also many unknown flat fish grounds. In South African waters a huge pilchard fishing industry has grown up within the past 10 years or so. In the case of crustacea, in the past 50 years new resources have been found and exploited off the east coast of America, the east coast of Australia, the Mexican Gulf, and even in the Mediterranean. Again, only this year an FAO master fisherman discovered a new shrimp ground, 140 miles in extent, ranging along the west coast of India.

"These are only a few instances of finding and exploiting new resources," said Dr. Kesteven. "They tend to support the theory held by some that there are no deserts in the sea and perhaps a survey of aquatic resources may ultimately prove this to be well-founded. However that may be, the steadily increasing catch of fish in the world is a pointer to the potential possibilities. At present, the total catch of fish, crustaceans, and molluscs amounts to about 27 million metric tons, according to the FAO Yearbook of Fishery Statistics. This is about 5 million metric tons more than was caught in, say, 1938, and marine biologists believe that the total might well be raised to some 50 million metric tons annually in the course of the next 20 years or so.

"But in order to increase production, we must have comprehensive knowledge of the resources, and the object of the survey is to provide us with that knowledge.

"I should stress," he continued, "that FAO's part in this survey is a clearing-house of information. We do not carry out research and surveys ourselves, except through the agency of technical assistance projects, but we are attempting to collate all available information and to disseminate that information to governments and international fishery agencies and to other interested fishery organizations, firms, and persons."

In connection with this work, FAO is collaborating with the Bibliographia Oceanographica, with Member Governments of FAO, and with international fishery organizations.

"We attempt to read, appraise, and extract all information in current literature relative to the survey of aquatic resources," explained Dr. Kesteven. "In doing so we read some 2,500 books and contributions in periodicals a year from which we extract information which we record by a punched card system. In a year we probably deal with some 3 or 4 thousand cards. The editors of Bibliographia Oceanographica are engaged on a similar work and produce a great number of reference cards, which they exchange with us.

"We are also engaged on compiling an Oceanic Thesaurus which we hope to make into a compendium of information concerning the species of fish caught in various countries and regions, the economic value of stocks and species, and the productivity of marine and inland waters in all parts of the world."

One of the byproducts of FAO's work will be a world atlas of fishing maps. These maps will contain in simple and easy-to-see form all the immediately important information relative to world fisheries. The atlas will be issued next year. Meanwhile, the information which Dr. Kesteven and his assistants are continually extracting is being brought to the attention of governments and fishery organizations.

"It is important to realise," said Dr. Kesteven in conclusion, "that the work we are doing on this survey of marine resources is only one contribution to the development of world fisheries. There are a great number of other activities involved, such as technical developments in fishing, exploitation of known stocks, and increasing the productivity of the fisheries in underdeveloped countries through mechanization and the introduction of modern catching techniques. There are also a multitude of financial, marketing, social and economic considerations, all of which can, and often do, affect any national or international development of fisheries. Our principal task is basic, that of gaining knowledge and understanding of the marine resources, and when we have that knowledge it will have a practical effect on all policy, plans, and work concerned with the development of world fisheries."

WHALING

WHALE AND SPERM OIL OUTPUT UP IN 1956: World production of whale and sperm whale oils in 1956 is forecast at 425,000 and 105,000 short tons, respectively,

Table 1 - Whale and Sperm Oil Estimated World Production, by Major Producing Country, Annual 1954-56

Country	Whale Oil			Sperm Oil		
	1/ 1956	2/ 1955	1954	1/ 1956	2/ 1955	1954
(1,000 Short Tons)						
Norway	136	138	188	25	26	7
United Kingdom . .	76	77	90	12	11	9
Japan	83	73	58	27	23	15
Netherlands	16	11	17	3	1	1
Panama	27	27	-	3	3/	10
Union of South . . .						
Africa	20	21	31	9	6	4
Soviet Union	29	33	32	15	15	15
Australia	19	18	19	-	-	-
Argentina	8	9	10	3/	3/	3/
Chile	3	3	2	4	4	3
Portugal 4/	-	-	-	4	4	4
Others	8	8	7	3	3	7
World Total	425	418	454	105	93	75

1/ Forecast.

2/ Preliminary.

3/ Less than 500 short tons.

4/ Production of Azores & Madeira Islands.

as compared with 418,000 and 93,000 tons last year (table 1). This increase was due to high yields and came in spite of the cut in the Antarctic catch quota from 15,500 blue whale units to 15,000 per season. Although there was a slight increase in the Antarctic production, most of the increased output came in other areas.

Antarctic whaling, including that done by 3 South Georgia coastal stations, is expected

to account for nearly 90 percent of the world output of baleen whale oil this year. The same area, however, is expected to turn out only about three-fifths of the world supply of sperm oil. The major part of the increase in 1956 sperm oil production is expected to come from Japanese operations, both in the North Pacific and off the coast of Japan.

Although the number of expeditions engaged in Antarctic pelagic whaling in the 1955/56 season was the same as in the previous year (table 2), each expedition

added one or two catcher boats thereby increasing its production potential. Thus the season lasted only 58 days, a considerably shorter period than the 72 and 76 days of the two previous seasons. The total catch amounted to 14,875 blue-whale units, which is 125 less than the 15,000 units maximum stipulated by international agreement.

The International Association of Whaling Companies, following a meeting in June, reportedly announced that British, Norwegian, Japanese, and Dutch whaling

Table 2 - Whale and Sperm Oil Antarctic Pelagic Production, 1954/55 and 1955/56

Country	Whale Oil		Sperm Oil		Total	
	^{1/} 1955/56	^{2/} 1954/55	^{1/} 1955/56	^{2/} 1954/55	^{1/} 1955/56	^{2/} 1955/56
	(Short Tons)					
Norway	122,227	125,258	24,316	25,833	146,543	151,091
United Kingdom	64,294	64,403	12,140	10,420	76,434	74,823
Union of South Africa	15,042	15,460	5,349	3,169	20,391	18,629
Netherlands	15,901	10,888	3,411	1,195	19,312	12,083
Japan	63,254	58,799	13,058	9,686	76,312	68,485
Panama	27,329	27,193	2,714	409	30,043	27,602
Soviet Union	26,723	30,249	1,972	1,871	28,695	32,120
Total	334,770	332,250	62,960	52,583	397,740	384,833

^{1/} Provisional.
^{2/} Revised.

^{3/} Does not include production of 3 South Georgia shore stations. In 1955/56 this production, according to the provisional data, was 31,440 tons of whale oil and 765 tons of sperm oil, as compared with 33,005 and 770 tons, respectively, in 1954/55.

companies had agreed to limit the number of whale-catching vessels for the 1956/57 season to a total of 210, excluding those to be used by the Soviet Union. The agreement stipulates the maximum number of catchers to be used by the companies or groups of companies, but allows the groups to apportion the number of whale catchers among their different expeditions. The total number of catchers used by all expeditions during the 1955/56 season was 257.

The pelagic catch quota for the 1956/57 season has not yet been announced.

UNITED KINGDOM-SOVIET RUSSIA FISHERIES AGREEMENT

The British and Soviet Governments on May 25, 1956, reached an agreement on Barents Sea fishing limits. The main feature of the agreement, which runs for five years from the time of ratification, is that the 12-mile limit is dispensed with, and the Soviet Union has accepted, in practice if not in principle for the future, the expediency of a 3-mile limit. A separate exchange of letters accompanying the agreement states that nothing in it prejudices the claims or views of either government about the legal extent of territorial waters. According to press reports and a United States Embassy dispatch dated May 28, the five-year treaty falls short of perfection, but it does make important concessions to the British distant-water trawlermen. The following is a summary of the agreement published in the London Times of May 26:

"The agreement means in practice that British vessels will be excluded from the western end of the coast of Russia for a distance of about 100 miles, and that they will no longer be able to fish at the western side of the entrance to the White Sea. Both these stretches were included under the previous agreement of 1930, which expired in July 1955.

"The fishing grounds open to British vessels have been extended along the northern shore of Russia for roughly another 100 miles eastward from their previous limit. British vessels will also be able to fish up to a three-mile limit round the island of Kolguev, north-east of the Kanin Peninsula. The limits are defined as running along the coast of the Kola Peninsula between the meridians 36 degrees and 37 degrees, 50 minutes E., along the mainland to the east of the point at Cape

Kanin between 43 degrees 17 minutes and 51 degrees E., and also along the coast of Kolguev to a distance of three sea miles from low water mark. Under the old agreement the area covered was between 32 degrees E. and 48 degrees E. and included part of the entrance to the White Sea to latitude 68 degrees 10 minutes N.



Australia

TUNA GROUND FOUND OFF SOUTH AUSTRALIA: A major tuna fishing ground exists in South Australian waters off Port Lincoln. It extends at least from Flinders Island to the Neptune Islands and is capable of supporting a tuna industry of reasonable size.

This has been reported to South Australia's Premier by one of two California tuna fishermen brought out by the South Australian Government for trial tuna fishing.

The California fisherman said the tuna were chunkier than those caught off California, giving a better yield with less waste. He said the Government should persevere with investigations into pilchard possibilities also.

Under a Government guarantee the two San Diego, Calif., fishermen came to South Australia for three months' testing of the waters for tuna and to introduce pole fishing to the Australian fishermen. They arrived in early February and operated aboard the M/V Tacoma at first. On March 19 one of the fishermen transferred to the Fairtuna which had only recently been purchased by H. S. Wilson of Port Lincoln.

To date, though southern bluefin made up the bulk of the catch of 160 metric tons, yellowtail, trevally, and several striped tuna were also captured. This is the first recording of the capture of striped tuna in South Australia.

The two California fishermen were scheduled to leave Port Lincoln April 18 on their way home, reports the (Australian) Fisheries Newsletter of May 1956.

Note: Also see Commercial Fisheries Review, July 1956, p. 71.

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SALT ABSORPTION BY WHOLE SPINY LOBSTERS IN COOKING: It has been the practice in Tasmania to prepare spiny lobsters (Jasus lalandi) for the home market by drowning them in fresh water and cooking them whole in boiling salt water. It was believed that salt was taken up by the edible meat, thereby improving its palatability.

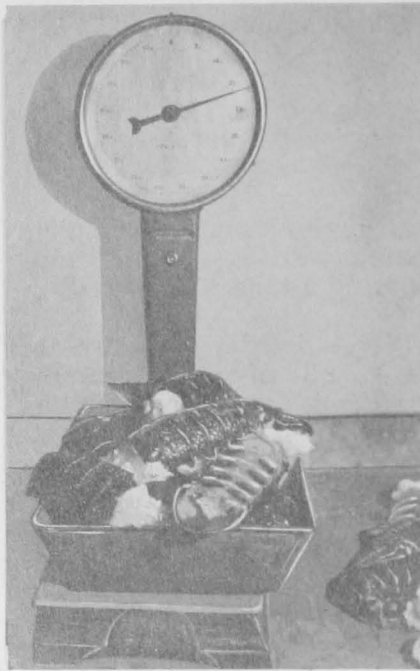
A survey of Tasmanian processing establishments by an officer of the C. S. I. R. O. Division of Food Preservation and Transport led to the following observations:

Salt concentrations in cooking waters in various factories ranged from 3.5 percent (sea water) to 23 percent by weight.

Many processors assessed the degree of saltiness of the cooked edible meat merely by tasting the leg meat.

No accurate data were available on the extent of salt absorption by the edible meat in different parts of the spiny lobster.

There was no evidence of excessive saltiness in the taste of tail meat from spiny lobster which had been cooked in water having a high salt content.



Australian spiny lobsters being weighed before packing.

Recently some processors, in an attempt to introduce salt into the meat, have drowned the spiny lobster in warm concentrated brine and cooked them in steam. Here again there was no information on the effectiveness of the procedure.

Experiments carried out at the C.S.I.R.O. Tasmanian Regional Laboratory at Hobart to obtain quantitative data on the absorption of salt by the meat of spiny lobster cooked in salt brines indicate different conclusions.

The concentrations of salt found in the four selected portions of meat, raw and after various cooking treatments, are shown in the table, each figure being the average value for three shellfish in each group. Deviations of individual values from the mean were very small. The tail meat absorbed very little salt even in the concentrated solutions; meat more than $\frac{3}{8}$ -inch below the surface did not absorb salt until the brine strength was increased beyond 10 percent. There was a slight loss of natural salt by leaching on cooking in fresh water, but only from the surface layer. Leg meat absorbed small amounts of salt in brines of low strength and about 1.5 percent

in the most concentrated solution.

Although marine spiny lobster contain appreciable concentrations of sodium chloride in the edible meat, it is generally considered in the trade that the palatability of the cooked meat is improved by the addition of salt to bring its concentration up to about 1.5 percent. To reach such a level in the tail meat of shellfish similar to those used in these experiments would require an additional 0.8 percent.

The assumption by the trade that cooking whole spiny lobster in boiling salt brines brings about such an increase is not supported by the experimental evidence. Even when they were cooked in very strong salt brines, the increase was only about 0.3 percent. In weaker brines similar to those used by most of the Tasmanian processors there was very little change in salt content of the tail meat during cooking. Cooking in fresh water reduced the salt content only slightly.

It is also clear that the saltiness of leg meat cannot be used as a satisfactory index for assessing the concentration of salt in tail meat. The leg meat in the raw material used had an initial salt content almost twice that of the tail meat and in addition it showed an appreciable increase in salt concentration even in weak brines.

It has been assumed that the practice of drowning the spiny lobster in strong salt brines prior to cooking in steam appreciably increases the salt content of the tail meat. The above results suggest that this would be most unlikely during the short periods of immersion used for drowning.

When the whole spiny lobster is immersed in strong salt brine before or during cooking, small quantities of brine may be entrapped within the shell. It has been argued that there may be an additional uptake of salt from these areas during frozen storage. The diffusion of salt into the edible meat during frozen storage is not

Concentration of Salt in Spiny Lobster Meat					
	Raw %	Cooked in			
		Fresh Water	Salt		
			5%	10%	20%
..... (Percent)					
Tail meat (inner)	0.5	0.5	0.5	0.5	0.7
Tail meat (2nd layer) . . .	0.7	0.7	0.7	0.7	1.0
Tail meat (surface)	1.0	0.9	1.0	1.2	1.3
Leg meat	1.3	1.2	1.5	1.8	2.8

likely to be of great importance according to an article in the May 1956 (Australian) Fisheries Newsletter.

In the raw meat of the three shellfish used in the experiment, there was a well-defined gradient in salt concentration from the center to

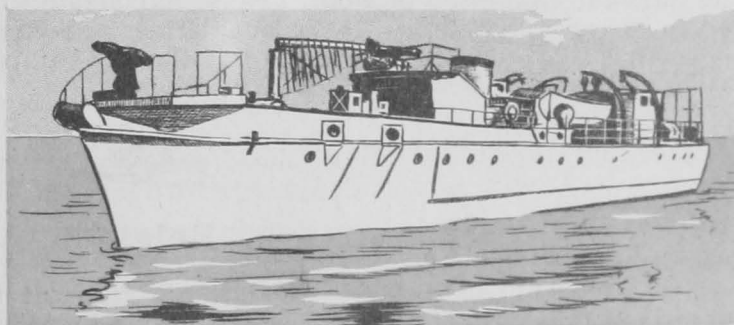
the surface of the tail and a larger concentration in the leg muscles. The existence of this gradient has since been confirmed in other cases. It is unlikely, therefore, that it was introduced during handling, for example, by contamination with sea water.

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WHALE MEAT SHIPMENTS TO UNITED STATES FOR PET FOOD: An Australian whaling company reportedly has now made definite arrangements to sell its whale meat production from two shore-based whaling stations to a United States firm manufacturing pet foods. The whale meat is to be shipped to the United States in a refrigerated cargo vessel owned and operated by the purchaser of the meat, declares a United States Foreign Agricultural Service report from Canberra.

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SHORE-BASED WHALING SEASON, 1956: The Australian shore-based whaling season for 1956 started at Albany in Western Australia on June 8 and on the eastern coast at Tangalooma, Queensland, on June 11. Quotas for the mainland stations will be the same as last year, but an additional quota of 150 whales has been provided for a new whaling station nearing completion on Norfolk Island. The base quota for this station has been determined at 120 whales per annum, but approval has been given for a quota of 150 whales in this, the first year.



An Australian whale chaser. Note folded mast to get under low bridges and on foredeck the tractor which serves as a winch for playing whales.

As a result of this increase in total Australian quotas (1,990 whales), it appears likely that oil production from whaling during the 1956 season will approximately be 8 per cent higher than last year, and will again exceed 4.8 million gallons (U.S.). The quotas for Western Australian stations, which were reduced last year, have not been revised although 1955 results showed an improvement on the 1954 catch in relation to size.

The Norfolk Island station nearing completion was expected to begin operations some time during August 1956, when the catcher now operating at Byron Bay will be transferred there. The new station is a subsidiary of the same meat company operating Byron Bay station. Government officials believe in spite of some whale-meat exports for pet food to the United States that production of whale-meat meal may be maintained at the level of previous years by greater concentration of solubles. Apparently the prospective dollar earnings provided an added incentive for the approval of whale-meat exports, declares a United States Foreign Agricultural Service report from Canberra dated June 26.



Bahama Islands

FISHERIES TRENDS, 1955: Exports of Fishery Products, 1952-55: The export of spiny lobsters (crawfish) by the Bahama Islands continued to be encouraging in 1955. The export of fresh fish was less than one-third of 1954 exports and far less than the amount exported in 1952.

Prices in the local market are extremely high, however, and fishermen have no difficulty in selling their catches locally.

Product	1955		1954		1953		1952	
	£	US\$	£	US\$	£	US\$	£	US\$
Spiny lobsters	160,647	449,812	163,743	458,480	156,920	439,376	99,649	279,017
Fresh fish	1,399	3,917	4,387	12,284	3,992	11,178	10,656	29,837
Shells	21,792	61,018	20,524	57,467	33,014	92,439	23,052	64,546
Sponges	-	-	1,021	2,859	1,198	3,354	664	1,859
Total	183,838	514,747	189,675	531,090	195,124	546,347	134,021	375,259

A possibility exists for the establishment of a tuna cannery in Bimini. During the tuna season, which is short, however, thousands of pounds of tuna are caught by game fishermen and very little of the catch is consumed.

Sponge Fishery: In 1938 the sponge beds of the Colony were devastated by a marine disease and, with the exception of a few months in 1946, were closed until January 1956. The beds remained open until March 31, and the quantity gathered exceeded expectations, and the quality was excellent. The total value of sponge sold at the sponge market, open from April 16 to May 11, was £27,237 (US\$76,264). The harvest consisted of wool, grass, hardhead, and reef sponges. Velvet sponge, 20 years ago marketed in large quantities, appears to have become extinct, according to the United States Consulate at Nassau (dispatch of July 5, 1956).

Note: Values converted on the basis of £1 equal \$2.80



Belgium

MARINE OIL MARKET: Belgium's fish oil trade is insignificant. A fair quantity of whale oil is used. There is one small plant which produces about 400 tons of fish oil a year. This oil is not of a particularly good quality since it is made from offal. The offal is a byproduct from the curing of herring. About 1½

Type and Country or Origin	Quantity (Metric Tons)	Type and Country or Origin	Quantity (Metric Tons)
Crude:		Other:	
France	23	France	4
Norway	8,157	Iceland	5
Netherlands	1,625	Norway	409
Portugal	28	Netherlands	7
United Kingdom	15	United Kingdom	66
West Germany	2	Sweden	3
Japan	63	West Germany	4
United States	598	Japan	79
Falkland Island	508	United States	1
Sea	740	Total Other	578
Errors and omissions	2		
Total Crude	11,761		

years ago two of the margarine manufacturers in Belgium imported some American menhaden oil which was refined and hydrogenated. They both claim that the oil rverted and the flavor of the margarine after a few days was unsatisfactory. The margarine manufacturers, themselves, thought that the independent refiners in Belgium had not had sufficient experience in refining fish oil, and the product prepared by them was inferior to that made either in Holland or Germany

There does not seem to be any separate statistics on fish oil alone. These are incorporated in the general category of marine oils. Imports of marine oils, both crude and refined, by source during the year 1955 are shown in the table.

The survey was able to ascertain that out of a total of 71,700 tons of all fats used in the manufacture of margarine in 1955, approximately 10,000 tons was whale oil. No fish oil so far as we could ascertain was used.

Small quantities of lower-grade domestic fish oil are used for industrial purposes, such as leather dressing, etc., and the balance is usually exported to the Netherlands under the BENELUX agreement.

This is one of eight reports on a survey undertaken by the U. S. Fish and Wildlife Service of markets for United States-produced oils with emphasis on Western Europe.

Note: See Commercial Fisheries Review, August 1956, p. 47; also see pp. 66, 70, 71, 87, 90, 96, & 99 of this issue.



British Honduras

STATUS OF THE FISHERIES, 1955: No improvement took place in 1955 in the British Honduras fishing industry. In fact, the value of marine products exports decreased by some 35 percent below that of 1954. The decrease was attributed almost entirely to a decline in the sales of whole spiny lobsters to the United States.

No statistical or other information is available as to total production of the fishing industry. A large number of fishermen provide fresh fish to Belize and the other

Table 1 - British Honduras Exports of Fishery Products

Product	1955		1954		1953		1952	
	BH\$	US\$	BH\$	US\$	BH\$	US\$	BH\$	US\$
Fish:								
Fresh, frozen or live	4,782	3,347	17,434	12,204	16,204	11,343	9,069	6,348
Salted	7,318	5,123	17,385	12,170	5,206	3,644	9,336	6,535
Lobsters, spiny:								
Whole	16,610	11,627	31,231	21,862	3,019	3,113	10,539	7,377
Tails	74,166	51,916	75,057	52,540	75,288	52,702	79,943	55,960
Other (conchs & shrimp)	3,862	2,703	2,421	1,695	2,737	1,695	443	310
Totals	106,738	74,716	143,528	100,471	102,454	71,718	109,330	76,530

coastal towns, generally selling their daily catches direct to the ultimate purchasers or, more infrequently, to retailers who in turn sell at the local fish markets.

The legal entanglements involving the United States firm holding the exclusive franchise for lobster shipments to the United States continued to be before the local courts and were not settled until the spring of 1956. These legal questions continued to be the main reason why lobster fishing was not carried on aggressively. With the settlement of this legal difficulty, it is foreseen that lobster fishing will soon be tackled more forcefully and may result in increased production and exports.

Late in 1955 another firm began exploring the possibilities for shipping lobsters to the Mexican, Guatemalan and other Central American markets. The survey

Table 2 - British Honduras Fishery Products Exports to United States

Product	1955		1954		1953		1952	
	BH\$	US\$	BH\$	US\$	BH\$	US\$	BH\$	US\$
Spiny lobster, whole ..	8,413	5,889	24,594	17,216	84	59	5,493	3,845
" " tails ...	73,530	51,471	73,926	51,748	74,666	52,266	79,112	55,378
Fish, fresh or frozen	-	-	14,836	10,385	13,790	9,653	5,627	3,939
Total	81,943	57,360	113,356	79,349	88,540	61,978	90,232	63,162

revealed attractive possibilities, and work was begun in organizing the business and installing freezing and associated equipment, states a United States consular dispatch (June 29) from Belize.

Note: Values converted to US\$ on the basis of BH\$1 equals US\$0.70.



Canada

ANTIBIOTICS FOR PRESERVING FRESH FISH: Canadian experiments in the use of antibiotics in the preservation of fresh fish were described by Dr. H. L. A. Tarr, of the Fisheries Research Board of Canada Technological Station, Vancouver, B. C., in a paper presented at the International Meeting of Fish Processing Technologists at Rotterdam, Netherlands, June 25-29.

In his paper Dr. Tarr stated that aureomycin was more effective than terramycin or tetracycline in retarding the bacterial spoilage of fish. In the course of experiments with salmon caught off Vancouver Island, flaked ice containing 1 p. p. m. aureomycin was found to be superior to ordinary ice. Convenient methods have been found to add aureomycin to flaked ice as it is being made, and to distribute the antibiotic uniformly in block ice. Studies on the penetration of aureomycin into fish meat have revealed that only a small amount gets through the skin or belly flaps, and residual antibiotic is removed when the fish is cooked, reports the June 1956 Trade News of the Canadian Department of Fisheries.

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FISH CONSUMPTION INCREASING: The Canadian consumption of fish is slowly rising, partly due to the efforts of the industry and the Department of Fisheries, and also to improved transportation and cold-storage facilities, Canada's Minister of Fisheries told the House of Commons in Ottawa in his annual review. There was a substantial increase in the number of cold-storage units in 1955. The Minister stated that the industry was in good condition, according to a news item which appeared in The Fishing News (June 15, 1956), a British fishery periodical.

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FISHERIES TRENDS, FIRST QUARTER 1956: Despite bad weather Canadian fishermen in the first quarter of 1956 landed the biggest catch on record for that period. Total landings were 459 million pounds valued at C\$10.9 million, compared to 236 million pounds valued at C\$7.0 million for the same period in 1955, points out a June 29 United States Embassy dispatch from Ottawa.

The herring catch on the Pacific Coast was principally responsible for the good showing, with 315 million pounds landed in the three-month period as compared to

117 million pounds a year earlier. On the Atlantic Coast there were heavier than usual catches of haddock and sardines. In terms of ex-vessel value, haddock landings were worth C\$1.9 million and sardines C\$0.3 million, an increase over last year of C\$0.5 million and C\$0.2 million, respectively. The lobster catch on the east coast was valued at C\$1.5 million as compared to last year's C\$1.2 million, although the catch was appreciably smaller this year.



Filleting operation at a large fish plant in St. John's, Newfoundland.

The high level of the first quarter showed signs of dropping off during succeeding months. April landings were 61 million pounds or 27 percent below April 1955 and were valued (C\$3.7 million) at 6 percent less. An exception to the general picture was the very good Pacific Coast salmon catch in April of 535,000 pounds valued at C\$164,000 as compared to April 1955's 288,000 pounds valued at C\$85,000.

Frozen fish stocks at the end of March 1956 were 30.7 million pounds and at the end of April had risen to 34 million pounds. Total freezings of fish in Canada were 50.2 million pounds for the first quarter of 1956 and an additional 12.0 million pounds in April.

Exports of fishery products remained steady at C\$19.5 million for January-February 1956 as compared to C\$19.0 million in the same period of 1955. The United States increased its purchases and continued to be the major buyer. Sales to Europe declined in the first two months from those of a year previous while those to the Caribbean area increased.

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MINIMUM MESH-SIZE REGULATIONS FOR ATLANTIC TRAWL NETS: Regulations prescribing minimum mesh sizes in Canadian Atlantic trawl nets will go into effect on January 1, 1957. The regulations apply to nets being used to fish cod and haddock. They do not apply to nets being used to fish ocean perch exclusively.

Table 1 - Minimum Mesh Sizes for Otter-Trawl Netting Used in Subarea 4

Kind of Twine	Minimum Mesh, Internal Measure Used and Wet	Size of Twine	Recommended New ¹ / _{Netting Mesh Size (Between Knot Centers)}
Manila -double	4 ¹ / ₂ in.	60 yds. & larger twine	5 ⁵ / ₈ in.
		61-80 yds.	5 ¹ / ₂ in.
		81 yds. & smaller twine	5 ³ / ₈ in.
Manila -single	4 ¹ / ₂ in.	60 yds. & larger twine	5 ¹ / ₈ in.
		61 yds. & smaller twine	5 in.
Cotton -single & double	4 ¹ / ₄ in.	All sizes	4 ¹ / ₄ in.
Nylon -single & double	4 in.	All sizes	4 ¹ / ₄ in.

¹/ These sizes refer to individual pieces of netting. In a bale of netting the pieces usually vary slightly in mesh size. To make sure that all pieces in the bale are at least equal to the recommended mesh size, the netting is usually ordered with a mesh size ¹/₁₆ to ¹/₈ of an inch larger than the equivalent mesh size for new dry netting.

The regulation prescribes a minimum mesh size for all parts of the trawl. The parts mainly affected are the cod end, lengthening piece, and the aft part of the belly. Other parts of the trawl usually have larger meshes than those prescribed as a minimum, the June 1956 Trade News of the Canadian Department of Fisheries announces.

Mesh regulation is already in effect for Subarea 5, Georges Bank and adjacent waters. The regions affected by the new regulation are Subarea 4 and Subarea 3. Subarea 4 includes the Bay of Fundy, Nova Scotian waters and the Gulf of St. Lawrence. Subarea 3 includes the Newfoundland fishing banks.

Table 2 - Minimum Mesh Sizes for Otter-Trawl Netting Used in Subarea 3

Kind of Twine	Minimum Mesh, Internal Measure Used and Wet	Size of Twine	Recommended New $\frac{1}{2}$ Netting Mesh Size (Between Knot Centers)
Manila - double	4 in.	60 yds. & larger twine	$5\frac{1}{8}$ in.
		61-80 yards	5 in.
		81 yds. & smaller twine	$4\frac{7}{8}$ in.
Cotton - single and double	$3\frac{3}{4}$ in.	All sizes	$3\frac{3}{4}$ in.
Nylon - single and double	$3\frac{5}{8}$ in.	All sizes	$3\frac{3}{4}$ in.

$\frac{1}{2}$ See footnote in table 1.

The minimum mesh size prescribed for Subarea 4 is the same as that for Subarea 5. For Subarea 4, Manila netting used in otter trawls must have a mesh size larger than $4\frac{1}{2}$ inches, internal measure, measured wet after use. For Subarea 3, the minimum mesh size for Manila netting is 4 inches, measured in a like manner. Other materials shrink and stretch to a different degree than Manila. They may also allow the escape of different sizes of fish than Manila through the same size mesh opening. The necessary equivalents for other materials are thus included in the preceding tables. Also included are the recommended mesh sizes of new netting which should meet the minimum mesh size specified. Internal mesh size is measured with a gauge which is forced into the mesh under 10 to 15 pounds pressure.

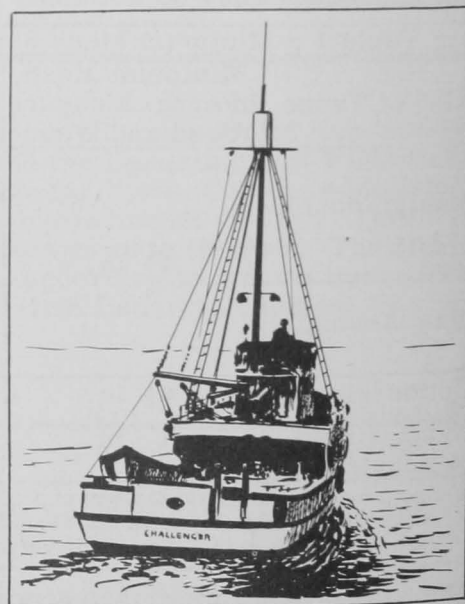
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DISTRIBUTION OF SALMON IN NORTH PACIFIC OFFSHORE WATERS STUDIED: A survey now being undertaken by Canadian, United States, and Japanese vessels will, it is hoped, prove to be a major step towards determining the distribution and migration routes of salmon and other fish in the North Pacific Ocean.

The crews and the scientific observers accompanying them are making scheduled fishing tests at stations scattered over an immense area, under the auspices of the International North Pacific Fisheries Commission. It is the largest ocean sampling of fish stocks ever undertaken. The scientists hope eventually to find out if overlapping of races between Asiatic and North American stocks occurs, and if so at what point the two populations merge.

The Fisheries Research Board of Canada has chartered two Canadian fishing vessels which, under direction from the Board's Biological Station at Departure Bay near Nanaimo, B.C., are making a series of cruises over nearly 500,000 square miles of ocean. The western boundary of the area to be covered by these two boats is approximately 1,000 miles offshore from British Columbia.

The converted seiner Key West 2 completed her first Pacific Ocean run at the end of May and



Canadian converted tuna clipper Challenger off on its first survey cruise in the North Pacific.

started her second after refrigeration facilities had been installed. Key West 2 is also equipped with an electronic device which will enable her captain to "see" schools of fish under water at any point within 180 degrees forward of the boat for short distances.

The second Canadian vessel, the Challenger, a former tuna clipper, left Nanaimo on May 30 on a run which will take her to the farthest limits of the area allotted to Canada for survey.

The ocean stations at which tests are to be made are set out on a gridded map of the North Pacific. United States and Japanese vessels will take their fishing samples north and west of the Canadian area.

The ships are manned by professional fishing crews, and there are scientific observers on each one, points out the June 1956 Trade News of the Canadian Department of Fisheries.

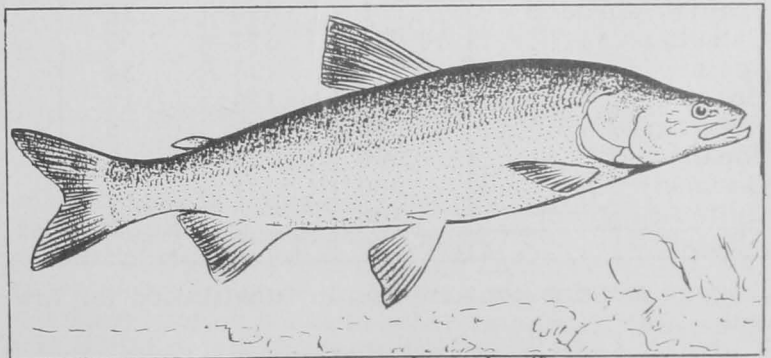
The Canadian vessels will fish with specially made gill nets of varying mesh sizes. Already a number of salmon have been taken in fishing at certain ocean stations. The first catches were mainly of sockeye salmon, with a few pink and some other varieties. Other fish species are not to be overlooked; the vessels are equipped with tuna-trolling gear for use if schools of that fish are encountered.

In the early stages of the survey all specimens are being retained and sent to the Biological Station at Nanaimo for examination. During the later stages a proportion of the fish caught will be tagged and released.

Last year, the Fisheries Research Board had boats follow juvenile salmon from the mouths of streams into Hecate Strait and beyond, through Dixon Entrance in northern British Columbia coastal waters. This year's program calls for the tracing of the movements of fish in ocean waters far from the coast. Tags placed on young salmon last year will be sought at all stages of the investigation. The tags are made of colored plastic tubing and are known as the "spaghetti type." Fishermen have been asked to forward any that are found to any fisheries officer or to the Board's station at Nanaimo.

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SHEEFISH OR INCONNU: Early voyagers gave the name "inconnu" to a fish found in the Northwest and Yukon Territories, where it is of importance as food for humans and for sled dogs. When the voyagers first traveled those regions they caught some of the fish, the first of the kind they had ever seen. "Poisons inconnus"--unknown fish, they said, and since then the word "Inconnu" has passed into usage as the name of the fish, although often it is shortened to "connie" or "coney." In Alaska it is called "sheefish."



Sheefish (Stenodus mackenzii)

The commonly accepted scientific name is Stenodus mackenzii. The "mackenzii" is derived from the fact that in North America the inconnu is found mainly in the Mackenzie River Basin, although as stated it is also to be found in the Yukon Territory and Alaska. A similar species occurs in Siberia.

Although the inconnus of the Mackenzie Basin all belong to the same species, they appear to be divided into two forms. One of the two is a landlocked or fresh-water form found in Great Slave Lake; the other is a migratory form found in the Lower Mackenzie River.

Inconnus found in the Yukon are said to be smaller, on the average, than those taken in the Mackenzie district. The fish is light in exterior coloring, with the dorsal fin dusky at the tip and the caudal fin shading to dark at its edge. The lower jaw is longer than the upper and is usually somewhat hooked. There are bristle-like teeth in the upper jaw and weaker ones below. The meat is white but rather soft and oily.

Eskimos of the Mackenzie delta sometimes catch inconnus with barbless hooks, fishing through the ice; sometimes by means of a fishing spoon or bait, or perhaps a hook baited with a thin piece of bone. Commercial fishermen use gill nets to catch the fish, points out the Canadian Department of Fisheries Trade News of June 1956.

There was no fishing for inconnu on a commercial scale until 1945, but since that time fishermen operating on Great Slave Lake have taken them in nets set primarily for whitefish and lake trout. Drying and smoking are the methods used when preparing the fish for future local use.



Cuba

CANNED SARDINE MARKET: Cuban sardine imports in 1955 totaled 185,259 cases (7.4 million pounds) valued at US\$1,369,842, f.o.b. port of origin, reports a July 17 dispatch from the United States Embassy in Habana. Data on sardine imports are not available on a year-by-year basis, but they were compiled for 1955.

The consensus in trade circles is that 1955 was a normal year and indicative of the current market.

Table 1 - Cuba's Canned Sardine Imports by Country of Origin, 1955

Country	Quantity		Value
	Actual Cases	1,000 Lbs.	US\$ 1,000
United States	75,765	3,068	513
French Morocco . . .	42,080	1,852	337
Portugal	23,193	864	221
Spanish Morocco . .	16,995	698	136
Canada	19,071	571	95
Spain	2,749	115	34
Holland	2,350	124	17
Belgium	750	21	6
Japan	1,600	36	5
Germany	600	21	5
United Kingdom . . .	106	2	1
Total	185,259	7,372	1,370

Cuba imports substantial quantities of United States sardines. Trade circles stress the possibility of increasing these imports if prices are particularly advantageous. Such increases would not be at the expense of other suppliers, since there is an established demand for the types of sardines imported from other countries. The potential larger market would be dependent upon reduced prices which would en-

courage sardine consumption in substitution for low-cost meat and other fish products.

Trade circles also report that there is a substantial unfilled demand for a can of sardines that can retail for about 10 cents. Such a can must be convenient to open with a key. The packing medium may be tomato sauce or oil, although the best promise would be for an oil-flavored product to resemble olive oil. The number of sardines in a can is not considered important.

There is no production of canned sardines in Cuba.

Consumption follows the pattern which has been established through the years. An increase has occurred when prices of sardines have been especially favorable

Table 2 - Cuba's Canned Sardine Imports by Type of Pack and Country of Origin

Type of Pack	Country of Origin	Quantity		Value
		Actual Cases	1,000 Lbs.	US\$1,000
Tomato sauce	U. S. A.	75,761	3,068	513
	Japan	1,600	36	5
	Total	77,361	3,104	518
Tomato with olive oil	Portugal	7,740	279	67
	Spanish Morocco ...	6,798	279	54
	Spain	413	16	4
	Total	14,951	574	125
Tomato with soya oil	Canada	6,381	185	28
Tomato with peanut oil	French Morocco	15,149	667	121
	Holland	2,350	124	17
	Germany	200	11	2
	Total	17,699	802	140
Olive oil	French Morocco	4,208	185	34
	Portugal	12,838	478	130
	Spanish Morocco ...	10,197	419	82
	Spain	2,336	98	30
	Total	29,579	1,180	276
Peanut oil	French Morocco	22,723	1,000	182
	Portugal	2,615	106	24
	Germany	400	10	3
	Total	25,738	1,116	209
Soya oil	U. S. A.	2	1/	1/
	Canada	12,690	386	67
	Total	12,692	386	67
Mustard	U. S. A.	2	1/	1/
Unidentified	United Kingdom	106	3	1
	Belgium	750	22	6
	Total	856	25	7
Grand total		185,259	7,372	1,370

1/ Less than US\$1,000 and 1,000 pounds.

as compared with prices of other low-coast fish and meat products, and during periods of scarcity of these products. Consumption is at its peak during the sugar season and other periods of high employment, when workers buy sardines for their meals at work. It appears there would be little receptivity to new uses of sardines since they are consumed without further processing.

The percentage of sardines consumed by the high, medium and low income groups is estimated at 5, 15, and 80 percent, respectively.

Retail market prices for 3¼-ounce canned sardines packed in tomato sauce (United States or Canadian) range from 10-15 cents a can; 3¼-ounce sardines in olive or other oil from 12-20 cents, with a popular price of 2 for 25 cents for lower-priced brands; 15-ounce cans in tomato sauce range from 28-40 cents with 30 cents generally applicable to California sardines and 38 cents to other imports. Other types of sardines range in price from 30-45 cents, depending on the marketability of the particular product.



Denmark

FISHERY PRODUCTS EXPORTS TO UNITED STATES: Danish fishery products exports to the United States have climbed from 12.6 million kroner (US\$1.8 million) in 1953 to 13.8 million kroner (US\$2.0 million) in 1954 to a high of 16.8 million kroner (US\$2.4 million) in 1955. Fish exports to the United States consisted mainly of frozen brook trout and smaller amounts of canned mackerel, fresh cod fillets, and fresh plaice fillets in that order, according to a United States Embassy dispatch (July 3) from Copenhagen.

Feedstuffs exports to the United States, consisting largely of fish meal, have dropped sharply from 9.6 million kroner (US\$1.4 million) in 1954 to 3.1 million kroner (US\$0.4 million).

Note: Values converted to US\$ on the basis of 6.907 kroner equals US\$1.

* * * * *

MARINE OIL MARKET: Denmark's trade in fats and oils is quite large in proportion to its population of about 4.5 million people. While fish oil is not one of the major oils used in Denmark, its importance is increasing each year (table 1).

There is considerable feeling in Denmark that fish oil will become more important because it is anticipated that the production of whale oil by European whaling units will probably decrease due to the greatly increased operating costs. Practically all of the fish oil produced in Denmark is either herring oil or tobis (sand eel) oil. The tobis is an eel-like

Table 1 - Denmark's Production of Fish Oils, 1949-55

Year	Metric Tons
1955	19,000
1954	11,000
1953	9,770
1952	6,701
1951	5,948
1950	2,517
1949	2,391

Table 2 - Denmark's Fish Oil Exports by Country of Destination, 1955

Country of Destination	Metric Tons
West Germany	5,201.0
Norway	2,215.1
Sweden	4,800.6
Holland	112.5
Spain	57.0
Czechoslovakia.....	68.4
Others	14.4
Total	12,469.0

fish which is caught in the North Sea and yields an oil very similar to herring oil. The smaller fish reduction plants mix it with the herring oil without indicating that the resulting product is a mixture. The iodine number of the herring oil produced in Denmark runs from 135 to 150, while tobis oil runs from 145 to 160.

The survey included the most modern and up-to-date fish reduction plant in Denmark at Esbjerg. This is a cooperative operation and was founded in 1948 and is at present handling about 1,500 tons of fish a day. Its members own 160 boats fishing for reduction purposes exclusively. A great deal of the fish oil produced in Denmark is exported (table 2).

Imports of fish oil are practically negligible--163 metric tons in 1955, mostly from Norway (109.2 tons) and some from Sweden (51.7 tons). Imports of whale oil were 16,103 tons of which 15,054 tons came from Norway.

In the course of the survey, the two plants in Denmark that refine and produce edible grades of fish oils for use in Denmark were visited. One is at Aarhus and the other at Copenhagen. In both cases they indicated that they found that United States menhaden oil was not suitable for their purpose. It does not produce the type of edible product that is required. All of the fish oil used in Denmark (with the exception of very minor amounts) is for edible purposes in combination with whale

oil, for the manufacture of margarine. It was indicated that should Denmark ever find it necessary or advantageous to import fish oil that the following order was their judgment of the quality of various fish oils produced in other countries, starting with the best:

- | | |
|---------------------------------------|-----------------------------------|
| (1) Canadian pilchard oil. | (4) American menhaden oil. |
| (2) Norwegian or Iceland herring oil. | (5) Moroccan and Portuguese oils. |
| (3) California pilchard oil. | (6) Angola fish oil. |

Neither of these refiners is polymerizing fish oil for the production of edible liquid fish oil. It was indicated that since the German Government took action for bidding the use of polymerized fish oil, for edible purposes, practically no plants are producing polymerized oil at present and the use of edible fish oil for fish canning has declined considerably. Its place has been taken by edible vegetable liquid oils such as cottonseed oil and/or soybean oil. Both of these plants indicated that they were able to produce a good quality of edible hydrogenated fish oil suitable for the manufacture of margarine and which did not revert to the fishy flavor for a considerable period of time. They claim that they have a special refining method by which the oil is neutralized as quickly as possible after production, being stored in that condition rather than as the crude and untreated material. Both of these plants have distillation units and make distilled fatty acids from the refining residues, however, they do not fractionally distill the fatty acids. These fatty acids are sold to the industrial trade.

Table 3 - Denmark's Fish-Liver Oil Imports by Country of Origin, 1955

Country of Destination	Metric Tons
West Germany	279.4
United Kingdom	37.2
Norway	1,182.8
Iceland	671.6
Greenland	49.2
Portugal	10.4
Others	4.5
Total	2,235.1

Practically no fish oil, as such, is used in Denmark for industrial purposes. For purposes such as leather treating, etc. seal oil is imported principally from Norway (1,032 tons out of a total of 1,042 tons) and some sperm oil is also imported for the production of higher alcohols. Considerable quantities of fish-liver oil are also imported

and used for fortifying the margarine produced in Denmark (table 3).

It is understood that there is also an export of hydrogenated fish oil and whale oil. It was impossible to secure accurate statistics since the figures are included in the category of "hardened animal oils" (table 4).

Table 4 - Denmark's Exports of Hardened Animal Oils ^{1/}by Country of Destination, 1955

Country of Destination	Metric Tons	Country of Destination	Metric Tons
West Germany	29.3	Egypt	501.7
East Germany	115.3	Tunisia	70.3
Sweden	5.4	French Morocco	259.2
Iceland	20.0	British Egyptian Sudan	16.3
Finland	8.8	Iraq	20.3
Italy	147.9	Iran	10.2
Switzerland	30.0	Cyprus	56.8
Greece	169.5	Syria	27.0
Haiti	38.4	Lebanon	19.9
British West Indies	287.8	India	12.1
Peru	532.0	Others	140.0
Ecuador	34.6	Total	2,559.3

(Continued in next column)

^{1/} It should be understood that probably nearly all of this consists of fish and/or whale oil since there is very little actual tallow, grease, or other hydrogenated animal fat exported from Denmark.

Note: See Commercial Fisheries Review, August 1956, p. 47; also see pp. 58, 70, 71, 87, 90, 96, and 99 of this issue.

Ecuador

NEW FISHERIES REGULATIONS: A decree has been promulgated providing that exporters of fish shall deliver to the Central Bank their full foreign exchange earnings or that portion of their earnings which the Monetary Board may fix. The Fisheries Law had previously required that only US\$100 per ton need be converted at the Central Bank's official exchange rate; the balance could be converted through the broker's free market or retained by exporters. Reportedly some 2,000 tons of tuna were exported during 1955 with a total value of approximately US\$600,000, together with approximately 1,000 tons of shrimp valued at around US\$1,600,000. Only US\$300,000 were converted at the Central Bank, according to a July 13 report from the United States Embassy at Quito.

The Ministry of Economy has also issued a regulation requiring that export taxes be collected on all fish shipped abroad. Reportedly fishing companies had been obtaining exemption from export taxes on the ground that they were shipping an industrial product. (Industrial products pay no export duties.) According to the National Fisheries Director, fish that are merely frozen but not canned do not come within the industrial category. The exemption had allegedly been causing a loss of 1,000,000 sucres a year to the National Treasury.

The new decree on foreign exchange amends Article 36 of the basic Fishing and Maritime Hunting Law (*Ley de Pesca y Caceria Maritima*), Decree No. 003, published in *Registro Oficial* No. 747 of February 23, 1951, as follows (in informal English translation): "... exporters of fish, crustaceans, etc. will turn over to the Central Bank the net product of their exports by their declared value, duly verified, or according to the minimum prices fixed by the Monetary Board in relation to prevailing quotations in the international markets, in accordance with the power granted the Board by Article 1 of the Fishing Law... ."

An article appearing in the Guayaquil newspaper *El Universo* of July 8, 1956, states that the promulgation of the new decree confirms reports which the paper has been printing recently to the effect that companies exporting products of the sea have been gravely prejudicing the Ecuadoran Treasury by evading various provisions of the Fishing Law, that the Minister of Economy was aware of this situation and was studying the necessary means to put a stop to such practices, and that one of these means is the present Emergency Decree. The paper goes on to say that on May 31, 1956, the Minister of Economy communicated to the President the reasons for promulgating the decree. The Minister stated that in compliance with the then existing Fishing Law, exporters were required to turn over to the Central Bank only US\$100 for each ton of exports. The Minister said that unquestionably this constituted a privilege for such exporters amounting to an official subsidy. He stated further that such exporters enjoyed better facilities than were granted exporters of other basic products who sometimes find themselves in an unfavorable situation. He then quoted figures to show that exporters of fishing products were being required to turn over to the Central Bank only about 12.5 percent of the foreign exchange value of their exports while retaining some 87.5 percent for themselves. The Minister compared this with the situation of banana exporters who are, he stated, permitted to retain only a few centavos on each stem exported, to be exchanged at the free market rate as partial compensation for their present difficulties. The Minister cited the foregoing as justification for the Emergency Decree, stating that the present deficit in the international balance of payments does not permit waiting until Congress convenes. The article concluded that the National Council of Economy has unanimously approved the promulgation of the Emergency Decree for the same reasons.

In an article published in *El Universo* on July 10, 1956, it was stated that the National Council of Economy has approved the new decree and that the Monetary Board would meet in Guayaquil starting July 10 to discuss the fixing of the minimum

export prices and consequently the amounts which must be turned over to the Central Bank by exporters of fish and seafood.

In El Universo of July 11, 1956, it was announced that the Junta Monetaria resolved at its session of July 10 that the same "appraisal control" regarding the exportation of shrimp would be maintained until August 10, 1956, and that the question of the percentage of foreign exchange to be turned over to the Central Bank after that date would continue to be studied at the Board's current meetings in Guayaquil.

In connection with taxes on fishery products exports, the Ministry of Economy issued Resolution No. 155, published in Registro Oficial No. 1164 of July 4, 1956, instructing the Fisheries Department of the Ministry to notify persons and companies who apply for exemption from export taxes on sea products which are not "industrialized," as provided by Article 37 of the Fishing Law, that they are required to pay such taxes. An article in El Universo of July 12, 1956, stated that the resolution was issued to implement the measures taken by the Ministry to curtail the "sinecures and privileges" enjoyed by seafood exporters to the detriment of the Ecuadoran Treasury. It is explained that filleted fish and frozen seafood are not considered by the authorities to be "industrialized products" within the meaning of the Fishing Law, points out a July 12 dispatch from the United States Embassy at Guayaquil.

* * * * *

NEW FISHING COMPANY TO ERECT CANNERY: An executive decree has been issued authorizing the Minister of Economy in Ecuador to sign a fishing concession and industrial protection contract with a new company. The company will agree under the contract to erect a cannery in Guayaquil. The new concession will bring to five the number of fishing companies established in Ecuador, points out a dispatch of July 13 from the United States Embassy at Quito.



Finland

NEW LAW ON TERRITORIAL WATERS: The Finnish Diet on May 23, 1956, gave its final approval to a Government-proposed bill on territorial waters which presumably will be signed by the President and take effect in the near future. The bill is essentially a codification and clarification of existing practice, required by various changes in Finnish territorial boundaries and by the previous lack of any comprehensive law delineating Finland's territorial waters and clearly defining the basis therefor. In the Peace of Dorpat (Tartu) of 1920 with the Soviet Union, the Finnish waters in the Gulf of Finland were fixed at four miles but the limits in the Gulf of Bothnia had not been specified in any basic instrument.

The main principles applied by Finland in determining its territorial waters are (1) the four-mile limit of marginal sea common to the Scandinavian countries and, in the Gulf of Finland, the U.S.S.R., and (2) the "broken line" (rather than circular) method of drawing the base line for the marginal sea. (Using terminology of this bill, the line dividing inner and outer territorial waters, in addition to which the literature speaks of inland waters.) Islands situated outside the base line have territorial waters only three miles wide. However, the base line is extended between headlands or islands which are not separated by a distance of more than twice the width of the marginal sea. Therefore, considering the provision in the bill that the inner territorial waters should be extended as far out as possible, the reference to islands outside the base line becomes academic in many cases because such islands will be within the base line.

According to the Director of Legal Affairs in the Finnish Foreign Ministry, the territorial waters resulting from the new law will differ little from the present definition and will not conflict with those of either Sweden or the Soviet Union. To avoid such conflict, the bill specifies treaty boundaries rather than the general limits in certain areas. Such exceptions are obviously necessary at the southeastern and northwestern limits of Finland's territorial waters, where the maritime frontiers are determinative out to the four-mile limit. In addition, near the former Finnish (now Soviet) island of Suursaari in the Gulf of Finland the 1947 Peace Treaty specified a Finnish maritime boundary somewhat less than three miles from the most southerly Finnish island. Similarly, the island Märket west of the Aaland Islands is both a point of the Finnish base line and an international boundary marker (half Finnish, half Swedish) under the 1811 Peace of Hamina.

Two other portions of the Finnish-Swedish maritime boundary, Marenkurkku about the middle of the Gulf of Bothnia and near Flötjan south of the Aalands, were drawn as a result of the Peace of Hamina within the Finnish territorial waters as determined by the new law. The Finnish Government regards the old boundaries as meaningless in these cases, according to the Director, because Sweden's territorial waters as presently defined do not meet those of Finland.

It can be assumed that the Finnish Government has been in consultation with the Swedish Government regarding these three points of possible conflict. Thanks apparently to Swedish restraint, channels of open sea have been left between Finnish and Swedish waters all the way to the head of the Gulf of Bothnia. Asked about the comparable situation in the Gulf of Finland, Professor Castren told the Embassy that there was no longer any difference of opinion among authorities on international law over its accessibility through international waters (United States Embassy in Helsinki, report dated June 4, 1956).



France

MARINE OIL MARKET: Fish oil in France is a very minor item in the over-all fats and oil picture. Outside of a small quantity of whale oil (which is used for edible purposes) and some sperm oil (which is used for the production of higher alcohols), nearly all of the fish oil used in France is of a very low quality. As an example, the leather industry uses it for leather stuffing.

Production in metropolitan France of sardine oil totals approximately 5,000 tons a year and does not seem to vary much from year to year. Morocco produces 1,500 to 2,000 tons a year. In the overseas territories, about 1,000 tons of sperm oil are produced. The total needs are estimated to be approximately 12,000 to 13,000 tons a year. Some of the foots from the partial refining of low-grade fish oils is used in the soap industry. This refining is not done, however, for the purpose of making the oil into an edible product.

A small quantity of refined edible oil is imported each year from Norway for fish canning. The amount for which licenses will be issued in 1956 is 600 tons. France does not permit the use of polymerized fish oil for edible purposes. They follow the same attitude as Germany in this respect, considering that the polymerization does something to the fish oil which makes it toxic under some conditions.

There is an import of from 500 to 1,000 tons of fractionated fish oil from South Africa. The grade imported is known as "Marinol K," a high iodine number fraction. The present value of this oil is about £120 (US\$336) a long ton. In order to be attractive to the trade, this must sell at about 10 percent under the local cost of linseed oil. The French government committee does not make very much money

available for this product and sometimes it carries a compensatory tax, depending on the relative price compared with linseed oil. It is used mostly in the manufacture of core oils and paint, and there is apparently only one company which is importing this product.

The present duties on drying oils are now under suspension but, as stated above, there is a compensatory tax which is based on the price of the fish oil, compared with other drying oils such as linseed oil. There is an import of hydrogenated fish oil and whale oil in small quantities from Norway, but the amounts have not yet been obtained. Statistics for fish oil are very sparse in France since, in the past, they have, with the exception of cod-liver oil, all been put into a single category. It is expected that, beginning with 1956, both import and export statistics will be broken down, and there should be better reporting in the future for the different marine oils. Statistics regarding the production of fish oil are quite unreliable.

France has been unwilling to make available dollars for the importation of fish oils from the United States and it would appear that the market here is not very large unless some specialty oils, which would require intensive and specialized selling, were offered. The French government would also have to be persuaded that they are necessary for the promotion of industrial production.

This is one of eight reports on a survey undertaken by the U. S. Fish and Wildlife Service of markets for United States-produced fish oils with emphasis on Western Europe.

Note: See Commercial Fisheries Review, August 1956, p. 47; also see pp. 58, 66, 71, 87, 90, 96, & 99 of this issue.



German Federal Republic

MARINE OIL MARKET: Germany is probably the largest fish and marine-animal oil consuming country in Europe. Again as in other countries in Europe the bulk of the oil is used for edible purposes. Out of Western Germany's total consumption in 1954 of 157,000 metric tons of whale oil and fish oil, approximately

Table 1 - German Federal Republic's Production of Marine Fats and Oils, 1954-55

Type	1955	1954
	(Metric Tons)	
Whale fat and oil	n. a.	21,059
Cod-liver oil, crude	n. a.	2,050
Cod-liver oil, processed	n. a.	2,000
Other marine fats and oils	29,700	28,500

35,000 tons were used for industrial purposes and 122,000 tons for human consumption. The United States furnished the greater part of Western Germany's imports of fish oils both for 1954 and 1955.

The single importer of United States menhaden oil in Germany purchases only untreated crude oil, having had considerable difficulty in past years with refining and bleaching other types of oils. The firm is now satisfied with the quality of the oil they are securing. They claim to have developed a process for refining and hydrogenation which gives them a product satisfactory for use in margarine and none of the oil they purchase, except for the foots from refining, is used for industrial purposes. They contend that some suppliers have in the past been in the habit of mixing "tank bottoms" and the resulting product has contained considerable dirt as well as excess stearine from settling.

There is no Solexol plant operating in Germany. There are two companies who produce fatty acids from fish oil and fractionate these, selling the resulting fractions for various purposes, such as the manufacture of alkyd resins, etc. Some hydrogenation of fish oil with splitting of the same is also effected. A good grade of stearic acid is produced by this method and finds a ready market. Both of these companies are located in the upper Rhine area.

Some of the smaller companies purchase their supplies of fish oil through a dealer in Hamburg. It is the practice of this dealer to purchase menhaden oil from

Table 2 - German Federal Republic's Imports of Marine Fats and Oils by Country of Origin, 1954-55

Type & Country of Origin	1955	1954	Type & Country of Origin	1955	1954
	(Metric Tons)			(Metric Tons)	
<u>Whale Oil:</u>			<u>Other Marine Fats & Oils (Contd.):</u>		
Denmark	0	21	Norway	7,874	9,770
Great Britain	151	10,267	Portugal	1,786	1,426
Iceland	0	859	Sweden	149	475
Netherlands	841	601	South African Union . .	2,284	5,759
Norway	36,871	60,145	Angola	6,198	0
Portugal	1,150	1,804	Spanish Morocco	32	449
South African Union . . .	0	2,669	Port. West Africa	0	8,886
Japan	15,092	25,348	French Morocco	0	27
Panama	19,835	9,729	Vietnam	150	0
Peru	772	2,571	United States	31,780	34,180
British Guiana	9,150	500	Canada	1,235	2,680
Australia	5,389	5,723	Return goods	0	2
New Zealand	0	152	Unspecified	1	2
Unspecified	5	2	Total 1/	67,940	109,161
Total 1/	83,256	121,391	<u>Hardened Fats & Oils: 2/</u>		
<u>Other Marine Fats & Oils:</u>			Denmark	0	8
Belgium	633	5,598	Netherlands	83	12
Denmark	6,421	5,890	Norway	7,399	2,191
France	220	40	Switzerland	2	9
Great Britain	2,180	12,691	India	30	0
Eire	84	188	United States	30	14
Iceland	844	4,153	Return goods	1	0
Netherlands	6,067	21,946	Unspecified	0	13
(Continued in opposite column)			Total	7,545	2,247
1/ Totals may not add up due to rounding.			2/ Includes also non-marine fats and oils.		

the United States as well as herring oil from other countries and blend the same to make a standardized mixed fish-oil product. The usual purchases by this dealer are in 300- to 500-ton lots. The firm sells out of storage tanks at Rotterdam thus saving buyers the cost of putting up money for letters of credit, etc.

This dealer prefers to purchase United States fish oil shipped from Gulf coast ports since the iodine number is less than that of the oil shipped from the Atlantic sea ports, particularly the oil shipped from northern ports.

Some feel that the reduction in imports of fish oil from the United States recently was due to the increase in imports of cottonseed oil, since the consumption of margarine containing fish oil declined whereas the consumption of the best grade of fortified margarine made from vegetable oils increased. The price of margarine is fixed in Germany and with the increase in the cost of vegetable oils some think that the manufacturer of the top-grade margarine will be forced to seek an increase in price and if this is granted then its consumption will possibly decline and the consumption of lower grades will increase. One of the independent producers of refined hydrogenated marine oils for the margarine trade informed us that whereas the content of the marine-oil portion of margarine used to consist approximately of 60 percent whale oil and 40 percent fish oil, it now consists of approximately 30 percent whale oil and 70 percent fish oil. Fish oil usually sells here in Germany at about 10 percent less than whale oil.

The following is the order preferred by German buyers of fish oil when they buy independently and do not purchase oil of a guaranteed iodine number by a principal buyer:

1. Canadian pilchard oil.
2. Norwegian and/or Danish herring oil.
3. Iceland herring oil
4. U. S. menhaden oil.
5. Angola, Moroccan, Portuguese, etc. fish oils.

The last category, we were informed, was only suitable for industrial use but again, we also heard, that these types of oil are mixed in with a better grade, on occasion, for refining and hydrogenating.

Starting this year Western Germany's official statistics on the production of fish products, including oil and meal, will be very good. At the present time some

Table 3 - German Federal Republic's Exports of Marine Fats and Oils by Destination, 1954-55

Type & Destination	1955 (Metric Tons)	1954	Type & Destination	1955 (Metric Tons)	1954
<u>Whale Oil:</u>			<u>Other Marine Fats & Oils (Contd.):</u>		
Belgium	0	608	Uruguay	0	10
Italy	150	91	Unspecified	25	25
Switzerland	258	0	<u>Total</u>	<u>13,682</u>	<u>5,450</u>
Unspecified	18	4	<u>Hardened Fats & Oils: 1/</u>		
<u>Total</u>	<u>426</u>	<u>703</u>	Belgium	0	41
<u>Other Marine Fats & Oils:</u>			Denmark	159	7
Great Britain	0	571	Eire	0	50
Italy	52	20	Italy	0	36
Netherlands	1,553	2,770	Netherlands	153	281
Norway	8,539	329	Austria	5,541	5,617
Austria	33	41	Switzerland	107	282
Rumania	0	10	Czechoslovakia	0	475
Sweden	3,421	420	Israel	1,537	793
Switzerland	49	105	Spain	5	0
Spain	10	0	U. S. S. R.	2	0
Czechoslovakia	0	763	Uruguay	0	5
Colombia	0	386	Unspecified	18	10
			<u>Total</u>	<u>7,522</u>	<u>7,597</u>
(Continued in opposite column)			Re-export of hardened fats & oils after proc- essing	2,624	974
1/ Includes also non-marine fats and oils.					

of the figures are included in other categories. As an example of this, hardened fish oil is included in the general category of "hardened fats and oils," for both imports and exports. These categories, of course, will include hardened vegetable oils and, as a consequence, it is impossible to obtain any accurate figures regarding exports of hydrogenated fish and whale oil. Some think that a greater part of the exports of hardened fats and oils consists of whale and/or fish oil while others feel that the amount is not so great.

In Germany as is the case with all other countries the production of fish oil is incidental to the production of fish meal which is more valuable. There are occasions during the year when fish only have about 2 percent oil content, increasing later in the year to around 18 percent or over. In most countries fishing goes on and reduction of the same takes place irrespective of the oil content.

It would appear that Germany will continue to import large quantities of fish oil from the United States both directly and through transshipment at Rotterdam.

This is one of eight reports on a survey undertaken by the U. S. Fish and Wildlife Service of markets for United States-produced oils with emphasis on Western Europe.

Note: See Commercial Fisheries Review, August 1956, p. 47; also see pp. 58, 66, 70, 87, 90, 96, & 99 of this issue.



Greece

STATUS OF THE FISHERIES, 1955: Fishing activity in Greece has been steadily on the increase since World War II. Through the application of a development program, sponsored and financed by the United States Aid Mission, the industry underwent modernization and expansion.

Before the war there were about 3,000 small boats engaged in offshore fishing, few of which were motor-driven. By 1955 the number of such boats had increased to 10,500 of which 2,500 were motor-propelled. The number of motor trawlers and purse-net boats increased from about 500 in 1938 to 683 in 1954 and 745 in 1955. Most of these boats are of postwar construction, and are all equipped with imported or locally-made Diesel or semi-Diesel engines. Many have cold-storage and radio-communication facilities and some even carry modern depth-sounding instruments. Since 1953 two medium-size open-sea fishing boats have been added to the country's fishing fleet.

Fish production has increased sharply since the war and by 1954 and 1955 the annual catch was 60,000 metric tons (25,000 to 35,000 tons prewar).

Greek Production of Fish and Sponges, 1935-38 and 1949-55

Item	1955	1954	1953	1952	1951	1950	1949	Avg. 1935-38
	(Metric Tons)							
Fish	60,000	62,000	52,000	43,000	45,000	55,000	45,000	30,000
Sponges	135	135	64	128	143	169	161	50

Fish processing has also made marked progress. There are now some 120 packing plants in Greece whose annual output is about 6,000 tons. There are also 2 fish canning plants with a total annual output of 500 tons.

Plans are under way for the construction of modern fish markets in a number of distribution centers, including Piraeus. These will be equipped with modern handling and storage facilities.

Progress is also being made in restocking and developing fresh-water fisheries, particularly in Northern Greece, with encouraging results.

The sponge fishing industry has also made considerable headway since the war, mainly because of the annexation of the Dodecanese Islands where sponge-fishing is an age-long tradition. Before the war there were about 100 vessels engaged in sponge fishing in Greek waters and along the North African coast, bringing in an annual catch of between 40 to 60 tons. In 1954, 144 sponge-fishing craft were in operation. In 1955 the number increased to 159. Production was 130 tons in 1954 and 135 tons in 1955. Competition from synthetic sponges has had an adverse effect on the demand for sea sponges, and exports are becoming increasingly difficult. However, there has been no accumulation of stocks in recent years.

Despite the very substantial progress made in agricultural and fishery production in the postwar period, Greece still depends on imports for a substantial portion of its food requirements. The list includes fresh and salted fish and fish products.

With the termination of the guerrilla war in 1949, plans for economic development began to take concrete form. A joint Greek Government-United States Aid Mission Central Loan Committee was set up in 1949 for the purpose of financing private Greek industrial and other productive enterprises. By 1954 a total of 259 loans on fisheries were made (embracing 202 projects) and the amount of the principal for these loans was \$2.1 million, a United States Embassy dispatch from Athens (June 14) points out.

Exports of sea sponges (one of Greece's principal exports) were valued at US\$1.5 million f. o. b. in 1952/53 and rose to US\$1.7 million in 1953/54 and 1954/55.



Guatemala

COMMERCIAL FISHING POSSIBILITIES: A Guatemalan fish market operator has obtained a permit for engaging in commercial fishing in Guatemalan waters. Two boats of about 70 gross tons each are reported en route to the Caribbean to initiate operations there. Possibility of participation by a United States firm has been mentioned, points out a July 13 report from Guatemala.



Hong Kong

OYSTER PRODUCTION AND CULTURE: Under the supervision of the Hong Kong Fisheries Division 553,000 pounds of fresh oyster meats were harvested from the Deep Bay beds adjoining British territory. This quantity yielded almost 17,000 pounds of dried oysters and 36,000 pounds of oyster juice for export to the United States, plus a balance of 32,000 pounds of semidried oysters for local consumption.



Oyster piles at Ping Shan.

Experimental work continued at Deep Bay, where rafts and stands are being used to demonstrate the Japanese "hanging-drop" method of oyster culture. The Deep Bay oysters, which had earlier been transplanted to a different environment in Tolo Harbour, and are now suspended from rafts moored near Centre Island, continue to survive.

These oysters are under careful observation and it is hoped that it will prove possible to introduce an edible oyster industry to this area.

Both the Deep Bay and Tolo Harbour investigations are being carried out as joint projects by the Fisheries Division and the Fisheries Research Unit of the University of Hong Kong, states a June 28 report from the United States Consulate at Hong Kong.



Iceland

FISHERIES INCLUDED IN PROGRAM OF NEW CABINET: Included in the program of the new Icelandic cabinet are some plans for the fisheries. The Government will take up collaboration with the organizations of trade unions, farmers, and fish producers in order to find the best solution to economic problems. In consultation with these organizations, the Government will immediately appoint a committee of specialists to make a study of the economic situation, with the aim of achieving the best basis for Government policy decisions, reports a July 25 United States consular report from Reykjavik.

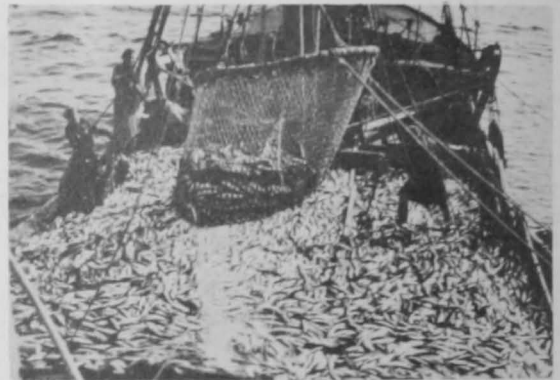
A decision has already been reached to seek the purchase of 15 trawlers and loan capital to finance such purchases.

The Government will work for extension of Icelandic territorial waters, and declares that extension of the fisheries limits around the country is a burning necessity for employment security.

* * * * *

NORTH COAST HERRING SEASON: The North Coast herring season thus far has been the best in many years with catches on some days being reminiscent of the good old days of the early Forties. The total North Coast herring catch as of July 21 stood at five times the catch as of the same date last year and twice the total for last year's entire North Coast season (table 1).

As of the time of writing, 240,000 barrels were salted, and salting operations were suspended except for a few small specialty orders. Unless new orders are received the boats will henceforth deliver all catches to the reduction plants for production of meal and oil. While these are worthwhile export commodities they bring in, measure for measure of fresh herring consumed, only about a third the income in foreign exchange received for salted herring. Since salted herring is relatively perishable, Icelanders do not salt beyond actual contracts on hand. Attempts are now being made to sign new contracts for an additional 50,000 barrels with the Soviet Union and 10,000 barrels with Czechoslovakia. There are no contracts with United States buyers. Exports of herring products from the current season will begin after the middle of August.



Icelandic fishing vessel brailing herring.

Table 1 - Iceland's North Coast Herring Catch 1/ as of July 21, 1956

	1956			1955 (comparable period)		
	No. Bbls.	Wt./Bbl.	Total Met. Tons	No. Bbls.	Wt./Bbl.	Total Met. Tons
To Reduction Plants..	202,317	135 kg.	27,313	7,591	135 kg.	1,025
For Salting	217,354	135 "	29,343	81,210	135 "	10,963
For Freezing	7,280	100 "	728	4,328	100 "	433
Total			57,384			12,421

1/ Fresh whole herring.

It is to be noted in table 2 that for 8 out of the 18 years the catch was over 120,000 tons. This gives an indication of just how dreary the catch failures of the recent six lean years have been.

Table 2 - Iceland's North Coast Herring Catch 1/, 1938-55

Year	Met. Tons	Year	Met. Tons	Year	Met. Tons
1955	28,895	1949	62,656	1943	176,640
1954	26,618	1948	60,266	1942	145,663
1953	42,607	1947	122,382	1941	93,434
1952	11,123	1946	129,504	1940	235,052
1951	59,624	1945	51,816	1939	140,518
1950	31,989	1944	216,473	1938	184,674

1/ Fresh whole herring.

The technicians, who hardly dare to be hopeful, point out that conditions thus far are more those usually associated with bad years than good. They refer to the distance of the herring from shore, their "premature" fatness, the food supplies in the sea, etc.

To put the impact of the catch in perspective, however, it may be recalled that herring last year accounted for only about 12 percent of the total catch both in quantity and value, in spite of a larger-than-usual assist from the South Coast herring season. The more important groundfish catch (88 percent of the total in value last year) as of June 30 this year was running 7 percent under last year (239,000 metric tons in comparison with 257,000 tons). The herring catch will accordingly have to be very good if it is to improve the situation to any important degree. So far it has not quite made up for the modest reduction in the groundfish catch, though it promises to do so very soon. Needless to say, if it continues at its present rate, it will greatly surpass last year's levels.

The Herring Production Board reports that advance contracts have been signed for sale of 250,000 barrels of salted North Coast herring (if available) and 80,000 of South Coast herring. The U.S.S.R. will take "up to 150,000 barrels," Poland 10,000 barrels, Finland 70,000-80,000, and Sweden 60,000-90,000 barrels. The Soviet taking would accordingly be about 20,000 metric tons, or almost double its over-all purchases of the last 17 months. Since herring products have gone in approximately equal quantities to Bloc and to free countries, a greatly increased catch would not necessarily affect substantially the Soviet Bloc's relative share of Iceland's export trade.

The Government has fixed the following guaranteed ex-vessel minimum prices on North Coast herring: 120 kronur per barrel of 100 kilos (US\$3.35 per 100 pounds) of fresh whole herring for salting; this compares with 108 kronur (US\$3.02) last year. The price for fresh herring delivered to reduction plants: 80 kronur per barrel (US\$2.24 per 100 pounds) in comparison with 70 (US\$1.96) last year, according to July 25 and July 17 reports from the United States Embassy at Reykjavik.

Approximately 200 motor boats and one trawler are participating in the North Coast herring season as compared with 132 motor boats and one trawler last year. The increase reflects the higher hopes roused by last summer's catch which was higher than that of the previous year.

Note: Values converted on basis of 16.26 kronur equal US\$1.



India

NEW SHRIMP GROUND FOUND OFF COAST: The discovery of a rich new shrimp ground, extending 140 miles along India's Malabar coast, is reported by the Food and Agriculture Organization (FAO). The discovery, said an FAO expert in Rome, has already led to the start of a shrimp trawling industry and shrimp freezing for domestic and export trade. With other developments taking place on India's east coast, this has created a demand among Indian fishermen for mechanized boats, nylon nets, and other modern fishing gear.

An Icelandic master fisherman who has been working in Madras State since 1954 said he discovered the new shrimp ground while trawling with a 22-foot FAO boat. The shrimp run in a four-mile-wide strip about 140 miles long, average 4 to 5 inches in length, and are being caught at a rate of 100 pounds per hour's trawling with a 10 horsepower open skiff, he said. Fishermen could vastly increase their catches if they had mechanized boats, and could fish for shrimp in midwinter and spring as well as in the summer season when shrimp are caught in traditional bag nets while schooling on the surface.

Twenty 30-foot boats, designed by FAO naval architects, are nearing completion, he said, and the Madras State government has drawn up a five-year program of

fisheries' development which includes construction of mechanized boats. A private fish-processing company has leased a government freezing plant at Calicut and started a domestic and export trade in frozen shrimp.

The new shrimp ground is described by the Icelandic master fisherman as "a veritable gold mine. . . . I loaned our FAO boat to five fishermen I had trained and they caught 11,306 pounds of shrimp and fish from March 21 to April 18."



Italy

MARKET FOR IMPORTED FISHERY PRODUCTS: Greatly improved economic conditions, particularly in the last two years, plus the desire of the Italian Government to maintain a liberal trade policy, have recently resulted in the liberalization of additional products from the dollar area, including dried, salted and smoked fish. Fish falling within these categories may now be imported into Italy without import licenses or dollar allocations.

Canned fish, including salmon, is still on the list of restricted items. However, it is expected that sufficient dollars will again be made available to cover canned salmon for the 1956/57 season.

The Italian fishing industry, encouraged by various forms of Government assistance, has made slow but steady progress in modernizing its fishing fleet and improving shore facilities since 1945. However, the quantity of fish taken in recent years has shown little variation and total 1955 landings of 194,747 metric tons were only 155 tons above those of 1954.

In postwar years, Italian fishing operations on the most prolific fishing grounds in the Adriatic, adjacent to the coast of Yugoslavia, have

been restricted. In recent months, however, a Fisheries Agreement entered into between Italy and Yugoslavia has established the right of Italians to fish in designated zones of Yugoslav waters under certain conditions. At present, the agreement is only provisional and subject to ratifications, but the Italian fishing industry hopes that it will permit greater freedom to operate in these rich Adriatic waters and result in increased catches.

Italy's total imports of fish during 1955 rose 20.5 percent above 1954, largely because of increased purchases of salted cod and fresh and frozen fish. Most of the frozen fish imports consisted of tuna supplies by Norway and Japan for local canneries.

Italy's 1955 imports of salted cod from Canada showed a 19 percent decrease as compared with 1954. Canada's main competition comes from the heavy salted

Table 1 - Italy's Imports of Fishery Products, 1954-55

Product	Quantity	
	1955	1954
	(Metric Tons)	
Salted cod	55,137	43,330
Stockfish	6,845	6,406
Fresh & frozen fish	33,083	22,988
Herring, salted & smoked	4,202	4,080
Pilchards, salted	279	853
Anchovies & sardines, salted	797	975
Crustaceans & molluscs	2,490	1,940
Other fish, fresh, salted, or smoked	97	38
Salmon, canned	1,528	1,394
Sardines and anchovies, canned	10,640	11,616
Tuna, canned	7,435	8,037
Other fish, canned	5,379	4,451
Total	127,912	106,108

dried fish from France. Most of the salted cod imported from countries other than France and Canada is wet-salted and is sold on the local market as such. Because

Table 2 - Italy's Imports of Salted Cod, 1954-55

Country of Origin	Quantity	
	1955	1954
	.. (Metric Tons)..	
France	17,543	8,326
Iceland	14,735	12,467
Denmark	7,488	11,315
United Kingdom	5,695	
Canada	3,464	4,276
West Germany	2,448	1,160
Other countries	576	2,056
Italian deep-sea fisheries ...	3,188	3,730
Total	55,137	43,330

of its low price, French fish has made serious inroads into sections of the Italian market which were formerly considered strongholds for hard-dried light-salted cod and, in particular, for Newfoundland shore fish. Imports of French fish have more than quadrupled since 1953, although consumer demand for the French product appears to be lessening.

Canada's exports of canned salmon to Italy continue to increase and shipments during 1955 rose to 1,484 metric tons, or 123 tons more than in 1954. Most of this salmon, however, was shipped in the first half of 1955 and consisted of 1954 production. The drastic decline in last season's catch of chum salmon (which, because of its lower price is the best seller in Italy) will no doubt be reflected in Italian import figures for 1956. However, increased purchases of pink salmon may help to offset the decrease in the amount of chum available.

Slow sales and larger-than-usual stocks at the turn of the year caused considerable pessimism in the Italian salt cod trade. However, severe weather conditions during February and March curtailed local fishing operations and demand for salt cod again became active. Sales have continued to be fairly brisk and it is expected that, for the most part, stocks will be disposed of by the beginning of the new season. By that time, import demand should be normal.

Canadian canned salmon may encounter increased competition but there should be no difficulty in maintaining sales provided prices remain competitive. Canada's exports of fish to Italy have usually consisted of salted cod and canned salmon, but now all fish coming within the categories of dried, salted, or smoked may be imported freely from dollar areas, states the July 7 (Canada) Foreign Trade.



Japan

NORTH PACIFIC FACTORYSHIP SALMON CATCH THROUGH JUNE 5: The 1956 Japanese salmon factoryship expedition of 12 factory ships, 315 catcher boats and 60 scout boats had caught 7,269,744 salmon (number of fish) through June 5, 1956, according to the June 7 issue of Hokkai Suisan, a Japanese periodical. This total is lower by 24.3 percent than the 9,609,094 fish reported through the same date in 1955. As of June 5 fishing operations had not begun in the Okhotsk Sea.

Japanese Factoryship Salmon Catch in North Pacific Through June 5		
Species	1956	1955
	(No. of Fish)	
Sockeye	2,059,597	3,739,428
Pink	130,379	529,955
Chum	5,074,352	5,332,848
Coho	45	61
Spring	3,371	3,802
Other	2,000	3,000
Total	7,269,744	9,609,094

The composition of the catch through June 5, 1956, also changed when compared with the same period in 1955 with chums making up 69.8 percent of the 1956 catch as compared with 55.5 percent in 1955. The reverse was true for the 1956 catch to date of sockeye which declined to 28.4 percent as compared with 38.9 percent for the similar period in 1955.

SALMON AND CRAB CATCHES REPORTED GOOD: Despite earlier pessimism, Japanese salmon fishing fleets in the Russian restricted area are faring very well and it appears possible that the limit will be caught by the August 10 deadline. One fleet of 27 catcher boats is reported to have caught just under their season limit by July 24. This fleet, however, is operating at 51°18' north latitude, 157° west longitude, an advantageous location because large numbers of fish pass through the Kurile Straits. There is more optimistic feeling concerning the salmon fishing in the Russian restricted area than there was earlier, but over-all figures for the catch to date are not available.

The crab catch in the Bristol Bay area was last reported to be favorable and crab fleets have reported packs near the goals set for this season, states a July 27 United States Embassy dispatch from Tokyo.

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FISH MEAL PRODUCTION AND EXPORTS: There was a drastic reduction in the amount of fish meal produced in Japan during the postwar period when every fish caught was needed for human consumption because of the food shortage. However, in 1952 production of fish meal

(table 1) began to pick up and exports were resumed. No official statement for the production in 1955 has been issued as yet. The lack of exports to the United States during 1954 and 1955 has been attributed to the fact that shipments were diverted to Europe to take advantage of the low freight rates prevailing as a result of the freight war that existed between the Japanese Home-ward Freight Conference and the Mitsui Steamship Company Ltd., but recently this disagreement was resolved.

Type	1954	1953
	(Metric Tons)	
Herring scrap	1,600	13,100
Sardine scrap	7,600	11,900
Fish scrap	35,800	27,500
Dried sardine	500	1,600
Fish meal	19,300	n. a.
Others	38,900	41,500
Total	103,700	95,600

At the present, exportation of fish meal has been halted as of July 1, 1956, because of the temporary withholding of licensing approval by the Fishery Agency of

Table 2 - Japanese Exports of Fish Meal by Country of Destination, 1953-55

Country of Destination	1955	1954	1953
	(Metric Tons)		
Belgium	441	-	498
France	-	162	-
West Germany	2,792	-	-
Switzerland	-	-	98
Netherlands	-	-	200
United States	-	-	2,225
Philippines	122	269	366
Taiwan	23	-	-
Hong Kong	34	123	81
Mexico	-	189	-
Singapore	-	62	46
Ryukyus	31	78	169
Total	3,443	883	3,683

the Japanese Ministry of Agriculture and Forestry, although shipments under long-term contracts are allowed to continue. The reason for the stoppage is traced to the current shortage of fish meal that resulted from the low catches of fish and which brought a sharp rise in price. However, the price of fish meal has dropped and the producers of fish meal are seeking the abolition of the restriction. It was expected that licensing

of exports would commence again in September of this year.

Production of fish meal in Japan consists of two kinds. There is the white-fish meal made from white meat fish such as cod, Alaska pollock, Atka mackerel, etc.;

most of this fish meal is used for animal feeding and exports. The other kind is the brown fish meal made from red-meat fish such as sardines, herring, and saury pike, and used more for the manufacture of fertilizer. According to the Japan Fish Meal Exporters Association, production of fish meal is not expected to reach pre-war production for some time to come. The increasing restrictions imposed on Japanese fishermen by neighboring countries have narrowed the areas where they may still catch fish and has led to a material reduction in the amount of fish landed available for fish meal production. It is, therefore, no longer profitable for a large fishing company to operate a large fish meal plant. Production is consequently drifting into the hands of small enterprises who produce fish meal when the weather in a particular locality is not suitable for processing fish into salted or dried products or when a large catch is landed in an isolated area. The recent restriction on exports has also discouraged fish-meal production. The decline in fish meal from the prewar period may be seen in table 3 which contrasts the production and exports in the prewar and postwar periods.

Year	Total Production of Fish Scraps & Meal	Exports of Fish Meal	
		Total	U.S. Only
.....(Metric Tons).....			
Prewar:			
1937	333,000	89,100	56,200
1936	450,000	67,400	47,200
1935	374,000	57,900	32,800
Postwar:			
1956 (Jan.-June)	n.a.	7,900	n.a.
1955 est.	135,000	3,443	-
1954	103,700	883	-
1953	95,600	3,683	2,225
1952	95,000	627	48

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REVIEW OF JAPANESE FISHERIES, 1955: A large-scale recovery of Japan's prewar position and a growing awareness of her stake in international measures for conservation of resources and stabilization of the industry marked the year 1955 in the fisheries of Japan.

The overwhelming majority of the Japanese people live on the seacoast of their island country. With agriculture limited for the most part to the narrow belt of land between the shore and the nearby mountains, the Japanese have tended to view the vast expanses of the seas which stretch out all about them as their pasture lands, their "West," their ever-expanding frontier encompassing the territory necessary to produce the food needed by their ever-increasing population. In the words of a Japanese familiar with both ways of life, the oceans are to the Japanese people what the wheat fields of the midwestern plains are to the American people. Fish is not a once-a-week food to the Japanese nor a substitute to be bought when the price of meat is high; 80 percent of the animal protein content of the Japanese diet comes from fish, and the health of the people would deteriorate rapidly if they did not have the resources of the seas at hand.

The total catch of all Japanese marine fisheries in 1955 was about 5,150,000 metric tons (about 11.3 billion pounds), compared with about 4,650,000 tons in 1954 and about 3,500,000 tons in 1938. While the 1955 catch represented an increase of about 10 percent over the figure for the previous year, there were notable increases and decreases in the catch of individual species. The salmon catch, for example, was about three times that for 1954, and the catch of saury pike was up 72 percent. The herring catch, on the other hand, continuing its downward trend, was only about one-third of the 1954 level and 15 percent of the 1952 catch, states a July 13, 1956, dispatch from the United States Embassy in Tokyo.

Exports from Japan in 1955 of fish and fish products totaled 155,108 metric tons, valued at US\$75.6 million, an increase of 10 percent in volume and 2 percent in value over 1954. Exports of other marine products (including whale oil, pearls, fish oil, agar-agar, shells, dried seaweed, and seed oysters), amounted to 64,680 tons, valued at US\$30.3 million, which was 2.5 times the 1954 exports in volume and 1.5 times in value; the increase was accounted for almost entirely by shipments of whale oil, which rose from 9,000 to 45,000 tons.

Tuna: United States interest in Japanese fisheries was centered in 1955 on the tuna and salmon industries. For several years prior to 1955 shipments of frozen tuna, particularly those of albacore (white meat) tuna, from Japan to the United States had been increasing at a rate which caused considerable alarm to American fishermen. During the first five months of 1955 Japanese Government approvals for the shipment of albacore totaled almost 25 percent more than those of the same period of 1954, and by June 1 the situation in the California tuna fishing and packing industry was acute. While the Japanese Government controlled the price of albacore for export under a "check price" system which was designed to equalize the cost of Japanese fish with the current American price, it was reported that the financial difficulties of some Japanese firms were forcing them to violate the law and sell below the check price, which in turn aggravated the situation. In the face of mounting public pressure in the United States for controls on the import of Japanese tuna, the Japanese industry undertook to put its own house in order. In June a cooperative association was formed to control the export of frozen albacore, and thereafter all orders were channeled through that association. The check price was reduced from US\$300 a short ton, which was considered too high to be enforced, to US\$270 a ton. In order to hold the line firmly at this price, the association guaranteed to buy albacore at US\$270 from any exporter who was forced to sell because of financial difficulties, thus ending the pressure for sales below the check price.

The association also established a ceiling on exports of albacore for June and July 1955 of 15,000 tons, as compared with approximately 10,000 tons approved for export during the same months of 1954. This figure was considered unreasonably high in the United States, and protests continued. Moves were started, with the backing of the American tuna fishing industry and certain of the canners, for Congressional action to limit imports of albacore, or for the imposition of a customs duty. The matter was further complicated, however, by the fact that a number of tuna canners located in the Pacific Northwest are not served by the American fishing fleet but depend mainly on Japan for sources of raw fish and so were opposed to restrictions.

As the summer fishing season progressed it became evident that the size of the albacore catch would not be as great as had been expected, and Japanese Government approvals for the export of albacore to the United States totaled only slightly over 9,000 tons, far short of the association's quota and less than the total for the same period of 1954. The same tendency continued throughout the rest of the year, and export approvals for the last seven months of 1955 were only a little over 18,000 tons, or 1,500 tons less than the same period of 1954. The total for the year ended up about 1,000 tons more than 1954. While this total still represents more of a share of the United States market than may be considered reasonable by the American tuna fishing industry, it nevertheless marked a halt in the previous rapid rate of increase.

During 1955 the Japanese Government continued to place restrictions on the building of new tuna boats, new licenses were limited, and the operating period, tonnage, and catch of the boats now in use were continued under regulation.

The concern of the United States with the Japanese tuna industry is solely one of trade, affecting Japanese shipments of canned and frozen tuna to the United States.

The United States and Japanese fishermen have no conflict over the catching of tuna, since they operate in different areas of the seas.

Salmon: The United States interest in the Japanese salmon industry, on the other hand, is dual: to a large extent United States and Japanese fishermen compete for the same fish, while the canning companies compete for markets. The American (and Canadian) salmon fisheries, moreover, are fundamentally different from those of Japan. The United States and Canada maintain close scientific control over the rivers on the North American continent where the salmon return to spawn, and the catch is taken off the mouths of these rivers in amounts calculated to allow the optimum number of spawning salmon to escape into the rivers. The Japanese have extremely few salmon-producing rivers, and conduct their fishing by means of nets on the high seas. It is the United States contention that the salmon produced from North American rivers should be reserved for catching by United States and Canadian fishermen under controlled conditions, and this principle was recognized in the Japan-Canada-United States Tripartite North Pacific Fisheries Convention. Under that Convention, the Japanese agreed to refrain from fishing for salmon in the area east of a line located approximately at 175° west longitude, which was taken tentatively to mark the limits of the area inhabited by salmon of North American origin.

The Japanese salmon fisheries were signally successful in 1955. Twelve canneries ships, each accompanied by a fleet of fishing vessels, operated in the North Pacific to the west of the Convention line, while two other fleets fished in the Okhotsk Sea for the first time since the end of the war. Though the Japanese salmon catch was still considerably below prewar levels, it was about three times as large as that of 1954, which in turn had been much larger than the 1953 catch. The total pack of canned salmon reached 1,780,000 cases, nearly triple the 1954 figure of 625,000 cases.

During the 1955 season the salmon runs in a number of North American rivers were very poor, giving rise to a belief on the part of some American fishermen that the Japanese high seas catch had taken its toll of the North American salmon, in spite of the fact that the Japanese fishing had been conducted well to the west of the Convention line. Research was being currently conducted under the terms of the Convention to trace the migration of salmon and to establish more definitely whether a line could be drawn to divide the North American salmon from those of Asiatic stock, but the results of this research were not yet positive enough to show whether the salmon taken by the Japanese were in fact of North American or Asiatic origin. The Japanese fishermen believed that the salmon which they were catching during the 1955 season were in the process of migrating toward the Asiatic continent, and it was a fact that the Japanese North Pacific fleets moved constantly westward as the season progressed.

It was under these circumstances that the 1955 meeting of the International North Pacific Fisheries Commission, established under the tripartite Convention, opened in Tokyo in October. The Commission's committee on biology and research met on October 24, followed by the full annual meeting which began on October 31 and ended on November 5. The ideas of both the North American and Japanese sides were given full expression at these meetings, and although no final conclusions were reached on the main topic of discussion, the delegates obtained a clearer understanding of the problems being faced on both sides.

The Japanese salmon industry also experienced difficulties in selling the increased pack of canned salmon which resulted from the bountiful catch. The poor catch on the North American side made it possible for the Japanese to sell about 500,000 cases in the United States and another 150,000 cases in Canada. In 1954 Japan had sold somewhat over 200,000 cases of canned salmon to the United Kingdom, which was considered Japan's prime market. The Japanese hoped to triple

this amount to over 700,000 cases in 1955, and negotiations towards that goal were included in the United Kingdom-Japan talks on their over-all payments agreement. The British were unwilling to consider this large increase, in spite of efforts made directly with the British Government in London by the Japanese Minister of Agriculture and Forestry. A compromise was finally reached, however, which provided for exports to the United Kingdom of somewhat over 400,000 cases, or double the previous year's market.

Crab: In 1955, as in previous years, the Japanese sent a fleet to Bristol Bay to fish for crab. Two additional exploratory crab fleets were also sent in 1955 to the Okhotsk Sea. No Japanese fishing had taken place in the Okhotsk Sea since the end of World War II, but the 1955 expeditions showed that the possibilities for crab fishing there were excellent. The total pack of the three crab fleets was about 210,000 cases, of which two-thirds were taken in the Okhotsk Sea.

An irritating and potentially disruptive incident occurred in Bristol Bay when the United States and Japanese crab fleets came into conflict over the interpretation of an informal agreement establishing the distance to be maintained between fleets. A temporary amicable solution was reached, and the matter was discussed further at the time of the Tokyo meeting of the International North Pacific Fisheries Commission. Arrangements were then made by which each fleet will keep the other notified of its position and fishing operations, and maintain a specified distance from the area being fished by the other fleet.

Coastal Fisheries: While the interest of other countries is mainly in Japan's high-seas fisheries, such as those for tuna and salmon, the Japanese people themselves are more concerned in their daily lives with their coastal fisheries, in which 88 percent of the fishermen are engaged but which produce only 44 percent of the catch. Much of Japanese fishing is done by small groups of men in light boats within sight of the shore; while this type of fishing is convenient from the point of view of time spent away from home and availability of the fishermen for other work on days when fishing is not feasible, it is highly inefficient in yield per man hour. In August 1955 the Japanese Government issued a "White Paper" on the coastal fisheries in which a number of moves were recommended for the improvement of this phase of the fishing industry. In prewar days, according to the "White Paper," the coastal fishermen accounted for three-quarters of Japan's total catch. As larger and more efficient vessels have been built, however, and have ranged farther and farther from Japan in search of better fishing grounds, the balance has swung in favor of the high-seas operations. The Japanese Government hopes, over a period of years, to make it possible for coastal fishermen to band together, build larger boats, operate where the best fishing grounds can be found, and utilize scientific fishing methods to increase their catch relative to the time and energy expended.

Fisheries Relations with Other Nations: Relations in the fisheries field between Japan and the other nations of the Far East continued to be difficult in 1955. The Soviet Union has since the end of the war made a practice of seizing Japanese fishing boats which wander over the line separating Japan proper from Soviet-held territory. The number of such seizures in 1955 was 125, double the 1954 figure. The same number of ships was returned to Japanese custody, however, leaving the number still in Russian hands at the end of the year the same as it was at the beginning, 46. A total of 1,103 Japanese fell into Soviet hands in this manner, of whom 1,092 were allowed to return during the year, the other 11 being added to the total of 34 who were in Soviet custody at the beginning of the year.

It will be recalled that during the Allied Occupation of Japan the Japanese fishermen were kept within an area close to Japan bounded by what was called the "MacArthur Line." When, shortly prior to the coming into force of the Peace Treaty in April 1952 the "MacArthur Line" was abolished, a new line off the coasts of Korea was proclaimed by President Syngman Rhee of the Republic of Korea as the line

setting off those portions of the high seas in which the people of Korea had a special interest, and which the Korean Government intended to reserve for exploitation by Koreans. Japanese fishing boats were warned that crossing the "Rhee Line" would be a violation of Korean law, and that violators would be apprehended and punished. At the beginning of 1955, 88 Japanese vessels and 242 men were being held in the Republic of Korea for violation of the "Rhee Line." During 1955, 30 more boats and 498 men were seized, of which one boat and 15 men were released during the year; the totals still in custody at the end of 1955 were therefore 117 vessels and 725 men.

Most of the boats and fishermen held in Korea are from the Kyushu and Southern Honshu areas of Japan, and the public feeling in those areas against the Republic of Korea ran high in 1955.

The communist Chinese Government in Peiping did not lose any time after coming into power on the mainland before beginning to seize its share of Japanese fishing boats. While there was no specific area mapped out by the Chinese into which Japanese vessels were forbidden to enter, such vessels as ventured into waters in which Chinese gunboats happened to be operating frequently found themselves fired upon and captured. At the beginning of 1955 there were 104 Japanese boats in communist Chinese custody. No seamen were being held, however, since the Chinese had previously returned the crew members.

The communist Chinese tactics during 1955 were different, however. The Japanese Government maintains normal diplomatic relations with the Nationalist Chinese Government in Taiwan, and has no official ties with the Chinese communist regime. The opening of diplomatic ties with Japan has been and continues to be one of the major policies of the Peiping Government. In line with this policy, the communist Chinese in 1955 proposed a fisheries agreement with Japan under which the fishing vessels of each country would be able to operate in specified areas without fear of interference from the other country. The Japanese Government refused to participate in the negotiation of such an agreement, but the private fishing interests met with the Chinese and signed an agreement having many of the earmarks of a government-to-government treaty. Under this agreement the Japanese fishermen are not guaranteed the right to fish anywhere on the high seas without interference, but are allotted certain sections in the Yellow Sea and East China Sea in which to carry on their operations. Other parts of the agreement provide for safe harbors for fishing vessels on both sides and mutual recognition signals. In keeping with their new tactic, the communist Chinese seized only one Japanese boat in 1955, and both it and its 10-man crew were returned.

Although in past years Japanese fishing vessels have been subject to seizure by the Chinese Nationalist Government for violation of the regulations of that government, no such seizures took place in 1955. The 30 boats and 11 men held by the Nationalist Government at the end of 1954, however, continued to be held in custody.

The restrictions imposed by the Australian Government on the pearl-shell fishery in the Arafura Sea continued in force during 1955, and the Japanese pearl-shell fleet operated within the scope allowed by the Australian authorities.

From September 30 to October 14, 1955, Tokyo was the scene of the Sixth Annual Meeting of the Indo-Pacific Fisheries Council of the United Nations Food and Agriculture Organization. Representatives of 16 nations, including the United States, discussed problems relating to inland fisheries and fish culture, sea fisheries, and shrimp culture.

Conclusion: The Japanese by the end of 1955 had regained their prewar fisheries position insofar as the catch was concerned. The wartime interval and the years of the Occupation, however, had covered a period in which the international forces which bear on Japan's access to fishing grounds and to markets had shifted,

and Japan has not yet been able to complete its adaptation to the new situation. The world situation is such that it can be expected that difficulties between Japan and certain other countries will continue, but the preeminent position of Japan among the fishing nations, and the economic need of Japan for foreign trade, will be powerful factors in determining Japan's policies towards the rest of the world.

* * * * *

NORTH PACIFIC WHALING EXPEDITIONS, 1956: One of the two Japanese fleets which will participate in the annual North Pacific whaling operations departed from Yokohama on May 8. The fleet, jointly operated by three major Japanese whaling companies, consists of an 11,448-ton mothership, the Kyokuyo Maru, 8 catcher boats (including a scout boat), 4 refrigerated vessels and 15 transport vessels. Whaling will be carried out until the end of September.

The catch for this fleet is estimated at 2,060 whales including 1,560 baleen whales (limited by law to 1,560 baleen whales or 800 blue-whale units) and 500 sperm whales. The 1955 catch was 1,568 baleen whales and 585 sperm whales.

On the basis of the estimated catch, production will amount to 29,665 metric tons valued at ¥2.2 billion (about US\$6.1 million), divided as follows; baleen oil 10,948 tons, sperm oil 3,500 tons, whale meat 15,217 tons.

In 1955 this fleet's production amounted to 26,887 metric tons of products of which 15,192 metric tons were oil.

The second Japanese fleet will participate in North Pacific whaling later in the season but will limit its catch to sperm whales. Detailed plans for this fleet are not yet available but its catch last year consisted of 499 sperm whales which yielded 4,990 metric tons of products, states a June 4, 1956 dispatch from the United States Embassy in Tokyo.

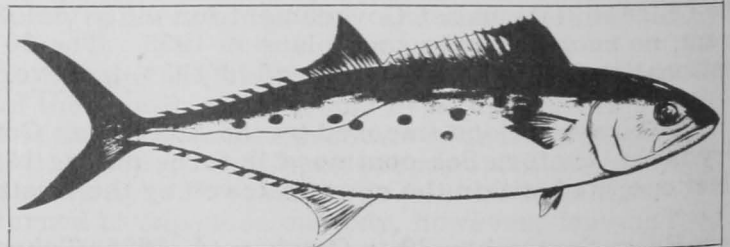


Mexico

VERACRUZ FISHERIES TRENDS, MARCH-JUNE 1956: Veracruz fishermen on the east coast of Mexico caught 500 metric tons of mackerel in March and nearly as much in April 1956. In May the catch dropped to 229 tons. Little fishing was done in June. The catch in the second quarter of 1956 was valued at 2 million pesos (US\$160,000) ex-vessel.

Veracruz needs about 2 million pesos (US\$160,000) to recondition its refrigeration plant in order to preserve the catch and expand its fishing industry.

Within the next 5 or 6 months Tabasco expects to see increased ice production and the building of a refrigeration plant for the shrimp catch.



Spanish mackerel (*Scomberomorus maculatus*)

* * * * *

LAW ON EXPORTS OF SPINY LOBSTERS CLARIFIED: A Mexican official in the office of the Director General of Fishing of the Ministry of Marine informed the United States Embassy in Mexico on June 8 that the Mexican law relating to the exportation of spiny lobsters appeared in the Diario Oficial of March 12, 1956, and

it clearly states that the exportation of spiny lobsters caught between parallels 23 and 29 in the Gulf of California shall be entered through the port of Nogales at all time during the entire open season (Nov. 1-April 15) in that area. He added that he saw no reason why the lobsters have to be exported exclusively through the port of Nogales during the general open season but that unfortunately the wording of the decree in the Diario Oficial specifies that spiny lobsters caught in the Gulf of California shall be exported through the port of Nogales during the entire open season for that area.

The official from the Ministry of Marine indicated that if there were sufficient pressure from the interested parties to get this provision of the law changed, the Mexican authorities would probably agree to do so. He pointed out, however, that the special authority conferred by this decree is temporary and expires on April 15, 1957, at which time presumably new regulations will be issued covering the exportation of lobsters from the Gulf of California.

* * * * *

PLANS FOR NEW SEAWEED PROCESSING PLANT: A Mexicali firm has announced plans to establish a US\$500,000 plant in Ensenada, Mexico, to process seaweed (Pacific kelp, Macrocystis pyrifera) for medicinal and industrial purposes. The firm, which is reportedly being formed wholly with Mexican capital, has been granted a concession for the purpose by the Ministry of Marine.



Netherlands

MARINE OIL MARKET: The Netherlands is probably the second largest distributor of marine oils in Europe. In spite of the fact that the population is only a small percentage of the population in Germany, the distribution of marine oils in 1955 was quite large.

The Netherlands production of fish oil, whale oil, and sperm oil for the years 1949 through 1955 is shown in table 2.

The production of fish oil has increased from approximately 1,000 tons in 1949 to about 5,000 tons for the past 3 or 4 years. There are 3 sizable fish reduction plants in Holland and one very small one. The oil is produced principally from offal received from the curing of herring. There are some occasions when the catch is too great to handle and then whole herring are shipped to reduction plants. This is only done at times when the herring are unfit for food use. As in other countries the fish reduction plants are operated primarily to secure the fish meal. One of the reduction

plants also is a renderer of tallow and grease. This firm also operates a refinery at a different location. Formerly it produced a grade of polymerized refined oil which was used in fish canning. It has discontinued polymerizing oil and now merely reduces the free-fatty acid content to 0.1 percent and bleaches the oil. This oil is then sold to hydrogenators for manufacture into oil suitable for use in margarine.

Table 1 - Netherlands Distribution of Marine Oils

	Metric Tons
Exports:	
As such	3,789
In margarine	7,967
In cooking fats	1,497
Other	423
Total exports	13,676
Consumption:	
In margarine	41,416
In cooking fats	3,445
Total edible consumption	44,861
Technical use	938
Waste	1,204
Miscellaneous disappearances	2,277
Ending stocks Dec. 31	14,506
Total Distribution ...	77,462

The surveyor was informed that in the Netherlands it is not customary to make mixtures of whale oil and fish oil in the hydrogenated form. These hardened oils

Table 2 - Netherlands Production of Marine Oils, 1949-55

Type	1955	1954	1953	1952	1951	1950	1949
	(Metric Tons)						
Fish oils	4,979	5,347	5,135	4,794	4,350	2,460	1,090
Whale oil ^{1/}	5,679	15,376	17,345	15,752	15,505	13,248	17,967
Sperm oil ^{1/}	77	1,016	30	-	422	606	558
Total	10,735	21,739	22,510	20,546	20,277	16,314	19,615

^{1/} Whale oil and sperm oil data represent those portions of the production by the Dutch whaler (Willem Barentsz) which were actually brought into the Netherlands and do not represent the total production by this whaler.

are sold separately and the margarine manufacturers make their own mixture. There is no great surplus of oils suitable for hydrogenation in the Netherlands. American menhaden oil is liked here in the Netherlands. There have been no complaints from those who have imported only directly from producers for the last two years.

Table 3 - Netherlands Imports of Fats & Oils from Fish & Marine Animals by Country of Origin

Country of Origin	1956	1955	1954
	(Jan.-Mar.)		
	... (Metric Tons) ...		
Belgium/Luxembourg	-	937	831
Great Britain	-	3,471	8,866
France	-	391	230
Western Germany	-	768	794
Ireland	-	16	-
Iceland	-	900	1,759
Norway	404	2,267	3,532
Denmark	-	496	87
Czechoslovakia	-	276	-
Tangiers	-	-	27
French Morocco	-	73	123
Port. East Africa	-	-	204
South-West Africa	-	-	28
Union of South Africa	-	521	860
United States	2,408	14,321	9,734
Canada	-	1,039	118
Peru	-	200	50
Falkland Islands	-	-	611
Japan	75	2,734	47
Australia	-	-	7,375
New Zealand	-	253	-
Sea	1,193	29,260	15,979
Total Imports	4,497	57,685	51,258

Source: Central Bureau of Statistics

There are two fairly large dealers in fish oil located in Rotterdam. These are old established companies. These companies cooperate frequently; buy and sell on joint account. They also deal in other fats and oils and maintain stocks in the Rotterdam area. Representatives from these two companies plan a joint trip to the United States later in the year to look into the menhaden oil situation. They have not bought very much oil this season since they feel that the present price is still too high even though it has declined from \$224 per short ton to a level of \$213 per ton c.i.f. Rotterdam.

As in other countries in Western Europe, one interna-

tionally known firm handles the greater portion of both fish and whale oil used in the Netherlands. Some people have estimated that it controls between 80 and 90 percent of the business and its actions, of course, dominate the trading picture.

All established companies in the fat and oil business complained that since the war there has been a flock of new dealers that have entered the field. This has caused considerable fluctuation in prices, since frequently trading takes place between these operators rather than with actual consumers of the oil.

It is quite difficult to secure accurate figures regarding the actual use and consumption, and even the official figures issued by different branches of the Government vary. Practically all of the fish oil used in the Netherlands goes for edible

purposes. Discussions with the firm which represents the South African solexol plant owners indicated that sales for the past two years have been negligible and only occasionally do they sell one or two drums of the fractionated product.

Table 4 - Netherlands Imports of Whale Oil, Fish Oils, and Sperm Oil, ^{1/} 1949-55

Year	Oil			Total
	Whale	Fish	Sperm	
	(Metric Tons)			
1955 ^{2/}	33,800	15,100	3,360	52,260
1954	46,850	20,670	2,890	70,410
1953	47,220	8,720	2,120	58,060
1952	29,960	16,780	1,590	48,330
1951	42,840	16,310	1,630	60,780
1950	36,300	24,960	2,750	64,010
1949	27,840	5,130	1,930	34,900

^{1/} Includes supply from Dutch whaler Willem Barentsz.

^{2/} Preliminary.

Source: Marketing Board for Margarine, Fats and Oils.

Table 5 - Netherlands Whale Oil in Margarine, 1948-55

Year	Whale Oil		Total Prod. of Margarine
	Percentage	Qty.	
	(Metric Tons)		
1955	24.5	41,416	206,101
1954	21.7	35,703	200,225
1953	22.0	35,049	193,058
1952	19.2	29,233	184,574
1951	23.7	34,082	173,117
1950	24.4	34,894	172,169
1949	12.3	15,026	146,489
1948	21.1	18,757	107,256

Source: Marketing Board for Margarine, Fats, and Oils.

People engaged in paint manufacturing in the Netherlands prefer linseed oil which they claim produces a better grade of paint more suited to the damp climate of the Netherlands.

Everybody interviewed indicated that there would be no difficulty in selling the entire surplus production of menhaden oil from the United States this year and felt that the use of fish oil in Western Europe would grow since the population is increasing and the per capita consumption of fat products is also increasing. Increase in the production of palm fats, whale oil, and other liquid oils generally is not increasing at the same rate as the increase in consumption.

This is one of eight reports on a survey undertaken by the U. S. Fish and Wildlife Service of markets for United States-produced oils with emphasis on Western Europe.

Note: See Commercial Fisheries Review, August 1956, p. 47; also see pp. 58, 66, 70, 71, 90, 96, & 99 of this issue.



New Caledonia

MARINE PRODUCTS INDUSTRY: Although the waters of New Caledonia abound in marine life, the only marine product which is exported is trochus shells. In spite of the firm price for trochus shells -- about 50,000 francs (US\$785) a ton in 1955 -- the amount of trochus shells exported during the year totaled only 723 metric tons as compared to

New Caledonia Fishery Products Imports by Country of Origin, 1954-55

Country of Origin	Quantity		Value			
	1955	1954	1955	1954	1955	1954
	(Metric Tons)		(CFP Francs 1,000)		(US\$ 1,000)	
France	15.6	19.2	1,195	1,286	19	20
French Union	28.1	53.7	1,533	1,937	24	30
Australia	12.5	11.0	985	797	15	13
United States	68.3	42.2	2,409	1,603	38	25
Other Countries	65.9	96.6	1,944	2,581	31	41
Total	190.4	222.7	8,066	8,204	127	129

880 tons in 1954. This decrease is caused by depletion. During the year an expert of the French Institute of Oceania (Institut Francais d'Oceanie), a scientific research organization with headquarters at Noumea, began studies as to how trochus stocks may be regenerated.

Providing fish for local consumption does not occupy a large number of fishermen and demand for fish was supplemented in 1955 by the importation of canned fish

valued at 8,066,000 francs (US\$126,600). It appears that the fishermen themselves limit the amount of fish caught in order to maintain prices.

A small fish cannery (established in 1951) on the northern tip of the Island, has not been very successful due to the irregular supply of fish.

Note: Values converted on basis of CFP franc equals 1.57 U. S. cents.



Norway

MARINE OIL MARKET: Norway is the largest fish-oil producing country in Europe and the production consists principally of herring oil. It is probable that the production will continue to grow since, like in Denmark, the trade feels that

Table 1 - Norway's Marine Oil Production, 1953-55

Year	Metric Tons
1955.....	71,000
1954.....	95,000
1953.....	58,000

European participation in whaling will probably decline on account of the greatly increased costs of operating whaling units. The Norwegians have done a lot of research work in the handling and refining of fish and whale oils. Whale and fish oil constitute about 60 percent of the fat content of margarine produced in Norway and the quality of the margarine is such that it has been exported to many countries with success. It is also used as shortening in Norway since the taste of the margarine on heating does not become objectionable.

It is anticipated that the total production of fish oil in Norway for the year 1956 will be approximately 100,000 metric tons. The refiners of oils in Norway have

Table 2 - Norway's Crude Herring Oil Exports by Destination, 1954-55

Destination	1955 1954	
	(Metric Tons)	
United States	283.1	260.4
Poland.....	350.7	519.8
Czechoslovakia	2,314.0	1,089.9
Spain	353.4	0.0
Italy.....	146.9	112.6
Western Germany.....	104.6	1,688.9
Belgium & Luxembourg.	280.5	216.9
Denmark.....	0.0	1,096.3
France.....	289.8	26.5
Netherlands.....	194.1	1,277.6
All Others.....	554.3	418.3
Total.....	4,871.4	6,707.2

Table 3 - Norway's Crude Seal Oil Exports by Destination, 1954-55

Destination	1955 1954	
	(Metric Tons)	
Spain	0.0	157.4
Italy.....	547.0	831.1
Western Germany.....	2,887.2	1,930.0
Denmark.....	1,032.2	1,346.7
France.....	414.4	236.7
Netherlands.....	10.0	1,163.8
United Kingdom.....	100.0	0.0
Brazil.....	0.0	165.5
All Others.....	26.5	166.3
Total.....	5,117.3	5,997.5

made an agreement with the fish-reduction factories to purchase the entire production so that there will probably be no exports of crude fish oil for the year 1956. All of the oil produced to date has been sold. Norway has some bilateral agreements with countries behind the Iron Curtain for the delivery of processed fish oils and refined hydrogenated fish oil will be exported to cover these commitments.

There is very little of the fish oil used in Norway for industrial purposes. One firm operates a Solexol plant, but this is used principally for the production of a grade of oil from the poorer grades of oils (both domestic and imported) that will refine and bleach in a satisfactory manner for edible purposes. The other fraction of the oil is used in the production of synthetic resins of the alkyd type under Reicholt license. This company handles the largest production of finished products in Norway.

The other Norwegian refiners of fish oil buy lower grade fish oils from Angola, Portugal, Morocco, etc. at cheap prices and treat them by special refining methods

Table 4 - Norway's Edible & Inedible Polymerized & Refined Marine-Animal Oil Exports by Destination, 1954-55

Type & Destination	1955	1954
	(Metric Tons)	
Edible:		
Finland.....	23.5	30.8
Sweden.....	63.3	173.0
Western Germany ...	518.2	282.1
Peru.....	23.8	9.9
Denmark.....	0.0	80.0
All others.....	0.0	67.9
Total edible.....	628.8	643.7
Inedible:		
France.....	0.0	20.0
Netherlands.....	0.0	10.4
Egypt.....	2.0	0.0
Total inedible.....	2.0	30.4

production of fats and oils, using its surplus of fish oil for trading purposes with other countries. The type of oil used for industrial purposes consists principally

Table 6 - Norway's Exports of Fatty Acids from Marine-Animal Oils by Destination, 1954-55

Destination	1955	1954
	(Metric Tons)	
Finland.....	366.2	349.6
Poland.....	0.0	498.3
Spain.....	351.2	800.7
Sweden.....	881.9	868.8
Western Germany....	411.6	2,508.4
France.....	426.5	239.4
Belgium & Luxembourg	113.1	142.1
Netherlands.....	169.2	30.6
United Kingdom.....	75.4	135.1
Austria.....	28.7	202.3
Eastern Germany....	84.0	155.0
Denmark.....	19.4	125.8
All others.....	171.9	533.8
Total.....	3,099.1	6,589.9

to cheap electric power in Norway, the cost of producing hydrogen is quite low and the hydrogenation of fats and oils is very well developed.

As is the case in Sweden, combinations of whale oil and fish oil in varying proportions are refined and hydrogenated for the manufacture of margarine and usually sold on a specification basis under a particular trade name.

The polymerization of fish oil in the manufacture of edible liquid fish oil was originally started in Norway and a very large production was built up. Since the prohibition of the use of polymerized fish oil in Germany for edible purposes, this business has dwindled greatly and we were informed that it now consists of only a few hundred tons a year compared with thousands of tons in past years. The use of refined fish oil in fish canning has been nearly all replaced by edible vegetable oils. There are still one or two small canners who use fish oil since they feel that if there is some reversion to the original fish flavor it will not be noticeable in the finished canned fish.

Table 5 - Norway's Sulphonated Marine-Animal Oil Exports by Destination, 1954-55

Destination	1955	1954
	(Metric Tons)	
Finland.....	109.5	142.0
Sweden.....	34.2	37.9
Denmark.....	21.7	25.6
Netherlands.....	2.8	10.0
All others.....	41.1	19.0
Total.....	209.3	234.5

before mixing them with Norwegian her-ring oil for hydrogenation.

On account of the monetary situation in Norway, it is desirable that Norway exist as much as possible on its own

Table 7 - Norway's Exports of Hardened Edible Fat & Technical Fat from Marine Oils, 1954-55

	1955	1954
	(Metric Tons)	
Edible Fat Total....	66,446.8	70,896.7
Technical Fat Total.	7,044.2	4,883.1

of seal oil, used in the leather industry, as well as being treated to produce suitable textile oil, etc.

Statistics in Norway except for production and imports and exports of crude fish and whale oils are not very easy to obtain. Those issued officially by the Government covering the refined, hydrogenated and other manufactured products are lumped in categories which include vegetable and animal fats and oils. Due

The price of fish oil usually is kept below that of whale oil and though it may vary during the year, unless there is some special circumstance, it must remain lower than whale

Table 8 - Norway's Exports of Cold-Cleared Cod-Liver Oil by Destination, 1954-55

Destination	1955	1954
	(Metric Tons)	
Finland	110.2	133.3
Yugoslavia	132.5	83.5
Czechoslovakia	393.0	429.5
Greece	105.2	137.1
Italy	223.2	248.0
Switzerland	121.6	111.5
Western Germany	209.4	285.7
France	108.6	112.4
Netherlands	655.5	760.0
Other Eur. Countries	508.1	463.4
Canada	221.4	145.9
United States	1,348.9	938.3
Brazil	214.5	307.9
Indonesia	162.7	59.0
All others	674.8	792.1
Total	5,189.6	4,986.6

Table 9 - Norway's Exports of Veterinary Fish-Liver Oil by Destination, 1954-55

Destination	1955	1954
	(Metric Tons)	
Finland	291.5	277.8
Italy	637.6	600.2
Switzerland	300.5	471.9
Sweden	912.2	1,193.6
Belgium & Luxembourg	120.4	166.1
Denmark	1,098.7	1,736.5
Netherlands	558.7	710.7
Other European Countries	336.9	629.9
Mexico	133.6	134.1
Brazil	52.6	178.2
All others	343.6	430.9
Total	4,736.3	6,529.9

oil because the cost of refining and hydrogenation is greater than in the case of whale oil with which it competes.

Interest was expressed in the type of fish oil that is produced in the United States and shipped from Gulf ports. The Norwegians indicate that this oil has in their experience a lower iodine value and can be refined and hydrogenated to produce a product comparable to their refined hydrogenated herring oil. There was no tobis (sand eel) oil produced in Norway.

Table 10 - Norway's Exports of Other Fish-Liver Oils by Destination, 1954-55

Destination	1955	1954
	(Metric Tons)	
United States	428.4	421.1
Italy	471.8	218.2
Sweden	199.5	446.9
Western Germany	1,375.5	886.8
Austria	144.5	180.4
Belgium & Luxembourg	80.0	80.5
Denmark	36.5	255.4
France	633.9	402.8
Netherlands	351.8	486.1
United Kingdom	121.5	847.0
Other European Countries	743.9	1,072.6
Mexico	257.3	258.5
Brazil	116.0	414.9
All others	96.2	324.2
Total	5,056.8	6,295.4

There have been very large investments in fish-reduction factories as well as additional vessels for fishing for herring for these factories in the past two or three years. The Government has assisted by grants and loans in this program.

Unlike Denmark and the Netherlands, Norway fishes for herring on the Norwegian coast starting at the north and fishing down the west coast as the herring move south. The bulk of the herring is caught in the first six months of the year and it is interesting to note that in spite of the large amount of herring used for food in Norway, between 80 and 90 percent of the various types of herring caught go to the fish-reduction plants. It appears that there

are three distinct kinds of herring caught on the Norwegian coast, including the so-called "winter herring" which does not have too high an oil content, the "fat herring" which comes later in the year after the fish have had better food, and the "small herring" which is young and soft and is not usually suitable to any great extent for food.

It is significant that in Norway, fish oil is looked upon as a very important edible fat or oil while we in the United States look upon our fish oils as being principally suited for industrial uses. It is probable that because there are only very small quantities of vegetable-oil seeds raised in Western Europe and requirements must be filled through importation of fats and oils or oil seeds from other countries that research on fish oil has been conducted and refining and hydrogenation methods developed that are particularly adapted to these peculiar oils.

It is the consensus that there are only about 30,000 tons of whale oil unsold and since all of the Norwegian crude fish oil is committed, the market will be stable for the balance of the year.

This is one of eight reports on a survey undertaken by the U.S. Fish and Wildlife Service for United States-produced oil with emphasis on Western Europe.

Note: See Commercial Fisheries Review, August 1956, p. 47; also see pp. 58, 66, 70, 71, 87, 96, & 99 of this issue.



Peru

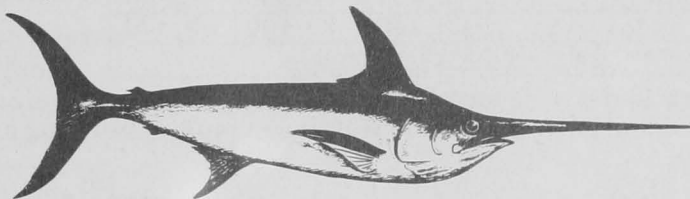
CANNED BONITO EXPORTS THROUGH APRIL 1956: Production of canned bonito in Peru for the season, which ends usually in April, amounted to between 1.4 and 1.5 million cases, according to a July 23, 1956 dispatch from the United States Embassy at Lima. It was expected earlier in the season that the canned bonito production would break all previous records, but due to a labor controversy with the fishermen during the height of the season, this prediction was not realized. On the basis of the early prospects several exporters oversold and had difficulty meeting their commitments.

* * * * *

SWORDFISH BASE PRICE FOR EXPORT DUTY PURPOSES: The base cost price of frozen swordfish for purposes of export tax assessment was fixed at 8,240 soles (US\$433.68) a short ton pursuant to a Supreme Resolution of February 7, 1955, to remain in force until April 1956, when the local authorities were to revise it. Pursuant to a Ministerial Resolution of May 28, 1956, the effective date of the base price indicated has been extended to December 31, 1956, according to a United States Embassy dispatch July 9 from Lima.

Note: See Commercial Fisheries Review, July 1956, p. 86.

Correction: In that issue the US\$ equivalent for 8,240 soles was shown as US\$33.68 when it should have been US\$433.68.

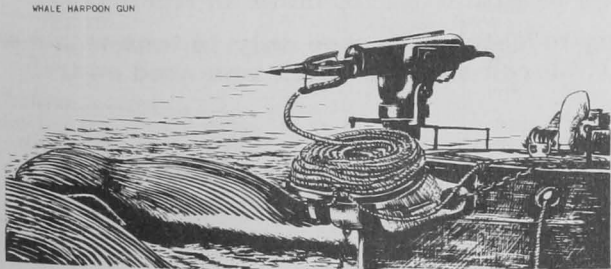


Broadbill Swordfish (*Xiphias gladius*).

* * * * *

NEW WHALING FIRM TO HUNT IN SOUTH PACIFIC: The Peruvian press carried an article on July 6 stating that the first whaling fleet organized in Peru for the pelagic hunting of whales was expected to arrive in Talara toward the end of July.

It was reported that the fleet was coming from French and Norwegian ports and that it would be comprised of the factoryship *Janina* of 9,200 tons and eight Norwegian hunting boats of 258 to 300 tons each, manned by Norwegian harpooners.



According to the press, the fleet has been chartered, with an option to

purchase, by the Peruvian company to which the permanent Commission of the South Pacific has given a permit to hunt 2,400 sperm whales in the maritime zones of Chile, Ecuador, and Peru (CEP countries) between July 1, 1956, and June 30, 1957. Some of the vessels in the fleet are reported to have been transferred to the Peruvian company by their former owner. It is said that the firm that owns the vessels had initially applied for a permit to the Commission but had withdrawn its application explaining that it would charter or sell some of its vessels to the Peruvian company and in addition would guarantee the payment of the charges which companies obtaining whaling permits must remit in conformity with the regulations established by the

CEP countries. The charges have been fixed at \$5,000 for the Peruvian company, which is a reorganization of the company which was not able to implement its plans to assemble a whaling fleet in 1955.

A later dispatch, dated July 23, from the United States Embassy states that as of this date, the Peruvian Company (Mancora Maritima, S.A.) organized to exploit the permit granted by the Permanent Commission of The South Pacific (Chile, Ecuador, and Peru) is still without a whaling fleet.



Poland

STATUS OF THE FISHERIES, 1954: Poland's landings of fishery products rose from 59,300 metric tons in 1949 to 89,400 tons in 1953 and 100,000 tons in 1954. Cod and herring were the principal species landed.

Table 1 - Poland's Landings of Fishery Products, 1949, 1953, and 1954

Species	1954	1953	1949
... (Metric Tons) ...			
Cod	49,500	47,300	36,900
Herring	38,900	33,700	12,000
Sprat	3,200	2,200	1,100
Other	8,400	6,200	9,300
Total	100,000	89,400	59,300

Source: Polish Statistical Yearbook 1955.

Production of smoked fish in 1954 amounted to 11,416 tons as compared to 9,225 tons in 1953. Canned fish production rose from 4,537 tons in 1953 to 5,236 tons in 1954.

Most of Poland's fishing is done in the Baltic chiefly by small vessels. Although the fishing industry has some trawlers about 150 feet long, larger vessels are being built in order to expand fishery production. From the North Sea mostly herring and some plaice are landed in Poland.



Portugal

FISHERIES TRENDS, MARCH-APRIL 1956: Sardine Fishing: The catch of the Portuguese sardine fleet amounted to only 12 metric tons in March 1956 and 423 tons in April. The April 1956 catch was 68 percent below the 1,337 tons reported for April 1955. The April 1956 sardine catch was valued at about US\$101,670 ex-vessel as compared with US\$171,583 in April 1955. The ex-vessel value of the sardine catch in April was close to 10.9 U.S. cents a pound as compared with 5.8 U.S. cents in April 1955.

During April 1956, the sardine canning industry absorbed only 44 tons with most of the balance consumed fresh. The small March sardine catch was used entirely by the fresh fish trade.

The catch of the Portuguese sardine fleet amounted to only 978 metric tons in January 1956, or about 83 percent less than the January 1955 catch. The January 1956 sardine catch was valued at about US\$191,000 ex-vessel as compared with US\$402,000 in January 1955.

The sardine canning industry in that month absorbed 739 tons with most of the balance consumed fresh or salted.

Other Fish: The landings of fish other than sardines (95 percent chinchards) for the two months totaled 889 tons, valued at US\$136,504 ex-vessel, the June 1956 Conservas de Peixe reports.

The landings of fish other than sardines (practically all chinchards) in January 1956 totaled 4,888 tons, valued at US\$208,000 ex-vessel.

CANNED FISH EXPORTS, JANUARY-APRIL 1956: Portuguese canned fish exports total 12,930 metric tons (680,000 cases) valued at US\$7.2 million during January-April 1956.

Portugal's exports of canned fish in March 1956 declined 18 percent in quantity and 7 percent in value when compared with March 1955. April 1956 exports dropped

Portuguese Canned Fish Exports, January-April 1956

Species	January		February		March		April		Jan.-Apr.	
	Metric Tons	1,000 US\$	Metric Tons	1,000 US\$	Metric Tons	1,000 US\$	Metric Tons	1,000 US\$	Metric Tons	1,000 US\$
Sardines in olive oil	2,317	1,158	2,889	1,524	2,692	1,424	1,867	993	9,765	5,099
Sardinelike fish in olive oil	142	127	349	288	611	538	439	368	1,541	1,324
Sardines & sardinelike fish in brine	99	22	249	45	155	29	50	10	553	106
Tuna & tunalike in olive oil	51	37	92	68	129	113	58	46	329	265
Tuna & tunalike in brine	4	2	28	17	51	27	13	7	96	53
Mackerel in olive oil	37	24	126	77	146	85	142	88	451	273
Other fish	25	12	77	25	55	30	38	20	195	84
Total	2,675	1,382	3,810	2,044	3,839	2,246	2,607	1,532	12,930	7,204

52 percent in quantity and 46 percent in value as compared with April 1955, according to Conservas de Peixe, June 1956.

During January-April 1956 Germany was the leading receiver with US\$1,252,000 of canned fish (practically all sardines in oil), followed by the United States with US\$1,163,000 (principally 585 tons of sardines and 769 tons of anchovies), Italy with US\$837,000 (principally sardines and tuna), and Great Britain with US\$772,000 (principally sardines). Exports of canned fish to these 4 countries during January-April comprised 53 percent of the quantity and 56 percent of the value of the total canned fish exports.

Portugal's exports of canned fish in January 1956 declined 52 percent when compared with January 1955, but exports in February 1956 were higher by 32 percent than for February 1955, according to Conservas de Peixe, May 1956.

* * * * *

Portuguese Canned Fish Pack, Jan.-Feb. 1956

Product	Net Weight	Canner's Value
	Metric Tons	1,000 US\$
Sardines in brine	-	-
Sardines in olive oil or sauce	526	318
Sardinelike fish in brine	9	3
Sardinelike fish in oil	552	553
Anchovies, rolled & fillets	-	-
Tuna in brine	-	-
Tuna in olive oil	31	33
Tunalike fish in olive oil	-	-
Other species (including shellfish)	52	17
Total	1,170	924

Note: Values converted to US\$ equivalent on the basis of 28.75 escudos equal US\$1.

CANNED FISH PACK, JANUARY-FEBRUARY 1956: The pack of canned sardines in oil or sauce for January-February 1956 amounted to 526 metric tons (net weight). The February pack was only 6 tons, and the January 1956 pack was 73 percent below the 1,912 tons packed in January 1955.



Spain

FISHERIES TRENDS, JUNE 1956: Fishing: June marked the beginning of the albacore (*Germo alalunga*) season

in the Vigo area of Spain. The Vigo albacore (known locally as "bonito") fleet was delayed by bad weather and the first boats departed around June 20. Prospects are excellent for an above-normal albacore season, according to the United States Consulate at Vigo (July 10). Catches of other fish were considerably lower than the previous year and the sardine catches seem to be definitely on the decline. The weather was poor for fishing.

Canning: The fish canning industry in the Vigo area was practically inactive during June due mainly to the lack of species appropriate for canning. It is reported that the canneries purchased only 98,000 pounds of fish during June as compared with 288,000 pounds during the previous month and 1,455,000 pounds in June 1955.

The canneries were expected to be operating at a high level in July since albacore catches are known to be good. Albacore is one of the principal products of the canneries in the Vigo area.

For the present, the canneries have an adequate supply of tin plate and olive oil. However, prices paid for olive oil are considered high. The canneries are concerned over the tin-plate situation, but it is believed in some circles that the Spanish authorities will endeavor to see that their needs are met.



Spanish Morocco

STATUS OF THE FISHERIES, 1955: Fishing continued to be an important industry in the Spanish Zone of Morocco with an estimated catch in 1955 in excess of the previous two years (see table). Only a minute portion of the estimated 10 million tons of yellowtail tuna which enter the Mediterranean each year to spawn were

Item	Quantity			Value					
	1955	1954	1953	1955		1954		1953	
	.. (Metric Tons) ..			1,000 Pesetas	US\$ 1,000	1,000 Pesetas	US\$ 1,000	1,000 Pesetas	US\$ 1,000
Spanish Zone	12,512	10,419	10,814	36,491	1,201	25,092	826	28,592	941
Ceuta	n.a.	3,754	3,111	n.a.	n.a.	15,538	511	10,973	361
Melilla	7,592	5,794	6,311	25,500	839	16,883	555	18,996	625

caught, and these mostly in the Almadraba nets on the Atlantic coast which trap the schools as they approach Morocco from the southwest.

The output of the canneries remained high, but only one plant in Larache could meet the health requirements necessary to export its product to the United States, according to a June 25 United States consular dispatch from Tangier.



Sweden

MARINE OIL MARKET: Fish oil in Sweden is a comparatively minor item in the over-all fat and oil picture. There is virtually no local production of fish oil. During some seasons of the year when the herring visit the west coast of Sweden, a few are caught and some herring meal is made from the offal and surplus herring, but none of the oil is extracted separately.

Imports of fish oil into Sweden for the past three years have declined steadily.

Virtually all of the fish oil imported into Sweden is hardened after mixing with whale oil, and the mixture is used in the manufacture of table margarine. The technical director of the Margarine Cooperative of Sweden states that they use a mixture of hydrogenated whale oil and fish oil for about 20 percent of the fat content of their margarine. They buy the mixture already hardened but not refined or deodorized, preferring to do the refining and deodorization immediately preceding the

manufacture of the margarine so that the oil will be absolutely fresh. Sweden has one plant built during the last war engaged in the hydrogenation of fats and oils. Prior to that time the hardened whale oil and fish oil was imported from Norway.

The margarine users do not bother with the proportions of whale oil and fish oil in the material which they purchase and confine their specifications to the required melting-point, which varies from 32° C. to 38° C. (89.6° F. to 100.4° F.) depending on the seasons of the year, and also to a free fatty acid content of not over 0.5 percent.

In addition to the fish oil used in the manufacture of margarine, approximately 300-350 tons of liquid refined fish oil is used annually in the fish canning industry. This oil is usually purchased from Norway in the refined state and is not polymerized. Due to the unfavorable publicity given to polymerized oil, very few if any plants polymerize fish oil that is used

for edible purposes. The margarine manufacturers use fish-liver oil in their margarine for the vitamin content and they usually purchase the better grades of cod-liver oil, standardizing this material for vitamin A and C content themselves. They buy the cod-liver oil directly from the fishing fleet which is engaged in the trade of fishing for cod.

So far as we were able to find out, no menhaden oil is imported into Sweden from the United States. However, in Hamburg one firm has shipped some American menhaden oil from Rotterdam under the name of herring oil. The particular lot of oil that was shipped originated in the Gulf, and had a lower iodine number than the oil from the Atlantic coast.

Exports of fish oil from Sweden are negligible and probably consist only of cod-liver oil. The maximum was 21 tons, which was exported to Norway in 1955. It is practically impossible to secure any reliable statistics for fish oil alone. In all cases they are combined, for official purposes, with whale oil, etc.

This is one of eight reports on a survey undertaken by the U. S. Fish and Wildlife Service of markets for United States-produced fish oils with emphasis on Western Europe.

Note: See Commercial Fisheries Review, August 1956, p. 47; also see pp. 58, 66, 70, 71, 87, 90, & 99 of this issue.

Country of Origin	Metric Tons
1955:	
Norway	1,010
Denmark	232
Iceland	287
Total 1955	1,607
1954:	
Norway	1,630
Denmark	229
Iceland	268
W. Germany	270
Total 1954	2,438
1953:	
Norway	1,457
Denmark	154
Iceland	100
Total 1953	1,829

Union of South Africa

FISHERIES TRENDS, MAY-JUNE 1956: Fishing in Union of South Africa waters in May and June this year has been disappointing and production of canned fish and fish meal consequently has been low. Overseas quotations for fish meal continue to decline while prices for fish oil remain firm. The demand for canned fish in the export market is said to have increased considerably with improvement in export prices. Canned and frozen rock lobster production in the Union has been satisfactory and stocks have been liquidated against firm overseas demand at profitable prices.

Reliable sources here report the discovery of breeding grounds just north of Walvis Bay of pilchards caught off the South-West African coast. These breeding grounds are said to cover an area of 800 square miles.

This discovery apparently was made by South African scientists aboard the 90-ton research vessel Namib II, a floating laboratory for the Department of Fisheries of South-West Africa. The captain of this vessel states that over a period of time he has collected spawn in silk plankton nets in this area, confirming the existence of pilchard breeding grounds, according to the United States Consulate at Cape Town (report dated July 11).

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SALDANHA BAY FISHERIES AT A LOW LEVEL: According to newspaper reports, the canning industry and the fishermen operating within a radius of 60-70 miles from Saldanha Bay Harbor in the Union of South Africa are experiencing the worst season in 20 years. The present scarcity of fish is comparable to that of 1933 which was considered to be the worst in the history of the industry, states a June 25 dispatch from the United States Consul at Cape Town.

The hardest hit are the hundreds of independent fishermen who operate from Saldanha. The newspaper reports: "as soon as there is a rumor that the fish are running the boats put out to sea in hopes of a profitable catch, but they return with hardly enough to meet fuel and running expenses. With hardly any money coming in because of the lack of fish, the independent fishermen are described by one canner official 'just living on the breadline'."

Sporadic schools have yielded more than 300 tons in a recent two-day period, but this is considered poor compared with catches in previous years which have exceeded this amount fivefold.

The scarcity of fish has also caused financial losses to the canning industry in the area.

* * * * *

FISH PUBLICITY CAMPAIGN LAUNCHED: Following the report of the Special Committee on Fish consumption, an advertising agency is to take the lead in a nation-wide publicity campaign to make South Africa more fish-minded.

The campaign was scheduled to begin early in July with large advertising spaces in the national press, bringing to the public the "Eat More Fish" message and pointing out the nutritional and economic benefits of fish as a major item in the daily diet. In addition, radio programs will be used.

An important part of this campaign will be directed towards the African and other non-European people through their own press. Hotels, cafes, clubs, and institutions will be persuaded to feature fish prominently on their menus.

The advertising campaign will be closely supported by many other forms of fish publicity, including intensive editorial publicity handled by a Cape Town firm of public relations consultants. The editorial publicity campaign has already been foreshadowed by a regular series of fish recipe articles in English and Afrikaans, which are now being published by newspapers and magazines all over the Union and in the Federation of Rhodesia and Nyasaland.

Several daily newspapers have agreed to run competitions for the best fish recipes sent in by readers, which will intensify the interest in fish cooking and bring the "Eat More Fish" message right into the home. Prizes for these competitions, which are to be run individually by the newspapers, are being put up by the advertising agency.

The Union's Department of Nutrition is cooperating closely with the advertising and public relations side of the campaign, and the cooperation of the Director of the Fishing Industry Research Institute, Cape Town, has already been enlisted for writing signed articles and broadcasts on the nutritional value of fish.

A valuable weapon in this campaign to make South Africans more fish-conscious will be the Deep Sea Fisheries Information and Publicity Centre, opened this month. Here it is planned to hold demonstrations of fish cooking, lectures, and film shows for women's organizations, domestic science teachers, and others.

Available at the Centre will be information on the trawling industry for schools, students, and journalists, and it will be open for inquiries on all aspects of fish cookery and fish preparation.

The Centre is in a spacious room equipped with a kitchen, and has been designed and furnished with the maximum of comfort by a Cape Town artist. From a model "Frikkie Bar" refreshments and fish snacks will be served at gatherings. A model shop window has been built into the room over which a cinema screen can be drawn for film shows. A wall newspaper is being organized so that visitors can be kept up to date with the latest developments in the campaign.

The trawling industry will in the future be represented at shows and exhibitions all over the country. Frikkie Fish Bars will be organized at charity and other shows.

A second book in the painting and story book series about the adventures of Frikkie and Seabell, the mermaid, is now in the press and will soon be available to the trade and the public. The second edition of the first book is now almost sold out. More than 75,000 copies have been distributed.

A comprehensive film in color on all aspects of the trawling industry is now being made and will later in the year be available for schools, institutions, clubs, and other organizations.

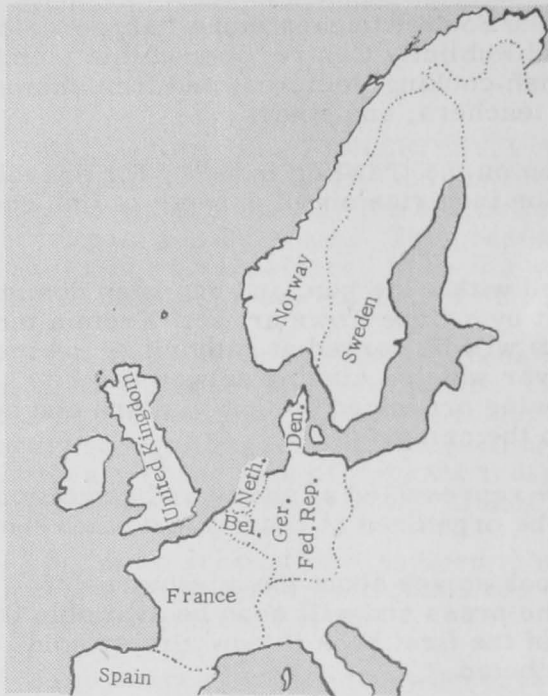


United Kingdom

MARINE OIL MARKET: Marine oils receive the greatest interest in the United Kingdom from the edible oil trade. No matter what the source of oil is (for edible purposes) it is used in the hydrogenated form. The principle marine oil used is whale oil. In addition to this, herring oil of local production is also used. The duty on herring oil into the United Kingdom is 10 percent ad valorem, and this practically precludes the importation of any fish oil. There is no duty on whale oil.

Whale Oil: The United Kingdom uses more whale oil than is produced by the whaling fleet operating under the British flag. Informal trade estimates of the total quantity of whale oil that will be available totals approximately 50,000 to 54,000 metric tons. In view of present rapid movements of prices and sudden changes in availability of other oils and fats, it is difficult to set out detailed figures. From the views expressed by a number of the leading buyers, however, the opinion exists that potential demand is greater than supply so that, provided sellers do not ask for prices out of line with those of other materials, the quantity of oil indicated should all move into consumers' hands easily and possibly quickly. Although it is not used for precisely the same purpose, whale oil to a very large degree determines the markets for fish oils generally. The same is not true of whale-meat meal, although prices of whale-meat meal do, in fact, move conformitively with those of fish meals.

Herring Oil: The herring oil and meal industry is operated by the Herring Industry Board which is a quasi-Government agency. This Board operates two reduction plants in Scotland; one at Aberdeen, and the other at Frazerbrook, which is 80 miles north of Aberdeen. The production of herring oil has varied somewhat in



the last four or five years and definitely is not growing. All of the oil is sold to two companies in about equal proportions. Sales are made in advance of production and are subject to the oil being produced. If there is no production, then there will be no sales contract effective. The two principal companies who share the production of herring oil refine and hydrogenate herring oil, but it is not believed that in either case the oil is polymerized prior to hydrogenation. One of the companies is using the hydrogenated herring oil in the manufacture of their lower-grade margarine. The other firm is using the hydrogenated herring oil in the production of a lower grade of cooking fat or shortening which is distributed in the United Kingdom. Both companies are quite secretive regarding the use of this product and claim that it is only a minor portion of the total oils used for edible purposes.

than last year for herring oil and the reason given is that whale oil as well as liquid vegetable oils have advanced in price, thus making the value of all fats and oils used for edible purposes advance somewhat, although not in the same proportion or amount as have soybean oil, cottonseed oil, peanut oil, etc.

Prices have been higher this year

Pilchard Oil: There is imported into the United Kingdom between 10,000 and 15,000 tons of treated South African pilchard oil. This oil is of a high iodine value, made by the "Solexol" process. There is no duty on this oil, since it is used strictly for industrial purposes. Most of it is used as a drying-oil extender in the paint business, but some is also used in making cheaper grades of floor coverings. This oil must sell for at least 10 percent less than linseed oil in order for it to be attractive to the drying-oil users.

Year	Oil	Meal
	..(Metric Tons) ..	
1955	6,939	12,236
1954	7,000	14,000
1953	8,633	18,042
1952	5,518	11,532
1951	1,958	3,982

This is one of eight reports on a survey undertaken by the U. S. Fish and Wildlife Service of the markets for United States-produced fish oils with emphasis on Western Europe.

Note: See Commercial Fisheries Review, August 1956, p. 47; also see pp. 58, 66, 70, 71, 87, 90, & 96 of this issue.

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IMPORT QUOTA FOR CANNED SALMON FROM NORTH AMERICA AND SOVIET RUSSIA: British import quotas for canned salmon from North America for the year ending June 30, 1957, are the same as for the preceding year, but there was a reduction of US\$616,000 in the import quota from Soviet Russia, the British Board of Trade reported in a release dated July 17, 1956.

The notice to importers No. 788, July 18, 1956, is as follows:

"Notices to Importers Nos. 739, 744, dated July 9, 1955 and August 6, 1955 respectively, announced arrangements for the import of canned salmon from North America and the Union of Soviet Socialist Republics during the year ending June 30, 1956. The Board of Trade now announce that further quotas have been arranged for the import of canned salmon originating in and consigned from those sources during the year ending June 30, 1957.

"The quotas are as follows:

"From North America £3 million (US\$8,400,000) f.o.b. (£3.3 million--US\$9,240,000--c.i.f.)

"From U.S.S.R. £1 million (US\$2,800,000) f.o.b. (£1.1 million--US\$3,080,000--c.i.f.)

"The British Board of Trade also stated that imports from Japan would be expected to continue in 1956/57 and a further quota for Japan will be fixed in the fall. The imports of canned salmon from Japan in 1955/56 were valued at US\$13,160,000 (United States Embassy in London, dispatch dated July 19).

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CAMPAIGN TO SELL MORE FISH TO THE HOUSEWIFE: There has already been a good response from retailers to the new British advertising campaign launched by the White Fish Authority (W.F.A.) early in June, points out The Fishing News (June 15), a British fishery periodical.

The campaign, on which the W.F.A. is to spend US\$280,000 in 1956-57, aims at focusing the housewife's attention on the men who serve her at the fishmonger and in the fried fish shop. This approach dovetails with the direct advertising of fish sponsored by other interests in the industry.

Apart from national advertising which puts into the mouth of "Our Fishmonger" or "The Man in our Fried Fish Shop" words pointing to one or another particular value of fish, there are ideas and blocks for local newspaper advertising in which retailers can insert their own names.

The "Whispering Fish" promotion scheme continues and includes leaflets and fish recipes.

The W.F.A. is planning to back up their advertising campaign with an advisory scheme for the fishmongers and friers to help them to sell more fish when the advertisements have drawn the housewife to their shops.

Although the campaign is concentrated at the retail stage, its benefits will be reflected in all sections of the industry as it helps to increase the housewife's demand for fish.

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CODE OF PRACTICE FOR FREEZING FISH: A Code of Practice for freezing fish was issued by the British White Fish Authority on June 1956. The new code supersedes one issued in July 1953 and provides:

1. Quick frozen fish in relation to white fish means fish which has been
 - (a) frozen by process which reduces the temperature of the whole of the fish from 32° F. to 23° F. or lower in not more than two hours; and
 - (b) kept in the freezer until the temperature has been reduced to minus 5° F. or lower.
2. Fish which has not been so frozen should not be described or offered for sale as "Quick Frozen."
3. Fish for quick freezing should be of such quality as could reasonably be expected after storage and transport to provide good, wholesome food when thawed.
4. Fish should be adequately iced whilst awaiting processing and should be frozen with the minimum delay.
5. An officer authorized by the Authority shall at any reasonable time be given facilities at the quayside or at the premises of the processor for the examination of all fish intended for quick freezing, in order that he may ascertain whether its quality and the conditions under which it is handled, processed, frozen and stored are satisfactory and conform in all respects to this Code.
6. The wrapper or container of quick frozen fish packed for sale either by wholesale or retail should either enclose a slip of paper carrying a code mark, or itself be marked with a code mark. If fish is quick frozen without a wrapper, a slip of paper carrying the code mark should accompany the fish. The code mark should enable the processor to be identified, and his records of code marks should be such as to enable him to detail particulars of purchase, freezing and storage.
7. The weight of consumer packs is subject to legislation. For all other packages, the net weight at the time of packing before freezing should not be less than the weight at which the package is purported to be sold.
8. Immediately after freezing, all quick-frozen fish should be placed in cold storage at a temperature not higher than minus 5° F., or at a lower temperature where possible. A pipe-cooled store should be preferred.
9. A steady temperature should be maintained in the cold store; the following points should be observed:
 - (a) All cold stores should be fitted with an air-lock.
 - (b) The quick-frozen fish should be as near as possible to the temperature of the cold store at the time of storage.
 - (c) Quick frozen fish should be kept from direct contact with the floor, walls, ceilings, and cooling pipes of the store by the use of racks, battens, and similar devices.
 - (d) Where quick frozen fish is passed into a cold store by conveyor belts, the opening for the belt should be as near the roof of the store as practicable.
 - (e) The opening of doors should be reduced to a minimum and they should not be left open.
 - (f) Freezing and storing should not be carried out in the same chamber at the same time.
 - (g) Where the store is controlled thermostatically, the controlling mechanism should be adjusted so that there is only a narrow variation between stopping and starting temperatures.
10. All quick frozen fish should be tightly wrapped in a water-vapour proof material or should be glazed. Double glazing is desirable.
11. Quick frozen fish which has been glazed should, if kept in cold storage for several months, be regularly examined and re-glazed when necessary.
12. All quick frozen fish stored should be regularly examined to ensure that it has been satisfactorily preserved during cold storage.
13. All consumer packs and any type of quick frozen fish intended for subsequent storage should be transported in pre-cooled insulated containers.

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SCOTTISH HERRING FISHERIES PROSPECTS FORECAST ANNUALLY: Prospects are good for Scottish herring fisheries in the North Sea during this year, and a good stock of herring is expected both on the Shetland grounds and off the north-east coast of Scotland. This is the encouraging prediction made by the Marine Laboratory at Torry, Aberdeen, Scotland in its annual forecast for the fisheries, published in the current issue of the "Scottish Fisheries Bulletin."

The forecast is compiled from extensive data on the distribution, abundance, movements, and availability of herring stocks in the fishing areas,

In a review of the forecast for 1955, the Bulletin says that the results of the fisheries that year were in general agreement with the forecast, and in all of them the average landings were maintained at a high level.

It is revealed that in the Northeast Coast fishery the catches of the two-year-old age group in 1954 and 1955 were larger than in any other year on record, and the young herring have increased in size.

In making their forecast for this year the Torry scientists point out that general biological events in recent years have caused striking changes in the abundance and composition of the fishable stocks and in the productivity of the fisheries.

"Reservation must also be made for the possible effects of other factors which may have a marked influence on the resources of the fisheries--weather conditions during the fishing season; size and searching power of the fishing fleets. The predictions are made on the assumption that the searching power of the fleets and the general conditions (weather, etc.) affecting their operation are generally favorable."

The forecast also includes details by fishing area and prospects for the early and later herring fishing which takes place in some areas, according to a report which appeared in the July 13 issue of the British periodical The Fishing News.



FISHERY PRODUCTS--GREAT PROFIT POTENTIAL FOR RETAILERS

One of the greatest profit potentials for the food retailer yet to be exploited is fishery products, Frank W. Wilkisson, New York, N. Y., stated on April 18, 1956, upon assuming the presidency of the National Fisheries Institute, national trade association of the fishing industry, which held its Eleventh Annual Convention at Miami Beach, Fla.

Wilkisson stated that food retailers can use fishery products, with all their varieties and glamorous appeal, as a traffic builder for their stores.

"The retailer can make big money on fisheries products," said Wilkisson. "In fact, I don't know of a single food retailer who has not made increased profits when he has given space and attention to fish products. All he has to do is to use fish and seafoods as a leader to create store traffic; give space enough to such products to permit good display and promote to the consumer the fact that he has such attractive foods.

"The retail trade has hardly begun to exploit fish products for profits as it can and should," continued Wilkisson. "They are one of the few as yet not fully-exploited lines of products on the retailer's shelves and in his freezers. This is true of fresh fish and seafoods the same as frozen. The next few years will see great strides in this field and the retailer who capitalizes on our products now is certain to build customers for his whole retail outlet."

"An indication of the high-profit rating of fish products is shown by a study by Progressive Grocer of selected supermarkets in Cleveland. Profits of meat products over a 13-week period averaged 16.9 percent; dairy products, 15.5 percent; and all frozen food products, 22.2 percent. On the other hand, margins on cooked frozen seafoods ran to 42.4 percent and uncooked, 29 percent, showing that profit margins on fish products run considerably higher than other foods."

--Excerpt from address at National Fisheries Institute
Eleventh Annual Convention, April 18, 1956.