



International

BALTIC SEA

CONVENTION PLANNED FOR PROTECTION OF FISH:

Negotiations were still in progress towards the end of February 1959 between the countries bordering on the Baltic Sea concerning measures to provide protection against indiscriminate salmon fishing practices in the Baltic. These negotiations are expected to lead to the signing of a convention providing for protection of cod, herring, and flatfish as well as salmon.

Press reports indicate that the fishery experts of the negotiating Baltic countries are fully agreed on mesh-sizes of fishing nets as well as other fishing gear to be used in the Baltic. They appear to be likewise agreed on prohibition of the use of sunken lines strung with artificial bait in salmon fishing during certain periods of the year.

Research has revealed that large areas in the Baltic where the cod start to spawn are oversaturated with oxygen, while in other sections of the Baltic different hydrological conditions prevail. As a result, landings of Baltic cod are presently considerably smaller than some 10 to 15 years ago and a further decline in spawning density is feared in future years unless the Baltic waters improve. Moreover, the flatfish population of the Baltic is believed to be currently rather sparse. (United States Embassy report from Stockholm, February 27, 1959.)

EUROPEAN COMMON MARKET

COMMON MARKET CAUSES SOME CONCERN IN FISHERY CIRCLES:

The European Common Market--consisting of France, Italy, West Germany,

Belgium, Netherlands, and Luxembourg--started to function on January 1, 1959. The six countries began by effecting a 10-percent reduction in customs tariffs and a 20-percent increase in import quotas between member nations. Spain, at least for the present, is on the margin of this organization. England's position will also be marginal when the Zone of Free Commerce becomes impractical. In both England and Spain, and in Scandinavian countries, the formation of the European Common Market has caused some apprehension.

In fishing industry circles of the European Common Market nations there is some alarm about the possible effects of the new market. The French fishing industry is especially concerned about the future of some of their export products such as fresh fish, salted herring, and canned sardines and tuna. Since entry into the Common Market was preceded by measures which liberalized trade, France fears that it will have to compete with the fishery products exports of other member countries.

French fishing vessel owners fear that the domestic market will be invaded by products from the five other Common Market nations due to the new exchange rates and the reduced tariffs. But this fear is considered to be unfounded. With the exception of West Germany, the other Common Market countries do not have the potential production and volume to seriously disturb the present level of France's domestic prices for fishery products.

On the other hand, the demand for fishery products is generally inelastic and little is needed to produce changes in its stability. Despite this, it is necessary to hope for the best (*Industrias Pesqueras*, Vigo, Spain, January 15, 1959).

International (Contd.):

FOOD AND AGRICULTURE ORGANIZATION

INTERNATIONAL MEETING OF NORTH ATLANTIC FISHERY STATISTICS EXPERTS:

An international meeting of experts on fishery statistics in the North Atlantic area is to be held in Edinburgh in September 1959 at the invitation of the United Kingdom Government.

The Conference is being convened by the Food and Agriculture Organization (FAO) of the United Nations in cooperation with the International Commission for the Northwest Atlantic Fisheries and the International Council for the Exploration of the Sea.



Governments concerned with the North Atlantic fisheries have been invited to nominate experts directly concerned with collecting, analyzing, and publishing statistics on the fishing industries and trades of their countries. The Scottish Home Department will act as hosts to the delegates. About 50 or 60 experts are expected to attend the Conference.

The meeting will be of interest not only to officials but also to biologists, economists, and fishing industry executives.

It is hoped that delegates will be able to identify the main difficulties encountered in providing statistical data for the use of Governments, international agencies, and the fishing industry and will indicate the action to be taken to eliminate or reduce such difficulties.

Fishery statisticians are faced with an ever-growing demand for more numerous and more detailed statistical data and will attempt at the Conference to work out with the users further means of simplifying their task. It is also hoped that delegates will be able to say how to standardize both national and international fishery statistics to make them more useful.

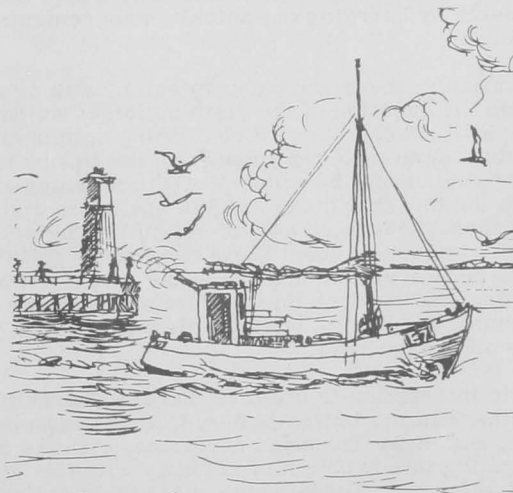
In addition to holding plenary sessions, the Conference will work through two committees. The first will deal with fish catching statistics and the second will be concerned with fish processing, distribution, and consumption statistics. Working and background papers for the meeting are being prepared by the sponsoring bodies and by various participating countries.

This will be the second international meeting on fishery statistics. The first was organized by FAO and held in Copenhagen in May 1952. The Edinburgh meeting will be held in the Government Buildings at Saughton and will carry forward international cooperation in fishery statistics which was stimulated by the Copenhagen meeting. It will start on September 22, 1959, and is expected to end on Wednesday, September 30, but, if desirable, the meeting will be extended to Friday, October 2.

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SECOND WORLD FISHING BOAT CONGRESS MAY DETERMINE FUTURE OF FISHING BOAT DESIGN:

One of the main problems facing the fishing industry of the world is to determine design and construction criteria which will ensure that fishing boats will be both safe and sea-kindly and, at the same time, operate efficiently.



A function of the Second World Fishing Boat Congress is to focus attention on this question and a great many of the papers presented deal with such problems as stability and sea-kindliness. In an interview at the Rome headquarters of the Food and Agriculture Organization (FAO), where the Congress was scheduled to meet April 5-10, 1959, the Chief of the Fishing Boat Section, Fisheries Division, FAO, and Secretary of the Congress pointed out:

International (Contd.):

The Congress makes a very important contribution towards solving the problem of making fishing boats safer at sea and increasing their efficiency. In many ways the problem involves contradictions. For example, a vessel with a long period of roll is much more comfortable for the crew and provides easier working conditions which contribute to efficiency in operation, but it is in more danger of capsizing than a vessel with a short period. Naval architects and boat builders throughout the world need a simple method of establishing the stability of fishing boats on the drawing board but we have not, so far, acquired sufficient data for this purpose. However, judging from some of the papers contributed to the Congress, we are approaching a point where universally-accepted methods may be proposed.

For example, there is a mass of information from Japan. In fact, we can say that the Japanese have opened up their books on design of fishing boats and are making available data which most other nations would regard as secret, if any of them had collected such information! These Japanese papers give a vast number of figures on the performance of many vessels so that we have a good picture on their stability, distribution of weight in the hull, center of gravity, speed, performance, and behavior at sea.

Among other contributions, one from Germany proposes a simple diagram to show the period of roll in relation to the beam of the ship. It states that both short and too long rolls are bad and proposes a minimum and maximum period of roll, criteria which may be applicable to any type of fishing boat in any part of the world. Naval architects in other countries are invited to check these proposals by carrying out actual measurements at sea.

Similarly, there are papers dealing with pitching and the question of the distribution of weights in the hull. There is much conflicting opinion about this, some experts supporting the theory that the weights should be concentrated amidships and others holding that these weights should be distributed throughout the length of the hull. There is also the important question as to whether hulls should be fine or full-ended and the extent to which such designs improve the comfort of the crews and enable the boat to continue fishing in high winds and rough seas.

It is interesting to observe that naval architects and others in the United States, United Kingdom, Japan, and many European countries, who are investigating this problem of stability with the hope of establishing criteria which will enable the stability of a boat to be predicted while on the drawing board, are approaching the problem from many different angles. Yet it appears that they are coming to the same conclusions and these seem to be in line with the criteria proposed in 1939 by Professor A. Rahola of Finland. It is a rather ironic situation to find that valid criteria had been proposed 20 years ago and that all the work in recent years seems to confirm this.

One of the most controversial papers at the Congress by an American naval architect proposes

a new way of determining scantlings of wooden vessels. At the present time, the scantlings required by classification societies and by governments are largely based on the rule-of-thumb methods of the past. In many cases, the rules call for scantlings which are far thicker and heavier than is really necessary, and do not take into consideration modern scientific and technical knowledge nor the improved methods of construction. A much lighter standard of scantlings which would considerably lower wooden boat construction costs, perhaps by as much as 10 percent, is proposed. The proposals were based on a selected number of ships which, with lighter scantlings, have operated successfully for a number of years. It is hoped that this will lead ultimately to a revision of scantling requirements by classification societies.

Among other interesting papers are some dealing with outboard engines and with surf boats. American manufacturers of outboards have in the past chiefly concentrated on supplying the speed and pleasure boat market but they are now showing a good deal more interest in the fishing boat market because European makers are invading it, much as they have invaded the small car field. The fishing boat market is a particularly promising outlet, especially in the underdeveloped countries where the first step towards mechanization of fishing boats is often the installation of outboard engines. An example of this development is to be found in Uganda where, in the past six years, the lake fishermen have installed more than 1,200 outboards in their craft and these, allied with the introduction of nylon nets, have helped to double the fish catch from the lakes--from about 24,000 to more than 48,000 metric tons a year. Similar impressive examples of the expanding use of outboard engines can be found in many countries of Africa, Asia, and Latin America.

One of FAO's naval architects presents a paper which sums up FAO's work on surf boats during the past seven years. As a result of this work, prototype surf boats, 24-foot over-all, have been built and tested and have been found capable of passing through 5- and 6-foot surf. The architects are now concentrating on the design of a boat which will be cheaper to build than the ordinary fishing boat in size and will be suitable for using as a surf boat launched from, and landed on, the open beach or for operating from a fishing harbour.

The First International Fishing Boat Congress led to a widening understanding of fishing boat design and construction. It brought naval architects into the fishing boat business, drew attention to the problems they were faced with in the business, told them what had been done to date, and pointed out what remained to be done.

Since 1953 we have made a great deal of progress in hull design and construction and there have also been many other technical advances. The Second Congress adds appreciably to our knowledge of these latest developments, including the progress made in design and construction of stern trawlers, whalers, and factory ships. It also points to the future trends in fishing boat design and construction, including the use of atomic power for the factory-type fishing vessel.

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International (Contd.):

SECOND WORLD FISHING BOAT CONGRESS RECEIVES ABOUT 50 PAPERS:

For the Second World Fishing Boat Congress scheduled in Rome, Italy, April 5-10, 1959, about 50 papers on various aspects of fishing vessels had been received as of mid-March. The meeting is sponsored by the Food and Agriculture Organization (FAO).

Under the general subject of Tactics, a number of papers were submitted on deck design and equipment for drift-netting, gill-net fishing, long-line fishing, pole-and-line fishing, and trawling; also a paper on centralized control of trawlers.

For the topic of Construction, papers were listed on suggested standard scantlings; glass-reinforced plastic hulls; care of the catch; engineering and architecture of the fish hold; icing versus freezing; propulsion engines for fishing boats; steam versus Diesel; propulsion systems for motor trawlers; recent trawlers fitted with multiple-reduction gears; device for raising and lowering propellers; an analysis of dimensions, weights, and costs.

For the topic of Sea Behavior, papers were presented on hull form design of fishing boats; model tests of some fishing launches; an advanced hull and propeller design; loads imposed by trawling gear; new perspectives in sea behavior; behavior of trawlers at sea; shape of Dutch coastal fishing boats; trawler forms with bulbous bows; tests of fishing boat models in waves; notes on stability; transverse stability of tuna clippers; a method to determine freeboard in relation to stability; safety from capsizing; and causes of accidents.

Under the general topic of Productivity, the papers covered commercial outboard fishing craft; traditional Japanese small fishing craft; design and mass production of shrimp trawlers; development of a trawler of unorthodox design; postwar Dutch fishing fleet; design studies for stern trawlers; Diesel whale catcher; modern refrigerated factoryships in Japan; and choice of boat type and size for Polish deep-sea fisheries.

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INTERNATIONAL MEETING ON FISHERY COOPERATIVES HELD IN NAPLES:

A technical meeting on Fishery Cooperatives, organized by the Food and Agriculture Organization (FAO), Rome, in association with the International Labor Office, Geneva, was held at Naples, Italy, May 12-21, 1959.

Governments and intergovernmental organizations interested in fishery cooperatives were invited to send representatives and experts to exchange information, experience, and views on the function, organization, and management of fishery cooperatives.

"As we have found at FAO, there is a strong and growing interest in fishery cooperatives in many parts of the world," stated the technical secretary of the meeting. "For this reason we have been asked for a good deal of help and information in connection with fishery cooperatives, but I must stress that we are primarily concerned with them only to the extent that they may provide a practicable means of increasing efficiency in fish production and trade in some areas where there is an expressed desire for such types of undertaking.

"Some very successful fishery cooperatives are to be found in highly-developed fishing countries, such as Canada, Sweden, Norway, Japan, and several others. But there are differences of purpose and approach and there is a wide range of working methods among these successful organizations.

"In most cases little is known about them outside the countries concerned. The primary purpose of the Naples meeting is to enable experts to make a comprehensive review of modern organization and practice in fisheries cooperatives, exchange information, experience and views and, we hope, come to conclusions which will point the way to the best means of promoting and developing cooperative undertakings to meet conditions in different countries."

Many governments and other authorities are in fact fostering the formation of fishermen's cooperatives with the aim of improving the fishermen's social and

International (Contd.):

economic welfare as well as setting up an efficient commercial organization. This is especially true in those fisheries which are small-scale and widely dispersed and where existing commercial channels are too narrow and restrictive to offer any incentives to the fishermen.

The meeting discussed cooperative and private enterprise in fishing, fishery cooperatives and governments, cooperative education in fisheries, management of cooperatives, and the future of cooperatives.

The selection of Naples, at the invitation of the Italian Government, as the site for the meeting was particularly appropriate because of the traditional association of the port with the fishing industry. There are some 20 fishermen's cooperatives in Naples and the immediate vicinity.

INTER-AMERICAN FOOD CONGRESS

ANNUAL MEETING IN MIAMI BEACH:

Industry food technologists from the United States and U. S. Department of Agriculture officials will present a bilingual program, through the medium of



simultaneous translation, for Latin American Government officials, food industry representatives and their guests from 17 countries at the Annual Inter-American Food Congress to be held at the Carillon Hotel, Miami Beach, Fla., June 9-13, 1959. The Congress is sponsored by the Inter-American Food Institute, a nonprofit corporation designed to assist the Latin American food industry.

The purpose of the Institute is to promote, through a scientific, nonpolitical effort, effective cooperation and exchange of ideas and information among the peoples of South America, Central America, and countries of the Caribbean Area, relative to technical and scientific advances pertaining to the production, processing, packaging, quality control, and marketing of food and food products. The Institute is at present governed by an executive committee consisting of six men from United States industry and six from Central and South America.

Latin Americans from every type of food industry will be in Miami Beach to learn our latest advances in bio-chemistry, chemistry, microbiology, enzymology, and the nutritional aspects of meat, poultry, fish, fruit, vegetables, cereal, confections, and dairy products, as well as processing and packaging methods, quality control, grading, and marketing. Special sections will be devoted to each of these subjects.

Major manufacturers in the food field will exhibit their products at the Congress for the inspection of the Latin Americans who will attend.

Because of the desire of the United States Government to cooperate with the Latin Americas to improve their standards of living, and because of the tremendous investment of private United States capital (over \$9 billion in 1958), the Institute is certain that American industry will find ready markets for its products in Latin America.

INTERNATIONAL PACIFIC SALMON COMMISSION

SOCKEYE AND PINK SALMON REGULATIONS FOR 1959:

Regulations for 1959 sockeye and pink salmon fishing have been approved by the International Pacific Salmon Fisheries Commission for Convention waters off the west coast of the United States and Canada, according to a February 5, 1959, news release from the Commission. The original suggestions for regulatory control were submitted to the industry at a meeting held on December 16, 1958, and again on January 21, 1959. Numerous recommendations were presented by the official representatives of the industry on the Commission's Advisory Board.

United States Section: One recommendation was that the westerly limit to net fishing in the Strait of Juan de Fuca be changed easterly from the Bonilla-Tatoosh line to the Port Angeles-William Head line to protect immature coho or silver salmon and to protect from overfishing the pink salmon destined for Puget Sound streams outside Convention waters.

International (Contd.):

In considering this recommendation in respect to coho or silver salmon the Commission was cognizant: (a) That coho or silver salmon are not included within the terms of reference of the Sockeye Salmon Fisheries Convention. (b) That the taking of coho or silver salmon in the Strait of Juan de Fuca has been under specific discussion in investigation by the United States and Canadian Governments since February 1957. (c) That the Bonilla-Tatoosh line has been declared a "Provisional Line" by the Governments concerned subject to reconsideration at a second International Conference on Coordination of Fisheries Regulations between Canada and the United States scheduled for March of this year.

The Commission pointed out it could not take any action in advance of an official decision of the Governments presently concerned with the problem and its solution.

In considering the above recommendation further the Commission pointed out that Article VI of the Pink Salmon Protocol recognizes the need of extensive biological knowledge concerning the pink salmon stocks concerned by requiring that "the Parties shall conduct a coordinated investigation of pink salmon stocks which enter Convention waters for the purpose of determining the migratory movements of such stocks." A Coordinating Committee was established in 1957 consisting of representatives from the State of Washington Department of Fisheries, the Department of Fisheries of Canada, the Fisheries Research Board of Canada, and the International Pacific Salmon Fisheries Commission. This Committee has been preparing a comprehensive plan of investigation to be conducted this year for the purpose of determining the:

(a) Destination, migration routes, times of passage, catches, and exploitation rates of the pink salmon stocks moving through fishing areas adjacent to Convention waters but migrating to streams located in Convention waters.

(b) Destination, migration routes, times of passage, catches, and exploitation rates in Convention waters of pink salmon passing through Convention waters en route to streams in Outside Areas.

The operation of the coordinated program in 1959 is expected to cost \$150,000 and will be mutually undertaken and financed by the four agencies above referred to. The Committee is of the opinion that the results will be of great value in delineating the size of each population and the effects of each individual fishery operating upon it during its passage from the sea to its respective spawning ground.

The sockeye populations fished in Convention waters are practically all destined for the Fraser River but there are many pink salmon stocks destined for streams lying both north and south of the Fraser River both within and outside of Convention waters. The possibility exists that these populations have a variable ability to reproduce themselves as a result of both natural and artificial variations in environment. This possibility necessitates the need for detailed information not yet available in order to have the maximum flexibility in localized regulation to properly protect as many stocks as possible while still allowing a maximum harvest of all the stocks. While awaiting acquisition of the necessary knowledge by the investigations conducted under the auspices of the Coordinating Committee, the Commission in its opinion has established a policy of regulatory control sufficiently restrictive to provide protection to practically all, if not all, of the stocks of pink salmon available to the fishery in Convention waters. It has emphasized at both of the meetings with the industry that any variations from normal in the size of the 1959 run of pink salmon will result in additional regulatory restrictions in all of the pertinent fishing areas of Convention waters.

It is important to point out that the responsibility of either government or of this Commission has not yet been clearly defined in the case of salmon populations being subjected to a fishery either before or after entering Convention waters.

The following is a digest of the recommendations approved by the Commission as regulations for sockeye and pink salmon fishing in Convention waters for 1959.

All United States Convention Waters: June 21 to July 19--closed, July 19 to August 16--purse seines and reef nets open

daily 4:00 a.m. to 8:00 p.m. P.S.T. Monday through Wednesday; gill nets open daily 6:00 p.m. to 8:00 a.m. Monday afternoon to Thursday morning. August 16 to September 27--purse seines and reef nets open daily 4:00 a.m. to 8:00 p.m. Monday through Thursday; gill nets open daily 6:00 p.m. to 8:00 a.m. Sunday afternoon to Thursday morning. Waters westerly of a line projected from the Iwersen dock on Point Roberts in a straight line towards the Active Pass light to a point where said line intersects the International Boundary--September 6 to September 27, closed.

Canadian Convention Waters: West of William Head - Angeles Point line (final determination on daily opening and closing hours in this area will be held in abeyance pending possible receipt of a mutually-approved recommendation from the respective fishermen): June 21 to 5:00 p.m. July 19--closed. July 19 to August 16--purse seines open daily 5:00 a.m. to 5:00 p.m. Monday through Wednesday; gill nets open daily 5:00 p.m. to 5:00 a.m. Sunday afternoon to Wednesday morning; traps open 5:00 a.m. Monday to 5:00 a.m. Thursday. August 16 to August 30--purse seines open daily 5:00 a.m. to 5:00 p.m. Monday through Thursday; gill nets open daily 5:00 p.m. to 5:00 a.m. Sunday afternoon to Thursday morning; traps open 5:00 a.m. Monday to 5:00 a.m. Friday. August 30 to September 20--purse seines open daily 5:00 a.m. to 5:00 p.m. Monday through Friday; gill nets open daily 5:00 p.m. to 5:00 a.m. Sunday afternoon to Friday morning; traps open 5:00 a.m. Monday to 5:00 a.m. Saturday.

East of William Head - Angeles Point line: June 21 to 7:00 a.m. July 20--closed except for spring salmon nets under regulation by the Department of Fisheries but having a mesh of not less than 8 inches for linen nets and 8-1/2 inches for nylon nets. July 20 to September 10--open 7:00 a.m. Monday to 7:00 a.m. Thursday.

Easterly of a line from Point Grey to North Arm Jetty to Sand Heads light to Canoe Pass buoy thence on a direct line towards the West Point Roberts light to the International Boundary: Closed 7:00 a.m. September 10 to 7:00 a.m. September 21. Open 7:00 a.m. September 21 to 7:00 a.m. September 24. Closed 7:00 a.m. September 24 to October 12 except for spring salmon nets under regulation by the Department of Fisheries but having a mesh of not less than 9 inches for linen nets and 9-1/2 inches for nylon nets.

Westerly of a line from Point Grey to North Arm Jetty to Sand Heads light to Canoe Pass buoy thence on a direct line towards the West Point Roberts light to the International Boundary including Areas 17, 18 and portion of Area 19: Closed 7:00 a.m. September 10 to 7:00 a.m. September 14. Open 7:00 a.m. September 14 to 7:00 a.m. September 18. Closed 7:00 a.m. September 18 to 7:00 a.m. September 21. Open 7:00 a.m. September 21 to 7:00 a.m. September 25. Closed 7:00 a.m. September 25 to October 12 except for spring salmon nets under regulation by the Department of Fisheries but having a mesh of not less than 9 inches for linen nets and 9-1/2 inches for nylon nets.

Note: These are the recommendations by the Commission which are usually adopted and issued by Canada and the United States without change.

INTERNATIONAL WHALING
COMMISSIONAMENDMENT TO CONVENTION
RATIFIED BY PANAMA:

The protocol amending the International Whaling Convention of 1946, done at Washington, November 19, 1956, was ratified by Panama on February 9, 1959. The protocol will not be in force until the required number of countries complete ratification.

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International (Contd.):

JAPAN TO WITHDRAW FROM CONVENTION EFFECTIVE JUNE 30, 1959:

Japan notified the International Whaling Commission on February 6, 1959, of

its intention to withdraw from the International Whaling Convention (signed in Washington, December 2, 1946, and entered into force November 10, 1948) and Schedule of Whaling Regulations on June 30, 1959.

MARINE BIOLOGY STUDIES INCLUDED IN 1958/59 ANTARCTICA PROGRAM

The Committee on Polar Research of the U. S. National Academy of Sciences and its panel on Biological and Medical Sciences, in cooperation with the National Science Foundation, has prepared a broad program as part of the continuing United States scientific research in Antarctic regions. Australia, Great Britain, Argentina, and other nations are also supporting continuation of biological programs in the south polar regions.

At the U. S. Naval Air Facility, on Ross Island in McMurdo Sound, a permanent laboratory will be installed by 1959 to support field studies in biology, medicine and other life sciences in the summer season.

In December 1958 marine biology studies were being conducted by six investigators working partly from ships

and partly from the laboratory at McMurdo. A study of the food cycle of marine fauna was being made at Hallet Station and at McMurdo, to be continued by invitation from the New Zealand Oceanographic Institute, aboard the HMNZS *Endeavour* during a cruise along the Antarctic convergence zone and in the Ross Sea. The ecology of inshore marine invertebrates is being studied at McMurdo. Marine biologists accompanied the USS *Glacier* through the Ross Sea to McMurdo Sound, and the USS *Edisto* to International Geophysical Year Ellsworth Station on the Weddell Sea, for studies of the systematics of Antarctic fishes and other marine biological observations. Physiological properties of blood and of anatomical adaptations to feeding habits and habitat is to receive particular attention. (*IGY Bulletin* No. 18, December 1958.)

MARINE OILS

ESTIMATED WORLD PRODUCTION IN 1959:

World production of marine oils in 1959 should be slightly higher than the

pelagic season, up 500 from 1958. The future of Antarctic whaling is uncertain as several countries have conditionally withdrawn from the International Whaling

Table 1 - Estimated World Production of Marine Oils
(averages 1935-39 and 1950-54, annual 1952-58, and forecast 1959^{1/})

Type	Forecast 1959 ^{2/}	1958 ^{3/}	1957	1956	1955	1954	1953	1953	Average	
									1950-54	1935-39
(1,000 Short Tons)										
Whale	450	430	440	425	420	455	420	460	545	440
Sperm whale . .	110	115	100	120	100	75	55	85	30	80
Fish (including liver)	450	440	455	515	530	515	455	455	480	465
Total	1,010	985	995	1,060	1,050	1,045	930	1,000	1,055	985

1/ Beginning with 1950 the years indicated are those in which the predominant share of a given oil was produced.
 2/ Forecasts for 1959 oils are based on the assumption that normal weather and fishing conditions will prevail during the coming year.
 3/ Preliminary.
 Note: Compiled from official and other sources.

1958 output. Whale oil production is expected to be up as a result of an increase to 15,000 in the blue-whale units to be taken in the Antarctic during the 1959

Commission because of failure of the participating countries to agree on individual country division of the catch limit.

International (Contd.):

Sperm oil production in 1959 is not expected to equal that of 1958 primarily because of the low prices received for the 1958 output. The 1958 output was up sharply from that of 1957. Relatively high prices in 1957 probably stimulated

the increase in sperm whaling in the Antarctic during 1957/58 pelagic season.

World fish oil production in 1959 is forecast slightly above 1958. The Norwegian output should be up somewhat from last year when unfavorable weather and difficulty in locating fish reduced production approximately one-half.

NORTH PACIFIC SALMON FISHERIES CATCH, 1956-57

Japan and Russia in that order, are the leading two salmon producing nations in the Pacific. This was revealed in a meeting of the International North Pacific Fisheries Commission in Tokyo in 1958 when the U.S.S.R. presented to the

comprehensive picture of the North Pacific salmon fisheries is presented.

Japan caught a total of 743 million pounds of salmon in the two years; Russia 680.5 million pounds; the United States 589.5 million

Table I - North Pacific Salmon Fisheries Catch by Countries, 1956-57

Country	Sockeye	Pink	Chum	Silver	King	Total
(Million Pounds)						
1957:						
Canada	15.7	57.3	27.2	22.8	12.7	135.7
United States	67.5	71.6	68.9	26.8	30.5	265.3
Japan	93.8	214.5	98.2	2.0	0.2	408.7
U.S.S.R.	8.2	234.6	70.5	11.9	1.9	327.1
Total	185.2	578.0	264.8	63.5	45.3	1,136.8
1956:						
Canada	21.5	29.0	27.4	25.2	13.7	116.8
United States	94.3	102.2	59.9	29.5	38.3	324.2
Japan	43.8	158.4	111.3	19.9	0.9	334.3
U.S.S.R.	12.6	159.1	170.3	9.2	2.2	353.4
Total	172.2	448.7	368.9	83.8	55.1	1,128.7

Commission its salmon catch statistics for the years 1956 and 1957. When combined with previously available data from Japan, the United States, and Canada, a

pounds; and Canada 252.5 million pounds. Only the United States and Canada fish for the king salmon, which originate on the United States side of the Pacific. The most abundant salmon in the two years was pink.

NORTHWEST PACIFIC FISHERIES COMMISSION

PROGRESS ON 1959 NEGOTIATIONS BETWEEN JAPAN AND RUSSIA:

The biological subcommittee of the Japanese-Soviet Northwest Pacific Fisheries Commission by early March 1959 had completed its consideration of the condition of the Far Eastern North Pacific salmon populations. The deliberations were not made public in detail, but press reports revealed differences between the views of Japanese and Soviet scientists on the state of the salmon resources and the effect of the high-seas fishery on salmon conservation.

The regular annual meeting of the Japan-Soviet Commission for Northwest Pacific Fisheries opened at Tokyo on January 12, 1959. The purpose of the meeting is to consider the condition of the salmon, herring, and king crab resources in the Pacific Ocean north of 45° N. latitude and west of 175° W.

longitude and to decide what limitations of catch and fishing practices are necessary for the conservation of these resources. The most important point of the discussion is the salmon catch that the Japanese are to be allowed to take, and the conditions under which it is to be taken.

As all meetings are closed and there are no observers from third countries, the only information available on the discussions, aside from occasional communiques issued by the Commission, is that found in the Japanese press. The press, however, is very active in gathering and reporting detailed information on these meetings.

Salmon and King Crab Catches: The first substantial information to come from the conference was the report of salmon and king crab catches by Japan and U.S.S.R. in the 1958 season.

Japan (Contd.):

Japan reported a total catch of 181,854 metric tons of all species of salmon, broken down as follows: within the treaty area, north of 45° N. latitude, the Japanese took 110,145 tons (145 tons over the quota set by the Commission), of which mothership fleets took 91,619 tons (24,248 red, 35,918 chum, 22,092 pink, 9,361 other salmon) and land-based gill-netters took 18,526 tons (31 red, 3,410 chum, 13,128 pink, 1,957 other salmon). South of the treaty area land-based gill-netters took 40,853 tons (1,330 red, 16,181 chum, 23,128 pink, 214 other salmon) and long-liners caught 9,875 tons (2,736 chum, 7,139 pink). Japanese coastal salmon fisheries produced 20,981 metric tons (1,747 chum; 19,234 pink).

The Soviet Union reported a total salmon catch of 73,000 metric tons, of which 13,800 tons was taken in Kamchatka. Red salmon landings were reported as 1,000 tons.

Japan's four king crab cannery factoryships in the Sea of Okhotsk caught 9,958,000 crabs and packed their planned quota of 320,000 cases. The Soviet fleets reportedly packed 340,000 cases out of a planned 480,000.

Violations by Japanese of Northwest Pacific Fishery Regulations: The second matter of importance on which the Commission took action was that of violations by Japanese fishing boats of the regulations determined by the Commission for the 1958 salmon fishing season. There has been a large number of violations of the regulations of the Japan-Soviet Northwest Pacific Fisheries Commission during the past year. (In contrast, along the Provisional Abstention Line established under the International North Pacific Fisheries Convention by the United States, Canada, and Japan, no violations by Japanese boats have been reported during the 5 years that the Convention has been in force.) It should be noted that these regulations are quite complex, involving numerous closed areas, net mesh-size limits, and the length and spacing of sets of gear. Furthermore, a large number of salmon boats operate independently in Far Eastern waters, whereas the fishing in waters nearer the Provisional Abstention Line is done by boats under the control of motherships carrying Japanese government inspectors.

It is not clear exactly how many violations were apprehended, because there may be duplication between the Japanese and Soviet figures. However, the Japanese reported 77 vessels already dealt with and another 11 still under investigation, while the Russians reported apprehending 23 vessels fishing illegally. According to Japanese sources, almost all of the violations were cases where vessels not licensed to fish salmon north of the treaty line had independently entered treaty waters. The Soviet side, on the other hand, cited principally cases where vessels attached to mothership fleets had entered closed areas, set excessive amounts of gear, set nets too close together, caught more than their quotas, or taken excessive numbers of immature fish. The Russians laid stress on the fact that in a number of cases they had obtained from the captains of the offending boats written statements that they had been ordered by the mother-

ship operating companies to violate the Commission's regulations. The upshot of this aspect of the Commission's proceedings was passage of a resolution in which both delegations recognized that there had been violations and urged the governments to take stricter control measures.

Condition of Northwest Pacific Salmon Resources: From its third week the Commission entered upon the discussion of the condition of the salmon resources of the Far East. The "resource question" was debated in plenary sessions for about a week, after which the plenary recessed and the discussions were continued in the Scientific and Technical Subcommittee. These subcommittee proceedings first covered the general state of the resources, and then took up each species in turn, in the order of pink, chum, red, silver, and king salmon. These discussions continued until February 3, with no agreement reported on any important point.

The cases presented by the two national subcommittees with regard to the state of the salmon resources may be roughly summarized by saying that the Soviet representatives have claimed both in general and in respect to each species that the resources have declined to a dangerously low level, and that this decline has been primarily caused by the Japanese high-seas fishery, while the Japanese have maintained that it is premature to say that the resources have declined, and that even if they have, it is not from any effect of high-seas fishing.

The Russian arguments are based on conventional grounds in that they emphasize the importance of spawning escapement and the numbers of downstream migrants as indications of the condition of the salmon populations. They have claimed that escapements were generally very small in their rivers last year, and this contention has been corroborated to some extent by the reports of Japanese observers who visited the Soviet Far East last summer. The Russians base their claim that the Japanese high-seas fishery is to blame for the small runs into the coastal zones on such evidence as the high occurrence of net-marked salmon, reportedly around 20 percent in some major red salmon streams, and the large numbers of salmon bearing wounds caused by long-line hooks.

The Japanese delegation in rebuttal of the Soviet claims fundamentally has tried to establish that the point of view of the coastal nation, with its emphasis on spawning escapements and fry survival, is only half of the picture; the standpoint of the country operating on the high seas also has to be considered to get a balanced view of the state of the salmon populations. One item of evidence (see table) shows the annual combined coastal and high-seas salmon catches since 1926. They contend that these totals do not show any declining trend in recent years and that they also show that in some past years the coastal catch was at as low a level as it was in 1958. The Japanese delegation has tended to stress the size of the high-seas catch in the years of the parent runs, in predicting the abundance of fish in the coming year, rather than rely entirely on estimates based on spawning escapements. They claim that the relation between the number of spawners and the number of adult fish produced from a given spawning is by no means consistent or predictable.

Japan (Contd.):

The Japanese biologists also based a good deal of their argument on the Fujinaga Hypothesis, a double-barreled postulation worked out by the chief of the Japanese Fisheries Agency's research section. According to this hypothesis, the high-seas

tons, and they advocate a reduction of the populations of the predators. The Russian representatives deny that there is any evidence that fur seals eat any significant quantity of salmon. Predation on salmon eggs and fry by Dolly Varden trout has also been brought up by the Japanese scientists as a factor adversely affecting the salmon stocks; they have used Russian scientific papers to document this argument.

Table 1 - Japanese and Soviet Salmon Catches in Northwest Pacific Waters, 1926-1957

Year	Japan ^{1/}	U.S.S.R.	Total	Year	Japan ^{1/}	U.S.S.R.	Total
.. (1,000 Metric Tons) (1,000 Metric Tons) ..			
1958(planned)	110.0	120.0	-	1942	157.4	139.5	296.9
1957	149.4	150.0	299.4	1941	262.9	148.3	411.2
1956	134.5	165.7	300.2	1940	209.9	119.6	329.5
1955	163.3	172.4	335.7	1939	380.7	157.3	538.0
1954	60.1	121.6	181.7	1938	297.1	142.0	439.1
1953	32.7	190.8	223.5	1937	324.8	134.8	459.6
1952	27.4	118.1	145.5	1936	265.5	126.1	391.6
1951	10.5	251.7	262.2	1935	235.6	96.8	332.4
1950	5.2	113.6	118.8	1934	244.5	129.9	374.4
1949	4.9	263.4	268.3	1933	115.6	92.8	213.8
1948	0.4	133.8	134.2	1932	136.6	153.0	289.6
1947	2.1	221.3	223.4	1931	107.0	138.9	245.9
1946	0.4	136.2	136.6	1930	171.6	146.2	317.8
1945	5.1	158.1	163.2	1929	91.9	49.0	140.9
1944	21.7	177.6	199.3	1928	211.8	91.4	303.2
1943	187.9	202.1	390.0	1927	75.5	54.1	129.6
Contd. in Opposite Column				1926	188.7	160.3	349.0

^{1/} Japanese catch is total mothership and individually-operating gill-netters (in treaty waters, apparently).

fishery exploits to a considerable degree resources that would otherwise be unutilized, for it postulates a very high natural mortality among fish migrating toward the spawning streams, and it also assumes that the stock of salmon available for capture in the high seas includes considerable numbers of fish originating from a large number of minor streams where the runs are not large enough to warrant exploitation by coastal fishermen.

The heavy natural mortality postulated by the Japanese is apparently to be blamed in large part on starvation and vitamin deficiency. The only concrete evidence so far publicly reported is a sample of 21 red salmon examined by Japanese scientists, who found 4 with what they considered definitely pathological symptoms and another 3 suspected cases. The Russian scientists contend in rebuttal that these "pathological symptoms" are nothing more than natural physiological changes occurring in fish approaching their spawning period. The Soviet delegation has further maintained that natural mortality cannot be reliably estimated on the basis of tag returns, and they hold that the Japanese claim that their high-seas fishery utilizes fish from minor streams which would otherwise be wasted is undocumented and unprovable.

The Japanese delegation placed considerable stress on the role of predation on salmon by fur seals, sea lions, and sharks, claiming that the catch of the Japanese fishery has only a small effect on the salmon stocks as compared with the depredations of these predators. They have estimated that the salmon eaten by fur seals during the fishing season alone may amount to 600,000

The Soviet delegation claimed that pink salmon spawning escapements on the west coast of Kamchatka, in Sakhalin, and in the Amur River region have been poor. They admit that the populations of this species are not in quite such bad condition on the northern coasts of the Sea of Okhotsk and on the east coast of Kamchatka, but they conclude that on the whole the pink salmon resources of the Far East are at such a low ebb that the effect of this year's peak in the regular two-year cycle of abundance for this species is largely cancelled out. The Japanese delegation contends that because 1957 produced a large pink salmon catch, the fish can also be expected to be abundant in 1959.

The Russian representatives have claimed that the large Japanese catch, particularly of pink salmon, south of the present Japanese-Soviet treaty area is made up of fish from streams in Soviet territory, and that the conservation measures determined by the Commission are largely nullified by the existence of this unlimited Japanese fishery south of 45° N. latitude. The Japanese delegation denies that all of the fish taken outside of the treaty waters originate in Soviet streams, maintaining that Japanese boats are also taking salmon which come from rivers in Hokkaido, Canada, and Alaska.

Chum salmon, according to the Russian national section, are badly depleted all over the Far East. The discussion of this species was concentrated on the problem of the capture of immature fish, and this discussion produced one of the rare instances of agreement in the conference. Both sides agreed on a system of six stages for classifying the degree of maturation, from that at which sexes

International (Contd.):

cannot be distinguished by gross examination to the post-spawning condition. Unfortunately, they were unable to agree as to how many of these stages should be considered "immature." The Japanese biologists held that some chum salmon in the second stage, that of formation of the oocytes and the primary spermatocytes, spawn within the year and thus are to be considered mature. The Russian delegation says that as much as 50 percent of the Japanese chum catch consists of immature fish, and that the percentage of such immatures in the catch is particularly high late in the season.

With regard to pink salmon, the Soviet delegation has made a point of the unbalanced sex ratio in the Japanese catch in May, when more males than females are caught. They argue that this imbalance cuts down the efficiency of spawning, as there are not enough males on the spawning grounds to fertilize all of the eggs. The Japanese delegation says that the imbalance is corrected later in the season, and that the pink salmon which arrive at the mouths of the spawning streams show a balanced sex ratio.

The discussion of the state of the salmon populations was finished early in March and the scientific subcommittee was attempting to draft a report of its findings for the Commission's consideration.

Agenda for Balance of Commission Meeting:

The next part of the agenda due to be taken up was the miscellaneous regulations restricting the salmon fisheries. This subject, like the resource question, was to be covered in a general way in plenary sessions and then turned over to a subcommittee for debate in detail. Among the major headings on this portion of the agenda are delimitation of closed areas, setting of the period during which fishing is to be permitted, examination of the feasibility of increasing the diameter of gill-net twine in order to lighten injury to fish which escape from the nets, measures to cut down damage to fish by long-line gear, special measures for conservation of red salmon, determination of the permissible proportion of immature fish in the red salmon catch, and study of the effects of predators on the salmon resources. At some point in this part of the agenda the Soviet delegation were to present their ideas on how much salmon the Japanese fishery should be allowed to take in 1959.

By early March 1959 the Commission was expected to take up herring and king crab resources and fishing regulations, control measures within the treaty area, reports of cooperation in research in 1958 and research plans for 1959, including the exchange of experts; treatment of statistics and other data, and the place and time of the next meeting.

* * * * *

SHARP CUTBACK IN JAPANESE NORTHWEST PACIFIC SALMON FISHING PROPOSED BY RUSSIA:

On March 7, 1959, the Soviet delegation to the Japanese-Soviet Commission

on Northwest Pacific Fisheries made its first concrete proposal concerning the scale of Japanese salmon fishing operations in the 1959 season. The proposal would set up four areas within which Japanese salmon fishing would be permitted, and would close all other parts of the present treaty area. Each of the four fishing areas would have a prescribed opening and closing date.

It is estimated that the Soviet plan would reduce the area available to the Japanese salmon fleets to about 20 percent of the waters in which they were free to fish last year. Under present regulations of the Commission, the opening date for the Japanese fishery is not prescribed and the closing date is set at August 10. Last year the fleets started fishing about May 11. Under the Soviet proposal for 1959, the earliest starting date for any area would be June 1, and the latest closing would be July 31. The areas all lie between 59° N. and 45° 30' N. latitude and 153° E. and 170° E. longitude. Their shoreward boundaries are 20 to 40 miles from the coast, and there are closed zones 120 to 180 miles wide between them. The southernmost of the fishing areas would be reserved for land-based fishing boats.

Unofficially it has been estimated that the Soviet plan would cutback the Japanese salmon catch within the treaty area to something like 30,000-40,000 metric tons as compared with 120,000 tons last year. The Russians have not yet made any proposals concerning the tonnage to be taken, except for the red salmon catch, which they want to limit to 10,000 tons as compared with last season's 24,000 tons. (United States Embassy, Tokyo, dispatch of March 13, 1959.)

TERRITORIAL WATERS

BRITISH-DANISH AGREEMENT ON FAROE ISLANDS FISHING LIMITS:

An Exchange of Notes between the United Kingdom and Danish Governments concerning Faroese fishing limits contains the terms of an agreement which the British and Danish Governments propose to make concerning the fishing limits for the Faroe Islands.

International (Contd.):

Under the agreement British vessels will cease to fish within a belt of water broadly 6 miles from the Faroese coast. Fishing outside this belt and within 12 miles will continue in view of traditional British fishing in those waters. Exception will be made for three areas between these limits where fishing will be reserved at certain specified seasons of the year for line fishermen. This arrangement is being made in view of the exceptional dependence of the Faroese economy on fisheries and the importance of line fishing to the Faroese.

The Danish Government will undertake to treat British fishing vessels no less favorably than those of any other foreign country.

The agreement will remain in force pending a solution of the general problem of fishing limits, which it is hoped will be found at a Second World Conference on the Law of the Sea in the early spring of 1960. Failing a solution there the agreement will continue in force for three years from the date of signature with one year's notice on either side after that.

These arrangements will mean material sacrifices by the British fishing industry, for whom the waters around the Faroe Islands are an important fishing ground supplying a wide variety of quality fish. The sacrifices are being made to take account of the interests of the Faroese fishermen and in pursuance of the British desire to find reasonable and fair solutions to the problem of fishing limits in the North Atlantic area where the British fleets operate.

British editorial comment recognizes that the traditional limit of three miles has become obsolete and that the compromise on six miles may be regarded as a fair settlement even if it means some reduction of British catches which amounted to some 46,000 tons in the area in 1957. However, the suggestion is made that the United Kingdom should protect the interests of Scottish inshore fishermen by extending the British three-mile limit to six.

The Aberdeen area is especially hard hit as nearly 30 percent of the fish caught by Aberdeen trawlers in 1956-1957 was taken in the Faroese waters, according to the chairman of the Aberdeen Fishing Vessel Owners' Association. He also expressed the hope that Iceland will now follow the Faroese example. (United States Consulate report from Edinburgh, February 25, 1959.)

TUNA

UNITED STATES LIVE-BAIT
FISHING METHOD
ADOPTED BY OTHER COUNTRIES:

An Italian business man was due to visit the United States in March 1959 to place an order worth \$560,000 for a modified type of United States tuna clipper. This boat will operate from the Canary Islands under the ownership of an Italian-Spanish combine and will fish for tuna in the South Atlantic. The catch will be taken to Genoa where it will be processed and canned.

The story behind this development goes back to 1953 when the Food and Agriculture Organization of the United Nations (FAO), Rome, organized the First International Fishing Boat Congress, with sessions held in Paris, France, and Miami, Fla. The purpose was to discuss the design and construction of fishing boats and to enable naval architects, boat builders, marine engineers, and other experts from all parts of the world to exchange their ideas, information and experience. Many prominent American naval architects and boat builders presented papers at the Congress. In fact, the many papers dealing with the United States tuna fishing industry aroused great interest and animated discussion.

This interest was not based solely on the design and construction of American tuna clippers and the method of fishing. It arose partly because of the rapidly growing importance of tuna. The world catch of tunas, bonitos, mackerels, etc., in 1938 was about 840,000 metric tons. By 1948 the industry had largely recovered from the ravages of World War II and landings had increased to more than 900,000 tons. Since then the increase has been spectacular--the statistics for 1957

International (Contd.):

show a catch exceeding 1,800,000 tons. Tuna has, of course, been for centuries a commercial fish in the Mediterranean but in recent years local supplies have not been enough to meet the demand so that imports of canned tuna, especially from Japan, have increased considerably. At the same time, this demand has led to European nations seeking to develop their tuna fishing industry. The French, for example, have built up a flourishing tuna fishery in the South Atlantic, based at Dakar, West Africa. At the time of the 1953 Congress they were trolling for tuna in home waters but, largely as a result of the United States papers, they decided to change from trolling to using live bait and poles-and-lines and extend operations to Dakar. Today, most French tuna fishing boats use the American method.

It is the success of the American tuna clippers and the French adaptation of the technique that has led the new Italian-Spanish combine to go to the United States to buy their first tuna fishing boat, a decision which is indirectly an outcome of the 1953 Congress.



Angola

REVIEW OF FISHING INDUSTRY, 1957:

In spite of increased landings, the fishing industry of Angola experienced considerable difficulty in 1957. Poor

Table 1 - Angola's Production of Processed Fishery Products, 1956-1957

Product	Quantity	
	1957	1956
	(Metric Tons)	
Fish meal	85,205	77,703
Fish oil	7,209	4,658
Dried fish	24,805	27,229
Fish fertilizer	1/	2
Canned fish	1,861	1,774
Total	119,077	111,366

1/ Less than 1 metric ton.

management, outmoded equipment, and low-quality products are the principal reasons assigned for the continued poor condition of the industry. A drop in the

prices of the two main export items (fish meal and fish oil) was a serious blow to producers. The industry as a whole suffered a financial loss and the need for Government help for the industry was becoming more obvious.

Fish Meal: Exports of fish meal for 1957 totaled 94,000 metric tons, valued at more than 328,000 contos (US\$11.4 million). This was 40,000 tons and 125,000 contos (US\$4.3 million) more than in 1956. The price for fish meal had dropped from 3,695 escudos (US\$128.50) in 1956 to 3,400 escudos (US\$118.26) per ton f.o.b. Germany, Italy, Holland, and the United States were the principal purchasers. Purchases by the United States totaled 11,255 tons, a sharp drop from the 29,533 tons purchased in 1953.

Fish Oil: There was a 54-percent increase in the production of fish oil in 1957 (7,209 tons) over 1956. The total was still far behind the 11,416 tons produced in 1954. Exports rose from 5,000 tons to 12,000 tons and the f.o.b. price dropped from 5,700 escudos (US\$198.26) to 5,200 escudos (US\$180.87) a ton. Germany was the principal purchaser.

Dried Fish: Production declined by 8.9 percent in 1957, but the price increased from 4,839 escudos (US\$168.13) in 1956 to 4,960 escudos (US\$172.52) in 1957. The price was 145 escudos (US\$5.04) per 30-kilo bag f.o.b. (about 7.6 U.S. cents a pound). The Belgian Congo was the principal purchaser, although their purchases for the year dropped below those in 1956. Mozambique and Sao Tome were the next purchasers in order of importance.

Canned Fish: Some gains were made in 1957 by the fish canning industry due primarily to additional canning facilities in the Benguela area. The 1957 value of canned fish exports increased by 5,000 contos (US\$174,000) in 1957 over 1956. The price was 16.5 escudos per kilo (US\$0.26 a pound) f.o.b. (United States Embassy in Luanda, Angola, December 29, 1958.)



Argentina

VESSEL QUOTAS ENDED FOR MAR DEL PLATA FISHERMEN:

The Argentine Director General of Fishing announced February 16, 1959, that the Government will end the quota system which has been in effect for Mar del Plata fishermen for several years. Under this system, a committee representing the association of buyers and processors of fish in Mar del Plata assigned to each fishing boat a quota for each trip. If the boat's catch exceeded the quota, the surplus fish could not be sold and were dumped back into the sea. While this system had no official sponsorship, the Government is said to have tolerated its operation.

In the future, the Government will purchase at the price of the day any excess fish not wanted by the Mar del Plata buyers and will distribute it in Buenos Aires and other cities. Fresh fish is said to have become both scarce and expensive in the retail market in February. (United States Embassy report from Buenos Aires of February 26.)



Australia

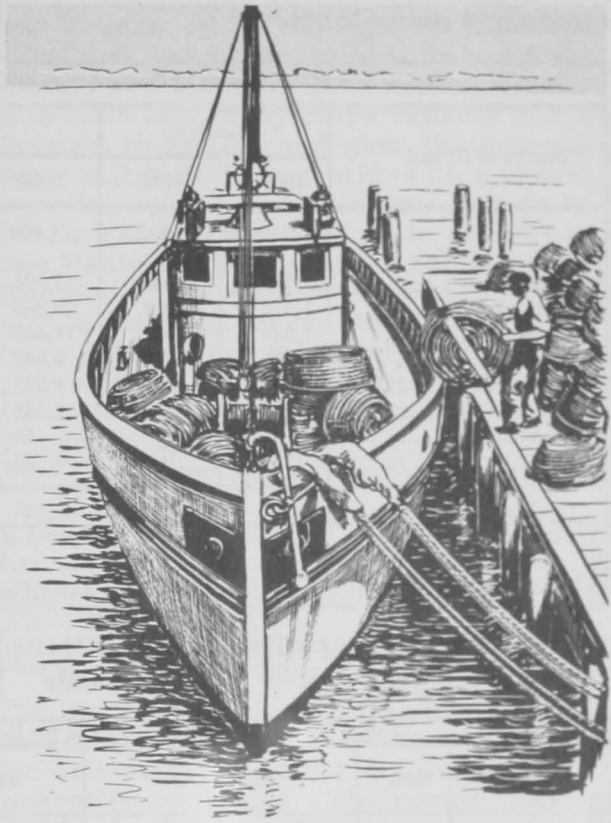
SPINY LOBSTER CONSERVATION REGULATIONS ANNOUNCED:

The Commonwealth Government of Australia has joined with the Western Australian Government in steps to conserve spiny lobster resources off the west coast of Australia. Official notices under Section 8 of the Fisheries Act to extend regulations covering spiny lobster fishing operations in territorial waters to the adjoining extraterritorial waters were announced by the Minister for Primary Industry.

The Minister said that this action, taken at the request of the Western Australian Government, was in accord with the Commonwealth's policy to cooperate with the states in the management of Australia's fisheries.

The three notices published on January 15, 1959, provide for: (1) a legal

minimum length of $2\frac{3}{4}$ inches measured on the carapace for spiny lobster (crayfish) of the species Panulirus longipes;



Australian spiny lobster fishing boat taking on pots at South Fremantle.

(2) a closed season in the Abrolhos Is. area from August 16 to March 14 of the following year; (3) a closed season between 30° S. latitude and 33° S. latitude from September 1 to November 14 each year.

All these provisions had been previously announced for the territorial waters of Western Australia. (Australian Fisheries Newsletter, February 1959.)



Austria

CANNED SARDINE MARKET:

In spite of publicity campaigns for sea foods, Austrians prefer meat and eat fish only on special occasions, e.g., Christmas and Easter. Sardines continue to be used, not for principal meals, but for snacks and sandwiches.

Austria (Contd.):

Imports from Japan include mostly tuna; imports from South Africa are salmon and spiny lobster.

because the Austrian duty has been decreased. As for 1-pound and 2.2-pound cans which contain small-size fish, the decreased Austrian duty has been offset by increased Portuguese prices--thus

Table 1 - Austria's Imports of Canned Fish and Crustaceans, 1957 and January-September 1958

Country of Origin	Quantity		Value				Percentage of Sardines & Sardinelike Fish ^{1/}
	1958	1957	1958	1957	1958	1957	
	. (Metric Tons) .		. (1,000 Schillings) .		. . (US\$1,000) . .		Percent
West Germany	1,465	1,633	17,095	18,861	658	725	40 (small herring)
Yugoslavia	1,617	1,324	20,880	19,902	803	765	50 (true sardines)
Portugal	1,334	928	18,459	15,070	710	580	95 (true sardines)
Denmark	375	553	4,368	6,908	168	266	80 (small herring)
Morocco	68	120	930	1,843	36	71	100 (true sardines)
Japan	108	95	1,525	1,363	59	52	-
South Africa	7	2/	55	9	2	3/	-
Other ^{4/}	163	181	2,323	3,371	89	130	-
Total Imports	5,137	4,834	65,635	67,327	2,525	2,589	

^{1/}Estimated. ^{4/}Imports of canned fish and crustaceans in smaller quantities from Norway, Italy, France, Peru, Greece, the Netherlands, Sweden, U.S.S.R., Spain, and Poland.

^{2/}Less than 1 metric ton. ^{3/}Less than US\$1,000.

Even though Japan offers c.i.f. Rotterdam, cases containing 96 7½-ounce cans leaving retail prices in Austria as before.

Table 2 - Range of Retail Prices for Canned Sardines in Austria in March 1959

Size of Can	Unit	Olive Oil		Vegetable Oil		Tomato Sauce		Fish Oil	
		Schilling	U.S.¢	Schilling	U.S.¢	Schilling	U.S.¢	Schilling	U.S.¢
¾ - 5 oz.	per can	3.25 - 4.00	12.5 - 15.4	3.10 - 3.80	11.9 - 14.6	3.00	11.5	3.00 - 3.40	11.5 - 13.1
1 lb.	" "	15.00	57.7	-	-	-	-	-	-
1 kg. (2.2 lbs.)	" "	27.50	105.8	-	-	-	-	-	-
2 oz. and less	" "	2.40	9.2	2.30	8.8	-	-	-	-

of pilchards at \$9.80, they are not purchased by Austrians.

Prices of sardines in small-size cans which contain larger fish have decreased because of lower Portuguese prices and

The 8-ounce and 1-pound oval sardine cans have completely disappeared from the Austrian market and are no longer imported. (United States Embassy, report from Vienna, March 10, 1959.)



Belgium

CANNED SARDINE MARKET:

Imports of pilchards (California sardines) into Belgium rose from 1,961 metric tons in 1957 to 2,640 tons in 1958, while imports of sardines rose from 3,166 to 3,670 tons. According to two leading importers, orders have already been placed for the next season and current inventories are ample to meet the anticipated demand. These importers were interested to learn that California pilchards were again in plentiful supply. The Belgian market is supplied with pilchards principally by Japan and the United States, with smaller quantities from the Union of South Africa and Portugal. The demand is largely for the 7-1/2 and 15-ounce oval cans in tomato sauce. The Japanese 7-1/2 ounce size is very popular with the working classes, since one can is just sufficient for the workman's luncheon sandwiches and

what he can afford to pay. There is apparently no market for the tall nor the oblong cans. The Belgian marking regulations prohibit the use of the word "sardines" to describe pilchards and it must not appear on cans of pilchards imported into this country.

Prices quoted at retail are about 16 francs (US\$0.32) for an oval can (15-oz.) of American pilchards in tomato sauce, as compared with 12 francs (US\$0.24) for the Japanese brand of the same size. The Japanese oval can of 212 grams (about 7-ozs.) is priced at 5 francs (US\$0.10).

Belgium is a good market for American pilchards and there appears to be an excellent opportunity to recover some of the market which was lost to the Japanese when

Belgium (Contd.):

American pilchards were not available. In spite of the lower prices of the Japanese product, the quality is considered inferior and there is a definite demand for American products.

Imports of Sardines and Pilchards by Belgium-Luxembourg in 1958			
Country	Metric Tons	1,000 Francs	US\$ 1,000
Sardines (Tariff Item No. 120 a 1):			
Spain	17.7	529	11
France	16.3	1,214	24
Norway	8.8	339	7
Netherlands	3.3	119	2
Portugal	3,027.1	88,124	1,762
Yugoslavia	372.6	8,821	176
Morocco	221.4	5,392	108
Other	2.3	89	2
Total sardines	3,669.5	104,627	2,092
Pilchards (Tariff Item No. 120 a 2):			
Netherlands	90.5	1,574	31
Portugal	8.9	258	5
Japan	1,966.6	33,116	662
Union of South Africa	106.7	1,687	34
United States	466.6	9,488	190
Other	0.5	10	-
Total pilchards	2,639.8	46,133	922

Note: Values converted at rate of 50 francs equal US\$1.

(United States Embassy in Brussels, dispatch dated March 17, 1959.)



Brazil

NEW JAPANESE-OPERATED FISHING COMPANY IN BRAZIL:

Late in 1958 it was announced that the Brazilian Hunting and Fishing Division of the Ministry of Agriculture had granted a Japanese fishing company of Miura, Japan, permission to bring fishing boats to Brazil and fish off the Brazilian coast for two years. In addition to this company, there are already two other Japanese fishing companies operating out of Brazil and a joint Brazilian-Japanese company engaged in whaling.

The new company was formed late in 1958 with a capital of CR\$13 million (about US\$130,000). Control is exercised by the company in Miura. Officers of the Cotia cooperative, a Japanese agricultural cooperative, are minor shareholders. The new company has its offices at Sao Paulo.

About six months ago, the company brought a 500-ton tuna long-liner which operated experimentally off the Pernambuco coast. This vessel returned to Japan in January for repairs and modifications and was expected back in approximately two months. It is not known at this time how many more vessels will be brought to Brazil, and when the new company will initiate operations on a commercial scale. The company intends to put up refrigerating plants in the city of Sao Paulo and in one of the towns in the interior of the state of Sao Paulo, probably within two years, but definite plans have not yet been formulated on this phase of the operation. (United States Consulate in Sao Paulo, dispatch dated February 12, 1959.)

Note: Also see Commercial Fisheries Review, April 1959, p. 66, March 1959, p. 59.

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RECIFE JAPANESE-SPONSORED FISHING COMPANY RUNS INTO DIFFICULTIES:

Since early in 1959 a large Japanese fishing firm and its Recife, Brazil, affiliate, have been subject to increasing public criticism due to various legal and operating problems. The result has been to create an atmosphere generally hostile to all foreign investment in the fishing industry in northeast Brazil, and particularly hostile to the Japanese.

Basic causes of the difficulties are threefold: (1) inadequate prices for frozen tuna; (2) overexpansion of Japanese fishing capacity; and (3) desire by the Japanese to avoid "nationalization" of their boats and crews. Their original agreement with the Brazilian Government required that the boats be 60 percent owned by Brazilians, and that their crews be two-thirds Brazilian within two years after they entered service.

After considerable fruitless wrangling with the Brazilian Government, three of the largest Japanese fishing boats were withdrawn from Recife, and began operating from Port of Spain, Trinidad, in October 1958. At the same time, two small fishing boats were returned to Japan "for repairs," and two others were taken out of fishing service because of their poor condition. These latter two ships were

Brazil (Contd.):

recently used to bring about 100 metric tons to Recife from Santa Catarina. The net result was that the monthly-landed capacity of the Japanese fishing boats based in Recife declined from about 1,500 tons in August 1958 to 360 tons in November. There was an immediate shortage of frozen tuna throughout the northeast (average monthly consumption is estimated at about 750 tons), and public ire has run high.

The Japanese are presently negotiating with the Government for a solution to their problems. The final result will probably include a decision on the legal status of the three ships operating out of Port of Spain, may include a redefinition of "nationalization" requirements, and is almost certain to allow a one-third increase in the wholesale and retail prices of frozen tuna, according to a dispatch dated March 4, 1959, from the United States Consulate at Recife.



Canada

CHANGES IN LABELING OF FOOD PACKAGES PROPOSED:

An amendment to Canada's General Labeling Regulations for Foods has been proposed, according to Trade Information Letter No. 167 of the Canadian Department of National Health and Welfare.

B. 01.003. Except as provided in these regulations, the label of a package of food shall carry:

A. On the main panel of the label.

1. The common name of the food and where the name consists of more than one word, each word shall be identical type, identically displayed.

2. Except in the case of a food, the weight of which including the package is under two ounces, a correct declaration of net contents in terms of weight, measure or number in compliance with good commercial practice and, unless the manner of declaration of net contents is described or prescribed by any other statute of the Parliament of Canada or any regulation thereunder, this declaration shall be in type not less than one-half the size of the largest type on the label, in a contrasting color to the background of the label and immediately before or after the common name of the food, and

B. Grouped together on any panel other than the bottom of the package:

1. A declaration by name of any Class II, Class III or Class IV preservative therein,

2. A declaration of any food color added thereto.

3. A declaration of any artificial or imitation flavoring preparation added thereto.

4. In the case of a food consisting of more than one ingredient, and for which no standard is prescribed in these regulations, a complete list of the ingredients by their common names in descending order of their proportions unless the quantity of each ingredient is stated in terms of percentage or proportionate composition, and

5. The name and address of the manufacturer.

For many years the declarations of preservatives, artificial color and artificial flavor have been requested to appear on the main panel of the label. It is felt that the grouping of all mandatory declarations on one panel, not necessarily the main panel, will allow the consumer to more readily obtain the desired information.

In addition to these general labeling requirements, there are a number of Sections of the Regulations which require specific declarations to appear on the main panel of the label. These will be given a critical review as to the necessity for their appearance in this manner. Where a label consists of only one panel, all the mandatory statements must, of course, appear on that panel. It is felt that in these cases all the mandatory statements, with the exception of the declaration of net contents, should be grouped together on one portion of the label.

It is to be clearly understood that all mandatory statements must appear legibly and conspicuously. This is provided for in Section B. 01.004 of the Regulations. Since these would be major changes in the labeling requirements for foods, a suitable period of time for conversion would be allowed.



Chile

FOREIGN VESSELS AUTHORIZED TO FISH OFF NORTHERN COAST:

A March 10, 1959, decree of the Chilean Ministry of Agriculture authorizes the issuance of licenses for foreign fishing vessels to fish Chilean waters as far south as the southern boundary of Antofagasta Province. The licenses are valid for six-months periods and no fee is specified. In order to secure permission, the fishing vessel's master must agree to deliver his catch to Chilean fish product factories in Antofagasta and Tarapaca provinces.

It has been reported that the fish meal and fish product factories of northern Chile were not receiving adequate catches from the Chilean fishing industry to maintain desired production levels. This decree is an effort to relieve this situation. Pertinent excerpts from the Decree follows:

(1) In order to solicit the authorization to fish, the vessels should enter the ports of Arica, Iquique, or Antofagasta, and should present an application in duplicate to the maritime authorities, stating: the name and address of the national company to which they will deliver their catch; the name of the vessel and its national flag; port of registration, name of its owner and its master; year the hull was constructed and whether it is of wood or steel; number of crew, and the characteristics of its motor and auxiliary equipment.

Chile (Contd.):

(2) In addition, the application should indicate the kind of fish which it will take, the approximate amount, the type of fishing mentioning the geographic points or parallels where it will be done and the beginning and ending dates, stating, finally, to which port the vessel will return so it may be boarded by inspectors.

(3) The maritime authority will extend permission, sending the duplicate of the application to the Ministry of Agriculture. The license will indicate: the name and address of the national company to which it will deliver its catch; the name of the vessel, its nationality, and the period for which fishing is authorized. (United States Embassy, Santiago, report of March 11, 1959.)



Cuba

FISHERIES TRENDS, JANUARY 1959:

At the beginning of 1959, the cornerstone for Havana's \$3.5 million fishing terminal was laid, with completion scheduled about March 1959. The Cuban-leased Japanese training vessel Sumiyoshi Maru conducted several commercial and training voyages during 1958, including an exploratory survey of a portion of Cuban waters. The National Fisheries Institute acquired from Germany a \$225,000 cod-fishing vessel, with a capacity of 180 metric tons of fish. The plan is to use the vessel to fish for cod for drying in Cuba.

A convention between the United States and Cuba for the conservation of shrimp was signed in mid-August 1958. It has been ratified by the Cuban Senate and now awaits ratification by the United States, according to a February 26, 1959, dispatch from the United States Embassy in Havana.

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NEW MARITIME DEVELOPMENT
COMMISSION GIVEN
JURISDICTION OVER FISHERIES:

A new law (No. 84 of February 17 and published in the Official Gazette of

February 20, 1959) created the Cuban Maritime Development Commission as an autonomous organization with regulatory authority over the activities of the Cuban merchant marine, the fishing industry, the exploitation of marine resources, and nautical sports and tourism. It is also given authority over maritime concessions.

The law briefly sets forth the powers of the Commission and provides that it will be headed by the Chief of Staff of the Navy, under the direction of the Minister of National Defense. The governmental officers presently exercising any of the powers granted to this new agency are to be under its control in the future.

The National Fisheries Institute (Instituto Nacional de la Pesca) was thus transferred on February 17, 1959, to the jurisdiction of the new Office of Maritime Development and is no longer under the control of the Ministry of Agriculture. The President of the Institute, announced plans for conducting necessary scientific studies to take advantage of sea resources, such as fish species habitats, breeding seasons, designation of the proper closed seasons, etc. The plan also calls for adequate training of Cuban fishermen in handling the most modern fishing gear. Another aspect is the scientific industrialization needed to obtain the best seafood products without wasting such resources. It is hoped to create consumer demand for more fish and seafood products inasmuch as Cuban consumption of these items is notoriously low. The plan also includes fishing cooperatives, credits, piers, refrigerator plants and ice houses, and an adequate distribution network. Likewise, the improvement of the fisherman's lot through better housing, schools, social security, and retirement benefits is projected. A civic consciousness is being sought to foster the conservation of fishery resources along with an increase in commercial fishery activities and the development of sports fishing as a tourist attraction.



Ghana

CANNED SARDINE MARKET:

Imports of fish, fish products, and fish preparations by Ghana are not classified to show individual items, but trade sources estimate that the annual imports of canned sardines (pilchards) amount to about US\$1.4 million in value. For the first 11 months of 1958 imports of all fishery products were valued at about US\$3.6 million (16.9 million pounds). Of this amount the United States supplied about 150,000 pounds valued at US\$35,874, the United States Embassy in Accra reported on March 12, 1959.

Comparative Prices Quoted in Ghana for Canned Sardines, March 1959			
Case and Can Size Style of Pack	Los Angeles (f. o. b.)	Union of So. Africa (f. o. b.)	Japan (c&f)
 (US\$)		
<u>In tomato sauce:</u>			
48 1-lb. tall	6.25	7.00	-
48 8-oz. tall	-	4.48	-
48 16-oz. oval	7.25	-	-
48 15-oz. oval	-	-	8.71
100 5-oz.	6.00	-	7.87
100 5-1/2-oz.	-	8.86	-
96 7-1/2-oz. oval	-	-	8.89

Note: One C1 = US\$2.80.

Imported canned sardines have a well-established position on the Ghana market and are a staple food in the African diet wherever the family budget permits. Consumption of pilchards and other inexpensive protein foods is still far below the saturation point in Ghana and may be expected to increase as personal income grows. For the mass of the population, there can be no question at this time of substituting pilchards for a higher-cost protein food, but the market could be hurt by the entry of cheaper fish products or other less expensive protein foods.

Pilchards are currently imported mainly from the Union of South Africa (South-West Africa) and Japan. At present American-canned pilchards are virtually unknown here but one American brand, which was formerly sold widely in the country, attained such a high degree of popularity that the name became, and still remains, the accepted word in the local vernaculars for canned pilchards. The peak import months coincide with the slack herring season off the Ghana coast from November to March. The most popular sardine packs are the 5-oz. and the 1-lb. can in tomato sauce. The natural pack is not well adapted to the local market. Importers are careful to adjust the flow of purchases to seasonal demands and generally hold stocks within quantities sufficient to meet normal consumption. Supplies from the Union of South Africa and Japan have been plentiful during the past several years.

The import trade in canned pilchards is dominated by the large foreign-owned trading firms. These same firms may also distribute at retail but sell the bulk of the imports at wholesale to Ghanaian dealers throughout the country. These firms state that the various American packs in tomato sauce are adapted to the local market and concede the American product a slight quality edge over foreign brands. Trade in American pilchards is inhibited, however, by the general dollar shortage. The typical foreign-owned trade concern is allocated a fixed annual dollar license for consumer goods and naturally tends to confine purchases to those American products which are unique in their field or which undersell the comparable product obtainable from free-currency areas, thus realizing the maximum profit from the limited dollar quota. Pilchards imported from the United States do not offer an exceptional profit margin since a comparable product is obtainable without currency restrictions from the Union of South Africa at or about the same price as from the United States.

African-owned firms import only minor quantities of pilchards on their own account, although they are the principal link between the foreign-owned importer and the African consumer. The African importer is at a distinct disadvantage here as in many other import fields since exporters

normally prefer to deal with the stronger European houses whenever these show a willingness to take over the whole of this country's requirements in any given product. On the other hand several African importers interviewed expressed eagerness at the possibility of getting into the importation of pilchards and would welcome the opportunity to establish trade contacts with the United States exporters. There is some outlook for success in distributing through these channels since the Ghana Government, in its desire to aid the expansion of African businesses, frequently adopts a liberal attitude in allocating dollars to these firms. Exporters must be prepared, however, to take on definite credit risks in dealing with African firms and must expect orders in erratic flows and in smaller lots. (United States Embassy, Accra, Ghana, report of March 12.)

Guatemala

SHRIMP FISHERY TRENDS:

There are now ten shrimp trawlers operating in the Caribbean out of Puerto Barrios, Guatemala, with three more scheduled to arrive. The boats are reported to be averaging around three boxes a night.

The Pacific shrimp fleet was cut in half when one of the two trawlers operating there sank recently. It is reported that the unloading problem on the Pacific has not yet been solved. Although the shrimp potential on the Pacific coast of Guatemala appears to be greater than that of the Caribbean coast, the lack of harbor facilities has hampered the development of the fisheries. The only port facilities are two piers, one at Champerico and the other at San Jose. (United States Embassy, Mexico, report of March 12, 1959.)

Hong Kong

SHRIMP LANDINGS, OCTOBER-DECEMBER 1958:

Shrimp landings in Hong Kong in the fourth quarter of 1958 totaled 553 metric tons, a drop from the preceding quarter. However, the fall and winter months are the slack season for shrimp fishermen. (United States Consulate at Hong Kong, report dated January 30.)



Iceland

EXPORTS OF MARINE PRODUCTS
TO THE UNITED STATES, 1957-58:

Iceland's exports of marine products to the United States in 1958 amounted to 22,401.2 metric tons (value US\$7,707,000)

	Quantity	
	1958	1957
 (Metric Tons)	
Frozen:		
Fish	19,191.3	10,985.2
Shrimp and lobster	82.1	37.8
Herring	1.0	-
Whale meat	948.5	-
Salted or dried:		
Fish (wet)	152.7	-
Stockfish	-	3.6
Fish roe	24.7	42.8
Herring	365.9	5.7
Fish skins	-	655.7
Canned fish	32.2	8.0
Fish solubles	670.0	-
Cod-liver oil	932.8	1,351.8
Total	22,401.2	13,090.6

as compared with 13,090.6 tons (value US\$4,763,000) in 1957. Exports of frozen fish increased from 10,985.2 tons

	Value			
	1958		1957	
	Ikr. 1,000	US\$ 1,000	Ikr. 1,000	US\$ 1,000
Frozen:				
Fish	113,522	6,982	69,573	4,279
Shrimp and lobster ..	2,527	155	1,376	85
Herring	2	-	-	-
Whale meat	2,247	138	-	-
Salted or dried:				
Fish (wet)	681	42	-	-
Stockfish	-	-	42	3
Fish roe	159	10	281	17
Herring	1,583	97	24	1
Fish skins	-	-	540	33
Canned fish	273	17	120	7
Fish solubles	865	53	-	-
Cod-liver oil	3,471	213	5,488	338
Totals	125,330	7,707	77,444	4,763

Note: Values converted at rate of Ikr. 16.26 equal US\$1.

(value US\$4,278,782) in 1957 to 19,191.3 tons (value US\$6,981,672) in 1958, an increase of 81.3 percent in quantity and 63.2 percent in value.

Marine products exports to the United States in 1958 made up close to 96.3 percent of the total quantity and about 94.2 percent of the total value of all exports to the United States. Comparable figures for 1957 were 95.5 percent of the quantity and 85.3 percent of the value, according to a recent dispatch from Reykjavik.

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EXPORTS OF SELECTED
FISHERY PRODUCTS, 1958:

Exports of Iceland's most important commodities for 1958 include several fishery items of interest to the United

Product	1958		1957	
	Qty. Metric Tons	Value 1/ US\$1,000 (f.o.b.)	Qty. Metric Tons	Value 1/ US\$1,000 (f.o.b.)
Frozen fish	65,883	23,306	57,089	19,938
Herring oil	10,665	2,143	8,664	1,652
Herring meal	11,601	1,867	8,090	1,262
Ocean perch meal ..	16,146	2,421	4,940	728
Fish meal	26,535	4,094	24,264	3,658

1/ Conversion value: 1 krona equals 6.13 U. S. cents.

States fisheries. There was a considerable increase in exports of frozen fish, herring oil, herring meal, ocean perch meal, and fish meal as compared with 1957 (see table), according to the National Bank of Iceland's January 1959 Statistical Bulletin.

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FISHERIES TRENDS, OCTOBER-
DECEMBER AND YEAR 1958:

Rich new fishing grounds for ocean perch were discovered in late July 1958 by an Icelandic survey ship in the trough northeast of Belle Isle channel between Newfoundland and Labrador. Despite the distance from home ports, the new grounds attracted almost the whole Icelandic trawler fleet during the autumn, and the result was a spectacular increase in the catch of ocean perch for the fourth quarter, far offsetting the slight decline in the off-season catches of other species combined, compared to the last quarter of 1957.

Iceland (Contd.):

While the financial position of the trawlers was eased by the Export Fund Act of May 29, 1958, which put them in the same position as motorboats with respect to price supports, the chief reason for the recovery of the trawlers was unquestionably the discovery of the new ocean perch grounds.

Product	Oct.-Dec.		Year	
	1958	1957	1958	1957
	(Metric Tons)			
Ocean perch (drawn)	46,664	14,115	109,920	61,552
Cod (drawn)	14,321	20,200	235,448	201,161
Herring (round)	13,167	12,153	107,318	117,495
Other	9,748	13,189	52,352	56,119
Total	83,900	59,657	505,038	436,327

The total fish catch for 1958 was the highest in Iceland's history. But this was not fully reflected in exports, because export stocks, which were abnormally and dangerously low at the end of 1957, were increased considerably. The total of export stocks at the end of 1958 was Ikr. 228 million (US\$14,000,000) or Ikr. 70 million (US\$4,298,000) more than a year earlier.

The fourth quarter is always the least active, accounting for only about 15 percent of the year's catch. While the trawlers seek ocean perch in Greenland or Newfoundland waters, the motorboats fish with drift nets for herring off the Southwest Coast and in Faxa Bay. This is always a much smaller catch than the main North Coast summer season. In 1957 the autumn herring season was a failure, with only 12,513 tons caught during the last three months of the year. In 1958, despite a virtual disappearance of herring during October, the third quarter catch was somewhat improved, at 13,167 tons. For the year as a whole, the decline in the total tonnage of herring (107,318 as compared to 117,495 in 1957) was more than offset by the improvement of the quality. The herring were fatter and suitable for salting, so that all of Iceland's advance sales commitments were met. With about 50 percent more herring salted in 1958 than in 1957, the supply of herring meal and oil (sold in free currency markets) declined, but because of large 1957 stocks the exports of

these products increased during the year. The Soviet Union is the chief market for salted herring, absorbing about one-third of the total production, and other eastern countries are also important markets.

There has been a noticeable trend in recent years to use an increasing portion of the white-fish catch for freezing; this continued in 1958, accentuated by the heavy autumn catch of ocean perch, which is chiefly used as frozen fillets for the Russian and United States markets.

During 1958 about 65 percent of the total white-fish catch, as compared to 56 percent in 1957 and 48 percent in 1956, went to the freezing plants. At the same time, there was a decline in other forms of utilization, notably export on ice, salting, and processing as air-dried stockfish.

The impact of the Icelandic 12-mile fishing limit regulations on the Icelandic trawlers began to be felt early in 1959 as they returned to the home grounds for the main fishing season, during which they are excluded in most areas from trawling within 12 miles. Last year over 60 percent of their catch was within the new 12-mile limit, and they already have found that catches outside the line are poor (United States Consulate dispatch of February 27, 1959, from Reykjavik).

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REPLIES TO PROTESTS ON EXTENSION OF FISHING LIMITS TO 12 MILES:

Icelandic Foreign Minister Gudmundsson on February 28, 1959, handed the resident Ambassadors of France, Germany, and Sweden, and the British Charge d' Affaires Aide Memoires, dated February 25, replying to protests made by those countries prior to September 1, 1958, against Iceland's unilateral extension of fishing limits to 12 miles. The Aide Memoire presented to the British states that "the Government of Iceland hoped that discussions which took place before the Regulations of June 30, 1958, entered into force on September 1, 1958, would bring about a solution of the problems involved. These discussions, however, had not been concluded by September 1, 1958, when the Regulations entered

Iceland (Contd.):

into effect and the activities of British warships in Icelandic waters from that day onward made all further discussions impossible."

The Aide Memoire goes on to say that: "In the view of the Icelandic Government the two concepts of coastal jurisdiction and of the freedom of the seas are parallel concepts so that neither can be considered to be in derogation of the other. The delimitation of coastal jurisdiction over fisheries at a distance of 12 miles from appropriate base-lines cannot be said to be in violation of international law or incompatible with the freedom of the seas."



Iran

CAVIAR PRODUCTION AND MARKETING:

Three-year contracts signed in 1956 covering the sale of Iranian caviar by the Iranian Fisheries Company to a New York City firm and to a European firm

ported by the Managing Director of the company that invitations to bid on new contracts were expected to be issued on or before April 21, 1959. The invitation to bid was to call for 30 metric tons of caviar for consumption in the United States and 30 tons for consumption in Europe. Both quantities are subject to increase. Bidders would be expected to take a quantity of sturgeon in addition to the caviar.

Production of caviar (see table 1) by the Iranian Fisheries Company amounted to 142.6 metric tons for the year ending August 1958. This is substantially more than the 126.3 tons produced in the year ending August 1957, 113.8 tons in the year ending August 1956, and 94.8 tons in the year ending August 1955. From August 1958 through January 20, 1959, 31.4 tons of caviar were prepared and the estimate for spring 1959 amounts to 92.3 tons.

The Iranian Fisheries company has undertaken to supply (see table 2) Russia with 46 tons of caviar annually since 1956 and 30 tons each annually to the United States and Europe. Local sales during the last three years totaled 16.6 tons.

Table 1 - Iran's Annual Distribution Plan for Caviar, 1956-1958

Type & Grade	Bluga		Asetra		Sevroka		Pressed		Total
	No. 1	No. 2	No. 1	No. 2	No. 1	No. 2	No. 1	No. 2	
(Metric Tons)									
Country:									
United States . . .	6	5	-	2	1	10	3	3	30
Europe	4	1	12	5	5	-	3	-	30
Russia	4	-	11	2	11	7	6	5	46
Totals	14	6	23	9	17	17	12	8	106

for export to Europe will expire in July 1959. The annual contract with Russia also terminates in July 1959. It was re-

Table 2 - Iran's Production of Caviar, 1955-1958 (Year Ending August)

Type & Grade	1958	1957	1956	1955
(Metric Tons)				
Bluga No. 1	20.0	22.4	-	-
Bluga No. 2	2.8	3.3	-	-
Asetra No. 1	30.5	22.0	-	-
Asetra No. 2	10.9	8.3	-	-
Bluga and Asetra No. 1	-	-	39.1	29.3
Bluga and Asetra No. 2	-	-	10.0	15.3
Sevroka No. 1	23.6	18.2	14.7	13.6
Sevroka No. 2	35.9	29.6	16.0	18.2
Pressed No. 1	9.7	13.5	28.3	11.6
Pressed No. 2	8.7	8.7	5.6	6.6
Waste	0.5	0.3	0.1	0.2
Total	142.6	126.3	113.8	94.8

Italy



FISHING COMPANY PERMITTED TO FISH IN TUNISIAN WATERS:

A long-standing dispute over fishing rights inside the 12-mile limit or 50-meter line, whichever is furthest (claimed as Tunisian territorial waters), was partially solved early in March when an Italian fishing company signed an agreement with Tunisia which would allow four of the company's vessels to fish in Tunisian waters provided the catches

Italy (Contd.):

are sold in Tunisian ports. In practice this will mean that the lower-grade fish will be sold in Tunisia while the better fish, including some species which are now unavailable to the Italian market, will be exported to Italy and France. The profits realized from these exports will be "repatriated" to Tunisia and divided equally between the Italian company and the Government of Tunisia.



Japan

CANNED TUNA IN BRINE EXPORT TARGET TO UNITED STATES IN 1959:

A total of almost 2.5 million cases is the Japanese production target of canned tuna-in-brine for export to the United States in the business year of 1959. This will be divided: the merit quota 1,600,000 cases, free quota 850,000 cases, and for newcomers 10,000 cases. This was decided upon in mid-February by the Japan Export Canned Tuna Manufacturers Association. The total for 1958 was 2.0 million cases. The free quota of 850,000 cases was allocated to three periods-- (1) April through June, (2) July through December, and (3) January through March of 1960. In the 1st and 2nd periods 340,000 cases, respectively, have been allocated and in the 3rd period 170,000 cases. Also, it was provided that no packer should pack more than 5,500 cases in any period by using the free quota.

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EXPORTS OF FROZEN FISHERY PRODUCTS OTHER THAN TUNA, 1957-58:

Japanese exports of frozen fishery products other than tuna to foreign

Table 1 - Japanese Exports of Frozen Fishery Products Other than Tuna, 1957-58

Species	1958	1957
	.. (Metric Tons) ..	
Rainbow trout	857	847
Shellfish	233	204
Black marlin	513	515
Shrimp	1,176	1,019
Frog legs	205	407
Salmon	5,354	3,036
Scallops	541	281
Swordfish	5,058	4,133
Swordfish steak	805	1,016
Miscellaneous	2,124	1,401
Total	16,866	12,859

countries in 1958 were substantially higher than in 1957. Frozen salmon exports were higher by about 22 percent.

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EXPORT PLANS FOR FROZEN AND CANNED FISHERY PRODUCTS, 1959:

The Japanese Government has revealed its plans for 1959 total exports of

Japanese Export Plans for Frozen and Canned Fishery Products, 1959				
Product	Quantity		Value	
	1959	1958 ^{1/}	1959	1958 ^{1/}
	Est. Target	Exports	Est. Target	Exports
	.. (Metric Tons) (US\$1,000) ..	
Frozen Fish:				
Albacore tuna . .	40,800	43,100	10,566	10,720
Yellowfin tuna . .	84,700	60,800	19,040	14,900
Other tuna	6,100	2,610	1,200	532
Broadbill swordfish	5,000	4,000	2,500	2,600
Salmon	5,000	2,200	4,000	1,650
Rainbow trout . .	1,000	1,000	800	850
Misc. fish	6,000	4,500	3,000	2,250
Total	148,600	118,210	41,106	33,502
	. (1,000 Cases) .			
Canned Fishery Products:				
Tuna in brine . . .	2,200	2,200	17,600	17,600
Tuna in oil	1,100	1,050	7,480	7,140
Salmon and trout .	2,100	2,720	50,900	72,630
Crab meat	500	618	9,000	12,208
Sardine	900	664	6,750	5,312
Mackerel-pike . .	1,000	598	6,500	3,946
Others	2,100	2,037	16,800	16,296
Total	9,900	9,887	115,030	135,132
^{1/} Estimates.				

canned and frozen fishery products, according to reports received from Japan in February. Included in the totals are exports to the United States.

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FROZEN TUNA AND SWORDFISH ALLOCATIONS FOR UNITED STATES MARKET IN 1959:

According to preliminary information released in February 1959, the Japan Frozen Tuna Manufacturers Association had indicated that the allocation of frozen tuna for the United States market in 1959 will be: frozen albacore 29,700 metric tons, with the method of allocation to be the same as in 1958; frozen tuna loins 2,970 tons with a merit quota

Japan (Contd.):

allocation to be based on the average of the past three years; frozen yellowfin tuna 35,000 tons derived from landings at Japanese ports (merit quota 28,000 tons, free quota and reserve 6,800 tons, and new 200 tons), plus intermediate or landings at foreign ports--120 landings, 2 landings per vessel per year.

The f.o.b. Japan floor prices of frozen loin and frozen tuna applied for the latter part of the Japanese 1958 fiscal year (ends March 21, 1959) were: \$730 a ton for albacore loins (previously \$800), \$565 a ton for yellowfin loins (previously \$620-640), \$190 a ton for large yellowfin, \$210 a ton for medium yellowfin, and \$220 a ton for small yellowfin. It has been indicated that the same prices will apply in 1959.

In addition, the export to the United States of 4,455 tons of frozen swordfish is planned, 10 percent less than in 1958.

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FROZEN TUNA EXPORTS TO UNITED STATES AND CANADA:

Japanese frozen tuna exports to the United States and Canada in 1958, according

Species	1958	1957
	Metric Tons	
<u>Tuna:</u>		
Albacore	26,026	31,958
Albacore loins	395	2,746
Yellowfin	45,493	25,177
Yellowfin loins	437	2,678
Big-eyed	3,150	602
Skipjack	2,710	21
Bluefin	115	254
Total	78,326	63,436

to the Japan Frozen Food Exporters Association, totaled 78,326 metric tons, about 23.5 percent higher than the 63,436 tons exported in 1957.

In addition, about 10,000 tons were landed by 27 trips of Japanese tuna clipper directly at foreign ports, of which about 50 percent was transshipped to the United States.

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INTERNATIONAL TUNA PUBLICITY PLANS FOR 1959:

Unused funds set aside for international advertising or publicity by the Japanese tuna industry for fiscal year 1958 in the amount of US\$34,722 will be carried over to fiscal year 1959 (began April 1, 1959). Adding an equal amount for the new fiscal year plus the Government appropriation, \$138,888 will probably be available for fiscal 1959 for international advertising of canned tuna. Presumably most of the money will be used to advertise Japanese canned tuna in the United States.

The International Tuna Society had originally planned to do some advertising in fiscal year 1958, but later decided not to follow through on the plan.

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PHILIPPINE CANNED FISH IMPORT RESTRICTIONS AFFECT JAPANESE CANNERS:

The Japanese fish canners report that the following import restrictions which control the amount of canned fish to be taken by the Central Bank of the Philippines will affect them to a considerable degree: (1) the Philippines cut the canned fish import quota for 1959 to 25 percent of the actual imports in 1958; (2) the Philippine regulations provide that new import licenses will be issued only to Philippine-lineage and American-lineage firms (Japanese contacts are with Chinese firms); and the raise in the special duty imposed on canned mackerel, horse mackerel, etc., from 13.6 percent to 17 percent ad valorem.

In addition, an increase in the general tariff (now 15 percent ad valorem for canned saury and sardines) is reported to be under consideration by the Philippines.

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PLANS FOR PACK OF CANNED FISHERY PRODUCTS IN 1959 FOR DOMESTIC CONSUMPTION:

The Japanese planned production of canned aquatic products for consumption in Japan in 1959 is estimated to be a little more than 25 million cases. About

Japan (Contd.):

a 10-percent increase yearly for the past several years is noted.

According to statistics by the Japan Canning Society, in 1957 a total of 31.2 million cases of canned aquatic products were packed, of which 10.3 million cases were exported and 20.9 million cases were consumed domestically. The 1958 pack was estimated at 35.0 million cases, of which 12.0 million cases were exported and 23.0 million cases were consumed in Japan--in both cases a 10-percent increase over the previous year.

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TUNA IN AGAR JELLY:

Additional information has been obtained on the method used by one Japanese canner for packing tuna in agar jelly, according to a March 10, 1959, dispatch from the United States Embassy in Tokyo. The information refers to the processing of one particular lot of fish.

A lot of 1,216 pieces of fresh skipjack loins (each weighing about 4 pounds) totaling 2,250 kg. (4,950 pounds) was used. The fish was precooked for 60-70 minutes without pressure. The center temperature of the loins was kept "as low as possible;" it measured 58°-64° C. (136.4°-147.2° F.) in some batches and 57°-63° C. (134.6°-145.4° F.) in others.

After precooking, the loins were cleaned just as for packing in oil. They were then immersed in water at 80°-90° C. (176°-194° F.) for 5 minutes, to facilitate division to flakes ("myomeres"). The loins were then pulled apart by hand, a few large segments were packed in the can first, after which the can was filled with flakes and weighed. Finally a few large pieces were put in on top of the flakes to give a good appearance when the can is opened.

The can was next filled with a measured amount of hot jelly at about 30° C. (86° F.), vacuum-sealed, and retorted for 80 minutes at 7-pounds pressure.

The yield from this lot of skipjack was 161.17 cases of canned tuna in jelly, 31.13 cases of No. 5 cans for the do-

mestic market, and 9.3 cases of flake tuna. Recovery is given as one case of 48 7-oz. cans of jellied tuna per 13.976 kg. (30.7 pounds) of raw fish.

The formula for the jelly sauce used in this pack is as follows (quantity per case in parentheses): 7.2 kg. powdered agar (58.06 g.), 4.8 kg. cellulose gluconic acid (38.7 g.), 6.0 kg. gelatin (48.4 g.), 0.72 kg. pepper (5.8 g.), 28.8 kg. powdered skim milk (232.3 g.), 25.1 kg. fresh onion juice (202.4 g.), 4.41 kg. refined white sugar (35.56 g.), 15.6 kg. salt (126.8 g.), 5.25 kg. cottonseed oil (42.3 g.), 2.4 kg. monosodium glutamate (19.3 g.), 0.6 kg. water, 48 cc. spice mixture "A" and 150 cc. spice mixture "B" (apparently standard food flavoring mixtures imported from the United States).

**Mexico**FISHERY BUREAU REORGANIZED AND NEW POLICY ANNOUNCED:

On March 3, 1959, the Mexican Minister of Industry and Commerce announced the new policy of the Bureau of Fisheries and Allied Industries, which was recently transferred from the Ministry of Marine. This policy consists principally of two phases: (1) increase consumption of low-priced fish throughout Mexico; (2) give impulse to the Mexican fishing industry.

The Bureau of Fisheries is undergoing a complete reorganization. The new plan calls for a Director, an Assistant Director, and three Departments. (1) The Technical Department will control three offices: (a) Office of Biological Studies; (b) Office of Production and Markets; (c) Office of Statistics. (2) The Department of Control and Supervision will control: Office of National Registry; Office of Contracts and Permits; Office of Violations; Office of Supervision. (3) The Department of Promotion will control: Office of Fishcultural Development; Office of Consumption Development; Office of Maritime Development. Most of the Offices will be in charge of two or more sections.

The Technical Department is envisioned as a research unit, the Department of

Mexico (Contd.):

of Control and Supervision as an administrative unit, and the Department of Promotion as a development unit.

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NEW CLOSED SEASON FOR SHRIMP FISHING ON WEST COAST:

The Mexican closed season for shrimp in open waters along part of the Pacific Coast of Mexico has been changed to July 16 through September 15 by administrative order, effective March 7, 1959. The area involved includes the open waters along the coasts of Nayarit, Sinaloa, Sonora, and the east coast of Baja California. Previously the closed season, which had been in effect for three years, was from March 16 to April 15 with a possible extension to May 15 and in addition to the areas mentioned, including the west coast of Baja California.

These changes affect the trawler fleet only and it is not anticipated that they will make appreciable differences in the over-all annual shrimp catch of the Pacific coast. However, March and April shipments of shrimp from Mexico's west coast are expected to be greater in 1959 than last year, but the August and September shipments should be correspondingly lighter. (United States Embassy report from Mexico, March 11, 1959.)

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SHRIMP FISHERY TRENDS, MARCH 1959:

Mexico is experiencing poor shrimp catches per vessel in the Gulf of Mexico. But catches are good at Salina Cruz on the west coast. Reports indicate that the Tampico trawlers are averaging less than one ton of shrimp tails a month, the Carmen vessels about one ton, and those in Salina Cruz around 4 to 5 tons a month. Because of these conditions trawlers are still transferring from Carmen to Salina Cruz.

Weather has played an important role in the Gulf of Mexico. A continual succession of "northers" has held the boats in port many days. The "norther" season is about over and conditions in the Gulf are expected to improve.

Catches in Salina Cruz are continuing at a high level, but it is anticipated that in accordance with past seasons they were expected to slacken off in April or May. The sizes of shrimp in Salina Cruz are said to be getting larger than they were a few weeks ago. It is reported that only about 30 boats from the Guaymas-Mazatlan fleets moved to Salina Cruz this season, whereas an estimated 185 undertook the migration in 1958.

Guaymas-Mazatlan shrimp catches are reported to be better this year than at the same time last year. The recent elimination of the March 15 to April 16 closed season in this area and better catches have kept these fleets in home waters. (United States Embassy report from Mexico, March 12, 1959.)

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SHRIMP STOCKS OFF WEST COAST COMPARED WITH 1936:

The Japanese fishing vessel Minato Maru in 21 consecutive days of fishing along the virgin coast of Sinaloa, Mexico, in May 1936 caught 92,074 pounds of shrimp (headless). The average daily catch was 4,384 pounds of tails. The Minato Maru fished a V. D.-type net with a mouth (not including wings) of 20 meters (about 65.5 feet). This phenomenal catch when compared with current yields per boat helps to answer the question "What is a good virgin shrimp fishing ground?"

Some 10 years later on these same grounds, when fishing intensity had increased considerably, but still not extremely intense, a group of 8 small boats operating between August 1946 and May 1947 caught a daily average of more than 1,000 pounds each of headless shrimp. These boats were between 28 and 38 feet in length, with 40 to 55 horsepower gasoline engines, and hauled nets between 30 and 45 feet along the lead line. They fished an average of 12 hours a day, returning to port each night.

In the same area under present conditions and with modern trawlers a catch of 80,000 pounds of tails during a 10-months season is considered good. The fishing intensity has increased many times during this period and in turn

Mexico (Contd.):

increased the total annual catch (United States Embassy, Mexico City, report of March 6.)



Morocco

FISHERIES TRENDS, JUNE-DECEMBER 1958:

Moroccan exports of canned sardines June-September 1958 were about the same as for the same period in 1957 (598,000 and 596,000 cases). Exports of other canned fish rose from 49,000 cases to 157,000 cases.

In view of the policy of the Moroccan Government to divert trade outside the franc zone, it is notable that while exports of canned fish to the franc zone during June-September fell from 471,000 cases in 1957 to 392,000 in 1958, exports elsewhere were generally higher. By far the steepest increase was to the Eastern European countries, where the number of cases rose from 15,000 in 1957 to 213,000 in 1958. Exports to the satellite countries then constituted about 30 percent of total exports of canned fish during the third quarter of 1958. Lower exports to France may have resulted from the scare about poisoned Moroccan canned sardines which was current during the period. On September 12, 1958, the French Ministry of the Interior announced that there were no grounds to the poisoning rumors. Since then it is reported that sales in France of Moroccan sardines have recovered.

In the first half of 1958, 30,374 metric tons of sardines were processed by the Moroccan fishing industry. Because, presumably, of the large inventory of canned sardines, 27,400 metric tons were made into fish meal, and only 1,400 tons canned.

The Central Committee for Ocean Fishing has been constituted by a recent decree to advise on the possibility of selling seafood throughout Morocco and also on more general questions. Articles have appeared in the newspapers from time to time deploring the fact that Mor-

occan fish consumption is extremely low, and offering possible remedies, particularly the establishment of cold-storage and transport facilities inland.

In an editorial entitled "Automation and Unemployment," At Taliaa expresses its concern about the introduction of automation into the fishing industry. By automation is meant electrical fishing which is still in the experimental stage, although a company has been formed in Tangier to explore the possibilities of the new method. So far, no privately-owned commercial fishing boat is equipped with gear for electrical fishing.

About 90 percent of the fresh and frozen fish exported from Morocco goes to Algeria. Exports will be seriously affected by the devaluation of the French franc because of the existence of a price ceiling in Algeria and because of the relative weakness of the industry in Morocco.

Trade agreements including the export of Moroccan fishery products were concluded with three countries during the last quarter of 1958. Canned sardines are to be imported by Communist China (75 million francs or about US\$178,000), the United Arab Republic (170 million francs or about US\$405,000), and Czechoslovakia (380 million francs or about US\$905,000). Czechoslovakia is also to import 50 million francs or about US\$119,000 worth of fish meal.

Finland and Sweden renewed agreements made in 1957. Finland is to import sardines (53.3 million francs or about US\$127,000) and Sweden an unspecified amount of canned fish, according to a January 21 dispatch from the United States Embassy in Rabat.

Note: Values converted at rate 420 francs equal US\$1.



Norway

ANTARCTIC WHALING PRODUCTION LOWER FOR 1958/59 SEASON:

According to estimates published in the Sandefjord press, the nine Norwegian whaling expeditions to the Antarctic produced 117,746 long tons (706,445 bbls.) of whale oil and 13,975 tons (83,849 bbls.)

Norway (Contd.):

of sperm oil during the 1958/59 season. This season's production was lower by 3,760 tons for whale oil and 6,292 tons of sperm oil as compared with the 1957/58 season.

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FISHERIES TRENDS, 1958:

The failure of the winter herring fishery is the main reason why Norway's 1958 fishery landings were the lowest since 1949. Cod and cod byproducts landings increased from 249,000 metric tons in 1957 to 267,000 tons in 1958.

Production at the herring oil plants decreased sharply in 1958 because of the poor herring catch. In 1958 some 95,000 tons of herring meal and about 35,000 tons of herring oil were produced as compared with 175,000 and 66,000 tons, respectively, the previous year. Exports and stocks on hand decreased markedly.

Exports of canned fish products in 1958 totaled about 28,000 tons or some 5,000 tons below an average year. Decreases were most marked in the exports of smoked herring and brisling. (United States Embassy report from Oslo, February 12.)

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FISHERY LANDINGS, PRODUCTION, AND EXPORTS 1958:

Norwegian fishermen in 1958 landed 1,215,084 metric tons of fish. Landings were 358,808 tons less than in 1957 and 771,216 tons less than in 1956. The 1958 catch was the smallest since 1949 when 1,084,358 tons were landed. The first-hand or vessel value of the landings amounted to 565.7 million kroner (US\$79.2 million)--a decline of 61.1 million kroner (\$8.6 million) and 145.5 million kroner (\$20.4 million) as compared with 1957 and 1956, respectively. The decrease in catch and income aggravated a situation which was difficult even before. The fishermen's organizations have made strong claims for higher prices, rate reliefs, etc. to improve their position.

Exports of fishery products have developed satisfactorily and the stocks are mostly light or normal. The value of the exports is, however, less compared with years of greater landings. Some products, as salted cod, fish-liver oils, and certain canned products, have had to compete with various difficulties or dull markets.

The seasonal runs of herring, cod, and other fish to the coast, will be watched with more intense attention in 1959 than before, because of light landings of winter herring in 1957 and the failure of that fishery in 1958. This brought to mind former periods when the winter herring shoals did not appear on their usual grounds. The two last years the shoals have arrived on late dates and in more northerly positions than usual. The irregularity of this most important fishery has conveyed a feeling of uneasiness to industry circles. A northbound dislocation of the fishing waters may mean that a majority of the industrial plants may find themselves out of place in relation to the fishing center. On the other hand, a late arrival of the run means a short season and most probably also a light catch.

The second mainstay of Norwegian fishing, the resources of Norwegian-Arctic cod, have been heavily taxed by increasing Russian and other European trawler fleets, and Norway's own fishermen have of course also harvested to the limit of their fishing ability. In 1958 and 1957 the Norwegian landings of "skrei" (spawning cod) have been small, while the landings of Finnmark young cod (immature and individually smaller fish on feeding migration) have been quite heavy. After many years of increasing and more intensive exploitation, the yet unanswered question is: What is left of this rich and other less rich year-classes of cod which are due to appear on the spawning grounds in the winter of 1959?

Herring Fisheries: Landings of herring and sprat through 1958 were 613,865 tons with an ex-vessel value of 165.2 million kroner (\$23.1 million), compared with 1,019,790 tons and 257.6 million kroner (\$36.1 million) in 1957. Neither

Norway (Contd.):

in 1958 nor 1957 were the results of the herring fisheries satisfactory. The utilization of the 1958 landings was (1957 figures in parentheses): iced fresh 34,910 tons (62,638), frozen 40,182 tons (51,344), cured 107,016 tons (108,673), canned 29,972 tons (44,777), reduction 381,449 tons (737,763).

Owing to the scarce winter herring landings in 1958 the exports of fresh iced and frozen herring as well as of other herring products declined. Comparatively, however, exports seem to indicate that the increasing popularity of the frozen product was maintained. Exports of iced herring (mainly winter herring) were 30,080 tons in 1958 as against 57,138 tons in 1957. Frozen herring exports were 34,339 tons and 45,686 tons. Owing to the scarce production of North Sea herring last autumn, it is generally presumed that the 1959 catch of winter herring shall meet with an eager market in Great Britain as on the Continent. This applies to iced as well as to frozen herring.

About 107,000 tons of herring was cured in 1958. Total production was about 850,000 barrels, including 600,000 barrels winter herring, 230,000 barrels Icelandic herring, and 20,000 barrels fat and small herring. Exports were 60,000 tons of salted and 6,880 tons of spiced herring as compared with 62,877 and 6,880 tons in 1957. Of smoked herring (hard cure), which is a product of cured herring, 3,800 tons was exported (1957: 3,917 tons). Cured herring exports included 329,000 barrels winter herring and 26,000 barrels Icelandic herring shipped to Russia. Other important markets were Sweden, German Democratic Republic, Poland, West Germany, and the United States. Of the 1959 production of cured herring 35,000 tons may by agreement be shipped to the Soviet Union. Prices are to be fixed during negotiations which were initiated in the beginning of January 1959, and their level may also constitute a base for the sales to other markets.

Canned Fishery Products: Exports of canned fishery products in 1958

amounted to about 27,500 tons of which 11,040 tons were sild sardines, 5,467 tons brisling sardines, and 5,433 tons kippered herring. The corresponding figures in 1957 were: 31,806; 13,974; 6,071; 5,286. Canned fish products did not move as rapidly as in 1957. Exports of kippers were an exception, and the stocks of that commodity were practically exhausted early in 1959. Exports of brisling sardines were lighter than expected through the last half of 1958. Of the season's production, 195,000 cases or two-thirds of the pack are in stock. Landings, however, reached only 60 per cent of an average level. Sild sardines also moved slowly. Stocks of sild sardines in early 1959 were 720,000 cases as compared with 500,000 cases on January 1, 1958.

Byproducts Industry: The reduction plants had supplies through 1958 of 381,449 tons of herring, 91,654 tons of capelin, and 24,888 tons of other fish (including launce or sand eel, mackerel, squid, and fish waste). A total of 88,000 tons of herring meal and 16,000 tons of fish meal were exported as compared with 119,198 tons and 13,807 tons in 1957. Stocks are practically exhausted. The sales prospects are good.

Other Fisheries: Besides herring and sprat, 587,165 tons of other fish were landed in 1958 as against 554,102 tons in 1957. Utilization in 1958 was: iced fresh 95,511 tons, (1957: 102,479), frozen 65,286 tons (48,150), cured (groundfish and roes) 99,472 tons (122,851), dried (unsalted) 175,879 tons (152,660), canned 8,070 tons (13,738), for reduction 141,795 tons (113,545). The cod fisheries and most of the related fisheries developed favorably through 1958.

Exports of Iced Fish: More than 26,000 tons were shipped as compared with 25,555 tons in 1957. On the chief market--British--the demand was unstable, but periodically brisk. Haddock sold well; Norway had a rather big production of halibut this year. Unfortunately the market was somewhat depressed owing to slow moving stocks of frozen halibut produced in 1957 and as time passed also frozen halibut of the 1958 production. Dogfish, which is an important

Norway (Contd.):

Norwegian export article, sold well when the supplies were moderate. Norway's export of tuna (by rail) to Italy was small owing to a failing fishery. Besides, exporters had to accept a lower price because of Japanese competition. Porbeagle and dogfish sold well. The French market bought considerable quantities of iced cod, saithe, pollock, and some dogfish.

Frozen Fish Products: Exports of frozen dressed or round fish were 14,543 tons in 1958 (1957: 7,824) and those of fillets 18,000 tons (17,301).

The year 1958 is described as one of progress for marketing of Norwegian frozen fish products. World consumption of frozen fish obviously is increasing. Norwegian fisheries are, however, an unstable supply source, and only a few of the plants are able to make continuous use of their capacity.

Salted Cod (Klipfish): Owing to reduced export prospects at the end of 1957, producers had to restrict their buying through most of 1958. Exports amounted to about 34,000 tons, compared with 42,128 tons in 1957. Besides 14,000 tons of wet salted groundfish were exported in 1958, including 1,542 tons landed by fishing vessels abroad. The 1957 figures were: 8,159 tons exported plus 1,400 tons landed directly abroad. Estimated stocks of klipfish amount to 10,000 to 12,000 tons early in 1959 as compared with 22,000 tons a year ago.

Stockfish (Dried Unsalted Fish): Exports amounted to more than 37,000 tons, compared with 35,940 tons in 1957. Total raw fish supplies used for stockfish were 176,000 tons in 1958, or about 23,000 tons more than the previous year. Stocks were about 16,000 tons early in 1959, or 3,000 tons larger than on January 1, 1958. The demand from the African, as well as from the Italian markets, has been active and the prospects look the same for 1959. The value of the stockfish exports amounted to about 170 million kroner (23.8 million), or almost one-fifth of all the exported fish products.

Liver and Fish Oils: The markets for fish oils were weak both in 1958 and 1957. The demand for industrial oils and oils suitable for hardening was more active than for medicinal oils. Some stocks are on hand. It has to be noted that the Norwegian production of herring oil and other fish body oils is sold on the inland market for further processing.

Value of Exports: The total value of Norway's exports of fishery products in 1958 amounted to 880 million kroner (\$123.2 million), compared with 972 million kroner (\$136.1 million) in 1957 and 1,042 million kroner (\$145.9 million) in 1956, according to Norwegian Fishing News (vol. V, no. 4, 1958).

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IMPROVED UNDERWATER CAMERA FOR MARINE RESEARCH DEVELOPED:

The Directorate of the Fisheries Ocean Research Institute in Bergen, Norway, has had built a special underwater camera for research use in systematic photographing in oceanic waters. The apparatus is built similarly to those now in use in the United States and Great Britain, but is expected to be more effective in operation. It will be of special importance in Barents Sea research where it will be used by the research vessel G. O. Sars after it has been tested in the Lofot Islands.

The camera is built inside a steel casing with a glass window. The whole outfit weighs only about 286 pounds and can be operated down to a depth of 1,000 meters (about 547 fathoms). Norwegian scientists expect to use the camera to check recordings, especially those of uncertain origin, made with depth-sounders or ASDIC. (Fiskaren, March 4, 1959.)

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PLAN RESEARCH TO LOCATE SUBSURFACE TUNA WITH ASDIC:

During the summer of 1959 Norwegian fisheries scientists will attempt to locate subsurface tuna schools with ASDIC. The first objective will be to obtain clear echograms of tuna so that they can be differentiated from other fish. The

Norway (Contd.):

Ocean Research Institute's research vessel Peder Ronnestad will be used to make the studies off Norway's west coast (Fiskaren, March 4, 1959).



Philippines

CANNED FISH RETAIL AND WHOLESALE PRICES, MARCH 2, 1959:

Retail and wholesale prices on March 2, 1959, for canned sardines and canned salmon in Manila were:

Product	Wholesale	Retail
	48 15-oz. Cans US\$/Cs.	15-oz. Cans US¢/Can
Canned Sardines:		
U. S. brand	12.25	27.5-32.5
Japan brand	1/	25.0-27.5
Canned Salmon:	(48 16-oz. Cans)	(16-oz. Cans)
U. S. brands	29.00	67.5-75.0

1/ Not quoted.



Poland

PLANS TO BUILD 54 FACTORYSHIP TRAWLERS BY 1975:

The United Kingdom's lead in factoryship trawler operation was followed by Russia, and now the Poles are following the practice of Russia. The plans of the United Kingdom factoryship trawler Fairtry were basically adopted by Russia into the Pushkin class, of which some 24 vessels have been built and put into operation since 1955.

In 1958 a delegation of two Polish nationals was given the opportunity of gaining practical experience on one of these Russian vessels, the Murmansk, off Labrador. After going out on that vessel they returned on another factoryship, the Zawolzk. This vessel returned from a 50-day trip with 714 metric tons of dressed ocean perch, plus fish oil and meal. Altogether some 1,100 metric tons of fish were caught and handled during the voyage.

Based on the practical experience thus gained in Russia and on such voyages, Poland has now placed an order in her shipyards for one fish factory vessel with others to follow--54 in the next 15 years.

The first stern trawling vessel planned will have a range of 12,500 miles. Details are: length over-all 277 feet; length between uprights, 244 feet; moulded breadth, 46 feet; draught, 17 feet; main Diesel engine, 2,400 hp.; and speed 12-15 knots.

There will be three refrigerated holds capable of holding up to 640 tons of fillets; another for temporary cooling; and another for storing 160 tons of fish meal; while tanks will be provided for cod-liver oil.

The vessel's capacity will be 50 tons of fresh fish daily and 20 tons of scrap for meal. Personnel will consist of 92 men--11 navigation and deck hands, 17 engineer, 7 stewards, 12 fishing crew, plus 45 men for the processing plant.

Single and double-berth cabins will be provided. The annual catch is placed at 1,650 tons of fillets, 95 tons of cod-liver oil, and 534 tons of fish meal.

The first factoryship trawler will be handed over in 1960. Plans call for the construction of 15 vessels between 1961-65; 15 vessels, 1966-70; and 23 vessels, 1971-75.

This new type of vessel, states Polish Maritime News, will allow Polish deep-sea fisheries to extend their ranges to waters rich in fish, such as those off Newfoundland, Labrador, the Arctic, and even the South Atlantic near the West African coast. (Fishing News, February 20, 1959.)

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TRAWLER RETURNS FROM FISHING TRIP TO WEST AFRICAN WATERS:

The trial fishing trip to the waters off West Africa by the Polish trawler Jan Turlejski was completed on February 26, 1959. According to the Polish newspaper Trybuna Ludu of February 26, the trawler caught about 10 metric tons of fish, which when sold at Casablanca covered the voyage expenses, and proved that, with proper cold-storage equipment, Polish fishing trawlers can successfully fish mid-Atlantic waters.



Portugal

CANNED FISH EXPORTS, JANUARY-NOVEMBER 1958:

Portugal's exports of canned fish during January-November 1958, amounted to 58,938 metric tons (3,644,800 cases), valued at US\$31.4 million as compared with 46,797 tons, valued at US\$28.3 million for the same period in 1957. Sardines in olive oil exported during the first 11 months of 1958 amounted to 41,776 tons, valued at US\$22.0 million.

Species	January-November 1958	
	Metric Tons	US\$
Sardines in olive oil	41,776	21,990
Sardinelike fish in olive oil . .	5,716	3,888
Sardine & sardinelike fish in brine	1,062	245
Tuna & tunalike fish in olive oil	2,089	1,577
Tuna & tunalike fish in brine . .	906	466
Mackerel in olive oil	6,478	2,888
Other fish	911	304
Total	58,938	31,358

During January-November 1958, the leading canned fish buyer was Germany with 10,005 tons (valued at US\$5.4 million), followed by Italy with 9,567 tons (valued at US\$5.0 million), Great Britain with 7,145 tons (valued at US\$3.6 million), the United States with 5,608 tons (valued

Portugal (Contd.):

at US\$4.0 million), and Belgium-Luxembourg with 4,165 tons (valued at US\$2.1

million). Exports to the United States included 2,323 tons of anchovies, 121 tons of tuna, and 2,192 tons of sardines. (Conservas de Peixe, January 1959.)

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FISHERY LANDINGS IN PORTUGAL, MADEIRA, AND THE AZORES, 1957:

Landings of fishery products (exclusive of the whale and cod fisheries) in Portugal and the Madeira and Azores Is-

lands in 1957 amounted to 263,805 metric tons valued at US\$33.9 million. The quantity landed in 1957 was about 7.2 percent above the total of 246,084 tons landed in 1956 and the value US\$33.9 million

Table 1 - Landings of Fish and Shellfish in Portugal, Madeira, and the Azores, 1956 and 1957

	1957			1956		
	Quantity	Value		Quantity	Value	
	Metric Tons	1,000 Escudos	US\$ 1,000	Metric Tons	1,000 Escudos	US\$ 1,000
Portugal:						
Fish:						
Tuna & similar	1,909	10,580	368	2,918	21,681	754
Anchovy & sprat	7,499	38,146	1,327	5,366	31,929	1,111
Spanish & common mackerel	16,600	27,361	952	16,400	36,142	1,257
Chinchards	39,762	85,907	2,988	42,182	86,367	3,004
Corvina	957	6,878	239	1,228	8,817	307
Sardines	112,554	375,151	13,049	99,827	329,151	11,449
Cachucho & besugo	6,019	19,672	684	6,609	24,214	842
Pargo & common sea bream	11,519	56,555	1,967	11,770	60,429	2,102
Scabbardfish	1,673	8,999	313	2,411	13,024	453
Whiting	11,885	110,410	3,840	10,357	97,120	3,378
Other	28,895	146,194	5,085	27,510	148,176	5,154
Total	239,272	885,853	30,812	226,578	857,050	29,811
Shellfish:						
Crabs, lobsters, & other crustaceous	1,420	20,732	721	1,811	16,443	572
Squid	956	6,404	223	641	4,729	164
Cuttlefish	1,509	6,462	225	1,330	6,288	219
Octopus	650	4,741	165	444	3,566	124
Oysters	491	160	6	1,308	399	14
Other mollusks	2,331	1,697	59	1,937	1,538	53
Total	7,357	40,196	1,399	7,471	32,963	1,146
Fresh-Water Fish	536	4,817	167	485	5,044	175
Total Portugal	247,165	930,866	32,378	234,534	895,057	31,132
Madeira:						
Fish:						
Tuna & similar	2,747	10,243	356	1,068	5,559	193
Spanish mackerel	508	1,242	43	295	874	30
Chinchards	452	1,275	44	448	1,237	43
Pargo & common sea bream	32	207	7	36	220	8
Scabbardfish	877	3,683	128	1,175	4,804	167
Other	949	1,721	60	480	2,043	71
Total	5,565	18,371	638	3,502	14,737	512
Shellfish	16	46	2	22	65	2
Total Madeira	5,581	18,417	640	3,524	14,802	514
Azores:						
Fish:						
Tuna & similar	5,511	12,898	449	2,896	5,994	208
Spanish mackerel	402	1,006	35	194	440	15
Chinchards	3,677	5,125	178	3,395	5,568	194
Sardines	286	884	31	206	753	26
Besugo	10	67	2	7	41	1
Pargo & common sea bream	24	102	4	22	84	3
Other	1,123	4,513	157	1,288	5,046	176
Total	11,033	24,595	856	8,008	17,926	623
Shellfish:						
Crabs, lobsters, & other crustaceous	21	542	19	12	310	11
Other	5	5	2	6	52	2
Total	26	597	21	18	362	13
Total Azores	11,059	25,192	877	8,026	18,288	636
GRAND TOTAL: Portugal, Madeira, and Azores	263,805	974,475	33,895	246,084	928,147	32,282

Portugal (Contd.):

was up about 5 percent from the 1956 value of US\$32.3 million.

Note: Values converted at rate of 1,000 escudos equal US\$35.

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CANNED FISH PACK,
JANUARY-SEPTEMBER 1958:

The total pack of canned fish for January-September 1958 amounted to 35,632 metric tons as compared with 34,011 tons for the same period in 1957. Canned

Product	Net Weight	Canners' Value
	Metric Tons	US\$ 1,000
In Olive Oil:		
Sardines	21,866	12,540
Sardinelike fish	4,100	1,905
Anchovy fillets	2,434	2,064
Tuna	1,580	1,197
Other species (incl. shellfish)	442	286
In Brine:		
Sardinelike fish	4,547	827
Other species	663	182
Total	35,632	19,001

sardines in oil (21,866 tons) accounted for 61.4 percent of the January-September 1958 total pack, higher by 56.0 percent than the pack of 14,016 tons for the same period of 1957, the Conservas de Peixe reported in January 1959.

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FISHERIES TRENDS, NOVEMBER 1958:

Sardine Fishing: During November 1958, the Portuguese fishing fleet landed 26,767 metric tons of sardines (valued at US\$1,603,930 ex-vessel or \$60 a ton). In November 1957, a total of 18,518 tons of sardines was landed (valued at US\$1,956,243 or about US\$106 a ton).

Canneries purchased 49.2 percent or 13,159 tons of the sardines (valued at US\$868,730 ex-vessel or \$66 a ton) during November. Only 343 tons were salted, and the balance of 13,265 tons was purchased for the fresh fish market.

Other Fishing: The November 1958 landings of fish other than sardines were principally 3,253 tons (value US\$175,513) of chinchards and 755 tons of anchovies (value US\$15,965). (Conservas de Peixe, January 1959.)

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NATIONAL FISH
COMMISSION FORMED:

In response to a resolution approved by the recent Fifth National Fisheries Congress, the Portuguese Ministry of Marine has formed a National Commission for the Coordination and Planning of Fishing. Its president will be Captain Henrique Tenreiro and its other members will be delegates representing the various fishing industry associations.

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NEW COD-FISHING VESSEL LAUNCHED:

A new Diesel-engine cod-fishing vessel, the Sao Jacinto, was launched at Aveiro, Portugal, on March 8, 1959. The new vessel is part of the development plan program to increase the Portuguese cod-fishing fleet. The expansion program is making possible substantial savings in foreign exchange expended on salted cod imports.



Spain

VIGO FISHERIES
TRENDS, FEBRUARY 1959:

Fish Exchange: Landings of fish and shellfish in February 1959 at the Vigo Fish Exchange amounted to 4,532 metric tons, a drop of 1,314 tons from the preceding month, but higher by 448 tons than the landings for February 1959. Major species sold over the Exchange in February 1959 were: small hake, 1,411 tons; pomfret, 1,215 tons; and horse mackerel, 613 tons. The closed season for sardines began on February 15.

February 1959 landings were valued at US\$1,384,000 (US\$1.00=42 pesetas), about \$27,000 less than January and close to \$477,000 above the value for February 1958. The value this February as compared with the same month of 1958 was up due to higher prices and increased catches of the more expensive varieties.

Fish Canning and Processing: Canneries in the Vigo area purchased only 52 tons of fish and shellfish on the Exchange during February 1959. In January 1959 the canners purchased 487 tons. The smoking, drying, and pickling processors

Spain (Contd.):

purchased 14 tons in February and 1,020 tons in January of this year. Canning activity will not pick up again until May or June when catches begin to increase. (United States Consulate, Vigo, dispatch, March 11, 1959.)

Increase Asked on Tinplate Import Duties: Spanish fisheries trade magazines assert that much forethought should be given to increasing duties on imported tinplate and tightening the regulations on temporarily-admitted tinplate. According to the trade journals, Basque representatives are asking for a 100-percent increase in customs duties, a gesture contrary to the European trend to relax customs duties. The articles scoff at assertions that national production will soon meet national consumption demands, and add that if the tinplate to be produced is good in quality and low in price, present low duties will not affect the new industry. If the price is too high and the quality poor, the low customs duties and resultant imports should serve to spur the Spanish producers to compete more effectively.

A Vigo fisheries industrialist commented that the viewpoint taken by high tariff advocates would not win out. In addition, he stated that the "fondo de retorno" import levies of 25 percent would not be applied to tinplate, and that the sales tax on temporarily-admitted tinplate would be rescinded in the near future. He also predicted that no changes would be made on regulations governing temporarily-admitted tinplate, although he did not consider this too important as long as export sales continue to lag.

Standardization of Fish Can Sizes: In February fish canners obtained an interview with the Minister of Industry to discuss problems of interest to the fisheries industry. The immediate result of the interview as observed in Vigo was to refocus attention on the study submitted by the Canners' Union of Galicia to the Government on the standardization of domestic containers. This study (which was approved at a national meeting of cannery interests in 1955) was submitted in 1956 encompassing 12 different sizes of cans with a maximum of eight bases. The

technical branch of the Ministry of Industry has now asked for "additional information."

Fish-Canning Industry Reorganization Plans: After a preliminary survey by experts of the National Commission on Productivity in November 1958, the Vigo area fish-canning industry has agreed to a formal survey by the Commission over the next three years.

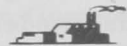
Nine canneries (3 large, 3 medium, 3 small) have been selected for a complete study by the Commission. A small plant which was being torn down for a new railway line will be re-erected as the new pilot plant incorporating the recommendations the Government technicians have made to date.

New Commercial Agreements Include Fishery Products: The new commercial agreement with France, running from November 1, 1958, to October 31, 1959, includes exports to Spain of about US\$80,000 worth of dried cod. Spain will ship to France \$60,000 worth of fresh fish (except sardines and tuna), \$580,000 of dried and salted fish, \$75,000 of anchovies, and \$385,000 of shellfish. Canned exports to France will amount to \$36,000 consisting wholly of mussels.

The payments between the Spanish Foreign Exchange Institute and the National Bank of Bulgaria running between December 2, 1958, and December 1, 1959, includes the shipment to Bulgaria of \$200,000 of canned fish products.

Cod Industry's New Labor Regulations: New labor regulations for the growing cod industry were approved by the Ministry of Labor on February 24, effective April 1. The regulations cover vessel personnel and all workers at processing plants with the exception of some higher administrative positions.

The rapid growth of the cod-fishing industry has made it imperative that special applicable labor regulations be drawn up. Preliminary comments are that most of the gains covered in the new law already existed, lacking only to be incorporated into formal legal status.



Sweden

CONTRACTS SIGNED FOR FISHERY PRODUCTS EXPORTS TO EAST GERMANY:

The Swedish West Coast Fish organization in Göteborg signed contracts with an East German government purchasing office in Berlin providing for the export in 1959 to East Germany of 13,750,000 crowns (US\$2,658,000) worth of fish products. The terms of the contract make it possible later to enter into supplementary agreements which could increase deliveries to a total value of 16,500,000 crowns (US\$3,190,000).

Deliveries under the new agreement were to commence about February 1, 1959. Exports at first will be fresh and frozen herring, later cod, mackerel, and fish fillets, and then salted herring near the end of the year. The demand for salted herring is dropping while the trade in fresh and frozen fish and herring is expanding.

Mackerel are included in the agreement for the first time. The greater interest in this species on the part of the East Germans is attributed to the Swedish West Coast Fish Organization exhibit at the Leipzig Fair in the spring of 1958, where recipes for various frozen and smoked mackerel dishes were demonstrated (the organization is also exhibiting at the Leipzig Fair this year).

The second new feature of the 1959 contract is a variable price schedule which replaces the former fixed price schedule. Under the new scheme prices are quoted weekly and vary within a certain set range, thereby making possible adjustments in keeping with the supply.

At the same time the South Swedish Export Fish organization in Malmo closed a contract with the Berlin purchasing office for the sale in 1959 of fish and fish products valued at 6,000,000 crowns (US\$1,160,000), principally herring and cod from the south and east coasts of Sweden. Deliveries in 1958 by this organization were worth about 5,000,000 crowns (US\$967,000).

East Germany is Sweden's best fish customer. Efforts are constantly being

made, however, to open up new markets because Swedish fishermen report that East German fishing is increasing considerably and they feel that eventually fish exports to East Germany will decline.

East Germany and the Eastern Bloc countries, however, still take more than one-third of the Swedish exports of fish. In this group, exports to Czechoslovakia, which have shown a declining trend in late years, have been helped by the signing in December 1958 by the West Coast Fish Organization of a supplementary agreement for the delivery of additional frozen and salted herring valued at 1,300,000 crowns (US\$251,304).

The global compensation arrangement for 1959 governing all trade between Sweden and East Germany has been signed in Berlin. Fish exports by both of the Swedish fish organizations fall under the global agreement. The figure for fish from all of Sweden is said to be the same as in the 1958 agreement, or about 22,500,000 crowns (US\$4,350,000).

During 1958 it was difficult at times for the Swedish fish exporting organizations to obtain fish for export under the contracts with East Germany. A contributing factor is the practice of Swedish fishermen who prefer in many cases to land their fish in Hirtshals, Denmark, where they receive an "ore" more per kilo (about 9 U. S. cents a 100 pounds), and also save considerable time because Hirtshals is closer to the fishing grounds than is, for example, Göteborg, Sweden.

The landing of Swedish fish in Danish ports also has had the disadvantage that Danish exporters can include the Swedish fish in their export figures. This could penalize Swedish exporters if at some future time East or West Germany should limit their import of fish to a certain percentage of the previous year's imports. It is expected, however, that the variable price scale incorporated in the 1959 contract will enable the Swedish export organizations to compete favorably with Denmark on a price basis and thus encourage Swedish fishermen to land a greater part of their catches at Swedish fishing ports.

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Sweden (Contd.):

**EDIBLE FISH FLOUR TO
BE PRODUCED ON
COMMERCIAL SCALE:**

The first full-scale commercial plant for the production of edible fish flour is being built in Sweden and will come into operation this year, the Food and Agriculture Organization reports.

This development, which was reported early this year to the Food and Agriculture Organization (FAO), Rome, by representatives of the largest pharmaceutical manufacturing company in Sweden, marks a significant step forward in man's effort to produce a cheap and plentiful supply of animal protein.

In the course of developing the flour, the Swedish concern has frequently consulted FAO concerning quality standards, laboratory tests, consumer acceptability, price, and other factors. Now that the product is coming into commercial production the company has asked FAO to cooperate in carrying out acceptability tests in some of the underdeveloped countries.

"We have agreed to do this and the tests will be carried out by our Nutrition Division," stated the Chief of the Fishing Processing Section, Fisheries Division, FAO.

FAO's interest in the production of an edible fish flour was first aroused ten years ago because of the great need for more animal protein in the diet of two-thirds of the world's population of 2,700 million people. Such protein can be supplied through meat, eggs, milk, and fish, but there are various obstacles to the production, distribution, and marketing of these on a scale large enough to meet the needs of the undernourished millions. Fish, which is a very rich natural source of animal protein, offered possibilities if, among other problems, means could be found of transporting at low cost such a perishable commodity to distant markets. One suggestion for overcoming the problem was to process the fish to produce an edible flour. Attention was focused on this possibility and scientists and technicians in many countries have

worked on the technical problems. Acceptability tests with edible fish flour have been carried out by FAO and others in Latin America, Africa, and elsewhere. But the problem so far has been to produce an odorless and tasteless flour which, at the same time, retained its animal protein with a high biological value.

The Swedish pharmaceutical manufacturing concern, which is building the flour factory, has perfected a method for producing such a flour, containing 85-percent animal protein, which compares with about 15-percent protein content of fresh fish and meat. This is one of the highest concentrated protein substances yet produced by man and may mark a major victory in the battle to supply the mass of people in the world with sufficient animal protein in their diet.

The new flour can be used in making bread, pasta, cakes, pastries, etc., and can be added to soups and sauces and other foodstuffs. Already in Scandinavia, plans have been made to produce "protein-enriched" bread by including up to 5-percent edible fish flour in the bread. Such an addition adds only a fraction to the cost because the edible fish flour is a little more expensive than wheat or maize flour.

In countries where the lack of animal protein in the diet is particularly severe, a much larger proportion of edible fish flour can be added to the bread, pasta, or other foodstuffs.

The flour is produced in a closed-circuit plant, fresh fish being fed into the plant at one end and the flour being delivered at the other end. Any type of fish can be used, from sharks to sprats. The vast quantities of trash fish which are now delivered to the fish-meal plants and are chiefly used to provide meal for animal food which, in turn, provide eggs and meat for mankind, will be equally suitable for the production of fish flour. This provides a more direct and efficient use of the animal protein for human consumption.

The development of this method of manufacturing edible fish flour is of great practical significance for the underde-

Sweden (Contd.):

veloped countries, and the Swedish concern is planning to establish plants in various parts of the world.

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**SARDINE CANNERS FACE
COMPETITION IN
SALES TO SOVIET BLOC:**

Swedish sardine canners are troubled about the drop in sales both in domestic and export markets, according to a statement made to the press by the chairman of the Sardine Manufacturers' Association early in March 1959.

Stocks of winter sardines, he said, are large at present (early March). Previously the Swedish canners exported most of the winter sardines to East European countries, principally Czechoslovakia and East Germany, which together took quantities valued up to about US\$965,000 (5,000,000 crowns) annually. This year, according to the association's chairman, and also last year there was no interest on the part of Czechoslovakia. As respects East Germany, the barter arrangement provides for sardine exports amounting to US\$483,000 (2,500,000 crowns). The chairman describes this item as "only a preliminary arrangement" and asserts that "we have hardly any possibility of selling sardines to that country for the entire value." It is expected that sales this year to East Germany will not exceed one-half that value.

The chairman said it is principally sardines from Portugal that have ruined the domestic market as well as the export markets for Sweden. In addition, raw materials, he said, are so expensive in Sweden that it is difficult to meet competition.

The Swedish sardine canners are, as usual, represented at the Leipzig trade fair. Because of the difficult situation faced by the canners they have sent representatives to Leipzig to solicit orders. The results of these efforts, the chairman said, will be decisive as respects operational possibilities for the Swedish sardine canners during the coming twelve months. (United States Consulate, Goteborg, report of March 10, 1959.)

Taiwan

**UNITED STATES LENDS \$686,000
TO EXPAND FISHING INDUSTRY:**

A \$686,000 loan to help expand Taiwan's fishing industry, an important source of food for the island's expanding population, was signed March 18 by officials of the United States Development Loan Fund and the Chinese Embassy.

The loan is expected to help increase the Taiwan fish harvest by 40 to 50 percent. The Land Bank of Taiwan, which is the borrowing agency, will re-lend the money to private individuals and firms in the fishing industry.

The managing Director of the Development Loan Fund explained that fish comprise an important source of protein in Taiwan as the amount of arable land is limited requiring more intensive types of agriculture than the production of meat products. The Island's population is increasing at the rate of 3 percent per year, with a constant stream of refugees from the Chinese mainland adding to the problem.

The loan is divided into four parts, as follows: (1) \$298,000 will be used to import Diesel engines, which will permit the fishing boats to stay out longer and cover larger areas; (2) \$255,000 will be used to import refrigeration and cold-storage equipment, which will help preserve the catch and permit more orderly handling and marketing; (3) \$96,000 will be used in the construction of new fishing boats; and (4) \$37,000 will be used to import a specialized seine which will permit a new type of fishing.

The loan will be repayable in Taiwan currency at 5 percent interest in 4½ years.



Tunisia

FISHING INDUSTRY, 1957:

Landings: According to figures released by the Tunisian Department de la Marine et de la Peche (see table 1), the total Tunisian fish catch in 1957 amounted to 14,000 metric tons, valued at 1,960,447 dinars (US\$4.7 million). Of

Tunisia (Contd.):

this total, 984 tons were tuna, 53 tons spiny lobster, and 154 tons sponges. Also included in this total was 5,878 tons of

Table 1 - Tunisia's Landings by Type of Fishery, 1957

Fishery	Quantity
	Metric Tons
Coastal	3,642
Trawler	2,439
Night, flare, and seine . . .	5,878
Lake	881
Tuna	984
Spiny lobster	53
Sponge	154
Totals	14,031

sardines, sardinella, and a very small quantity of anchovies. The catch of fresh-water fish was about 881 tons, of which

Table 2 - Tunisia's Exports of Fishery Products by Product and Destination, 1957

Fishery	France 1957	Other Countries		Total	
		of Franc Zone 1957	1957	1957	1956
(Metric Tons)					
Fresh fish	268	440.7	94	802.7	770.3
Salted, dry, and smoked fish .	0.2	-	126.5	126.7	204.5
Shellfish	234.7	1.2	38.3	274.2	239.7
Sponges	192.8	0.6	16	209.4	183.1
Preserved fish & shellfish . .	3,204.9	83.6	1.7	3,290.2	3,386.1

100 tons were eels and the balance dorade, mullet, sole, and loup.

Processed Fishery Products: Sardines were canned at some 12 canneries located

5,878 tons of sardineline fish is canned or otherwise preserved. The same is true for the 984 tons of tuna. Sixty percent of the sardine and 7 percent of the tuna catch was exported. Most of the spiny lobster catch is exported live to France (principally to the Cote d'Azur) as well as most of the sponge catch.

Vessels and Gear: It is estimated that there are 4,000 fishing craft of all types in Tunisia employing 13,000 fishermen. Of this number, 50 are classified as motor trawlers. Three of these trawlers are the property of the Office National de Peche, a Tunisian Government institution with a monopoly over the fishing in the four Tunisian saline lakes and the spiny lobster fisheries, and which is also engaged in offshore fishing. The Office National de Peche is due to be supplied

with four additional trawlers which are being constructed in Italy and are furnished under the United States International Cooperation Administration Aid Program for Tunisia. Only 900 vessels of

Table 3 - Tunisia's Imports of Fishery Products by Product and Origin, 1957

Product	France 1957	Other Countries		Total	
		of Franc Zone 1957	1957	1957	1956
(Metric Tons)					
Fresh fish	5	7.8	53.9	66.7	302.8
Salted, dry, & smoked fish . .	184.4	37.4	46.3	268.1	325.2
Shellfish	97.8	0.7	74.4	172.9	128
Sponges	0.3	-	-	0.3	1.1
Preserved fish & shellfish . .	37.7	414.3	180.9	632.9	420.9

between Sousse and Mahdia and tuna was canned at Sidi Daoud. There is one cannery for shrimp at Tunis. With the exception of about 5 percent consumed locally, practically the entire catch of

the estimated total of 4,000 are over 2 tons in size, according to a United States Embassy dispatch from Tunis dated December 2, 1958.



Union of South Africa

INTENSIVE STUDY UNDER WAY OF PELAGIC SHOAL FISHING WATERS OFF SOUTH AFRICAN WEST COAST:

With the new research vessels *Sardinops*, *Trachurus* and *Kunene*, the Union of South Africa Division of Fisheries and the Fisheries Section of the South-West Africa Administration are making the most intensive investigations ever made into the pelagic shoal fishing waters of the southern African west coast. These investigations come under an augmented research program which has been planned for a period of nearly five years. It will more than double previous efforts to probe into the secrets of such shoal fish as the pilchard, maasbanker, and mackerel, and should produce detailed information about the pelagic shoal fishery of the West Coast.

Starting in January, six modern and well-equipped vessels started to range over almost the entire West Coast sweep of the fish-rich Benguela Current. Their range of operation extends to a breadth of 250 miles along 1,000 miles of coastal waters from the southern tip of the Cape north to the mouth of the Kunene River. Manned by some 80 seamen, they will collect and feed information on water and weather conditions, nutrient salts, plankton, and fish to a team of 30 biologists, chemists, and other scientists.

The total value of ships, new and enlarged laboratories and other equipment used in this, the largest research program ever planned for the fishing waters of the Southern Hemisphere, will exceed £500,000 (US\$1.4 million). The research operations will cost the Union Government and the South-West Africa Administration some £100,000 a year (US\$280,000).

But the size and scope of the research program are more than matched by the value of the shoal fish to the economies of South and South-West Africa. For 12 years the pilchard and maasbanker have comprised the bulk of the Southern African fish catch and today they support an industry employing thousands of fishermen and factory operators with 300 boats and 19 factories. The investment in this industry is estimated at more than £15,000,000 (US\$42 million) and each year it produces canned fish, fish meal and fish-body oil valued at about £12,000,000 (US\$33.6 million). Of the expected total catch of 700,000 tons in 1958, nearly 570,000 tons were pelagic shoal fish--pilchard, maasbanker, mackerel, and snoek.

Fish catching on this scale has, however, stimulated the fear that the resource may be overexploited and for the past eight years fishery scientists have tried to assess the extent of the resource and perhaps to predict the movements of the shoals. Both the Division of Fisheries and the Fisheries Section in South-West Africa have collected and examined considerable data, but the results have been uncertain and the conservation measures at present applied to the industry are arbitrary and have little scientific basis.

Each season the fishery at Walvis Bay is allowed to land 250,000 tons of pilchard; the Cape Fishery is restricted to 250,000 tons of pilchard and maasbanker. These totals may be thousands of tons above or below the maximum safe catch and

the absence of adequate scientific management of the resource could jeopardize the whole future of the inshore fishing industry.

Obviously handicapped by lack of funds, the two research organizations did not have sufficient ships or shore facilities to accelerate their investigations and so early in 1954 the industry offered to help finance an augmented program.

This offer was made through the Fisheries Development Corporation of South Africa, Ltd., which was formed in 1944 to promote the rational development of the fishing industry. The Chairman of Corporation, and its Managing Director asked the Director of Fisheries to state his requirements for a comprehensive research program embracing the Union and South-West Africa.

After consultation with the Minister of Economic Affairs and with the South-West Administration, the Director came up with a scheme requiring three new vessels, a field station at Stompneus Bay, and extensions to the Sea Point laboratories of the Division of Fisheries; the Union Government would in return finance the cost of additional crew for the vessels and also ten new scientific posts for the Division of Fisheries. With the cooperation of the South-West Administration, the two fishery research organizations would combine in a coordinated program.

The augmented program called for a capital expenditure of £175,000 (almost US\$500,000) which was to be advanced in the first instance by the Fisheries Development Corporation. This sum was to bear interest at the rate of 4½ percent a year and would be amortized over 20 years in equal yearly installments. These installments would be met by the Corporation writing off one-fourth of the amount against profits. Thus 25 percent of the total capital cost was to be given by the Corporation as its outright donation towards fishery research. The balance would be obtained by a levy of 2d. (2.3 U. S. cents) a ton for fishermen and 4d. (4.6 U. S. cents) a ton for fish-processors on all pilchard, maasbanker, and mackerel landed.

With the new designs for the research vessels and increased building costs over the four years since the preparation of the original scheme, the estimate of £175,000 has been substantially exceeded. The final cost of boats and laboratories will be about £230,000 (US\$644,000), of which £115,000 (US\$322,000) will cover the cost of the *Sardinops*, £88,000 (US\$246,000) for the *Trachurus* and *Kunene* and remainder for laboratories. The Corporation will still donate 25 percent of this amount and the levy has already raised £30,000 (US\$84,000); the payment of interest and the amortization of the loan will extend over an indefinite period.

For this outlay, however, and the additional cost to the South and South-West African research organizations of £25,000 (US\$70,000) a year, the fishing industry is guaranteed a comprehensive program which ranks among the most important ever made into the pelagic shoal fish and their biological and physico-chemical environment.

The program embraces almost every possible study of the waters of the West Coast and its fish by the three new vessels and three older vessels.

Union of South Africa (Contd.):

In the tight schedule for 1959, the vessels will be allocated to seven different types of cruises. These cruises will keep each ship at sea for up to two-thirds of each month.

The type of cruises will be: long-line cruises, routine area cruises, coastal and pelagic area cruises, tagging cruises, blanket net cruises, predator search cruises, and experimental fishing cruises. (The South African Shipping News and Fishing Industry Review, November 1958.)



U. S. S. R.

FISHING FLEET REPORTED OFF ALASKA COAST:

A large Russian fishing fleet was reported operating late in March off Alaska's Bristol Bay. The fleet was said to consist of 50 trawlers and auxiliary vessels. Russia's vessels were never reported operating as close to Alaska before, although it is possible for them to have fished the same area before unnoticed. The fleet was reported in international waters some distance from the Alaska coast.



United Kingdom

HUMBER TRAWLER OWNERS CONTRACT TO SELL DIRECT TO PROCESSORS:

The Humber trawler owners have contracted to supply two processing companies (packers of consumer-packaged products) with 1,764,000 pounds of fish between March and July 1959 at fixed prices. This swing towards contract-selling was announced on February 17. Forty percent of the total is to be supplied at Grimsby, and the remainder at Hull.

The two firms have entered into guarantees which will ensure that their contract purchases have the effect of reducing the amount of fish remaining unsold. They have agreed to make their contractual supplies a net addition to their production of quick-frozen consumer products. Furthermore they have undertaken to maintain in 1959 their 1958 level of purchases on the open market.

Asked for his views on the matter, the president of the Hull Fish Merchants' Protection Association, said:

"A huge quantity of fish for two private firms is to be withdrawn before the auctions at a price of some shillings--we believe three (4.2 U. S. cents) per ten-stone kit (140 lbs.) above the minimum, and the fact that this figure is nearly 50 percent more than that obtained from the Russians last year has no bearing on the matter because the distributors agreed to the Russian contract in the national interest, and also because the fish was for export and would not be available to the home market.

"If there is a surplus the fish will be available for these firms to buy quite easily on the open market. If

there is no surplus, then the contract is not needed by the producers because the merchants will be standing by to pay them more than the contract price.

"The merchants' fears, quite simply, are that this contract is merely the thin end of the wedge. Once the principle of free auction is departed from, there is no reason why the bulk of the catch should not be diverted at fixed-prices to firms controlled by or closely allied to the vessel owners, with the consequent extinction in the port of Hull alone of nearly 300 businesses.

"In short, if this contract is implemented, it is the considered opinion of the directors of the Association that the death warrant of the distributive side of the industry, as we know it, will have been signed. The only interests to have been served will be those of the producers, and in the longest possible run, possibly not theirs. The Secretary of Hull Trawler Officers' Guild took the view that the proposed contract would be a good thing, so long as the earnings of the trawlermen concerned did not suffer. He said however:

"We think that merchants should always be there. We do not see how the country could be supplied without the independent distributor."

A statement put out by the British Trawlers' Federation says that ample supplies of good quality fish for other sections of the trade and for the country as a whole should be assured, because of: (1) greater catching power of the modernized fleet; (2) contract amounts will be adjusted daily, to leave adequate supplies for auction; (3) total contract quantities are significantly less than last year's supplies to Britain; and (4) no lay-up of vessels before beginning of June, if at all, this year.

Keeping the whole fleet at sea, the Federation stated, means full employment for rank and file dock workers. Marketing is in need of modernization, and contracting is a new method to be explored.

The statement says that experience gained from these two contracts may lead to extension of the scheme, thus offering the prospect of greater stability of prices and supplies, and so promoting home fish consumption to the benefit of the industry.

London fish merchants, fishmongers, and workers are up-in-arms over the new contract sales. Merchants at Billingsgate, however, are awaiting further details before deciding on any steps to counter the owner's action (The Fishing News, February 20, 1959.)



Venezuela

JOINT VENEZUELAN-JAPANESE FIRM TO ENGAGE IN TUNA FISHING AND CANNING:

The proposed entry of Japanese interests into the Venezuelan fisheries is about to be realized, according to a March 17, 1959, dispatch from the United States Embassy in Caracas.

A new firm (60 percent Venezuelan and 40 percent Japanese) is being organized to operate a cannery at Cumana and two Japanese tuna boats with crews have already left Japan for Cumana. Sources at the Cumana cannery indicate

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that some Venezuelan fishermen will work with the Japanese at sea and the Japanese coming to Venezuela include experts in canning and freezing tuna. The latter will train local personnel in preparing tuna for export.

The new firm will enlarge the cannery. The plant currently imports American tinplate and has facilities to lithograph and shape over a quarter of a million cans per season. Freezing facilities will also be constructed and it is expected that export to the United States will be the primary goal of the new enterprise.



LOBSTER HEARTS USED FOR DRUG-ACTION STUDY

Spiny Lobster hearts may provide scientists with a new tool for studying the action of drugs.

The lobster heart, which contains nine nerve cells, appears to be a near-perfect model that permits the study not only of a single nerve cell in action, but its inter-action with other heart nerve cells.

It is for this reason, explains Dr. Donald Maynard of the University of Michigan, that the spiny lobster heart might prove very useful to researchers for watching what happens when drugs, such as curare or barbiturates, reach a neuron. The effect of a drug on a lobster heart could illustrate a possible effect the same drug might have on human nerve cells.

Dr. Maynard, who is studying the growth of lobster heart nerve cells at the Bermuda Biological Station, has had no trouble getting all the hearts he wants. Although this bountiful clawless lobster is a delicacy on the Island, only its tail turns up on the dinner table.

At the same time that he is studying the heart's nerve cells, Dr. Maynard is also probing into the function of the lobster's pericardial organ. This organ is responsible for the release of a very powerful chemical stimulator for the lobster heart.

If Dr. Maynard can discover how this material is released, it could provide a clue to the release mechanism of certain hormones in humans. Science would then have another piece to fit into the jigsaw puzzle of how the human chemical factory works.

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