



Argentine Republic

SHARK LIVER OIL INDUSTRY, 1948: It is estimated that the shark catch and the production of vitamin-rich liver oil continued to decline in 1948, according to an April 18 report from the American Embassy at Buenos Aires. Trade sources place the total catch of shark at around 6,000 metric tons as compared with 6,600 tons in 1947. In 1946, the catch was estimated to exceed 10,000 tons.

Production of shark liver oil in 1948 was calculated at 195 metric tons, compared with 250 tons in 1947. This estimate is based on the exports of 181 tons and the domestic use of approximately 12 tons during the past year.

Taking an overall average of 75,000 U. S. P. units per gram, the production would approach the equivalent of around 15 trillion units of vitamin A. The average potency has previously been about 60,000 units per gram, factor 1894. One of the leading shark liver oil exporters states that not only has the potency yield per gram been unusually high for the 1948 catch, but the quality has been exceptionally good. Argentina has recently taken steps to assure the quality of the shark liver oil for exportation.

The southern shark fishing season has been very poor due to difficulties in locating sufficient numbers of sharks. Fishing crews have found it virtually impossible to take paying catches of sharks near Mar del Plata and, as a result, have not only extended their fishing farther south, but have been forced to go as far as 65 miles to sea. The Ministry of Agriculture reports that although strict laws against taking small sharks are in effect, there appears to be a considerable amount of disregard for these regulations by fishing crews.

It is estimated that a total of about 22 metric tons or 1.5 trillion units of shark liver oil was produced during the December 1948-April 1949 period (southern fishing season). Only 60 percent has been traded for export to date, the other 40 percent remaining in the producer's hands.

With the closing of the southern shark season, fishing activities are at a minimum until the Mar del Plata and Pategones season starts around the first week in July. Between April and July only limited quantities of low potency oil, obtained primarily from female sharks taken in the Mar del Plata-Necochea district, will be available.

During 1948, over 180 metric tons were exported as compared with 334 tons

Potency	Price Per Million Units
40,000-50,000 units	29 $\frac{1}{2}$
60,000-70,000 "	30 $\frac{1}{2}$
70,000-80,000 "	31 $\frac{1}{2}$
80,000-90,000 "	32 $\frac{1}{2}$
90,000-100,000 "	33 $\frac{1}{2}$

in 1947. The United States and France imported 99.1 and 73.3 tons, respectively, in 1948 as compared with 138.2 and 82.3 tons the previous year.

Local shark liver oil exporters express much concern about the present increased threat of synthetic vitamin production to their business. It is possible that due to the rise in the cost of fishing and general production increases, Argentine exporters may find it difficult to compete with the new low-cost synthetic oil.

SABELO AND OTHER FRESH-WATER FISH OILS AND MEAL: The principal source of fish oil other than that extracted from shark livers is the sabelo (Prochilodus platensis). The trade estimates that a total of around 13,000 metric tons of sabelo (including other fresh-water fish) were processed during 1948 for oil and meal. The 1948 oil yield is reckoned to be around 1,500 tons as compared with 2,005 tons the previous year. Meal production during 1948 will approach 1,700 tons as compared with 2,132 in 1947.

The oil obtained from the sabelo is of the crudest type and is used for tanning purposes. The meal is used for poultry feed or fertilizers. Germany has taken a considerable interest in the oil, importing approximately 900 metric tons in 1948 and a total of 338 tons during the January-February period of 1949. Holland and Ireland accounted for the greater portion of the balance exported during 1948, taking about 500 metric tons.

WHALE OIL AND MEAL: The production of whale oil, guano and meat meal for the 1948-49 season amounted to 67,260 barrels or 11,210 metric tons of oil, 4,261 tons of guano, and 269 tons of meat meal, compared with the 1947 production of 8,849 metric tons of oil, 4,754 tons of guano, and 338 tons of meat meal. Around 50 percent of the 1948-49 whale oil production will be exported to England for margarine, while 25 percent will be sent to Germany, and 25 percent to Denmark. Apparently the total guano and meat meal exports will be divided equally by England and Denmark.

During the 1948-49 season, seven vessels of 400 tons each and two transports of 8,000 tons were used by the Argentine whaling interests.

Late in June 1948 the British Colonial Office granted the principal whaling company in Argentina a 21-year lease in South Georgia Island in the Antarctic. As a result of this grant, whaling interests have caused considerable comment in Argentina with elaborate expansion plans. It has been claimed that the company's newly equipped plant located in South Georgia Island, which employs approximately 100 Argentines and 300 Norwegians, coupled with the new 23,000 ton SS Juan Peron presently under construction in England, will be ready by 1950 to boost the output of whale oil, guano and meat meal by about three times the present rate. The new vessel is claimed as the world's largest whale factory ship costing \$6,045,000 with an over-all length of 655 feet and will accommodate 27,000 tons of whale oil and associated products. Argentina has also purchased six new killer boats at a cost of \$583,750 each to be delivered at the same time as the new vessel.



Australia

TO START WHALING OPERATIONS: The Australian Government has decided to start whaling operations with a shore factory and three chasers at Shark Bay, according

to the April 1949 Fisheries Newsletter of the Commonwealth Director of Fisheries. This will enable Australia not only to meet all her own requirements of whale oil (about 1,800 metric tons a year), but also to develop a valuable export trade. Operations will begin next year. Legislation will be introduced to enable the Government to establish a whaling commission to operate this enterprise.

Another whaling company of Perth has been issued a license and is reconstructing the old whaling station at Point Cloates and will operate in that area.



Bulgaria

DOLPHIN FISHING: The organization of dolphin fishing in the Black Sea during 1949 has been entrusted to the Fishing Section of the Bulgarian Ministry of Forests, according to an April 30 report from the American Legation at Sofia. The Industrial Enterprise "Canning Industry" is to buy the entire production of dolphin fat and fillets from the fishermen at a fixed price. In order to encourage dolphin fishing, the Government offers the crews certain quantities of food and staples at fixed prices, and will supply each fisherman with a certain amount of clothing, boots, and water-proof material for suits.

EDITORS' NOTE: The dolphin referred to in this news item may be any one of three species of Delphinus (the mammal).



Bizone Germany

COMMERCIAL ELECTRICAL FISHING DEVICE: Near Hamburg, Germany, the former German Navy minesweeper, R 96, is being fitted with an electrical device to be used in sea fishing. The device was invented by Dr. Konrad Kreutzer, a physicist who is responsible for several basic patents on the selenium rectifier. He was led to his latest invention by his work on electro-shock apparatus during the war, according to a June 24 consular report from Bremerhaven.

Dr. Kreutzer reasoned that fish could be caught by placing two electrodes into the water and putting a varying positive voltage on one electrode. The positive voltage on this one electrode (the anode) would cause the fish to point towards it. The varying electric field along the spine of the fish would cause the tail muscles to contract and relax, moving the tail and propelling the fish into a net near the anode.

Because patents have not yet been obtained on his device, Dr. Kreutzer was not willing to reveal all details of it. However, he did indicate that in the experimental model he hopes to test at sea late this summer, the anode will be incorporated in the fishing net and the cathode rounded to minimize the effects of electrolysis and kept near the boat. The wave-form of the anode voltage will be impulsive and approximately triangular, with a sharp rise from null and a much slower decay. The pulse length will be about 2 milliseconds and the pulse rate variable from 2-20 per second depending upon the natural wiggling frequency of the particular type of fish sought. Because of the low electrical resistance of sea water, the pulse current will be about 10,000 amperes.

Kreutzer has not made public any quantitative results of his previous experiments but he seems to be convinced of the usefulness of his device. At one time an American food packer was ready to contribute capital, but the Military Government's prohibition on foreign investment in Germany prevented the plan from being consummated. To complete the equipping of the experimental boat, DM 30,000 (approximately \$9,000) is to be raised, either from the trawler owners' association or from public funds. On July 8th, the project will be explained to a group of representatives of the fishing industry. It is hoped to convince the fishing industry that the device is sound enough to warrant the investment required.

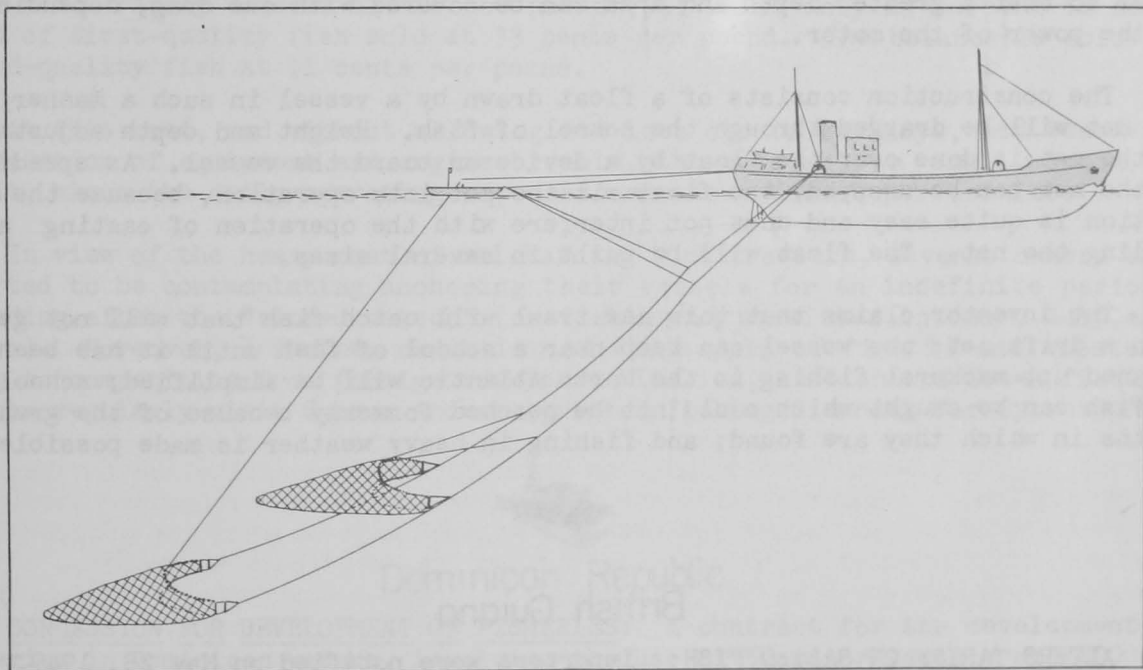
The details available to date on this German electrical commercial fishing device have been included in Fishery Leaflet No. 348. Copies of this publication are available free upon request from the Division of Information, U. S. Fish and Wildlife Service, Washington.



British East Africa (Tanganyika)

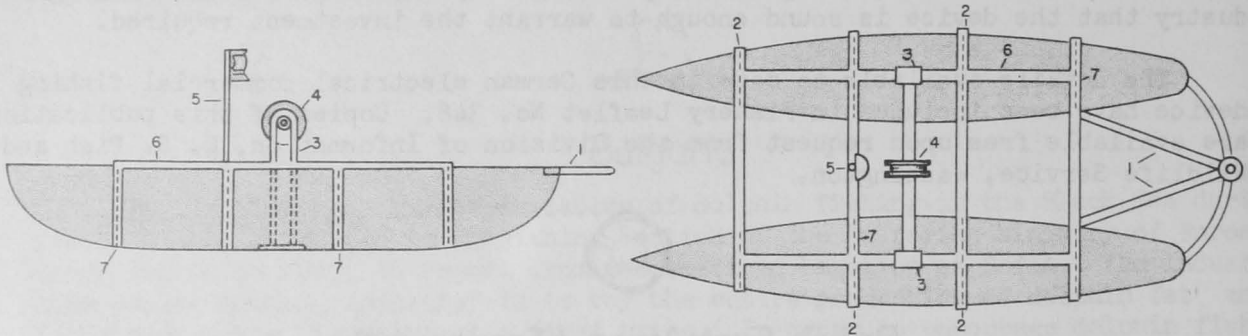
NEW-TYPE TRAWL (SCHATZ): A new-type fishing trawl (similar in certain respects to the Danish floating trawl) has been invented by Friedrich K. Schatz of Tanganyika, British East Africa, according to a recent report from the American Consulate at Bremerhaven.

The new gear consists of a dragnet, very similar to the customary trawl, which will catch fish in any depth, i.e., 10, 20, or 50 yards below the surface, or close to the bottom. The heavy wooden otter boards of the trawls are dispensed with, as is the third board above the top line which serves to keep the



THE SCHATZ TRAWL SHOWING TWO NETS RIGGED ONE BELOW THE OTHER TO COVER A WIDER AREA. TO THE LEFT OF THE VESSEL IS THE FLOAT.

net wide open. In this way the resistance caused by these boards is eliminated and a considerably faster pull is accomplished, saving power, and eliminating some of the wear and tear upon the net, according to the inventor. As only the resistance of the net in the water has to be overcome, the net can be drawn by the power of a relatively small motor. Nets can be fished on both sides at the same time, and discharged first on port and then on starboard, as long as the catches are worth it.



THE DIAGRAM ON THE LEFT SHOWS THE SIDE VIEW AND THE RIGHT DIAGRAM THE TOP VIEW OF THE FLOAT WHICH IS PART OF THE SCHATZ TRAWL.

- | | | |
|--|------------------|-------------------|
| 1. TOWING BAR | 4. ROLLER | |
| 2. STABILITY HORIZONTAL BANDS FOR FLOATS | 5. POSITION POLE | 7. WALLS OF FLOAT |
| 3. ROLLER TRESTLE | 6. VERTICAL BARS | |

In addition, a device has been developed which indicates rather accurately the result of the catch. It is even possible to use several nets below each other so that a greater depth and area can be covered with one drag, depending on the power of the motor.

The construction consists of a float drawn by a vessel in such a manner that the net will be dragged through the school of fish. Height and depth adjustment of the net is done over the float by a device on board the vessel. As speedily as the net can be dropped, the float will be put into operation, because the manipulation is quite easy and does not interfere with the operation of casting and hauling the net. The float will be built in several sizes.

The inventor claims that this new trawl will catch fish that will not get into a drift net; the vessel can keep near a school of fish until it has been cleaned up; mackerel fishing in the North Atlantic will be simplified; schools of fish can be caught which could not be reached formerly because of the great depths in which they are found; and fishing in heavy weather is made possible.



British Guiana

ALTERS TARIFF ON SALTED FISH: Importers were notified on May 28, 1949, that salted fish imported from non-empire sources will be subject to a duty of \$1.95 per cwt. (112 lbs.); from empire countries it will enter free of duty, according to the June 18 Foreign Trade of the Canadian Department of Trade and Commerce.

Colony of Sarawak

FISHERIES SURVEY: During the past year, the Development Secretary for the Colony of Sarawak has been working on various aspects of a development program, including the improvement of the fishing industry, according to a March 10 report from the American Consulate General at Singapore.

Approval has been given for a survey of the fisheries of Sarawak which commenced during the latter part of 1947, continued in 1948, and is still proceeding. The survey is a necessary step to the preparation of plans to assist the fishing industry.

The need for an adequate fisheries is most important since many of the people on the coast depend on fishing for their livelihood and the Colony is not, at present, self-supporting in this most important of foodstuffs which plays such a large part in the diet of its population. There are good fishing grounds in the immediate vicinity of Sarawak. Most of the fishing now carried out is by elementary and outmoded measures and methods of drying, curing, and marketing are wasteful and inefficient.



Cyprus

DIFFICULTIES OF FISHING INDUSTRY: An article appearing in the Cyprus Mail calls attention to the danger facing the Cyprus fishing industry, according to an April 19 report from the American Consulate at Nicosia. The number of fishing trawlers in Cyprus has increased to 10, of which 3 are in Limassol, and the average daily catch rarely exceeds 420 to 560 pounds, of which only 25 percent is composed of first-quality fish sold at 33 cents per pound. The balance is sold as second-quality fish at 11 cents per pound.

At this rate, and without allowing for loss due to holidays, bad weather, depreciation of equipment and engine trouble, there is only a small margin of profit, since the daily operating expenses are about \$80.00 per trawler.

In view of the heavy cost of maintaining such trawlers, several owners are reported to be contemplating anchoring their vessels for an indefinite period, extending after the "closed season" (no fishing is permitted in June, July, and August). Moreover, a further reduction of the supply of fish is anticipated, owing to competition from foreign trawlers. Italian, Arabian and Greek fishing vessels regularly visit Cyprus and are granted fishing licenses for Cyprus waters.



Dominican Republic

CONCESSION FOR DEVELOPMENT OF FISHERIES: A contract for the development of fisheries in Dominican waters, involving the use of 50 motor vessels and 200 employees during the first year of the contract, was signed May 26, 1949, according to a June 25 consular report from Ciudad Trujillo. The contract was subsequently approved by the Dominican Congress and promulgated June 9, 1949.

The company benefiting from the contract is organized as a Dominican corporation, Compañía Pesquera Dominicana, C. Por A. (Dominican Fisheries Company), with an American as the president and treasurer.

The company will carry on exploration of fisheries possibilities in Dominican waters for the development of a large-scale export industry in shrimp, spiny lobsters and shark products, as well as other fishery products. The objective of the company is to reach a weekly production for export, after the first year of the contract, of 100,000 pounds of fish and 1,000,000 pounds of shrimp. At current prices, the annual value of the catch would be about \$11,000,000.

The enterprise would include the construction of packing houses, wharves, an ice plant, and other installations for a major project. The company would undertake also to supply fish for the domestic market and to provide local fishermen with assistance in the form of fishing vessels and equipment; and establish fish hatcheries.

General exoneration from import duties and taxes in connection with the company's operations is granted under the contract. The Dominican Government retains the right to acquire the company's property at the expiration of the contract at cost less depreciation. The contract is subject to cancellation at the end of the first year if the company fails to operate with at least 50 motor vessels and 200 employees.

Possibilities in the development of commercial fisheries in Dominican waters have been given serious attention on various occasions in recent years. Conclusions generally were that opportunities were not particularly favorable. The shore line in most places drops off steeply to ocean depths. Much of the Dominican coast is rocky, exposed, and dangerous for small boats. The Samana Bay area, where the new company plans to carry on its exploration, offers the only extensive area where there is shoal water favorable to fish propagation and to commercial development of fisheries. There has been very little development thus far of commercial fishing, the annual catch being only about 1,000,000 pounds. Imports of salt fish are important, valued at about \$700,000 in 1947.



Ecuador

PLANS EXPANSION OF FISHING INDUSTRY: The Department of Fishing of the Ministry of Economy has announced plans for the stimulation of the domestic fishing industry, by encouraging domestic consumption of bacalao and shark, abundant in the Galapagos fishing grounds, according to a July 8 report from the American Consulate General at Guayaquil. Credits will be given to Ecuadoran fishermen for buying and improving boats, equipment, etc. and setting up an agency for the purchase and distribution of fish, at prices reasonable enough that the low-income groups of Ecuador may take advantage of a larger supply for greater fish consumption.

This plan is still in the project stage, and so far no steps have been taken for its realization. The government hopes eventually to employ the penal colony in the Galapagos Islands in this project.

Iceland

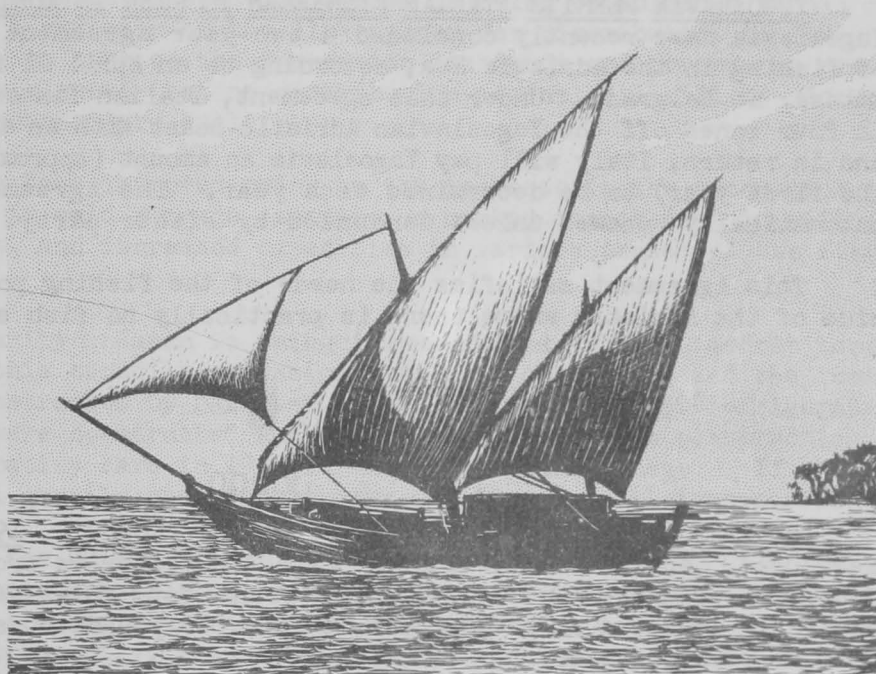
WHALING OPERATIONS, 1948: In 1948, Iceland resumed whaling operations for the first time since World War II. The whaling season, which commenced May 1 and ended October 15, accounted for a total catch of 239 whales, according to a March 29 American consular report from Reykjavik. A total of 1,500 metric tons of whale oil was produced, 80 tons of meal, and 1,060 tons of whale meat.

The Icelandic Government bought the whale oil from the whale processing factory at approximately \$443 per metric ton. In 1948, 773 metric tons were exported to Denmark and the Netherlands; 640 tons of meat were exported to the United Kingdom (27 cents per pound c.i.f.) and 224 tons went to Norway (15½ cents per pound f.o.b.).



India

EXPANDS FISHING FLEET: The Government Fisheries Department of Madras, India, is examining the possibilities for the construction of small motor boats, fitted with 5 to 7 h.p. engines, according to a May 10 American consular report from Madras, India. The price range is restricted to \$1,050 to \$1,200. This program is to assist fishermen engaged in marine fishing.



TYPICAL FISHING VESSEL OF INDIA.

It is also reported that two Dutch trawlers have been acquired for the deep sea fishing fleet in Bombay.

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BOMBAY TO EXPAND FISHERIES: An intensive drive to catch more fish is planned by the Bombay Director of Fisheries, according to a June 1 report from the American Consulate General at Bombay, India. The Fisheries Department will organize propaganda tours in the coastal villages where fishermen will be taught improved methods of catching fish and fish preservation. The formation of fishermen's cooperatives will be encouraged and these will be provided with the necessary fishing equipment.

The Provincial Government contemplates purchasing refrigerated vans and loaning them to the cooperatives to facilitate transportation of fish to consumer markets.

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GOVERNMENT URGED TO ESTABLISH FISHING STATIONS: Indian fishing experts urge the Government of India to establish fishing stations at Cochin, Visakhapatnam, Orissa, and Calcutta, according to a May 24 American consular report from Madras. Staffed by experts, these stations would direct exploratory voyages and help professional fishermen modernize their boats and fishing methods. All four stations, would be equipped with cold storage plants; in addition, a prawn (shrimp) cannery is planned at Cochin. Government expenditures are estimated at \$5,670,000, while operational catches are estimated at \$2,820,000 per year.



Italy

YUGOSLAVIA PERMITS ITALIAN FISHERMEN TO FISH IN ADRIATIC SEA: Italy and Yugoslavia have recently concluded a two-year agreement settling the question of fishing in the Adriatic Sea, according to an April 21 report from the American Embassy at Belgrade. Under this agreement, Italian fishermen are allowed to fish in four zones off the Yugoslavian Adriatic coast with an agreed number of vessels, and in return, Italy will pay Yugoslavia an amount (approximately \$1,275,000 during the first year) to be determined each year. The Agreement will be considered automatically renewed unless denounced by either party.

This Agreement satisfies the needs of the fishing population on the Italian side of the Adriatic where there is practically no fish stocks.



Japan

FACTORS AFFECTING PRODUCTION OF FISHERY PRODUCTS, 1948-51: SCAP's Natural Resources Section has estimated Japanese fisheries production for 1950 at 7,011,000,000 pounds and 7,108,000,000 pounds for 1951 as compared with 5,700,000,000 pounds in 1948 and an estimated 6,800,000,000 pounds this year, according to a June 27 press release.

Actual production may deviate considerably from the estimates as the result of biological or oceanographic conditions. As in fisheries in other parts of the world, the production of the Japanese fisheries, particularly some of the pelagic species, are featured by sharp fluctuations, the principal causes of which are variations in environmental conditions affecting spawning and survival of young and in oceanic conditions affecting the migrations and availability of marketable fish.

The sardine and herring fisheries, which have been declining in recent years, are liable to such sharp fluctuations both in abundance and availability. The conditions affecting the catch of these fish in particular may affect production significantly for 1950 and 1951.

Since the surrender in 1945, shortages of materials such as nets, twine, and rope have limited production seriously. Beginning in 1948 larger quantities of materials were imported by the Supreme Commander for the Allied Powers for the Japanese fisheries, and in 1949 it is expected that the supplies of such materials will about meet the minimum requirements for the present SCAP-authorized fishing area.

By 1950 and 1951 it is expected that there will be no serious shortage of materials, so that production will reach the maximum which can be obtained from the present area on a sustained yield basis. Further increases will depend on improvements in sardines and herring, better management of other fisheries to increase their productivity, and expansion of aquiculture.

New ice manufacturing and ice storage plants have been constructed to increase the over-all daily output of ice by 900 metric tons. This gain of about 6.5 percent over 1948 production will reduce the deficit in ice supply to the fishing industry from about 350,000 tons in 1948 to about 80,000 tons in 1949.

The incentive for fishermen to use more care in handling fish at sea is increased by the fact that a strict inspection system is being established at all major landing ports, and a revision of the link system for distribution of fuel oil is being considered. As soon as the inspection standards and procedures are firmly established, it is planned that no distribution of fuel oil will be made in exchange for fish of substandard quality.

Marketing conditions have improved owing to the increase in ice production noted above, an increase in cold storage capacity, a marked improvement in rail transportation facilities, and increased capacities in various phases of the fish processing industry.

The cold storage capacity in Japan is being increased by about 1,800 metric tons. More than 1,000 tons of this capacity expansion have been completed, and the remainder is expected to be constructed by December 1949. During 1948, 250 refrigeration cars of 25-ton capacity were constructed and are in operation. The construction of 300 additional 15-ton capacity cars in 1949 is in the planning stage. If this plan is finalized it will greatly ease bottlenecks existing in rail transportation.

The system used in the United States for accelerating the movement of perishable products trains has been adopted by the Japanese. Reefer cars containing such perishables as fish are now moved on a fast schedule with a minimum of delay at switching points. Consequently, fish shipments are arriving at their destinations in much better condition. Also, a system has been established whereby all rail cars used for the transport of foodstuffs are cleaned at regular intervals. The cars are inspected frequently to insure that the procedure established is functioning.

Increases in capacity of fish processing facilities have been realized with the construction or rehabilitation of freezing and cold-storage plants, canning plants, and other processing establishments such as fish meal and fish cake plants. This permits the routing of a larger portion of the catch to these industries, thus relieving to some extent the gluts of fresh fish distribution channels, which have occurred in the past.

Legislation in the form of the Food Sanitation Act has been promulgated and is being implemented. About 2,000 inspectors have been assigned to major fish

receiving and shipping ports and are being trained to grade fish according to its end use.

Fish in prime condition is designated for transport to large consuming areas which are distant from the point of origin; fish of lower quality is allocated for consumption in local or nearby areas; and fish unfit for human consumption is designated as fertilizer.

When this inspection system is firmly established and functioning properly, it may be expected that price schedules will be adopted to conform to the grades of fish. This will serve to encourage the fish market operators to handle the fish in a proper manner and take cognizance of sanitary requirements.

Facilities for aquatic research in Japan are more numerous and extensive than in any other country, but research on fish population for the purpose of determining the management regulations needed to maintain high yield is far behind that in many other countries, both in quantity and quality. However, reorganization of the governmental research work has been initiated to provide for better coordination and attention to conservation problems, and several research programs on this subject are underway.

The department of the Japanese government having responsibility for fisheries matters has been reorganized and advanced from the status of a bureau to that of an agency. This step should result in more efficient administration and research, inasmuch as one result of the reorganization is the creation of a Division of Research. This division will coordinate and supervise all research on fisheries problems done by the central government.

Cooperative programs for research on the herring and sardine fisheries, which have declined greatly in recent years, have been undertaken by the central government and some of the prefectural research institutions.

The entire educational system of Japan has been reorganized by recent legislative acts, and many fisheries schools and colleges will be affected.

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JAPANESE REPORT ON FISHERIES CONTROL AND MANAGEMENT: In a report submitted by the Japanese Minister of Agriculture and Forestry with reference to the program to enforce fisheries regulations, the Minister states that several Japanese fishing vessels since February 1947 have violated the MacArthur Line, especially in the eastern China Sea area, according to the July 2 Weekly Summary from the Natural Resources Section of SCAP. The Minister states that the reason for the increase of illegal acts is partly due to poor resources within the restricted fishing grounds and partly due to longing for the former prosperous eastern China Sea fishing area. In order to maintain strict supervision over the fisheries and fishing boats, the "Gist of Emergency Counter-Measures for Prevention of Infringement upon the Authorized Fishing Areas" was drawn up, and all possible efforts have been made to prevent violation of the MacArthur Line. Posters were distributed to urge fishermen to adhere strictly to the MacArthur Line, and warnings were issued whenever necessary.

Measures for maintenance of fisheries resources included an order issued August 7, 1949, which requested Japanese fishing vessels to submit fisheries statistics and data, in order to estimate the possible catch of fish; a survey

of aquatic resources in the eastern China Sea to determine the increase or decrease in the possible catch of fish in that locality; and action by the Japanese Government (effective March 22, 1949) to reduce the number of fishing boats by about 30 percent of the total number of the drag-net fishing boats and trawlers in the sea west of Longitude 130° E., so as to secure an equilibrium between the number of fishing boats and the aquatic resources.

In the future, in order to prevent infringement by Japanese fishing boats in eastern China Sea, the following measures are proposed by the Government with reference to the supervision of the fisheries:

1. Enforce strict supervision over fisheries by arranging for several inspection crafts (funds are to be provided in the budget in the near future in order to implement this measure;
2. Urge the fishermen to wake up to the need for preventing infringement of the MacArthur Line; and
3. Direct that fishing boats of more than 50 tons be equipped with radio installations in order to prevent illegal acts.

With reference to the maintenance of aquatic resources, the following measures are proposed by the Government:

1. Determine the policy for reducing by about 30 percent the total number of drag-net fishing boats and trawlers operating in the sea west of Longitude 130° E. and to enforce it beginning July 1, 1949;
2. Plan for keeping the catch fresh and for utilizing it to the best advantage; and
3. Continue the survey of the aquatic resources in the eastern China Sea.

ORDER ISSUED ON SUPERVISION OF JAPANESE FISHING AREAS: A directive issued by SCAP on June 30, 1949, to the Japanese Government authorizes the latter to establish an inspection system for the Japanese fishing area.

The purpose of the inspection system is to enforce measures to prevent Japanese fishing boats from trespassing outside the SCAP authorized fishing area, as well as other pertinent fisheries regulations issued by SCAP and the Japanese Government.

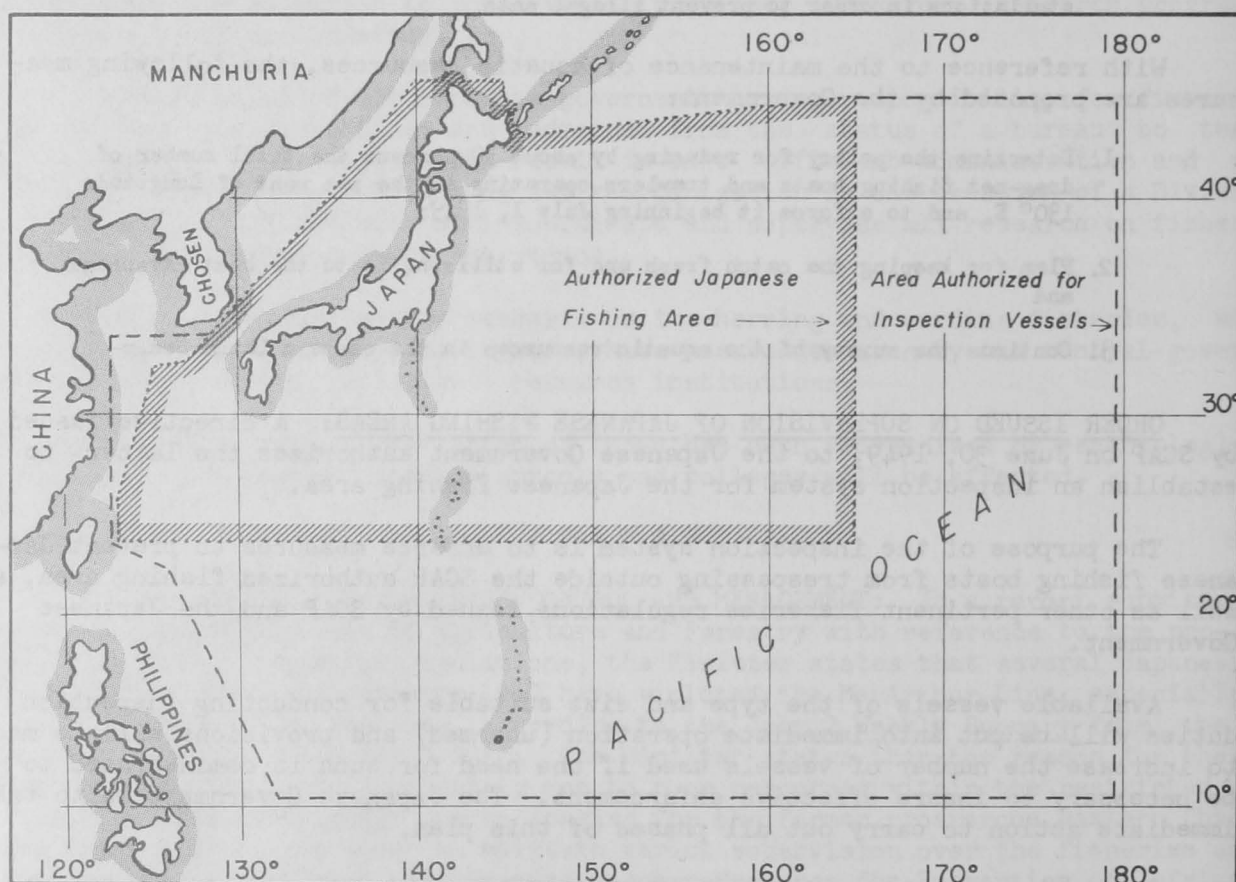
Available vessels of the type and size suitable for conducting inspection duties will be put into immediate operation (unarmed) and provisions will be made to increase the number of vessels used if the need for such is demonstrated to be necessary to insure effective enforcement. The Japanese Government is to take immediate action to carry out all phases of this plan.

Inspection vessels are authorized to operate within the area bounded as follows:

From a point midway between Nosappu Misaki and Kaigara Jima at approximately $43^{\circ} 23' 14''$ North Latitude, $145^{\circ} 50' 30''$ East Longitude; to 43° North Latitude, $146^{\circ} 30'$ East Longitude; thence to 45° North Latitude, 165° East Longitude; thence east along the 45° parallel to the 180th meridian; thence south along the 180th meridian to 10° North Latitude; thence west along the 10° North parallel to 132° East Longitude; thence to 22° North Latitude, 126° East Longitude; thence to 24° North

Latitude, $122^{\circ} 30'$ East Longitude; thence north to 34° North Latitude, $122^{\circ} 30'$ East Longitude; thence east to 34° North Latitude, $126^{\circ} 40'$ East Longitude; thence to 40° North Latitude, 135° East Longitude; thence to $45^{\circ} 30'$ North Latitude, 140° East Longitude; thence east to $45^{\circ} 30'$ North Latitude, 145° East Longitude rounding Soya Misaki at a distance of three (3) miles from shore; south along the 145^{th} meridian to a point three (3) miles off the coast of Hokkaido; thence along a line three (3) miles off the coast of Hokkaido rounding Shiretoko Saki and following a mid-channel course through the Nemuro Kaikyo to a point $43^{\circ} 26' 17''$ North Latitude, $145^{\circ} 48' 03''$ East Longitude; thence in a southeasterly direction to the starting point midway between Nosappu Misaki and Kaigara Jima (see map).

In addition, Japanese inspection vessels shall not approach closer than ten (10) miles to the coast of any foreign country or its island possessions within the area defined in the preceding paragraph; shall use as a mark the modified International E instead of the Japanese flag; will not engage in fishing operations of any kind; shall obtain authorization for each voyage from Commander, United States Naval Activities, Japan; and will not be vested with police powers.



AREA AUTHORIZED FOR OPERATION OF JAPANESE INSPECTION VESSELS OUTSIDE THE AUTHORIZED SCAP FISHING AREA.

This authorization does not establish a precedent for the operation of inspection vessels in any other area for any subsequent period of time; nor is it an expression of Allied policy relative to the ultimate determination of natural jurisdiction, international boundaries, or fishing rights in the area concerned or in any other way.

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SCAP STATEMENT ON EXTENSION OF FISHING AREA: The chief of Natural Resources Section of SCAP made the following statement on fishing areas to the Japanese Minister of Agriculture and Forestry, June 10, 1949, according to the June 18 Weekly Summary of that agency:

"I have received your letter of May 31, 1949, subject: 'Petition for Extension of Fishing Area for the Japanese Trawler and Drag-net Fisheries in the Eastern China Sea.' You transmitted with your communication the Cabinet Decision dated May 10, 1949.

"In that letter you point out some of the problems of the trawling industry in the East China Sea and request that favorable consideration be given the petition for the extension of fishing area decided upon by the Cabinet on May 10, 1949.

"The Supreme Commander for the Allied Powers is well aware of these problems of the trawling industry. Acting on his instructions, Mr. Herrington has pointed out frequently to the fishing industry and government officials the actions which they must take to meet these problems.

"Japanese fishermen obviously would like to be readmitted to the high seas to conduct their operations with no restrictions other than those applying to all nations. The only way that these fishermen can achieve such an end is by convincing the Supreme Commander for the Allied Powers and the people of other nations of these two things.

(1) Japanese fishermen will respect the regulations and agreements controlling their operations, whether these regulations are established by the Supreme Commander for the Allied Powers, their own government, or by international agreement.

(2) Japanese fishermen and their government desire and are able to prevent over-exploitation of aquatic resources and to obtain the maximum sustained yield through adequate research and regulation.

"Such convictions cannot be created by promises and assurances. They can be fostered only by effective and continued performance. This requires that Japanese fishermen and the Japanese Government comply with and enforce regulations on fishing operations promulgated by the Supreme Commander for the Allied Powers and the Japanese Government. This also requires that Japan must develop and apply a program involving adequate research on problems of aquatic productivity and application of the results of these studies through regulations designed to maintain the productivity of aquatic resources.

"Please inform me if you and the other members of the Cabinet have considered these requirements and what action you have taken to satisfy them."

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SPECIAL AMERICAN MISSION STUDIES FISHERIES INDUSTRY: A press conference was held in Japan for a special American fisheries mission invited by the Supreme Commander for the Allied Powers to study the fisheries industry of Japan, according to the May 14 Weekly Summary of SCAP's Natural Resources Section. The mission

was composed of Edward W. Allen of Seattle, Washington, United States Commissioner on International Fisheries Commission, Frederick M. Bundy of Gloucester, Massachusetts, and Donald P. Loker of Terminal Island, California. The latter two are executives of fishing and fish processing companies.

In response to questions about their observations of Japanese fisheries and SCAP operations, Mr. Allen, acting as spokesman, stated that the Japanese Government and fishing industry should plan for the maximum possible sustained yield of fish from the authorized areas. This policy will not permit destructive fishing, but should be carried only to the point where subsequent years' catches will not be jeopardized.

SCAP's fishery policy has, he stated, not only been of enormous benefit to Japan but a substantial saving to the American taxpayer. What has been accomplished since 1945 with the aid of supplies and petroleum supplied by the United States through SCAP has been truly remarkable. Further progress, however, cannot be expected without better coordination of research, looking to greater knowledge of fish populations and points where danger of overfishing may occur.

The mission felt that for the Japanese fishermen to gain the good opinion of the people of other nations, the MacArthur Line must be scrupulously observed. To this end it is believed that patrolling of the line by the Japanese Government is essential and that SCAP personnel will be necessary to evaluate the reports and exercise surveillance over the Japanese patrol.

The fisheries of Japan are so important to the economy of the country and to Japan's international position that the mission felt that the Japanese Government should consider seriously the raising of the Fisheries Agency to the status of a Ministry, so that policy matters could be dealt with both on a domestic and international level as soon as a peace treaty is concluded.

The fisheries of Japan have always bulked large in international affairs of many nations. Today it appears that many of the old concepts are outmoded and never again will any nation be permitted to engage in destructive fishing off the coasts of another. The mission had particularly in mind the fisheries along the Pacific Coast of the United States and Canada which have been fully developed, studied, and managed by these countries to maintain their productivity and in which Japan has no historical interest. Any attempt by Japanese fishermen to enter these fisheries would be aggressively resisted.

"U. S. Special Mission Reviews Japanese Fisheries Situation," Fishery Leaflet No. 346, is a complete report and is available from the Fish and Wildlife Service, Washington 25, D. C.

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FISHING INDUSTRIES: The Fisheries Agency, Ministry of Agriculture and Forestry, submitted the following information on industries derived from fishing in Japan, according to the May 21 Weekly Summary of the Natural Resources Section of SCAP:

I. Preparations of Salted Fish and Dried Salted Fish

1. Mode of Fresh Fish Preparations

a. Scaling: No special machine is used for scaling salted fish and dried salted fish in Japan. If scaling is necessary it is usually done by hand using a knife.

b. Cleaning: Usually fish viscera are removed by hand, and fish are washed in tubs or tanks. Occasionally salmon intended for salting is cleaned by a special knife having a pipe inserted in the handle through which a small stream of water flows and washes away the blood and slime.

c. Skinning: Skinning machines are used only for skinning sea animals and sharks. Price of a small-type skinning machine is ¥70,000 (\$194 U.S.), and a large-type machine costs ¥180,000 (\$500 U.S.).

2. Salting with Dry Salt or with Pickling Brine

- a. Density of brine: 24-35 percent for salted fish, 15-25 percent for dried salted fish, and 3-5 percent for boiled dried fish.
- b. Number of days required for pickling in brine: 1 to more than 20.
- c. Proportion of salt used to the weight of fresh fish: 10-35 percent for salted fish, 8-20 percent for dried salted fish, and 2-8 percent for boiled dried fish.

3. Method of Sun Drying or Through Artificial Driers

- a. Drying methods: Few machines are used for making dried fish, salted dried fish, or boiled dried fish, except on rainy or cloudy days. Consequently, production in weight of dried fish per 24 hours cannot be estimated. Usually, fish are dried in the sun from three to seven days.
- b. Main types of driers used:
 - (1) The Ogura type for drying boiled fish: Coal or firewood is used for fuel.
 - (2) The Saikai type: Daily capacity of 4,900 pounds with four refills. Fuel used is coal or firewood.
 - (3) Price of machines in 1947: One machine about ¥150,000 (\$417 U.S.); setting up one machine about ¥30,000 (\$83 U.S.).

c. Cost price (labor and fuel for one ton of dried fish):

- (1) Price for one ton of smoked herring: Labor ¥12,450 (\$34 U.S.), fuel ¥5,300 (\$15 U.S.).
- (2) Price for one ton of boiled dried sardines: Labor ¥13,300 (\$37 U.S.), fuel ¥102,795 (\$286 U.S.).

4. Percentage of Water and Salt in Products Obtained, and Preserving Duration, and Selling Price in Japan

a. Percentage of Water and Salt:

Kind of Fish	Water (percent)	Salt (percent)
Salted	50-70	15-35
Salted dried	35-50	5-10
Boiled dried fish average under 20 percent water		

b. Preserving Duration: For salted fish about 120 days and for dried fish about 15-120 days.

c. Selling Price in Japan:

Product	Producer's Selling Price yen per 80 lbs.	Producer's Selling Price \$ per cwt.
Boiled dried sardine	3,190	11.08
Salted dried sardine	2,005	6.96
Salted sardine	980	3.40
Dried herring	2,680	9.30

Note: Conversion of values based on official rate of exchange of 360 Japanese yen equal \$1.00 U.S.

Product	Producer's Selling Price yen per 80 lbs.	Producer's Selling Price \$ per cwt.
Salted herring	1,190	4.13
Dried cuttlefish	4,655	16.16
Salted cuttlefish	1,250	4.34
Dried cod	4,450	15.45
Salted dried cod (cut open) ...	4,000	13.89
Salted cod (cut open)	1,170	4.06
Boiled dried silvery anchovy ..	3,585	12.45
Salted and dried mackerel	4,460	15.49
Salted mackerel	2,795	9.70
Salted and dried mackerel-pike.	2,140	7.43
Salted mackerel-pike	2,070	7.19
Salted bonito	3,915	13.60
Salted Alaskan pollock	1,790	6.21
Salted and dried horse mackerel	5,160	17.91

II. Salted Paste Preparation Based on Fish Used by Japanese Army: After the fish is cleaned with water and its bones and gills removed, the meat is minced by a meat grinder. The minced fish meat is put into a digestive tank with digestive enzyme and is fermented at 104° C. for six hours. The fermented fish meat is conducted from the digestive tank to a filtering tank and held at about pH, this being obtained by the use of hydrochloric acid, and then removed to a vapor-drying machine to be dried at 302° F. and 10 atmospheres. Equipment of a factory normally consists of two meat grinders, three digestive tanks, one filtering machine, and one vapor-drying machine. Raw material used might be shark.

III. Smoked Fish: Kinds of fish used are salmon, trout, herring, sardine, turbot, and flounder. Cold smoking requires about two months and warm smoking about 10 days.

IV. Fish Meal and Fertilizer

1. Number and Equipment: A total of 322 fish meal plants was designated by the Japanese Government as of January 1949; 59 fish meal plants are equipped with compressors and artificial drying facilities; 6 fish meal plants are equipped with modern facilities for all processes.

At present, only one company is operating actively. Two other plants will make machines to order. The average price of one machine was ¥450,000 (\$1,250 U.S.) as of October 1948.

V. Autolysates of Fish

1. Shiokara (brine-treated fish entrails): Generally, entrails of skipjack or oriental bonito are used for making shiokara. After entrails of fish are washed with water, they are cut into very small pieces and placed in a tub containing a 30 percent salt solution stirred often during the first month while fermenting.

2. Squid Shiokara (brine-treated squids): After squid are washed with water, they are cut into small pieces and placed in a tub with a 30 percent salt solution and stirred twice a day during the first month while fermenting. Sometimes yeast is added to aid the fermentation.

3. Fish Sauce: Fish cut into small pieces are placed in an enameled or stainless steel tub with 18-19 percent NaCl. In this case, pH value should be 4-5 and temperature 104°-122° F. When decomposition begins, the fish is filtered through coarse netting and after completion of the decomposition again filtered through closely woven silk gauze or through filtering machine, and then 1.5 percent of caramel is added.



Mexico

ADDS CERTAIN FISHING PRODUCTS TO IMPORT PROHIBITION LIST: Effective June 27, 1949, the Mexican Government issued a decree adding 207 items to the list of commodities (in effect since July 11, 1947) the importation of which are temporarily prohibited. No items included in Schedule I of the U. S.-Mexico Reciprocal Trade Agreement are among these additions, according to the Office of International Trade, U. S. Department of Commerce.

The fishery products, with Mexican tariff numbers and descriptions, included in the list are:

<u>Tariff No.</u>	
1.21.09	Fish, salted, smoked, preserved with salt or otherwise.
1.40.29	Manufactures of shell, coral or mother-of-pearl of all kinds, not specified.

The new items are understood to have been added to the import prohibition list as a measure to safeguard the stability of the new par value of the Mexican peso. The new par value, 8.65 Mexican pesos to one U. S. dollar, was declared by the Mexican government June 17, 1949, and has been accepted by the International Monetary Fund.

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NEW FISH CANNERY ESTABLISHED: Articles of incorporation for a new fish canning company have been approved, according to a June 9 American consular report from Mexico, D. F. The new company is capitalized at 500,000 pesos (\$102,987 U. S.), of which 300,000 (\$61,792, U. S.) will be financed by La Nacional Financiera, a government organization. The cannery will be erected at Magdalena Bay, Lower California. It will have a capacity of 1,000 cases a day, and it is expected to pack specialty products, including small sardines, Spanish mackerel, abalone, spiny lobster, tuna, clams, and oysters.

The company will have four small launches for operating in Magdalena Bay. They will probably also have a somewhat larger boat for freighting abalone and spiny lobster from camps along the coast. For the tuna, the cannery will have to depend upon deliveries from American fishing boats.

FORMATION OF A FISHERY BANK: According to the newspaper El Universal of May 16, there soon will be formed the "Banco de la Industria del Pescado" (Bank of the Fishing Industry), with a capitalization of 20,000,000 pesos (about \$4,000,000). According to the release, in addition to financing the fishing industry, the bank will initiate an educational campaign in Mexico to increase the consumption of fishery products.

CLOSED MEXICAN SHRIMP SEASONS: The Mexican Ministry of Marine is studying the advisability of placing a closed season for shrimp fishing in the Gulf of Campeche.

While in Guaymas, the Director of Fisheries ordered that a closed season of 45 days, effective June 1, be placed on shrimp fishing in the Gulf of California. The normal closed season for outside waters in this area does not begin until August 1 and lasts until September 30. As presently effective, the closed season for shrimp fishing in outside waters in the Gulf of California will now be from June 1 to July 15 and from August 1 to September 30.

PROHIBITS USE OF NETS FOR SHARKS: The Diario Oficial of May 19 carried an order dated May 2, 1949, prohibiting the use of nets or seines for the taking of sharks at the mouth of the Colorado River, Sonora, within nine miles of the shore, or in the northern part of the Gulf of California or Cortes Sea, within the limits of the marine territorial waters of Mexico, from March 20 to April 30 each year. The purpose of this order is to protect the totoaba which, according to the order, are spawning at that time of year.

Note: Conversion of values based on the rate of exchange of 4.855 Mexican pesos equal \$1.00 U.S.

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RESTRICTIONS ON FISHING PERMITS TO AMERICANS: Requests of American boats for permits to operate in Mexican Territorial waters must now be confirmed by the Mexican Directorate General of Fisheries or they will not be valid, according to items appearing in local papers and as reported on July 22 by the American Embassy at Mexico, D. F.

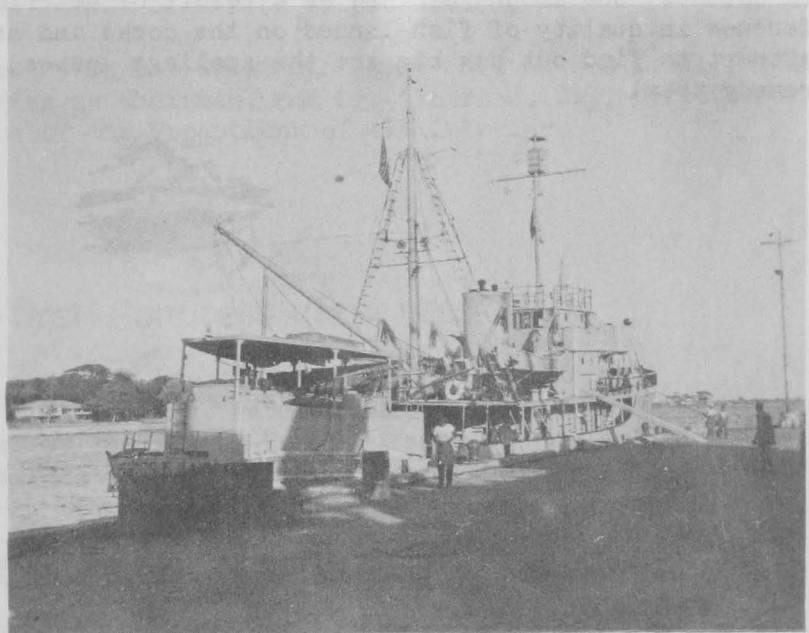
In addition, the Mexican Ministry of Marine announced that permits will no longer be issued to foreign boats for the purpose of fishing shark in Mexican waters. The reason given for this prohibition was that the sharks were being depleted.



Republic of the Philippines

SMALLEST TUNA SPECIMENS DISCOVERED: Discovery of the smallest specimens ever seen of two species of tuna fish in the Pacific Ocean was announced May 27 by the Administrator of the Service's Philippine Fishery Program, and the Director of the Philippine Bureau of Fisheries.

The specimens, the larva of the yellowfin tuna and the oceanic bonito or skipjack, were discovered in the extensive collections of microscopic animal life made by the American mission during its past two years in the Philippine waters. To Charles B. Wade, Aquatic Biologist of the Program, goes the credit for finding and identifying them.



An intensive search for facts in the life

SPENCER E. BAIRD, PHILIPPINE FISHERY PROGRAM RESEARCH VESSEL, DOCKED AT ZAMBOANGA, MINDANAO.

history of the various species of tuna has been going on for the past three years all over the Pacific, and this discovery is said to be a landmark in tuna research. Once the specimens were identified, it became apparent they were widely distributed throughout the southern Philippine waters. Collections were taken from the waters

of Antique Province, Panay, to the Pacific Ocean west of Halmahera Island and south in the Celebes Sea to Celebes and Makassar Strait.

According to Wade, the significance of this finding, as it pertains to the spawning grounds of the Pacific tunas generally, will have to await research in such far away places as New Guinea, Australia, and the Oceanic Islands. But the finding of the specimens proves that the Philippines constitute the spawning ground for some of the Pacific tunas.



Turkey

PLANS EXPANSION OF FISHERIES: An official of the Turkish Ministry of Economy and Food Supplies was sent to Denmark for two weeks to study the Danish fishery industry. He collected information in order to plan for the expansion of the Turkish fishery industry.



United Kingdom

GRIMSBY RESEARCH LABORATORY TO STUDY FISH SPOILAGE: The British Ministry of Food has recently opened a research laboratory at Grimsby, the largest fishing port in Great Britain, according to the May 28 issue of Fish Trades Gazette. The purpose of the laboratory is to insure that the fullest use would be made of fish caught and landed at Grimsby. It will study the causes and rate of deterioration in catches; the amount of loss as a result of deterioration; investigate the difference in quality of fish landed on the docks and as sold in inland towns; and attempt to find out how big are the spoilage losses, where they occur, and how to remedy them.

