Australia

TUNA CATCHES IN NEW SOUTH WALES: Conclusive evidence of the tuna potentialities of Australia's south-eastern waters was provided by the fact that there were some 300 metric tons of tuna in the Narooma and Eden canneries' freezers in October 1949, according to that month's issue of the Fisheries Newsletter of the Australian Director of Fisheries.

The tuna were Southern bluefin. They were caught by trolling. This method of taking tuna is within the financial means of most fishermen, and is proof that some species of tuna, at least, can be taken in commercial quantities in Australian waters by trolling.

Since the tuna run has been much heavier than usual this year, fishermen from Ulladulla to Eden have been encouraged to go after them.

The tuna averaged about 16 pounds. They were taken only about five miles out, but about 25 to 40 miles out there were greater quantities of much larger tuna, around 40 pounds, according to fishermen.

Trial shipments to the United States of both fresh and frozen tuna are contemplated.

The Commonwealth Fisheries Office has been exploring various means of encouraging the development of pelagic fishing for tuna and other good quality surface fish, and this work is now beginning to show results.

Canada

EXPERIMENTAL FISH-COOKERY KITCHEN ESTABLISHED: An experimental kitchen for fish cookery has just been established and completed in Ottawa by the Canadian Department of Fisheries, according to that agency's December 1949 Trade News.

The kitchen will be the headquarters for an initial staff of six home economists who will travel throughout the country giving demonstrations and lectures on fish cooking to women's groups, schools, and others. New recipes and the knowledge gained through experiments conducted in the kitchen will be passed on to consumers. It is expected that the kitchen will be used more for testing and creating new recipes than for demonstration.

Colombia

BUILDING FISHING VESSELS IN SWEDEN: A company from Colombia, with Government backing, has ordered from a Swedish concern three special-type fishing vessels of about 130 gross metric tons each and a complete herring oil factory, reports the December 24, 1949, issue of The Fishing News, a British periodical.

These vessels are to be used for fishing off the Galapagos Islands. Of wooden construction, they will each be equipped with 200 h.p. single-screw motors, refrigeration, a fully insulated fish hold capable of being kept at -15° C., and accommodations for a crew of 12. They will combine Swedish and Pacific Northwest Coast features of design and will look very much like a West Coast purse-seine troller.

Certain features of the vessel conform to Swedish design. The bow is plain and curved in the Swedish west-coast manner; the superstructure is well forward and is curved at the forward end, being one deck in height with most of the accommodations in the deckhouse; the navigating bridge is at the forward end and is "buried" into the aft end of the pilothouse. The mast is at the aft end of the superstructure, and there is a roofed-in crow's nest towards the top, just above the crosstrees with auxiliary control of the main propelling machinery possible from this position. A long derrick, stepped at the bottom of the mast, serves the aft end of the hull, which either can be employed for bait tanks or for the usual purse-seine table. Accommodations and machinery are forward, while all fishing gear is aft.

Denmark

FISH MEAL FROM STARFISH: A fish meal factory at Esbjerg, Denmark, has begun the processing of starfish into fish meal during the months when herring is not available, states a December 14, 1949, American consular dispatch from Bremerhaven, Germany. Starfish have been found to yield 30-35 percent meal with a 25-30 percent protein content. Starfish meal is reported to be suitable for chicken and pig feed.

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FRESH-WATER TROUT INDUSTRY: An application of the Trout Exporters Central for exclusive rights on all shipments of Danish fresh-water trout to the United States was approved on December 1, 1949, by the Danish Ministry of Fisheries, according to a December 15 report from the American Embassy at Copenhagen. Exports will be handled through the newly-formed private firm, Lynfrost A/S (The Quick-Freeze Company) of Esbjerg, Jutland. The Ministry stipulated that Trout Exporters Central is required to admit to membership any and all Danish producers and exporters who may wish to participate in this trade with the United States.

The Exporters Central, which represents both producers and exporters, has held a monopoly on the export of Danish trout to European countries (except Great Britain) for several years. However, trade with the United States has not been channeled through this organization in the past.

Danish exports have increased in recent years. Practically all the Danish hatchery-raised trout are exported, mainly to Switzerland, France and Italy.

The industry expects to expand its shipments to the United States to 400 metric tons in 1950.

Danish Fresh-Water Trout Exports, 1945-49

Year	Total Exports		Exports to U.S.	
	Metric Tons	Value (U.S.$)	Metric Tons	Value (U.S.$)
1945	400	478,400	1/	-
1946	825	728,000	1/	-
1947	980	894,400	43	38,480
1948	1,255	1,206,400	132	129,584
1949 (First 11 mos.)	1,556	1,539,200	190	200,512

1/Data not available.
Note: Values converted on the basis of 1 Danish krone equals 20.8 cents U.S.(predevaluation exchange rate).

The modern pond or hatchery trout industry started in Denmark about 1890. Natural conditions have favored the industry. At present there are over 100 trout hatcheries operating in Denmark, all located in Jutland. A Danish hatchery may have from 20 to 80 ponds located near a fresh-water stream.

There are two varieties of trout produced commercially in Denmark--rainbow and brook trout. Other varieties have been tried from time to time, but found to be less suitable. Similarly, experiments in crossbreeding have not been commercially successful.

After the trout eggs are artifically fertilized they are hatched in shallow tanks under carefully supervised conditions. Hatchery feed consists of chopped or ground salt-water fish and fish offal. Slaughterhouse refuse was at one time widely used as hatchery feed but today only fresh fish offal is used in the hatcheries. As the young trout develop, they are moved to progressively larger outdoor ponds until they are two years old. At this point, they weigh approximately 200 grams (approximately 7 ounces) and are ready for market as "portion" trout. Many are shipped as live fish in specially constructed tanks which can be carried either by rail or truck to the European market, or they may be dressed and packed on ice, or quick-frozen.

Exports to the United States are all quick-frozen trout. After freezing at -40° C., the trout are glazed; they are then wrapped in paper and glazed a second time. In this way, the fish can be shipped or stored for a long period without loss of quality or flavor so long as a constant storage temperature is maintained.

The average wholesale (export) price of Danish trout is estimated to be about 40 cents per pound. To produce one pound of finished trout, about 10 pounds of food is required at a total cost of around 15 cents.

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TO FISH IN BARENTS SEA: Ten Danish cutters, of about 50 metric tons each, plan to fish continuously from March to May in Barents Sea north of Norway, according to Danish newspaper reports published in the January 5 Fiskets Gang, a Norwegian fishery periodical. Motherships, of 300 to 400 tons, from Esbjerg, Denmark, will service the cutters at 10-day intervals. The motherships will carry food, supplies and fuel north, and on the southward trip will deliver the fish to Esbjerg or an English port.

From previous experience, it is believed that the cutters can take a full load of over 44,000 pounds during this period.

The research vessel, Jens Vaever, of the Danish Ministry of Fisheries is expected to aid the fishermen in this area.

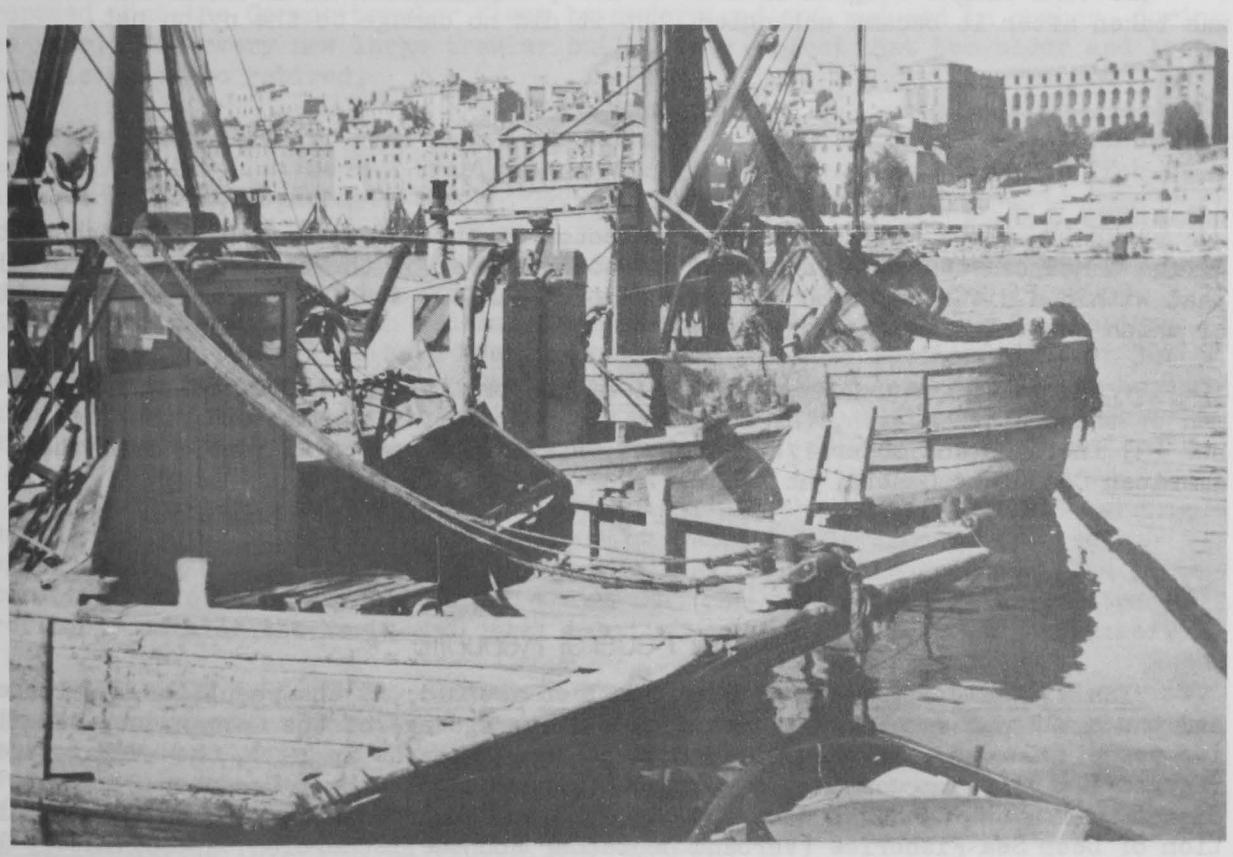
TRIPLES VALUE OF CANNED FISH EXPORTS IN 1949: The young Danish fish canning industry has tripled the value of its exports since 1947, according to Danish newspaper reports. In 1949, the value of the canned fish exports amounted to Kr. 20 million (approximately $4,160,000 at predevaluation rate of exchange).

The exports consisted mainly of sardines, mackerel, and a small amount of tuna. A large amount was shipped to England, and important quantities to Sweden, Germany, Italy, and Austria. Some has been sold to Israel and Uruguay, with lesser amounts to the United States and Australia.

Currently the canning plants are working on an English order of 100,000 cases worth between Kr. 6,000,000-7,000,000 (approximately $870,000-$1,015,000 at postdevaluation rate of exchange).

France

FISHING INDUSTRY WORRIED ABOUT EASING OF FOREIGN TRADE RESTRICTIONS: France, as a member of the Office of European Economic Cooperation, has agreed to suppress controls on 50 percent of imports and exports. This has caused considerable appre-



VESSELS OF THE FRENCH TRAWLER FLEET IN THE HARBOR AT MARSEILLES.

hension among commercial fishermen at Boulogne-sur-Mer (Pas-de-Calais), France's largest fishing port, according to a December 5 report from the American Consulate at Le Havre.

They fear the competition of imports of certain kinds of fresh fish from Denmark, Holland, and Belgium, and imports of herring and frozen fish from Norway and Iceland. All of these countries are able, they claim, to offer lower prices than can French fishermen. In addition, the reconstitution of the German fishing fleet will force them to find other foreign outlets for their products.

Protests have been made to the French Minister of the Merchant Marine.

NYLON GILL NETS FOR TUNA: A leading French nylon netting manufacturer has experimented with nylon gill nets for tuna in the Mediterranean Sea, according to Fiskaren, a Norweigian fisheries publication. Each length of gill net consisted of 10 nets--each 367 feet long, 27 feet deep and made up of 6.3-inch stretched mesh.

During the tests, a hard nylon thread was placed in various positions in the string of hemp nets. With each new trial, the position of the nylon net was changed. It was demonstrated that the average catch for the nylon net was 4 to 5 times as large as for the tanned hemp nets. This was attributed to the light weight of the net and to less color reflection because of the white color of the net in the water. Fishing occurred in the dark of the moon at depths of 5 to 6 fathoms.

The tuna caught weighed from 26 to 110 pounds. A shark 23 feet long also was taken after it became entangled, but it did no damage to the nylon net.

French West Africa

DEVELOPMENT OF FISHERIES: The Inspector General of Fisheries of French West Africa announced that the results of a recent survey of the coastal waters revealed that within a distance of 60 kilometers more than 600 species of fish were caught of which one-third were edible.

Arrangements are under way to (1) form cooperatives of the existing fishermen of the coastal region, (2) increase the number of fishermen and fisheries and (3) increase and modernize equipment, states a December 22 report from the American Consulate General at Dakar.

German Federal Republic

FISHING FLEET: Vessels of Present Fleet are Old: As the result of war losses and the small number of new launchings, the average age of the German deep-sea fishing vessels in use today has risen to 21½ years, whereas in 1939, the average age reached 12½ years, according to newspaper reports quoted by a December 29, 1949, dispatch from the American Consulate General at Hamburg. According to the Association of Deep Sea Fisheries (Verband Deutscher Hochseefischereien) approximately 100 of their 223 fishing vessels have been in service for 25 years or more.

These old and generally small fishing vessels no longer meet the present-day requirements for profitable operation. The size limitation permits their use only in the North Sea where they operate chiefly during the herring season. The number of old ships laid up is steadily increasing and now fifty fishing vessels are not being operated. German fishing circles hope that it will soon be possible to substitute these unprofitable and antiquated ships with new ones constructed in accordance with the new shipbuilding regulations.

A shipyard in Hamburg reports the laying of the keels of three fishing trawlers of 500 gross-registered metric tons which will be launched in April 1950.

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Trawlers To Be Purchased: The best 3 of the 6 Belgian trawlers now chartered by a Bremerhaven firm probably will be purchased by the charterer and converted to German registry, states a January 11 dispatch from the American Consulate at Bremerhaven. The price per vessel will be between $178,500 and $190,400. The so-called Petersberg Agreement of November 1949, by eliminating the 400-metric-ton size restriction on German trawlers, made possible German ownership of the 450-ton Belgian trawlers.

Some privately-owned Icelandic trawlers may also be converted to German registry if the about-to-be negotiated trade agreement between the two countries does not provide for sizable German imports of Iceland fish.

Trawler Fleet To Be Modernized: The Association of German Trawler Owners has proposed that the German trawler fleet be modernized and reduced in number during the year. For every new large trawler built, they suggest that two older and less economic units be retired.

Free importation of iced fish into Germany is still opposed by the Association because it feels that German trawlers are discriminated against by other fish-producing countries, especially the United Kingdom and Norway.

Trawlers to be Constructed: Construction of an unlimited number of trawlers up to 650 gross registered metric tons is permitted by the November 17, 1949, agreement between the German Federal Government and the Allied High Commission. It is estimated that plans have been drawn up for the construction of about 30 new trawlers this year, states a December 14 American Consular report from Bremerhaven. Most of the trawler companies have planned ships under 600 gross registered metric tons.

U. S. Trawlers in Germany to be Lengthened: At the end of the 1949 herring season, the three smallest of the 12 American-owned trawlers now chartered by German fishing companies were laid up preparatory to being lengthened. The firms operating these three vessels do not think that the vessels could be operated profitably outside the North Sea until the fish-carrying capacity is increased.

MUSSEL BEDS THREATENED: Germany's supply of mussels comes largely from the shallow, muddy waters around the East Frisian Islands, where the main harvesting is done in the late fall. In 1946, the parasite Credipula fornicata was discovered in a mussel bed near Norderney and many once prolific beds are now practically barren. No restorative measures have been taken, and the extinction of the beds is thought inevitable by several biologists.

NOTE: Values converted on the basis of 1 Western Deutsche Mark equals 23.8 cents U. S. (postdevaluation rate of exchange).

WHALING: A T-2 American tanker, Herman F. Whiton, recently arrived in Kiel, Germany, where it will be converted into a whaling mothership, states a January 11 report from the American Consulate. To operate the whaling fleet and to distribute the whale byproducts, a new corporation has been formed by a Dusseldorf soap and scouring powder company.

Supposedly being financed by a San Francisco firm, the German whaling fleet will consist of the extended T-2 tanker as a mothership and 10 former corvettes as killer boats. The fleet is expected to be in operation in time for the 1950/51 Antarctic season and will be manned by experienced German personnel.

EXPORTS CANNED FISH TO UNITED STATES: Two small shipments of German canned fish (1,500 cans) have been made to the United States in recent months.

These shipments represent the first German fish exports to the United States since the war. Restaurants or specialty grocers catering to German clientele are believed to have ordered the shipments consisting of canned small shrimp and small herring (rollmops).

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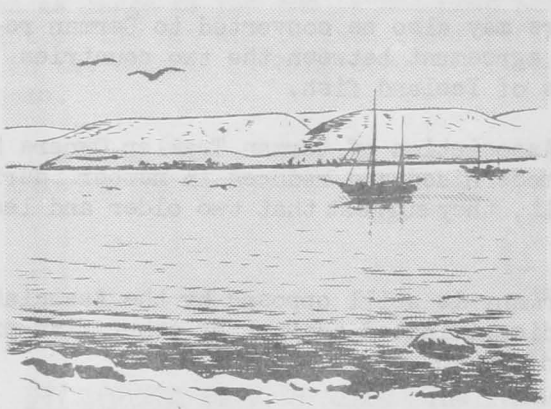

FISHING OFF THE COAST OF ICELAND.

1949 PROGRAM FOR IMPORTS OF ICELANDIC FRESH FISH CONCLUDED: The 1949 program for the German importation of fresh fish from Iceland was concluded by December 1, states a December 2 American Consular Report from Bremen. The 20 or more trawlers which the Icelanders have used to catch fish under their German contract, will be directed in the future to English ports. However, the English market is now well supplied with fish. Several English trawlers are being tied up, and prices there are lower than in Germany at current rates of exchange.

Since the Icelanders do not want to lose the German market, they are expected to try to negotiate an all-inclusive trade agreement with the German Federal Republic early in 1950 in which provision will be made for continuing Icelandic fish landings in Germany.

Fish are scarce in the waters close to Germany. German trawlers must fish a large part of the time now on the grounds off Iceland. The German fishing industry does not see how it can compete with the Icelanders without protection by the German State.

Germany (Russian Zone)

NEW FISHING CUTTERS BEING BUILT: The Organisation der Fischereiwirtschaft in Sassnitz, Russian Zone of Germany, is to build 86 new "volkseigene" (fishing cutters), a December 2 American consular report states. The cutters will be approximately 80 feet long, will be able to carry 12 metric tons of fish, and will be equipped with modern radio equipment. They are intended to be used in the Baltic Sea east of Bornholm, and along the Swedish Coast. Already the Organization has 14 cutters in operation in this area.

Iceland

FISHERIES OUTLOOK FOR 1950: Prospects for the maintenance of Iceland's demersal fish production during the first six months of 1950 at the level which existed in the corresponding period of 1949 are only fair, states a January 12 report from ECA's Special Mission to Iceland. The main catch season of the year (January-May) is late in getting under way because of the Government's delay in providing for continuation of the guaranteed price and subsidy system, or in finding another means for compensating the motor vessel fishing fleet for its operating losses which arise from high production costs and the failure of recent herring seasons.

Declining fish prices on European markets and difficulties confronting Icelandic iced and frozen fish in the United Kingdom and Trizone Germany (because of expanded fish production by those countries) may adversely affect the amount of the demersal fish catch. Marketing obstacles in Northern Europe are very likely to accelerate the shift to salting for Mediterranean and perhaps Latin American markets.

No herring has been caught thus far this winter season, and hopes have just about disappeared on that score. Herring prospects are, therefore, dependent upon the summer season of 1950 (July to September). Since the last five summer seasons have produced a disappointing catch, expectations are not high for the coming summer.

Fisheries constitute an important segment of the Icelandic economy. Estimated value of the output of the fisheries and fish processing industry (including production of small plants making fishing gear) in 1949 was 220,000,000 kronur (approximately $33,880,000 at predevaluation value of krona), or 18 percent of the value of the gross national product. It is forecast that the value of production will fall slightly in 1950 to 210,000,000 kronur (approximately $22,470,000 at postdevaluation value of krona), or slightly under 18 percent of the total national product, because of declining fish prices.

Several technical assistance projects in the field of fisheries are contemplated. Recently Iceland filed for the services of an American efficiency expert to advise and assist in reduction of production costs and in plant modernization in the fish freezing plant industry.

NOTE: Values converted on the basis of: predevaluation rate of exchange--1 Icelandic krona equals 15.4 cents U. S.; postdevaluation rate of exchange--1 krona equals 10.7 cents U.S.

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MAY HAVE DIFFICULTY MARKETING ITS ICED FISH IN 1950: It is believed that the United Kingdom and Germany, which have increased their production of fishery products, will not contract in 1950 for large quantities of iced fish from Iceland as they did in 1948 and 1949, reports the American Legation at Reykjavik in a dispatch dated November 3. Consequently, a large part of the Icelandic catches in 1950 probably will have to be salted since trawler fish generally is not quick-frozen (usually fresh fish, not over 24 hours old, is used for that purpose).

Japan

FISHERIES RESEARCH: The head of the Fisheries Agency of the Department of Research and Statistics, has visited the United States to observe the facilities and organization for fisheries research, the December 3 Weekly Summary of SCAP's Natural Resources Section reports. The purpose of his trip was to gain a first-hand acquaintance with the methods by which other countries are solving their fisheries problems in the belief that this knowledge will assist in the reorientation of fisheries research in Japan.

The Japanese have conducted a great deal of fisheries study or research. No other nation has had so many fisheries research stations or vessels. Both the national and prefectural governments have enthusiastically supported research stations and staffs. Private industry also has been most active in some fields of research, especially fisheries technology.

During World War II fisheries research activities were seriously curtailed because of economic conditions and destruction of equipment and property. However, since the surrender many of the fisheries stations and vessels have been reactivated, assisted by annual increases in budgets. By 1948 about 250 fisheries research stations were operated by prefectural governments, 30 were maintained by universities and colleges, approximately 30 by the central government, and about 20 by private industry. These totals include numerous branch and field stations.

JAPANESE PURSE-SEINE OPERATION IN KANAGAWA PREFECTURE.

Before the war, Japanese research devoted much attention to exploitation of new fishing grounds, improved methods of locating and catching fish, and canning, smoking, and processing of fish products. The emphasis was on immediate production through expansion and exploitation of new fishing areas, especially overseas. Little attention was given to problems of conservation to sustain high levels of yield in long-established fisheries, especially in coastal waters. Admittedly surprising is the relatively high production maintained in Japanese coastal waters in spite of what is regarded as very intensive fishing, compared to fishing efforts in other nations. Fisheries research stations and vessels, however, did stress study of migrations of fish and improved techniques of catching fish for the purpose of maximizing production as rapidly as possible.

Japanese scientists have done excellent work on the cultivation and artificial propagation of food oysters and clams as well as the production of cultured pearls. Also, their workers have made many contributions in the theoretical and academic fields of classification of fishes, oceanography, and the life histories and habits of many species. Much of their information could be applied to conservation problems, but the Japanese administrators in the past have shown little interest in fisheries management for the purpose of obtaining optimum yields. Perhaps the lack of coordination and planning of research programs conducted by various government institutions was largely due to faulty administration. Also, the direction of these programs into fields where the results were primarily of academic interest or of value for immediate expansion of production was no doubt caused by the administrative policies in effect.

The general programs of research were consistent with the policy of expansion followed by the Japanese before World War II. In a desire to increase their profitable export trade, the Japanese did not hesitate to encroach on the fishing grounds of other nations. They conducted their operations in those areas with the same disregard of sound conservation programs that was typical of the exploitation of fisheries in their home waters. This encroachment as well as the disregard of conservation practices created international friction and gave the Japanese the reputation of being poor neighbors.

During the Occupation, Natural Resources Section has extended advice and guidance in the field of fisheries research to Japanese Government agencies, private institutions, individual scientists, and the industry in general. This activity has included the explanation of new policies in the field of fisheries administration and fisheries conservation programs, and assistance in reorganizing the Fisheries Agency to create a special research department. This reorganization will result in greater recognition by the government and industry of research programs in accordance with those sound fisheries management policies and principles that are the basis of good fisheries administration in many other nations of the world. The plan of reorganization recognized the need for coordinated and cooperative activities of the various research units of the national and prefectural governments to provide information as a basis for any sound fisheries management program.

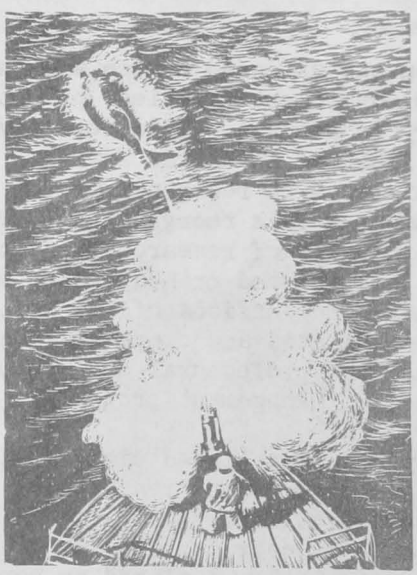
As part of the new program, the Fisheries Agency has established eight regional research stations in strategic geographical locations. Each station is to specialize in those phases of over-all fishery problems most important to its district. The work and personnel of all stations are to be closely coordinated by the central administrative office at Tokyo. New emphasis is to be placed on population studies, collection and analysis of catch statistics, and migrations and life histories of fish. These investigations are to form a basis for the solution of fishery conservation and management problems. National, prefectural,

and private institutions will participate on a voluntary basis and will be coordinated under this plan in several of the major investigations such as that on sardines.

Emphasis also has been placed on the necessity for Japan to change its prewar concept of its right to intrude on the fisheries of other nations without consideration for the interest of those nations. Japanese administration and research personnel are being encouraged to consider that fishery resources on the high seas and in coastal areas beyond territorial limits should be fished in accordance with international agreements and in harmony with sound principles of conservation and utilization.

Some time may be required before the full significance and benefits of these new concepts for utilization of aquatic resources and cooperative relations with other nations in the high seas fisheries can be appreciated and put into effect by the Japanese Government, research workers, and the fishing industry. Mass education along these lines is complicated by the pressing need to increase fisheries production and expand fisheries exports to pay for imports required in the general economy. This mass education can be accomplished only if the Japanese Government and industry are convinced of the benefits which eventually will be derived from these policies when applied to local as well as high seas fisheries.

Some government administrators, government and private research workers, and members of the industry have proved they understand the significance of management of Japanese fisheries in accordance with the advice and guidance of Occupation personnel. This minority will educate greater numbers of individuals. Eventually the full development and maintenance of a program of fisheries research and management will give Japan more benefits through greater production from its local aquatic resources. This accomplishment also will encourage ready acceptance by other nations of Japan's participation in high seas fisheries.



HARPOONING A WHALE.

WHALING INDUSTRY: For the fourth time since the beginning of the Occupation, a two-fleet whaling expedition has left Japan to engage in whaling in the Antarctic.

Accounts of whaling operations in Japanese literature date from 200 BC. Although the industry in coastal waters assumed major proportions as early as the 17th century, Japan has been internationally prominent as a whaling nation only since 1934. In 1940 the country ranked third among the whaling nations of the world, and its catch was exceeded only by those of Norway and England. This rapid rise in prominence was due to participation in pelagic whaling in Antarctic waters.

The annual Japanese catch in the Antarctic increased from 213 whales taken by one factory ship in the 1934-35 season to 9,948 whales taken by six factory ships during the 1940-41 season. Production of whale oil and meat increased from 2,034 to 120,125 metric tons. Less important than pelagic whaling in terms of total production during the decade immediately prior to World War II were whaling

operations conducted from coastal stations in Japan and several of its colonies. During 1931-40 Japanese coastal whalers caught an annual average of 1,734 whales and produced an annual average of about 25,000 metric tons of products.

Japan never became signatory to the international agreements for the regulation of whaling promulgated by International Whaling Conventions in 1937 and 1938. Their indiscriminate hunting, without thought to conservation of whale resources, gained them an unenviable reputation.

With the beginning of the war in the Pacific in 1941 all pelagic operations were curtailed. Coastal operations continued, but they declined, particularly during the late years of the war, and they ceased with the surrender in August 1945.

Because of a critical shortage of protein foods and edible oils in Japan at the beginning of the Occupation, the Supreme Commander for the Allied Powers authorized, on September 22, 1945, the resumption of fishing and whaling operations in certain designated coastal areas. The Japanese Government was notified on November 3, 1945 that all whaling operations would be conducted in strict conformity with international whaling regulations.

Because of the success of the first expedition, and the continuing pertinence of the reasons offered in justification of it, similar expeditions were authorized to operate in Antarctic waters during the three following seasons. The importance of these expeditions to Japan and the United States is shown by the fact that the three expeditions which operated during the 1946-47, 1947-48, and 1948-49 seasons produced approximately 137,000 metric tons of products valued at about $45,000,000. Of equal significance is the fact that production per blue whale unit[1/] rose from 37 tons in 1946-47 to 46 in 1947-48, and to 50 in 1948-49.

In addition to insuring compliance with international whaling agreements, the representatives of the Supreme Commander have initiated technological studies to improve processing equipment, such as that for extracting oil from blubber and bone, and processing techniques, and have supervised projects designed to furnish scientific information to aid in establishing international regulation of catch.

In the coastal whaling industry, where an average of 1,500 whales are caught and 25,000 metric tons of products are produced annually, the Supreme Commander's efforts have been directed toward encouraging (1) democratization of the industry as rapidly as economic conditions permit, and (2) adoption of technical improvements. A corps of technicians has been formed to inspect coastal industry as required by international agreements. The major whaling companies have initiated research in newer and more efficient catching equipment, such as the electric harpoon.

The Japanese Government officials directly concerned with the control of the whaling industry and the operating companies have displayed a clear understanding of the spirit and aims of international whaling regulations. Acting jointly, they have undertaken for the first time in the history of Japanese whaling a series of scientific studies designed to furnish information which not only will contribute to the protection of whale stocks in Japanese coastal waters, but also will add to the general pool of statistical information being compiled by the International

1/ One blue whale unit equals one blue, two fin, or six sei whales.

Bureau for Whaling Statistics in Sandefjord, Norway. Further, numerous individuals, both government officials and representatives of the major whaling companies, have displayed a major change from prewar years in their attitude toward international cooperation, expressing the desire that Japan be permitted to adhere formally to the International Whaling Convention now in force, and become a signatory to that Convention.

Madagascar

WHALING EXPEDITION: The French magazine Marches Coloniaux of December 3, 1949, reported that La Societe des Peches Coloniales a la Baleine, had just completed a whaling campaign in the waters south of Madagascar and around Fort Dauphin and Sainte Marie, according to a December 19 report from the American Consulate at Tananarive. The expedition consisted of eight hunting ships and one factory ship, the Anglo-Norse. The crews consisted of about 250 Norwegians, accompanied by two Frenchmen, including a representative of the Institut de Recherches Scientifiques de Madagascar.

For 120 days of work, the apparent catch was 1,330 whales (about 11 to 12 a day) and 10,000 metric tons of oil.

Colony of Mauritius

FISHING VESSEL TO BE PURCHASED: A loan of £35,000 (approximately $98,000) has been made to a local company by the Government of Mauritius as part of the purchase price (£151,350, approximately $423,780) for an ex-Royal Navy corvette. The vessel will be used to fish between Mombasa, the Chagos, the Seychelles, South Africa and Mauritius, reports a December 16 dispatch from the American Consulate at Mombasa, Kenya Protectorate.

Norway

ELECTRO-FISHING: Electro-fishing is being carried on experimentally in Norway with such success that the Norwegian government has called the technique revolutionary, according to reports in the Bremerhaven press quoted by a January 11 dispatch from the American Consulate at Bremerhaven.

A recording marine sounder is used in the Norwegian system which permits a selection of large or small fish to be caught. No details are at present available as to the actual apparatus used.

Rudimentary electro-fishing technique used in the late summer of 1949 to catch tuna was also mentioned. In this type of fishing a lure is used which gives the tuna a severe electric shock when the fish strikes, and increases the chances of landing the catch. Although tuna are more or less a rarity in northern waters, they were encountered more frequently than usual in the North Sea during the 1949 herring season.

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FISHERMEN TO USE ASDIC FOR LOCATING FISH: Asdic will be used within the foreseeable future by the Norwegian fishing fleets to locate fish before determining their depth with depth finders, according to Norwegian newspaper reports of a statement made by the Director of the Defense Research Institute.

Derived from the first letters of Anti-Submarine Department Investigation Committee, Asdic (originally an anti-submarine weapon) uses high frequency sound waves sent out horizontally in contrast to depth finders which send out waves vertically. Asdic in large sizes is already being manufactured in Norway, and now a less expensive type for fisheries use is being constructed.

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PURSE SEINE WITH BAG: A new purse seine with a fish bag or bunt for hauling the catch on board the vessel has been constructed and patented by Ragnvald Giske of Ellingsøy, Norway, according to the December 13 Fiskaren, a Norwegian fishery periodical.

The net is knitted with relatively large meshes in the end sections and smaller meshes in the middle portion. It is also fitted with a fish bag which is equipped with a purse line and a hoisting line so that the bag can be pursed around the catch within it. After hoisting on board the vessel, it is emptied through the end, which can be opened. The bag's lower end then is pursed again and it is lowered for another filling. This operation continues until the seine is empty. By this means the seine can be emptied without use of the landing net or brail, which is of considerable importance, especially in bad weather.

The seine can be set and pursed from the large boat. It is simple to make and can be used for all kinds of purse seining, from small pollock to tuna. Because the fish bag is constructed so that it can be lengthened according to the purse seiner's size, the seine is well suited for fisheries where the catch is to be handled on board.

ESTABLISHES PRICES FOR LOFOTEN COD: Prices to the Norwegian fishermen during the current Lofoten fishing season have been set at Kr. 0.40 per kilo (2.54 cents per pound) for drawn cod without regard to whether the fish are for the fresh or frozen market, or for salting or drying. This is an increase over 1949 of Kr. 0.07 per kilo (0.44 cents per pound) for fish intended for salting and drying, and a decrease of Kr. 0.03 per kilo (0.19 cents per pound) for cod for the fresh and frozen trade, according to the December 13 Fiskaren, a Norwegian fishery periodical.

GUARANTEED PRICES FOR HERRING: Norwegian herring fishermen have been guaranteed by the Price Directorate an average price of $25.76 per metric ton for large winter herring and $21.00 per metric ton for spring herring for the first 180,000 metric tons of each type, according to December 8 Fiskaren. A sliding scale then drops the prices 78 cents per metric ton for each succeeding 45,000 metric tons.

Compared with 1949, the 1950 scale of prices results in the same return for 180,000 tons to as much as $1.04 per metric ton more if 405,000 metric tons are taken.

Prices mentioned are the guaranteed average return to the fisherman. Nothing has been said as to prices for herring according to its utilization—for icing, salting, and reduction to meal and oil.

NOTE: Values converted on basis of 1 Norwegian krone equals 14 cents U. S.

NEW DEPTH SOUNDER: After being tested on a herring research vessel of the Directorate of Fisheries, construction of 300 Norwegian echo sounders has been begun by a Norwegian firm, according to a translation from Fiskaren. Originally developed by the Defense Research Institute, the device was adapted to fishing vessel use. All the vital parts are made in Norway. It is fully patented and is expected to sell for about $1,400. The complete echo sounder is mounted in a case which is 21" x 14" x 11". Weighs about 95 pounds, and at 12 volts uses 6.5 amperes. It operates on three depth ranges: from 0 to 100 meters (0-55 fathoms), 0 to 500 meters (0-273 fathoms), and 500 to 600 meters (273-492 fathoms). The transducer system consists of a single strong metal part (7" x 8" x 3½") fitted into a fish-shaped block of wood bolted to the outside of the vessel. Holes in the hull, therefore, need not be larger than required for the leads to the transducer.

The transducer works at the same time as a receiver of the echo and induces a current which goes through an amplifier to the recorder. Like the English echo sounder this is an important simplification which makes the sounder cheaper. Construction of the transducer makes it possible to obtain a considerably greater effect than the crystal will withstand in the American sounder.

For registering the echo, the same paper is used as in the English sounder. As is known, the newer models of the American and English sounders register the depth along a circular periphery, therefore, the bottom's appearance is deformed. The Norwegian sounder registers the depth along a straight line and gives a true-to-nature picture of the bottom.

Another advantage of the Norwegian sounder is that amplifying in the upper meters of the registering belt is weakened. On the American and English sounders, registering is by reverberations blackening that part of the paper which represents the uppermost water layer. It is, therefore, difficult to detect, for example, a school of fish which stands shallower than about 10 meters (5½ fathoms) if one wishes to register the bottom at the same time. The Norwegian sounder registering eliminates this reverberation belt by an automatic decrease in the amplification, making possible the registering at the same time of schools of fish practically under the bottom of the vessel and the bottom.

On the research vessel, the bottom was registered down to 492 fathoms when the vessel was not under way, and down to 217 fathoms at full speed, a much better result than given by the vessel's regular equipment.

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EUROPE'S LARGEST HERRING OIL FACTORY IN OPERATION: Norway's and Europe's largest herring oil factory began operations during January in Egersund in Southwestern Norway, states a January 21 report from the Norwegian Information Service. Built at a cost of about 5 million kroner (approximately $700,000) it will have a capacity of about 15,000 barrels a day.

FISHERIES HAVE SECOND BEST YEAR IN 1949: With a catch of 1,035,122 metric tons, valued to the fishermen at Kr. 295,000,000 (approximately $59,442,500), the Norwegian fisheries in 1949 had their second best year. In the record year of 1948, the catch totaled 1,297,215 metric tons, valued at Kr. 316,000,000 (approximately $63,674,000). Poor weather in the early part of 1949 was the main reason why last year's catch did not equal that of 1948, states a January 14 report from the Information Service.

This year a below-average yield is expected by the Lofoten cod fisheries, according to a statement by the Minister of Fisheries.

Demand for Norwegian fish abroad (particularly processed fish), says the Minister, cannot be satisfied. In order to meet the need for this type of fish, it has been necessary to limit the export of fresh fish, for which there is also a growing demand.

Norway has won a completely new market by developing trade in frozen fish. As production of herring meal is constantly growing, the Minister also believes that Norway will now be able to export considerable quantities of the meal for animal fodder.

FROZEN PACKAGED WHALE MEAT: Whale "fillets" or steaks in an "export package" will now be a regular item in Oslo's grocery stores, according to a report of January 28 from the Information Service.

Oslo recently received its first shipment of frozen whale meat in cellophane packages when the refrigerated freighter Nord-Frost arrived from the Government's deep-freeze plant in Vesteraalem in Northern Norway with 210 metric tons of frozen "fillets."

Frozen at about -32° C., the "fillet" or steak is packed in cellophane, 2.2 pounds to a package, 6 packages to a carton, and 4 cartons to a box, and transported from Vesteraalen to Oslo at a temperature of about -12° C., at which temperature, it is claimed, the meat keeps all its fresh qualities.

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EXPERIMENTAL COD FISHERY: An expanded experimental fishery for cod in Lofoten, Northern Norway, is planned for the current season, according to Fiskets Gang.

The Directorate of Fisheries will contract with 50 purse seiners and 10 sink netters. Each purse-seining operation will utilize a seining vessel and an auxiliary vessel. The latter must be at least 35 feet in length and have at least a 25 h.p. motor. One of the vessels must have an echo sounder and the purse seine must be at least 180 fathoms long by 27 fathoms deep.

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PRODUCTION OF SALTED HERRING: The Norwegian catch of brisling during the 1949 season was 267,500 bushels, states a December 29 report from the American Embassy at Oslo. Production of salted herring in 1949 was 900,000 barrels for export, a record, according to the President of the Salted Herring Export Association. Sales, however, have not kept pace, and it is predicted that next season's production will be reduced.

VACUUM PUMP FOR DISCHARGING HERRING: A vacuum pump for discharging herring from holds of vessels has been invented by Mr. S. O. Jacobsen. Almost 200,000 pounds of herring an hour, claims the inventor, may be discharged by using this pump, which automatically records the weight.

NOTE: Values converted on basis of 1 Norwegian krone equals 20.15 cents U.S.

Production of these new pumps has started. It is claimed that the invention has been patented.

NEW TYPE OF BILGE KEEL: Another Norwegian invention is a new type of bilge keel which is claimed to reduce the normal rolling of fishing vessels, particularly in stormy weather, without affecting speed or maneuverability.

Sweden

ONE-BOAT FLOATING TRAWL TESTED: A one-boat floating trawl, which was constructed by two Swedish engineers, Gunnar Albrechtson of Gothenburg and Karl Hugo Larsson of Stockholm, has been tested recently for five or six weeks in the Swedish herring fishery.

The trawl was operated from a motor trawler and gave satisfactory results, according to the skipper, who believes it will take hold. In a half-hour tow, 17 boxes of herring were taken; and in another haul, 18 boxes, according to the December 13 issue of Fiskaren, a Norwegian fishery periodical.

The trawl can be operated at various depths, and it is regulated for the desired depth before setting. However, while trawling the depth can be adjusted to a certain extent by hauling in or slackening off on the trawl cables. It can be used also as a bottom trawl to a depth of 100 fathoms. The price of the trawl will be about Kr. 3,000 (approximately $580), excluding the cost of the trawl cables. Tests are being continued.

U.S.S.R.

NEW TRAWLERS FOR RUSSIA: The Soviet Union has placed orders for 23 trawlers in Sweden, according to a dispatch in the November 17 issue of Fiskaren, a Norwegian fisheries periodical. They will be equipped with 800 h.p. motors of the Frederikstad type, will have a contract speed of 11.5 knots, and are designed for a crew of 44. Fish oil production and fish preservation (canning, salting, etc.) will be carried out on board.

United Kingdom

CONTROLS ON FISH TO END IN APRIL: Controls on fish will end on April 15, 1950, the British Government announced late in December, according to the December 31, 1949, Fish Trades Gazette, a British fishery periodical.

When fish prices are decontrolled on April 15, the fish transport scheme (the flat-rate plan of transporting fish by rail) will also end.

This action will mean the abolition of the present subsidy. No subsidy will be paid on fish landed after decontrol, and the system of allocations and the licensing of wholesalers, processors and salesmen by the Ministry of Food, Fish Division, will cease.

The Ministry will not pay any carriage charges on fish dispatched after the decontrol date. However, consideration is being given to the possibility of a transport scheme for herring.

No further financial assistance to quick-freezers of fish is planned by the Ministry after the scheme for the present year is terminated.

FISH CONSUMPTION: Consumption of fish in the United Kingdom in 1948-49 was 25 percent above the prewar level, but has fallen since 1948, states the White Paper on "Food Consumption Levels in the United Kingdom," according to the December 17, 1949, Fish Trades Gazette.

United Kingdom's Annual Per Capita Consumption of Fishery Products, Edible Weight, 1940-49 Compared with Prewar Average

Type of Product	(Preliminary) 1948-49	1948	1947	1946	1945	1944	1943	1942	1941	1940	Prewar
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
Fish (fresh, frozen & cured)	27.3	29.0	27.9	26.5	20.2	16.0	14.2	13.1	11.3	11.1	21.8
Shellfish	1.0	1.0	0.9	0.9	1.0	1.0	1.0	0.8	0.8	0.8	1.3
Fish, canned	1.6	2.0	3.0	3.6	3.4	3.3	3.1	2.8	3.4	5.2	3.6
Total	29.9	32.0	31.8	31.0	24.6	20.3	18.3	16.7	15.5	17.1	26.7

The total annual per capita consumption (edible weight) of fishery products in 1948-49 was 29.9 pounds compared with 69.8 pounds for meat, 22.0 pounds for eggs and egg products, 50.6 pounds for dairy products (excluding butter), and 7.4 pounds for poultry, game and rabbits.

SEA FISH INDUSTRY BILL NOT PASSED: The House of Commons early in December was told by the Lord President of the Council that the Government was unable to complete the Sea Fish Industry Bill this session of Parliament.

This bill provided for financial assistance to the sea-fishing industry, licensing of fishing boats and of persons engaged in processing or wholesaling, and regulations for safeguarding the quality of sea fish. (See Commercial Fisheries Review, July 1949, p. 49.)

Venezuela

CANNED FISH PACK, 1949: Based on eight months of 1949 when 11,284,000 pounds were canned, the indicated annual pack for 1949 is estimated to be about 16,927,000 pounds, according to a December 12 dispatch from the American Embassy, Caracas.

Venezuelan Production of Canned Fish, 1945-48

Year	Pounds
1948	20,444,000
1947	16,484,803
1946	17,171,675
1945	13,274,117

Thus, the pack of canned fish for 1949 will be lower than that of 1946.

Observers contend that the market for canned fish in Venezuela is restricted because of high prices and not because of lack of demand. However, with reference to the fish canning industry, the newspaper El Nacional states:

"Two fundamental causes affect this branch of our national economy: the high costs of production in comparison with those of other fishing countries and the restricted national market. The first is manifested by the prices at which imported fish are offered which enjoy, moreover, special customs treatment. The second may be remedied by exportation."

THE SPONGE FISHING INDUSTRY IN LIBYA (AFRICA)

The sponge beds of Libya extend almost the entire distance from the Tunisian border to the Egyptian border. However, the most important beds are located near Zuara and Homs in Tripolitania, and near Benghasi and Derna in Cyrenaica. The beds vary in distance from the coast from two or three miles to more than fifty miles.

The most popular and productive method of harvesting sponges in Libya is through the use of machine diving boats employing fully outfitted divers. The best growths usually found in water from 75 feet to 100 feet deep, are taken by this method. The second most generally used method in Tripolitania is dredging with a weighted net behind a slow-moving ship, but the sea bottom is too rough in Cyrenaica to permit this type of fishing. Fernezen (helmet only) diving is practiced in relatively shallow water beds in both territories with fair results. Harpooning is at present used somewhat more in Cyrenaica than in Tripolitania. Nude diving is the least productive method, although used fairly extensively in Cyrenaica.

--Fishery Leaflet 341