Australia

AUSTRALIAN SCAD RENAMED JACK MACKEREL: Australian fisheries authorities have unanimously agreed that scad (Trachurus novaezelandiae), formerly known as horse mackerel and cowanyoung, will be renamed jack mackerel, according to the May 1950 Fisheries Newsletter published by the Commonwealth Director of Fisheries.

Since it had been found that the name scad was not entirely satisfactory from a marketing point of view, and since it was very closely related to the California jack mackerel (Trachurus symmetricus), it was believed possible by Australian fisheries authorities that the Australian canned scad would be competing on the same markets with the California fish. It was pointed out that the name jack mackerel would not only have greater appeal on the local market but would also be known on the overseas market.

* * * * *

USE OF REFRIGERATED VESSELS FOR PROCESSING SPINY LOBSTERS: There has been an expansion in Western Australia in the operation and use of refrigerated vessels for processing and storing spiny lobsters, according to a letter received from a correspondent in South Perth. More than 50 percent of the spiny lobster tails exported to the United States from Western Australia are now handled by these factory-type vessels.

During 1949, the Western Australian spiny lobster catch was 5 million pounds, according to official Australian statistics. A large proportion of the catch was processed as frozen spiny lobster tails for the United States market, and a small percentage was canned.

For the fiscal year 1948-49 (ending June 30), the total Australian production of spiny lobsters was 9,433,792 pounds. Of this total, during that fiscal year, Western Australia produced 2,838,012 pounds; Tasmania, 3,233,709; Southern Australia, 2,000,000; New South Wales, 794,855; and Victoria, 567,216. Since the 1949 Western Australian production is given as 5 million pounds, comparison with the 1948-49 fiscal year production of 2,838,012 pounds shows that Western Australia's production of spiny lobsters during the latter part of 1949 increased considerably.

Bermuda

RESTRICTS FISH IMPORTS: Like other countries beset with dollar difficulties, Bermuda is trying to close the gap between its dollar income and its dollar expenditures by restricting its imports from dollar countries, the June 1950 Trade News

of the Canadian Fisheries Department reports. A year ago it put a number of items on a "temporarily prohibited" list and since the devaluation of the pound, these restrictions have been extended. They cover a considerable list of food products, including the following fish items:

All fresh fish, except for hotels
All smoked fish, except salmon
All canned fish

British East Africa (Kenya)

DEVELOPMENT OF COASTAL FISHERIES: For the past two years there has been considerable discussion about the possibility of instituting a full investigation of the marine fishing possibilities of the 1,000-mile coastline between Lamu and Lindi, where there is already a considerable amount of localized native fishing. Previous attempts at deep-sea fishing off the coast have failed, principally, it is thought, through lack of information, a July 18 American consular dispatch from Nairobi reports. East Africa's fish needs are placed at a conservative minimum of 50,000 metric tons a year, and the need to develop the coastal fisheries is as great as that for development of the inland fisheries. Work on the former, however, has lagged behind.

There have been several coastal fishing projects proposed and begun in the past eight months. A South African company announced its intention of basing six 30- to 40-foot Diesel-powered fishing boats at Lamu where the fish would also be dried and cured.

The former East African Supply Board Fishery Station at Shimoni has been sold to a limited company. The company owns 20 native-type boats, three powered fishing boats, and employs 30 fishermen. During the season, over 200 privately-owned boats supply fish to the depot and the supply of fish is approximately a metric ton per day. This fish is frozen, shipped to and sold daily at Mombasa.

New methods of catching crayfish also are being developed here, and next year this company hopes to build fish barricades in shallow water to trap fish during the rainy season.

Another attempt to meet East Africa's fish requirements is being carried out at a marine fish farm near Tanga. This farm of 300 acres, from which may be expected an annual output of between 500 pounds and one metric ton per acre, demonstrates the possibility of this type of development in the vast areas of mangrove swamp up and down the coast.

Canada

REGULATIONS FOR PACKING "SPRING BLOATERS" FOR EXPORT: Canadian fish exporters may continue to ship larger size spring herring outside Canada through regulations announced by the federal Department of Fisheries in its June 1950 issue of Trade News.

The amendment to the "Regulations Governing the Construction of Containers, the Curing and Packing of Fish and the Inspection Thereof" puts on a permanent basis last year's legislation[1/] which allowed the export, from the 1949 herring pack, of 18-pound boxes of "spring bloaters" with not less than 60 and not more than 80 fish.

This legislation is a safeguard to the exporter. It was found that some waste was occurring when packers could not keep within the previously allowed count of 80 to 120 without culling out the larger fish.

1/ SEE COMMERCIAL FISHERIES REVIEW, SEPTEMBER 1949, P. 26.

Chile

COMMITTEE APPOINTED TO DRAFT A NEW FISHERIES LAW: By Decree No. 712 of the Ministry of Economy and Commerce, dated June 15, 1950, a committee of six persons was designated to prepare a draft of a new fisheries law for Chile, a July 27 American consular dispatch from Santiago states. This new law is to replace the present administrative regulations which are derived from Decree-law No. 34 of March 12, 1931, and from the regulations established by Decree No. 1584 of April 30 1934.

The preamble of the new Decree states that the existing regulations are inadequate to meet the needs of the industry now that the Government is promoting greater fish consumption as a means of increasing the quantity of protein in the national diet.

Denmark

PROTESTS RUSSIAN SEIZURE OF DANISH FISHING VESSELS: An official protest has been made by the Danish Government over Soviet seizures of Danish fishing vessels and over the Russian claim for the extension of maritime jurisdiction to 12 nautical miles, according to an August 4 American consular dispatch from Copenhagen. Should the Danes be denied access to the rich salmon fishing grounds in the Balti it will be a serious blow to the Danish fishing industry.

Ecuador

FISH CANNERY PLANS ABANDONED: Ecuadoran hopes that one or more of the three fish cannery projects for which it signed contracts in 1949 would become a realit all but disappeared during the first half of 1950, according to an August 7 American consular dispatch from Quito.

The Walter Von Trescow-Westinghouse Electric International Company plan to establish a cannery with the aid of a $1,500,000 Export-Import Bank loan was evidently abandoned following the Bank's decision not to advance the desired fund

Although President Galo Plaza announced on February 25 this year that American and Foreign Enterprises, Inc. had bought complete fish canning installations from a Warrenton (Oregon) canning company for speedy installation in Ecuador to begin operations in conformity with the contract signed with the Ecuadoran Government in 1949, it subsequently became evident that an essential loan of $850,000 from the International Bank for Reconstruction and Development had a drawback--a condition (which could not be fulfilled) that Ecuador must first settle its debt to bondholders of the Southern Railway. President Plaza evidently felt that to come to an arrangement with the bondholders (mostly British) would under the circumstances be a bad move, especially from a political point of view.

The third project sponsored by Inepaca (Industria Ecuatoriana de Productos Alimenticios Compania Anonima), Ecuadoran subsidiary of a San Diego (California) company, was abandoned early in May, presumably because necessary capital was not available from the parent company.

PROPOSED REVISION OF FISHING LAWS: Proposed revision of Ecuador's fishing laws received considerable attention from American fishing interests and Ecuadoran authorities during the first half of 1950 and it is deemed likely that Congress, when it convenes in August, may make some changes in existent statutes.

German Federal Republic

OLD TRAWLERS TO BE SCRAPPED: Seven trawlers, most of which are over thirty years old, are being scrapped by their Bremerhaven owners because of high operating costs. These are the first trawlers scrapped since World War II, and it is expected that others will follow, an August 1 American consular dispatch from Bremerhaven states.

Until April 1950, trawlers over 29 years old and those possessing certain uneconomic features, were allowed subsidies from an Equalization Fund collected on the fish auctioned. The removal of these subsidies and the low market price for fish has necessitated the scrapping of some of these old vessels.

MECHANICAL REFRIGERATION FOR TRAWLERS: An increasing number of new trawlers in the German Federal Republic are being equipped with mechanical refrigeration. The popularity of this feature stems, to a large extent, from the success which its operation has shown on the fishing trawlers on charter from the United States. Mechanical refrigeration was installed on a few German trawlers before World War II but did not give satisfactory service and was not generally adopted. However, developments embodied in the American equipment have overcome previous objections and demonstrated the practicability of the system.

Iceland

EXPANSION OF THE ROSEFISH FISHERY: During June and July this year, several Icelandic trawlers have been engaged in fishing for rosefish (redfish), states a July 21 American consular report from Reykjavik. Several of the trawlers made unusually large catches--approximately 500 metric tons of rosefish per trip (of 7 to 10 days). However, up to the present time, the fishing for rosefish has played an insignificant part in the Icelandic economy.

Prior to the war, small quantities of rosefish were sold to the United Kingdom In Central Europe and in the United States, the fish are sold filleted. Several quick-freezing plants in Iceland have filleted small quantities of rosefish which will be exported to the United States. However, the major part of the rosefish catch goes to fish meal factories where it is ground into meal. The fish likewise yields a small amount of rosefish oil, and the rosefish liver is also considered to be much richer in vitamins A and D than some other livers.

Off the coast of Iceland there are two species of rosefish--a small variety and a large variety. The latter, which is considered to be of more importance to Iceland, is located off the coastal shelf in depths ranging from 200 to 500 meters (109-273 fathoms). On the other hand, the small rosefish is located in shallow waters or on the continental shelf. These two species look very much alike and are distinguishable only by their difference in size. A third type of rosefish is found in the western North Atlantic off the American coast and is caught mainly by American vessels.

According to a Scandinavian fish specialist, A. Vedel Taning of Copenhagen, "the redfish (rosefish) fry per square kilometer amounts to approximately half a million, considering only fry found down to a depth of 50 meters (27 fathoms). When it is known that spawning areas extend over 2½ million square kilometers, one must be able to imagine the abundant quantities of redfish in the sea. Everyone who has investigated cod and herring spawn in the limited spawning areas off the coast of Iceland and in the North Sea will be convinced, when finding those great quantities of redfish fry, that the number of redfish in the sea must by far exceed the two other species. These species amounted to 65 percent of the total catch landed in North Europe during the years 1934 to 1938. There is no doubt that the redfish will prove to be a reserve for the fishing nations when depletion of sea life begins to affect other commercial fish. Definitely, within a short time, appropriate methods will be found to utilize this resource."

India

DEVELOPMENT OF FISHERIES: During the last few years, the Government of India and a number of State Governments have taken up the development of fisheries mainly with a view to supplementing the diet of the people which, in the majority of cases falls below minimum nutritional standards, according to an August 15 release from the India Press Information Bureau supplied by the American Embassy at New Delhi.

Fish production in India is estimated at 513,760 metric tons per year--two-thirds of this amount consists of sea fish. Per capita consumption is estimated at 3.4 pounds per year, which is much less in comparison to the standard prevailing in other countries. Experts have calculated that the present production of fishery products must be increased at least ten times if the people of India are to derive substantial nutrition from this important animal protein food.

Plans for Development of Fishery Resources: Development of fishery resources is being undertaken both in inland and marine waters. There are a large number of tanks, ponds, rivers, backwaters, etc., in inland areas of India which can yield substantial quantities of fishery products. In addition, India's extensive coast line should provide a substantial amount of marine fishery products if exploited with proper equipment and skilled personnel.

Fishery schemes have been included within the scope of the "Grow More Food Campaign" of the Government of India and special financial assistance has been given to the individual states. Till now, about 50 plans have been launched. There has been an increase in the production of fishery products as a result of the implementation of these schemes, and it has been estimated that there will be a greater increase by the end of 1951-52.

Inland Fisheries: Most of these plans to date have stressed the development of inland fisheries and aim at:

1. Collection and distribution of fry of carp and other fast-growing species of fish for stocking in inland waters. Arrangements have been made whereby States having a surplus of fry and fingerlings will supply these to deficit States.

2. Improvement in the quality of cured fish and prawns (shrimp) by providing better facilities at fish-curing yards. (Salt is being supplied at subsidized rates under the "Grow More Food Campaign." The fish-curing yards at Bombay have recently been improved and the Government of Travancore-Cochin Union have set up a model fish-curing yard with financial assistance from the Central Government).

3. Better utilization of the present production of fishery products by more efficient methods of preservation, transportation, and marketing.

4. Utilization of fish waste for the manufacture of fish meal for feeding and fertilizer.

5. Establishment of cooperatives for fishermen. At present, the fishermen's economic condition is poor and the equipment used is not efficient enough. The cooperatives which are being encouraged seek to improve the fishermen's economic condition by providing the necessary credit to buy efficient fishing gear and equipment to increase their catch.

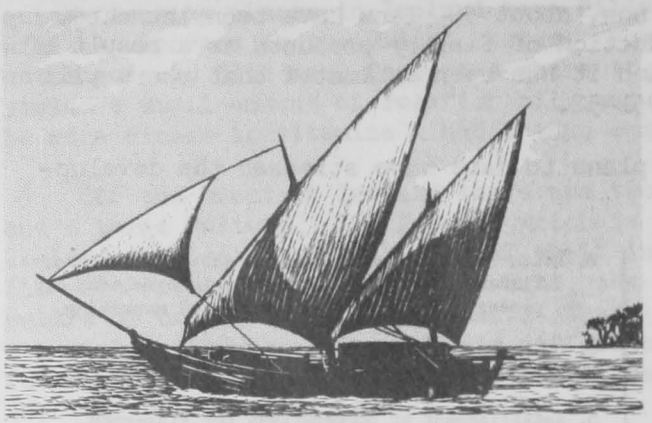
Deep-Sea Fisheries: While the development of inland fishery resources is expected to yield considerable return, the large gap between production and requirements can only be made up by the exploitation of India's extensive marine resources. India has a coast line of about 2,900 miles, while the area of the continental shelf (from the coast to the 100-fathom line) is over 115,00 square miles. Fishing in Indian seas is, however, confined to a narrow coastal belt of five to seven miles only. This is largely because the equipment used for sea fishing consists mostly of small boats, canoes, catamarans, and of small nets and tackles which are not of a type which can stand the rigours and requirements of offshore or deep-sea fishing.

Since the collection of exploratory fishery data can only be undertaken at the Government level, for the last few years the Government of India has started exploratory deep-sea fishing at Bombay. Pilot-scale operations were first started on an experimental basis with the steam trawler Meena obtained from the Disposals Directorate. However, since the running and maintenance expenses of this vessel were unduly high, last year the Government obtained two Danish cutter-trawlers from Holland and two specially made boats from the United Kingdom. These boats have been going out to sea since the winter of last year and have collected valuable data on fishing grounds, the nature of fish likely to be available at particular depths of water, details of fishing seasons, underwater conditions, etc. In addition, substantial quantities of fish have been caught.

The two Danish cutters (Ashok and Pratap) are steel vessels, with an overall length of 85 feet, and fitted with 240 b.h.p. Diesel engines. These vessels have completed 44 trips (average trip lasted a week) from November 1949 to June this year.

The other two vessels from the United Kingdom (Bumili and Champa) completed 62 trips from the winter of last year up to June this year. Trips usually lasted 3 to 4 days, but some were only 1 day long.

Training and Research: Arrangements have also been made by the Government of India for training sufficient skilled fishery personnel. Two training classes were started--one for inland fisheries and the other for marine fisheries. More than 100 candidates have been trained so far as a result of these training courses and the personnel trained are now mostly employed in fishery development work in different parts of the country.



TYPICAL FISHING VESSEL OF INDIA.

For training in deep-sea fishing, the Ministry of Agriculture sent a number of young men for six months to Grimsby, England. On return to India, these trainees were given further practical training for two years on the Government of India's fishing vessels at Bombay. Some of the trainees have successfully completed their course and have now been employed as petty officers on the fishing vessels operating in Bombay.

To undertake research on problems connected with India's fisheries, two Fisheries Research Stations have been started by the Government of India for biological, technological, and hydrological investigations. The station which deals with marine fisheries is located at Mandapam, Madras, and the other on inland fisheries at Pulta near Calcutta.

In addition to pilot deep-sea fishing, which the Central Government has undertaken, some of the maritime states of India have also entered this field. In Madras, offshore fishing has been tried for several years now, but the vessels and equipment used need considerable improvement. The West Bengal Government is presently pursuing a plan to undertake deep-sea fishing in the Bay of Bengal. Recently, an officer of this State Government accompanied by the Fisheries Development Adviser of the Central Government proceeded to Denmark to purchase suitable fishing boats and recruit some skilled personnel for the West Bengal project. It is understood that the Danish experts are expected to arrive at Calcutta in November this year and will train local personnel in deep-sea fishing operations. A West Bengal official source maintained that experiments conducted in 1949 had shown good prospects for deep-sea fishing.

Japan

POLICY GOVERNING EXPANSION OF JAPANESE FISHING AREA: The Government of the Commonwealth of Australia, in a note dated June 30, 1950, stated that the Australian Government feels the newly-authorized Japanese tuna fishing operations[1/] will interfere with fisheries in New Guinea which the Australian Government is encouraging, and that the new Japanese fishing operations are not for the purpose of feeding the Japanese people but for obtaining fish for export. Accordingly, the Australian Government requested reconsideration of the order in question with the view of placing the southern boundary of Japanese tuna fishing operations at

16° N. latitude instead of the equator, states a July 27 American consular report from Tokyo.

SCAP's reply of July 22, 1950, advised the Australian Government that the Supreme Commander, while supporting the broad principles of legitimate conservation measures, could not concur in the exclusion of Japanese fishermen from large areas of the high seas for conservation reasons, or in order to protect any nation from reasonable competition, in cases where Japanese have previously engaged in fishing and where the resources are not being fully utilized. The reply also pointed out that the operations authorized by SCAPIN 2097[1/] do not constitute an extension of the present fishing area, but provide for a specific type of fishing under the supervision of a representative of the Supreme Commander, and it is accordingly believed that such specific fishing operations will no more interfere with fisheries encouraged by the Australian Government than would similar operations by any other nation's fishermen. The reply further noted that the "Statement of United States Policy with Respect to Fishing and Aquatic Industries in Japan", also known as FEC-035, in enunciating general principles for the guidance of the Supreme Commander during the Occupation, states that Japan should be permitted to engage in deep-sea fishing to provide food for domestic needs and to secure foreign exchange for essential imports. Accordingly, the Supreme Commander cannot consider the question of domestic or export uses of marine products as a criterion in determining any limitations to be placed on Japanese fisheries, and therefore does not feel there is any necessity to amend SCAPIN 2097.[1/]

1/SEE COMMERCIAL FISHERIES REVIEW, JUNE 1950, PP. 52-4.

* * * * *

CANNED CRAB MEAT PROSPECTS FOR 1950: Exports: The Japanese Ministry of International Trade and Industry anticipates that Japan will be able to export 80,000 to 100,00 cases (48 No. 2 cans, 6½ oz. each) of crab meat during 1950, depending on the year's catch. Stocks existing at the beginning of 1950 were negligible, according to a June 26 dispatch from the Office of the Political Adviser in Tokyo.

Production: Total pack in 1950 will be between 100,000 and 120,000 cases. Most of this production will be shipped to the United States. Only meat rejected for export because of its quality will be consumed in the domestic market, and this is expected to be about 20 percent of the total pack.

Canning Seasons: The first crab canning season starts in April each year and continues through May, with some operations during June and July. The second season starts in August and lasts through October, with no activity for the remainder of the year. The pack estimate for the April-May 1950 season is 50,000-60,000 cases; August-October 1950 season, 30,000-40,000 cases. Shipments to the United States are usually made in the two months subsequent to each production period, so that the bulk of Japanese canned crab meat is exported during the latter half of each year.

Prewar Canning Capacity: Production of crab meat in 1939 was 598,598 cases (48 No. 2 cans of 6½ oz. each). See first table on p. 48.

Canning Capacity Transferred to U.S.S.R.: Reportedly, a crab meat canning capacity of about 143,000 cases per year (on the basis of the 1939 production for the Kuriles and Kamchatka) was transferred to the U. S. S. R. Since some of the

Japanese Prewar Canning Capacity, 1939		
Variety	Amount Packed	Location of Canneries
	Cases1/	
King crab	253,596	Floating canneries
	63,329	Kuril Islands
	79,979	Kamchatka
	126,596	Hokkaido
Total	523,500	
Hanasaki crab ..	42,706	Hokkaido
Kegani crab	32,392	Korea
Grand total ...	598,598	
1/48 No. 2 cans of 6½ oz. each.		

floating canneries had operation bases in Kamchatka, however, it is estimated that the capacity taken over by the U.S.S.R. actually amounts to nearly 200,000 cases per year. There are no floating crabmeat canneries at present in Japan.

Present Japanese Canning Capacity: The remaining canneries located in Hokkaido were fully renovated in 1948, and their installed canning capacity is reportedly about one million cases per year. There are now 39 canneries located in Hokkaido, with the Nemuro, Wakkanai, and Kushiro districts being the principal centers of production, and no cannery has been reported as having closed since 1948. Because of the present limitations to the fishing area, however, the expected packing program represents only 10 percent of the installed capacity.

In view of the highly seasonal nature of this industry, operators of these canneries are endeavoring to produce canned salmon, mackerel, shellfish, and other canned fishery products in order to fill the gap during dull or off-seasons.

No additions have been made to Japan's crab canning capacity since the end of World War II.

Costs of Production: Estimates on the average production costs per case, as based on information obtained from the Japanese Ministry of International Trade and Industry, the Japanese Canned and Glass Jar Foods Association, and Nichiro Fisheries Company, Ltd., are as follows:

Average Costs of Production of Canned King Crab Meat, Fancy Grade	
(Unit: Per Case of 48 6½-oz. cans, in U. S. dollars)	
Raw materials	$ 9.73
Cans	2.98
Labor	2.22
Fuel, packing, overhead, and profit	1.74
Production costs ex-cannery	16.67
Island freight and insurance	.33
Warehouse and loading charges; etc., incurred at port of shipment	.58
Exporter's commission	.42
F.O.B. price	18.00

Manufacturers are reluctant to divulge the breakdown of the cost constituent "fuel, packing, overhead, and profit." Production costs vary according to different operators, the location of canneries, and other factors, but it is believed that producers' profits average only about 3 percent of the f.o.b. price.

Prices: Until recently, the f.o.b. price of Japanese canned crab meat, fancy grade (representing the best quality), was $19.00 per case (48 6½-oz. cans), the second quality being $1.00 cheaper. Because of the competition from Russian canned crab meat in the United States, exporters are now quoting $18.00 to $18.50 per case f.o.b. Japan. The Japanese Ministry of International Trade and Industry has received a report to the effect that Russian canned crab meat is being sold at $34.50 per case (96 7-oz. cans) f.o.b. Vladivostok and that British firms are offering what is presumably Russian crab meat at $47.00 per case in Los Angeles. Therefore, the Russian product reportedly is underselling the Japanese by $3.00 per case.

The price in the United States of the Japanese crab meat is calculated roughly on the following basis:

F.O.B. price	$19.00 per case
Freight and Insurance	1.00 " "
Customs duty at 22.5 percent ad valorem	4.27 " "
Cost laid down in U. S.	24.27 (sold at $25.00)

* * * * *

REDUCTION OF EAST CHINA SEA FLEET:1/ As a first step in the implementation of the Law for the Prevention of the Exhaustion of Marine Resources, which was enacted by the Japanese Diet on May 1, 1950, the Minister of Agriculture and Forestry has taken action affecting the operation of 173 vessels of the East China Sea trawl fleet. The Minister cancelled the licenses of 62 bull trawlers and one otter trawler and restricted the operations of 110 bull trawlers effective July 10, 1950, the July 22 Weekly Summary of SCAP's Natural Resources Section reports.

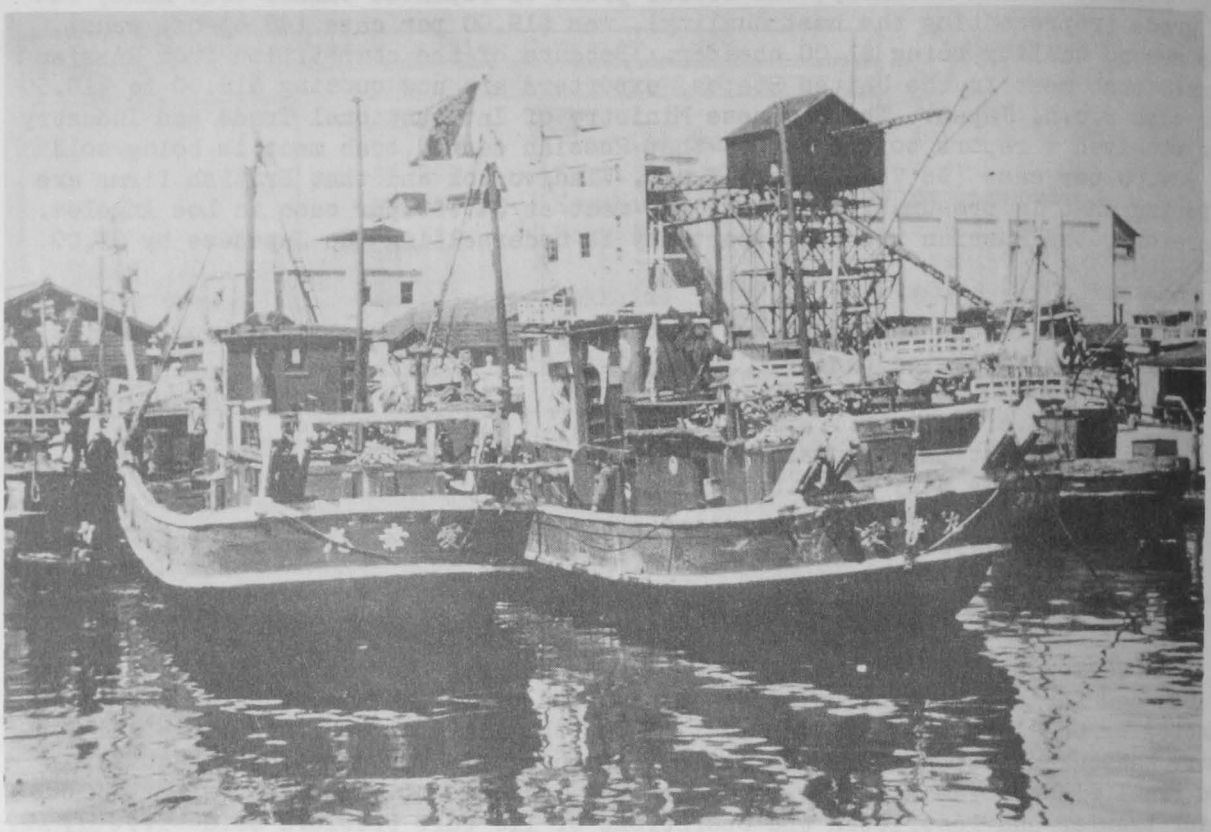
A public hearing was held in Tokyo on June 8, 1950, at which results of preliminary research on the trawl fisheries in the East China Sea were made public. It was determined on the basis of this research that bull trawlers permitted unrestricted operations in the East China Sea within the area prescribed by SCAP should be limited to 600 vessels, and otter trawlers to 50 vessels. At this hearing, the Fisheries Agency presented a plan establishing standards for selection of vessels, the operation of which would be either curtailed or restricted.

This plan was accepted at the hearing, and thereafter the Fisheries Agency selected the vessels and operators to be affected.

Thirteen of the bull trawler licenses were cancelled for inefficient operation; 7 were licenses of vessels sunk in Japanese waters; 34 were licenses cancelled on the percentage bases; and 8 were bull trawler licenses cancelled in lieu of 4 otter trawlers. Sixteen operating companies were affected. Effective July 10, the operation of 110 bull trawlers of less than 50 gross tons were restricted to the area bounded by Longitude 130° E., Longitude 127°30' E., and Latitude 25° N., excluding the Sea of Japan north of Latitude 36° N.

As of July 1, the Fisheries Agency has suspended operation of 26 bull trawlers suspected of violation of the provisions of SCAPIN 2046. The licenses of 17 of these vessels reported beyond the limits of the authorized fishing area by Allied authorities or by the Japanese Fisheries Inspection System were cancelled by administrative action prior to trial. The licenses of seven vessels reported outside the area were voluntarily surrendered by their owners.

1/SEE COMMERCIAL FISHERIES REVIEW, JUNE 1950, P. 57.



TYPICAL BULL TRAWLERS OPERATED IN PAIRS BY JAPANESE FISHERMEN IN THE EAST CHINA SEA DOCKED AT FUKUOKA, KYUSHU, JAPAN. BUILDING IN BACKGROUND IS A COLD STORAGE PLANT.

The Fisheries Agency, Ministry of Agriculture and Forestry, is presently negotiating with the Ministry of Finance to determine the amount of compensation to be paid to operators who have lost licenses under this reduction program. No compensation will be made to operators whose vessels have been merely restricted in operation, nor to owners whose vessels have been reported in violation of SCAP directives.

JAPANESE GOVERNMENT

Mauritius and Seychelles Islands

SURVEY OF FISHING BANKS COMPLETED: A survey of the fishing banks between the Seychelles and Mauritius, which was begun in 1947, was concluded in December 1949 when the vessel that made the survey (the Research) tied up at Zanzibar, a July 10 American consular dispatch from Mombasa reports.

In the preliminary report, J. F. G. Wheeler, Marine Biologist, who conducted the survey, points out that the fishing banks of the Western Indian Ocean have been known by repute for many years but practical men were not prepared to make large-scale capital investments. Pelagic fishing was the practice round Mauritius by professional and amateur fishermen and was quite successful at certain times of the year, but the Island's markets depended principally on the steady supply of bottom fish.

In 1946, grants from the British Colonial Development and Welfare Fund provided for a research ship, with the necessary equipment and gear, and running expenses of a scientific staff and crew for two years.

The most important area covered by the Mauritius-Seychelles survey was "the Seychelles Plateau, less than 40 fathoms deep and roughly 10,000 square miles in area, from which emerge the islands of the Seychelles group; and the chain of submarine banks—the Constant, the Fortune, the Saya de Malha, the Nazareth, and the Soudan, with a total area of about 23,000 square miles--which stretch in an arc to Mauritius, rising steeply from the ocean floor, a thousand miles away to the south." The banks are noted for their bottom or ground fish.

The Research fished on all these banks and off most of the islands. Data was obtained on more than 6,000 fish and 1,100 sharks; average rates were established for fishing in terms of metric tons per man per year on a basis of 240 days of 6 hours actual fishing time.

According to the Marine Biologist, the best catches were made in depths between 8 and 32 fathoms. "Over-all rates of fishing were 17 metric tons per man per year for fish and 21½ tons per man per year for sharks, all taken by hand lines from the drifting research ship. These figures combined give a rate of 5,936 pounds per 100-hours fishing for a single line." He compares these figures with trawlers working the North Sea area with an average of 10,080 pounds per 100-hours fishing per ship.

From statistics of catches available, the average annual catch in normally-fished Mauritius waters was calculated at about 12 metric tons per square mile. Because the legal methods of capture did not damage the grounds, the same quantity should be available every year in years of normal spawning survival. But the actual commercial annual catch per man per year was 1.30 tons at Mauritius; at Rodrigues, 1.48 tons; and for the Seychelles, 1.57 tons.

The commercial rate found at the Seychelles plateau during Wheeler's visit there at the end of 1945 was 16½ tons per man per year, inclusive of sharks. Exclusive of sharks, this rate should be 7.5 tons per man per year.

Although he realizes that the fishable area of the banks is far less than their charted area, he states that the "density of the fish population is about four times greater than that calculated for the Mauritius inshore fishery, so that the reduced area of about 11,000 square miles, plus the plateau of the Amirante Islands (Seychelles' dependencies) and the rich banks of the Chagos Archipelago (Mauritius' dependency)—together about 3,200 square miles—should be capable of a total annual production of 520,000 metric tons."

Mexico

FISHING TREATIES CONTEMPLATED BY MEXICO: Studies relative to treaties between Mexico and the United States and between Mexico and Cuba have been completed by the Mexican Directorate General of Fisheries, according to an article appearing in the newspaper El Universal of July 5, 1950, and as reported by a July 7 American Embassy dispatch from Mexico, D. F.

The article states that "the majority of the fishing boats which come to our coasts are from the two mentioned nations. Therefore it is considered necessary to establish treaties principally with these countries so as to have clearly specified the obligations which the foreign fishermen undertake and the responsibilities which they incur by not subjecting themselves to Mexican fishery laws and their regulations. In this way the existing confusion which gives place to disagreeable incidents will be eliminated."

The projected international treaties have been sent by the Mexican Ministry of Marine to the Ministry of Foreign Relations.

Norway

NYLON TRAWL NET TESTED: Experiments with a nylon Swedish-type trawl were carried out in the herring fisheries on the Fladen Grounds by the Norwegian Fisheries Department, according to the June 24 issue of The Fishing News. The conclusions were that the catch was about four to five times as large as the catches made with ordinary cotton trawls, in spite of the fact that the type of net was exactly the same.

The explanation may be that since nylon is lighter than the ordinary trawl material and does not absorb water, the upper part of a nylon trawl floats more easily. In addition, nylon is smoother than ordinary material and is believed to offer less resistance when dragged through the water. For these reasons, it is likely that the nylon trawl keeps a larger opening than the ordinary trawl. The nylon trawl was found easier to drag and seemed much stronger than trawls of ordinary material.

Pacific South Sea Islands

DIFFICULTY IN CATCHING FISH IN QUANTITIES HINDERS DEVELOPMENT OF TUNA INDUSTRY: Tuna fishing and canning operations at Fiji Islands and American Samoa[1/] have not met with any success to date because in that area of the South Pacific, of which Fiji is the center, it has not been possible to catch tuna in quantities by methods used in other Pacific waters. Two companies were established last year, one in the Fiji Islands to fish for tuna in Fijian waters and one to can the tuna in American Samoa. The Senirosi, one of the Fiji company's vessels, is now reported trying out a purse-seine net (1,800 ft. long and 180 ft. deep) somewhere in the Yasawa group, according to the July 1950 Fisheries Newsletter of the Australian Director of Fisheries, which quoted the Sydney journal, Pacific Monthly.

The tuna canning factory at Pago Pago, Samoa, was to be opened the beginning of this year and all preparations were completed, reports the Apia (Samoa). However, since large concentrations of tuna could not be found, the factory has not received any fish and up to the present, the cannery has still not started work.

The Fiji tuna fishing company is now looking for new waters in which to search for tuna. Permission has been granted to the company to conduct an exploratory

1/SEE COMMERCIAL FISHERIES REVIEW, FEBRUARY 1949, PP. 58-9.

survey in Samoan waters with a view to ascertaining the seasonal movement of fish, particularly tuna. But in May, it was reported that the situation had not improved. This company now proposes to test live-bait pole fishing in Australian waters.

Peru

FISH MARKETING SITUATION:1/ Deficits in meat production have added to the historical importance of fish in the Peruvian diet, reports Robert O. Smith, U.S. Fish and Wildlife Service representative, who made a survey of South American markets for United States fishery products. However, it does not follow, that any sizable market exists for imported fishery products. On the contrary, it seems certain that Peru will continue to be an exporter of frozen and canned fishery products, and its imports will reflect consumer taste preference (salmon and sardines, for example) rather than supplementary protein for the diet.

The Republic of Peru has a population of 7,726,000 (1948 estimate) and an area of 482,258 square miles. Its coastline extends for about 1,400 miles along the Pacific. Due in part to the Humboldt current, the coastal waters are rich in fish life. Even prior to the establishment of the Inca Empire, fishing was actively prosecuted with more or less the same kind of small craft and nets used today.

Table 1 - Peru's Production of Fish Products, 1939-49

Year	Quantity	Year	Quantity
	Metric Tons		Metric Tons
1949	45,260	1943	26,725
1948	35,944	1942	21,063
1947	30,778	1941	11,889
1946	27,657	1940	6,404
1945	31,958	1939	4,849
1944	30,268		

Since most Peruvian fishery products are sold by pieces rather than by weight, the catch statistics are necessarily estimates, and usually on the conservative side. The catch has increased nearly ten times within the 11-year period, 1939 through 1949, to a total of 45,260 metric tons (table 1). There is no evidence that any species is being overfished, and actually the catch may be expected to increase within the limitations of preservation and distribution facilities.

For the most part, canning of tuna and bonito for export has been a postwar development which has not yet reached its potential output. The two species do not show much overlapping in distribution. Yellowfin tuna are taken in both northern and southern Peru throughout the year, but are not common inshore along the central coastal area. On the other hand, bonito (Sarda chilensis) are abundant along the central coast from November through March, but seldom taken in the extreme north or south. In 1949, about 500,000 cases were exported (80 percent bonito and 20 percent tuna).

1/THIS IS THE TENTH REPORT IN A SERIES TO GIVE INFORMATION ON CURRENT AND POTENTIAL MARKETS FOR UNITED STATES FISHERY PRODUCTS IN SOUTH AMERICA. MILTON J. LINDNER AND ROBERT O. SMITH, UNITED STATES FISH AND WILDLIFE SERVICE REPRESENTATIVES, WERE IN SOUTH AMERICA IN JUNE INVESTIGATING MARKETS IN CONNECTION WITH A SURVEY SPONSORED COOPERATIVELY WITH THE U. S. DEPARTMENT OF AGRICULTURE'S OFFICE OF FOREIGN AGRICULTURAL RELATIONS. MORE DETAILED REPORTS WILL BE ISSUED AT A LATER DATE AS "FOREIGN MARKET CIRCULARS" AND WILL BE AVAILABLE FROM THE BRANCH OF COMMERCIAL FISHERIES, U. S. FISH AND WILDLIFE SERVICE, WASHINGTON 25, D. C. THE ANNOUNCEMENT OF THIS STUDY APPEARED IN COMMERCIAL FISHERIES REVIEW, JUNE 1950, P. 18, THE FIRST REPORT IN THIS SERIES ON THE ARGENTINE REPUBLIC ON PP. 33-4 OF THE SAME ISSUE; THE SECOND ON THE NETHERLANDS WEST INDIES APPEARED IN JULY 1950, PP. 46-7; AND OTHERS APPEARED IN THE AUGUST 1950 ISSUE AS FOLLOWS: THE THIRD ON URUGUAY, PP. 61-2; THE FOURTH ON PARAGUAY, PP. 52-3; THE FIFTH ON BRAZIL, P. 41; THE SIXTH ON BOLIVIA, PP. 39-40; THE SEVENTH ON SURINAM, PP. 57-8; THE EIGHT ON VENEZUELA, PP. 62-3; AND THE NINTH ON CHILE, PP. 43-4.

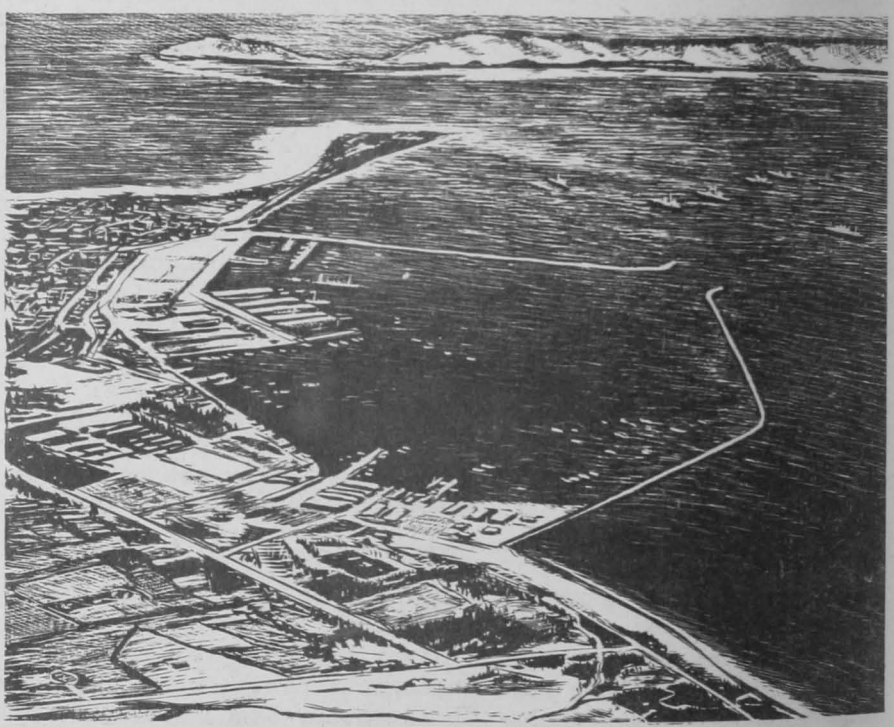
Peru's exports of fishery products have been steadily mounting during the past four years. There has been an increase in the shipments of canned fish, frozen fish, and fish meal (table 2).

Table 2 - Peru's Foreign Trade in Fishery Products, 1946-49[1/]

Product	1949		1948		1947		1946	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
	(in metric tons)							
Canned Fish....	20.1	6,198.6	82.0	4,871.9	210.2	4,617.9	50.6	2,652.5
Frozen Fish: ..	-	2,611.5	-	711.9	-	-	-	-
Swordfish ...	-	1,314.3	-	414.5	-	-	-	-
Tuna	-	1,217.3	-	288.8	-	-	-	-
Dried Fish	12.8	6.9	2.0	8.2	29.5	45.2	74.3	22.6
Fish Meal	-	2,708.4	-	675.3	-	473.7	-	-
Fish Livers ...	-	8.4	-	78.1	-	475.9	-	553.7
Total	32.9	14,065.4	84.0	7,048.7	239.7	5,612.7	124.9	3,228.8

1/Statistics from Direccion de Pesqueria y Caza, Ministry of Agriculture.

In the 5-year period, 1935 through 1939, the annual importation of canned and dried fish averaged 2,240,000 and 663,000 pounds, respectively. The United States supplied an average of 843,000 pounds of canned fish (sardines and salmon) and 117,000 pounds of dried shrimp annually. Total imports from the United States in 1948 amounted to only 185,000 pounds; and in 1949, 73,000 pounds. This decline was accelerated by shortages of dollars.



CALLAO -- ONE OF THE PRINCIPAL FISHING PORTS IN PERU.

Almost every small food shop carries canned fish, usually consisting of the following four styles of pack: sardines in tomato paste (1-lb. flat oval); bonito, "salmon" style (1-lb. tall); bonito in oil (7-oz. round); and bonito in tomato sauce (1-lb. tall). Turn-over is slow, and in the absence of accurate figures, it is estimated that canned fish consumption within the country does not exceed 50,000 cases annually. Retail prices for bonito in oil (7-oz. round) average about 15 cents (U. S. currency equivalent).

Peru's consumption of frozen fish in 1950 (mostly swordfish) will only be about 220,000 pounds. This is due to a variety of causes, which will require some years to obviate. First, is lack of adequate transportation; second, is the relatively few outlets for distribution of frozen fishery products. Peru has developed so rapidly during the past two years that railroad and highway transportation, production of electric power, industrial and domestic water supplies, and telegraph and telephone communication have not been able to expand with sufficient rapidity. These factors, rather than productive capacity, have limited expansion of the frozen fish business.

Although the Peruvian economy has strengthened considerably with respect to dollar balances during the past fiscal year, it seems unlikely that any sizable import permits will be issued for purchasing fishery products when construction materials, machinery, and farm implements are so urgently needed. Also, sterling balances can be used more conveniently for the purchase of sardines, dried cod, and other desired products from Spain, Italy, France, and Norway.

Surinam

IMPORT TARIFF ON CERTAIN FISHERY PRODUCTS RAISED: The Surinam (Dutch Guiana) import tariff on certain luxury articles (including certain fishery products) was raised by 10 percent of the value, according to a July 24 American consular report from Paramaribo. Fishery products on the published list include caviar, fresh fish (including shellfish), canned smoked salmon, smoked eels, eels in jelly, and canned shellfish.

Thailand

FISH AN IMPORTANT SOURCE OF FOOD: Fresh-water fish constitute an extremely important source of food supply throughout the central region[1/] of Thailand, an August 3 Bangkok consular dispatch reports. Fish for food are taken from every stream, canal, lake, and swamp. As flood waters begin to recede after the rainy season, fishing activities assume almost frenzied proportions as the farmers attempt to salvage every fish, crab, and shrimp that is left behind in the dried-up streams, canals, and swamps. Some local fish varieties are able to bury themselves in the mud as waters recede. These burying species are often captured when they return to the surface after a heavy rain, or small tracts are artificially flooded to secure the same result. Artificial fish ponds are common throughout the region, fish being taken under village rules which fix the day upon which certain groups of villagers are permitted to make a mass attack upon specified ponds.

All kinds of nets, seines, and traps are used for the taking of fish, and practically every rural home is equipped with fishing apparatus of various types. Where a perpetual water supply is available, fresh fish are taken daily to meet family requirements. Where water supplies are variable, fishing activities are

1/ EXCLUDES FOUR SOUTHEASTERN PROVINCES. THE CENTRAL REGION OF THAILAND COMPRISES ONE-FIFTH OF THE TOTAL AREA OF THE KINGDOM, BUT SUPPORTS NEARLY ONE-THIRD OF THE ENTIRE POPULATION. THE CENTRAL REGION HAD A 1947 POPULATION OF 5,387,604, WHILE THE ENTIRE KINGDOM'S POPULATION WAS 17,317,742.

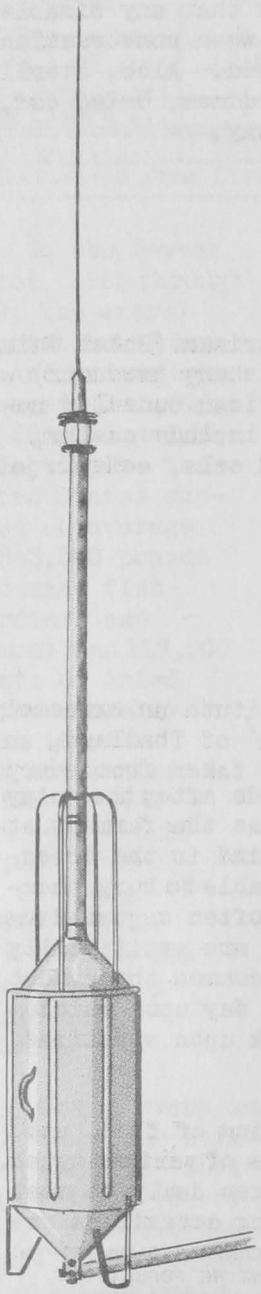
organized by seasons, and when the catches are large, all surpluses beyond immediate needs are dried, salted, fermented into fish sauce, boiled for extraction of fish oil, or the living fish are kept in small ponds until needed.

Fresh and preserved fish of all kinds are a prominent feature in every village market. In addition to supplying local needs, considerable quantities of freshwater fish are shipped from rural areas to the Bangkok market. Itinerant buyers circulate throughout the Central Region picking up surplus supplies wherever found.

United Kingdom

IMPROVED TYPE OF RADIO BUOY FOR FISHERIES: A new type of radio buoy has been developed by a Scottish firm for use by fishing vessels to prevent the loss of costly gear, reports the July 22 issue of The Fishing News, a British fishery periodical. This buoy could be used also as a guide to shipping at harbor entrances during foggy weather. A subsidiary company has been formed for the manufacture and export of these radio buoys to the United States and Canada.

The British Ministry of Fisheries experimental trawler Ernest Holt has tried the radio buoy in every conceivable way and in almost every type of weather. The fishery cruiser Minna is carrying out experiments with a radio buoy on the west coast of Scotland with the object of finding out its possibilities with radar. A special feature of the radio buoy is that each one is made so that it can only use the call signal of the vessel to which it belongs. Two Aberdeen fishing vessels are operating radio buoys.



NEW TYPE OF RADIO BUOY DEVELOPED BY A SCOTTISH FIRM.

The lower section of the buoy is made up of a cylindrical container housing a low-power radio transmitter and control equipment, and a cone. These two parts form a watertight joint, and all normal functions of switching, tuning, etc., are carried out through a four-inch porthole in the wall of the cone. The upper section consists of a hollow mast which is surmounted by a composite light and aerial insulator. The lower section contains the battery, which is the primary source of power. A 6-foot balance keel with a swivel lock of special design is fitted to the base of the lower section, prior to launching the buoy.

The radio transmitter, which has a nominal range of 25 miles for a period of 60 hours when fully charged, operates on a frequency within the Marine Communications Band. The control equipment centers around a 15-day time switch which places the transmitter in operation, keys the transmitter with the call sign of the parent vessel, and switches the transmitter off at the end of each transmission cycle--at present it is three minutes. The apparatus is being modified to allow for varying transmission periods of from 2 to 4 minutes with optional silent periods of 12, 28, or 58 minutes, the latter being selected, before the radio buoy is released, through the 4-inch porthole.

The mast light, consisting of two lamps within a dioptric lens, is normally "steady," thereby indicating that the equipment is switched on. During the transmission period, however, the lamps are also keyed with the transmitter. The primary battery is a 12-volt lead/acid type of special design and contains no free electrolyte. With the present three-minute cycle, a working life of sixty jours can be expected from a fully charged battery.

For servicing, the radio buoy can be opened at the watertight joint in order to gain access to the transmitter unit. This unit is easily removed to enable the battery to be examined or replaced. If suitable D. C. current is available, the battery may be charged in position, the necessary switching arrangements being incorporated in the control equipment. Operation of the transmitter unit can be checked without removing it from the container.

The dimensions of the radio buoy are: over-all height is 16 ft. (container height, 4 ft.; mast height, 6 ft.; whip aerial, 6 ft.); container diameter is 18 in.; and total weight is approximately 250 pounds.

A similar radio buoy has been designed, incorporating remote radio control thereby enabling the parent vessel to use two or more buoys and start up or shut down either transmitter as required. Range of the control equipment is limited by propagation characteristics to approximately 10 to 12 miles. A smaller model is in the course of production suitable for seiners and whaling vessels.

Among the advantages and uses claimed for this new radio buoy are the following:

1. Will mark nets by emitting radio signal call to mothership.
2. Reduce search time during foul weather.
3. Whalers can attach one to harpooned whale and collector vessel can easily locate the catch.
4. Harbor entrances can be marked to "home" a fishing boat or other ship not equipped with radar.
5. Research or diving vessels can mark important locations and return in foul or foggy weather.
6. Marking far end of lines for long-line fishing.
7. Fishing dorries could each be marked with radio buoy and thus located easily in foul weather by main vessel.

Lloyds of London are insuring the radio buoys now in use in North Sea, Faroe, and Iceland waters at a rate of 3 percent per annum on the cost price of approximately $350.

* * * * *

HUMBER PORTS RAISE MINIMUM LANDED PRICES: The Humber ports (Grimsby and Hull) on July 24 this year put into effect a new schedule of minimum prices to be paid to producers. These ports, which handle a big percentage of the fish landed in Great Britain, raised the minimum landed prices as an extra incentive to fishermen to bring in a standard quality of fish that will demand the minimum price (if a sale is effected). It is hoped that this will eliminate the necessity of selling fish for reduction purposes or for salting at a very low price, according to the July 29 issue of Fish Trades Gazette, a British fisheries periodical.

Under the new schedule, the minimum landed price for cod is 3½ cents per pound; haddock, 4 cents; all prime fish (including plaice and lemon sole), 5 cents; whiting, 2.8 cents; and cheaper varieties, 2 cents. Prior to July 24, the minimum landed prices for cod and haddock were 3 cents per pound.

This action followed the establishment of regulated sailings and landings at the ports of Grimsby and Hull for distant-water vessels in mid-July. The purpose of regulated landings and the raising of minimum prices is to keep the distant-water vessels fishing and prevent wholesale tie-ups due to the landing of an oversupply of fish or the landing of certain species of fish which are not as marketable as some of the more preferred species.

International

FAO ANNOUNCES HERRING INDUSTRY MEETING: A meeting of fisheries technologists to discuss technical problems regarding herring processing and utilization was called by the United Nations Food and Agriculture Organization. The meeting will take place in Bergen, Norway, from September 24 to 29 this year.

This meeting is an outcome of the FAO herring meeting held in The Hague, the Netherlands, August 1949.1/ One of the conclusions of the meeting last year was that in view of the existing trend towards a surplus in the herring industry, efforts should be made to find new outlets for herring products. The forthcoming meeting in Bergen will discuss all modern improvements in herring technology and utilization, which may contribute towards making processing more efficient and the products more easily available.

One of the principal subjects to be discussed at this meeting will be the possibility of preparing herring (which are considered a cheap source of protein) as an inexpensive food product suitable for the tastes of protein-deficient populations in areas such as Asia and Africa, and at a price sufficiently low to be acceptable to these populations. The purpose of the meeting is to assemble whatever information is available on experiments already carried out on this phase of the problem, and to present additional information from the areas concerned on food habits and the prices consumers can pay.

Other aspects of herring fisheries technology also will be dealt with, such as, canning, freezing, and the manufacture of herring byproducts in which many new developments have taken place.

1/SEE COMMERCIAL FISHERIES REVIEW, DECEMBER 1949, PP. 21-4.