



International

UNITED NATIONS

OCEAN RESOURCES DISCUSSED AT UNESCO-SPONSORED MEETING IN TOKYO: The newly-formed International Advisory Committee on Marine Sciences set up by the United Nations Educational, Scientific and Cultural Organization met in Tokyo, Japan, October 24-25, 1955.

The meeting follows a four-day symposium sponsored by the Japanese National Commission for UNESCO and attended by representatives of marine science institutes in the Indo-Pacific region, according to an October 24 press release from the United Nations.

The meetings represent a new effort by UNESCO to pool scientific knowledge on an international scale to develop methods of investigating the resource of the sea. UNESCO's Arid Zone Committee, founded in 1951, has already begun such an attack on the question of developing the world's dry regions.

One of the major subjects discussed at Tokyo is the assistance that UNESCO can render research workers in the field of oceanography where international cooperation is considered indispensable. Even explorations of the world's oceans have yet to be completed. There is, for example, an immense expanse of the Indian Ocean lying mainly between the Equator and Latitude 40° South which is still virtually unknown territory.

It is also believed that more effective international cooperation can advance practical applications of the marine sciences--such as certain French experiments in harnessing for industrial use the difference in temperature of sea water at great depths and on the surface.

The advisory committee established by UNESCO has received numerous proposals ranging from cartography to measurement of temperatures and salinity and from submarine geology to the study of cosmic dust. Among urgent problems are the creation of research stations in areas such as Latin America and the Indian Ocean, where facilities are not adequate at present, and the rendering of assistance to established institutions. Scientists have already suggested that specialists and technicians be trained through fellowships and exchange programs and that information on the problems of the marine sciences be distributed as widely as possible by a central agency. It has also been proposed that UNESCO assist in supplying equipment, research apparatus, measuring instruments, and even in outfitting an international research ship.

In many instances, research in physical and chemical oceanography has a direct bearing on fisheries. The United Nations Food and Agriculture Organization, therefore, is represented at the meetings. In addition to the FAO, other international organizations have been invited, including the World Meteorological Organization, the United Nations Economic Commission for Asia and the Far East, and the Indo-Pacific Fisheries Council. Scientists from nine nations participated in the meeting of the advisory committee.

NORTH PACIFIC FISHERIES COMMISSION

THIRD ANNUAL MEETING: The third annual meeting of the International North Pacific Fisheries Commission opened in Tokyo on October 31, 1955.

The Commission members representing the three countries participating in the commission, United States, Canada, and Japan, were scheduled to discuss the Commission's program of work and budget for the coming year, as well as other topics of mutual concern covered by the convention.

United States members of the Commission attending the Tokyo conference were: Milton E. Brooding, San Francisco, Chairman of the United States section; Edward W. Allen, Seattle; John H. Clawson, Anchorage, Alaska; and John L. Farley, Director of U. S. Fish and Wildlife Service, Washington, D. C.

INTERNATIONAL LAW COMMISSION

SEVENTH-SESSION REPORT ON REGIME OF THE HIGH SEAS SUBMITTED: Important progress in the task of codifying maritime law is indicated in the report of the International Law Commission (ILC) which contains draft articles for the Regime of the High Seas and for the Territorial Sea, an October 3, 1955, United Nations news release points out.

The report covers the work of the seventh session of the ILC and is submitted to the current session of the General Assembly (Doc. A/2934). The proposals are provisional drafts which have been submitted to governments for comments. They are not scheduled to come before the Assembly in final form until the 11th Assembly session in 1956.

In its proposals on the Regime of the High Seas, the Commission submits for the first time provisions relating to such subjects as Piracy, Ships Sailing Under Two Flags, Right of Visit, and Right of Pursuit.

Draft articles on the Regime of the Territorial Sea include one on the controversial question of the breadth of territorial waters. On this the Commission does not take a precise stand. Its draft Article 3 states:

"The Commission recognizes that international practice is not uniform as regards the traditional limitation of the territorial sea to three miles."

It goes on to add: "The Commission considers that international law does not justify an extension of the territorial sea beyond twelve miles. The Commission, without taking any decision as to the breadth of the territorial sea within that limit, considers that international law does not require States to recognize a breadth beyond three miles."

The Commission's draft proposals on these two main topics--regime of the high seas and of the territorial sea--are summarized below.

Regime of the High Seas: On this, the Commission has submitted 38 draft articles, with comments to be submitted to governments for observations.

The text defines the term "high seas" as all parts of the sea which are not included in the territorial sea or internal waters of a State.

Freedoms of the high seas which, it states, are not subject to the jurisdiction of any state, comprise: the freedom of navigation, of fishing, of laying submarine cables and pipelines, and of flying over the high seas.

The Commission says that in order that these freedoms should be enjoyed

by all nations, international law recognizes certain rules safeguarding their exercise. Among the points covered by these rules are the right of states to exercise sovereignty on ships flying their flags, certain policing rights, rights of conservation of the living resources of the high seas, and rights concerning the continental shelf.

In draft articles 3 to 23, the Commission has attempted to codify the law relating to the various aspects of navigation, including the nationality of ships; right to a flag; the status of ships sailing under two flags; immunity of warships and other State ships; signals and rules for the prevention of collisions; penal jurisdiction in matters of collision; duty to render assistance; slave trade; piracy; right of visit; right of pursuit; and pollution of the high seas.

One of the controversial points dealt with by the Commission, in the course of its consideration of the articles on navigation, relate to piracy.

In ten articles (24 to 33), the Commission deals with fishing on the high seas. In article 24 the Commission lays down the principle that every state can claim for its nationals the right to fish on the high seas. The Commission accepted no exception to that principle, it said, in the parts of the high seas covering the continental shelf, except as regards sedentary fisheries. Nor does it recognize the right to establish a zone contiguous to the coasts where fishing can be exclusively reserved to the nationals of the coastal state.

CONSERVATION OF LIVING RESOURCES OF THE SEA: The principle of the freedom of the seas, however, the Commission considers, does not preclude regulations concerning the conservation of the living resources of the sea—a subject dealt with by the Commission in articles 25 to 33. The Commission adds that states may still conclude conventions for the regulation of fishing, but the treaty obligations arising from such conventions would be binding only on the signatory states.

In adopting these articles, the Commission says it recognized that the ex-

isting law on the subject does not adequately protect marine fauna against waste or extermination which constitute a danger to the food supply of the world. Also, insofar as it renders the coastal state or states directly interested helpless against wasteful and predatory exploitation of fisheries by foreign nationals, the existing law constituted an inducement to the states in question to resort to unilateral measures of self-protection, which are sometimes at variance with the law as it stands at present, because they result in the total exclusion of foreign nationals.

The Commission communicated the section on fishing, with an annex, to a number of technical bodies which were represented by observers at the International Conference on the Conservation of the Living Resources of the Sea, held in Rome last spring. The Commission states that it has taken note, "with great interest," of the report of the Conference (Doc. A/CONF. 10/5/Rev.1).

Articles 34 to 38 of the Commission's draft on the regime of the High Seas confirm the right of all States to lay submarine cables, pipelines, telephone and telegraph cables. Measures regarding their protection also form the subject of articles drafted by the Commission.

Regime of the Territorial Sea: The Commission continued its work on this subject by amending, in the light of comments received from governments earlier this year, some of the provisional articles drawn up at its 1954 session.

By its first two draft articles under this heading the Commission declares that the sovereignty of a state extends to a belt of sea adjacent to its coast, described as the territorial sea. This sovereignty of a coastal state extends also to the air space over the territorial sea as well as to its bed and subsoil.

As mentioned at the beginning of this release, the Commission suggests that the maximum limit of the territorial sea should be twelve miles. While not taking any decision as to the breadth of the territorial sea within that limit, it considers "that international law does not require States to recognize a breadth beyond three miles."

Some members of the Commission, the report states, held the view that the breadth of 6 to 12 nautical miles fixed by certain states for their territorial sea had the same juridical validity from the point of view of international law as the breadth of three miles applied by other states. The Commission, however, did not accept that view.

The Commission felt that the task of harmonizing the different views, which, it states, stemmed from different political or economic conditions, should be entrusted to a diplomatic conference.

In other draft articles on the regime of the territorial sea, the Commission deals with the methods of measuring the breadth of territorial waters and with the law concerning roadsteads, islands, drying rocks and shoals, delimitation of the territorial sea in straits and at the mouth of a river, delimitation of the territorial sea of two States, the coasts of which are opposite each other; and delimitation of the territorial sea of two adjacent states.

Eleven articles (16 to 26) deal with the right of merchant vessels to innocent

passage through the territorial sea. The Commission states that for this right to be claimable, the passage must in fact be an innocent one. Passage would not be innocent if the vessel committed any acts prejudicial to the security of the coastal state or contrary to the "present rules," or to other rules of international law.

Other articles relating to the right of innocent passage define, among other things, the duties of the coastal state, the rights of protection of the coastal state, duties of foreign vessels, charges to be levied upon foreign vessels, arrest on board a foreign vessel, arrest of vessels, government vessels operated for commercial purposes, passage of warships and nonobservance of regulations by warships.

Final Report to be Submitted to the 11th General Assembly: In accordance with a General Assembly resolution of last year, the International Law Commission will submit a final report on both the Regime of the High Seas and Regime of the Territorial Sea--and all related problems--to the eleventh session of the Assembly in 1956.

TERRITORIAL WATERS

COSTA RICA SIGNS SANTIAGO PACT ON TERRITORIAL WATERS: The quadripartite conference between Chile, Peru, Ecuador, and the United States ended October 5. The three signatories (Chile, Peru, and Ecuador) of the original Santiago pact opened it to signature by other countries only for the extension of the juridical principle of territorial waters, and Costa Rica immediately signed.



Australia

TUNA PRICE AGREEMENT REACHED: An Australian fish canner has agreed to pay 5½d. (5.11 U. S. cents) per pound for southern bluefin, albacore, and yellowfin tuna this season delivered at either the Eden or Narooma (Australia) canneries, up to a total of 1,000 tons. Fish must be a minimum of 10 pounds each and there is a limit of 40 tons on any one day's deliveries.

The above was agreed to between the company and the Tuna Boat Owner's Association of Australia at a meeting held at the Eden cannery in September. Last season the price was 8d. (7.43 U. S. cents) per pound at the beginning of the season but fell to 5d. (4.65 U. S. cents) per pound, reports the August 1955 Fisheries News Letter of the Commonwealth Director of Fisheries.



Cambodia

FISHERY RESOURCES IMPORTANT: Although the Cambodian economy is chiefly agricultural, fishing occupies an important place, and its fresh-water fishing industry is unique in this part of the world. The Great Lake of the Tonle Sap is a veritable inland sea producing an average commercial crop of about 50,000 metric tons a year.

But actually fishing is carried on throughout the country, other areas producing 80,000 tons a year of fresh-water fish, in addition to 30,000 tons of salt-water fish. It is said that every Cambodian farmer is also a fisherman, and this is to a great extent true.

Nets, traps, and lines are to be seen all along the rivers, and in the interior there are artificial fish ponds and those formed by the recession of the flood waters.

Fish are an important element in the Cambodian diet, and in addition they are exported fresh, dried, salted, or smoked. Some fish oil is produced, in addition to large quantities of a fermented sauce made from pressed fish and highly regarded in Vietnam, reports a recent dispatch from the United States Consulate at Phnom Penh.



Costa Rica

DUTY ON PULVERIZED OYSTER SHELL REDUCED: Costa Rican import duties on pulverized oyster shell for poultry feed were reduced by Decree No. 18 effective August 20, 1955. The new rate of duty is 0.10 colon (about 1.8 U. S. cents) per gross kilo and the c.i.f. ad valorem rate of 4 percent; the former rate was 1.0 colon (17.6 U. S. cents) and 20 percent, respectively.



El Salvador

SHRIMP PRODUCTION IN EL SALVADOR: The annual production of shrimp in El Salvador is estimated to be close to 250,000 pounds, points out the United States Embassy at San Salvador. The most productive areas are located along the eastern two thirds of the coast and in the Gulf of Fonseca, and the best fishing season is from November-June.

The shrimp catches are made up of three species of the genus *Penaeus*, with *P. styloristris* the most abundant. The catches consist of about 50 percent 18 or under heads-on shrimp to the pound, 25 percent 18 to 35 count to the pound, and 25 percent small or over 35 to the pound. It is estimated that 150,000 pounds are marketed raw, either heads-off or heads-on (some are frozen for local consumption) and 100,000 pounds heads-on cooked or salted.

At the present time only two trawlers plus a number of canoes are engaged in the shrimp fishery. Most of the production is consumed locally, and only very small quantities are exported. There is some possibility that both production and processing will increase in the future.



Canada

NOVA SCOTIA FISHERIES OUTLOOK GOOD: In a statement given at hearings held by the Gordon Commission at Halifax, October 19-21, 1955, the Canadian Deputy Trade and Industry Minister stated that the outlook for Nova Scotia fisheries was good.

There was need for plant expansion, and the financial assistance required was not within the ability of the Provincial Government. "Without fairly rapid expansion and modernization parts of the Nova Scotia fishing industry lie in danger of losing ground," he said. Consideration would have to be given for some policy of financial assistance. Import tariffs in certain countries presently hamper the establishment of a fish stick industry in the Province. The fish is chiefly shipped to the United States in bulk, whereas the finished product (fish sticks) would bring 30 cents a pound, he continued.

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GREAT SLAVE LAKE FISH CATCH, SUMMER 1954: Production on Great Slave Lake during the 1954 summer fishing season was the highest recorded since the opening of the lake to commercial fishing. An intensive quality-control program was maintained by the industry which resulted in a high-quality export product on the Chicago, Detroit, and New York markets.

Five companies operated during the season and 50 resident commercial licenses, 128 nonresident commercial licenses, and 28 treaty Indian permits were issued, the Canadian Trade News reports.

Fishing started on June 13, 1954. The first lifts were landed at Hay River on June 14. Early September saw an over-all reduction in operations due to lack of ice for chilling fresh fish, but limited operations continued to the close of the season on September 15.

Average ex-vessel prices were much the same as the previous year--8 Canadian cents a pound for whitefish; 10 cents a pound for lake trout, and 5 cents a pound for inconnu, pike, and pickerel.

Summer production was 4,173,064 pounds, made up as follows; whitefish, 2,252,223 pounds; lake trout, 1,889,960 pounds; inconnu, 26,854 pounds; and others, 4,028 pounds.

Kakisa Lake, located about 90 miles west of Great Slave, produced 73,233 pounds of pickerel. Two companies took part in this operation with a total of 15 fishermen, 5 of whom were resident fishermen, 3 nonresident, and 7 treaty Indians. Although the over-all production from the lake is small, it is very important as it supplies the producer with pickerel which is not found in commercial quantities in Great Slave Lake.

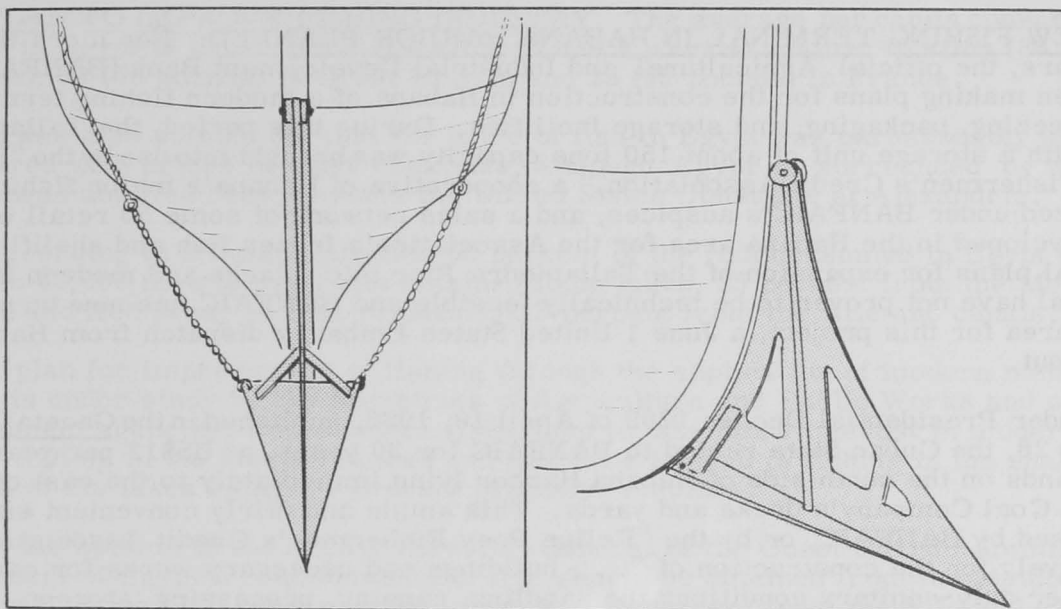
The 1954/55 winter season opened on December 1, but due to mild weather little ice had formed on Great Slave Lake and until the middle of the month, only a few companies were operating.

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RAM ON VESSEL'S PROW KILLS SHARKS: Responding to an urgent appeal from fishermen the Canadian Federal Department of Fisheries has devised effective means of coping with basking sharks which, in recent years, have become a growing menace to salmon fisheries in certain parts of the British Columbia coast. With the installation of a specially-built razorlike ram on the bow of the Fisheries Protection vessel Comox Post, a heavy toll of basking sharks has been taken in the Barkley

Sound area. Reports from fishery officers indicate that since the Comox Post was fitted with this equipment, 41 basking sharks have been destroyed. A bag of 18 was the highest recorded for a day, that Department's August 1955 Trade News points out.

Damage to gill nets and trolling gear through basking sharks has been a problem to fishermen for many years. Feeding on the same food as salmon, the big ani-



Front and side views of the knifelike ram fixed on the bow of the Comox Post, a Canadian Fisheries Protection vessel.

mals, some attaining 30 feet in length, frequent the same areas as salmon and are usually present in greatest numbers at the height of sockeye salmon fishing.

Since no commercial use has yet been found for them, the presence of basking sharks in a salmon school is a fisherman's nightmare. When these creatures become snared in nets they do heavy damage and may easily destroy hundreds of dollars' worth of webbing in a few minutes. Trolling gear is equally vulnerable if hooks catch in the hides of the monsters. As many as fifty of these pests may gather in an area where salmon are feeding, making it impossible for fishermen to risk putting out their nets. One fisherman summed it up: "We scout and find salmon but lose our enthusiasm when we see those large, menacing fins."

Fishermen and fishing companies have tried for many years to find an answer to this problem. Harpooning has met with limited success but is too slow to be fully effective. Rifle fire has been discarded as ineffective and a possible danger to other craft in the vicinity.

The new method is an improvement on a device tried in Rivers Inlet by a fishing company some years ago. The bow of the Comox Post is fitted with a pointed steel ram, sharpened on the forward edge and hinged. When not in use it is carried in a closed position above the water line, after the style of a closed clasp-knife. In operation the ram is lowered from the hinge by a cable so that its point and cutting edge is just beneath the surface of the water and facing upwards. Chain braces on either side of the bow keep it firmly in position.

When sharks are sighted the vessel is steered directly for the school. As this species normally floats close to the surface, individuals are easily picked out and rammed. Besides reducing the number of sharks in these waters, the attacks break

up and scatter the schools making it reasonably safe for fishermen to operate in the immediate area.



Cuba

NEW FISHING TERMINAL IN HABANA HARBOR PLANNED: For more than two years, the official Agricultural and Industrial Development Bank (BANFAIC) has been making plans for the construction in Habana of a modern fishing terminal with freezing, packaging, and storage facilities. During this period, the Tallapiedra Pier with a storage unit of about 150 tons capacity was brought into use by the "Felipe Poey Fishermen's Credit Association," a cooperative of Habana's major fishing units organized under BANFAIC's auspices, and a sales network of some 50 retail outlets was developed in the Habana area for the Association's frozen fish and shellfish. Original plans for expansion of the Tallapiedra Pier into a large and modern fishing terminal have not proven to be technically feasible and BANFAIC has now turned to a new area for this project, a June 1 United States Embassy dispatch from Habana points out.

Under Presidential Decree 1202 of April 19, 1955, published in the Gaceta Oficial on May 26, the Cuban State rented to BANFAIC for 30 years, at US\$12 per year, the State lands on the north side of Habana Harbor lying immediately to the east of the Havana Coal Company's docks and yards. This ample and fairly convenient site is to be used by BANFAIC, or by the "Felipe Poey Fishermen's Credit Association," exclusively for the construction of ". . . buildings and necessary works for carrying out under duly-sanitary conditions the handling, canning, processing, storage, and industrialization of fish." Such construction is to be carried out at the expense of the renter and construction work is to be completed within 10 months after the site is formally occupied.

According to an informed BANFAIC official, this formal acceptance of the site will be delayed pending the study and recommendations to be made by a technician from the Food and Agriculture Organization (FAO). This same source advises that, as now planned, the projected fishing terminal will cost about one million U. S. dollars. Financing arrangements have not as yet been completed but it is expected that some assistance will be provided, probably on a loan basis, through BANDES, executive agency for the Government's 350-million dollar Development Program.



Egypt

NEW FIRM PLANS TO BUILD FREEZER: An established firm in Alexandria proposes to form a new firm with the help of American capital for the purpose of building a freezing plant to freeze shrimp, spiny lobster, and possibly sole fillets. The frozen products will be exported to the United States, according to an October 12 dispatch from the American Consul at Alexandria.

Although the amount of American capital to be invested was not disclosed, it is understood that the dollar investment will be close to 30 percent of the Egyptian firm's capital. The use of foreign capital enables the new firm to benefit by a seven-year tax exemption.

It is planned to purchase shrimp deveining and peeling machinery from the United States.

The spiny lobster is available only in the Red Sea, and in order to utilize these resources, the new firm plans to purchase a suitable vessel for transporting the spiny lobster from the Red Sea to Alexandria. Preliminary negotiations for the purchase of such a vessel are being held with an Italian ship builder.

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PLAN TO IMPROVE FISHING INDUSTRY: The average per capita consumption of fish in Egypt is between 3 and 4 kilos (6.6-8.8 pounds) against 40 kilos (88 pounds) in Japan, 30 (66 pounds) in Great Britain and 25 (55 pounds) in France.

It was also pointed out that the price of fish in Egypt was unreasonably high as compared with prices in other countries, although Egypt is surrounded by the Mediterranean and Red Seas, reports the United States Consulate at Alexandria.

According to official statistics 60 percent of the fish consumed in Egypt (equivalent to 40,000 metric tons) was obtained from lakes, 25 percent from the Mediterranean and Red Seas, and the remaining 15 percent from the Nile and canals.

A plan for improvement of fishing through the application of modern methods, which is under study by the Ministries of Agriculture and Public Works and other government agencies, would induce fishermen to take more interest in modern methods of fishing in the Mediterranean and Red Seas instead of fishing in the shallow waters of the lakes using the present primitive methods.

In the opinion of the Deputy Director-General of the Coast Guard Administration, 80 percent of Egypt's requirements of fish should be obtained from the Mediterranean and Red Seas, 10 percent from lakes, and 10 percent from the Nile and canals.

The plan also provides for draining the greater part of some lakes. The total area of Lakes Menzala, Burillos, Edku, and Mariut is 544,000 feddans (about 565,000 acres), of which 434,000 feddans (about 450,000 acres) would be drained and put under cultivation, thereby increasing Egypt's agricultural production.

It is expected that the plan would be carried out before the end of the current year.



French West Africa

DEVELOPMENT OF COMMERCIAL FISHING: The prospects of developing commercial fishing on a modern industrial scale in French West Africa have been the subject of considerable study and discussion for several years, both from the point of view of further developing the economic resources of the country and from the point of view of supplying European markets and increasing available proteins for the African diet. Studies, recently confirmed by actual trials on a commercial scale, have indicated that the coastal waters of French West Africa may well support one of the most abundant and varied populations of marine life in the world. Fresh-water fishing, already exploited to some degree in several parts of the Federation, offers considerable opportunity for further development as a supplement to the domestic food supply, an August 25 dispatch from the United States Consulate at Dakar points out.

Marine Fisheries: In regard to marine fishing, the types of known edible marine life may be divided into three categories: (1) the ordinary run of the catch, (2) the select or quality types, and (3) those which lend themselves best to canning.

The first category is that which has been traditionally taken by native fishermen working from ocean-going dugout canoes (pirogues) for the supply of the local market. The largest part of this catch, as is the case with fresh-water fish, is consumed fresh although small quantities are salted or smoked for preservation or for shipment to other points in Africa. The Government General of French West Africa has long been interested in this type of fishing and attempts have been made to motorize native boats and otherwise modernize native fishing methods in order to increase the total catch. Increased consumption of fish would be a substantial improvement in the native diet. In spite of the efforts of the Government, however, little has been accomplished. The delicate relationship between prices and supplies of fish on the local market, the effect of lower prices on the income of the 25,000 to 30,000 Senegalese fishermen, the lack of modern equipment and the high initial investment required to furnish it, and the total lack of personnel trained in the use of modern equipment have combined to retard action to modernize the local fishing industry.

In recent months several Breton fishing trawlers have been working out of the Port of Conakry (French Guinea) with considerable success. It is presumed, however, that these boats are entirely or almost entirely manned by French crews. These five trawlers, varying from 30 to 56 feet over-all, have been supplying Conakry and the environs with an average of about 3 metric tons of fish a day as compared to one ton provided by all the native fishermen. The increased supply of fish has, of course, triggered a considerable price decline and has undoubtedly placed the native fishermen in a very precarious position, but it has also tripled the consumption of fish in and around Conakry. About a third of the fish is smoked and sent into the interior. While smoking is presently being done using traditional native methods, the Government has announced plans to install several trial smoking ovens as part of the 1955/56 economic development program. In Dakar, at least for the moment, it appears that the Government is not encouraging the operation of modern trawlers in competition with the native fishermen, perhaps because the region in and around Dakar supports a much larger native population whose entire livelihood depends on fishing. A sizable drop in prices caused by greatly increased quantities of fish on the local market could have serious consequences for the native fishermen and leave them without support since they would for the most part be unemployable aboard modern trawlers without extensive training.

It is for this reason, perhaps, that the Government General seems rather to be concentrating on the development of types of fishing around Dakar which will not have undesirable repercussions on the native fishing population. Spiny lobsters and tuna exist in huge quantities in local waters and both appear to offer considerable opportunity for commercial development. Lobsters are taken by local fishermen for the Dakar market and for shipment both to the interior and to France. According to press reports, a local firm has exported by air to France about 50 metric tons of these crustaceans during the last two years and has supplied another 20 tons to markets in the interior or to the south. It is understood that this firm is undertaking the building of a covered pond (about 4,300 square feet) which will be filled with sea water and will be used for preserving the spiny lobsters alive until the moment of shipment. Of course, they could be shipped cooked and frozen, or the tails alone could be shipped frozen.

The Government General has just constructed a wharf for the use of fishing vessels not far from the installations of the firm mentioned above. The wharf is being joined to the firm's establishment by a road which will also serve seven other industrial lots to be ceded to firms who desire to install processing facilities for the local fishing industry.

In recent years, lobster boats have come from as far as Brittany to fish the coastal waters of Senegal and Mauretania from Sangomar Point north to Rio de Oro. The operations of these vessels, however, have been limited to three voyages per year because of the long journey to and from Brittany where the catch is landed.

With the local preservation facilities mentioned above, it is hoped that the Breton fishermen will find it more profitable to land their catches in Dakar for shipment by air to France or elsewhere. This would enable them to spend much more time actually fishing.

The third, and perhaps the most important, type of fishing for the future is for those species which lend themselves to canning. Although it is understood that during World War II several sardine canneries were in operation in and around Dakar, these enterprises could not maintain themselves after the war in the face of competition from Europe and Morocco. Today the big hope of the local fishing industry is for tuna. In 1954 and 1955 four tuna boats, at least one of them subsidized by the Government General of French West Africa, made trial runs in the coastal waters off Portuguese Guinea, French Guinea, and Sierra Leone. Although the exact outcome of these trials are not known, the local press has given some indication of the results and has proclaimed them a success. It has been reported that in several weeks of fishing in the area off the Bissago Islands off the coast of Portuguese Guinea, 84 tons of tuna (albacore) were taken. On a second voyage, this time south of the Bissagos to Sherbro Island off the coast of Sierra Leone, the Yolande Bertin, described as an "American clipper," is reported to have taken 50 tons of tuna in three days. A further voyage by a Government-sponsored vessel, fishing the waters south of Sherbro Island as far as Abidjan (Ivory Coast), is reported to have been less successful. At any rate, considerable information was gathered on the concentration and movement of the tuna during the fishing season, and it is alleged that the results were such as to confirm the possibility of profitably operating a sizable tuna fleet in these waters. In fact, the local press has carried reports of the preparation of numerous Breton tuna boats for service in West African waters during the current season, scheduled to begin in October or November 1955.

Reports indicate that the arrival of a large tuna-fishing fleet in the near future are, to say the least, somewhat optimistic. In addition to further problems which may be encountered at sea incident to actual fishing operations, there are a number of other questions which remain to be solved. It has been reported, for instance, that the few boats which operated in coastal waters last year were considerably hampered by the lack of established channels for supplying live bait. The tuna boats were forced to fish their own bait which, of course, limited the time they could spend pursuing the tuna. Another question which would certainly arise should a large fleet of fishing vessels descend on Dakar would be the matter of housing. Finally, there is the question of local preservation of the catch and shipment to the cannery. For the moment it is not considered likely that an attempt would be made to can tuna locally. French West Africa is a country of high production costs and, perhaps more important, Africa would not be under present conditions the major market outlet for canned tuna. The latter point would seem to make it economically unfeasible to can the tuna here when it could be cleaned here, frozen, and shipped to Europe for canning close to the point of consumption.

As to local preservation of the fish, Dakar has a refrigeration and freezing plant built by the Government General more than two years ago as part of the development plan for the Port of Dakar, but the plant has never been used to any profitable extent. It is at present too large in relation to the demand for such services (two small privately-owned and operated refrigeration plants handle the bulk of the present business). It is understood that the quick-freezing facilities of the plant are capable of handling up to 20 metric tons of fish per day, but up to the present time this has remained in the realm of pure theory.

It is apparent that the future of industrialized commercial fishing in French West Africa depends on the solution of a number of problems. That commercially-valuable species of fish and crustaceans exist in abundance has been proven, but the manner of exploiting these resources to the benefit of the country and to the satisfaction of the fishing industry, the canners, and the consumers has yet to be worked

out. Modernizing the local native fishing will probably prove to be the most difficult phase of the attempt to industrialize fishing in French West Africa not only because of the need for a sizable sum of money to invest in modern fishing equipment but because of the need to train personnel and to put the whole project into operation without destroying entirely the livelihood of a large number of African fishermen who would not be immediately employable aboard modern fishing trawlers. As regards lobster and tuna fishing, there is not the same risk of undesirable economic and social reverberations. Lobster and tuna fishermen would not be dependent on the local market for consumption of their catch and would not compete with the local native fishermen. There are some indications that both lobster and tuna fishing are going to develop into industries of some importance to the economy of French West Africa, contributing to the food supply of certain European countries and eventually to Africa. The results of the current season (1955/56) should give an indication of whether the hoped for industrialization is going to be accomplished within the next few years or not.

FRESH-WATER FISHERIES: Africa, from the point of view of food production, is a poor continent, the average yields of agricultural and pastoral products being greatly inferior to that of most parts of the world. There is, however, another smaller but perhaps richer domain open to increased exploitation, that of the fresh-water resources of the country. It is not too well known, for instance, that the Territory of French Sudan produces about 50,000 metric tons of fish annually taken from the Niger River between Markala (Sansanding) and Ansongo. The principal zone of exploitation is the so-called Central Delta of the Niger between Diafarabe and Kabara (near Timbuctu) and the marketing center is the river town of Mopti. While the fish taken in this part of the Niger constitute the bulk of the annual catch of fresh-water fish, there are also about 2,000 tons of fish taken annually from the Niger below Timbuctu mostly by fishermen from British Nigeria. Most of this catch is dried or smoked and taken back down the river to Nigeria at the end of the fishing season. In addition, the coastal lagoons of lower Dahomey yield 8,000 to 10,000 tons of fish annually and the middle and lower Senagal River another 500 to 1,000 tons. Unhappily, in Dahomey the increasing number of persons engaged in fishing the lagoons (only a quarter of the 100,000 persons involved are professional fishermen), the abandonment of the traditional rules governing fishing, and the destructive methods currently employed threaten the future development of commercial fresh-water fishing.

Along the Niger, river fish are either eaten fresh by the fishermen and their families or dried or smoked, depending on the variety of fish, then set aside for family provisions or wrapped in palm matting for shipment to market. While Mopti is the marketing center for the sale of river fish in the Sudan, shipments of dried and smoked fish are sent as far as the Upper Volta, the Ivory Coast, and the Gold Coast. Shipments outside the territory amount to about 6,000 tons per year.

The outstanding problem in regard to fresh-water fishing is the preservation of the catch. It is estimated, for instance, that 40 percent of the fish production of the Sudan is lost due to poor preparation and inadequate packaging for shipment, the failure to utilize certain wastes for cattle feed, and above all due to insect (dermestid) infestation in the dried fish. Infestation alone is the cause of the loss of 25 to 30 percent of the tonnage. In order to cut down the high losses due to infestation, the present Four Year Plan has provided funds for launching a control program against the attacks of these insects. The Plan, incidentally, also provides for the construction of a fish hatchery in Bamako.



Formosa

TUNA BOATS TO BE BUILT WITH JAPANESE MATERIALS: The Taiwan Shipbuilding Corp. is negotiating an agreement, on behalf of the China Fishery Co., with the Niigata Engineering Co., Ltd. of Japan, under which the Japanese firm will supply US\$680,000 worth of materials required to build four 350-ton tuna fishing vessels. The Taiwan Shipbuilding Corp. has proposed that 40 percent of the total amount of procurement (US\$272,000) be financed through the Bank of Taiwan and the remaining 60 percent (US\$408,000) to be advanced in the form of a loan for three years through a Japanese bank.

The Economic Stabilization Board at its 53rd meeting, upon the recommendation of a Committee, on June 16, 1955, approved this proposed agreement. Subsequently, the Economic Stabilization Board, on August 29 requested the Bank of Taiwan to grant the loan of US\$272,000 and to act as guarantor on the US\$408,000 loan to be advanced the Japanese bank. The Bank of Taiwan, in a letter to the Ministry of Economic Affairs, dated September 7, agreed to extend the loan in principle but indicated that an approval from the Executive Yuan must be secured for their guarantee of the loan by the Japanese bank.



Germany--East Zone

FISHING FLEET EXPANSION PLANNED: The fishing fleet of the east zone of Germany presently consists of 6 trawlers, 35 luggers, and 200 cutters, which are expected to land a total of about 85,000 metric tons of fish in 1955. Current plans envisage the addition of 9 trawlers, 25 luggers, and 50 cutters, according to articles in the West German press, reports the United States Consulate at Bremen in a July 20 dispatch. However, reports indicate some doubt about whether these plans will actually materialize since shipyards in the East Zone of Germany are overburdened with orders from the Soviet Union.

The increase in fish production is expected to diminish imports, which at present amount to about 115,000 tons per year (Federal German Republic supplied 39,000 tons in 1954). Fishery port facilities in the East Zone, refrigerated storage space, ice plants, fish-meal factories, and the fish-processing industry are reportedly being improved and enlarged. Allegedly, the government is extending financial aid for the operation of fishing cooperatives. A new fish research institute has been founded which will cooperate closely with its Polish counterpart.

It is a depressing fact to the authorities that the fishing industry in the East Zone of Germany is still operating in the red. The lugger fisheries in Rostock need annual government subsidies. The deep-sea cutter fleet of Sasanitz is still losing money in its operations. Serious complaints are furthermore being voiced about the fact that measures intended to improve the quality of the fish are slow in taking effect, fishing vessels in need of repair are out of action for many months on account of the overburdening of the shipyards, and the production of canned and marinated fish cannot keep pace with the rising fish landings. Reportedly, the construction of additional refrigerated storage space in the Baltic ports will be started presently to improve fish supply to the population.



Iceland

FISH CATCH, JANUARY-JULY 1955: During the first seven months of this year the Icelandic fish catch amounted to 285,646 metric tons--an increase of 4.5 percent over the same period last year. The herring fisheries which opened in July yielded in that month only 19,800 tons--about the same catch as in July 1954, which is considered a poor catch.

The increase in the total fish catch this year is due to more white fish. Slightly over 40 percent of the white fish catch this year was used for the production of fillets of frozen cod, haddock, ocean perch, etc., in contrast to last year when about half of the catch was used for that purpose. This change is caused by new market conditions. A larger share than last year has been used for stockfish and salted fish.

The catch by the motorboat or inshore fleet this year has risen by 12 percent, while the catch by trawlers or offshore fleet has declined by 8 percent, reports the September 1, 1955, issue of Aegir, an Icelandic periodical.



Israel

ISRAEL DEFINES TERRITORIAL WATERS: The Government of Israel announced on September 11 a decision to define its maritime frontier as extending six nautical miles, airspace included, from the Israeli coastal low-water line, states an October 7 dispatch from the United States Embassy at Tel Aviv.

The decision takes effect immediately; but its enforcement shall begin on November 1, 1955, from which date measures shall be taken, if need be, to protect the sovereignty of the State in the aforesaid areas.



Italy

REVIEW OF THE FISHERIES: Imported Fish Needed to Supplement Domestic Catch: Although Italian fish landings have risen slowly in postwar years, demand

for imported fish continues strong, the Canadian Foreign Trade of July 9 points out. The greatest demand is for salted cod and canned chum salmon.

Table 1 - Italian Fishing Fleet at End of 1953

Type of Vessel	No.	Gross Tonnage
Motor trawlers	2,555	59,685
Motorboats	4,804	16,015
Sailing and other boats . .	36,724	54,271
Total	44,083	129,971

Italy has allocated dollars for the import of Canadian fish during the 1955/56 season, but sales will depend largely on the availability of high-quality salted cod and canned chum salmon. Italian fish imports in 1954 totaled 106,069 metric tons, an increase of 9.4 percent over 1953 (96,910 tons), but 16.8 percent less than in 1952 (127,751 tons). In that year, however, imports of salted cod and stockfish were unusually high.

The general pattern of imports showed little change during the past year. Salted cod continued to head the list, followed by fresh and frozen fish, canned sardines and anchovies, and canned tuna.

Modernizing the Fishing Fleet: Italy emerged from World War II with a badly depleted fishing fleet; the vessels which survived were old and used obsolete means of propulsion. In the postwar years the industry has carried on a program for the steady modernization of the fleet, aided by a number of government measures which provided subsidies. The most recent of these--the Act of August 6, 1954--authorized an allocation of Lire 200 million (approximately US\$320,600). It was to be used for the following--building and modernization of fishing vessels; installation of plants for the processing of fish products and byproducts; establishing plants for the manufacture of nets and other fishing equipment; building and improvement of wholesale markets; provision of workshops for repairs to vessels, etc.; purchase or renewal of nets and other equipment and of shore and floating refrigeration facilities.

Table 2 - Italian Marine Fish and Shellfish Catch, 1949-54

Year	Quantity
	(Metric Tons)
1954	157,680
1953	155,979
1952	162,407
1951	137,023
1950	136,747
1949	130,969

Catch: The revitalization of the fishing fleet has resulted in a gradual increase in production (table 2).

According to semiofficial figures, approximately 118,000 persons were employed in coastal and deep-sea fishing at the end of 1953.

Fishing is carried on along the entire 4,367 miles of Italy's coastline, but certain areas are more productive than others. Of great importance is the Adriatic coast where, in 1953, 35.4 percent of the total production of fish and 50 percent of the molluscs and crustaceans was landed. The richest fishing grounds are on the eastern Adriatic adjacent to the Yugoslavian coast, but in the postwar years Italian fishing operations in this area have been restricted. If, in the near future (as appears probable), an agreement on fishing rights is concluded between the two countries, Italian production in this area will probably increase.

Table 3 - Italian Imports of Salted Cod, 1952-54

Country of Origin	Quantity		
	1954	1953	1952
 (Metric Tons)		
Denmark	11,315	8,466	23,992
France	8,326	4,073	4,392
Iceland	12,467	12,104	15,891
Canada	4,276	6,718	5,505
West Germany	1,160	-	-
National ocean fisheries .	3,730	3,814	-
Other sources	2,056	1,328	8,486
Total	43,330	37,003	58,266

Salted Cod: Because of its high protein content and keeping qualities which help distribution in areas where there is little or no refrigeration, salted cod has always ranked high among Italian foods imports. Wet-salted or salt bulk cod is the most extensively consumed, although light-salted hard-dried and Labrador cures are preferred in certain areas of the country.

Quality plays an important part in the successful marketing of hard-dried salted cod in Italy. Demand for the top grades of light-salted Gaspe and Newfoundland shore qualities is strong because these cannot be obtained from other sources of supply. Heavy-salted dried cod is supplied in quantity mainly by France, which doubled its exports to Italy in 1954. The French product competes strongly with the lower grades of Canadian light-salted hard-dried cod and because it is considerably lower in price may well threaten the Canadian trade in this market unless the high quality of the Canadian product is maintained.

Table 4 - Italian Imports of Canned Salmon, 1952-54

Country of Origin	Quantity		
	1954	1953	1952
	. . (Metric Tons) . .		
Canada	1,361	1,156	957
Other countries . .	33	44	45
Total	1,394	1,200	1,002

Canned Salmon: The annual increase in exports of Canadian canned salmon to Italy in the past few years, together with the fact that stocks currently held by importers are not considered heavy, augurs well for the coming season (table 4). The Italian market requires over 90 percent chum salmon. Because of the price factor, there is only a small demand for pink and red salmon.

Prospects for Season: The Italian Ministry for Foreign Trade will make available C\$2 million for the purchase of Newfoundland shore and Labrador cod, \$600 thousand for hard-dried slack-salted Gaspe cod, and \$2.5 million for Canadian canned salmon--to be used before June 31, 1956.



Japan

ALBACORE TUNA MARKETING ARRANGEMENTS CHANGED: The Japanese Cooperative Sales Association for the control of the sale of frozen albacore tuna to the United States ceased operations on October 31, and its functions will be taken over by its parent organization, the Frozen Food Export Association. The Cooperative Sales Association was established in June 1955 by the major exporters of tuna to act as sole export agent for frozen albacore in an attempt to prevent a minority of exporters from selling at depressed prices and upsetting the market. While the immediate urgency for a separate agency to perform these functions is thought to be over, the Frozen Food Export Association will undoubtedly keep a close watch on the albacore market to forestall criticism from the United States tuna industry, states an October 21 dispatch from the United States Embassy at Tokyo.

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TUNA-BONITO FISHING INDUSTRY WORKING CONDITIONS AND WAGES: The number of tuna-fishing boats in Japan increased by 137 boats from 1953 to April 30, 1955. The total number under license in 1953 was 1,154 and in 1954 was increased to 1,263. At the end of April 1955 there were 1,291 boats with a total tonnage of 153,357 operating out of Japan and licensed by the Japanese Ministry of Agriculture and Forestry. Of these there were 472 boats of over 100 tons accounting for 97,348 of the total tonnage engaged. There were 819 ships with a capacity of less than 100 tons, according to a July 21 United States Embassy dispatch from Tokyo.

During 1954, 109 ships of less than 100-ton capacity were permitted to convert from coastal fishing to tuna-bonito fishing. By April 4, 1955, the Ministry issued permits for the building of 84 middle-sized tuna boats to replace the same number of boats going out of use. There are no present plans, according to the Ministry, to increase the number of licenses issued for tuna ships during 1955.

With the exception of a very few owners having large-sized ships of a capacity in excess of 1,000 tons, all operators are paying wages on a share basis, called the Ohnaka Keisan plan. With few exceptions large ships pay wages on a strict share basis with 72 percent of the profits going to the owner and 28 percent distributed among the crew.

More than 80 percent of tuna ships in Japan are operated by their owners. This is particularly true of the smaller sizes, i. e. under 100 tons. The earnings of tuna fishermen employed on the ships differ according to locality, the size of the boat, the amount of the catch, etc.

Generally, however, the wages will average out about the same all over Japan. Tuna fishermen earn much more than fishermen engaged in coastal operations.

Adherence to old customs in regard to special allowances and unemployment benefits is greater among the small owners than almost any other type of employer. Most of the smaller boats are manned by the owner and his relatives, both by blood and by marriage, and the adherence to ancient paternalistic customs is enhanced by this close relationship.

Most ship owners pay their employees a minimum guaranteed wage when catches are poor and during idle times when the ship is not in operation. The employer also gives special monetary considerations to employees upon marriage or when they are building houses; when their relatives die and on similar occasions.

There is a cooperative spirit among smaller ship owners in assisting their employees to build and operate their own boats. In the large ships, the crew is hired on a temporary basis with contracts seldom running for more than one year and with most of them being renewed at the end of each voyage. Crews on tuna ships are covered by the Government Social Security Program, by the Seaman's Law, and other federal statutes. Owners feel a responsibility for aged fishermen also and wherever possible give them wages for lighter work on shore.

While the wages of tuna crews vary as previously stated, perhaps an average can be deduced from the practices in Kanagawa Prefecture, which includes the port of Yokohama. The catches of tuna boats smaller than 200 tons, minus costs of fuel, fish market commissions, bait, ice, provisions of the crew, and depreciation, is divided between the owner and the crew at the rate of 60 percent for the owner and 40 percent for the crew. For vessels between 200 and 1,000 tons, the percentage is 70-30. The owners pay no other bonuses and allowances on the Ohnaka Keisan plan. It should be noted here that we are now referring to company-owned ships. As an example of the wage system, a company-owned tuna boat with a capacity of 180 tons, and a fixed crew of 22 will go out for a voyage of about 60 days and will return with an average of 20,000 kans (165,000 pounds) of tuna.

The commission paid to fish markets is 3 percent of the total sale. Other expenses will amount for an average of ¥10,000 (US\$28) per ton of the ship's weight. After these deductions, the remainder is divided between the owner and the crew. Using the above figures as a guide and assuming that the selling price of tuna is ¥300 per kan (US\$200 a short ton), the total catch of the average 180-ton boat would be worth approximately ¥6,000,000 (US\$16,500).

After deducting expenses, the crew and owners' shares would amount to ¥4,220,000 (US\$11,000). Forty percent of this amount is ¥1,688,000 (US\$4,400), which divided by 22 means that each individual would receive ¥76,700 (US\$200) for the two-months' trip or US\$100 per month per crew member.

The captain of a tuna boat will receive approximately twice the wages of an ordinary crewman. A superintendent who goes on board, and does not assume a captain's duties also, will receive approximately four times as much as an ordinary crewman while a superintendent who is also ship's captain will receive five times the amount received by the ordinary fisherman.

Generally speaking, the fishermen of the above company average from ¥17,000 to ¥30,000 (US\$47-83) per month over a period of a year. The labor turnover, in spite of the comparatively high levels of pay, is 10 percent for each voyage at this company.

One Japanese company is now experimenting on a fixed wage and incentive-wage system. This is being tried out on a large ship built last year. The employees of the crew belong to the Japan Seaman's Union and are covered by a single agreement pertaining only to this particular ship. The ship itself carries six catcher

boat during fishing operations. The base wage of all crewmen is computed at ¥15,000 (US\$42) per month. Members of the catcher crews get ¥15 for each kan (US\$10.20 a short ton) of tuna processed while other members of the crew receive an incentive rate of ¥7 per kan (US\$4.60 a short ton). The fixed rate of ¥15,000 (US\$42) per month includes the base wage, an on-board allowance, and a voyage allowance on a ratio of 3-1-1. The company pays the on-board allowance to the crew of the ship regardless of the location of the ship as long as the men remain a part of the ship's crew. A voyage allowance will be paid only when the boat is at sea. Officers of the ship also receive the ¥7 per kan (US\$4.60 a short ton) on tuna caught and processed. At present the company is not paying a summer or a year-end bonus.

The company states that the wage system of tuna boats operating from ports such as Shizuoka Prefecture, Yaezu, and Shimizu is approximately the same as that in Kanagawa Prefecture but differs a little because they have a system which includes a special fund contributed to by management and labor for extra payments and job insurance.

Tuna boats in the fishing ports of the Tokohu District are operating on the share system of the total catch of 72 percent for the owner and 28 percent for the crew, with the shipowners paying operating expenses including provisions. The companies at Kurihama do not have housing facilities for employees nor other welfare services. Employees of the company working in shore canneries are paid a daily wage rate. Women workers get ¥270 (75 U.S. cents) per day while male employees get ¥300 (85 U.S. cents) per day. Crew members of smaller boats are not usually members of labor unions.

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DISPOSITION OF 1955 SALMON CATCH: The figures in Table 1 regarding the disposition of the 1955 Japanese high-seas salmon catch have been compiled from

Species of Salmon	Disposition			Species of Salmon	Disposition		
	Canned (Cases 1/)	Frozen (Millions of Lbs.)	Salted		Canned (Cases 1/)	Frozen (Millions of Lbs.)	Salted
Sockeye (Red)	626,604	4.0	2.5	Silver (Coho)	169,673	2.6	7.9
Chum	296,307	17.0	32.1	Spring (King)	3,133	.3	-
Pink	574,594	14.7	7.9	Others	13,789	1.4	2.0
(Continued in Opposite Column)				Grand Total	1,684,105	40.0	44.8

1/ A case consists of 96 8-oz. cans.

information received from a number of sources; while they are not official statistics, it is believed that they represent closely the actual amounts of salmon canned, frozen,

Destination	Species of Salmon					
	Red	Chum	Pink	Silver	Spring	Total
United Kingdom ^{2/}	532,254	-	152,786	95,411	17	780,468
Ireland	12,040	-	250	-	-	12,290
Australia	61,538	9,980	23,463	3,766	-	98,747
North America	1,000	-	239,640	-	-	240,640
Europe	1,100	68,700	167,299	290	-	237,389
Africa	20	-	50	-	-	70
South East Asia	-	-	25	-	-	25
Others	165	-	330	-	-	495
Total	608,117	78,680	583,843	99,467	17	1,370,124

1/ A case consists of 96 8-oz. cans.

2/ Subject to final Japanese-United Kingdom trade negotiations.

and salted, states an October 13 dispatch from the United States Embassy in Tokyo.

The figures in table 2 on prospective exports of canned salmon from the 1955 catch were obtained from industry sources, and may represent, in part, contracts not yet concluded or exports which will not be realized.

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TENTATIVE AGREEMENT ON CANNED SALMON SALES TO BRITISH: The Japanese and British negotiators working on the payments agreement for the second half of the Japanese fiscal year (October 1-March 31) came to a tentative decision on October 12, 1955, to set the British purchases of sockeye (red) salmon at about 400,000 cases, valued at £4,460,000 (US\$12.5 million). This amount is double last year's purchases, but will be a disappointment to the Japanese who had hoped to persuade the British to purchase 700,000 cases, states an October 14 dispatch from the United States Embassy at Tokyo.

Production of canned salmon by the Japanese will be close to 1,400,000 cases and it is likely that the Japanese will have to turn to markets other than the British in order to dispose of the surplus.

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FISHERIES TECHNICAL AID OFFERED: The sixth session of the Indo-Pacific Fisheries Council, Food and Agriculture Organization, received an offer by Japan to give any interested country information on her technical skills with regard to fisheries. The offer is part of Japan's advocacy of intensified exchange of fisheries information and joint investigations and research, according to the October 13, 1955 issue of Japan Report published by the Japanese Embassy at Washington, D. C.

Forty delegates from 16 countries are attending the two-week meeting in Tokyo. One of the Council's objectives is the development and proper utilization of the living aquatic resources of the Indo-Pacific areas.

* * * * *

NEW FISHING COMPANY TO FISH FOR TUNA IN INDIAN OCEAN: Tuna (which are reported to abound in the Indian Ocean) are expected to comprise one of the principal catches of the 94-ton fishing vessel Meegama Maru. The vessel was reported on its way from Tokyo to Ceylon to begin fishing operations in the Indian Ocean for a new Ceylonese-Japanese joint fishing corporation, reports the September 30, 1955, issue of The Fishing News, a British fishery periodical. This is the first vessel secured by this corporation formed in March 1955 by private fishing interests in the two countries.

After production starts, the Ceylon public is promised tuna in one-pound plastic packages. The vessel will explore areas beyond the coastal areas worked by local fishing vessels.

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FISHERIES AGREEMENT WITH RED CHINA WORKING SMOOTHLY: The unofficial Japan-Red China Fisheries Agreement, between the fishermen's organizations of the two countries which was put into effect just four months ago, is working out satisfactorily, according to the leading Japanese fishing company operating in the area concerned.

Except for one minor incident which occurred shortly after the effectuation of the agreement, Japanese and Red Chinese fishing boats have been operating without discord, and with notably increased catch as a result of the agreement, an October 13 United States consular dispatch from Fukuoka (Japan) points out.

The agreement is working smoothly and with profit to the Japanese people. During June, July, and August 1955 the Japanese catch in this area shared with the Red Chinese under the agreement was up 20 percent from the former average. Largely as a result of the increased supply of fish on the market, the price dropped, and was down by 30 percent in the same period. This, without other considerations, would indicate slightly less profit for the fishing companies, although of course it meant more and cheaper fish for the Japanese consumers. However, the fishing companies were spared their former expenditures for insurance, and they no longer had to spend money on penalty charges, such as for the repatriation of seamen and captured boats, because no boats were captured by the Red Chinese.

JAPANESE GOVERNMENT



Republic of Korea

TILAPIA MULTIPLY RAPIDLY IN EXPERIMENT TO BOOST FOOD SUPPLY: During the short period of five months 470 tilapia, a gift to the Republic of Korea from the Government of Thailand, multiplied to 30,000 in the tanks of the Chinhae hatcheries. This project was sponsored by the United Nations Korean Reconstruction Agency (UNKRA) Fisheries Branch, according to a September 29 press release from United Nations.

The tilapia, noted in Southeast Asia for their fast growth and reproduction, were brought to Korea as an experiment to determine whether the fish would also thrive in Korea despite the colder winter weather.

The project appears to have passed beyond the experimental stage, according to the Agent General of UNKRA. "It is now clearly proved that they flourish in Korean waters, at least in summer; they have grown as quickly in size and multiplied in number as fast as those in tropical countries."

The 30,000 tilapia give promise of many fish dinners throughout the country about a year from now, for thousands of fingerlings will be available for distribution next spring. Already some 3,400 tilapia have been distributed from Chinhae to various parts of Korea for experiments and observation of their reaction to different climatic conditions.

The main problem between now and then will be to keep the tilapia, long accustomed to balmy climates, comfortable through the cold season, UNKRA's Fisheries Branch points out. They will have to be kept in heated tanks, separated to prevent further reproduction until late winter. After spawning takes place, the young fry will be offered to interested farmers for placing in ponds, streams, and paddies as soon as the outside weather is warm enough for them. Before the fall of 1956 they will be large enough to eat.

The project originated after President Rhee expressed interest in the success of tilapia culture in Thailand and other countries of Southeast Asia. The freshwater tilapia are viewed as a potentially important addition to Korea's protein food supply, as many inland communities now receive few fresh ocean fish because of limited transportation, icing, and storage facilities.

The shipment of the fish from Bangkok was arranged for by UNKRA, in specially-designed tanks, to the Government hatchery at Chinhae. They were accompanied by a representative of Thailand's Department of Fisheries who advised Korean hatchery personnel on special problems of tilapia culture.



Norway

STICKWATER PLANTS INCREASE FISH MEAL PRODUCTION: A Haugesund, Norway, firm that manufactures plants for the production of fish meal, in a test made at a large byproducts factory, increased the yield of fish meal by 24 percent by adding concentrated stickwater to the press cake. During the one-week tests 1,000 metric tons of herring were used, according to the Norwegian Fishing News, vol. 2, no. 3, 1955.

The procedure of the test was as follows:

On the first day the factory produced ordinary meal and the stickwater went into the sea. The next day the stickwater was concentrated and mixed with the press cake to form whole meal, and so on for a week. Each day the herring intake was exactly weighed and analyzed. The result of this test shows that 5,400 pounds of herring processed without the use of stickwater gave 1,000 pounds of meal. With stickwater utilized in the processing 5,400 pounds of herring gave 1,240 pounds of meal.

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SONAR SOUNDER DEMAND HEAVY: A Norwegian manufacturer, who since 1947 has been manufacturing echo sounders, reports heavy demand, at home and abroad, for

its combination sonar-echo sounder. Developed in cooperation with the Norwegian Defense Research Institute and the Norwegian Fishing Directorate's Ocean Research Institute, this electronic instrument has consistently proved remarkably effective in locating fish shoals.

Sales to Norwegian fishermen outstrip by far those of the seven leading foreign makes combined. The sonar-sounder is also being exported to 14 countries. So far, it has been installed aboard 40 Icelandic fishing vessels. Results from the 20 tried during the 1955 fishing season are excellent. Consequently, all but two of the 27 fishing vessels under construction in Iceland or for Icelandic accounts at foreign yards, are slated to be equipped with the Norwegian sonar-sounder, according to News of Norway (September 29, 1955) of the Norwegian Information Service.



Panama

SHRIMP FISHERY: In the September issue (pages 107-108) of Commercial Fisheries Review the news item on the shrimp fishery of Panama on page 108 states that "The local shrimp monopoly has obtained a sizable loan. . . ." A letter from Panama points out that there is no shrimp monopoly in Panama, but there is a tendency to refer to a very large firm in this manner. In addition to the operations of a large company, there are approximately 40 independent boats and three freezer operations operating in the shrimp industry.



Poland

PREFABRICATED TRAWLERS BUILT: By using new methods Polish shipyards are completing a new fishing vessel every two weeks, states the September 30 issue of The Fishing News, a British fishery periodical. The vessels are being assembled at Gdansk, Poland, from nine prefabricated units (weighing between 90 and 180 tons each) into a completely welded hull.

As many as five trawlers are built at the same time with each one moved from stage to stage on powerful undercarriages. It is estimated that over 50,000 working hours are saved on each vessel by this new process.



Portugal

FISHERIES TRENDS, JUNE 1955: Sardine Fishing: The catch of sardines in Portugal during June 1955 continued good at most fishing ports, reports the September 1955 Conservas De Peixe, a Portuguese trade magazine. Sardine landings in June 1955 totaled 5,197 metric tons, valued at 18.8 million escudos (US\$655,000), as compared with landings of 2,193 tons in June 1954. Of the June 1955 catch, 2,654 tons, valued at 8.9 million escudos (US\$303,000), were canned.

Other Fishing: The landings of all fish, other than sardines, in June totaled 2,462 metric tons, valued at 8.4 million escudos (US\$292,000), mostly chinchards and anchovy, and the balance tuna, mackerel, and bonito.

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MODERN PLANT FOR PRODUCTION OF COD-LIVER OIL: The Portuguese Guild of Codfish Boat Owners has completed construction of a new cod-liver oil plant at Ginjal, Gacilhas, in the municipality of Almada.

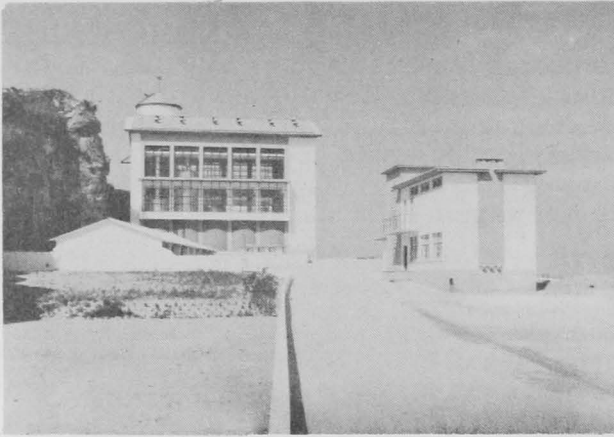


Fig. 1 - View of the entrance to the factory. On the right, the administrative building; on the left, the factory--eastern side.

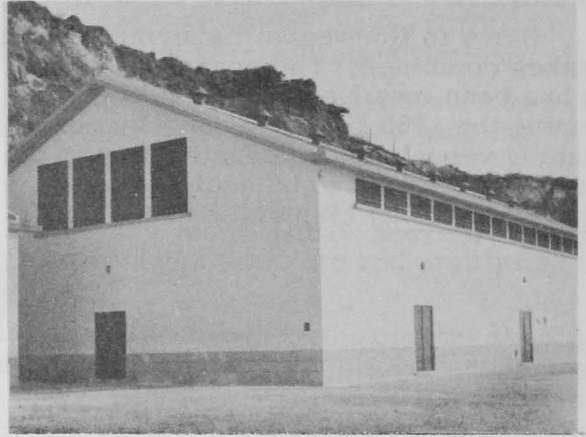


Fig. 2 - View of the warehouse. It shelters metallic storage tanks.

The plant consists of three buildings: (1) the laboratory, offices, and administrative buildings; (2) the manufacturing plant itself; and (3) shelter for storage tanks.

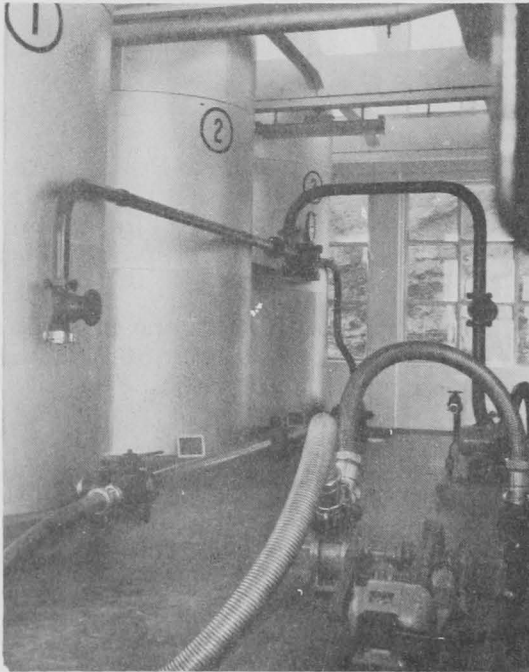


Fig. 3 - Interior of the factory showing operating tanks.

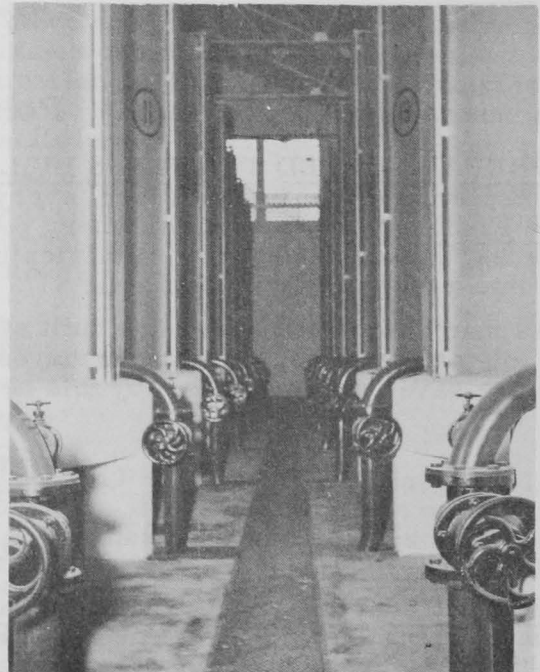


Fig. 4 - Interior of warehouses sheltering the storage tanks.

The productive capacity is about 30 tons of raw material per eight-hour day, varying in accordance with the number of treatments effected. Storage capacity is approximately 1,100 metric tons, according to an August 30 dispatch from the United States Embassy at Lisbon.

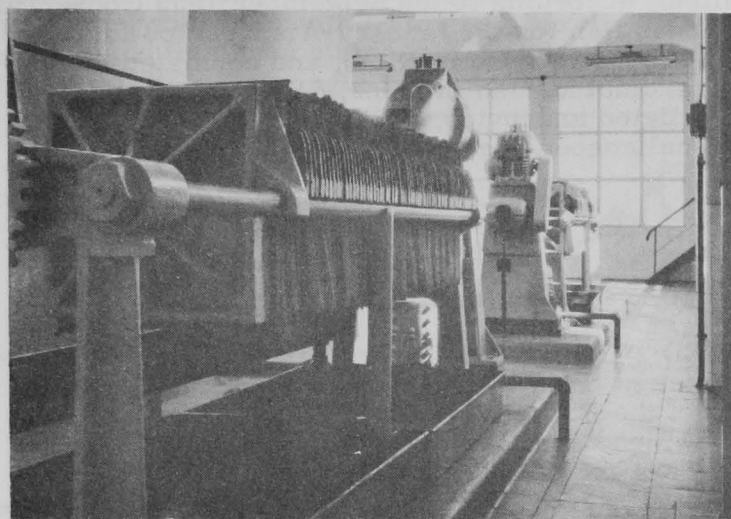


Fig. 5 - Another view of the interior of the factory.

The plant is equipped to neutralize free fatty acids; cleaning and drying; partial deodorization; filtration; and extraction of stearins and other residues. Still more specialized treatments can be effected in the future.

The plant is equipped with a large section for filling, labeling, and packing of the bottles at a high level of production and can process cod-liver oil for any known use, either for human or animal nutrition.

JANUARY-JUNE 1955: Portugal's export of canned fish in June 1955 was good, according to Conservas De Peixe (September 1955). Canned fish exports totaled 4,481 metric tons, valued at 61.5 million escudos (US\$2.1 million), during June 1955; and 27,292 tons, valued at 402.3 million escudos (US\$14.0 million), during January-June 1955.

CANNED FISH EXPORTS,

Species	Jan.-June 1955	
	Metric Tons	1,000 US\$
Sardines in olive oil	22,105	10,937
Sardinelike fish in olive oil	2,375	1,592
Sardines & sardinelike fish in brine	763	140
Tuna & tunalike in olive oil	923	682
Tuna & tunalike in brine	350	176
Mackerel in olive oil	390	254
Other fish	386	215
Total	27,292	13,996

During January-June 1955 Germany was the leading receiver with 74.4 million escudos (US\$2.6 million) of canned fish (principally sardines); followed by Italy with 65.2 million escudos (US\$2.3 million), principally sardines; Great Britain with 50.1 million escudos (US\$1.7 million), and the United States with 42.6 million escudos (US\$1.5 million), principally 998 tons of sardines in oil or sauce, 10 tons of tuna and tunalike fish in oil, and 840 tons of anchovies.

FISH CANNING TRENDS, APRIL 1955: The Portuguese pack of canned sardines in oil or sauce January to April 1955 amounted to 2,286 metric tons, valued

Product	Net Weight	Canner's Value		Product	Net Weight	Canner's Value	
		Metric Tons	1,000 Esc.			1,000 US\$	Metric Tons
Sardines in brine	205	927	32	Tuna in brine	2	49	2
Sardines in olive oil or sauce	2,286	37,434	1,302	Tuna in olive oil	59	1,909	66
Sardinelike fish in brine . . .	75	640	22	Tunalike fish in olive oil . .	69	1,226	43
Sardinelike fish in oil	514	6,818	237	Other species (including shellfish)	458	6,749	235
Anchovies, rolled & fillets .	613	18,557	645	Grand Total	4,281	74,309	2,584

(Continued in the Opposite Column)

at 37.4 million escudos (US\$1.3 million), according to the September 1955 Conservas De Peixe. Production of all other canned fish for the January-April period amounted to 1,995 tons, valued at 36.9 million escudos (US\$1.3 million), and consisted of 205 tons of sardines in brine; 75 tons of sardine-like fish in brine; 514 tons of sardine-like fish in oil; 613 tons of rolled or filleted anchovies; 130 tons of tuna (practically all packed in oil), and 458 tons of miscellaneous species.



Saint Pierre-Miquelon

FISHERIES EXPANSION PLANNED: The French Government has started a ten-year rehabilitation plan for the fisheries at Saint Pierre-Miquelon, according to an October 5 statement by the Governor of the French Islands of Saint Pierre and Miquelon during a visit at St. John's, Newfoundland. As reported by the Daily News of St. John's, the Governor indicated that the Island would change over from the production of only salt fish to the processing of frozen fish. The economy of Saint Pierre is based on the salt-fish industry, and up until a few years ago most of the fishermen went out in small dories and fished, salted their catch, and sent it to France. They have not completely stopped handling salt fish, but now only about half of the men fishing out of Miquelon will salt their fish and the rest will sell their catches fresh to the fish plant in Saint Pierre. By next year it is hoped that all of the fishermen will be selling their fish in the fresh state instead of salted.



Sweden

SHRIMP FISHERY: The only available data on shrimp production in Sweden cover the large shrimp or prawn (Pandalus borealis) fishery. These shrimp are caught outside the Province of Goteborg and Bohus. Small shrimp (Leander adspereus and L. squilla) are also fished in very limited quantities, but these catches are not included in the fishery statistics.

In 1953 there were about 728 fishermen, 1,138 vessels, and 635 trawls used in the shrimp fishery. The value of the trawls used was US\$107,000, and the vessels were valued at \$495,000. The catch in that year totaled 1,305 metric tons, valued at US\$1,083,500 ex-vessel, reports the United States Consulate at Goteborg.

* * * * *

"TRAWL-TOAD" DEvised FOR MID-WATER TRAWL: A new development (a trawl-toad) designed to give greater efficiency in maintaining the proper setting of the mid-water trawl and enabling it to work closer to the bottom has been announced by Karl-Hugo Larsson, the inventor of the "phantom trawl." Swedish experts have been working for years on evolving a successful floating or mid-water trawl for catching herring in the daytime as an alternative to the well-known drift nets or ring nets customarily used at night when the shoals are near the surface, The Fishing News of July 29 points out.

In the original tests which produced the phantom trawl in 1944, tank tests showed that roughly two-thirds of the resistance of a normal bottom trawl came from the net, the rest from the warps and doors.

The main thing, however, was that it was found possible to design and build trawl doors which could move in the water without touching the sea bed. An ordinary rectangular and flat trawl door is, from a hydrodynamic point of view, of very poor

lower trawl-toads touch the sea bed they no longer function as toads, but hang on as ballast weights, sliding along.

Thus it is possible to catch herring close to the bottom. In such a catch, owing to the position of the net there will be hardly any spawn or small fish, and that factor means less sorting work on deck. This point is also very important as permitting the future growth of the immature fish.

It is stressed that as an important part of the design of a floating trawl, the upper trawl-toad can, of course, be used on any kind of bottom trawl. It would thus increase the height of the mouth and enlarge the fishing capacity of the net.

In February 1955 Larsson was on board a French trawler, the Richelieu, when the catch of coalfish was increased from just under one ton per haul to between 5 and 6 tons, simply by hanging toads on the headline.

To try and find the reason for these results, as given in this and other experiments, Larsson has attended many trials made under the supervision of British, German, Danish, and Swedish experts. Trials, in fact, are being made by the Lowes-toft Fisheries Laboratory on the research vessel Platessa.

In June of 1954 I. D. Richardson of that laboratory visited Sweden to witness a series of trials which included the use of both two-boat trawls and single-boat trawls. Photographs taken by frogmen of the single boat trials showed that the catch of small fish differed according to the arrangement of the trawl in relation to the bottom.

Later trials made with German cooperation clearly showed that with phosphorescence in the water very little herring could be caught at night. In the daytime, however, with the herring at 60 to 80 fathoms, catches were very good, confirming that the fish were not at all frightened by the warps and trawl doors.

This result is regarded as most encouraging as proving that it may be possible to catch herring by day rather than by night, which would be an improvement from a social point of view.

To avoid disturbance from the warps when fishing at night, a very simple arrangement has been tried which gave rather good results. By lengthening the lower pulling ropes from the doors to the net and hanging on more weights, or lower trawl toads, the net can be made to move lower than the trawl doors. Thus in most cases the influence from warps will not be very great.

To secure good catches, however, trawling speeds, it is believed, should be increased. This seems to be most important for the best results. It was tried with the Jens Vaever and worked.

It might sound a little fanciful, admits Larsson, but the suggestion is that speed be increased to 5 or 6 knots. This is not possible with ordinary floats on the net. But the toads, with their special shape, can do it. And they have good stability up to 12 knots.

To get high speed one should decrease the size of the net, which will bring down the cost of the gear.

Concluding, Larsson in his notes says, that once practical fishing trials are made with the above-mentioned speeds, he trusts that all pelagic trawling problems will be fully solved and that this new method will be adopted as being good and reliable.



Thailand

NYLON GILL NETS PROVE SUCCESSFUL: The gill net is used widely in the fisheries of Thailand and supply high-priced species for the fresh fish markets, according to a November 4 report from the United States Foreign Operations Mission to Thailand (FOAMT). These nets, in the past, have been woven by the fishermen from natural

fibers--cotton, hemp, or linen, and require a great deal of attention. They must be dried carefully, tanned often, and mended frequently, resulting in as much time spent on shore to keep them in condition as for fishing.

Information that synthetic fiber nets were being used successfully in other countries led FOAMT, in cooperation with the Thai Department of fisheries, to import 50 nylon gill nets, or about 1,640 yards, from the United States.

Tests were devised and carried out for two seasons at the Marine Fisheries Station near Rayong. The tests showed that the nylon gill nets caught 2 to 3 times more fish than the native-type nets. It was also established that a great deal less work was necessary in caring for the nylon nets--repair costs were much less; careful drying, tanning, and mending needs were largely obviated; fishing time was greatly increased.

The Thai fishermen when they had heard of the new nets came to the Marine Station to see for themselves. And they became so enthusiastic about the nylon nets that the Director of the Station could easily have sold his experimental nets at a good profit. Since this was impossible he arranged with an import concern to bring similar nets from Japan. On their arrival in Thailand, the Japanese nets sold very quickly and within the past few months some 300 were being fished.

Even in this short period, the effect of the improved fishing method is striking. At one tiny fishing village, which adjoins the Marine Station, additional income derived from using nylon nets has already resulted in six fishermen earning enough to motorize their boats. In two cases the new nets were paid for in three weeks of fishing. There is every reason to believe that the use of nylon nets will spread soon to every region in Thailand and consequent greater productivity and income will enable small fishermen to acquire motors and better tools for their work. Not only are the fishermen benefited but also the consumer because fish are reaching markets at lower prices and this in turn is opening a greater market.



Turkey

SHRIMP FISHERY: Turkey's shrimp production is estimated at about 30 to 50 metric tons a year, with spring and autumn the most productive seasons. The sizes range from 15 to 50 count heads-on deveined raw white shrimp a pound. Iskenderun, Ismir, and Istanbul are the principal centers for the shrimp fishery. In the Iskenderun area there are 12 trawl boats ranging from 25 to 30 tons in capacity, small shrimp processing plants, and two freezing plants, according to a United States Embassy dispatch from that country.

At present shrimp are deveined, packaged, and frozen. The product is marketed locally and some shipped to the United States.

Turkish local prices for shrimp are higher than United States prices. Shrimp exports are subject to an export premium in order to bring Turkish prices down to the United States price level.



United Kingdom

DISTANT TRAWLERS INCREASE CATCH, JANUARY-JUNE 1955: British distant water trawlers landed over $25\frac{1}{4}$ million pounds more fish in the first six months of this year than in the same period of last year. Despite higher operating costs and fishermen's increased earnings the price of fish remained unchanged and the time taken on voyages was cut by a day.

These are among the achievements of the British fishing industry stressed in the report of the British Trawlers' Federation (B.T.F.) for the first six months of this year, according to Trade News (a British fishery publication) of September 1955.

The average catch jumped by 14 percent as compared with the first six months of 1954. In June the catch per day at sea went up by 20 percent over the June 1954 average. In January, the month in which two big ships were lost, Lorella and Roderico, the catch per ship increased by over 23 percent. This spectacular increase in efficiency has enabled the industry to absorb increasing costs of fuel and other commodities without increasing the unit cost of production.

Faster and bigger ships, and greater competition among crews has cut the time taken on voyages from 21 days last year to 20 days at present. New vessels were continually joining the fleet as older ones were taken out of commission.

Over-all landings increased by 6.1 percent. Consumption went up also--4.1 million pounds more was eaten this year, an increase of 1.1 percent. The remaining five percent of the bigger landings during the six months was left unsold. At Hull and Grimsby in June, for instance, 14.2 million pounds of fish did not find a buyer. This was due to the warmer weather and to the fact that fish friers, the industry's largest customers, had difficulty in getting potato supplies and cut their fish orders as a result.

* * * * *

CHANGE OF OPINION ON NORTH SEA HERRING STOCKS: Twenty years ago Dr. W. Hodgson, head of the research section of the Fisheries Laboratory at Lowestoft, believed that the herring stocks of the sea were inexhaustible. Now he has drastically changed his mind and he believes that the herring shoals are being tremendously depleted by European Continental vessels trawling for herring.

"It will surprise me," says Dr. Hodgson, "if there are a large number of fish on the East Anglian grounds this season," the October 10 issue of The Fishing News reports.

"There has been a steady decrease in the number of four-year-old herring on the East Anglian grounds since 1950," he goes on. "There is every reason to believe that this is coupled with the enormous increase in European Continental trawling for immature fish in their second year.

"This trawling is carried on solely with the aim of turning the fish into meal and oil.

"The Danes trawl for herring during two seasons of the year. From January to April and from July to October. Then in December, in the English Channel, the great spawning grounds of the herring, as many as 150 German and French trawlers are working among the mature fish, again taking fish primarily for meal and oil."

Dr. Hodgson said that in 1953 something like 80,000 metric tons of immature fish were taken from the North Sea. They were in their second year and probably numbered 4,000 to the cran (392-pound unit of weight).

"This adds up to an astronomical figure of some 1,600 million immature herring taken in one year," he said.

Dr. Hodgson recalled that it was in 1951 that the forecast which he had been making of the East Anglian fishing since 1929 first went wrong.

"In that year of 1951, the peak at the October moon failed, and at the same time the herring suddenly increased in size. In 1950 the proportion of four to five-year-old herring was as forecast, but the following year they were very much reduced.

"Up to that time," said Dr. Hodgson, "four-year-olds in the shoals were always about $2\frac{1}{2}$ times as numerous as the three-year-olds of the previous year. That sounded complicated, but the explanation was that the three-year-olds which migrated into East Anglian waters from the central North Sea were mature.

"In fact, there were many more three-year-olds every year which were not mature, and which did not come to our waters. They came, however, as four-year-olds the next year."

The greatly reduced number of four-year-olds which upset his 1951 forecast was his first indication that something which had not been met with before was interfering and causing the reduction in the size of the shoals. It was clear that forecasting was no longer practicable.

Dr. Hodgson added that one very clear consequence of the overfishing of the immature herring was that over the last 3 or 4 autumn seasons there had been an increasing drop in the number of four-year-olds which came to East Anglia.

"That is still going on and the general effect has been that the bulk of the fish in recent years have been three-year-olds. If the older fish are to become extinct or very scarce indeed, it follows that the November fishing will be very light, because there will be few of the older type of herring that can turn up."

* * * * *

DOGFISH DEMAND GOOD: A steady but almost imperceptible increase in the demand for dogfish during the years since World War II has now resulted in a prolonged season with two very well-defined peak periods, according to the Fishing News, a British fishery magazine.

A few years ago, the dogfish season was a short one, but now fishermen, notably at Grimsby, are looking for new grounds and keeping up with the fish almost year-round.

Though considerable quantities of dogfish are landed at Fleetwood, some idea of the increased importance of this fishing to Grimsby may be obtained from the fact that in May 1955 2.4 million pounds of a total nationwide catch of 3 million pounds were landed there.

Figures for 1955 show that in April 1.6 million pounds out of a total of 2.5 million pounds were landed at Grimsby, but from January-March, the bulk of the catch was marketed at Fleetwood.

The big increase in demand, which has become more marked this year, may be traced largely to London and the Home Counties where the taste for dogfish has grown steadily. One of the reasons for this may be that during the war many fish friers used dogfish when supplies of other fish were scarce, and so a preference for dogfish to cod, haddock, or skate has been developed.

A few years ago fishermen concentrated on fishing for dogfish in the late spring and early summer only. Now, several Grimsby trawler firms are taking them as long as they can. Small inshore line-fishing vessels have done quite a lot to keep this season open.

The demand from London and the surrounding district is so steady that merchants dealing in dogfish can buy during peak periods and quick-freeze against the time of lighter supplies. For a number of years, the British wholesale trade has had to import considerable quantities of high-quality Norwegian dogfish, fresh and skinned, to keep the supplies up for their quick-freezing.

The January-August 1955 catch totaled 14.3 million pounds, valued at £244,353 (US\$648,188), making a worthwhile contribution to British fish landings.

Prospects for an even bigger demand for the once despised dogfish are good, and the wholesale trade is encouraging its marketing potentialities.

* * * * *

LIVE SHELLFISH PACKED WITH ICE BAGS: A Billingsgate, London, fish firm now uses ice bags made from polythene film to ensure that fresh, healthy, and above all, dry lobster and crabs reach their markets on the European continent.

The new method overcomes the danger and inconvenience which results from the use of free ice in the containers. Especially in warm weather, the live shellfish come into contact with a considerable amount of fresh water from the melting ice which spoils their flavor. The waterproof bag now in use is better than the absorbent sawdust formerly used.

The polythene film is supplied in the form of a lay-flat tube and is cut to the required length, heat-sealed at one end, filled with water, and then completely heat-sealed. The bags of water are placed in refrigerators and frozen solid. When consignments are being packed for export, a layer of ice bags is placed in the carton and the lobsters and crabs are placed on this and padded with wood wool. The properties of polythene film make it especially suitable for this purpose, for it is flexible at low temperatures, tough, durable, and waterproof. When the ice melts, the water is retained entirely in the waterproof film bags.

Extra life is also given to the cardboard cartons. Formerly, damp conditions inside reduced their handling strength and air companies, in particular, were reluctant to handle them.

Polythene, in 5-inch and 9-inch tube widths, is used and the bags are about 15 inches in length. The British firm reports favorable comments on the new method of packaging from their clients and those who handle and tranship the containers.

* * * * *

TRAWLERSMEN SEEK HIGHER SHARES: British trawlersmen presented their case for increased poundage or share rates to the Joint Industrial Council for the Fishing Industry at a meeting that opened in London on September 30, according to The Fishing News, a British fishery periodical. Poundage or share rates have remained unchanged since 1946 and the cost of living has increased materially.

In addition to the base pay, ratings such as deckhands, cooks, and second engineers receive a percentage of the gross stock, which amounts to £6 (US\$16.80) for each £1,000 (US\$2,800) of the stock. Other ratings are paid a pro rata share. The shares for captains and first mates are based on a percentage of the net stock or what remains after the usual expenses of the trip are deducted.

At the present time basic wages and percentages of the gross stock paid to the crew members other than the captains and first mates are taken into account in settling the trip. Any increases made to the crew members will mean lower shares

for the officers whose share comes from the net stock. Unless some adjustment is made in the present system of payment, captains and first mates will receive less money.

Involved in the meeting with the Joint Council are representatives of the fishermen's union, the Trawler Officers' Guild, and the trawler owners.

* * * * *

BRITISH AND NORWEGIAN WHALING FLEET WAGE DISPUTE: Wage negotiations in London covering Norwegian crews on Norwegian and British whaling ships ended unsuccessfully. The Norwegian sailors' and officers' unions brought the issue before the State Mediator; this officer has been unable to frame acceptable proposals for any of the three categories of seamen involved, i. e., crew, engineering officers, and deck officers. Crews usually sign on for the coming season by September 15, but the wage dispute blocked this.

If the State Mediator is unable to come up with an acceptable proposal, there is a good possibility that this dispute will be subject to compulsory arbitration. The unions would protest such a move, but in view of the importance of the industry to the economic position of the country, the pressure for compulsory arbitration would be great.

* * * * *

NEW FISHING GROUND FOR OCEAN PERCH YIELDS HEAVY CATCHES: German trawler skippers discovered a new fishing ground between Iceland and Greenland, and about 160 miles off the Icelandic coast. As a result, they have been landing phenomenal catches of ocean perch at Grimsby during the last few weeks. The Fishing News, a British fishery periodical of October 7 announced.

One vessel, which recently caught between 3,500 and 4,000 kits (490,000-590,000 pounds) of fish in five days, landed its trip at Grimsby and received a good price on the market.

Agents for the bulk of the German trawlers landing at Grimsby said, "That particular ground was discovered by the Germans and catches, exclusively of reds, have certainly been very heavy from it.

"That part of the sea is usually icebound at this time of the year, but it is still free from ice. There seems to be no limit to its prospects providing the ice keeps off."



HIGH-PRICED SHARK

South Sea Islands fishermen find it difficult to believe that ordinary school shark--the kind that grows to about five feet in length--was selling in the Sydney, Australia, fish markets at 4s. 6d. (50 U. S. cents) per pound in October 1954, while imported Danish flounder fillets were retailing at 4s. (44 U. S. cents) per pound.

This looks like an opportunity for an Islands shark-meat export trade, but it isn't. All Australian imports of shark are rigidly controlled to keep the price at or about 4s. 6d. (50 U. S. cents) per pound.

--Pacific Islands Monthly, November 1954