



International FOREIGN TRADE

CANADIAN-UNITED STATES ECONOMIC COMMITTEE ADVOCATES EXTENDED TRADE: Assurance of continued U. S. -Canadian cooperation in the changing climate of world trade is the outcome of the first meeting of the Joint U. S. -Canadian Committee on Trade and Economic Affairs, held in Washington, D. C., on March 16.

The purpose of the meeting was to provide an opportunity for United States and Canadian Ministers to examine the trade and economic problems that are common to both countries, the U. S. Department of State announced in a March 17 news release.

The Ministers noted that the flow of trade between Canada and the United States is greater than that between any other two countries. They discussed various aspects of present trade relations and agreed on the desirability of avoiding any action which would interfere with this trade from which the two countries derive such great benefits.

Since the common economic problems of Canada and the United States can be solved with greatest success in a world where the volume of trade is steady and increasing and where exchange arrangements are of a kind to facilitate such growth, consideration was given throughout the discussions to the need for action towards freer trade and payments on a broad front. It was agreed that few things would contribute more to the well-being and stability of the free nations of the world than a forward move in this direction. The need for such progress seemed all the greater at a time when many Western countries are faced with the necessity of supporting effective defense programs over a long period.

The United States and Canadian Ministers found encouragement in many of the economic developments that have taken place over the past year. They noted that the gold and dollar reserves of other countries generally have been rising; that there has been a marked improvement in the internal economic stability of many countries; and that these favorable developments have made possible some relaxation of import restrictions. Nevertheless, it was agreed that the recovery to economic health has not progressed equally for all countries. What is needed, it was concluded, is the creation of a more flexible system of trade and payments throughout the world which would offer greater resilience to changing circumstances and which would contribute dynamically towards rising standards of living. It was agreed that much of the necessary preparation for such an advance has already been accomplished by the work of the Commission on Foreign Economic Policy in the United States, by the proposals of the Commonwealth Economic Conference, and by discussions within the Organization for European Economic Cooperation.

In the meantime, it was agreed that it is essential that pressing, but possibly temporary, economic problems should not be solved by expedients which might make more difficult the advance on a broad front that was held to be necessary. One immediate problem which received close consideration was that raised by the accumu-

lation of large agricultural surpluses. Special incentives and favorable weather conditions have operated in varying degrees to enlarge these surpluses. The Ministers of both countries recognized that if surpluses were to be disposed of without regard to the impact on normal trade, great damage might be done not only to the commerce of Canada and the United States but also to the world economy. The Ministers reaffirmed that it is the continuing policy of their respective governments, in disposing of agricultural surpluses abroad, to consult with interested countries and not to interfere with normal commercial marketings. They stated that it is their settled intention that any extraordinary measures that might be adopted to reduce surpluses should result in greater consumption and should augment, and not displace, normal quantities of agricultural products entering into world trade.

In advancing toward a freer system of world trade and payments, it was agreed that existing international organizations would continue to play an important role. The valuable work already done by the International Monetary Fund, the International Bank, and the Contracting Parties of the General Agreement on Tariffs and Trade, was recognized. Ministers noted with satisfaction the arrangements which have recently been made within the Fund to enable its resources to be used more effectively. Acknowledgement was also made of the useful service that has been performed by GATT in developing a code of commercial conduct and in providing a forum where multilateral tariff agreements could be negotiated and where the problems of commercial policy could be discussed.

It was appreciated that it is for countries whose currencies are now inconvertible to decide when and under what circumstances they might wish to make them convertible. It was also realized that enlightened economic policies on the part of the United States and Canada will materially contribute to establishing and maintaining broader freedom of trade and payments throughout the world. Because of the importance of that objective, the United States and Canadian Ministers warmly welcomed the evidence of a desire in many countries to take decisive steps toward the restoration of a broad area of convertibility, and expressed a willingness to do their part to help in making such a movement successful.

Note: See Commercial Fisheries Review, May 1954, p. 41.

DEVELOPMENTS IN INTERNATIONAL LAW OF INTEREST TO FISHERY INDUSTRIES

Some of the current problems of the United States in the field of international law and some recent developments were the subject of an address by Herman Phleger, the Legal Adviser of the Department of State, before the Pennsylvania Bar Association at Harrisburg, Pa., on January 22, 1954.

Several sections of this speech are of general interest to the fishery and allied industries. The portions of the speech dealing with the Continental Shelf Doctrine follow:

"The Continental Shelf Doctrine: Since 1945 several interesting developments have taken place in this field. The 83d Congress of the United States passed two public laws. One gave to the abutting states jurisdiction over the seabed and its resources under territorial waters (Pub. Law 31, approved May 22, 1953). The other provided for federal jurisdiction and control over the seabed and its subsoil between the outer limits of territorial waters and the outer limits of the continental shelf (Pub. Law 212, approved August 7, 1953). This latter Act provides that it shall be construed in such manner that the character as high seas of the waters above the outer Continental Shelf and the right to navigation and fishing therein shall not be affected.

"Subsequent to the United States proclamations in 1945, several countries have made far-reaching claims to jurisdiction over extensive areas of seabed and subsoil,

and even the waters, of the high seas for one or more purposes. For example, a number of countries claim the right unilaterally to control fishing on the high seas in areas contiguous to their coasts but which have historically been fished by nationals of other states or in which other nations have a real interest. Korea and Japan are engaged in a controversy over Korea's right to exclude nationals of other countries from fishing in large areas off her coasts. England and Iceland are in a controversy over Iceland's claims to exclusive fishing rights off her coasts.

"The International Court of Justice recently handed down a decision in the Anglo-Norwegian fisheries case. Japan and Australia are having a dispute over the rights of Australia to control pearl fisheries on the seabed off her coast, and this has been submitted to the ICJ for decision. The subject is one of increasing importance as a source of international controversy, and it is significant and heartening that there is a growing tendency to submit these disputes to the ICJ for decision.

"The Fisheries Articles (drafted by the International Law Commission) are designed to promote both the freedom of high-seas fisheries and international cooperation in conserving such fisheries. The Assembly postponed consideration of these items until the International Law Commission completes its work on all of the various phases of the regime of the high seas and territorial waters.

"The United States' position, as you know, is that the historic doctrine of freedom of fishing in the high seas must be maintained. The present draft by the Commission accords generally with this view.

That portion of the speech discussing the International Law Commission follows:

"International Law Commission: The United Nations body charged with the codification and progressive development of international law is the International Law Commission, a subordinate organ of the General Assembly. The Commission, which meets for several months annually, is composed of fifteen eminent international lawyers and jurists.

"Its conclusions and recommendations are reported annually to the General Assembly for consideration. At the session of the Assembly which terminated its work in December (1953), three major projects of the Commission were discussed in the Assembly's Legal Committee.

"One of these projects is a comprehensive set of articles on Arbitral Procedure. The object of the articles would be to provide a uniform code of arbitration and to eliminate, so far as possible, the past tendency of countries fearing defeat before an Arbitral Tribunal to block and frustrate the arbitration. As the Commission stated, the project is part codification and part development. The Assembly has requested the member states to consider the articles during the next two years and supply their comments and suggestions, so that the Assembly may consider the project again at its 1955 Session.

"The other two projects of the Commission, consisting of draft articles on the continental shelf and high-seas fisheries, are integral parts of a larger project of codifying and developing all of the various aspects of international law relating to the regime of the high seas and territorial waters.

"The United States has a vital interest in both of these projects. In this connection, you may recall the two Presidential Proclamations of September 28, 1945. One proclaimed the jurisdiction and control of the United States over the natural resources of the subsoil and seabed of the continental shelf beneath the high seas contiguous to the coasts of the United States. In the other it was stated that the United States considers it proper alone or with other states concerned to establish fishery conservation zones in areas of the high seas contiguous to the coasts of the United States

wherein fishing activities have been or in the future may be developed and maintained on a substantial scale. In such zones fishing operations would be subject to the regulation and control of the one or more nations having a real interest in developing and maintaining the fisheries in the zone."

The report of the U. N. International Law Commission on the international law of the high seas, incorporated in which was the international law relating to the continental shelf and fishery resources of the high seas, is of considerable interest. The Commission has studied these matters since 1949 and submitted a report at the last session of that the General Assembly which ended in December 1953. Pertinent parts of the International Law Commission report follow:

CHAPTER III - REGIME OF THE HIGH SEAS

I. Introductory

58. At its first session held in 1949 the Commission elected Mr. J. P. A. Francois as special rapporteur to study the question of the regime of the high seas. At its second session held in 1950 the Commission considered a report (A/CN.4/17) of Mr. Francois on the subject. In the report of the Commission submitted the same year to the General Assembly, at its fifth session, ^{1/} the Commission surveyed the various questions falling within the scope of the general topic of the regime of the high seas such as nationality of ships, safety of life at sea, slave trade, submarine telegraph cables, resources of the high seas, right of pursuit, right of approach, contiguous zones, sedentary fisheries, and the continental shelf. On the basis of a second report of the special rapporteur (A/CN.4/42) most of these questions were reviewed at the third session in 1951 at which, in addition, the Commission adopted draft articles on the continental shelf and the following subjects relative to the high seas: resources of the sea, sedentary fisheries, and contiguous zones. ^{2/}

59. At its fifth session, the Commission examined once more, in the light of comments of governments, the provisional draft articles adopted at the third session. Final drafts were prepared on the following questions: (i) continental shelf; (ii) fishery resources of the high seas; (iii) contiguous zones. For reasons explained below in paragraph 71, the question of sedentary fisheries has not been covered in a separate article or articles. It is hoped that the other questions relating to the high seas may, in the course of the next few years, receive further study with the view to being embodied in drafts to be finally submitted to the General Assembly. The result will be the codification of the law covering the entire field of the regime of the high seas as well as proposals for the further development of that part of international law.

60. In its work on the subject the Commission derived considerable assistance from a collection, in two volumes, published in 1951 and 1952 by the Division for the Development and Codification of International Law of the Legal Department of the United Nations and entitled "Laws and Regulations on the Regime of the High Seas."

^{1/}Official Records of the General Assembly, Fifth Session, Supplement No. 12 (A/1316).

^{2/}See the report of the Commission on its third session, Official Records of the General Assembly, Sixth Session, Supplement No. 9 (A/1858), Chapter VII and Annex.

II. The Continental Shelf

A

Draft Articles on the Continental Shelf

61. As stated above in paragraph 58, at its third session held in 1951 the Commission adopted draft articles, with accompanying comment, on the continental shelf. ^{1/} Subsequent to the third session the special rapporteur reexamined these articles in the light of observations received from the following governments: Belgium, Brazil, Chile, Denmark, Egypt, Ecuador, France, Iceland, Israel, Netherlands, Norway, Philippines, Sweden, Syria, Union of South Africa, United Kingdom of Great Britain and Northern Ireland, United States of America, Yugoslavia. . . .

62. The Commission adopted, at its 234th meeting, the following draft articles on the continental shelves.

Article 1

As used in these articles, the term "continental shelf" refers to the seabed and subsoil of the submarine areas contiguous to the coast, but outside the area of the territorial sea, to a depth of two hundred metres.

Article 2

The coastal State exercises over the continental shelf sovereign rights for the purpose of exploring and exploiting its natural resources.

Article 3

The rights of the coastal State over the continental shelf do not affect the legal status of the superjacent waters as high seas.

Article 4

The rights of the coastal State over the continental shelf do not affect the legal status of the airspace above the superjacent waters.

Article 5

Subject to its right to take reasonable measures for the exploration of the continental shelf and the exploitation of its natural resources, the coastal State may not prevent the establishment or maintenance of submarine cables.

Article 6

1. The exploration of the continental shelf and the exploitation of the natural resources must not result in any unjustifiable interference with navigation, fishing or fish production.
2. Subject to the provisions of paragraph 1 and 5 of this article, the coastal State is entitled to construct and maintain on the continental shelf installations necessary for the exploration and exploitation of its natural resources and to establish safety zones at a reasonable distance around such installations and to take in these zones measures necessary for their protection.
3. Such installations, though under the jurisdiction of the coastal State, do not possess the status of islands. They have no territorial sea of their own and their presence does not affect the delimitation of the territorial sea of the coastal State.
4. Due notice must be given of any such installations constructed, and due means of warning of the presence of such installations must be maintained.
5. Neither the installations themselves, nor the said safety zones around them may be established in narrow channels or on recognized sea lanes essential to international navigation.

Article 7

1. Where the same continental shelf is contiguous to the territories of two or more States whose coasts are opposite to each other, the boundary of the continental shelf appertaining to such States is, in the absence of agreement between those States or unless another boundary line is justified by special circumstances, the median line every point of which is equidistant from the base lines from which the width of the territorial sea of each country is measured.
2. Where the same continental shelf is contiguous to the territories of two adjacent States, the boundary of the continental shelf appertaining to such States is in the absence of agreement between those States or unless another boundary line is justified by special circumstances, determined by application of the principle of equidistance from the base lines from which the width of the territorial sea of each of the two countries is measured.

Article 8

Any dispute which may arise between States concerning the interpretation or application of these articles should be submitted to arbitration at the request of any of the parties.

63. While adhering to the basic considerations which underlay the articles provisionally adopted in 1951, the Commission has now departed in various respects from its preliminary draft. It did so having regard to replies received from Governments; the views enunciated on the subject by writers and learned societies; and its own study and discussion of the problems involved. The nature of these changes is indicated below in connection with the comments on the articles as finally adopted.

B

Comments on the Draft Articles

(i) The Concept of the Continental Shelf as Used in The Articles

64. In defining, for the purpose of the articles adopted, the term "continental shelf" as referring "to the seabed and subsoil of the submarine areas

contiguous to the coast, but outside the area of the territorial sea, to a depth of two hundred metres," the Commission abandoned the criterion of exploitability adopted in 1952 in favor of that of a depth of two hundred metres as laid down in article 1 of the present draft. The relevant passage of article 1 as adopted in 1951 referred to the area "where the depth of the superjacent waters admits of the exploitation of the natural resources of the seabed and subsoil." Some members of the Commission favored the retention of the text adopted in 1951 for the reason, *inter alia*, that it is more in accordance with the purpose of the draft not to adopt a fixed limit for the continental shelf but to let the territorial extension of the exercise of the powers given the coastal States depend on the practical possibilities of exploitation. The Commission, following the considerations adduced by the special rapporteur in the light of observations of certain governments, has come to the conclusion that the text previously adopted does not satisfy the requirement of certainty and that it is calculated to give rise to disputes. On the other hand, the limit of two hundred metres--a limit which is at present sufficient for all practical needs--has been fixed because it is at that depth that the continental shelf, in the geological sense, generally comes to an end. It is there that the continental slope begins and falls steeply to a great depth. The text thus adopted is not wholly arbitrary for, as already stated, it takes into account the practical possibilities, so far as they can be foreseen at present, of exploration and exploitation. Such unavoidable element of arbitrariness as is contained in that text is mitigated by the rule formulated below in paragraph 66 which covers to a large extent the case of those States whose waters surrounding the coast reach a depth of two hundred metres at a very short distance from the coast.

65. While adopting, to that extent, the geographical text of the continental shelf as the basis of the juridical concept of the term, the Commission in no way holds that the existence of the continental shelf in its geographical configuration as generally understood is essential for the exercise of the rights of the coastal State as defined in these articles. Thus, if, as is the case in the Persian Gulf, the submarine areas never reach the depth of two hundred metres, that fact is irrelevant for the purposes of article 1. The limit there laid down is the maximum limit. It does not rule out from the operation of the articles shallow submarine areas which are contiguous to the coast and which do not attain the depth of two hundred metres. The Commission considered the possibility of adopting a term other than "continental shelf" seeing that in this respect as well as in the cases referred to in the following paragraph it departed from the strict geological connotation of the term. However, it was considered that, in particular, the wide acceptance of that term in the literature counselled its retention.

66. Similarly, while adhering in general to the geographical description and characteristics of the continental shelf, the Commission envisages the possibility and the desirability of reasonable modifications, in proper cases, of the text thus adopted. Thus although the depth of two hundred metres as a limit of the continental shelf must be regarded as the general rule, it is a rule which is subject to equitable modifications in special cases in which submerged areas, of a depth less than two hundred metres, situated in considerable proximity to the

coast are separated by a narrow channel deeper than two hundred metres from the part of the continental shelf adjacent to the coast. Such shallow areas must, in these cases, be considered as contiguous to that part of the shelf. It would be for the State relying on this exception to the general rule to establish its claim to an equitable modification of the rule. In case of dispute, it must be a matter for arbitral determination whether a shallow submarine area falls within the rule as here formulated. Some such modification of the general rule is necessary in order to meet the objection that the mechanical reliance on the geological notion of the continental shelf may result in an inequality of treatment of some States as compared with others.

67. The expression "continental shelf" does not imply that it refers exclusively to continents in the current connotation of that term. It covers also the submarine areas contiguous to islands.

(ii) The Nature of the Rights of the Coastal State

68. While article 2 as provisionally formulated in 1951 referred to the continental shelf as "subject to the exercise by the coastal State of control and jurisdiction for the purpose of exploring it and exploiting its natural resources," the article as now formulated lays down that "the coastal State exercises over the continental shelf sovereign rights for the purpose of exploring and exploiting its natural resources." The formulation thus adopted takes into account the views of those members of the Commission who attached importance to maintaining the language of the original draft and those who considered that the expression "rights of sovereignty" should be adopted. In adopting the article in its present formulation the Commission desired to avoid language lending itself to interpretations alien to an object which the Commission considers to be of decisive importance, namely safeguarding the principle of the full freedom of the superjacent sea and the air-space above it.

69. On the other hand, the text as now adopted leaves no doubt that the rights conferred upon the coastal State cover all rights necessary for and connected with the exploration and the exploitation of the natural resources of the continental shelf. These rights comprise full control and jurisdiction and the right to reserve exploitation and exploration for the coastal State or its nationals. Such rights include jurisdiction in connection with suppression of crime.

70. The Commission decided, after considerable discussion, to retain the term "natural resources" as distinguished from the more limited term "mineral resources." In its previous draft the Commission only considered mineral resources, and certain members proposed adhering to that course. The Commission, however, came to the conclusion that the products of sedentary fisheries, in particular to the extent that they were natural resources permanently attached to the bed of the sea, should not be outside the scope of the regime adopted and that this aim could be achieved by using the term "natural resources." It is clearly understood, however, that the rights in question do not cover so-called bottom-fish and other fish which, although living in the sea, occasionally have their habitat at the bottom of the sea or are bred there. Nor do these rights cover objects such as wrecked ships and their cargoes (including bullion) lying on the seabed or covered by the sand of the subsoil.

71. Neither, in the view of the Commission, can the exclusive rights of the coastal State be exercised in a manner inconsistent with existing rights of nationals of other States with regard to sedentary fisheries. Any interference with such rights, when unavoidably necessitated by the requirements of exploration and exploitation of natural resources, is subject to rules of international law insuring respect of the rights of aliens. However, apart from the case of such existing rights, the sovereign rights of the coastal State over its continental shelf cover also sedentary fisheries. It may be added that this was the reason why the Commission did not think it necessary to retain, among the articles devoted to the resources of the sea, an article on sedentary fisheries. The Commission envisaged the possibility that shallow areas rendering possible the exploitation of sedentary fisheries may exist outside the continental shelf. However, that possibility was considered to be at present too theoretical to necessitate separate treatment.

72. The rights of the coastal State over the continental shelf are independent of occupation, actual or fictional, and of any formal assertion of those rights.

73. The Commission does not deem it necessary to elaborate the question of the nature and of the legal basis of the sovereign rights attributed to the coastal State. The considerations relevant to this matter cannot be reduced to a single factor. In particular, it is not possible to base the principle of the sovereign rights of the coastal State exclusively on recent practice, for there is no question, in the present case, of giving the authority of a legal rule to a unilateral practice resting solely upon the will of the States concerned. However, that practice itself is considered by the Commission to be supported by considerations of legal principle and convenience. In particular, once the seabed and the subsoil have become the object of active interest of States with the view to the exploration and exploitation of their resources, it is not practicable to treat them as *res nullius*, i. e., capable of being acquired by the first occupier. It is natural that coastal States should resist any such solution. Moreover, in most cases the effective exploitation of natural resources must depend on the existence of installations on the territory of the coastal State. Neither is it possible to disregard the phenomenon of geography whether that phenomenon is described as propinquity, contiguity, geographical continuity, appurtenance or identity of the submarine areas in question with the non-submerged contiguous land. All these considerations of general utility provide a sufficient basis of the principle of sovereign rights of the coastal State as now formulated by the Commission. As already stated that principle is in no way incompatible with the principle of the freedom of the sea.

74. While, for the reasons stated, as well as having regard to practical considerations, the Commission has been unable to countenance the idea of the internationalization of the submarine areas comprised in the concept of the continental shelf, it has not discarded the possibility of the creation of an international agency charged with scientific research and guidance with the view to promoting, in the general interest, the most efficient use of submarine areas. It is possible that some such body may be set up within the framework of an existing international organization.

(iii) The Sovereign Rights of the Coastal State and the Freedom of the Seas and of the Air Space above them

75. Some of the principal articles on the continental shelf as formulated by the Commission are devoted to the provision of safeguards of the freedom of the seas in relation to the sovereign rights of the coastal State over the continental shelf. Thus articles 3 and 4 lay down that the rights of the coastal State over the continental shelf do not affect the legal status of the superjacent waters as high seas or of the air space above the superjacent waters. These articles, which are couched in categorical terms, are self-explanatory. For the articles on the continental shelf are intended as laying down the regime of the continental shelf only as subject to and within the orbit of the paramount principle of the freedom of the seas and of the air space above them. No modifications of or exceptions from that principle are admissible unless expressly provided for in the various articles.

76. The same considerations apply to the seabed. Although the seabed is subject to the sovereign rights of the coastal State, for the purpose of the exploration and exploitation of its natural resources, the principle of the freedom of the seas and its legal status must be respected, in that sphere, inasmuch as the coastal State must not prevent the establishment or maintenance of submarine cables by nationals of other States. That provision is designed to prevent either arbitrary prohibition or discrimination against foreign nationals. It is not otherwise intended to impair the right of the coastal State to take measures reasonably necessary for the exploration of the continental shelf and the exploitation of its natural resources. At a previous session the Commission considered whether this provision ought to be extended to pipelines on the continental shelf. Such pipelines might necessitate the installation of pumping stations which might interfere with the exploitation of the subsoil even more than cables. However, the question was considered too remote to require regulation for the time being.

77. While articles 3 and 4 lay down in general terms the basic rule of the unaltered legal status of the superjacent sea and the air above it, article 6 applies that basic rule to the main manifestations of the freedom of the seas, namely, the freedom of navigation and fishing. Paragraph 1 of that article lays down that the exploration of the continental shelf must not result in any unjustifiable interference with navigation, fishing or fish production. It will be noted, however, that what the article prohibits is not any kind of interference but only unjustifiable interference. The manner and the significance of that qualification were the subject of prolonged discussion in the Commission. The progressive development of international law, which takes place against the background of established rules, must often result in the modification of those rules by reference to new interests or needs. The extent of that modification must be determined by the relative importance of the needs and interests involved. To lay down, therefore, that the exploration and exploitation of the continental shelf must never result in any interference whatsoever with navigation and fishing might result in many cases for rendering somewhat nominal both the sovereign rights of exploration and exploitation and the very

purpose of the articles as adopted. The case is clearly one of assessment of the relative importance of the interests involved. Interference, even if substantial, with navigation and fishing might, in some cases, be justified. On the other hand, interference even on an insignificant scale would be unjustified if unrelated to reasonably conceived requirements of exploration and exploitation of the continental shelf. While, in the first instance, the coastal State must be the judge of the reasonableness--of the justification--of the measures adopted, in case of dispute the matter must be settled on the basis of article 8 which governs the settlement of all disputes regarding the interpretation of application of the article.

78. The same considerations apply and explain the provisions of article 6, in paragraphs 2-5, relating to installations necessary for the exploration and exploitation of the continental shelf as well as of safety zones round such installations and the measures necessary to protect them. They, too, are subject to the overriding prohibition of unjustified interference with freedom of fishing and navigation. Although the Commission did not consider it essential to specify the size of the safety zones, it believes that, generally speaking, a radius of five hundred metres is sufficient for the purpose. With regard to notice to be given, in accordance with paragraph 4 of article 6, of "installations constructed," the obligation in question refers primarily to installations already completed. There is in principle no duty to disclose in advance plans relating to contemplated construction of installations. However, in cases in which the actual construction of provisional installations is likely to interfere with navigation, due means of warning must be maintained in the same way as in the case of installations already completed and, as far as possible, due notice must be given.

79. With regard to the general status of installations it has been thought useful to lay down expressly, in paragraph 3 of article 6, that they do not possess the status of islands and that the coastal State is not entitled to claim for the installations any territorial waters of their own or to treat them as relevant for the delimitation of territorial waters. In particular, they cannot be taken into consideration for the purpose of determining the base-line. On the other hand, the installations are under the jurisdiction of the coastal State for the purpose of maintaining order and of the civil and criminal competence of its courts.

80. While generally the Commission, by formulating the test of unjustifiable interference, thought it advisable to eliminate any semblance of rigidity in adapting the existing principle of the freedom of the sea to what is an essentially novel situation, it thought it desirable to rule out expressly any right of interference with navigation in certain areas of the sea. These areas are defined in paragraph 5 of article 6 as narrow channels or recognized sea lanes essential to international navigation. They are understood to include straits in the ordinary sense of the word. The importance of these areas for the purpose of international navigation is such as to preclude, in conformity with the tests of equivalence and relative importance of the interests involved, the construction therein of installations or the maintenance of safety zones even if such installations or zones are necessary for the exploration or exploitation of the continental shelf.

(iv) Delimitation of the Boundaries of the Continental Shelf

81. In the matter of the delimitation of the boundaries of the continental shelf the Commission was in the position to derive some guidance from proposals made by the Committee of experts on the delimitation of territorial waters. In its provisional draft the Commission, which at that time was not in possession of requisite technical and expert information on the matter, merely proposed that the boundaries of the continental shelf contiguous to the territories of adjacent States should be settled by agreement of the parties and that, in the absence of such agreement, the boundary must be determined by arbitration *ex sequo et bono*. With regard to the boundaries of the continental shelf of States whose coasts are opposite to each other, the Commission proposed the median line--subject to reference to arbitration in cases in which the configuration of the coast might give rise to difficulties in drawing the median line.

82. Having regard to the conclusions of the Committee of experts referred to above, the Commission now felt in the position to formulate a general rule, based on the principle of equidistance, applicable to the boundaries of the continental shelf both of adjacent States and of States whose coasts are opposite to each other. The rule thus proposed is subject to such modifications as may be agreed upon by the parties. Moreover, while in the case of both kinds of boundaries the rule of equidistance is the general rule, it is subject to modification in cases in which another boundary line is justified by special circumstances. As in the case of the boundaries of coastal waters, provision must be made for departures necessitated by any exceptional configuration of the coast, as well as the presence of islands or of navigable channels. To that extent the rule adopted partakes of some elasticity. In view of the general arbitration clause of article 8, referred to below in paragraphs 86 *et seq.* no special provision was considered necessary for submitting any resulting disputes to arbitration. Such arbitration, while expected to take into account the special circumstances calling for modification of the major principle of equidistance, is not contemplated as arbitration *ex sequo et bono*. That major principle must constitute the basis of the arbitration, conceived as settlement on the basis of law, subject to reasonable modifications necessitated by the special circumstances of the case.

83. Without prejudice to the element of elasticity implied in article 7, the Commission was of the opinion that where the same continental shelf is contiguous to the territories of two adjacent States, the delimitation of the continental shelf between them should be carried out in accordance with the same principles as govern the delimitation of the territorial waters between the two States in question.

84. It should, however, be noted that certain members of the Commission considered that it would be premature to apply for the purpose of delimiting the continental shelf the principles drawn up by the Committee of experts on the delimitation of territorial waters, since those principles have not yet been discussed by the Commission. In their opinion, the proper course would be to provide that the boundaries of the continental shelf contiguous to the territories of two or more States should be determined by agreement between the States concerned;

and that in the absence of such agreement, the resultant dispute between them should be settled by one of the appropriate procedures for the peaceful settlement of disputes.

85. It is understood that the use of the term "territorial sea," as distinguished from "territorial waters" in article 7, is provisional and that the question of terminology to be used in this and other cases in the drafts prepared by the Commission will be determined when the Commission adopts its final draft on the regime of territorial waters. Reference may also be made in this connection to paragraph 108 below to the provisional use of the term "base line."

(v) Arbitral Settlement of Disputes

86. Unlike the preliminary draft, the final draft as now proposed contains a general arbitration clause providing that any disputes which may arise between States concerning the interpretation or application of the article should be submitted to arbitration at the request of any of the parties. The clause thus adopted covers, in addition to any boundary disputes connected with article 7, all disputes arising out of the exploration or the exploitation of the continental shelf.

87. In the view of the Commission there are compelling reasons which render essential a clause of this nature. As already stated (see above, paragraph 68 *et seq.*) the articles on the continental shelf represent an attempt to reconcile the established principles of international law governing the regime of the high seas with the recognition of the rights of the coastal State over the continental shelf. Any such reconciliation, based as it must be on the continuous necessity of assessing the relative importance of the interests involved, must leave room for a measure of elasticity and discretion. Thus, it must often remain a question for subjective appreciation, with the consequent possibility of disputes, whether--in the words of paragraph 1 of article 6--the measures taken by the coastal State for the exploration and exploitation of the continental shelf constitute "unjustifiable" interference with navigation or fishing; whether, according to paragraph 2 of that article, the safety zones established by the coastal State are at a "reasonable" distance around the installations; whether, in the words of paragraph 5 of that article, a sea lane is a "recognized" sea lane and whether it is "essential to international navigation;" or whether the coastal State, in preventing the establishment of submarine cables, is in fact acting within the spirit of article 5 which makes such action permissible only if necessitated by "reasonable" measures for the exploration and exploitation of the continental shelf. The new regime of the continental shelf, unless kept within the confines of legality and of impartial determination of its operation, may constitute a threat to the overriding principle of the freedom of the seas and to peaceful relations between States. For these reasons it seems essential that States which are in dispute concerning the exploration or exploitation of the continental shelf should be under a duty to submit to arbitration any disputes arising in this connection. It is for this reason that the Commission, although it does not propose the adoption of a convention on the continental shelf, thought it essential to establish the principle of arbitration.

88. Certain members of the Commission were opposed to the insertion in the draft of a clause on

compulsory arbitration on the grounds that there was no reason for imposing on States one only of the various measures laid down in current international law, and particularly, in Article 33 of the Charter of the United Nations, for the pacific settlement of international disputes. They also pointed out that the insertion of such a clause would make the draft unacceptable to a great many States. Certain members raised the further objection that such a clause would give any contracting State the right to take action on any pretext against the other contracting States by a unilateral request to international tribunals, thus increasing the possibility in present circumstances of putting pressure on the weaker States and in effect curtailing their independence.

89. The provision for arbitration as laid down in article 8 does not exclude any other procedure agreed upon by the parties as a means of the formal settlement of the dispute. In particular, they may agree, in matters of general importance, to refer the dispute to the International Court of Justice.

90. In as much as the articles on the continental shelf cover generally its exploration and exploitation, arbitration referred to in article 8 must be regarded as applying to all disputes arising out of the exploration or exploitation of the continental shelf and affecting the international relations of the State concerned. This will cover, for instance, disputes arising in connection with the existence of common deposits situated across the surface boundaries of the submarine areas, a problem which has arisen in some countries in the relations of owners of adjoining oil deposits.

C

Action Recommended in Respect of the Draft Articles on the Continental Shelf

91. The Commission recommends to the General Assembly to adopt by resolution this part of the report and the draft articles on the continental shelf incorporated therein.

III. Fisheries

92. The question of fisheries, under the title of Resources of the Sea, has been under consideration by the Commission as part of the general topic of the regime of the high seas. Reference is made to the introductory paragraphs of this chapter for a survey of the treatment of this subject by the Commission.

93. At its third session in 1951 the Commission adopted provisionally the articles on resources of the sea. During the fifth session the Commission reconsidered these articles in the light of observations sent by the following countries: Belgium, Brazil, Chile, Denmark, Ecuador, France, Iceland, Netherlands, Norway, Philippines, Sweden, Syria, Union of South Africa, United Kingdom of Great Britain and Northern Ireland, Yugoslavia. . . . The Commission discussed the revision of these articles at its 206th to 210th meetings.

94. The Commission adopted, at its 210th meeting, the following three draft articles covering the basic aspects of the international regulation of fisheries:

Article 1

A State whose nationals are engaged in fishing in any area of the high seas where the nationals of other States are not thus engaged, may regulate and control fishing activities in such areas for the

purpose of protecting fisheries against waste or extermination. If the nationals of two or more States are engaged in fishing in any area of the high seas, the States concerned shall prescribe the necessary measures by agreement. If, subsequent to the adoption of such measures, nationals of other States engage in fishing in the area and those States do not accept the measures adopted, the question shall, at the request of one of the interested parties, be referred to the international body envisaged in article 3.

Article 2

In any area situated within one hundred miles from the territorial sea, the coastal State or States are entitled to take part on an equal footing in any system of regulation, even though their nationals do not carry on fishing in the area.

Article 3

States shall be under a duty to accept, as binding upon their nationals, any system of regulation of fisheries in any area of the high seas which an international authority, to be created within the framework of the United Nations, shall prescribe as being essential for the purpose of protecting the fishing resources of that area against waste or extermination. Such international authority shall act at the request of any interested State.

95. In adopting these articles the Commission adhered in substance to the provisional draft of the articles formulated at its third session in 1951. In their main aspect both drafts go beyond the existing law and must be regarded to a large extent as falling within the category of progressive development of international law. The existing position of international law is, in general, that regulations issued by a State for the conservation of fisheries in any area of the high seas outside its territorial waters are binding only upon the nationals of that State. Secondly, if two or more States agree upon regulations affecting a particular area, the regulations are binding only upon the nationals of the States concerned. Thirdly, in treaties concluded by States for the joint regulation of fisheries for the purpose of their protection against waste and extermination, the authority created for the purpose has been, as a rule, entrusted merely with the power to make recommendations, as distinguished from the power to issue regulations binding upon the contracting parties and their nationals.

96. It is generally recognized that the existing law on the subject, including the existing international agreements, provides no adequate protection of marine fauna against extermination. The resulting position constitutes, in the first instance, a danger to the food supply of the world. Also, in so far as it renders the coastal State or the States directly interested helpless against wasteful and predatory exploitation of fisheries by foreign nationals, it is productive of friction and constitutes an inducement to States to take unilateral action, which at present is probably illegal, or self-protection. Such inducement is particularly strong in the case of the coastal State. Once such measures of self-protection, in disregard of the law as it stands at present, have been resorted to, there is a tendency to aggravate the position by measures aiming at or resulting in the total exclusion of foreign nationals.

97. The articles as now adopted by the Commission are intended to provide the basis for a solution of the difficulties inherent in the existing situation.

Article 3 imposes upon States the "duty to accept, as binding upon their nationals, any system of regulation of fisheries in any area of the high seas which an international authority, to be created within the framework of the United Nations, shall prescribe as being essential for the purpose of protecting the fishing resources of that area against waste or extermination." Moreover, it is provided there that "such international authority shall act at the request of any interested State" - *i. e.*, whether a coastal or any other State. Certain members of the Commission were opposed to the adoption of the text of article 3, on the ground that there was no real need for the creation of an international authority, since fisheries could be regulated, as in the past, by means of agreements between States. They contended that the proposal to give an international authority power to issue regulations binding on the nationals of States was in conflict with the basic principles of international law.

98. The system proposed by the Commission projects, in the first instance, the interest of the coastal State which is often most directly concerned in the preservation of the marine resources in the areas of the sea contiguous to its coast. Obviously, if only the nationals of that State are engaged in fishing in these areas, it can fully achieve the desired object by legislating in respect of its nationals and enforcing the legislation thus enacted. If nationals of other States are engaged in fishing in a given area - whether coastal or otherwise - it is clear that the concurrence of those States is essential for the effective adoption and enforcement of the regulations in question. Article 1 provides therefore that in such cases "the States concerned shall prescribe the necessary measures by agreement." Article 3 is intended to provide effectively for the contingency of the interested States being unable to reach agreement. In such cases, the regulations are to be issued, with binding effect, by the international authority envisaged in that article. Similarly, if subsequent to the adoption of measures of protection by the agreement of the interested States, nationals of other States engage in fishing in the area in question and if their States are unwilling to accept or respect the regulations thus issued, the international authority provided for in article 3 is empowered to declare the regulations to be binding upon the States in question and their nationals.

99. As stated, the system thus formulated by the Commission does not differ substantially from that provisionally adopted by the Commission at its third session. Thus it was laid down, in article 2, that a permanent international body competent to conduct investigations of the world's fisheries and the methods employed in exploiting them "should also be empowered to make regulations for conservatory measures to be applied by the States whose nationals are engaged in fishing in any particular area where the States concerned are unable to agree among themselves." It is significant of the present state of opinion and of the widely felt need for the removal of what is felt by many to be a condition approaching anarchy that in the replies sent by governments no opposition was voiced against the proposal then advanced by the Commission.

100. The Commission, in adopting these articles, was influenced by the view that the prohibition of abuse of rights is supported by judicial and other authority and is germane to the situation covered

by these articles. A State which arbitrarily and without good reason, in rigid reliance upon the principle of the freedom of the seas, declines to play its part in measures reasonably necessary for the preservation of valuable or often essential resources from waste exploitation, abuses a right conferred upon it by international law. The prohibition of abuse of rights in so far as it constitutes a general principle of law recognized by civilized States, provides to a considerable extent a satisfactory legal basis for the general rule as formulated in article 3. To that extent it may be held that that article is not altogether in the nature of a drastic departure from the principles of international law. In fact the Commission deems it desirable that pending the general acceptance of the system proposed in article 3 enlightened States should consider themselves bound, even if by way of a mere imperfect legal obligation, to act on the view that it may be contrary to the very principle of the freedom of the seas to encourage or permit action which amounts to an abuse of a right and which is apt to destroy the natural resources whose preservation and common use have been one of the main objects of the doctrine of the freedom of the sea. This is so although the Commission is of the opinion that the articles adopted fall generally within the category of development of international law.

101. Reference may be made in this connection to article 2 which lays down that, in any area situated within one hundred miles from the territorial sea, the coastal State or States are entitled to take part on an equal footing in any system of regulation, even though their nationals do not carry on fishing in the area. This provision is considered to safeguard sufficiently the position of the coastal State. Such protection of its interests is equitable and necessary even if, for the time being, its nationals do not engage in fishing in the area. On the other hand, the right to participate, on a footing of equality, in any system of regulation agreed upon by other States, does not imply a right to prevent or hinder its operation. The same applies to any system of regulations which may be decided upon by the international authority in conformity with article 3. In view of the wide powers conferred upon the latter, the Commission considered it unnecessary to entertain in detail the proposal, put forward at its third session and advanced one more at its present session, to entrust the coastal State itself with the right to issue regulations of non-discriminatory character binding upon foreign nationals in areas contiguous to its coast.

102. With respect to the action which may appropriately be taken by the General Assembly in the matter of the part of the present report incorporating the final draft of articles on fisheries, the Commission recommends: (a) that the General Assembly adopt that part of the report and the draft articles by resolution; and (b) that it enters into consultation with the Food and Agriculture Organization of the United Nations with a view to the preparation of a draft convention incorporating the principles adopted by the Commission.

103. The Commission believes that the general importance and the recognized urgency of the subject matter of these articles warrant their endorsement by a formal act of approval on the part of the General Assembly. Considerable time must elapse before a convention on the lines here proposed is adopted and widely ratified. In the meantime it seems advisable that the General Assembly should

lend its authority to the principles underlying these articles. In particular, endorsement should be given to the view that where a number of interested States have agreed on a system of protection of fisheries any regulations thus agreed upon should not, without good reason, be rendered nugatory by the action or inaction of a single State. The problem underlying these articles is one of general interest and the Commission believes that an authoritative statement of the legal position on the subject, both *de lege lata* and *de lege ferenda*, by the General Assembly is indicated as a basis of any future regulations which may be adopted.

104. While the articles adopted by the Commission contain the general principles for the protection of fisheries, it is clear that only a detailed convention or conventions can translate these principles into a system of working rules. It is probable that that object may be achieved on a regional basis rather than by way of a general convention. Conventions concluded in the past for the protection of fisheries have been, as a rule, on a regional basis. The International Convention for the North West Atlantic Fisheries of 6 February 1949, which establishes an International Commission for the North Atlantic Fisheries assisted by panels for sub-areas and national advisory committees, and the proposed International Convention for the High Sea Fisheries of the North Pacific Ocean, approved in draft by the Tripartite Fisheries Conference at Tokyo on 14 December 1951, provide recent instructive examples of such regulations. Account would also have to be taken of the existence and experience of regional bodies such as the Indo-Pacific Fisheries Council, the Regional Fisheries Council for the Mediterranean and the Latin American Fisheries Council. The matter is of a technical character; as such it is outside the competence of the Commission. A specialized body, such as the Food and Agriculture Organization of the United Nations, would seem to be most suitable for the purpose. Accordingly, the Commission recommends that, concurrently with its approval of the articles on Fisheries, the General Assembly should enter into consultation with the Food and Agriculture Organization with a view to investigating the matter and preparing drafts of a convention or conventions on the subject in conformity with the general principles embodied in the articles.

IV. Contiguous Zone

105. As part of the work on the regime of the high seas the Commission adopted at its 210th meeting the following single article on contiguous zone:

On the high seas adjacent to its territorial sea, the coastal State may exercise the control necessary to prevent and punish the infringement, within its territory or territorial sea, of its customs, immigration, fiscal or sanitary regulations. Such control may not be exercised at a distance beyond twelve miles from the base line from which the width of the territorial sea is measured.

106. The article thus adopted is identical, but for the words reproduced in italics, with that formulated by the Commission at its third session. Apart from some qualifications and reservations, the principle underlying that article has encountered no opposition on the part of the governments which have since made observations on the subject (see annex to this report). The Commission believes that principle to be in accordance with a

widely adopted practice. International law does not forbid States to exercise a measure of protective, preventive, or punitive jurisdiction for certain purposes over a belt of water contiguous to its territorial sea. States have shown no disposition to challenge the exercise by other States of a limited jurisdiction of that nature. Certain members of the Commission were, however, opposed to the inclusion of this article in the draft, on the ground that it had no direct connection with the regime of the high seas and, moreover, that several governments in their observations had also put forward the view that the article in question should be examined in connection with the discussion of territorial waters.

107. There has been no general agreement as to the extent of the contiguous zone for the purposes as defined above. The Preparatory Committee of the Hague Codification Conference of 1930 proposed that the breadth of the contiguous zone be fixed at twelve nautical miles measured from the coast. While it is possible that in some cases that limit may be insufficient having regard to technical developments in the speed of vessels and other wise, the Commission believes that, on the whole, that limit approximates most closely to general practice as acquiesced in by States.

108. It must be noted that, in the article as now formulated, the contiguous zone of twelve miles is described as measured from the base line forming the inner limit of the territorial sea. In the article as proposed in 1951 the Commission referred to twelve miles as measured "from the coast." This change of formulation is not intended as an expression of view as to the nature of the base line forming the inner limit of the territorial sea. However, as in the case of the territorial sea, it is convenient to refer to the base line as being the more precise indication.

109. In adopting the limit of twelve miles for the exercise of the protective rights of States within the contiguous zone, the Commission does not intend to prejudice, in any direction, the results of its examination of the question of the territorial sea and of its limits.

110. Certain members of the Commission opposed the inclusion in the draft of the article on the contiguous zone, on the ground that it prejudged the question of the outer limit of territorial waters. They pointed out that by taking as the base line the inner limit of the territorial waters, the article tended to restrict the width of these waters - a point on which the Commission had not yet taken any decision.

111. It is understood that the term "customs regulations" as used in this article refers not only to regulations concerning import and export duties but also other regulations concerning the exportation and importation of goods. In addition, the Commission thought it necessary to amplify the formulation previously adopted by referring expressly to immigration--a term which is also intended to include emigration.

112. The rights of the coastal State within the contiguous zone do not include rights in connection with security or fishing rights. With regard to the latter the Preparatory Committee of the Codification Conference of 1930 found that the replies of governments disclosed no sufficient measure of agreement on the subject. The Commission considers that in that respect there has been no change in the position. The question may become less urgent

and more amenable to a solution if the proposals of the Commission relating to fisheries and contained in paragraphs 92 *et seq.* of the present report are adopted by States.

113. The exercise of the rights of the coastal State, as here formulated, within the contiguous zone does not affect the legal status of the sea outside the territorial sea or of the air space above the contiguous zone. Air traffic may necessitate the establishment of an air zone over which the

coastal State may exercise control. However, this question is outside the subject of the regime of the high seas.

114. As the Commission has not yet adopted draft articles on the territorial sea, it recommends the General Assembly to take no action with regard to the article on the contiguous zone, the report having already been published (article 23, paragraph 1(a) of the Commission's Statute).

UNITED NATIONS FOOD AND AGRICULTURE ORGANIZATION

FISHERIES TECHNICAL AID, 1953: A resume of progress in fisheries technical assistance by the Fisheries Division of FAO in the year ending February 15, 1954, was submitted by the Chief Technical Assistance Officer in Rome on February 18 to the Director of the Fisheries Division. The report follows:

Brazil: Recruitment of a master fisherman has been advanced to April, and a fishery biologist and fishery technologist, who are also included in the 1954 program, will be recruited for assignment in July.

British Guiana: The Government Fisheries Officer of British Guiana, who is working on an FAO fellowship on inland fisheries and fish culture, visited FAO Headquarters in Rome in January, and after a short visit to the fish-culture project near Calcutta, has arrived in Thailand. In addition to studying the fishery program being developed there by the FAO/ETAP expert, he attended meetings of the Indo-Pacific Fisheries Council in February.

Ceylon: The Acting Minister of Commerce, Trade and Fisheries has presented a brass plate to the owner of the first local-type Ceylonese fishing boat ever to have an engine installed in it, amid manifestations of enthusiasm. This engine was one of three 10 hp. Diesel engines provided by FAO, and installed in local fishing craft in 1952/53.



A Danish-built 22-foot fishing boat used in Ceylon's bonito fishing with excellent results.

These engines are now being formally made over to the Ceylon Government so that the fishermen may exercise their option to purchase on advantageous terms. In connection with the small craft mechanization program, the Colombo Plan is following up the pioneer work for FAO by importing about 40 small engines suitable for local craft. Additional engines are being imported through commercial channels in response to the growing demand among fishermen. Meanwhile, one of the Danish-built 22-foot boats imported has had excel-

lent results in bonito fishing, the season for which began in December; a second boat will join in this activity as soon as possible.

The Icelandic expert has been giving regular training to assistant marine engineers. This work is combined with a program of routine overhaul and repair of machinery in various fishing vessels operated by the Department of Fisheries for which these engineers are responsible.

At the request of the Government, the fishery economist who was to have been recruited for service in July has been deferred, and a fish culture biologist for work on brackish and fresh-water fish production is asked for instead.

Chile: In addition to the fishery technologist whose assignment is due to begin in July on handling and distribution problems, a fishery engineer



Hauling in the catch on a Chilean trawler.

will be required in April to start a program of small-craft mechanization and work on improved gear.

The final report of the fishery biologist and the marketing economist are being reviewed in Rome. One fellow is engaged in courses of study. An economic and legal advisor to the Chilean Bureau of Fisheries, after a period of study at FAO Headquarters in Rome, is now working in Sweden.

Colombia: The reconnaissance survey of fish-culture possibilities has been deferred at the request of the Colombian Government.

Costa Rica: Recruitment is in progress for a shrimp biologist to work on a coordinated program in both Costa Rica and Panama.

Dominican Republic: Within a period of eight months a total of 15 fish ponds have been constructed; and not only has stocking material been obtained from a corresponding project in Haiti, but reproduction of carp and tilapia have been successfully achieved. Growth has been satisfactory, and the first marketing trials of carp in December were very encouraging. A second propagation and administrative center is planned, and rough release in natural waters which has been so successful in Haiti will be carried out this year. Further development work will go hand in hand with training local personnel.

Ecuador: The report by the Argentine specialist on his fishery technology mission in Ecuador has been sent to the Government. This work will be followed up in the second half of 1954 by the assignment of a fishery technologist who will assist the Government in establishing a fish-curing station on a pilot-plant scale. An Ecuadorean fishery scientist has begun working under an FAO/ETAP fellowship at the Fishery Laboratory of the French Government at La Rochelle.

Egypt: A visit was paid to Egypt during February by the FAO Director of the Fisheries Division and the Regional Fisheries Officer for the Near East. During the visit problems requiring attention under the FAO/ETAP Program in 1954 were clarified. An inland fishery and fish-culture biologist and a fishery statistician are being recruited for service in the second half of the year.

Finland: One fellow has completed his studies in the United States and Canada on fishery administration and fish-meal manufacture. Two fellows are at present studying in the United States, one on inland fishery biology and the other on fish-hatchery management. Two more fellows will begin work this year. The project concerned with the development of the fish meal and oil industry has been deferred.

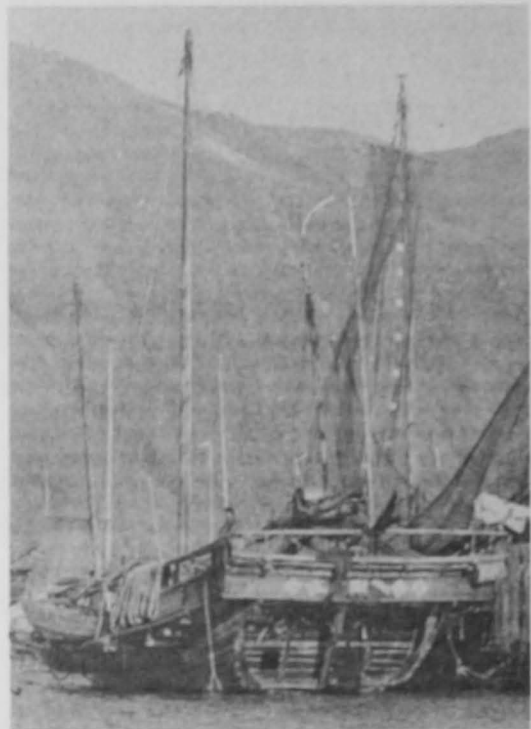
Guatemala: The reconnaissance survey on inland fishery problems which was in this year's program has been deferred at the request of the Government.

Haiti: With the completion of the fish propagation and administrative center, the success of carp and tilapia appears to be assumed, both from the production and marketing points of view. The pond fish-culture program was initiated and developed during 1953. Continued interest is shown by private farmers in building ponds in different parts of the country. The present program consists in training staff of the administrative center, extension work among fish farmers, and a continuation of the rough release program which has proved very successful.

Honduras: The Government has now requested a more detailed survey of the possibilities of fish culture than the brief reconnaissance previously

planned to be carried out this year. It is planned that an expert will be assigned in the second half of the year for a period of six months.

Hong Kong: A Training Center on fish marketing will be conducted in July and August 1954, jointly by the Hong Kong Government and FAO,



Big tail junk or "Tam Kok" junk at Tai O, fishing port, west of Lan Tau Island, Hong Kong.

for fisheries officers from member countries of the Indo-Pacific Fisheries Council. In addition to courses of lectures on the principles of fish marketing, a study will be made of the methods and organization of the Hong Kong Cooperative Fish Marketing Scheme.

India: A report on the development of the inland fisheries of West Bengal has been issued. A Norwegian naval architect has been working for the last six months in Bombay, Saurashtra, and Kutch. Some 19 fishing ports outside Bombay were visited, and on-the-spot advice was given to fishery officers and fishermen themselves on motorization problems; trials were carried out with recently-installed engines to obtain data for use in future work in this area. The architect is moving on to Madras State where he has been joined by an Icelandic fishery engineer whose program includes development of small craft mechanization and fishing gear improvements on both coasts of this State. A second fishery engineer will be assigned for work in Saurashtra in the second half of this year.

Iran: The proposals for conducting a fishery exploratory survey in the Persian Gulf jointly with the U. S. Operations Mission to Iran matured too late for action in the current fishing season. However, it is hoped to develop this survey during the entire next fishing season, starting about October

and extending through to the following May. A fishery engineer will be assigned to this project by FAO/ETAP at that time.

Iraq: An inland fisheries biologist will be assigned in April to study the effects of the great irrigation barrages on the migratory movements of food fish. He will be joined in the second half of the year by a hydraulic engineer with experience in the design and construction of fish passes and ladders.

Israel: A report on marine fisheries has been issued, and another on inland fisheries and fish culture will be released shortly.

Liberia: Programs on fish curing and exploratory fishing were to be carried out until the end of March 1954. Plans for continuing the work of the fishery engineer now on sick leave are being discussed with the Government.

Mexico: A draft agreement has been dispatched for the consideration of the Mexican Government, which will provide for a Fisheries Training Center for Latin America in the second half of the year. Courses will be given, primarily for fishery administrators, fishery biology, technology, and economics.

Pakistan: A combined report of the fishing boat design work will be issued shortly. This report will reproduce the lines of existing Pakistan sailing craft, and provide designs based on those of a new motor fishing craft of a type in the local tradition.

Panama: The work on shrimp biology carried out in 1952/53 will be continued in 1954. The biologist will also work in Costa Rica on closely allied problems of shrimp populations.

Paraguay: A fishery biologist will be assigned to carry out a general survey of the inland fisheries resources during the second half of 1954.

Saudi Arabia: The appointment of a commercial fishery consultant is being deferred at the request of the Government which wants instead a fishing gear technologist to assist in the commercial development of the country's fisheries through a newly-created fishery Government sponsored corporation.

Thailand: The Chinese expert continued the many-sided program of work in three fields: assistance in developing four inland fishery stations; technical training of Thai fishery officers; and assisting in the development of brackish and freshwater fish culture and of an extension fishery service in this field.

Turkey: A U. S. specialist continues to advise the Turkish Government on its program of marine fishery research. The Icelandic expert has been helping the Meat and Fish Office to make the most effective use of existing fish refrigeration and ice-making plants, and is advising the Office on its program of new fish cold-storage construction. Another U. S. specialist has made several trips in fishing craft belonging to the Meat and Fish Office; actual fishing has, however, been restricted to surface trolling due to lack of other fishing gear and equipment. It is hoped that purse seines will soon be available to enable intensive work on the stocks of mackerel and anchovy in the Black Sea, which will be fished more intensively in the future in connection with the proposed fish meal and oil plant at Trabzon. The Norwegian fishery economist has completed a general survey of the fishery industry and of the fishery activities of the Meat and Fish Office, and is now formulating advice to increase its effectiveness in the discharge of its responsibility for catching, processing, and distributing fish, and its administration.

One fellow in fish-processing methods is now working in Norway; a second in fishery biology is working at the inland fishery biology laboratory at Lowestoft, England; and a third in fish refrigeration will be working in Denmark in the spring of 1954.

Yugoslavia: A report of the Canadian fish refrigeration technologist has been transmitted to the Government. A Danish fish-curing specialist completed his assignment in January and his report will soon be transmitted to the Government. He advised several fish-processing plants, generally on improved methods, and in particular he showed how a new outlet could be found for hitherto unutilized resources of sprats available in some quantity for a short season by smoking and then canning.

One fellow has recently completed his studies on fish canning in Germany, Denmark, Morocco, and other countries.

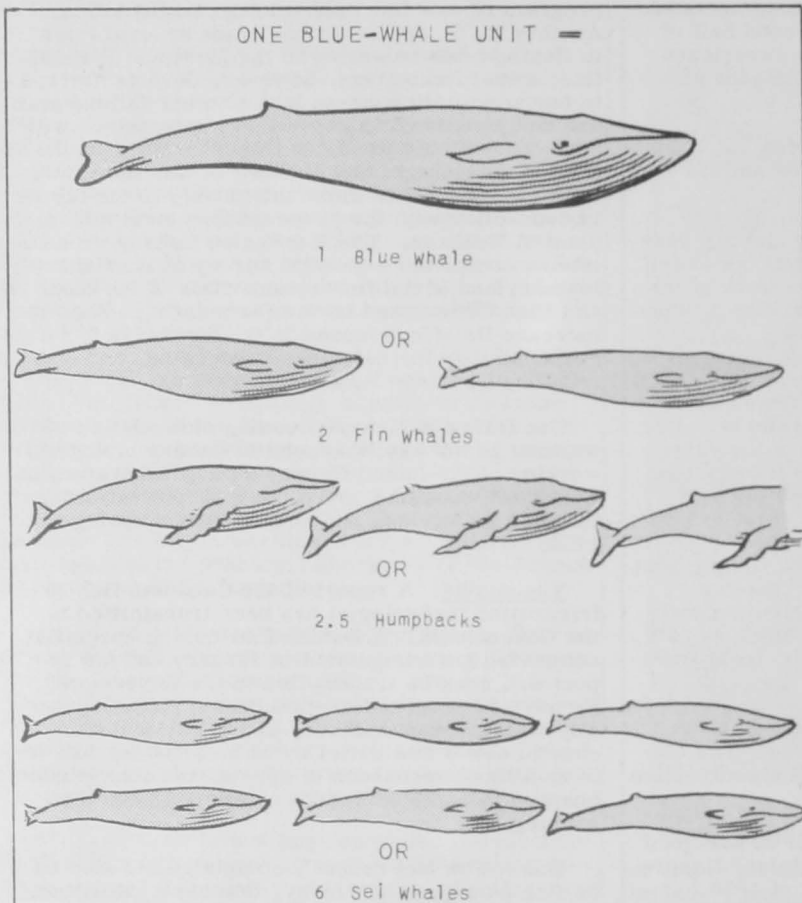
FAO FISHERIES PROGRAM FOR 1954: It is planned to provide the services of 37 fishery experts and to hold two training centers in the program which has been budgeted for the year 1954. Thirty fellows will also be studying, eleven of whom were already awarded fellowships in 1953. The experts include: 9 in inland fisheries and fish culture, 5 in marine fishery biology, 3 experts and both training centers in fishery economics, and 20 experts in the various fields of fishery technology (food handling and processing 6; fishery engineering and gear technology 13; naval architecture 1).

WHALING

ANTARCTIC SEASON CATCH, 1953/54: The 1953/54 Antarctic pelagic (open-sea) catch of baleen whales, which began on January 2, 1954, and ended on March 18, resulted in a total catch of 15,439 blue-whale units, ¹/₁ according to the March 29 Foreign Crops and Markets of the Department of Agriculture. Thus, the total catch during the 76-day hunting period, 2 days longer than in the preceding season, nearly

¹/One blue-whale unit = 1 blue whale, or 2 fin whales, or 2.5 humpback whales, or 6 sei whales (see figure). Thus, the actual number of whales taken during a season is far greater than the indicated number of units. In 1952/53, for example, the catch in blue-whale units was 14,855 whereas the total number of whales killed totaled more than 28,000.

reached the maximum catch quota of 15,500 units (formerly 16,000) established by international agreement. The total catch was only 61 blue-whale units less than the maximum catch quota. During the 1952/53 season, which closed March 16, the catch reached only 14,855 units.



A total of 17 factory ships and about 206 catcher boats were engaged in the pelagic operations. Participating countries and the number of factory ships employed by each were: Norway 9, the United Kingdom 3, Japan 2, and the Soviet Union, the Netherlands, and the Union of South Africa 1 each.

Production of whale oil from the 1953/54 catch should be somewhat larger than last year, assuming that the yield of whale oil per blue-whale unit has remained approximately the same. In the 1952/53 Antarctic pelagic season, 16 factory ships produced nearly 352,000 short tons of whale oil from a total catch of 14,855 blue-whale units. Total production of whale oil in 1953, including that produced by South Georgia shore stations and output of other areas of the world, is estimated at 420,000 short

tons. Sperm whale oil produced during the 1952/53 Antarctic operations totaled some 21,000 short tons while world production approximated 50,000 tons.

The length of the Antarctic pelagic whaling season is determined largely by the rapidity of the catch. The final day, however, is designated by the Committee of International Whaling Statistics and constitutes a forecast (of 4 days this season) as to when the allowable quota will have been attained.

Total whale-oil production by the pelagic expeditions in the 1953/54 season was 1,973,000 barrels, against 1,882,431 barrels during the 1952/53 season; the 9 Norwegian expeditions produced about 929,077 barrels, which is 200,000 barrels more than that of the seven Norwegian expeditions which participated last year. The Norwegian whaling companies have sold their production at an average price of £68 per long ton (US\$78.68), and the value of the catch is some £10.5 million (US\$29.5 million), reports the Norwegian Information Service.

This season it was expected that, as a result of the employment of many new boats, the catch per whale boat per day would show some increase. The actual increase, from 114.5 barrels to 172.2 barrels per day, was greater than had been hoped for.

Whale-oil prices rose sharply the first part of 1954, but the Norwegians did not benefit as they had sold their entire 1953/54 production at the prevailing prices before the season opened. The prices on this year's catch were lower than for the previous season. However, this was more than offset by the increased production with the result that the total value of the catch was up about 20 percent or between 25 and 35 million kroner (US\$3.5 to 4.9 million) above 1952/53.

PACIFIC SCIENCE ASSOCIATION

EIGHTH PACIFIC SCIENCE CONGRESS HELD IN THE PHILIPPINES: The Eighth Pacific Science Congress of the Pacific Science Association was held at the University of the Philippines, Quezon City, November 16-28, 1953. The Congress was sponsored by the Republic of the Philippines and the National Research Council of the Philippines.

Oceanography items discussed were as follows:

The Congress noted with interest that the oceanographers attending the Congress propose to establish an Oceanographic Institute of the Pacific.

The Congress strongly supported the proposal, recently examined by the special UNESCO meeting of consultants on oceanography, to create a legally constituted inter-governmental organization for oceanographic research in the Indo-Pacific region.

The Congress urged member countries (a) to exert every means to develop research programs upon which may be based sound policies for increased development and wise use of marine resources; (b) to develop the fullest international cooperation in the management of marine resources so that they may be maintained permanently.

The Congress drew attention to the following types of oceanographic study which can be maintained at a small cost, and whose results when correlated with other available data can provide large returns: (a) Daily observations of surface sea water temperature and salinity which can be made at light stations, and by commercial shipping lines. The work may be extended to daily observations of the nutrient and respiratory elements, and the state of the sea. (b) Study of specific organisms of academic or economic interest in the locality. There are many species which have been taxonomically described, but whose life history, habits, and economic value are unknown.

TRADE AGREEMENTS

ITALO-SOVIET AGREEMENT PROTOCOL FOR 1953/54 INCLUDES SOME FISHERY PRODUCTS: A new protocol to the Italo-Soviet trade agreement of December 11, 1948, was signed in Rome on October 27, 1953, and is operative from that date to October 26, 1954. Commodities to be furnished by the U. S. S. R. to Italy include klipfish and crab meat. No fishery products are included in the list of commodities to be furnished by Italy to U. S. S. R.

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GREEK-NORWEGIAN AGREEMENT INCLUDES FISH: The Greek-Norwegian Trade Agreement which expired on December 31, 1952, remained tacitly in force throughout 1953 pending the resumption of negotiations for its renewal. On January 24, 1954, a Protocol was signed in Athens extending the agreement to December 31, 1954, and most of the original agreement will continue in effect throughout 1954.

During 1953 Greece imported from Norway frozen fish valued at 60,000 kroner (US\$8,400); and salted cod, smoked herring, and canned fish valued at 3,132,474

kroner (US\$438,000). There were no Norwegian imports of fishery products from Greece in 1953, according to a March 10 U. S. Embassy dispatch from Athens.



Australia

CANNED SALMON FROM DOLLAR AREA SOURCES: The Australian Government has announced, in connection with its proposal to purchase canned salmon, that token import licenses and allocations will be granted for canned salmon from dollar area sources, according to information received April 26, 1954, from the Australian Embassy in Washington. Instructions inviting application for import licenses for canned salmon of dollar area origin were recently released in Australia.

United States firms interested in selling canned salmon should contact Australian importers or make connection through their Australian representative. Importers able to qualify for import licenses will be permitted to purchase canned salmon from dollar sources.

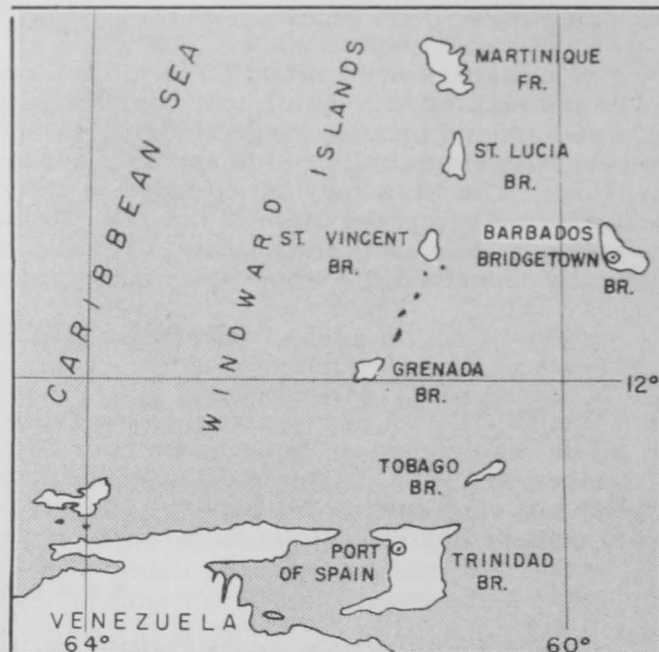
No information was available on the quantity of salmon involved.



Barbados Island (British West Indies)

STATUS OF THE FISHERIES: The total catch of the fisheries of Barbados Island in 1952 amounted to 9,211,650 pounds, valued at B\$1,381,747, (US\$806,153), reports a U. S. consular dispatch from Barbados. This is an increase of 45 percent in volume and value as compared with 1951 landings of 6,359,760 pounds, valued at B\$953,964 (US \$556,572). For the period from January to June 1953, the total landings at the Bridgetown market alone totaled 14,892,750 pounds, valued at B\$2,233,912 (US\$1,303,332).

The increasing catch is attributed to the introduction of the gill net and wire lines to the fishermen of the Island in 1951. Also, Government assistance to the industry became necessary in May 1942, when many boats were lost, and the sum of £800 (US\$2,240) was first granted by the Legislature to start a loan scheme. Additional sums have since been made available, and the scheme is working well. The Government has also provided "hauling up" facilities and a tractor for this purpose.



The main immediate need of the industry is adequate cold-storage facilities and a quick-freezing plant, which are being discussed. Also, with a deep-sea trawler and proper gear, great progress could undoubtedly be made toward the solution of an important basic problem.

Note: Values converted on the basis of B\$1.714 equals US\$1.00.

Ceylon

FISH PLANT: The Ceylon Fisheries Department is soon to launch a large-scale fish factory--backed by aid from Canada under the Colombo Plan.

A "streamlined" factory is planned, on the lines of those in Canada, at an estimated cost of over Rs 1 million (US\$211,000). The factory will be built with Canadian materials and the inner plan will be made on Canadian technical advice. The Ceylonese Fisheries Department will increase its output of shark-liver oil in the new factory, and among its byproducts will be fish meal, fish fertilizer, liquid fish meal, dried fish, and skin products. Other functions will include the canning of porpoise fish--expected to find a ready market outside Ceylon, reports The Fishing News (March 26), a British fishery periodical.

The factory will be erected near the proposed 500-ton cold-storage plant, to be financed by the Canadian Government under the Colombo Plan.

A number of Ceylonese are being sent to Canada for training in fish canning.



Canada

FRASER RIVER 1953 SOCKEYE SALMON RUN LARGEST SINCE 1917: The 1953 Fraser River sockeye run was the largest since 1917 and the escapement to spawning grounds was the largest since 1913. The spawners were well distributed and should provide an increased run in 1957, although the over-all escapement picture was not without its disappointments. Approximately half of the large escapement on the late Stuart run died without spawning. This was due principally to its early arrival when water temperatures were too warm. It was not determined whether Hell's Gate, past regulations, or nature had been responsible for the unusually early timing of the late Stuart migration, according to the Director of the International Pacific Salmon Fisheries Commission.

It was pointed out that early 1954 June and July races of sockeye will be at their lowest ebb of annual production in the four-year cycle period, and may not produce more than 1,000,000 fish. Such a run, divided between the fishermen of two countries, and allowing one out of five to escape, will not permit profitable fishing. The industry must rely on August and September fishing and fortunately the Stellako and Adams River runs migrating at that time give every indication of an increase in volume over the runs of these races in 1950.

The success of the 1954 sockeye salmon fishery on the Fraser River, British Columbia, will depend almost entirely on the Adams River run, reports the January Trade News of the Canadian Department of Fisheries.

The surprise of last year's runs was the large number of Chilco fish, which were unexpected. It had been determined, however, that a large percentage of these fish were five-year-olds produced by the heavy spawning in 1948. Another feature of 1953 was the welcome rejuvenation of the Quesnel runs. From an original brood year escapement of 20,000 fish, the run this year amounted to approximately 500,000, of which 105,000 escaped the fishery to successful spawning.

The Director warned that the Commission would require from 1,000,000 to 1,500,000 fish from the 1954 Adams River run for spawning purposes. After this number had been assured for reproduction the remainder, regardless of the size of the run, could be taken by the fisheries.



Colombia

FISHERY TRENDS, 1953: The Colombian fish canning industry reported improved sales by the end of 1953, although it suffered from the January 1953 regulation which removed canned fish from the prohibited list of imports but subject, of course, to a heavy duty. The principal cause for the improvement was an August 20 decree which permitted a very substantial reduction in duties on imports of rectangular tin cans used for packing fish. The former duties on the cans alone accounted for 10 percent of the final cost of the product, the U. S. Embassy at Bogota points out in a March 5 dispatch.

The fishing grounds off Santa Marta and the Guajira peninsula are reported to be heavy with albacore tuna, bonito, and bluefin tuna which are understood to be stragglers from the South Atlantic current as it enters into the Gulf of Mexico.

Efforts during 1953 by a Barranquilla fish canning factory to obtain government approval for foreign vessels to fish off Colombia's Atlantic coast were unsuccessful. Pending fishing legislation (which would permit foreign vessels to fish in Colombian waters dividing the catch with local canneries or frozen-food processors and obtaining a Colombian export license for the fish sold outside of Colombia) has been opposed by small-scale fishing companies. Fish canneries in Barranquilla and Santa Marta are interested in increasing their supply of fish to meet the large domestic demand. Since local fishermen use antiquated methods and equipment and are unable to provide a sufficient amount of fish to meet the demand, the canneries have been interested in contracting the services of a purse seiner from a company in the United States.

In April a U. S. fish cannery sent a tuna bait boat to explore the fishing possibilities off Colombia's Atlantic coast. The results of the exploration were inconclusive due to the unseasonal heavy winds which caused high seas and made a survey impossible. No other exploratory work by a foreign firm was done during the remainder of the year.



Cuba

NEW FISH PROCESSING TERMINAL: A fishing "terminal" is to be erected on the docks at Havana, Cuba, where shrimp and fish will be processed for export, according to the March 5 issue of The Fishing News, British fishery periodical.



Denmark

FISH-MEAL EXPORTS HIGHER IN 1953: The value of Danish fish-meal exports soared to 13.5 million kroner (US\$1,958,000) in 1953, compared with 5.5 million kroner (US\$797,500) in 1952--an increase of almost 150 percent, according to a Reuter Copenhagen message. In weight these exports totaled 12,400 metric tons, or more than half of the total Danish production of 23,200 metric tons.

Britain took 1.9 million kroner (US\$276,000) of Danish fish meal in 1953. The Netherlands was the main customer with 5.2 million kroner (US\$754,000) followed by the United States with 4.7 million kroner (US\$681,000), reports The Fishing News (March 26), a British fishery periodical.

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GOVERNMENT LOANS FOR FISHERIES: Loans to Danish fisheries in the amount of 3 million kroner (US\$420,000) can be granted over a three-year period from Danish Treasury funds under a bill adopted by the Folketing on March 23. Under the legislation, loans can be granted for "starting and expansion or modernization and rationalization of Danish enterprises engaged in breeding or catching of fish or in preservation, trade processing, and transportation of Danish fish and fish products, or to enterprises which manufacture auxiliary products for fisheries and the fisheries industry." One third of the total appropriation is to be used in each of the three fiscal years commencing with 1954/55.

The loans carry interest of 5 percent per annum. A limit of 15 years is set for amortization, with details regarding each loan to be established by the Minister of Fisheries. Security requirements are also to be established for each loan at the discretion of the Minister.

Loans bearing 3.5 percent interest and 25-year amortization totaling 5 million kroner (US\$700,000) have been granted for identical purposes under 1950 legislation providing for use of Marshall counterpart funds and are now entirely consumed.

This new legislation continues on a reduced scale the Marshall counterpart fund legislation, a March 23 U. S. Embassy dispatch from Copenhagen states. The relatively cheap money thereby made available for activities which enjoy no particular privileges in the commercial banks is of importance as a direct financial aid, and orders resulting therefrom may be useful for certain manufacturing industries.

The Minister declared in a speech on the legislation that more emphasis would be placed on loans to fresh fish breeding ponds. As pond brook trout has recently become an important Danish export to the United States, the move may aid in accelerating this type of export.



Ecuador

U. S. INTERESTS ORGANIZE FISHERY FIRM: United States fishery interests formed a new fishing company in Ecuador during February. The firm will fish, process, and sell "shrimp, shellfish and other marine species," according to the articles of incorporation. So far as is known, the new concern has not as yet obtained a concession from the Ecuadorian Government to pursue these activities in Ecuadorian waters, a March 26 U. S. Embassy dispatch from Quito states.



Egypt

FISH AND SHRIMP AGAIN UNDER PRICE CONTROLS: Price controls for 14 kinds and sizes of fish and for medium-size shrimp, effective February 6, were announced recently by the Egyptian Ministry of Supply, the U. S. Embassy at Cairo reports in a February 8 dispatch. Other sizes of shrimp were previously subject to price controls. The new price ceilings were imposed after the items were decontrolled for two weeks and merchants had increased prices.



Iceland

FROZEN FILLETS TO RUSSIA: Icelandic fishermen, barred from landing catches at Britain's main east coast ports, have sent 6,000 metric tons of frozen cod filets to Russia this year, the British fishery periodical The Fishing News reported in its March 26 issue.

They say this makes up for the loss of their British market and they had hopes of sending 5,000 tons more by the end of April. At the same time they expect to send 3,200 tons to Czechoslovakia and 350 tons to Hungary.

Iceland signed a two-year trade agreement with Russia last August after more than five years of no trade between the countries. Under it Iceland will sell Russia nearly half her annual herring production and a third of the frozen fish production.

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FISH PRODUCTION, 1953: Total Icelandic landings by species in 1953 amounted to 361,328 metric tons, an increase of 7 percent as compared to the 336,760 tons landed in 1952 (see table). The increase was due to the larger herring catches--more than double the 1952 landings, according to a March 23 U. S. Legation dispatch from Reykjavik. The cod catch in 1953 was down 3 percent.

Cod comprised 58 percent of the 1953 catch, followed by herring (19 percent), ocean perch (10 percent), and coalfish or pollock (6 percent).

Species	1953	1952
.. (Metric tons) ..		
Cod	209,793	215,258
Haddock	7,978	9,761
Ling	2,409	3,028
Catfish (wolffish)	9,623	8,667
Sea perch (ocean perch) ...	36,366	36,748
Coalfish (pollock)	22,336	24,659
Tusk (cusk)	2,379	3,045
Herring	68,176	32,001
Miscellaneous ^{1/}	2,268	3,593
Total	361,328	336,760

^{1/}Includes plaice, lemon sole, witch, megrim, dab, halibut, and skate.

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FISHERIES OUTLOOK FOR 1954 IS FAVORABLE: The 1954 prospects for the Icelandic fisheries are, on the whole, favorable. There appears to be a market for all the fish that can be caught and processed, and the capacity of various processing plants was increased during 1953. The principal difficulty anticipated is the recruiting of sufficient seamen to man the fishing vessels. In general, laborers are interested in going to sea only if there is a salary differential of 25 percent or more in their favor. If the differential is less, the seamen prefer to work on shore. Due to construction activities at Keflavik, there is almost no seasonal unemployment. Several trawlers are going to sea undermanned, states a February 12 U. S. Legation dispatch from Reykjavik.



India

RENEGOTIATION OF CANNED FISH TARIFF RATES IN GATT REQUESTED:

The Government of India, in the light of exceptional circumstances, has requested renegotiation of certain tariff concessions (including canned sardines and pilchards, and other canned fish) made by India in the General Agreement on Tariffs and Trade (GATT) in 1947 and 1951. The interested contracting parties to that Agreement, including the United States, have agreed to this renegotiation, in accordance with the understanding reached by the Contracting Parties at their Eighth Session that they would give sympathetic consideration to such requests.

The fishery products included are:

INDIA - SCHEDULE XII

Indian Customs Tariff No.	Description of Product	Rate of Duty
16 (1)	Fish canned, other than sardines and pilchards	20% ad val.
16 (3)	Sardines and pilchards, canned	20% ad val.

United States exports of canned salmon to India during 1934-38 averaged 117,000 pounds annually; sardines, 200,000 pounds; and other canned fish, 11,000 pounds. During the war, up to 20 million pounds of canned salmon and 7 million pounds of sardines were exported to India. There were no exports between 1946 and 1951. In 1951, 51,669 pounds of canned salmon, 24,950 pounds of sardines, and 4,190 pounds of tuna were shipped to India. In 1952 exports were reduced to 3,325 pounds of canned salmon and 3,063 pounds of tuna; the U. S. also exported canned shrimp and crab to India.



Indonesia

MOTORIZED FISHING VESSELS: A total of 10,000 motorized fishing vessels is planned by the Indonesian Ministry of Agriculture in its 20-year development plan. The vessels will be acquired at the rate of 500 per year, according to the March 12 issue of The Fishing News, a British fishery magazine. Of the total fleet, 9,000 will be of the Mayang type with 20 to 25 hp. engines; while the remainder will be larger vessels with 40 to 50 hp. engines.



Iran

SURVEY OF THE FISHERIES: A study of the Iranian fisheries was commenced in July 1952 by a United States Foreign Operations Administration expert, with the objective to determine the best methods for development. Highlights of the study as reported by a dispatch from Iran follow:

The only organized fishery industry found was that being operated in the Caspian Sea area by the Joint Soviet-Iranian Company called the SHILAT. The majority of the production was comprised of sturgeon and caviar, herring, a carp-like fish similar to Great Lakes whitefish, and salmon. Most of this production went to Russia with the balance used in Iran.

The Seven Year Plan Organization of the Iranian Government shows much interest in the development of the fisheries of the Persian Gulf doubtless due to the fact that it owns a sardine cannery at Bandar Abbas which has been completely inactive since 1948.

In the seasons 1936/37 and 1937/38, a Danish scientist conducted biological investigations in the Persian Gulf at the request of the Government of Iran to determine the species available. Although these investigations were concerned solely with the biological aspects with no attempt to investigate extent of resources or to get other information valuable to a commercial fishery, the Government purchased the cannery from a Copenhagen firm and erected it in Bandar Abbas.

When the cannery opened in January 1941, four Danish cannery technicians and six Danish fishermen were employed as instructors for Iranian personnel. Late in 1941 these men returned to Denmark because of World War II. The result was that the cannery has been in production only sporadically since that time and with poor results. Quality of pack has been inferior, costs high, and marketing very unsatisfactory.

After a study was made of the situation in February 1953, it was considered entirely probable that the cannery could be operated profitably if administered properly. It was found to be obsolete when compared with some U. S. fish canneries. But with certain added equipment, some of which might be procurable from domes-

tic sources, and a change in process from that prescribed by the Danes, no reason could be seen to prevent a good-quality pack of sardines in oil at reasonable cost, especially since the fish are available in sufficient quantity even with the primitive gear now used. After consideration of the various factors involved, it was decided it would be very much worthwhile to resume operations during the 1953/54 season on a limited scale. Actual operating experience would determine if appreciable investment for expanded fishing effort, modernization, and increased capacity of the cannery might be economically justified.

No accurate information as to extent of fish resources in the Bandar Abbas area could be obtained. There was clear evidence of an enormous supply of sardines. However, as to other varieties, such as tuna, red snappers, kingfish, shrimp, and shark, it was not possible for the local fishermen to offer more than opinions. The gear now used are principally beach seines. There was no experience as to what might be found in deep water. However, in view of quantities and species of fish caught off the beaches, the value of a series of exploratory operations was clearly indicated. If tuna, snappers, shrimp, and possibly other varieties should be found in commercial quantities and sizes, the establishment of a freezer and cold-storage plant in Bandar Abbas definitely would be justified to prepare these high-priced fish for export. As a matter of fact, a group of private Iranian and United States businessmen are now planning to erect such a freezer.

The cannery was found to have a small fish-meal plant using a rotary dryer fired by direct heat. There was no information in the cannery records as to designed capacity, but it is estimated to be about one ton of dried meal per day. Although intended to utilize only offal from the cannery and saltery, it was believed that sufficient additional trash fish could be available from the fishermen to permit steady plant operations. The meal is urgently needed in Iran both as a protein concentrate for stock feed and as a fertilizer.

To date, approximately 55 tons of frozen sturgeon have been exported to the United States and England. It is expected that by the fall of 1954, export of Caspian sturgeon will have become a successful routine matter and will have reached a volume of several hundred tons per season. In fact, there are strong indications that there is a ready market abroad for all the sturgeon the Iranians care to sell.



Japan

FROZEN TUNA EXPORTS, 1953: Japanese exports of frozen tuna during 1953 exceeded 40,000 short tons, valued at over US\$13 million, a February 26 U. S. Embassy dispatch from Tokyo reports. The United States took 38,900 short tons, valued at US\$12.7 million. Of this, 31,600 short tons were albacore, valued at US\$10.8 million. Canada imported 1,300 short tons of Japanese frozen tuna (mostly albacore) in 1953, valued at US\$432,000.

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FREIGHT RATES INCREASED ON FROZEN TUNA SHIPPED FROM JAPAN TO U. S.: Increased contract freight rates on frozen albacore, skipjack, and yellowfin tuna shipped to the United States were announced by the Trans-Pacific Freight Conference of Japan and the Japan/Atlantic Freight Conference. On shipments to U. S. Pacific Coast ports the rates will be US\$45 per short ton from April 1 through May 31; and US\$50 per ton from June 1 through September 30. Prices on shipments to Atlantic and Gulf ports during the same periods are US\$47 and US\$62, respectively. Prices on shipments to May 31 are an extension of rates in effect since December 1, 1953.

Japanese exporters are protesting the US\$5 per ton increase commencing June 1 as being out of line with ocean freight rates on canned tuna, states an April 2 U. S. Embassy dispatch from Tokyo.

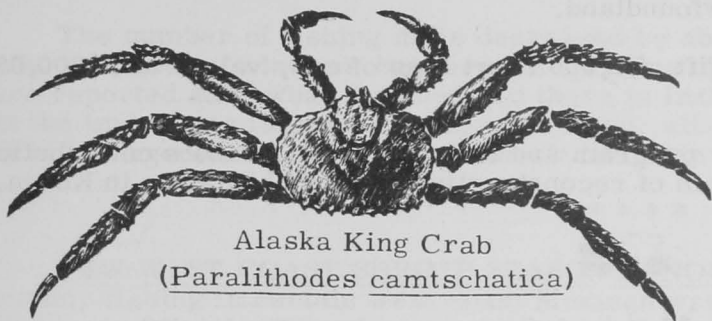
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CRAB EXPEDITION TO BRISTOL BAY: The 8,200-ton cannery ship Tokei Maru, accompanied by six fishing boats of 60 to 75 tons, left Hakodate for Bristol Bay to fish for crabs, reports a U. S. Embassy dispatch (April 9, 1954).

The expedition is a joint venture of three Japanese companies. The goal set for the expedition is 57,000 cases of king-crab meat (the same as last year), plus 5,000 cases of other types of crab meat.

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KING CRAB FISHING COMMENCES OFF KURILES: The king crab season in waters north of Hokkaido opened on March 15 with 76 boats authorized to fish, an April 2 U. S. Embassy dispatch from Tokyo points out. About half these vessels have been fishing between Nemuro and Shikotan Island with exceptional success. The king crabs are larger and more plentiful than in any recent season. The target limit is 30,000 cases (21,000 cases in 1953), and in the first week of fishing the fleet caught enough crabs for 11,000 cases. However, seizures of crab fishing boats by Soviet patrols have clouded the picture and reduced to a small number the boats willing to fish near the Kuriles.



Alaska King Crab
(Paralithodes camtschatica)

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SALMON EXPEDITIONS MAY INCREASE IN 1954: Early indications point to an increase in the 1954 Japanese Pacific salmon expeditions, as there will be at least four expeditions, with one mothership for each, and a total of about 140 catcher boats. Three additional applications to send fleets are under consideration, states a February 26 U. S. Embassy dispatch from Tokyo. The 1953 expeditions consisted of three motherships and 93 catcher boats.

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CANNED SARDINE PRODUCTION, 1953: The total production of canned sardines in Japan during 1953 amounted to about 1½ million actual cases, a March 11 dispatch from the U. S. Embassy at Tokyo states. Of this, 1.2 million cases were exported, and the remainder consumed in the domestic market.

For 1954, a pack of one million actual cases is estimated by the Japan Sardine Cannery Industrial Cooperative Association, of which 700,000 to 750,000 cases will be for export. The domestic demand for canned sardines is estimated to remain constant at about 300,000 cases.

The export market for Japanese sardines is principally in southeast Asia, and the low prices offered plus the high tariffs adopted by Burma and Indonesia are the basis for the Association's pessimism. Also, there were on hand at the end of the year 400,000 cases of sardines in tomato sauce which had not been sold. These are now being disposed of slowly but the carryover necessarily affects the 1954 prospects.

Japanese sardine canners are now familiar with the United States ban of mixing round herring or other species with true sardines, and hope that they may be able to increase exports to the United States above the 100,000 cases shipped in 1953.

The total sardine catch for 1954 should normally be between 300,000 and 350,000 metric tons.

JAPANESE GOVERNMENT



Republic of Korea

CANADA DONATES SECOND COD SHIPMENT TO KOREAN AID PROGRAM: The Canadian Government has made available a second shipment of dried and salted cod to the United Nations emergency program in Korea, the United Nations Korean Reconstruction Agency (UNKRA) announced March 8.

The shipment of 1,500 short tons, valued at C\$450,000 was to be shipped from Halifax, N. S., and St. John's, Newfoundland.

Canada last November made a gift of 1,000 short tons of cod, valued at C\$300,000, to supplement the Korean rice diet.

The donations to the emergency program are in addition to Canada's contribution of C\$7,250,000 to the UNKRA program of reconstruction and rehabilitation in Korea.



Mexico

MORE SEVERE PENALTIES FOR TERRITORIAL WATERS VIOLATIONS MAY BE PROPOSED: The Mexican Government may propose to the next session of Congress legislation to provide more severe penalties for violations of Mexican territorial waters by foreign shrimp trawlers, according to the Mexican newspaper Excelsior (February 24). This proposed action was indicated by the Mexican Secretary of the Navy in a press interview following the seizures of three United States shrimp vessels on February 16 and 17.

The Secretary's statement was: "The lack of adequate laws leaves piracy practically unpunished. In order to correct this, the Ministry of the Navy has almost concluded the study of a Law of Fishing and Ways of Communication, or a bill of amendments to Book III (of the General Law of Ways of Communication), which relates to maritime traffic. This study will be discussed during the next session of Congress."

Another Mexican newspaper, Novedades, which also carried a story on the interview, interpreted the Secretary's statement to mean that the Ley de Pesca would be amended to require permits for passage through Mexican territorial waters and to provide heavy penalties for violations of this requirement. Thus, any shrimp trawler found within nine miles of the Mexican coast could be seized and fined whether or not it was actually engaged in fishing at the point of apprehension.

In another recent news story (Novedades) it was reported another possible amendment of fishing laws would be directed against United States shrimp trawlers. According to this report, consideration is being given to a congressional bill which would provide for the confiscation of vessels caught fishing illegally in Mexican territorial waters. At present the only penalties for illegal fishing are a fine of 5,000 pesos (US\$580) and the confiscation of the catch and the fishing gear."

Note: Value conversion based on 8.60 pesos equal US\$1.

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ABANDONED SHRIMP GROUND PRODUCES AGAIN: Several months ago a Mexican shrimp fishing concern discovered that fishing banks directly outside the mouth of the Panuco River at Tampico again produced sufficient shrimp to make commercial operations profitable. Although these banks had been worked out and abandoned a number of years ago, a small Mexican shrimp fleet was transferred to Tampico from Campeche. This small fleet has been operating out of Tampico for almost a year. The area worked is limited in size and potential but proved profitable for the Mexican concern, particularly because of its proximity to the preferred United States market, a February 24 U. S. Consular dispatch from Tampico points out.

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GUAYMAS SHRIMP FISHERY TRENDS: The shrimp production in the Guaymas area which fell off in the last quarter of 1953 failed to improve noticeably during the first three months of 1954, reports an April 8 U. S. consular dispatch from Nogales. However, the over-all economic situation of the fishing industry in the Guaymas area reflected some increase in production.

The number of fishing units decreased by about 20 vessels from the previous year. Working relations between the freezing plants and the fishing cooperatives are reported somewhat strained and there is little promise of a meeting of the minds in the immediate future. On the other hand, all things considered, for those who have managed to maintain operations it has been the best season since 1950.

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NEW WEST COAST SHRIMP SEASON ANNOUNCED: A new closed season for shrimp fishing in certain west coast Mexican waters was published in the February 19 Diario Oficial. The closed season for all except certain shrimp trap fishing along the west coast is now from April 16 to August 31; a little later than the former closed season which was from March 1 to July 31 in the northern part and February 1 to July 31 in the southern part, according to a U. S. Embassy dispatch (February 23) from Mexico City.

The new regulations read as follows:

"Paragraph 1. - There is established a closed season for fishing shrimp in the protective waters which include bays, estuaries, and lagoons of the States of Sonora, Sinaloa, Nayarit and of the peninsula of Baja California, from April 16 to August 31 of each year.

"Paragraph 2. - With respect to fishing shrimp practiced by the systems of "cierras" (traps) or "tapocas" (traps) from Mazatlan, Sinaloa, south to the limits of the States of Nayarit and Jalisco, the fishing may not commence until the Secretary of Marina authorizes for each season the installation or closing of these specified methods, in conformity with the technical and scientific studies which are being completed, and in conformity with Article 55 of Fraction X of the Law of Fishing."

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SPINY LOBSTER FISHING SEASON CHANGED: The closed spiny lobster fishing season in the Gulf of California between parallels 29 and 23 has been changed to April 16-October 31, according to a decree published in the Diario Oficial of March 18. Spiny lobsters from this area should be exported only through Nogales. There were no changes in the other areas, states a U. S. Embassy dispatch (March 19) from Mexico City.

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SPINY LOBSTER EXPORT SUBSIDIES EXTENDED: Mexican subsidies previously established for exports of spiny lobsters have been extended for the period January 1 to December 31, by resolutions published in the Diario Oficial of February 22. The subsidy granted lobsters (tariff classification No. 11-10) is equivalent to 75 percent of the 15-percent ad-valorem export surtax to exporters who ship through or with the approval of the National Bank of Cooperative Development, according to the March 22 Foreign Commerce Weekly of the U. S. Department of Commerce.

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EXPORT SURTAX CHARGES FOR CERTAIN FISHERY PRODUCTS AMENDED: Mexican export surtax charges were amended by a decree published in the Diario Oficial of January 19, 1954. Effective January 23, further reductions from the 15-percent ad-valorem surtax were announced for two fishery products:

Tariff No.	Item	New Reduction	Former Reduction
		%	%
63-10	Abalone, in bottles, jars, or tins	80	33
71-17	Tanned sharkskins	80	55



Netherlands

ANTARCTIC 1953/54 SEASON WHALE OIL SOLD: Whale oil from this season's Antarctic Netherlands whaling expedition has been sold at £78 (US\$218) per ton, according to The Fishing News (March 5), a British fishery periodical.



New Zealand

QUALITY AND MARKETING REGULATIONS ADOPTED FOR SPINY LOBSTER TAILS: Voluntary quality and marketing regulations have been adopted by the New Zealand Wholesale Fish Merchants' Association with the object of improving the marketing of New Zealand spiny lobster tails in the United States, a February 12 news release from the Association reports. The regulations are:

1. Crayfish tails shall (a) be clean and devoid of foreign matter; (b) not be soft-shelled or from a female in berry; (c) have the intestine completely removed; (d) be individually wrapped in cellophane or other approved moisture-proof wrapping material which completely covers all meat exposed from the shell; and (e) be packed in containers which contain a net weight of not more than 30 pounds of crayfish.

2. (a) Containers containing a net weight of either 20, 25, or 30 pounds shall be used provided that a uniform-sized box shall be used by each packer; (b) to allow possible shrinkage in transit each case of 20 pounds shall be packed with a minimum excess of 12 ounces; (c) containers shall be clean, new, attractive in appearance, and not likely to have any deleterious effect on the contents; (d) each container shall be wirebound or strapped with suitable wire or strapping; (e) each container shall not be more than six inches across its narrowest internal dimension.

3. Crayfish tails shall be so packed as to be uniform in size in each container and shall be graded in sizes as follows:

Grade	Net Weight of Each Crayfish Tail
Midget or crownies	Under 6 ounces
Small (S)	Not less than 6 ounces and not more than 9 ounces
Medium (M)	Not less than 9 ounces and not more than 12 ounces
Large (L)	Not less than 12 ounces and not more than 16 ounces
Jumbo (J)	Not less than 16 ounces and not more than 20 ounces
Jumbo-Jumbo (JJ)	Not less than 20 ounces and not more than 24 ounces
Super-Jumbo (XJJ)	Not less than 24 ounces and not more than 28 ounces
Packhorse	Over 28 ounces

4. Crayfish tails shall have been processed "from crayfish which, following the removal of all intes-

tinal parts, have been vigorously washed individually in clean water."

5. Crayfish tails shall (a) be placed under refrigeration, fully prepared for freezing, within a period of two hours from the time of killing; (b) be reduced in temperature to not more than 20° F. within a period of 12 hours from the time of killing; and (c) immediately thereafter be transferred to a refrigeration chamber the temperature of which shall be held at not more than 10° F. constant.

6. The trade description on the containers shall include (i) the words "Frozen Rock Lobster Tails"

in bold letters and the words "Produce of New Zealand;" and (ii) the Grade (for the purpose of this subclause the following abbreviations may be used: small--S, medium--M, large--L, jumbo--J, jumbo-jumbo--JJ, super-jumbo--XJJ); (iii) the serial identification number of the container; (iv) any printing on cellophane or other wrappers touching the meat shall be in ink or coloration which can be certified as being harmless; and (v) containers shall also be marked with the following information: the count, net weight, brand, and name of packer.

Only when the exporter is satisfied that the rock lobster tails have been prepared and packed in conformity with these voluntary regulations may he insert in the container the approved certification label of the Association which reads: "These . . . (brand) . . . New Zealand rock lobster tails are packed in conformity with the standards laid down by the New Zealand Wholesale Fish Merchants' Association."

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IMPORT LICENSES FOR RUSSIAN AND JAPANESE CANNED FISH: Consideration will be given applications for licenses to import canned fish (including caviar, crab meat, and salmon) into New Zealand from the Soviet Union, the New Zealand Minister of Industries and Commerce announced late in 1953. This is the usual manner of indicating to importers that the Government is prepared to allow imports of goods which have been excluded. No indication was given as to the value or quantity of canned fish that will be permitted to enter, a U. S. Embassy dispatch from Wellington points out. It is understood that the Government does not have a specific amount in mind, but will wait to see how much the importers will seek to bring in, and then decide the quantity to be allowed. The principal Russian product involved will be canned salmon.

Earlier the New Zealand Government announced that it was prepared to allow imports of canned fish from Japan. The latest ruling allows licenses granted for canned fish to be used for purchases in either Russia or Japan. Thus an importer with a license for Japanese fish can use the authorization to bring in the Russian product, or vice versa.

These import licenses were to be granted for canned fish from Japan and Russia on vessels which leave those countries not later than December 31, 1953, the Minister of Industries and Commerce announced later. This decision was reached when applications for licenses from these countries exceeded £2 million (US\$5.6 million). The Minister stated that the quantity actually available represents only a fraction of the total for which applications have been received. The Minister also stressed that this provision applies only to fish consigned direct from Japan and Russia and not to stocks held in other countries, the U. S. Embassy at Wellington reported in a December 2 dispatch.



Norway

LOFOTEN 1954 COD FISHERIES LOWEST SINCE 1929: Final figures on the Norwegian Lofoten cod fisheries show that the 1954 catch was only 42,068 metric tons, the lowest since 1929, according to the Norwegian Information Service. The 1954 catch was 7,000 metric tons below the 1953 production, which was also very disappointing. For many years the Lofoten fisheries averaged 70,000 to 80,000 tons a season.

As of the first of April, reports from Lofoten indicated that a general break-up of fishing activities was well under way, especially among jiggers and drift-netters. The mature cod had already left the fishing banks, heading westward for the Norwegian Sea, with the fleet in vain pursuit, indicating the end of the Lofoten season.



Sorting the catch--Lofoten cod fishery.



Hauling in the seine--Lofoten cod fishery.

Government Aid for Lofoten Fishermen: To relieve the plight of the fishermen hardest hit by below-cost-of-production catches, the Norwegian Parliament early in April appropriated Kr. 3 million (US\$420,000) to provide work for about 3,000. Another Kr. 700,000 (US\$98,000), earlier voted by Parliament for emergency work projects will be used for the same purpose. In addition, by Royal Decree the Government has made Kr. 50,000 (US\$7,000) available to help the fishermen get back home. All told, some 20,000 men were on the banks at the height of the fisheries. Since March 10 about 700 licensed purse seiners have participated. On the whole, they have made out better than the drift-netters, liners, and jiggers.

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VIEWS ON FAILURE OF LOFOTEN COD FISHERIES: The Director of the Norwegian Ocean Research Institute maintains that failure of this season's Lofoten cod fisheries should hardly be a surprise, according to an April 22 bulletin from the Norwegian Information Service. Interviewed by Bergen Tidende, he observes that these fisheries have failed a number of times ever since accurate records of landings were started back in 1860. For periods of about 25 years at a stretch the catches have been relatively small. Then for unknown reasons they suddenly have increased, remaining at a high level for the same length of time. After the unusually big landings that prevailed prior to 1951-52, he says, there was every reason to expect a setback.



Lofoten Isles

As to assertions that the extensive purse seining on the Lofoten banks has scared away the influx of mature cod, the Director says this is highly unlikely. Nor does he believe that purse seining has destroyed the spawning. Experimental purse seining, he observes, has been permitted only a few years, and the codlings spawned on Lofoten during these years will not return as mature cod until 1956-58.

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COMBINED WINTER HERRING FISHERY, 1954: Norway's combined winter herring fishery amounted to 1,053,200 metric tons on March 7 and had a first-hand value of 204,400,000 kroner (US\$28.6 million), according to the report of a director of an association of herring reduction plants in Fiskaren (March 17), a Norwegian trade paper. Of the total quantity 81.7 percent was delivered to herring-reduction plants. The balance was exported as fresh herring; or salted, canned, used as bait; or for domestic consumption.

Expanded reduction facilities in Western Norway increased the available capacity from 7,440 metric tons each 24 hours before World War II to the current capacity of 28,000 metric tons. A cooperative fleet of transporters served the fishing vessels and had a combined capacity of 83,700 metric tons. Sale of the huge quantities of meal and oil produced is not expected to encounter any difficulties. About 50,000 metric tons of the meal will be used in Norway and most of the balance has already been sold to foreign countries at relatively good prices. The total value of the meal and oil, based on world market prices, would be about 300,000,000 kroner (US\$42 million).

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WINTER HERRING FISHERMEN MAKE RECORD EARNINGS: Shares earned by Norwegian fishermen who took part in the 1954 winter herring fishery ranged from 3,000 kroner (US\$420) to 7,000 kroner (US\$980), the highest ever, reports the Norwegian Information Service on March 18. The month-long winter herring fishery was concluded on February 14.

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SPRING HERRING SEASON SUCCESSFUL: The Norwegian spring herring season closed on March 26 with a total catch of 182,096 metric tons with a landed value of 30.4 million kroner (US\$4.25 million), according to an April 2 U. S. Embassy dispatch from Oslo. This was almost double the 1953 catch which totaled only about 102,300 metric tons, valued at 18 million kroner (US\$2.5 million). Both the winter and spring herring seasons were much more successful than last year.

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FISH MEAL AND OIL PRODUCTION, 1953: Norway's 1953 production of fish oils was estimated at around 80,000 short tons, reports the U. S. Embassy at Oslo. However, if fishing conditions remain normal, 1954 production should exceed 100,000 tons. Because of bad weather during the fishing season, herring oil output in 1953 was considerably less than in 1952 when output reached 84,800 tons. Fish-liver oil output also was down. Provisional data place the 1953 output between 18,000 to 22,000 tons as against 31,000 tons in the preceding year.

Exports of crude herring oil from Norway during January-November 1953 were 6,097 tons, or less than half the 13,729 tons exported in 12 months 1952. In both years Western Germany was the principal outlet, followed by the Netherlands.

Total 1953 production of herring meal is estimated at between 165,000 and 175,000 tons, compared with 193,000 tons in 1952. January-November exports of herring meal were 100,900 tons as against 124,120 tons in 12 months 1952. Exports to the United States declined sharply in the past year.

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CANNED FISH EXPORTS, 1953: Norway exported 26,631 metric tons of canned fishery products in 1953, valued at 119.5 million kroner (US\$16.7 million), according to a March 18 bulletin from the Norwegian Information Service.



Spain

NEW FISH CANNERY: A new fish-canning factory is to be built at Torrevieja, Alicante, Spain, according to the March 12 issue of The Fishing News, a British fishery periodical. The cannery will be the second of its kind in the eastern provinces, and is part of a gradual transfer of fish-preserving industries from the Atlantic coast to the Mediterranean coast.

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VIGO FISH CANNING TRENDS, FEBRUARY 1954: Fish canners in the Vigo area of Spain purchased 202,000 pounds of fish during February, a March 9 U. S. consular dispatch from Vigo reports. This compares to 280,000 pounds in January and 294,000 pounds in February 1953. The substantial decline was principally due to the scarcity of fish. The bulk of the cannery purchases in February consisted of castenet (brama-raii) and bocarte (anchovy).



Surinam

SHRIMP FISHERY: Large catches of shrimp in the mouth of the Suriname and Coppename Rivers in Surinam have now made it possible for shrimp to be exported to the United States and the Netherlands, according to the December 1953 Monthly Information Bulletin of the Caribbean Commission.

In addition to the direct advantages that come with Surinam's ability to sell a greater quantity of shrimp in the outside market, the shrimp industry is providing valuable protein for animals in the country. The Agricultural Products Board is currently buying large quantities of shrimp waste which is ground into a meal and sold to cattlemen who mix it into their animal feed. The meal, which is being sold at about US\$140 per short ton, contains approximately 37 percent digestible protein and is welcomed by cattlemen who have long needed a cheap source of animal protein.



An exploratory shrimp-trawling survey was conducted by the Acting Head of the Surinam Fishery Division commencing in May 1953, according to a February 10 U. S. consular dispatch from Paramaribo. The survey was conducted 12 miles north, 60 miles west to 15 miles east of the Suriname River, to learn when shrimp could be found along the coast, and the possibilities of catching them.

The survey was made with a small 42-foot cutter equipped with a 40 hp. Diesel motor used as a trawler. Explorations in deeper water are planned when the weather permits. Using a 40-foot shrimp trawl, the experimental trawler caught 50 to 300 pounds per hour. Along the coast the bottom is very soft mud.

Shrimp are found in shallow waters near the coast (mostly within the four-fathom line) and inside the estuaries, creeks, and swamps. (The estuaries have been exploited for shrimp for generations.) Species caught consist of 98 percent sea bob (*Xiphopaeneus kroyerie*) about 2 to 3 inches long, and 2 percent brown-grooved shrimp (*Penaeus aztecus*) about 5 to 6 inches long. Larger shrimp were not found in quantity in Surinam's territorial waters, although there are indications that bigger shrimp exist in deeper water. At present shrimp fishing is carried on mostly with fixed traps and bow nets. Fishing craft consist of 30-foot open wooden boats, some equipped with outboard motors. Shrimp appear in the estuaries in February and March, and then from July-December.

Most of the shrimp until recently was sold fresh or dried. At present there is a good domestic demand for dried shrimp.

There are no special laws or rulings on shrimp fishing in Surinam, the Netherlands Embassy at Washington, D. C., points out. Permits are required from the Surinam Government if fishing is carried on within territorial waters. No permits are required if fishing is outside territorial waters. Crews of fishing boats can be foreigners.

Export duties on frozen shrimp shipped out of Surinam are at the rate of $\frac{1}{2}$ percent of the value declared on the export license, and a small statistical fee.

There are two ice-making plants in operation in Surinam. About 150 metric tons of ice can be reserved for the shrimp fishery each month, but the price is high.



Thailand

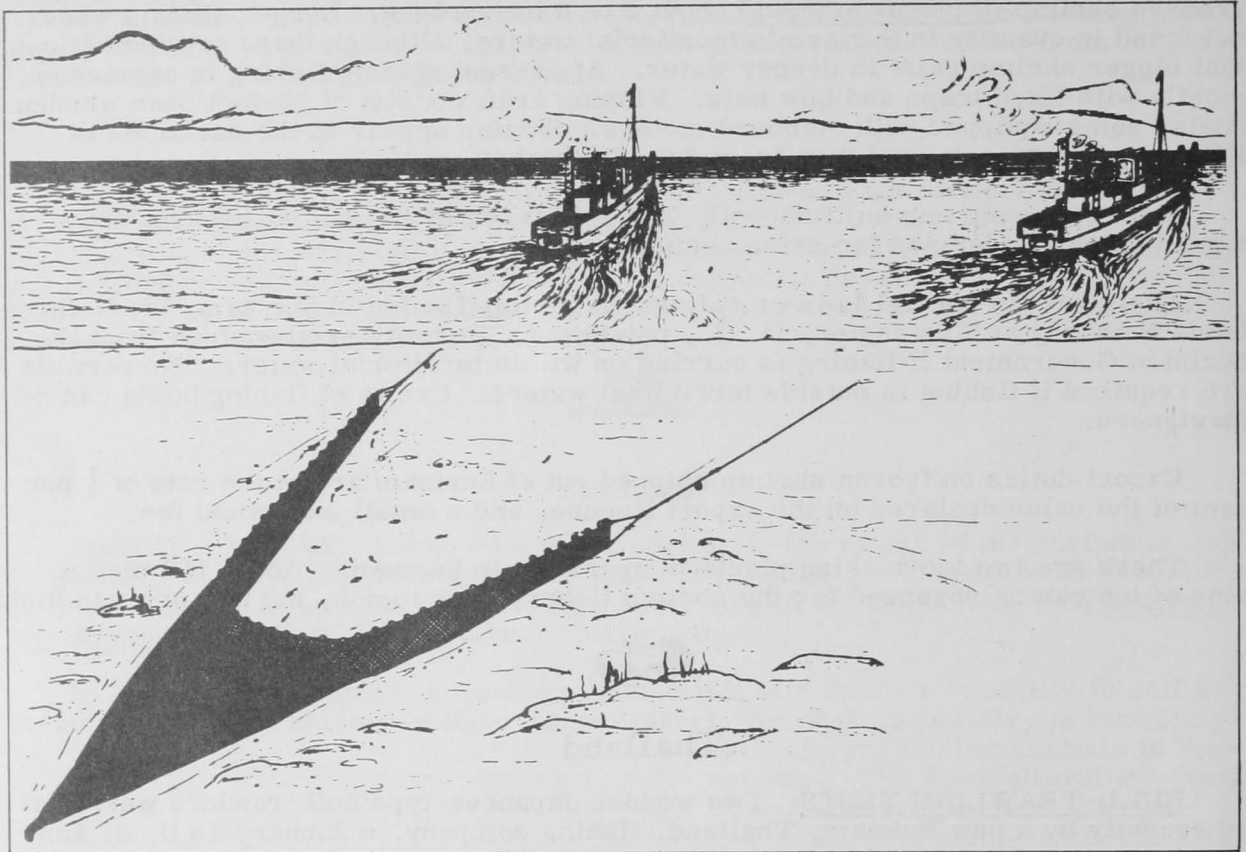
BULL-TRAWLING TESTS: Two wooden Japanese-type bull trawlers were tested recently by a new Paknam, Thailand, fishing company, a January 18 U. S. Embassy dispatch from Bangkok states. The vessels are semi-Diesel powered and formerly worked out of Singapore. Key fishing personnel are Chinese from Hong Kong, and Thai crews are being trained to take over at some future date. The operation is a two-boat trawl fishery with each vessel setting alternately.

Trip reports furnished by the new fishing company indicate that the offshore waters of the outer Gulf of Thailand harbor a rich and varied stock of commercially valuable species. Reports on the results of the trips follow:

Trip 1 (November 20 to December 2, 1953): The total landed fare amounted to about 13.5 metric tons, produced in seven days of actual fishing. Twenty-one sets of the net, about 70 hours on the bottom, yielded an average of about 1,400 pounds per set, or about 425 pounds per hour. The total catch, however, is known to be at least 25 percent greater because considerable small and unmarketable fish were rejected at sea.

Principal species landed were red snapper, grouper, lizardfish, grunts, flounders, and sea bream. A small quantity of large shrimp and one large spiny lobster were taken. Fish thrown away at sea included slipmouth, sea catfish, rays, and small individuals of many other species. The area fished extended from 50-70 miles off the stretch of outer Gulf northeast from Rayong to Kohchang. Depth of water ranged from 18 fathoms to 26 fathoms with bottoms of sand and sand and mud generally clear but with heavy sponge growths in some sections. On two successive days hauls included about 40 percent small fish--the last haul produced 72 cases of marketable fish but almost 70 percent of the total brought aboard was small unmarketable fish.

While financial details were not furnished, it is calculated that an average price of at least 3 baht per kilo (11 U.S. cents per pound) was obtained, for a gross of about 40,000 baht (US\$3,200). This should at least cover expenses and it is probable that a small profit was obtained.



Sketch showing operation of two-boat trawler.

It was concluded that the first trip was successful even though the fishing grounds were previously entirely unexplored, the crews were inexperienced, and two of the sets were practically blank due to inexperienced net handling. If a practical means for delivering the scrap and small fish to fish-meal plants is devised, gross income will be increased and the source of raw material for these plants considerably broadened.

Trip 2 (December 23 to January 2): About 18 metric tons, caught in 27 sets over a period of nine fishing days, were landed from the second trip. The net actually fished on the bottom about 76 hours--drags were somewhat shorter than in Trip 1. Average weight of landed fish per set was 1,463 pounds, and 521 pounds per hour of fishing. Both averages are higher than for Trip 1. The fishing log shows that 16 tons of small unmarketable fish were thrown away at sea. This increases the actual catch by almost 100 percent and the averages per set and per hour accordingly. Rejected fish were predominantly slipmouth and rays but the small fish category also included many other species. The landed catch included red snappers, groupers, grunts, flounders, lizardfish, sea bream, and other valuable market fish. About 110 pounds of jumbo shrimp were landed and some crabs. A small number of large squid were taken.

Two separate areas were fished on December 23 and 24--off Kohsichang in the inner Gulf and from Rayong to Kohchang, 40 to 80 miles off the outer Gulf. Opera-

tions in the inner Gulf on mud-sand bottom in 10 to 21 fathoms produced mostly mixed small fish and some shrimp and crabs. Less than one ton of marketable fish was retained.

About 500 cases were sold at auction on arrival at Bangkok, the remainder was stored in ice at the refrigeration plant at Paknam. No direct information was given as to final weighouts and prices obtained, but at the estimated conservative figure of 3 baht per kilo (11 U. S. cents per pound), the trip grossed around 55,000 baht (US\$4,400). This should have produced a profit for the trip. If the fish discarded were delivered for fish meal at 0.20 baht per kilo ($\frac{3}{4}$ U.S. cent per pound), it would have earned some 3,500 baht (US\$280) more.

Summary: Although it would be premature to qualify these operations as a complete financial success on the basis of the first two trips, some facts are evident. From the standpoint of the resources, it would certainly appear that the section of the Gulf fished is unusually productive for a tropical area. How much fishing strain can be supported is, of course, unknown. The high incidence of small species, undersized individuals of marketable species, and unwanted species suggest that some measure be taken either to utilize these or regulate mesh sizes to cut down the catch of the smaller fish. Probably the best solution at this stage would be to insure that the entire catch be utilized.

The type of fishing employed in this operation is fairly expensive since two vessels are used. It is possible that smaller vessels fishing with single otter trawls might produce fish at less cost. The great abundance of slipmouth and sea catfish, neither of which is in demand as market fish but excellent for fish meal, suggests that small-boat trawling operations might be developed for supplying fish meal plants.

While it will probably take a considerable number of years to explore the Gulf thoroughly, this first indication of what exists in the offshore areas is highly significant and justifies further exploration.

Comparing these results with those of other regions, it appears that catches are very good. In the Philippines, production averaged 151 pounds per hour (25 to 636 pounds per hour minimum and maximum). The average catch per hour during the two trips described is 473 pounds--the total catch including discarded fish is at least 700 pounds. Trawlers in the Mediterranean Sea operating out of Alexandria averaged 255 pounds per day and those from Port Said 108 pounds. Japanese vessels fishing off Western Australia caught fish at the rate of 440 pounds per hour. On Wadge Bank off Ceylon, the daily average catch was 4,600 to 6,400 pounds per day.



United Kingdom

ELECTRONIC FISHING METHOD DESCRIBED: An electronic fishing method has been invented by a Belfast, Northern Ireland, dental surgeon, reports The Fishing News (April 15), a British fishery magazine. He made a successful demonstration of his new electric technique for officials of the Northern Ireland Ministry of Commerce recently, and announced that the next test would be on the first herring shoals sweeping down the North Channel into the Irish Sea late in April. He believes his system may prove an infallible way of catching herring commercially by the electric shock method.

The inventor told the Irish News Agency: "In the presence of fishery experts, including the Director of Scientific Development of the Ministry of Commerce, we... gave a demonstration of our apparatus in Lough Islandreevey, near Castlewella,

Co. Down, on Saturday. It was a complete success. Within half an hour, in a small area of the lake the size of the backyard of a house, we landed ten large pike ranging from 4 to 8 pounds weight. I have no doubt that in larger lakes the pike menace can be eradicated by my electrical current trapping method.

"On Saturday next I'm taking the gear to Larne to renew experiments in Larne Lough in trapping herring on a big scale by attracting them electrically.

"I believe that the Lough Islandreevey experiments have proved that the apparatus can now be applied to sea fishing."

The secret of the electric "shock" method is that fish run from the negative to the positive pole. Fish caught in the electrified field, made by impulses from the machine in the water, are stunned.

The Scientific Development Branch of the Belfast Ministry of Commerce is particularly interested in the technique and experiments are expected to continue elsewhere.

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FREEZING-FISH-AT-SEA NEEDED TO FULLY UTILIZE DISTANT-WATER FISHERIES: If the British distant-water fisheries are to be fully utilized, a method must be developed for freezing fish at sea, according to the 1952/53 report of the British Department of Scientific and Industrial Research. Excerpts from this report were published by the Fish Trades Gazette (March 27, 1954), a fishery trade periodical.

The recent report continues: "At the Torry Research Station, a pilot-scale vertical-plate freezer has been designed which might be suitable for installation on existing vessels. Since the rate of catching is variable and the space available for freezing aboard ship is severely limited, fish may have to be held in ice for a time before they can be frozen."

Experiments have shown that the quality of the fish need not be affected by holding in ice for at least three days while regulating supplies to the freezing unit. Fish which are to be frozen should be gutted and washed according to normal trawler procedure; if the fish is frozen ungutted, the product is inferior, states the report. Storage in ice before freezing accentuates the advantages of storing the frozen fish at very low temperatures, e.g., -30° C. (-22° F.), and conversely the use of a lower storage temperature permits greater latitude in the prefreezing conditions.

At different rates of freezing, the effect of ice formation on cell structure in fish appears to be a complicated one. In order to investigate this a new air-blast freezer has been built in which many of the factors which affect the rate of freezing can be controlled. Research on the effect of these variable factors is expected to lead to reliable data for design purposes.

Efforts have been made to improve the quality of white fish reaching the consumer. As a method of assessing quality, a numerical scoring system for the sensory assessment of the spoilage of wet white fish stored in ice has been developed. Since it would be useful if results obtained by this sensory evaluation of appearance, odor, flavor, and texture could be correlated with results of chemical determination of the changes which occur during the development of spoilage, experiments are being made under strictly controlled conditions, to determine whether such correlation exists.

Speaking of dehydration, the report mentions a small drying tunnel which has been constructed for work on the air-drying of fish. In this tunnel conditions can be

automatically controlled and variable factors can be recorded photographically. The time required for drying has been found to be virtually independent of relative humidity in the range of 25 to 70 percent, but it increases at higher humidities, the report points out.

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DEEP-WATER TRAWLERS CONTINUE FULL-TIME FISHING: British deep-water trawlers at Humberside ports continued until the end of March the suspension of the 20-percent lay-up. This applied to trawlers operating under the Distant Waters Development Scheme which was initiated to prevent an oversupply of fish. Still in effect was the regulation that any vessel with a catch exceeding 70 percent capacity was to offer the excess to the salt-fish trade.

Catches of the distant-water trawlers prior to March averaged only 50-percent capacity. The position was scheduled to be reconsidered at the end of March, reports the February 12 issue of The Fishing News, a British fishery magazine.

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GOVERNMENT LOANS TO INSHORE FISHERMEN FOR GEAR: The British White Fish Authority announced recently that it is prepared in certain circumstances to provide loans for inshore fishermen for nets and gear, states the British fishery periodical, Fish Trades Gazette (March 27, 1954). The loans are for purchasing nets and gear for fishing vessels of not more than 70 feet in length--the class of vessels operated by inshore fishermen. Like the schemes for providing grants and loans for new vessels and engines and for promoting voluntary cooperative arrangements, this measure is intended to give further encouragement and support to the inshore section of the fishing industry.

Loans will be made where new nets and gear are acquired in the three following circumstances: (a) as part of the initial equipment of a new vessel; (b) as a result of a statutory change in net mesh sizes; and (c) as a result of a change other than seasonal in the type of fishing in a particular area. Each application will need to be approved by the Authority.

The loans will not exceed 60 percent of the cost of the nets and gear. The rate of interest for the present will be $2\frac{7}{8}$ percent but may be changed from time to time. The loans will be repayable within three years. The Authority will require satisfactory security for the loan and the borrowers will need to comply with certain conditions.

The arrangements will operate from March 24, 1954. They will not apply to Northern Ireland where assistance on nets and gear may be given under other arrangements or to vessels engaged solely in herring fishing.

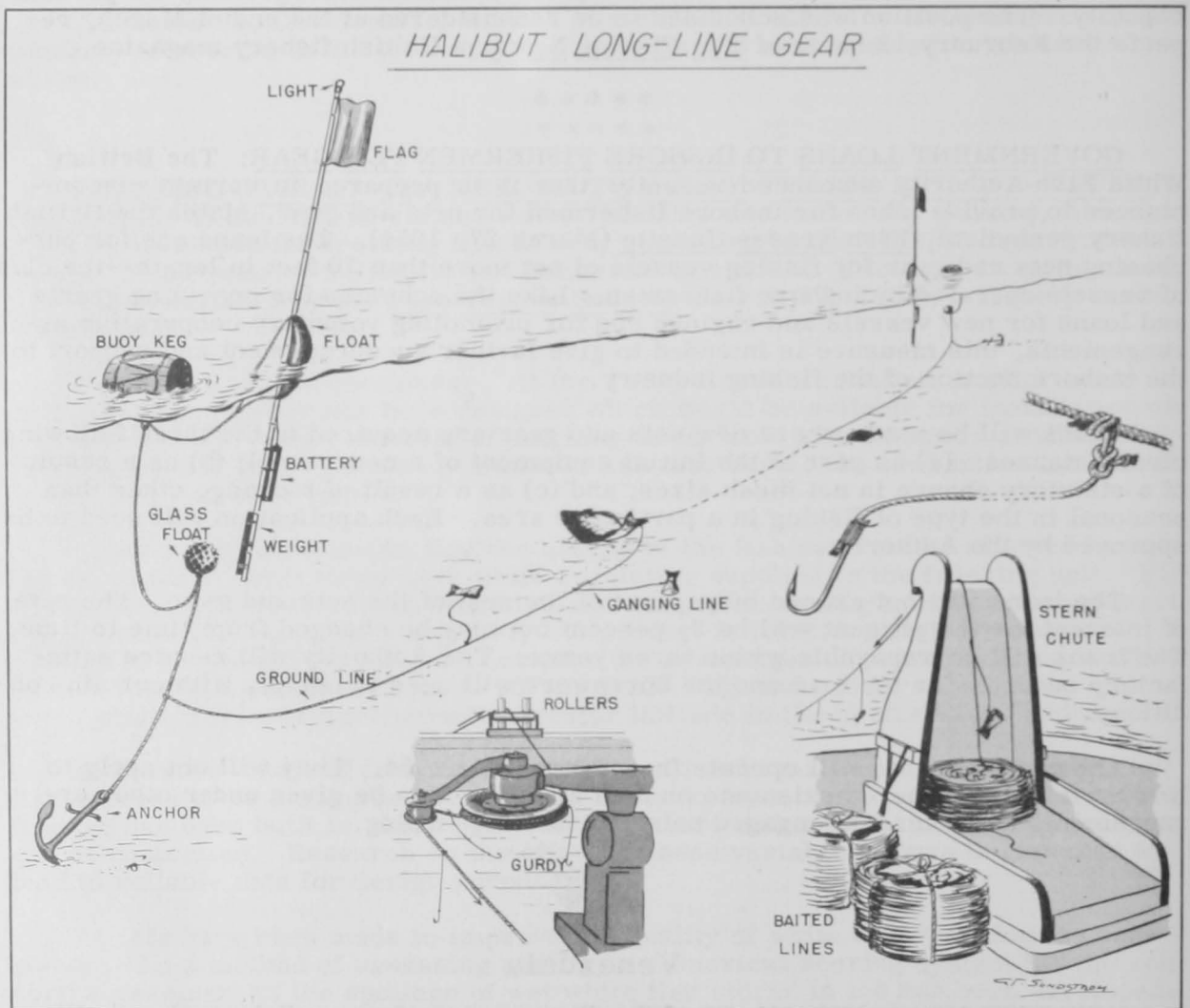
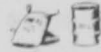


Venezuela

NEW FISH MEAL AND OIL PLANT: The opening of a new fish meal and oil plant at Cumana, Sucre, was announced on February 9. Cumana is a fish-canning center. The plant has a maximum daily capacity of 36 metric tons of fish scrap, and was purchased in Norway at a cost of 400,000 bolivares (US\$120,000).

During the fishing season--December to July--the plant can function at capacity and it is expected will average 4 tons of meal and 1 ton of oil daily, states a U. S. Embassy dispatch (February 18) from Caracas.

Heretofore the fish residue from the canneries has represented a disposal as well as a sanitation problem. It has been customary to have the accumulation of fish heads, viscera, etc. hauled out to sea when the quantity reached the limit of toleration.



Details of the type of gear used on United States and Canadian halibut schooners for catching halibut in the North Pacific Ocean.