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DANGERS OF DEPOSITING RADIOACTIVE WASTES IN OCEANS

Warnings of possible dangers resulting from the disposal of radioactive wastes from atom factories, now and in the future, were sounded September 11 at a session of the Second United Nations International Conference on the Peaceful Uses of Atomic Energy at Geneva. Half of 56 papers on "environmental aspects of large-scale uses of atomic energy" submitted dealt with the oceans and their use as a kind of radioactive rubbish dump.

Dr. B. H. Ketchum (United States), in a paper dealing with researches into the biological factors involved in dumping radioactive wastes, pointed out that many of the radioactive isotopes would be incorporated in the marine biological system and would be transferred from organism to organism in the various steps of the food-chain.

One of the arguments for disposing of waste products in the depths of the ocean was that it would take centuries for the bottom layers to mix with the upper layers and that in that time most of the activity would have died. Dr. Ketchum, however, altered this picture by introducing a kind of biological "elevator."

He showed how plant and animal life in the sea would pick up and concentrate radioactivity at one level and move vertically, or horizontally, taking it with them. The radioactivity could thus be transferred upward or downward, regardless of the physical transport of the currents. Moreover, when the sea life which had concentrated the radioactivity died, the radioactive remains would sink toward the bottom. He insisted that far more work should be done on the study of this accumulation and transfer of contamination through the biological system.

Another warning was delivered by Dr. E. M. Kreps (U.S.S.R.), who reported on Soviet investigations of deep-sea trenches in the world's oceans. There are 19 such trenches whose depths exceed 4.5 miles. Some of them are hundreds and even thousands of miles in length. Fifteen of them are in the Pacific, one in the Indian Ocean and three in the Atlantic Ocean.

The U.S.S.R. has investigated 12 of these trenches and the report contended that they were unsuitable places for the disposal of radioactive waste. The assumption that they were stagnant ponds in the oceans was untrue because investigation had shown that the mixing of the upper and lower waters could take place in as short a time as five years.

He produced evidence of change in temperature, the distribution of oxygen and phosphate, and the character of the organic life of the Tonga trench which runs southward for nearly 800 miles from the Samoan Islands and which had been regarded as one of the likeliest "dumps."

He concluded by stating, "The radioactive waste compounds dumped into the trench and dissolved will inevitably be brought to the upper layers of the ocean on which man depends for his food. Consequently the dumping of radioactive materials in deep-sea trenches will constitute a real menace in the very near future."

Dr. H. J. Dunster (United Kingdom) reported on five years of experimental discharges of radioactivity from Britain's Windscale atom factory into the coastal waters of Cumberland. These are low-activity wastes and not of the same order of hazard as those for which deep-sea dumps were sought. At every stage the behavior of the discharges had been studied and samples of fish, seaweed, and sand regularly taken and their activity assessed. The results were reassuring, but questions were raised as to the ultimate undesirability of allowing even such dilute forms of radiation into open waters.

At the press briefing, the Chairman and the participants in the session were questioned at considerable length not only as to what might happen in the future but what is already happening.

The British and Americans conceded that radioactive materials have been dumped in Atlantic deeps--off the continental shelf--for the past eight years. The British dumping had consisted of contaminated machinery which was too clumsy to be packaged and buried like other radioactive waste, and the total disposed of in the Atlantic represented about 600 curies while international experts were considering experiments with 1,000,000 curies of radiation to find out what actually happens to the exchange of waters in the seas.

The consensus of the experts was that up to now the disposal had been well within safety limits. What they were considering was the large-scale disposals which might be involved in the expansion of the atomic energy industry.

FOOD AND AGRICULTURE ORGANIZATION

WORLD FISHERIES MEETING HELD ON COSTS AND EARNINGS:

The first international meeting on Costs and Earnings of Fishing Enterprises

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opened in London on September 8. The meeting, called by the Food and Agriculture Organization of the United Nations (FAO), was expected to be attended by more than 50 experts from some 22 countries. They discussed 22 technical papers dealing with the various problems, questions, and investigations concerned with costs and earnings in the fishing industries of their countries.

The meeting focused attention on many questions of crucial interest to all sections of the world's fishing industries. Subsidies, credit schemes, tax and duty concessions, port and shore facilities, insurance, price support, and marketing schemes, are some examples of government participation in the fishing industry.

The interest of the fishing industry itself has led to much investigation of costs and earnings, especially in the countries possessing important and highly-developed fishing industries. But there has been little collaboration or exchange of ideas and information between the investigators, so they have not benefited from each other's work. The meeting will enable the experts to exchange views and experience and discuss the methods used to study the subject in various countries.

The problems and difficulties encountered in the investigation of costs and earnings in the fishing industries are in themselves a hindrance to the rational development of fisheries. The meeting should do much to point the way in many countries towards finding the facts about costs and earnings and should help to make possible the planning of realistic programs for the development of fisheries on a sound, economic basis.

The countries represented at the meeting were Belgium, Canada, Denmark, El Salvador, Finland, France, German Federal Republic, Ghana, Guatemala, Iceland, Ireland, Italy, Malaya, Netherlands, Norway, Poland, Portugal, Sweden, Turkey, Uganda, United Kingdom, and the United States.

The agenda included these general topics for discussion:

1. Point of view of Governments and of other public authorities.

2. Point of view of those in the fishing industry.

3. Concepts, definitions, and conventions in present inquiries in different countries and general conclusions.

4. Merits of different kinds of investigational methods.

5. Methods of analysis of collected accounts.

6. Effects of regulation of the fisheries on costs and earnings of fishing enterprises.

GREAT LAKES FISHERY COMMISSION

MEETING HELD IN MARQUETTE, MICH.: A meeting of the Great Lakes Fishery Commission was held at Marquette, Mich., on June 10, 1958. Besides the Commissioners, the Advisory Committee of the American Section also was in attendance.

The Commission met primarily to consider reports on the progress of sea lamprey control to date and to discuss the program for fiscal year 1959 and the budget for fiscal year 1960. Scientists present for both nations reported great progress on the sea lamprey-control program. Because of low water in both Canadian and American streams, the biologists have been able to install their electrical barriers earlier than normal and a total of 130 of these are now in operation on Lakes Michigan and Superior. Also reported were three successful tests of sea lamprey control by chemical treatment of streams.

On June 11 the Commissioners, Advisors, and others in attendance viewed a fourth successful demonstration of the chemical method in Silver River, which is about 70 miles from Marquette. At test stations where the larval lampreys were confined in cages all specimens were dead within four hours of the appearance of the chemical on the site. The poison used in these tests is sold under the commercial name of "Lampricid 2770." It was introduced into the stream at the rate of three parts per

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million. Because of the success of the chemical tests the Commissioners have decided to gradually shift the emphasis of the control work from electrical barriers to chemical treatment. This was reflected in a decision to award a research contract to the U. S. Fish and Wildlife Service calling for 50 barriers instead of the originally planned 64. The funds so released will be applied to the chemical-control program.

Note: Also see Commercial Fisheries Review, June 1958, p. 54.

INTERNATIONAL LABOR ORGANIZATION

FISHERMEN LABOR PROBLEMS CONSIDERED AT CONFERENCE:

The International Labor Organization (ILO) at its 42nd Conference in Geneva, Switzerland, from June 4-26, 1958, considered three draft instruments pertaining to fishermen: (1) Minimum age for admission of fishermen to employment; (2) medical examinations for fishermen; (3) articles of agreement for fishermen employed on fishing vessels.

The proposed Instrument on minimum age suggests that no child under the age of 15 years should be employed or work on fishing vessels. Fishing vessels, for the purpose of this Convention, include all ships and boats of any nature whatsoever, whether publicly or privately owned, which engage in maritime salt-water fishing. As proposed it provides no exemption either for very small fishing boats or for children who are members of the same family operating the fishing vessel. During the discussions at the 1958 conference, this point was discussed in detail in the committee stage and the committee adopted an amendment which would exclude from the Convention those vessels upon which only members of the same family are employed. The spokesmen of the workers' delegations, who for the most part represented labor organizations concerned with trawlers and other deep-sea fishing enterprises, were strongly opposed to the amendment adopted by the Committee and when the issue was raised in the plenary session of the conference the amendment was defeated. Since the conclusions reached at the 1958 conference are not binding, this question will undoubtedly be a matter for further consideration at the 1959 conference.

The proposed Instrument concerning medical examination of fishermen suggests that no person should be engaged for employment in any capacity on a fishing vessel unless he produces a certificate attesting to his fitness for the work for which he is to be employed at sea, signed by a medical practitioner who shall be approved by the competent authority. The draft Convention does provide exemption in relation to vessels which normally remain at sea for periods of less than three days. This Instrument did not create a great deal of controversy. Under this same Instrument considerable discussion did arise concerning the frequency of required medical examination after entry into the industry, particularly for young persons under the age of 21, but since this question appeared to be essentially one requiring the advice of the medical profession the matter was set aside for further study prior to the next conference.

The proposed draft for a Convention concerning fishermen's articles of agreement followed closely a similar Convention covering seafarers generally and provides for exemption of the types and sizes of vessels which might be exempted by the competent authority after consultation with the fishing-boat owners and fishermen's organizations where such exist. Also when the competent authority is satisfied that the provisions of this Instrument are adequately covered in collective agreements between the fishing-boat owners, or fishing-boat owners' organizations, and fishermen's organizations, it may exempt fishing vessels and fishermen covered by such collective agreements. There was some feeling that the proposed articles were not as all inclusive as they might be but consideration had to be given to the fact that the proposed Convention had been drafted with both developed and underdeveloped countries in mind. On this particular point the committee did recommend, and the Conference approved, the resolution requesting the governing body of ILO to consider the possibility of setting up a special committee with a view to continuing or initiating studies by the International Labor Office in cooperation where necessary with international agencies on the following questions affecting employment conditions on fishing vessels: (a) safety; (b) certificate of competency; (c) holidays with pay; (d) accident, unemployment, and sickness insurance; (e) accommodation on board; (f) medical care on board; (g) vocational training.

Background: Fishermen's Conditions of Employment were first considered by the International Labor Organization in 1920 when the Second (Maritime) Session of the International Labor Conference at Genoa adopted the Hours of Work (Fishing) Recommendation, 1920. Since that date the Maritime Sessions of the Conference and the Joint Maritime Commission have on several occasions expressed concern with the problems of fishermen, who in most cases are expressly excluded from the scope of the Maritime Conventions. A resolution adopted at the 28th (Maritime) Session of the International Labor Conference (Seattle, 1946) requested the International Labor Office, in consultation with the interests concerned, to make the necessary studies and preparations with a view to considering the possibility of the adoption of international standards for fishermen similar to those which have been adopted by the International Labor Conference in regard to merchant seamen and which, taken together, form a comprehensive International Seafarers' Code. The ILO decided at its 123rd Session (Geneva, November 1953) to set up a Committee of Experts on Conditions of Work in the Fishing Industry, which met in October-November 1954. The Committee's conclusions were summarized in three resolutions: (1) minimum age of entry to employment; (2) Medical Examination on entry and periodically thereafter; and (3) Articles of agreement--which the Committee determined were ripe for international action.

United States members of the Committee on Experts were: Harold E. Lokken, Manager, Fishing Vessel Owners' Association, Seattle, Wash., on behalf of employers, and Captain Pat McHugh, First Vice President, Seafarers' International Union of

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North America, Boston, Mass., on behalf of workers. The record indicates that neither the United States employer or worker representative concurred with the majority of the Committee of Experts that the time was ripe for international action.

At its 133rd Session the Governing Body of ILO decided to include the question in the agenda of the 1958 Ordinary Session of the Conference beginning on June 4.

The Committee of Experts consisted of 12 persons: 4 employers, 5 workers, 3 government (one of whom was a Judge of a Labor Court). Three of the 4 employers represented vessel owners and 1 represented exporters.

Of the 4 persons who "accompanied" members of the Committee, 2 were from the International Transportworkers' Federation, 1 from its affiliate, the Belgian Transport workers' Union, and 1 from the Norwegian Seamen's Union.

Only nine out of the 79 member countries of ILO were represented on the Committee of Experts, as follows: 5 European countries, 1 North American, 1 South American, and 2 Asian countries. The 4 professional worker organizers who "accompanied" committee members were all from Europe.

Upon completion of the work of the Committee of Experts in November 1954, Harold Lokken, United States Employers' representative, submitted a report to the United States industry. Excerpts from his report follow:

"The principal difficulty faced by the members from the United States was the problem of reconciling the European system of regulation which featured participation by Governments in industry affairs with that of the United States where Government plays a minor part in conditions of employment on fishing vessels.

"The four subjects discussed were Minimum Age for Admission of Fishermen to Employment on Fishing Vessels, Medical Examination of Fishermen, Articles of Agreement of Fishing Vessels, and Accident Insurance for Fishermen.

"Instrument 1 - Minimum Age of Employment of Fishermen . . . The main purpose of the instrument is to prevent the employment of children under 15 years of age on fishing vessels. Both Federal Law and state laws in the U. S. prohibit the employment of children in most cases of under 16 to 18 years of age. The proposed instrument would have no affect in changing existing legal practices on American fishing vessels. This instrument was unanimously approved by all members of the Committee of Experts.

"Instrument 2 - Medical Examinations of Fishermen . . . Little opposition was expressed to the provisions in this instrument by members of the Committee other than those from the United States, due to the fact that these requirements are already in practice in the European countries from which most of the members of the Committee came.

". . . The instrument concerning medical examinations of fishermen was approved by the Committee over the objections of the two members from the United States. They objected to the instrument on the basis that comparable labor in the United States were not covered by similar requirements. The instrument, if approved by the United States, would require over 100,000 men to hold medical certificates. These certificates would be of doubtful value due to the fact that most examinations would be of a cursory nature only and would not reveal the disabilities sought to be found by the instrument. It would be impractical to require 100,000 persons to undergo a detailed medical examination sufficient to prove fitness or unfitness for the many types of employment on fishing vessels.

"Instrument 3 - Articles of Agreement of Fishing Vessels . . . Both of the U. S. members of the Committee agreed to the instrument on Articles of Agreement as there was no basis for opposing the concept that each fisherman is entitled to know the terms of his employment prior to engaging in such employment.

"Instrument 4 - Accident Insurance - This instrument was considered separately from the three preceding instruments. The first three instruments were submitted to the Committee as final drafts to be revised by the Committee for consideration by upper levels of ILO procedure, but the fourth instrument was submitted on a tentative basis only . . ." (Note: Accident insurance was not on the agenda for consideration at the 42nd Session of ILO in June 1958).

"Outside of the provision requiring medical examinations for fishermen, there is not much in the four instruments which will bother the American fishing industry. There is, however, a basic question which the U. S. industry has to decide, i.e. whether or not it believes that the ILO is a proper agency to draw up conditions of employment which will affect conditions on American vessels which are considered to be of domestic concern only. This is important, as the ILO has plans to consider in the future questions concerning safety of fishermen, certificates of competency, unemployment insurance, sickness insurance, fishermen's accommodations, medical care on board, and vocational training.

"All segments of the U. S. fishing industry should watch the deliberations of the ILO very closely as actions by this body can ultimately affect American industry even though the United States does not participate in its work. The actions of the ILO can, in time, influence working conditions in countries which have not participated in formulating such conditions."

June 1958 Meetings of Committee on Fishermen: Under general discussion, a United States Government member stated the United States would prefer Recommendation rather than Convention form of instruments. This was also the position of the United States Employer member. The United States worker member supported the Convention form. The Japanese Government member stated that Japan, after reconsidering the matter, concluded that Recommendations were preferable, and he would vote for Recommendations rather than Conventions as originally indicated.

The Committee decided provisionally by 33 votes to 29, with 2 abstentions, that the proposed instru-

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ment concerning Minimum Age for Admission of Fishermen to employment should take the form of Convention.

A series of amendments were offered to clarify the scope of the proposed instrument by a closer definition of the term "fishing vessels." All amendments were defeated when voted upon, except for two amendments.

An amendment offered by the Government member of the Federal Republic of Germany, Paragraph 2, Art. 1, reading as follows, was adopted by a vote of 34 for, 30 against, with 2 abstentions:

"Notwithstanding the foregoing provisions, national legislation may permit the issuance of certificates allowing children of at least 14 years of age to be employed in cases where an educational or other appropriate authority appointed under national legislation is satisfied, with due regard to the health and physical condition of the child as well as the present and prospective material advantages that the proposed employment could entail, that such employment is in the child's interest."

An amendment was offered by the United Kingdom Government member who proposed that the following be added after the word "vessels":

"Other than vessels upon which only members of the same family are employed."

The United States Government member mentioned that in the United States 16 years was the minimum age limit for employment in commercial fishing on the high seas. It would be undesirable to extend such restrictions to recreational fishing in coastal waters, and for that reason she would support the United Kingdom amendment.

The amendment was adopted by 1 vote, 31 for, 30 against, 4 abstentions, by the Committee. Employers were unanimous in support.

On June 11 a vote was taken on the instrument as a whole, "Minimum Age of Fishermen." In the debate it was pointed out by the Netherlands' Government member and the Workers' member that the proposed instruments would not apply to persons fishing for sport or recreation, but on the other hand the crew members employed on board fishing vessels engaged in fishing for sport would be covered. The text of the instrument as a whole was adopted by a vote of 60 to 0, with 5 abstentions. The United States Employers' member abstained on the ground that the Committee had provisionally decided on a Convention form of instrument rather than Recommendations.

Discussion followed on Draft International Instrument concerning the Medical Examination of Fishermen on June 12. The United States Employers' members stated in part:

"In reading the report of the Committee on Experts, it is noted that it was the European members who took the lead in discussing Medical Examinations for Fishermen. This was natural since medical requirements are already in practice in these countries and probably have been in effect for many years. That is not the case, however, in most countries of the world, even though it must be an objective for the future when local conditions permit. In the United States medical examinations for fishermen are provided for in collective bargaining agreements, similar to that of other industries. Likewise certain medical facilities are provided for fishermen by Federal and state governments. Medical examinations for fishermen are thus provided for in our major fisheries. There has been no demand for an extension of these services to the hundreds of small fishing communities in the United States and Alaska where fishing is a family or local partnership enterprise or a cooperative endeavor. In many of these communities doctors are not available, yet these fishermen venture far to sea for periods that extend for longer than 3 days.

"It is estimated that under the provisions of this proposed Instrument, perhaps 100,000 or more fishermen would require examination, and frankly it is simply not practical. This is true of other North, Central, and South American countries and indeed in most of the countries of the world. . . .

"The United States industry feels that our progress in the field of medical examination for fishermen has been quite satisfactory and this is evidenced by the fact that there is no demand either by workers or employers for a more rapid pace.

"We believe that we must have an opportunity of developing further in this field on a domestic basis rather than at the International level.

"For that reason, I shall vote against the Instrument."

The instrument on Medical Examinations of Fishermen was adopted by a vote of 36 votes to 8, with 21 abstentions, by the Committee.

The Committee decided by a vote of 34 to 29, with 3 abstentions, that the instrument take the form of a Convention.

On June 13 the Instrument on Articles of Agreement were debated at length. The United States Employers' member stated that before a vote was taken on the form of the instrument, he wished to record that United States employers approved the principles contained in the instrument but were opposed to a Convention.

The Committee voted adoption of the text as a whole by 48 to 7, 9 abstentions. The United States Employers' member voted against.

The Committee also voted for a Draft Convention form by 35 votes for to 26 against, with 4 abstentions. The United States Employers' member voted against Convention form.

On June 14 consideration of resolution concerning standing machinery for Fishermen's Questions in the ILO was submitted to the Committee by representatives of the Workers' group.

In part the resolution was:

"Requests the Governing Body of the ILO to consider the possibility of:

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"(a) setting up a standing tripartite subcommittee of the Joint Maritime Commission to deal with fishermen's questions within the ILO;

"(b) instituting new studies or continuing studies already in progress into the following questions:

(i) Safety of fishermen at sea and on board.

(ii) Competency certificates for fishermen.

(iii) Continuous employment schemes for fishermen.

(iv) Holidays with pay for fishermen.

(v) Accident and sickness insurance for fishermen.

(vi) Accommodation on board fishing vessels.

(vii) Medical care on board fishing vessels.

(viii) Vocational training for fishermen.

"(c) referring the above-mentioned questions for consideration to the subcommittee proposed in subparagraph (a) of this resolution."

The objective of the resolution was that standing machinery should be established in the shape of a tripartite subcommittee of the Joint Maritime Commission. Secondly, the draft resolution urged that new or continuing studies be taken on the specific aspects of fishermen's conditions which had been recommended by the Committee of Experts, and which were based mainly on questions which had already been dealt with in the case of seafarers.

The United Kingdom representative referred to an alternative resolution proposed by the Employers, which follows:

"The General Conference of the International Labor Organization,

"Recalling that the ILO Committee of Experts on Conditions of Work in the Fishing Industry at its meeting in 1954 adopted a resolution which requested the ILO to study a number of aspects of fishermen's conditions of work and welfare in addition to those now under consideration by the Conference,

"Requests the Governing Body of the ILO to consider the possibility of continuing or initiating studies by the International Labor Office, in cooperation where necessary with other appropriate international agencies, on the following questions affecting employment conditions on fishing vessels:

(i) Safety.

(ii) Certificates of Competency.

(iii) Holidays with pay.

(iv) Accident, unemployment and sickness insurance.

(v) Accommodation on board.

(vi) Medical care on board.

(vii) Vocation training."

The resolutions raised two rather different problems. The first was the work of the Office in making further studies on fishermen's questions, and here there was a very large measure of common agreement in both resolutions. Indeed, the only essential difference was that whereas the Workers' resolution mentioned "continuous employment schemes," the Employers' resolutions dealt with unemployment within the context of social security. The second problem was the question of setting up machinery to deal with fishermen's questions. The Employers' view was that it would be premature even to consider this matter at the present stage. If, however, the majority of the Committee did not share this view, then it would be necessary to consider the question of form. The Employers were also opposed in principle to standing machinery of a tripartite nature since the value of bipartite discussions had clearly been proved in the past: if there were only two parties to a discussion they would normally take full responsibility and endeavor to reach agreement, but the introduction of a third party inevitably encouraged each side to press exaggerated claims and to shuffle off their own responsibility. As regards the size of any standing machinery that might be created for dealing with fishermen's questions, the cost of large industrial committees was likely to be a factor which might weigh adversely with the Governing Body, in addition to the fact that several other industries were also pressing their claims for separate machinery. Finally, the Employers felt that there would be no point in recommending the establishment of either standing or ad hoc machinery to deal with fishermen's questions until the basic factual information had been gathered through the further studies to be carried out by the Office.

The Workers requested a recess to consider the alternative resolution, and upon returning to the room agreed to the Employers' resolution if it were amended by inserting in line 2 of the operative paragraph the words, "setting up a special committee with a view to." A recess was granted the Employers and upon returning to the room, the amendment offered by the Workers was accepted, and the Employers' resolution as amended was adopted unanimously.

Adoption of the Employers' alternate resolution means postponement for at least one year the establishment of a committee and of machinery within the ILO office to study fisherman's employment and social problems. It is certain the Workers will be prepared next year to push for setting up machinery and if successful, it means an eventual fishermen's division or section in ILO.

On June 16 the report of the Drafting Committee was considered. Paragraph 24 of the report cleared up a number of questions raised in Committee. It reads as follows:

"The full text of the draft international instrument concerning the minimum age for admission of fishermen to employment, as amended, was adopted by the Committee by 60 votes to 0, with 5 abstentions. The United Kingdom Government member explained that he had voted in favor of the draft text on the understanding that the instrument does not apply to fishing in ports and harbors or in the estuaries of rivers, nor to those individuals fishing for sport or recreation. The United States Government and Employers' members associated themselves with the reservation made by the United

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Kingdom Government member. The Workers' members also agreed with this understanding and expressed the view that fishermen engaged in fishing for sport were not covered by the provisions of the instrument, but only the crews of such vessels engaged for work. This was also the view of the Government member of the Netherlands, who had been Chairman of the Committee of Experts. The workers requested that it be noted they had voted in favor of the instrument on the understanding that they reserved the right to submit an amendment concerning family vessels to the text in plenary sitting. The Government member of Australia abstained in the vote as it was not clear to him whether pearl and other similar types of fishing were covered by the instrument."

Some alterations and additions were agreed to and the report was adopted.

Plenary Sitting, June 17, 1958: The report of the Committee on Fishermen was considered in Plenary on June 17. The Employers' Vice Chairman of the Committee made a report on behalf of the 8 Employer members, concluding his remarks as follows:

"In our opinion the draft Convention concerning articles of agreement is based too much on conditions in Europe, to the exclusion of a consideration of conditions in other parts of the world. Although we object to some of the detailed provisions of these draft Conventions we put forward no amendment at this stage, because this is only the first reading. We shall of course vote against the drafts as a whole, because in our view they should be drawn up in the form of Recommendations and not Conventions."

The United States Employers' adviser stated: "The United States Employers believe in the principle of protecting young persons of age 15 and under from engaging in employment, as the term 'employment' is commonly understood. We have supported legislation to this end in the United States, as well as compulsory education. We believe, however, that it is in the best interests of the youth of the world that laws and regulations be sufficiently flexible to permit some types of employment during vacation periods from school attendance, such as newspaper sale and delivery, production of garden and other agricultural plant and animal life, or in family farms and other part-time employment, including the catching of fish and shellfish from fresh water and also from salt waters along the coast, such as clams and lobsters, and the sale of such products in local communities.

"The United States Employers, however, do not advocate flexibility of minimum age laws on employment for the purpose of seeking loopholes for the exploitation of youth. Definitions adopted by the majority of the Committee on Fishermen in Articles 1 and 2 of the proposed draft Convention concerning minimum age for admission of fishermen to employment are not clear. Some might regard them as so restrictive that if adopted and strictly observed a 14-year-old lad who happened to be an orphan, or whose family did not own a fishing vessel, would be denied the right to use a rowboat in shallow coastal salt waters in order to get himself to a nearby clam bank to engage in taking clams if he proposed to peddle the clams among his friends and neighbors. I cannot believe a government would go so far, yet the definition could be so construed.

"Amendments were introduced in committee to clarify these definitions, but they were rejected. There was considerable doubt as to the meaning of the term 'maritime fishing in salt waters.' Various interpretations were expressed during the Committee's sessions and I want to make it perfectly clear just how I interpret Article 1 of the proposed draft for a Convention concerning the Minimum Age for Admission of Fishermen to Employment. I quote from the Provisional Record, No. 15, page IV, paragraph 24, the following: 'that the instrument does not apply to fishing in ports and harbors or in the estuaries of rivers, nor to those individuals fishing for sport or recreation. The United States Government and Employers' members associated themselves with the reservation made by the United Kingdom Government member. The Workers' members also agreed with this understanding and expressed the view that fishermen engaged in fishing for sport were not covered by the provisions of the instrument, but only the crews of such vessels engaged for work. This was also the view of the Government member of the Netherlands, who had been Chairman of the Committee of Experts.'

"The Committee made provision, however, in Article 2 for children under the age of 15 years to be employed or work on fishing vessels upon which only members of the family are employed. The majority of the members agreed to support this principle.

"Throughout the history of fishing in the world the relationship between father and son on board fishing vessels has traditionally been the means of crew recruitment for fishermen. If this principle is now to be abandoned through the means of such loose definitions on an international level the world of the future will have less fishermen. The majority of the nations of the world are now practising the father and son relationship on board fishing vessels as now provided in Article 2. There has been no evidence to justify any change in the historic father and son relationship on board fishing vessels. I appeal to your good judgment to avoid any further weakening of a definition already so weak that governments, employers and workers alike must assume responsibility during the ensuing year to avoid language that is so restrictive that the whole purpose of this ILO endeavor will come to naught.

"On behalf of the Employers of the Committee, we oppose the amendment suggested by the Workers' delegates. . . ."

The United States Government adviser stated, "In the Committee the United States supported the amendment to the draft Convention which would exclude from its coverage vessels upon which only members of the same family are employed. We voted in this way because we felt that in calm and shallow waters there were certainly advantages in allowing a boy to engage in recreational fishing with his father.

"Our reaction resulted from the report of the Committee of Experts, which Committee agreed

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that the words 'in salt waters' after 'maritime fishing' would cover all types of fishing to which the proposed Article should apply, including river estuaries but excluding lakes and river courses.

"Subsequent to the vote on the amendment that would exclude family-owned operations, the matter was clarified, and the report of the Committee of Experts was interpreted to exclude estuaries. Had this clarification taken place prior to our vote on this amendment, as I stated in the Committee, our vote might have been different. In fact, we would have abstained. In the light of strong feelings on the part of some nations where the family type of employment of children in fishing may be prevalent, the United States will abstain on this vote, leaving to those countries concerned the decision in the matter."

In Paragraph 1, Article 2, in the Proposed Draft for a Convention concerning the Minimum Age for Admission of Fishermen to Employment, the Workers proposed deletion of the words "other than vessels upon which only members of the same family are employed." This language had been adopted in Committee by a margin of one vote. In plenary, however, the words were deleted by a vote of 102 to 58, with 32 abstentions.

The proposed Drafts for Conventions concerning the employment of Fishermen as approved by the 42nd ILO Conference follow:

PROPOSED DRAFT FOR A CONVENTION CONCERNING THE MINIMUM AGE FOR ADMISSION OF FISHERMEN TO EMPLOYMENT

Article 1

For the purpose of this Convention, the term "fishing vessel" includes all ships and boats, of any nature whatsoever, whether publicly or privately owned, which are engaged in maritime fishing in salt waters.

Article 2

1. Children under the age of fifteen years shall not be employed or work on fishing vessels.

2. Provided that national laws or regulations may provide for the issue in respect of children of not less than fourteen years of age of certificates permitting them to be employed in cases in which an educational or other appropriate authority designated by such laws or regulations is satisfied, after having due regard to the health and physical condition of the child and to the prospective as well as to the immediate benefit to the child of the employment proposed, that such employment will be beneficial to the child.

3. Young persons under the age of eighteen years shall not be employed or work on coal-burning fishing vessels as trimmers or stokers.

Article 3

The provisions of Article 2 shall not apply to work done by children on school-ships or training ships, provided that such work is approved and supervised by public authority.

Article 4

The competent authority shall adopt regulations for the enforcement of these provisions.

PROPOSED DRAFT FOR A CONVENTION CONCERNING THE MEDICAL EXAMINATION OF FISHERMEN

Article 1

1. For the purpose of this Convention the term "fishing vessel" includes all ships and boats, of any nature whatsoever, whether publicly or privately owned, which are engaged in maritime fishing in salt waters.

2. The competent authority may, after consultation with the fishing-boat owners' and fishermen's organizations concerned, where such exist, permit exceptions in the application of the provisions of this Convention in relation to vessels which normally remain at sea for periods of less than three days.

Article 2

No person shall be engaged for employment in any capacity on a fishing vessel unless he produces a certificate attesting to his fitness for the work for which he is to be employed at sea signed by a medical practitioner, who shall be approved by the competent authority.

Article 3

1. The competent authority shall, after consultation with the fishing-boat owners' and fishermen's organizations concerned, where such exist, prescribe the nature of the medical examination to be made and the particulars to be included in the medical certificate.

2. When prescribing the nature of the examination due regard shall be had to the age of the person to be examined and the nature of the duties to be performed.

3. In particular, the medical certificate shall attest that the person is not suffering from any disease likely to be aggravated by, or render him unfit for, service at sea or likely to endanger the health of other persons on board.

Article 4

1. In the case of young persons of less than twenty-one years of age, the medical certificate shall remain in force for a period not exceeding one year from the date on which it was granted.

2. In the case of persons of twenty-one years of age and over the competent authority shall determine the period for which the medical certificate shall remain in force.

3. If the period of validity of a certificate expires in the course of a voyage the certificate shall continue in force until the end of that voyage.

Article 5

Arrangements shall be made to enable a person who, after examination, has been refused a certificate to apply for a further examination by a medical referee or referees, who shall be independent of any fishing-boat owner or of any organization of fishing-boat owners or fishermen.

PROPOSED DRAFT FOR A CONVENTION CONCERNING FISHERMEN'S ARTICLES OF AGREEMENT

Article 1

1. For the purpose of this Convention, the term "fishing vessel" includes all registered or documented ships and boats of any nature whatsoever, whether publicly or privately owned, which are engaged in maritime fishing in salt waters, except the types and sizes of vessels which might be exempted by the competent authority from application of the provisions of this Convention, after consultation with the fishing-boat owners' and fishermen's organizations concerned, where such exist.

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2. When the competent authority is satisfied that the provisions of this Convention are adequately covered in collective agreements between fishing-boat owners, or fishing-boat owners' organizations, and fishermen's organizations, it may exempt from individual agreement owners and fishermen covered by such collective agreements.

Article 2

For the purpose of this Convention, the term "fisherman" includes every person employed or engaged in any capacity on board any fishing vessel and entered in the ship's articles. It excludes pilots, cadets and duly indentured apprentices, naval ratings, and other persons in the permanent service of the government.

Article 3

1. Articles of agreement shall be signed both by the owner of the fishing vessel or his authorized representative and by the fisherman. Reasonable facilities to examine the articles of agreement before they are signed shall be given to the fisherman and also to his adviser. Where both owner and fisherman are covered by collective agreements, individual signatures will not be required.

2. The fisherman shall sign the agreement under conditions which shall be prescribed by national law in order to ensure adequate supervision by the competent public authority.

3. The foregoing provisions shall be deemed to have been fulfilled if the competent authority certifies that the provisions of the agreement have been laid before it in writing and have been confirmed both by the owner of the fishing vessel or his authorized representative and by the fisherman.

4. National law shall make adequate provision to ensure that the fisherman has understood the agreement.

5. The agreement shall not contain anything which is contrary to the provisions of national law.

6. National law shall prescribe such further formalities and safeguards in respect of the completion of the agreement as may be considered necessary for the protection of the interests of the owner of the fishing vessel and of the fisherman.

Article 4

1. Adequate measures shall be taken in accordance with national law for ensuring that the agreement shall not contain any stipulation by which the parties purport to contract in advance to depart from the ordinary rules as to jurisdiction over the agreement.

2. This Article shall not be interpreted as excluding a reference to arbitration.

Article 5

A record of employment of every fisherman shall be maintained by the competent authority. A copy of this record shall be handed to the fisherman concerned or entered in his service book. The form of this record, the particulars and other necessary details to be entered therein shall be determined by national laws and regulations.

Article 6

1. The agreement may be made either for a definite period or for a voyage or, if permitted by national law, for an indefinite period.

2. The agreement shall state clearly the respective rights and obligations of each of the parties.

3. It shall contain such of the following particulars as are not already included in other documents regarded under national laws or regulations as fulfilling the provisions of this Article:

(a) the surname and other names of the fisherman, the date of his birth or his age, and his birthplace;

(b) the place at which and date on which the agreement was completed;

(c) the name of the fishing vessel or vessels on board which the fisherman undertakes to serve;

(d) the voyage or voyages to be undertaken if this can be determined at the time of making the agreement;

(e) the capacity in which the fisherman is to be employed;

(f) if possible, the place and date at which the fisherman is required to report on board for service;

(g) the scale of provisions to be supplied to the fisherman unless some alternative system is provided for by national law;

(h) the amount of his wages, the amount of his share if he is to be remunerated on a share basis, or the amount of his wage and share if he is to be remunerated on a combined basis, and any agreed minimum wage;

(i) the termination of the agreement and the conditions thereof, that is to say--

(i) if the agreement has been made for a definite period, the date fixed for its expiry;

(ii) if the agreement has been made for a voyage, the port of destination and the time which has to expire after arrival before the fisherman shall be discharged;

(iii) if the agreement has been made for an indefinite period, the conditions which shall entitle either party to rescind it, as well as the required period of notice for rescission: Provided that such period shall not be less for the owner of the fishing vessel than for the fisherman;

(j) any other particulars which national law may require.

Article 7

If national law provides that a list of crew shall be carried on board the agreement shall either be recorded in or annexed to the list of crew.

Article 8

In order that the fisherman may satisfy himself as to the nature and extent of his rights and obligations the competent authority shall lay down the measures to be taken to enable clear information to be obtained on board as to the conditions of employment.

Article 9

An agreement entered into for a voyage, for a definite period, or for an indefinite period shall be duly terminated by--

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(a) mutual consent of the parties;

(b) death of the fisherman;

(c) loss or total unseaworthiness of the vessel;

(d) any other cause that may be provided for in national law.

Article 10

National law, collective agreements or individual agreements shall determine the circumstances in which the owner or skipper may immediately discharge a fisherman.

Article 11

National law, collective agreements or individual agreements shall also determine the circumstances in which the fisherman may demand his immediate discharge.

Article 12

National law shall provide the measures to ensure compliance with the terms of the present Convention.

RESOLUTION CONCERNING THE SETTING UP OF A SPECIAL COMMITTEE ON CONDITIONS OF FISHERMEN

The General Conference of the International Labor Organization, recalling that the ILO Committee of Experts on Conditions of Work in the Fishing Industry, at its meeting in 1954, adopted a resolution which requested the ILO to study a number of aspects of fishermen's conditions of work and welfare in addition to those now under consideration by the Conference; Requests the Governing Body of the ILO to consider the possibility of setting up a special committee with a view to continuing or initiating studies by the International Labor Office, in cooperation where necessary with other appropriate international agencies, on the following questions affecting employment conditions on fishing vessels:

(a) safety;

(b) certificates of competency;

(c) holidays with pay;

(d) accident, unemployment and sickness insurance;

(e) accommodation on board;

(f) medical care on board;

(g) vocational training.

Note: This final resolution is in accord with Article 39 of the Standing Orders of the International Labor Conference. The Office of the ILO must now prepare 3 Conventions, submit them to member Governments for further consideration and reply, after which the Office will prepare a final report on the text of the Conventions and submit same to the Governments not less than 3 months before the opening of the next ordinary session of the ILO.

After final discussion takes place at the 1959 conference, any or all of these Instruments may be adopted as Conventions (binding on those countries which ratify the Conventions) or as Recommendations (voluntary).

RESOLUTION CONCERNING THE PLACING ON THE AGENDA OF THE NEXT ORDINARY SESSION OF THE CONFERENCE OF THE QUESTION OF THE CONDITIONS OF WORK OF FISHERMEN

The General Conference of the International Labor Organization, having approved the report of the Committee appointed to examine item VII on its agenda, having in particular approved as general Conclusions, with a view to consultation of governments, proposals for a Convention concerning the minimum age for admission of fishermen to employment, for a Convention concerning the medical examination of fishermen, and for a Convention concerning fishermen's articles of agreement; Decides to place on the agenda of its next Ordinary Session the question of the conditions of work of fishermen with a view to a final decision on three Conventions on this question.

Notes: (1) Also see Commercial Fisheries Review, July 1958, p. 53.
(2) Part of this article was abstracted from a report on "Conditions of Employment for Fishermen," by Chas. E. Jackson, United States Employers' adviser to the 42nd ILO Conference.

JAPANESE AND SOVIET FISHERY SURVEY TEAMS EXCHANGE VISITS

The Japanese fisheries observation team of 13 men, headed by the research chief of the Japanese Fishery Agency, returned to Hakodate on August 17, 1958, aboard the Toko Maru, completing a 5,000-mile survey of Russian fishery installations in Siberia, Sakhalin, and Kamchatka. The survey team arrived at Nakhodka on July 15, and from there visited Khabarovsk, Okhotsk, Icha-Bolsheretsk, Ozernaya, Petropaylovsk, and Neberisk, inspecting the hatcheries, laboratories, and "people's economic councils." The Russians made every effort to make the trip a success--supplied cars, planes, helicopters, and horses, and even built a new road on Ozernaya for the party's visit. The team was impressed by the dedication of the Soviet researchers who spend years in shacks on inaccessible river banks patiently studying salmon. Conservation measures were being practiced--some streams being closed for specified days of the week during the fishing season, and some for longer periods.

The survey team gathered that the over-all salmon production goal was about 120,000 tons for 1958, but the Soviets claimed at the present rate they would not produce more than one-third this amount. It was found that the catch of all species, including salmon was down, and that the canneries were idle or were salting and freezing cod, and flatfish. Many complaints were heard of net-marked and hook-bearing fish found in the catch. The Japanese were interested

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in checking the effect on spawning streams of great Kamchatka volcanic eruptions and the earthquakes of 1955/56.

The team found the Soviets studying Japanese fisheries intently, as the Kamchatka economy depends on fishing. Sakhalin has 27 salmon hatcheries, and soon will increase to 50 (including Kuriles). Hatchery facilities, and techniques were reported to be old-fashioned. A full report of the team's observations is expected to be presented at the Japan-Soviet fishery negotiations in January 1959.

A reciprocal Russian 13-man mission, headed by the chief of the Kamchatka Economic Council, arrived at Hakodate, Japan, on August 7, 1958, and inspected ice plants, cold storages, canneries, netting factories, and research and educational facilities in northern Japan. The Soviet mission visited the salmon mothership Koyo Maru at Hakodate, the processing plants, laboratories, and schools in Tokyo, and then the Shizuoka tuna ports and western Japan. At numerous press conferences emphasis was made of the bad state of Soviet salmon resources, and Russia's ambition to enter the tuna and saury fisheries. Japan has shown some concern over the prospect of Soviet mothership fleets fishing saury off northern Japan.

Returning mothership managers reported Soviet inspection on high seas unusually thorough this year. Most fleets were visited 2 or 3 times, and in several cases by Naval vessels.

Other Japanese-Russian fishery observation surveys have been planned with the hope that they will contribute to mutual understanding. (United States Embassy report from Tokyo, dated August 29.)

NORTHWEST ATLANTIC FISHERIES COMMISSION

U. S. S. R. ADHERES TO CONVENTION:

The U. S. S. R. notified the Depositary Government (United States) on April 10, 1958, of its adherence to the International Convention for the Northwest Atlantic Fisheries. By this action U. S. S. R. has become a member of the Commission, which now includes 12 countries: Canada, Denmark, France, West Germany, Iceland, Italy, Norway, Portugal, Spain, United Kingdom, United States, and U. S. S. R.

U. S. S. R. has during recent years carried out some exploratory fishing in the Convention Area, especially in the Newfoundland Bank region. In 1958 this developed into a fishery of some extent; about 12 U. S. S. R. trawlers, some of them very large vessels, have been reported to be fishing on the Grand Bank.

In the latest years U. S. S. R. has been invited to send observers to the Commission's Annual Meetings. Several observers from Russia have, following the invitation, attended the 1956 Meeting in Halifax, and the 1957 Meeting in Lisbon. (Newsletter No. 28, dated June 2, 1958, issued by the Commission for the months of April-May 1958.)

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EIGHTH ANNUAL MEETING:

The Commission held its Eighth Annual Meeting at Halifax, Canada, June 4-14, 1958. The Standing Committee on Research and Statistics and various Groups of Advisers met June 4-7. The Annual Meeting proper commenced on June 9 with an opening plenary session and continued through until June 14 when the last plenary session was held.

Commissioners, most of them accompanied by advisers, were present from all 12 member countries. In the year preceding the Meeting, the Federal Republic of Germany and U. S. S. R. became members of the Commission and representatives from these two countries for the first time participated as commissioners. Both countries had been represented at earlier meetings by observers.

The U. S. S. R. delegates informed the Commission that their country wished

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to take panel memberships in Panels 1, 2, and 3, i. e. the panels which are concerned with the West Greenland, Labrador, and Newfoundland waters. The Commission unanimously agreed to admit U. S. S. R. to these panels. There were no other changes in Panel memberships.

The Standing Committee on Finance and Administration proposed a budget of C$50,000 for 1958/59. The Commission adopted the budget. It was further decided that the Ninth Annual Meeting should be convened in Montreal, Canada, on June 1, 1959.

The problems concerned with the regulations of trawl fisheries for cod and haddock in Subareas 3, 4, and 5, i. e. the waters off Newfoundland, off the Canadian Maritime and Quebec Provinces, and off New England were considered by the Panels concerned, by the Standing Committee on Research and Statistics, and by the Commission as a whole. The member countries concerned reported on the implementation of the regulations for their fisheries, which were now effective for all countries. It was decided that the Commission should collect more detailed information on the implementation of the regulations, and that such information should be considered by a special ad hoc committee at future annual meetings.

In connection with the regulations, the operation of stern trawlers was considered and it was agreed that in implementing the regulations minor modifications in the terms could be introduced to suit the condition of operation of these special trawlers.

The fishery for sea scallops by Canada and the United States has during recent years grown considerably and is now of major importance. This fishery is carried out mainly in international waters off the coasts of New England and the southernmost part of the Canadian Maritimes. The results of extensive researches were reported by Canada and the United States and the question of the possible need for regulations to conserve the fisheries was raised. In considering this problem, the Commission agreed to the opinion that the words "fish" and "fisheries," as used in the Convention, should be understood to include molluscs.

Reports on the fisheries and the research work carried out in ICNAF subareas were heard by the five panels. The existing procedures for collecting statistics and sample data and plans for future research were reviewed and where necessary revised. A major revision was that in order that the statistics on landings and efforts of the fishery in the Cabot Strait area might more accurately refer to separate stocks, it was agreed to subdivide statistical Subdivisions 3P and 4V into northern and southern portions and that statistical data should be collected and reported to the Commission by these new subdivisions.

The Committee on Research and Statistics and its various subcommittees considered especially:

1. The collection of statistics on landings and efforts.

2. Problems associated with the data on the sizes and quantities of fish discarded at sea.

3. The sampling of the lengths, ages, etc., of commercially-caught fish.

4. Continued studies of gear selection.

5. Assessment of current and possible future mesh regulation.

6. Researches on sea scallops.

7. Development of a plankton research program for the ICNAF Area.

8. Elaboration of plans for an ICNAF-ICES symposium on ocean perch in Copenhagen 1959, and consideration of a possible symposium on marking techniques.

At a special meeting Dr. Carl Sindermann, United States, lectured on The Place of Serology in Fisheries Research and on the Significance of Diseases of Marine Organisms; and Dr. Ju. Ju. Marti, U. S. S. R., on researches in the

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North Atlantic by U. S. S. R. (Newsletter No. 29, dated August 14, 1958, issued by the Commission for the months of June-July 1958.)

Note: Also see Commercial Fisheries Review, June 1958, p. 56.

TERRITORIAL WATERS

EIGHT-POWER MINISTERIAL MEETING ON FISHING LIMITS PROBLEM CALLED BY DENMARK:

Concerned at the failure of Iceland to agree to the proposal on Iceland's 12-mile fishing limits worked out by the 8-nation expert group in Paris, the Danish Government took the initiative in an emergency Cabinet meeting August 30, to request NATO's Secretary-General to call an immediate meeting of the same eight countries on a ministerial level to make "new efforts" to reach a solution. At the same time the Government sought support for such a move in all eight capitals and the United States.

Immediately thereafter, the Danish Acting Prime Minister issued a statement advising the press of the move and stating that the Danish Government "in collaboration with Faroese local administration recommends that Danish and Faroese fishermen, pending the forthcoming negotiations, refrain from fishing off the Icelandic coast within the 12-mile limit," a September 2 United States Embassy dispatch from Copenhagen states.

However, a September 6 communication points out that the meeting failed to materialize. Therefore, in view of the growing unrest on the Faroe Islands, the Danish Government on September 5 formally asked the United Kingdom for an immediate meeting to revise the 1955 Dano-British agreement on Faroese fishing limits. The Danes will, of course, ask for 12 miles. If as expected the United Kingdom agrees to the talks, a four-man Danish delegation is prepared to immediately proceed to London.

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NORDIC FISHERIES CONGRESS DISCUSSES 12-MILE FISHING LIMIT:

At the Nordic Fisheries Congress held August 11-13, 1958, at Hindsgavl, Denmark, discussions were held concerning Iceland's decision to expand its territorial waters fishing limits to 12 nautical miles. Danish, Swedish, Norwegian, and Faroe Islands spokesmen declared that changes in fishing limits should be arrived at through negotiation, and not through unilateral decisions. According to press reports, the Icelandic representative declared that his country had waited long enough since it took the initiative in asking for international negotiations within the United Nations ten years ago and that his country is now forced to safeguard its vital interests.

The Swedish delegate stated that Sweden specifies a 4-mile limit, but could accept the imposition of a 6-mile limit by other countries. He also emphasized Sweden's opposition to unilateral rulings and stated that fishing limits must be fixed through international negotiation. He further stated that Sweden had already lodged a protest against the 12-mile limit announced by Iceland.

The Danish representative stated that Denmark has always in principle advocated freedom of the seas and the 3-mile limit but that under the circumstances prevailing at the Geneva Law of the Sea Conference, Denmark accepted the 6-mile limit and possible 12-mile limits for special cases such as the Faroes, Greenland, and Iceland. He emphasized that Denmark favors solution through negotiations and considers unilateral extensions improper.

The Faroe Islands representative to the Congress endorsed negotiation as a possible solution to the problem, but stated that if this did not prove successful, it might be necessary for the Faroe Islands to appeal to the World Court at The Hague. He added that foreign trawling near the Faroes is very active and that the islands must protect their existence.

Norway's representative stressed the importance of the fishing industry in his country and in Iceland, which provides 20 percent and 90 percent, respectively, of their total export incomes. He stated that coastal fishing was most important in Norway and that the increasing amount of foreign trawling outside of Norway's 4-mile limit has caused his country to consider the 12-mile limit as an advantage. He further stated that he feels an agreement on fishing limit expansion could be reached through international negotiations, but that certain states should be allowed to make certain concessions within fixed limits. He concluded by saying that Norway's viewpoint is that solution must be sought through negotiations and that Scandinavian countries should try to set a joint standpoint for united action at future conferences.

TRADE AGREEMENTS

EXTENDED CZECH-ICELANDIC TRADE AGREEMENT INCLUDES FISH:

The Czech and Icelandic Governments signed a protocol on August 28, 1958, extending the Trade and Payments agreement of October 1, 1957 for another year, until September 1, 1959. The delivery quotas for frozen fish fillets, herring, and fish meal are the same as last year, and the only significant increase is in the quota for fish oil. The over-all agreement, valued at about 34,600,000 Czech crowns (US$4.8 million) for goods each way, is some Ckr 2 million (US$277,312) above that of last year. (United States Embassy dispatch dated September 4, 1958, from Reykjavik.)

Note: Values converted at the rate of 44.21 Czech crowns equal 100 Icelandic kroner, and 1 Icelandic kroner equals US$0.0613.

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UNITED NATIONS

UNITED KINGDOM SIGNS LAW-OF-THE-SEA CONVENTIONS:

The United Kingdom on September 9 signed the four international conventions and an optional protocol which were adopted by the United Nations Conference on the Law of the Sea in Geneva last April. The Permanent Representative of the United Kingdom to the United Nations signed the documents in the office of the United Nations Legal Counsel.

With this action, the United Kingdom is the 22nd country to sign the Convention on the Territorial Sea and the Contiguous Zone; the 25th signatory of the Convention on the High Seas; the 22nd to sign the Convention on Fishing and Conservation of the Living Resources of the High Seas; the 23rd to sign the Convention on the Continental Shelf; and the 19th nation to sign the Optional Protocol of Signature concerning the compulsory settlement of disputes.

The Convention on the Territorial Sea and the Contiguous Zone was previously signed by Argentina, Canada, China, Colombia, Costa Rica, Cuba, Denmark, Dominican Republic, Ghana, Guatemala, Haiti, Holy See, Iceland, Iran, Israel, Liberia, Nepal, Panama, Thailand, Uruguay, and Yugoslavia.

The Convention on the High Seas was previously signed by Argentina, Canada, China, Colombia, Costa Rica, Cuba, Denmark, Dominican Republic, Ghana, Guatemala, Haiti, Holy See, Iceland, Indonesia, Iran, Israel, Lebanon, Liberia, Nepal, Panama, Switzerland, Thailand, Uruguay, and Yugoslavia.

The Convention on Fishing and Conservation of the Living Resources of the High Seas was previously signed by Argentina, Canada, China, Colombia, Costa Rica, Cuba, Denmark, Dominican Republic, Ghana, Haiti, Iceland, Indonesia, Iran, Israel, Lebanon, Liberia, Nepal, Panama, Thailand, Uruguay, and Yugoslavia.

The Convention on the Continental Shelf was previously signed by Argentina, Canada, China, Colombia, Costa Rica, Cuba, Denmark, Dominican Republic, Ghana, Guatemala, Haiti, Iceland, Indonesia, Iran, Israel, Lebanon, Liberia, Nepal, Panama, Thailand, Uruguay, and Yugoslavia.

The Optional Protocol was previously signed by Canada, China, Colombia, Costa Rica, Cuba, Denmark, Dominican Republic, Ghana, Haiti, Holy See, Indonesia, Israel, Liberia, Nepal, Panama, Switzerland, Uruguay, and Yugoslavia.

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UNITED STATES SIGNS CONVENTIONS ON LAW OF THE SEA:

The United States on September 15 signed the four international conventions dealing with the territorial sea and the contiguous zone, the high seas, fishing and conservation, and the continental shelf. The chairman of the United States delegation to the United Nations Conference on the Law of the Sea at which the conventions were adopted in April 1958, signed the documents in the office of the United Nations Legal Counsel.

The United States became the 23rd nation to sign the Convention on the Territorial Sea and the Contiguous Zone, which proclaims the juridical character of territorial waters, cities criteria for delimiting the territorial sea, and sets forth rules and conditions dealing with the right of innocent passage of ships.

The Convention on the High Seas, of which the United States is the 26th signatory, regulates the general regime of the high seas, including such matters as prevention of pollution of waters by radioactive waste and jurisdiction over vessels.

The United States is the 23rd country to sign the Convention on Fishing and Conservation of the Living Resources of the High Seas, which establishes regulations on the conservation of fisheries.

The Convention on the Continental Shelf, which has now been signed by 24 countries, deals with the seabed which constitutes the prolongation of a continent.

Also signed by the United States was the Optional Protocol of Signature, dealing with the compulsory settlement of disputes, which was adopted at the Conference on the Law of the Sea. The United States is the 20th nation to sign the Optional Protocol.

All instruments adopted by the Conference on the Law of the Sea will remain open for signature at United Nations Headquarters until October 31. Signatures have to be followed by ratifications. Accessions by countries which have not signed will be accepted at any time.

Twenty-two ratifications or accessions are required for any of the conventions to enter into force. No nation has yet deposited instruments of ratification or accession to any of the conventions.

WORLD FISHERIES

RUSSIAN FISHERY LANDINGS EXCEEDED UNITED STATES LANDINGS IN 1957:

According to preliminary estimates, Russia in 1957 displaced the United States as the world's second largest producer of fishery products. Russia reports fishery landings (round-weight basis) in 1957 of 6,283 million pounds as compared to 6,043 million pounds for the United States. Japan continues to hold first place.

In 1956 Japan led all nations in the landings of fishery products with 10,500 million pounds, followed by the United States with 6,524 million pounds, Communist China with 5,820 million pounds, Russia with 5,769 million pounds, and Norway with 4,693 million pounds.

In 1957 Japan continues to lead with 11,900 million pounds, followed by Russia with 6,283 million pounds, and the United States with 6,043 million pounds. Although no accurate data are available from Communist China, there are indications that her production of fishery products in 1957 also increased considerably and it may be possible that the United States may be in fourth place instead of third if Communist China's landings in 1957 exceeded 6,043 million pounds.

Angola

EXPORTS OF FISHERY PRODUCTS DECLINED IN JANUARY-APRIL 1958:

Angolan exports of fishery products for the first four months of 1958 amounted to 36,986 metric tons (valued at

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approximately US$4.5 million) as compared with 41,785 tons (valued at US$6.4 million) for the same period in 1957--a drop of about US$1.9 million in value. Prices for fish products were high in the first half of 1957, particularly for fish meal and fish oil, but declined in the last months of the year.

Exports of Fishery Byproducts, January-April 1958

Product	Quantity		Value[1/]	
	Jan.-Apr.		Jan.-Apr.	
	1958	1957	1958	1957
	(Metric Tons)		(US$1,000)	
Fish meal	30,687	31,461	3,337	4,111
Fish oil	2,039	5,967	305	1,109
Dried fish	3,566	3,610	634	684
Canned fish	362	747	198	451
Fish guano	332	-	36	-
Total	36,986	41,785	4,510	6,355

1/Values converted at rate of one conto equals approximately US$35.

The greatest decrease in the first part of 1958 was in the export of fish oil and canned fish as compared with January-April 1957.

There is no significant difference in the quantity of fish meal exports, although the value received so far in 1958 has dropped approximately US$734,000. The reason for the lower value is actually due to poor processing resulting in a substandard product, states a July 22, 1958, dispatch from the United States Consulate at Luanda. The United States and Germany, the largest purchasers of Angola's fish meal, have drastically reduced purchases of fish meal for that reason. A further decline in fish meal and other fish products is anticipated.

Australia

JAPANESE PEARL-SHELL FLEET OPERATIONS FOR 1958 SEASON:

The arrangements under which the Japanese pearl-shell fleet is operating in northern Australian waters this season were announced by the Australian Minister for Primary Industry.

The fleet (15 luggers and an inspection ship) began operations at the end of June 1958.

The arrangements were made under the Provisional Regime agreed upon by the Australian and Japanese Governments in 1954. The Japanese had to comply with all the requirements of Australian legislation, including taking out licenses and furnishing returns.

"Two subareas in Northern Territory waters have been closed to all pearling this year to conserve pearl-shell supplies, in addition to those closed last year," the Minister stated.

He also stated: "This means that four subareas are now closed to pearling operations in those waters. The Japanese will be permitted to operate in the remaining subareas north of Arnhem Land and in those west of Torres Strait which were available to them last year, but an upper limit has been placed on the quantity of shell that may be taken from two of the subareas.

"The prohibition against Japanese operating within 10 miles of the Australian mainland or of inhabited islands will again apply this year, and all operations will be supervised.

"The licensed Australian pearl-shell fleet in Western Australia has the capacity to take the maximum amount in the areas off the northwest coast of Western Australia that can be permitted having regard to conservation considerations. The Japanese fleet will not be allowed to operate in Western Australian waters in 1958," according to the August 1958 Australian Fisheries Newsletter.

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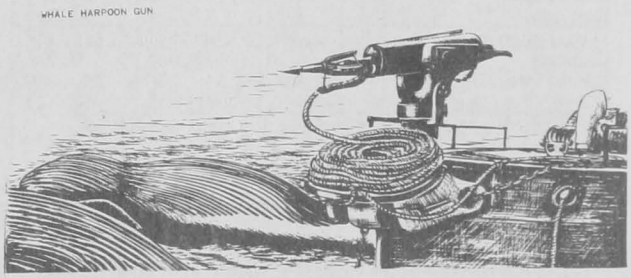
REVIEW OF 1957 WHALING SEASON:

During the 1957 Australian whaling season (June-September) the five stations



now in operation took 1,961 humpback whales. Although the catch was lower than a year earlier, production of oil was slightly higher, and reached the record total of 4,118,640 Imperial gallons (about 4,944,060 U. S. gallons). In addition, 116 sperm whales were taken off the south coast of Western Australia, yielding approximately 1,000 long tons of sperm oil. The stations also produced 8,214 tons of meal, solubles, and meat for pet foods. The oil production of the Byron Bay station in Northern New South

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Wales and the station at Norfolk Island has been retained for consumption in Australia, but the remainder was exported to overseas destinations (principally the United Kingdom).

The reduction in the total catching quota was due to the lower quota in operation for the Norfolk Island station, which had been granted 150 whales for the first year of operation in 1956 to facilitate establishment of the undertaking. For subsequent years the quota allotted to this station was only 120 whales, and accordingly, the total Australian quota was reduced from 1,990 in 1956 to 1,960 in 1957. One extra whale was taken with special permission, bringing the 1957 catch to 1,961 humpback whales.

The supply and distribution (including Norfolk Island) of whale oil in Australia during the fiscal years 1955/56, 1956/57, and estimated 1957/58 are shown in table 1.

Table 1 - Whale Oil: Australian Supply and Distribution, 1955/56, 1956/57 and Estimated 1957/58

	1957/58 1/	1956/57	1955/56
	(Imperial Gallons)		
Opening stocks 2/	977,815	765,141	245,464
Production	4,118,640	4,094,720	3,810,320
Imports	85,000	86,020	70,333
Total supply	5,181,455	4,945,881	4,126,117
Exports	4,300,000	3,428,066	3,110,976
Local consumption 3/	540,000	540,000	250,000
Closing stocks 2/	341,455	977,815	765,141

1/ With the exception of production data all figures estimated.
2/ Estimated, no official stock data available.
3/ Estimated, consumption data not available

As shown in the supply and distribution table, consumption of whale oil increased sharply during 1956/57 as a result of larger consumption by the margarine industry. Stocks were rather high during 1956/57, mainly due to the fact that the 1956 oil production from Norfolk Island, which could not be shipped to the mainland for some time, had to be stored there. Exports were at a considerably higher level during 1957/58, however, and it is believed that by the end of this fiscal year stocks will be down to a more normal quantity.

Exports and imports of whale oil by country of origin or destination are shown in table 2.

Table 2 - Whale Oil: Australian Imports and Exports by Country, 1955/56 and 1956/57

Country of Origin	1956/57	1955/56
Imports	(Imperial Gallons)	
Norfolk Island 1/	251,877	-
New Zealand	77,774	61,195
Other British countries	8,246	6,927
Norway	-	2,211
Total	337,897	70,333
Country of Destination	1956/57	1955/56
Exports		
United Kingdom	1,497,062	1,583,271
Other British countries	-	952
German Federal Republic	770,919	913,122
Italy	490,994	235,991
Netherlands	669,091	-
Sweden	-	377,640
Total	3,428,066	3,110,976

1/ Norfolk Island which is outside of Australian Customs administration is treated as a foreign country in Australian foreign trade statistics

The price of whale oil in April 1958 to the United Kingdom was approximately £75 Sterling (US$210) c.i.f. per long ton, United Kingdom ports.

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SPINY LOBSTER CONSERVATION MEASURES:

At the request of Australian States of Victoria and Tasmania, the Australian Government on September 1, 1958, introduced in extraterritorial waters (beyond the control of the States) off those States the following two measures for the conservation of the spiny lobster industry: (1) a minimum legal length of $4\frac{1}{2}$ inches (carapace); and (2) a closed season for all spiny lobsters from September 1 to October 15 inclusive.

Action has been taken in the form of notices issued by the Minister for Primary Industry under the Fisheries Act 1952-56.

The legal length is already in force in the territorial waters of both States: Tasmania has a closed season, and Victoria is about to take similar action.

The two measures were approved at the annual conference of Commonwealth and State fisheries officers held at Canberra in July. (Australia's Fisheries News Letter, August 1958.)

Belgium

FISHING FLEET REQUESTS PROTECTION WHILE FISHING OFF ICELAND:

The Belgium trawler association, according to a newspaper article of September 2, requested the Government to furnish naval support to their trawlers fishing off the Icelandic coast. The request stems from the Icelandic intention to enforce their 12-mile fishing limit. However, the Belgium Government had not stated its intentions as of the date of the news release.

Another newspaper reported on September 5 that the Ostend Maritime Fishing Office of the Belgian Ministry of Agriculture had advised Belgium trawlers to stay provisionally outside the Iceland 12-mile limit. The newspaper stated that this advice "respects the new limit without recognizing it" and that the problem continues to be under study by the Ministry of Foreign Affairs.

* * * * *

IMPORTS OF JAPANESE CANNED SALMON LOWER FIRST PART OF 1958:

Belgium importers and distributors stated early in September 1958 that the imports of canned salmon from Japan so far this year were lower as compared with 1957. This is partially confirmed by the latest available official import statistics. Belgian imports of Japanese canned salmon during January-April 1958 amounted to 1,775,000 pounds, valued at 28.3 million francs (US$567,000) as compared to 3,835,000 pounds, valued at 57.8 million francs (US$1,159,000) for the same period in 1957.

According to a leading Brussels importer of Japanese canned salmon, imports from Japan have been between 100,000 and 150,000 cases annually, of which about 2 percent is red salmon. He said the local preference was for Alaskan red salmon, imports of which he estimated at some 7,000 cases a year. He was not aware of any special Japanese effort to dispose of the 1957 pack.

One of the largest salmon importers in Antwerp stated that his firm imported more salmon in 1957 than in 1956 and he believed the Belgian market was overstocked, accounting for the decline in 1958 imports. This importer gave the following wholesale prices for Japanese red salmon: case of 48 one-pound cans, B. F. 1,776 (US$35.52); case of 96 $\frac{1}{2}$-pound cans, B. F.1,920 (US$38.40). Retail prices for Japanese red salmon: B. F. 28 (US$0.56) for a $\frac{1}{2}$-pound can and B. F. 52 (US$1.04) for a one-pound can.

The Brussels importer gave the following comparison between Antwerp c.i.f. prices for Canadian and Japanese pink salmon: Canadian one-pound cans 48 to a case, C$20.85 less 2 percent; Japanese B. F.892 (US$17.84) net.

It is believed that no substantial quantities of Japanese canned red salmon came into Belgium during the early months of 1958 and that there were no significant changes up to September.

Brazil

TUNA CANNERY TO BE ESTABLISHED BY JAPANESE FIRM:

A Brazilian Presidential Decree early in August specially authorized a Japanese fishery company of Miura, Japan, whose fishing fleet already fishes for tuna off the northeast Brazil coast, to can Brazilian tuna for export. In addition, the company is authorized to salt and dry various types of fish. The Japanese company will put up within two years a tuna canning plant and a refrigerating plant in the State of Sao Paulo. The Brazilian-Japanese Cooperativa de Cotia with Brazilian private capital will be associated in the enterprise, a United States Consular dispatch (August 14, 1958) from Sao Paulo points out.

Canada

MARKET FOR ARCTIC CHAR DEVELOPED:

Canada's Department of Northern Affairs recently announced a successful reception by hotels and restaurants in marketing Arctic char (Silvelinus alpinus)

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from Frobisher Bay. A sample 300-pound shipment, flown in straight from Eskimo nets on South Baffin Island, already has restaurants in Montreal, Toronto, Quebec City, and Ottawa looking for additional supplies.

Arctic char, with a delicate red meat and attractive flavor, is a gourmet's item. However, it is unlikely ever to be in abundant supply; growth of fish is slower in northern waters than in regions of higher temperatures. Tastewise, char combines the flavor of brook trout and salmon. Weight of the fish ranges from 2-8 pounds.

A second shipment of 1,200 pounds reached Montreal quite recently, and like the first, the freshly-caught char, packed in snow, was delivered to a local fish broker for distribution to wholesalers.

To protect the Arctic's first commercial fishing enterprise, a quota of 12,000 pounds has been set, and it is hoped to build up a reserve of char in Montreal before this season's run ends in September. Eskimos are to be trained to take over the management. The Northern Affairs Department expects that a community fish freezer will be set up later this summer at Frobisher (Fish Trades Gazette, September 8, 1958).

* * * * *

NET WEIGHTS FOR CANNED FISHERY PRODUCTS STRICTLY ADHERED TO:

In reply to a question on procedures to be followed in determining net weights of canned shrimp, Canada's Director of Inspection and Consumer Service of the Department of Fisheries stated that the guiding principal on the inspection of weights is protection of the Canadian consumer. The question arose due to the difficulty United States packers of canned shrimp have had in meeting the Canadian label-weight requirements due to the many sizes of shrimp that are canned. Under this principal, as stated by the Director, if the container has less than full weight it must be rejected (some exception in special cases). He also emphasized that the principal of full weight applied with equal force to both imported and Canadian canned fishery products. Under the Canadian regulations there can be no balancing of overweight cans against underweight ones to obtain an over-all average, a practice followed for some products in the United States.

Section 26 (1) of the Meat and Canned Foods Act states: "All cans of fish and shellfish imported into Canada shall be correctly labeled so as to indicate in a plain and conspicuous manner. . . . (b) the minimum weight in avoirdupois of the contents of the cans in the case of canned shellfish; . . ."

In the past, the Director stated, several large United States shrimp canners had worked out a solution to the underweight problem by adopting the practice of under-labeling the weight content so as to give a wider margin for error. For example, cans containing 5 ounces of shrimp would be labelled 4⅞ ounces. He also added, that recently this device had proved to be self-defeating as some companies have a tendency to shave the margin.

* * * * *

NEW ENGLAND GOOD MARKET FOR CANADIAN FISH:

The potential of the New England market for Canadian fish was brought to the attention of Canadians in an article which appeared in that country's periodical Foreign Trade (September 13, 1958).

With reference to New England imports of Canadian fish, the article points out that the Canadian Atlantic Provinces are by far the principal foreign supplier to the New England market; in 1957 they shipped 4 percent more fish products to New England than in 1956. Cod, haddock, and ocean perch, lobsters, and fish meal were the leaders, although fish meal exports tumbled 10 percent because of increased production in New England.

The New England fish-stick industry continued to rely on Canada as the main supplier of groundfish blocks and slabs. Regular orders were also being shipped to New England from Scandinavian suppliers. Imports from Canada of ocean

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perch, haddock, hake, and pollock were down slightly in 1957. There was no significant alteration of imports from Canada of fresh and frozen lobsters; in fact, the demand exceeded the quantity offered.

A certain share of the imports from Eastern Canada consists of orders placed by New England fishing corporations with their Canadian affiliates. A number of New England's big fish-packing companies have purchased packing plants and contracted fishing fleets on the Canadian side to assure a steady supply for their processing plants in New England. Some of these companies have the finances and facilities to follow the fish from boat to final buyer; their own organization attends to the distribution and sales promotion of well-advertised fish brands.

If a Canadian fishing company prefers to sell direct to a single account, there are a number of independent importers located along the Boston Fish Pier who are anxious to consider offers from new suppliers, states the periodical. These firms can arrange cold-storage facilities to take care of heavy supply periods. The importer accounts for all sales and reports cold-storage holdings on a prearranged periodic basis.

Most of the brokers who handle Eastern Canadian fishery imports are located in Boston. These small firms sell on commission to wholesalers, institutions, supermarkets, the corner stores, and the few remaining fish markets. Sales arrangements with foreign suppliers are nonexclusive and the sales territory contracted is governed by the supply. Most of the Boston brokers can provide national coverage if required, continues the article.

The United States is an enormous market for any food product that appeals to the consumer but it is wise for the exporter to enter it progressively, one region at a time, says the article. Then supply and demand can remain in balance. A huge advertising budget should not be necessary to sell a quality fish product but attractive packaging is important. Supermarkets are by far the principal outlets for fish fillets and shellfish, and colorful containers greatly influence the housewife's selection.

Although New England fish production is expected to improve with a fleet modernization program (which to date has not materialized), the growing local and national market will still need the present flow of imports and possibly more. The food value and easy preparation of fish are becoming better known through advertising and public relations programs sponsored by Government and trade organizations. Canada can maintain her present favorable sales position and even increase exports for certain species with a rise in supply. Thanks to the expanding demand, sales prospects for both domestic and foreign suppliers are promising, concludes the article.

Chile

NEW REGULATIONS FOR FOREIGN FISHING VESSELS ISSUED:

In an endeavor to encourage the establishment of a national fishing fleet, the Chilean Government has issued (June 21, 1958), new regulations affecting the operation within its territorial waters of foreign-flag fishing vessels operated by residents. In the future, fishing permits for foreign-flag vessels issued to Chileans or foreigners living in Chile will be granted for two years only. The permit will date from the time of publication of the permit in the Official Gazette.

Existing permits will be valid until their expiration date, but if the expiration date is less than one year from the date of the present decree, the permit holder may request an extension for a further year.

The new permits will be for a once-only operation and at the end of the two years the vessels will either have to be registered under the Chilean flag or return to their country of origin.

All vessels will be subject to inspection by officials of the Ministry of Agriculture and their operation will be restricted to the terms and conditions of

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the permit. In addition, before a fishing permit is issued for a foreign-flag vessel, the vessel will have to meet the standards laid down by the Chilean Merchant Marine and the Maritime Commission. These regulations will not apply to permits which are now in existence.

Wooden vessels more than five years old and steel vessels more than ten years years old will not be granted a license under the new regulations (Canada's Foreign Trade, September 1958).

Note: Also see Commercial Fisheries Review June 1958, p. 65.

* * * * *

REVIEW OF THE FISHERIES, 1954-57:

Landings of fish and shellfish in Chile during 1957 amounted to approximately 470 million pounds as compared with 415.2 million pounds in 1956. This was an increase of 54.8 million pounds or 13.2 percent over 1956. Landings in 1957 were 0.5 percent less than in 1955 but 48.5 percent more than in 1954. This is indicative of the growing importance of the fishing industry in Chile. The best year in Chile's fishing industry history was 1955, and 1957 was almost as good.

During 1954-57, hake or whiting (Merluccius gayi) comprised the largest part of the fish landings. Of the total quantity of fish landed in 1957, 51.7 percent consisted of hake. During previous years, 1954-56, hake also comprised over 50 percent of the total fish landed. Most of this species was either consumed fresh or processed as fish meal. Anchovies, sardines, Spanish mackerel, jack mackerel, and haddock-like fish were next in importance. Tuna landings only amounted to about 1.1 million pounds.

Shellfish landings have increased steadily during 1954-57. The total shellfish production in 1957 amounted to 123 million pounds. The largest production of shellfish during 1954-57 occurred at Puerto Montt and Valparaiso. In Valparaiso, the production of langostinos--which has more than quadrupled since 1954--has become very important. Shrimp landings in 1957 only amounted to 284,000 pounds. (Boletin Informativo No. 53, January 1958.)

Government Provisions for the Industry: Though Chile's geography is such that it has always had considerable fishing activity, no code of applicable laws and regulations has ever been drawn up.

In the case of foreign fishing firms registered in Chile seeking permits to operate one or more craft in Chilean waters, the Government has a comparatively well defined procedure. The proprietor must present to the Ministry of Agriculture a separate application covering each vessel, and containing details of its size and capacity, and indicating the period during which fishing activities would be carried on in Chilean waters. A registration fee of $100 plus a charge of $12 per ton weight is levied on each vessel. If approval is granted, fishing activities may be carried on for a period not exceeding a year; the operator must agree to permit technical authorities or experts to board the vessel when necessary and must agree to sale of the catch in Chilean ports for local consumption as food or for industrialization. Technically these permits are not renewable. In practice, foreign firms are usually able to have the period of validity extended when necessary. A bill which would change certain details of this procedure but would not affect it basically is at present being drawn up by the Ministry of Agriculture.

Decree Law 208 of August 3, 1953, exempting industry members from certain taxes and according several other benefits, is still on the books. However, its most important benefit--that authorizing exporters of fish and fish products to sell their exchange earnings on the free market--was cancelled by the introduction of the single exchange rate in 1956. A new bill, which would return this privilege to the industry, was presented to Congress at the beginning of 1957. It remained in Committee throughout the year and on into 1958. This law, which would authorize conversion on the free exchange market of the proceeds of export sales, and would exempt the industry's exports from all taxes and other charges and its imports from taxes, tariffs and guarantee deposits, is mentioned in the press frequently and some industry representatives still cling to the hope that Congress will act on it. The report of the Committee of three experts from the Food and Agriculture Organization (FAO) due for submission to the Chilean Government prior to the close of 1957, has not yet been presented. This in itself has tended to delay action on legislation, since the President intended from the start to base any new legislative action on the conclusions and recommendations of the FAO experts.

The Chilean Government has taken the following steps to protect and foster the industry:

1. Prohibition of fishing imports: fresh and dried fish and all types of industrialized fish are excluded from the list of authorized imports. Thus all foreign competition is automatically excluded.

2. Facilitation of import of machinery and equipment: the import guarantee deposit on these items has been maintained at 5 percent, although the number of items included in this lowest-deposit category has been greatly reduced.

3. Export facilitation: Articles 93, 94, and 95 of Law 12861 of February 7, 1958, provided for the exemption of exports from export taxes and a long list of other charges. Implementation of this provision of the law has been postponed until the details of its application have been agreed upon by the interested Ministries. When it becomes effective it should constitute a further incentive to industry expansion.

4. Price policy: The Government has removed fish from the list of items whose price is controlled. Prices have risen considerably since the termination of price control, and dealers report that volume of sales has remained low. However, in view of the Government's policy of decontrolling the prices in a number of sectors, it is unlikely that controls will again be placed on this item.

Labor: Various estimates of the number of people employed by the industry have been offered. The most authoritative figure on the number of professional fishermen is 2,000; persons employed on the crews of fishing boats are said to number

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800. Workers in the fish-processing industry are estimated to number 7,000. The work of all these groups is largely seasonal and the average yearly income is lower than in most other industries. However, it is understood that most members of the industry augment their income by helping themselves to what they consider their share of the catch; they dispose of it informally and there is no means of knowing what portion of over-all production this "workers share" represents.

Table 1 - Chile's Landings of Fish and Shellfish, 1954-57

Species		1957	1956	1955	1954
English and Chilean Name	Scientific Name	(1,000 Lbs.)			
Fish:					
Hake or whiting (pescada)	Merluccius gayi	179,439	172,409	207,175	123,659
Anchovies	Engraulis vingens	44,738	24,459	16,559	2,919
Sardines	Sardinops sagax	35,714	19,980	48,956	34,147
Spanish mackerel (sierra)	Thyrsites atun	26,111	30,213	38,205	21,064
Jack mackerel (jurel)	Thachurus sp.	10,338	3,107	2,581	4,301
Haddock-like (robalo)	Eleginus maclovinus	8,487	8,254	7,054	4,061
Black cusk-eel (congrio negro)	Genypterus chiliensis	4,782	5,942	5,838	6,559
Red cusk-eel (congrio colorado)	Genypterus blacodes	7,328	10,045	8,309	5,246
Golden "eel" (congrio dorado)	-	321	563	405	659
Mackerel (cojinova)	Seriolella sp.	5,083	2,506	1,823	1,576
Bonito	Sarda chiliensis	4,727	9,117	16,535	9,711
Black drum (corvina)	Cilus montti	4,226	4,278	3,912	3,159
Smelt (pejerrey)	Basilichthys sp.	2,658	3,124	3,031	1,803
Rockfish (cabrilla)	-	1,736	2,246	2,014	1,127
Tuna (atun)	-	1,073	2,303	2,049	1,831
Swordfish (pez espada)	-	786	850	522	737
Herring (machuelo)	-	256	486	296	555
Other fish	-	9,234	12,719	8,911	7,004
Total fish		347,032	312,601	374,175	230,118
Shellfish:					
Sea mussels (cholgas)	Mytilus sp.	33,135	28,766	30,654	24,895
Langostinos	Cerromunida johni	25,097	12,579	4,517	5,828
Sea mussels (choritos)	Mytilus sp.	20,475	18,566	21,282	19,683
Mussels (locos)	Macha sp.	8,700	7,447	6,672	4,245
Sea urchins (erizos)	Ericius sp.	8,010	8,629	8,076	5,729
Clams (almejas)	-	7,620	6,890	6,773	4,530
Crabs (apancoras)	-	2,555	2,592	2,776	1,668
Spiny lobsters (langostas)	-	264	270	224	223
Shrimp (camarones)	-	284	254	151	223
Other shellfish	-	16,833	16,587	17,208	19,223
Total shellfish		122,973	102,580	98,333	86,247
Grand total		470,005	415,181	472,508	316,365

Industrial Organization: The industry consists of a somewhat limited number of firms--approximately 60, about a dozen of which may be defined as large, and of about 8,000 independent fishermen who sell their catch to organized industries. The activities of both groups are supervised and coordinated to a limited degree by the Fish and Wild-Life Sector of the Ministry of Agriculture.

The lack of a well-organized distribution system in the industry results in inefficiency and loss of revenue.

Utilization: The greater part of the total catch was put to industrial use--approximately 60 percent. Most of this went into fish-meal production and the remaining small part was canned. The 40 percent which did not go into industrial production was consumed as food in the fresh state or frozen for shipment to other parts of Chile, also used as food. Because of the inadequacy of refrigeration and cold-storage facilities, an undetermined percentage of the fish destined for use as food had to be utilized in the feeding of animals. Hence, although the official figure on annual per capita consumption of fish is 35 pounds, the highest in Latin America, the actual figure may be considerably lower. The importance of fish in the local diet is being emphasized of late because of the low protein content in the typical Chilean diet. Nutrition experts estimate that an average annual consumption of 26 kilos per person would compensate for most of the present protein shortages in the Chilean menu.

Exports: Chile markets fish and fish products in neighboring countries, in the United States, and in several European countries. Sales abroad were particularly good in the past few years, business having been spurred by the provision in Law 208 whereby exporters of these products could exchange the proceeds of their foreign sales at the free rate of exchange. The peak year for export sales was 1955, during which approximately 22.8 million pounds were exported. A sharp drop was noted in 1956 and the figure for this latter year was only slightly increased in 1957.

Chile's exports of fishery products during 1957 amounted to approximately 13.0 million pounds, a slight increase as compared with 12.9 million pounds in 1956. Of the total quantity of exports in 1957, 4.6 million pounds (35.8 percent) was shipped to the United States. This represented a slight increase as compared with 4.3 million pounds (33.7 percent) of the 1956 exports. The value of exports

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to the United States in 1957 was approximately US$900,000, an increase of 44.2 percent (due primarily to increased exports of langostinos) as compared with US$400,000 for 1956.

Production, Methods, and Techniques: Members of the trade assert that the methods and techniques of Chilean fishermen are antiquated but that this fact is to be attributed in large measure to the age and condition of available equipment. They argue that the introduction of new equipment would improve techniques immediately and increase per capita production considerably. Present average production, despite the general condition of equipment is said to compare favorably with that of many other fishing nations. During 1957, 38 trawlers landed an average of about 14.9 million pounds of fish as compared with 16.2 million pounds landed by 33 trawlers in 1956.

Table 2 - Chilean Exports of Fishery Products, 1956-57

Product	1957		1956	
	Quantity	Value	Quantity	Value
Fresh or frozen:	1,000 Lbs.	US$ 1,000	1,000 Lbs.	US$ 1,000
Tuna	773.4	58.9	821.3	58.8
Bonito	13.2	0.7	1,195.0	29.3
Eel	17.3	2.4	37.5	6.8
Swordfish	-	-	5.2	1.1
Langostinos	841.8	536.7	219.7	132.9
Shrimp	33.4	19.7	-	-
Spiny lobster	5.8	4.4	59.9	37.5
Other fish & shellfish	409.5	20.5	557.0	28.4
Canned:				
Fish	624.9	125.5	1,035.7	148.8
Crab	21.3	9.9	7.9	3.9
Other shellfish	283.8	175.2	111.3	40.7
Salted fish	-	-	8.9	9.3
Fish meal	9,933.8	453.9	8,802.6	335.3
Total	12,958.2	1,407.8	12,862.0	832.8

Note: Values for 1957 converted at rate of 690 pesos equal US$1. Values for 1956 converted at rate of 547 pesos equal US$1.

It is estimated that, at any given time, at least 50 percent of all equipment is out of use for repair. Representatives of the industry and of the Government both report that much of this equipment is so old and worn out that it should be replaced. Although little new equipment has been purchased of late, some firm owners are at present studying projects to replace their old fishing vessels. Also, the Association of Independent Fishermen in Talcahuano is preparing to buy new equipment. In both instances United States equipment has been described as most adaptable to the industry's needs. The president of one United States firm who recently visited Chile to make a survey of fishing vessel needs has estimated that, to modernize the nation's fleet, over 200 boats designed for both trawling and purse-seining should be added. If the firm is successful in working out financial arrangements, it plans to undertake construction of a number of fishing vessels in Chile. The tight credit situation and the lack of Chilean capital are such, however, that loans from abroad are said to be essential to the development of these modernization projects.

Table 3 - Chilean Exports of Fishery Products to the United States, 1956-57

Product	1957		1956	
	Quantity	Value	Quantity	Value
Frozen:	1,000 Lbs.	US$ 1,000	1,000 Lbs.	US$ 1,000
Tuna	756.3	57.0	821.3	58.8
Swordfish	-	-	5.2	1.1
Langostinos	841.8	536.7	219.7	132.9
Shrimp	33.4	19.7	-	-
Spiny lobster	-	-	49.6	27.6
Other fish and shellfish	408.5	20.3	540.6	28.1
Canned:				
Fish	-	-	283.6	37.2
Crab	21.3	9.9	-	-
Other shellfish	265.5	166.4	33.5	21.8
Salted fish	-	-	8.9	9.3
Fish meal	2,318.8	96.2	2,377.5	83.8
Total	4,645.6	906.2	4,339.9	400.6

Note: Values for 1957 converted at rate of 690 pesos equal US$1. Values for 1956 converted at rate of 547 pesos equal US$1

Natural Resources and Conclusion: Estimates of Chile's maritime resources vary greatly. The report to be submitted by the FAO Mission on fisheries is expected to contain authoritative and definitive data of this aspect of the industry. It is held by many, both within the industry and outside, that comparatively minor changes in industry setup and administration, and the investment of reasonable sums in training, equipment, and gear, could result in a marked increase in the returns from fishing. Potential foreign investors, including some United States boat manufacturers, appear to support the theory. At the present time, at least, two proposed foreign investment projects are being prepared jointly by domestic industry representatives and potential foreign investors. Some incentive to these latter stems from the fact there is special Chilean legislation which permits the free importation of capital goods for new industries and exempts foreign capital from the payment of certain taxes during an initial organization period, but no real expansion is predicted for at least another year or two.

Table 4 - Types, Tonnages, and Flags of Vessels Engaged in Chilean Fisheries, 1957

Type of Vessel	Hull			Gross Tonnage					Flag			
	Steel	Wood	Total	5-19	20-49	50-99	100 or over	Total	Chile	Germany	Japan	Belgian
Trawlers	23	29	52	5	17	20	10	52	34	16	1	1
Larsen	-	2	2	-	-	-	2	2	2	-	-	-
Trawler & Larsen	-	1	1	-	-	-	1	1	1	-	-	-
Purse-seiners	-	13	13	-	8	2	3	13	13	-	-	-
Purse-seiners (small)	-	6	6	-	1	-	5	6	6	-	-	-
Barge	-	1	1	-	-	1	-	1	1	-	-	-
Bait	-	1	1	-	-	-	1	1	1	-	-	-
Net	-	1	1	1	-	-	-	1	1	-	-	-
Total	23	54	77	6	26	23	22	77	59	16	1	1

Note: Also see Commercial Fisheries Review, May 1958, p. 60.

Cuba

COD-FISHING
VESSEL LANDS FIRST TRIP:

The Arktis, a 319-ton German-built cod-fishing vessel acquired by the Cuban National Fisheries Institute (Instituto Nacional de la Pesca), arrived in Havana from Europe and Newfoundland on August 28, 1958. The vessel delivered a fish cargo (mostly frozen cod) somewhat under its refrigerated capacity of 180 tons, since its first voyage was primarily intended as a shakedown cruise to test the ship's installations, including its refrigerating facilities.

The Arktis, which was acquired by the Institute through a financing arrangement with the Cuban Economic and Social Development Bank, will be operated by a private Cuban concern. The Institute is reportedly considering the acquisition of other deep-sea vessels that could also be used for fishing cod and training of Cuban fishermen.

Two Spanish technicians, a shipowner and an industrialist, are collaborating in the development of a Cuban cod industry. A local plant will be used to produce dried cod as well as a better-tasting semidried product and cod fillets.

Trade sources have privately indicated that the Arktis may be used as a collecting ship to gather cod from Spanish cod vessels operating in the St. Pierre-Miquelon area, the United States Embassy in Havana reported in a September 8, 1958, dispatch.

Denmark

DANISH REPRESENTATIVES
DISCUSS FAROE LIMITS
WITH BRITISH GOVERNMENT:

The British Government agreed to consult with Danish representatives on September 12 regarding revision or possibly cancellation of the Danish-British Treaty of 1955 regulating the territorial waters around the Faroe Islands. The Danish representatives included the Finance Minister, Director General of the Foreign Office, Department Chief in the Prime Ministry, and Office Chief in the Foreign Office.

In a public statement the Danish Prime Minister stated that "Under present circumstances it is impossible for the Faroes to continue to content themselves with the fishing territory agreed upon with the British in 1955. For the Faroese people the fishing question is so vital and decisive for their whole existence that the Danish Government has done and will do its utmost to secure the most favorable position possible for the Faroe Islands." The Prime Minister said he "would try to establish prerequisites for reaching a solution satisfactory to the Faroes in conformity with the Lagting's (local legislature) decision of June 6 to extend its fishing limits to 12 miles on September 1." (United States Embassy dispatch from Copenhagen, dated September 9, 1958.)

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NEW LOANS FOR
FAROESE FISHING FLEET:

The Danish Folketing has sanctioned loans of up to 7 million Kr. (about US$1.0 million) spread over the next three years towards the renewal of the Faroese fishing fleet. About 36 million Kr. (US$5.2 million) is to be raised to buy 8 large line vessels equipped with freezing plants, 8 cutters of 80 tons gross, and 3 trawlers, the latter already ordered from Portugal, according to an economic report on Denmark.

Local councils in the Faroese have asked the Faroese Lagting to finance the building of small cold storages in which to store frozen fillets awaiting shipment to the United States. (The Fishing News, July 11, 1958.)

Egypt

COMMERCIAL FISHING
INDUSTRY POTENTIALITIES:

With the exception of a small shrimp-processing industry in Alexandria and small commercial exploitation of sponge resources along the Mediterranean Sea near Marsa Matruh, there is no commercial fishing industry in Egypt. Possibilities for such an industry, however, seem promising.

Egypt (Contd.)

The possibility of albacore tuna in the Red Sea, and perhaps sardines and tuna in the Mediterranean, offer the best opportunities for development.

The fishery resources presently exploited are in (1) the Mediterranean, (2) the inland lakes along the Mediterranean coast and Lake Karoun in the Fayoum, (3) the Nile River and its tributaries, and (4) the Red Sea. The total recorded catch is about 65,000 metric tons per year, of which 15,000 tons come from the Mediterranean, 5,000 tons from the Red Sea, 40,000 tons from the lakes, and 5,000 tons from the Nile River and its tributaries. Statistics on the catch, however, are not entirely reliable, and it is believed that the total catch is from 80,000-100,000 tons, most of the unrecorded amount coming from the inland lakes and Nile waters.

The entire catch, with the exception of a good part of the shrimp, is consumed locally, usually as fresh fish, although some drying and salting of mullet takes place in Alexandria. Several attempts have been made to process and can sardines in the past. A factory of this kind was established at Aboukir near Alexandria. It is understood, however, that this factory has been partially dismantled and the little canning now done there is confined to vegetables.

Steps are being taken to ascertain the exact nature of the resources and the best methods for exploitation but the work has not yet advanced to the stage of actually fishing. It is understood that from 4-6 modern Yugoslav fishing vessels will soon start fishing in the Mediterranean and the Red Sea to ascertain what can be taken with gear usually employed in fishing. The main possibilities at this time appear to be that albacore will be plentiful in the Red Sea. In the Mediterranean there are sardines. The sardine situation is not entirely promising because of their seasonal appearance in Egyptian waters. In their peregrinations around the Mediterranean basin, the sardine appears in the area of the Nile Delta only at the period of the Nile flood to feed upon the food carried by the flood waters. When the flood is over, the sardines move on to other feeding areas.

Another possibility in the Mediterranean is tuna. Tuna appears in some quantity on the coast between the Libyan border and Marsa Matruh, and the Hydrobiological Institute has not yet determined the reason why they turn back at that point. Exploitation of these resources, consequently, would require modern efficient fishing vessels.

The Red Sea, where the main commercially important species is the albacore is understood to be teeming with fish of all kinds. Reports indicate that plankton is abundant in the Red Sea which provides a medium in which all kinds of underwater life thrive. Exploitation of these resources, which have not yet been thoroughly investigated is very limited. The only fishing now done in the Red Sea area takes place in the Gulf of Suez by trawlers which catch fish destined for local consumption in the Suez area and the Cairo market. Fish caught in the Suez Gulf are transported to Cairo in refrigerated trucks.

Development of the Red Sea as a commercial fishing area would require the use of modern efficient fishing vessels, and the establishment of processing plants and facilities along the coast or at Suez.

Egypt's foreign trade in fishery products is not large. In earlier years, importation of preserved and canned fish and fish preparations of all kinds was comparatively much greater than now. The reduction in imports of fishery products is due primarily to the increase in prices since 1956. Restrictions on imports of canned goods and other food items in general also has had the effect of reducing the importance of Egypt as a market for preserved and canned fish.

Shrimp, either fresh frozen or boiled frozen, is the only significant export. The annual production for export amounts to about 700-800 tons produced by three firms in Alexandria, and a very small one in Port Said. The demand for this luxury product abroad is strong, and the possibilities for profitable development are good, if efficient fishing vessels for shrimp and additional processing facilities are made available.

The development of Egyptian fisheries will depend on (1) acquisition of modern efficient fishing vessels and training local fishermen in their use, and (2) creation of processing installations and efficient means of distribution.

A thorough investigation of Egypt's fishing resources seems well on the way with the firm project of Yugoslav vessels coming to fish both the Mediterranean and the Red Sea in a modern and efficient manner. The Egyptian Government has also embarked on a number of schemes designed to train Egyptian fishermen in the use of modern fishing equipment and gear. Another indication of an appreciation of Egypt's potentialities as a fishing nation by the Government is the apparent willingness to encourage the acquisition of modern fishing vessels by private firms and the facilities granted for this purpose. (United States Consulate dispatch from Alexandria, dated August 15, 1958.)

El Salvador

FISHING INDUSTRY EXPANDS:

The Salvadoran fishing industry has expanded substantially in recent months, an August 8, 1958, dispatch from the United States Embassy at San Salvador reports. There are now some 16 boats operating out of the Salvadoran ports of El Triunfo and La Union as compared with 4-6 at the same time last year. Most of this increase in the fleet is attributed to the formation of two local fishing companies with both Salvadoran and foreign capital participation. (The 1955 Salvadoran Fisheries Development Law specifies that waters within a 12-mile limit may be fished only by Salvadoran nationals or companies formed in El Salvador with a minimum of 50-percent Salvadoran capital.) To date, the first of these companies has brought in

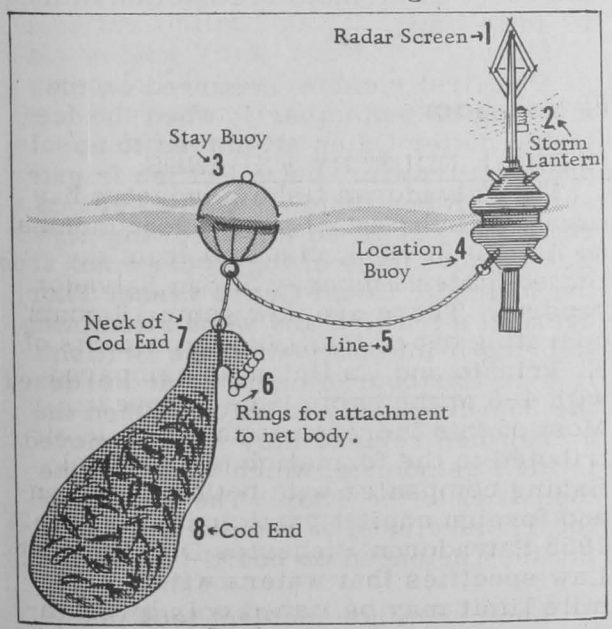
El Salvador (Contd.)

6 boats previously operated in Panamanian waters by Portuguese owners, while the second has brought in 3 Mexican-owned boats previously operated off the Mexican coast. Additional boats have not been brought in so far because of the recent establishment by the Salvadoran Government of a licensing requirement for the operation of additional boats. Both firms are exporting fresh shrimp to the United States by air, and selling fish on the local market to a much lesser extent. Total catches of shrimp are reported to have ranged from 60,000 to 100,000 pounds (mostly heads-off but includes some heads-on) monthly. It is reported that these firms are planning to build badly-needed shore installations--ice plants and a landing mole at La Union, and a freezing plant and pier at El Triunfo. (A small freezing plant in San Salvador has been exporting to the United States frozen shrimp caught by a couple of local boats. The plant also sells shrimp and some fish in the local market.)

France

DETACHABLE COD END DEVELOPED FOR MOTHERSHIP CATCHER-VESSELS:

A novel method of increasing the potential catch of trawlers working in fleets and



served by a "mothership" is described in a French fishery periodical.

The trawl nets are made with easily detachable cod ends being attached to the body of the net by a line running through a double row of rings.

At the end of a haul the trawl is brought to the catcher-vessel's side and the cod end detached and left in the sea, marked by two buoys, one of which carries a flashing light and a metal reflector screen which can be picked up on the mothership's radar.

A supply of spare cod ends is carried on each trawler and a new one quickly fitted to the trawl as it lies alongside so that fishing continues almost constantly. The mothership, advised by radio of the position of the cod ends, picks it up.

In working a fishing ground the trawlers proceed in echelon and fish in a zig-zag course which enables them to cover the ground effectively and to drop their cod ends more or less in a straight line. (The Fishing News, September 26, 1958.)

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DOES NOT RECOGNIZE UNILATERAL DECLARATIONS EXTENDING FISHING LIMITS:

The French Government on September 12 issued this communique regarding recognition of extensions of fishing limits:

During the last few weeks several countries made known their decision or their intention of extending either their territorial waters, or their exclusive fishing zone beyond the traditionally-recognized three-mile limit. The French Government wishes to state explicitly that it cannot itself recognize the validity of decisions designed to modify either unilaterally or by means of agreements to which it has not given its adherence, the generally accepted limits. This statement was reported by the United States Embassy in Paris in a dispatch dated September 12, 1958.

Greenland

SEAL-SKIN AUCTION:

The annual auction of Greenland seal skins by The Royal Greenland Trade Department took place in Copenhagen, Denmark, on September 3, 1958. The total number of skins offered was sold, which included 21,370 ringed-seal skins, 1,630 harp-seal skins, 5 adult harp-seal skins,

Greenland (Contd.)

and 21 bladdernosed-seal skins. The skins brought in a total of 1,490,285 Danish kroner (US$216,091), a September 4 dispatch from the United States Embassy at Copenhagen reports.

The auction was attended by a number of foreign buyers. The United Kingdom and West Germany are traditionally the principal buyers.

Note: Danish kroners converted at rate of 1 krone equals US$0.145.

Hong Kong

SHRIMP FISHING INDUSTRY:

There are two main Hong Kong shrimp fishing seasons, states an August 29, 1958, dispatch from the United States Consulate at Hong Kong. Hong Kong shrimp trawlers operate in the waters around the Colony from April through the end of the typhoon season in September. The primary area for shrimp fishing lies south and east of the Lama chain of islands, held by the Chinese Communists, where the sea bottom falls off very gradually, beginning at about 20 fathoms. A secondary area is in the Urmston Roads off Castle Peak, within Colony waters. Hong Kong shrimp trawlers must proceed northeast from Hong Kong, along the China mainland coast, during the rest of the year, from October through March. Some trawlers are away for a month at a time during this season, going as far as 600 miles up the coast to grounds off Fukien Province.

For the most part, Hong Kong's shrimp trawlers are sail-powered. Only 280 out of the 769 shrimp trawlers based in the Colony are motorized. Both types of trawlers use beam trawls with about a 10-foot spread, dragging either 7 or 9 such trawls from booms on either side of the boat and from the mast.

The principal species of shrimp landed at Hong Kong is Metapenaeus monoceros. Varieties of less importance are Penaeus monodon, Penaeus japonicus, and Penaeus orientalis. The latter species flourishes in waters colder than those surrounding the Colony and are landed by the trawlers that fish off the China coast in the winter months. Most of the Penaeus orientalis that is marketed in Hong Kong, however, is imported from Communist China.

It is reported that official statistics on landings of crustacea and mollusks have been kept by the Hong Kong Government's Fish Marketing Organization since June 1957 and that in the ten-month period, June 1957 through March 1958, a total of 1,730 metric tons of shrimp were marketed through this governmental organization. Reports indicate that this figure has been rising recently, because of an increased demand for frozen shrimp from the United States.

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SHRIMP FISHERY TRENDS, APRIL-JUNE 1958:

During the April-June quarter of 1958, satisfactory catches of shrimp were reported by the Hong Kong Fish Marketing Organization. The bulk of the shrimp were sold to exporters for sale to the United States. Only shrimp sold through the Marketing Organization are eligible for the Comprehensive Certificate of Origin required by the U. S. Treasury Department for shrimp to be exported to the United States.

Iceland

DISPUTE WITH BRITISH OVER 12-MILE FISHING LIMITS:

Iceland's attempt to enforce the 12-mile fishing limits and Britain's action in challenging it by giving naval protection to trawlers fishing within the new limits have given rise to a series of incidents which have roused Icelandic tempers and seriously strained relations between the two countries, a September 4, 1958, dispatch from the United States Embassy at Reykjavik reports.

Zero hour, midnight on August 31, 1958, found 11 British trawlers, with others in reserve, ready to move inside the new limits and begin operations. Icelandic patrol ships moved up to the 12-mile line, with orders to record violations, but to avoid use of force and particularly of firearms. West German and Belgian trawlers, according to Icelandic sources, withdrew to the high seas--a step which Icelanders chose to interpret as de facto recognition of the 12-mile limit.

The first incident occurred on the morning of September 1, when the Icelandic cutter Odinn attempted to approach a trawler, but a British frigate cut in between them. A more serious encounter occurred the following night. Taking advantage of fog, 9 crewmen from the Icelandic Coast Guard vessel Thor boarded a trawler and were attempting to bring it into port when the British frigate Eastbourne came up and ordered the boarding party to leave. When the 9 crewmen refused they were removed to the Eastbourne, which tried to take them back to the Thor. The captain of the Thor refused to receive them, saying they belonged on board the trawler.

Another minor incident took place when an Icelandic patrol boat collided

Iceland (Contd.)

with a British trawler on September 3, but no serious damage was reported. An Icelandic source also reported that an Icelandic crew was on the verge of boarding a British trawler but was dissuaded by British seamen.

The Icelandic motor boat operators won a victory over the trawler owners when the Minister of Fisheries issued a regulation on August 29 whereby fishing by Icelandic trawlers within the 12-mile limit is severely restricted. Many trawler owners have expressed their dissatisfaction with the regulation. The Minister of Fisheries has somewhat strengthened his position by making Icelandic as well as foreign trawlers subject to the measures which Iceland justifies as necessary on conservation grounds. The Ministry of Fisheries appointed a committee of 13, under the chairmanship of the Director of Fishery Affairs, to consider the matter and the proposal that was finally accepted received 9 votes to 3 for two other resolutions.

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FOREIGN MINISTER GIVES VIEWS ON 12-MILE FISHING LIMITS:

The results of an interview on September 13 with the Icelandic Foreign Minister, before his departure to attend the United Nations General Assembly in New York, regarding Iceland's extension of her fishing limits to 12 miles, appeared in Althydubladid, an Icelandic newspaper.

The Foreign Minister stated that "the Icelandic fishery extension issue as such is not on the Agenda and it has not been referred to the U. N. for a ruling. On the other hand, the Geneva Conference is on the Agenda and therefore, as a matter of course, the Icelandic fishery issue will come up for discussion. We are prepared for this and we have already explained our policy that the United Nations General Assembly should issue general regulations applicable to all nations regarding fishery limits and other related matters which the Geneva Conference was unable to deal with--rather than call another conference. . . ."

"We may expect a long stiff fight in New York," said the Foreign Minister. "To begin with, there will be a discussion as to whether the General Assembly should issue regulations on fishery limits for all countries or whether they should be deferred, so as to call a new Geneva Conference. There will probably be many who hold different views from those of our own. The decision reached now is that it will be necessary to work for the greatest support for the 12-mile limit. It is expected that the session will last for a period of one to two months."

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FISHING LIMITS EXTENSION TO BE CONSIDERED BY UNITED NATIONS GENERAL ASSEMBLY:

The United Nations General Assembly, which convened in New York on September 16, 1958, has on its agenda the Geneva Conference on Law of the Sea. Thus the Icelandic fishing limit extension question will be discussed, according to a statement issued to the Icelandic press in Reykjavik on September 10 by the Icelandic Foreign Minister. He stated, "It always has been and still is the policy of Iceland that the United Nations General Assembly should determine the law of the sea for all nations. It was decided, against the vote of Iceland, to convene the Geneva Conference and this decision was supported by the argument that the United Nations Assembly lacked technical knowledge.

"After the Geneva Conference it can no longer be maintained that specialists have not sufficiently dealt with this question. It is therefore purposeless to refer question to a new conference of specialists.

"It has been and still is our opinion that the General Assembly shoud resolve the questions upon which the Geneva Conference could reach no agreement.

"It will therefore be the proposal of Iceland that the General Assembly, which is now about to meet, does not refer the question to a special conference but itself resolves it.

Iceland (Contd.)

"This opinion of the Icelandic Government was presented at the Ministerial Meeting in Copenhagen. On the other hand, the fishing limit question was not substantively discussed at the meeting."

Iceland's Foreign Minister is scheduled to state Iceland's case for a 12-mile limit at the United Nations General Assembly session.

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EXPORTS OF FISH FILLETS TO THE UNITED STATES UP FOR JANUARY-MAY 1958:

The effect of increased demand in the United States for frozen fish fillets from Iceland during January-May 1958, and reduced commitments to the Soviet Union has become apparent in the distribution of total exports from Iceland to the United States and Soviet bloc markets. While the United States share of total Icelandic exports has risen to 14.5 percent during January-May 1958 as compared with 10.4 percent for the same period in 1957, that of the Soviet Union has dropped by one-third during the same period. The proportion going to the Soviet bloc as a whole, however, remains practically unchanged for the first 5 months of 1958 as compared with the same period a year ago. The reason is that deliveries to the satellite countries have had to be accelerated to meet serious deficits in the clearing accounts, states a dispatch from the U. S. Embassy in Reykjavik, dated July 25, 1958.

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FISHERIES RESEARCH VESSELS TO BE PURCHASED:

Preparations for the purchase of a fisheries research vessel are being made by the Government of Iceland as a result of an annual appropriation of Ikr. 1,000,000 (US$61,500) which has been provided for fisheries research by a minor provision in the Export Fund Act of May 31, 1958, according to a dispatch from the U. S. Embassy in Reykjavik, dated July 25, 1958.

At a meeting of Icelandic, Norwegian, and Russian ichthyologists at Seydisfjordur, during July 1958, it was agreed that regional division of research survey activities be performed in waters north of Iceland but that Icelandic researchers have been handicapped by the lack of an adequate research vessel. Icelandic ichthyologists have had to use fisheries patrol vessels for their research activities.

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FISHERIES TRENDS, JANUARY-MAY 1958:

Icelandic landings of fish during January-May 1958 amounted to 230,927 metric tons, an increase of 19.4 percent as compared with the 193,384 tons landed during the same period in 1957. Increases occurred in landings of all principal species except haddock, which declined slightly. The largest increase occurred in landings of cod which amounted to 180,015 tons, an increase of 20.4 percent over the 149,505 tons landed in January-May 1957.

Of the total quantity of white fish landed in January-May 1958, 127,463 tons were utilized for freezing. This was an increase of 27.2 percent as compared with the 100,228 tons frozen during the same period of 1957.

The quantity of herring frozen during the first five months of 1958 amounted to 1,648 tons, a decrease of 49.3 percent as compared with 2,461 tons frozen in January-May 1957; however, the amount of herring used in the manufacture of meal and oil in January-May 1958 increased to 1,572 tons as compared with only 405 tons during the same period of 1957. (U.S. Embassy in Reykjavik dispatch, July 25, 1958.)

Icelandic Landings of Principal Species of Fish, January-May 1958

Species	1958	1957	1956
	(Metric Tons)		
Cod	180,015	149,505	174,320
Haddock	12,778	13,432	10,752
Ling	2,583	2,198	2,517
Catfish	8,237	7,802	4,616
Ocean perch	12,203	7,231	7,041
Coalfish	6,132	5,555	7,603
Cusk	4,007	2,682	2,589
Herring	3,221	2,866	-
Others	1,751	2,113	1,284
Total	230,927	193,384	210,722

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SUMMER HERRING FISHERY TRENDS:

Iceland's summer herring season, which started off the north coast about the middle of June 1958 has prospects of exceeding the value of last year's catch. Although the total quantity landed as of July 19, 1958, was only about two-thirds of the quantity landed as of the same date last year, the volume of herring of salting grade has been far higher. Since salted herring has about 2.8 times the export value of a similar quantity of herring used for reduction to oil or meal, it is estimated that the catch to July 19, 1958, would, on the basis of 1957 prices, be worth about 20 percent more than the larger catch to the same date in 1957.

Since the summer herring season continues until the end of August, it was still too early to predict the results with assurance. The herring have again returned to the North Coast after a week's disappearance, and Icelanders are hopefully expecting that 1958 will be a good year.

The supply of labor both for the boats and for the packing centers generally has been adequate because the North Coast herring season occurs in the summer, when the work

Icelandic Utilization of Summer Herring Landed, June-July 1958		
Utilization	June 15-July 19	
	1958	1957
	....(Metric Tons)...	
Salted	24,466	7,708
Meal and oil.....	12,577	43,920
Frozen	553	634
Total	37,596	52,262

force is augmented by students and by otherwise employed persons taking summer vacations. Trawlers, however, now fishing for ocean perch or salt cod in Greenland waters, are experiencing difficulty in filling their crews, more particularly since most of the 900 Faroese seamen who signed on for the winter season have now returned to their home islands. A large number of the Faroese usually leave Iceland at the end of the main season, but some have also stayed on for the ocean perch trawling this year; however, since the Faroese seamen were subject to a 55 percent currency surcharge on their foreign exchange (under the Export Fund Law of May 31, 1958), they have been returning home at the urging of their union.

India

NORWAY AIDS FISHERIES:

The Norwegian Parliament has approved a grant of 5 million kroner (about US$700,000) for the year 1958/59 to the Indo-Norwegian Fisheries project in Kerala State, according to The Hindu, an Indian newspaper of June 12, 1958. The Norwegian Foreign Affairs Minister stated that to complete the project Norway intends to spend 15 to 20 million kroner (about US$2.1 to $2.8 million) more during the next 3 or 4 years. The total amount of money Norway has spent on the project to date is 35 million kroner (about US$4.9 million). The Indo-Norwegian Fisheries project director indicated that the annual expenditures on the project during the last few years were about 5-6 million rupees (US$1.0-1.3 million) and that half of this was contributed by Norway, states a United States Embassy dispatch from Madras, dated June 18, 1958.

Note: Values converted at the rate of 1 Norwegian kroner equals 14.U. S. cents, and 1 Indian rupee equals 21 U. S. cents.

Japan

STUDIES SHOW BLUE OR GREEN LIGHTS ATTRACT MOST SHELLFISH:

Tests conducted over a long period in Japan have produced some results which tend to prove that the introduction of a light source can increase the catch of shellfish considerably.

Writing in the Bulletin of the Japanese Society for Fishing Science, the Chief of the Japanese Fisheries Research Department gives some impressive figures.

Tests were first made with a group of three nets, the center one of which alone had a lamp situated at its base and so mounted as to throw the light towards the mouth. A lamp using current of 6 volts 50 cycles was used and the nets were employed at varying depths from 1/2 to 1-1/2 fathoms. It was found that the plankton and small fry were immediately attracted by the light and within one minute the shellfish, too, had arrived.

Tests were commenced at sunset and the contents of the three nets were compared at dawn. While no fish at all were in one of the unlit nets and the other had three crabs only, the illuminated net contained no less than four crabs and 22 lobsters.

It was at first believed that the attraction was what is described as an "alimentary reflex," e.g. that the light makes the fish hungry and voracious for food; but it is now thought that it is the light alone which attracts them physically and the presence of food is only secondary.

Further tests were conducted in a salt-water lake. Here it was possible to note the behavior of the shellfish more closely and it was found that if the light was switched off the fish quickly dispersed but returned within moments when the light was turned on again.

Another method tried out was to have a number of nets joined together in "v" formation with several lamps set at different distances, up to 60 feet, from them. These were switched on one after the other starting with the one furthest from the nets, and the catch noted at regular intervals.

They also tried out a long line of lamps which were dragged along the bottom at a speed somewhat slower than that of the nets. It was noticed that in every case the fish followed the light until they entered the trap.

But the best results, which have now been carried out by the Japanese into their commercial shellfish fishing industry, were obtained by the use of a light coming from the base of the net and directed to its mouth. By the use of that method their catch has more than doubled.

The color of the light is important also, the Japanese think. Opinion appears divided between whether a blue or a green light is best. (The Fishing News, August 15, 1958.)

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TUNA MOTHERSHIP OPERATIONS IN FIJI AND LINE ISLANDS AREAS SUCCESSFUL:

A Japanese fishing company's tuna mothership (No. 3 Tenyo Maru--3,732 tons gross) was reported as of July 28, 1958, to have taken aboard from its fleet of 45 tuna long-liners a total of 3,443 short tons of fish, which yielded 3,041 tons of frozen products. The breakdown by species and the yield was as follows: 1,690 tons of yellowfin (1,155 tons frozen round, 39 tons of fillets); 645 tons of albacore; 554 tons of other tunas (393 tons of other frozen products); 335 tons of spearfishes (174 tons of fillets frozen); 194 tons of shark; and 21 tons of miscellaneous species. At that time the fleet was centering its operations around 15° S. 175° E., east of New Hebrides.

According to news reports, the company was hoping for an increase in the proportion of albacore in the catch, as it had contracted the Tenyo Maru's production of this species to a United States tuna canner, to make up for its inability to fill sales contracts with summer albacore. At the latest report (to August 28) there was evidence of success in increasing the albacore catch. With the center of operations shifted

Japan (Contd.)

south and east to 17° 30'S., 176° 22' E. (south of Fiji), the total landings as of August 28 were 5,334 tons, of which 1,616 tons (30 percent) was albacore and 2,261 tons (38 percent) was yellowfin tuna. The fleet had only 868 tons more to catch to attain its planned goal.

The 2,940-ton mothership Kaiko Maru, owned by another large Japanese fishing company, working far to the east and slightly north of the Equator, was taking a far smaller proportion of albacore. As of July 27 the composition of the catch of this fleet was reported to be 57 percent yellowfin, 18 percent big-eyed, 5.5 percent albacore, and 13 percent spearfishes. At the end of August the Kaiko Maru's 18 catcher boats had delivered 2,522 short tons of fish, of which 55 percent was yellowfin and only 4 percent albacore. The center of the fleet's fishing at that time was reported as 6° 56' N., 157° 14' W., which would put it in the vicinity of Kingman Reef and almost due south of Hawaii.

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WHALING DEVELOPMENTS:

The sperm-whale fleet and the baleen-whale fleet which Japan sends to the Bering Sea each year successfully completed their catch quotas in August 1958. At the same time shore-based whaling by large catcher boats was in progress in the East China Sea and off northeastern Honshu, with whales reported abundant in both areas.

Japan's 13,792-ton whaling mothership No. 2 Tonan Maru sailed May 20, 1958, to catch sperm whales in the Bering Sea with 6 catcher boats belonging to 5 companies and 1 cooperative association. After 50 days on the grounds, this fleet's catch limit of 1,300 whales was reached on July 15. An increase of 200 whales in the quota was requested by the operators, who argued that a 1-foot increase in the average length of the whales taken (to 45.5 feet) as compared with last year indicated that the population was not being overfished; that there was good demand from the United States for sperm oil and frozen sperm whale meat; that the No. 2 Tenyo Maru, which was fueling the fleet at sea and taking on whale oil, needed more oil; and since the Russians were fishing unrestricted for sperm whales, the conservation measures were useless. The request was turned down by the Japanese Fishery Agency, and the fleet headed from its final operating position at 51° 33' N., 175° 19' E. (near Kiska) toward Yokohama, where it arrived on July 25. Production amounted to 10,977 metric tons of sperm oil, 1,254 tons of frozen meat, 1,375 tons of salted meat, and 47 tons of liver oil. It was reported that 1,000 tons of frozen meat was sold to the United States for animal feed at $170 a ton, and most of the sperm oil was expected to go to the same market. The salted meat was sold in Japan.

The 11,448-ton Kyokuyo Maru was the factoryship for this year's northern baleen-whale fleet. Working with 9 catcher boats, the Kyokuyo Maru reached its catch limit of 800 blue-whale units on August 15, after 85 days of hunting, 45 of them spent on west longitude grounds and 40 in east longitudes. Last year 98 days were required for the same catch.

Table 1 - Catch of the Japanese Baleen-Whale Fleet

Species of Whales	1958		1957	
	Number 1/	Average Length	Number 2/	Average Length
		Feet		Feet
Blue	70	76.60	70	77.18
Fin	1,331	61.29	1,405	61.44
Humpback . .	24	41.54	-	-
Sei	330	47.07	166	46.61

1/ Total of 800.1 blue-whale units.
2/ Total of 800.16 blue-whale units.

The Kyokuyo Maru's production from this catch is reported as 11,413 tons of whale oil, 16,227 tons of frozen meat, 1,105 tons of salted meat, and 43 tons of liver oil. After finishing its baleen catch off Cape Navarin, the fleet moved south and on August 18 began working on its quota of 200 sperm whales. The sperm whale catch limit was reached on August 25.

Two Japanese companies began whaling in the East China Sea from their shore stations in the Goto Islands on June 27, each company using one catcher boat of the 400-ton class. The catch limit in this area was 150 whales for each company, and as of August 27 each had slightly over one-third of this quota. Land-based whaling by large catcher boats was also in progress off Cape Kinkazan in northeastern Honshu, where the same two companies have shore stations. Five whaling companies have catcher boats working there, and the catch reported up to July 15 was 3 blue, 53 fin, 309 sei, 3 humpback, and 477 sperm whales.

Since the return of the Japanese delegates from the Tenth International Whaling Convention, held at the Hague late in June, the chief question agitating the Japanese whaling industry has been that

Japan (Contd.)

of the number of catcher boats to be assigned to each fleet in the coming Antarctic whaling season. In July, the Norwegian and British operators proposed that catcher boat limitations be dropped and that instead each country be assigned a whale-catch quota. The Japanese rejected this as unworkable, and proposed in return that the maximum number of catchers for each fleet be set at 12, with the factoryship No. 2 Tonan Maru being allowed to have this maximum number as compared with 11 last season. The British and Norwegians objected, but the Japanese companies took a strong stand and it was finally decided that the No. 2 Tonan Maru will have 12 catchers, with rights for 1 being purchased from Norway for about $40,000. Thus the total number of catchers working in the Antarctic in the 1958/59 season will be 215, with Japan operating 69 of them, 1 more than last year.

The Japanese industry usually ascribes its growing ascendancy in world whaling to the more profitable use that it can make of the catch--the sizable domestic demand for whale meat for human consumption. The supply of meat--currently over 100,000 tons a year--is constantly threatening to exceed the demand, however, and despite intensive advertising by the three big whaling companies the price is low and inventories are large. When it was reported in June, therefore, that the Soviet Union proposed to export whale meat to Japan and that two Japanese trading companies were interested in handling it, the big three whaling companies promptly protested to the Japanese Fishery Agency, which asked the Ministry of Trade and Industry to remove whale meat from the list of imports entitled to automatic approval under the exchange control system. This request was granted and Soviet whale meat has ceased to be a threat to the Japanese producers.

Libya

TUNA AND SPONGE FISHERIES:

In the Tripolitania section of Libya the tuna fishing season began in May 1958 and showed considerable promise as an unusually high proportion of large (300-400-pound) tuna were caught. No statistics on the landings were available; however, other fishing operations continued at a satisfactory pace and according to Tripoli port authorities, the catch brought into Tripoli during January-April 1958 totaled 117.7 metric tons as compared with 100.3 tons during the same period of 1957.

In Cyrenaica, the fishing season for sponges began early in May 1958. A good sponge fishing season was predicted, as Greek officials reported that over 100 Greek ships were expected to fish in Libyan waters. A large fleet of Greek vessels, augmented by some Italian and Yugoslav trawlers, arrived in Cyrenaica. The Cyrenaican officials promptly increased the fishing license fee from the customary ŁL100 to ŁL500 (US$ 280 to US$1,400), consequently there were only 15 license applications. As a result, it is thought that this year's sponge fishing season will have disappointing revenue returns for Cyrenaica. (U. S. Embassy in Tripoli dispatch, July 14, 1958.)

Malaya

JAPANESE EXPERT TO STUDY TUNA RESOURCES OF THE EASTERN INDIAN OCEAN:

The services of a Japanese expert on tuna fishing were made available to Malaya for one year under the Colombo Plan Technical Assistance Scheme to conduct a survey on the resources of the eastern part of the Indian Ocean, to carry out fishing experiments, and to train local fishermen in modern tuna fishing methods.

The Japanese expert arrived in Kuala Lumpur, Malaya, and left immediately on a tour of the East Coast fishing villages accompanied by the Minister of Agriculture and the Director of Fisheries,

Malaya (Contd.)

states a dispatch from the United States Embassy at Kuala Lumpur, dated September 5, 1958.

Morocco

POLISH FISHERY MISSION VISITS CASABLANCA:

From August 2-6, 1958, a Polish mission composed of members of the Polish Institute of Fishing Science visited Casablanca for the alleged purpose of studying the Moroccan fishing industry. According to the press the vessel Birkut (100 feet long, 180 tons, crew of 13) arrived unexpectedly. The spokesman for the group attributed their visit to Morocco to the enthusiasm of their host in France during their immediately preceding visits to Boulogn-sur-Mer, Brest, Bayonne, Biarritz, and St.-Jean de Luz.

The mission included the following: the Director General of the Polish Institute, ichthyologist; a representative of the Polish fishery "Dalmor;" and a representative of the company "Arka" of Gdynia. These members were augmented by a motion picture cameraman and two underwater photographers.

The Casablanca Polish vice-consul described the trip as a genuinely scientific expedition, and the possible prelude to the arrival of Polish fishing vessels off the Moroccan coastline, as the Polish fishing industry was giving consideration to exploiting the tuna and sardine resources beyond the territorial waters of Morocco, according to a August 18, 1958, dispatch from the United States Consul in Casablanca.

Netherlands

MARKET FOR CANNED AND FROZEN SALMON:

The Netherlands last year bought substantial quantities of fisheries products, mainly canned and frozen salmon, crab meat, and frozen eels from Canada. However, the value of such imports continued to decline and Canadian suppliers of canned salmon are failing to hold their own against increasing price competition. Thus, while the Canadian share of the Dutch canned salmon market has dwindled from 38 percent in 1955 to 7 percent in 1957, Japan's share has risen from 46 to 84 percent. United States suppliers have also lost ground to Japan, but during 1957 they managed to ship 25 tons more than in 1956 and now come close to Canada as the second-ranking supplier. The U.S.S.R. has also entered the Dutch market, supplying 26 tons of canned salmon in 1957. In view of the growing emphasis on price, local traders predict a further rise in purchases of Japanese canned salmon at the expense of all other suppliers. For this reason, suppliers wishing to do business in any volume will probably have to rely increasingly on the demand for their low-priced grades of canned salmon.

In past years Canada has sold some mild-cured salmon in Holland, but more recently the trend has been towards the fresh and frozen trade. Because of the price and quality, Canadian frozen salmon is used principally for smoking or canning for the restaurant and hotel trade. (Baltic salmon does not retain the desired color for this purpose and is sold mainly fresh or frozen or as smoked sides.) It therefore seems likely that the demand for frozen salmon will continue on much the same scale as before--that is, about 30 to 40 metric tons a year. (Canadian Foreign Trade, August 16, 1958.)

New Caledonia

FISHING INDUSTRY, 1957:

During 1957, New Caledonia's fishing industry remained inactive and of purely local importance, states an August 14 dispatch from the United States Embassy at Noumea. Some 20 small individually-owned vessels supplied about 15 to 20 tons of fish each month to the Noumea market. Despite its favorable geographical location, New Caledonia found it necessary to import 267 tons of canned fish in 1957 to fill local needs.

New Caledonia (Contd.)

Local interest is being directed toward the possibilities of developing a tuna canning industry in New Caledonia, as a result of research by the Orsom III, a vessel of the Institute Francais d'Oceanie, and by the apparent success of a fisheries company at Santo, New Hebrides.

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TROCHUS SHELL INDUSTRY:

New Caledonia's exports of trochus shells, declining steadily since 1954, almost reached the vanishing point in 1957, states a United States Embassy dispatch (August 14, 1958) from Noumea. Exports during 1957 were valued at about US$25,695, compared to US$142,750 the previous year, and US$215,838 in 1955. Overfishing during the immediate post-World War II period is still being felt.

In the face of the depletion of stocks, local officials and specialists from the Institute Francais d'Oceanie have cooperated in a conservation program looking forward to the eventual replenishment of stocks. They have, among other things, recently limited the size of trochus taken to 8 and later 10 centimeters (about 3.1-3.9 inches). Experts hope that by the end of 1958 stocks will be sufficiently replenished to enable the industry to regain lost ground. The industry is centered among a number of native tribes, and some 2,000 people find employment on a part-time basis. During the first half of 1958, about 125 tons of shell, valued at US$31,068, were exported, an indication that trochus exports may increase in the immediate future

Note: Values converted at the rate of 175 CFP francs equal US$1.

New Hebrides

MORE ON TUNA FISHERY ENTERPRISE OPERATED WITH JAPANESE:

A tuna fishery has been established out of Santo, New Hebrides, conducted by Japanese long-liners and crews. A wharf at which to land the fish and buildings to handle the tuna have been built.

Seven Japanese tuna long-liners are operating out of Santo, according to the latest reports.

The long-liners are between 80 and 150 tons, carry an average of 20 men and catch 40 tons of fish in about three weeks.

They work in fishing grounds up to 600 miles away from base, keeping in touch with each other and the base by radio.

The lines are generally set once a day, either at dawn or sunset, when the fish are believed to be most likely to snap at the bait.

The bait consists of Japanese frozen mackerel-pike, and it apparently takes two pounds of bait to produce one tuna of 100 pounds. One ton of bait therefore produces 50 tons of tuna if fishing is good.

It takes $4\frac{1}{2}$ hours to set the lines and they are left in the water $2\frac{1}{2}$ hours. It takes 13 hours to haul them in and collect and stow the fish in the ice holds.

After that the men sleep for three hours, when it is time to set the lines again. This goes on for three weeks, as a rule, by which time the hold is full and the vessel can return to base.

If the vessel holds 40 tons of fish, the vessel ties up for 24 hours to allow the fish to be unloaded, weighed, and stowed in the freezer; the vessel is then fueled, is iced, and off she goes for another three weeks.

If the catch from a big vessel amounts to 90 tons, it gets two days in port, for the catch has to be handled and frozen in two lots.

At Santo the wharf has three berths: one for unloading the fish, which travels on conveyor belts to the freezer doors; an inside berth for loading the crushed ice and fuel oil; and an outside berth for overseas ships, bringing oil fuel and frozen bait, and taking away frozen tuna for the United States market, and other factory products to Japan.

The Santo fishery establishment was planned in 1953, but was held up for

New Hebrides (Contd.)

some time by political objections from Australia.

At present the base employs 34 Japanese ashore, helped by 35 natives and 5 local Europeans.

The 34 Japanese will be slowly replaced by natives, if it proves possible to keep them long enough to train.

The fishing base has been built and put into operation during the last three years by a combination of interests: two Japanese companies, a United States fishery firm, and a local organizer. These four interests are to be joined by a French firm which is being registered in Vila to build a cannery at the base to can the tuna for sale to Pacific Islands and overseas countries, except the United States.

Most of the tuna caught is yellowfin, big-eyed, and albacore. Only the latter is sent to the United States and all fish over 100 pounds are cut in half as fillets. A lot of the fish are 200 pounds each.

Besides the tuna there are other large fish caught, such as black marlin, kingfish, and Spanish mackerel. These are shipped frozen to Japan after being frozen or salted. The remainder is consumed by the inhabitants of New Hebrides.

All species of fish caught must be accepted by the plant for the fishermen are paid on the basis of the total weight of the catch.

The Santo plant consists mainly of a freezer capable of holding about 700 tons of fish. It is built at the wharf, with the fish unloading berth pointing at the main freezer doors.

Apart from the main freezers there is an ice-making plant which makes ten tons of ice at a time.

Space has been left near the freezer for the canning factory of the French company, which would have a conveyor-belt loading line to the overseas vessel berth.

Most of the oil for the vessels and machinery comes in the company's own ship from Japan, but as this is not sufficient, some oil is imported by other ships and an occasional tanker. Over 100 tons of oil a month is used at present, because the company must generate all its own electricity, and this will be increased when the canning factory is in operation.

A slipway is being constructed alongside the works to take vessels up to 150 tons. This will provide for all the fishing vessels and also any local small ships requiring docking.

The actual fishery establishment at Palikulo stands on the site used by the United States forces as an auxiliary port installation, and this greatly facilitated the building of the base.

Apart from the main freezer building and engineroom at Palikulo, the company's main enterprise was the building of a special ship to bring supplies from Japan and to deliver the frozen albacore tuna to the United States.

This ship is the M/V Santo Maru of about 1,000 tons, carrying 600 tons of tuna. She makes the round trip between Japan, Santo, and San Francisco in 55 days.

From Japan she brings the frozen mackerel-pike bait, and 150 tons of oil a trip. She takes back to Japan the frozen tuna, the smoked fillets of mixed species, and other byproducts. Her speed is 14 knots. (Pacific Islands Monthly, July 1958.)

Norway

FISHERIES TRENDS, JANUARY-JUNE 1958:

A total of 787,252 metric tons of fish were landed in Norway during the first six months of 1958 as compared with 1,183,140 tons during the first six months of 1957. The failure of the winter herring fishery was largely responsible for this decrease. The winter herring shoals, which were not as dense as formerly, arrived unusually late this season, and followed irregular courses in the sea. The weather, furthermore, was cold and stormy during most of the season.

Norway (Contd.)

These factors give rise to fears that the present herring cycle, which has lasted nearly 70 years, is nearing the end. In any case, the landings amounted to less than half of the 1957 landings and less than a third of those in 1956. In an

Norwegian Landings and Utilization of Fishery Products, January-June 1958

How Utilized	January-June 1958					January-June 1957 Total
	Capelin	Cod	Herring	Other	Total	
	(Metric Tons)					
Fresh consumption	-	19,882	33,790	42,635	96,307	115,613
Freezing	-	-	40,182	24,496	64,678	63,248
Drying	-	84,898	-	38,268	123,166	88,025
Salting	-	31,243	80,321	22,562	134,126	140,730
Canning	-	788	15,713	6,506	23,007	30,375
Reduction	91,595	-	218,452	25,404	335,451	736,196
Bait	26	-	9,709	782	10,517	8,957
Total ...	91,621	136,811	398,167	160,653	787,252	1,183,144

effort to make up for the poor herring catch in Norwegian waters, intensive herring fishing is being carried on in waters off Iceland, an August 13, 1958, despatch from the United States Embassy at Oslo states.

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PRESSURE FROM FISHING INDUSTRY FOR 12-MILE FISHING LIMIT CONTINUES:

According to Norwegian press reports, the National Council of the Norwegian Fishermen's Association has sent an urgent appeal to the Government calling for a new international conference to consider the rights of riparian States to proclaim a 12-mile fishing limit.

If such a conference cannot be held, and if the question is not settled in some other way in the meantime, the Council demands that the Government declare that Norway will extend her fishing limit to 12 nautical miles from January 1, 1959, the appeal concluded. The press reports added that the decision to send the message was taken by a Council vote of 7 to 5. The Minister of Fisheries rejected the January 1 deadline, and is reported by the press to have said that Norway does not depart from her position that any expansion of the fishing boundary must be based on international agreement.

The Minister of Fisheries, on behalf of the Norwegian Government, advised Norwegian fishing vessels against fishing within 12 nautical miles of Iceland. While not having the force of law, the advice appears to have been followed. There have been no reports of Norwegian vessels fishing within the area in question. The press has reported the Fisheries Minister as having said that the bulk of the Norwegian catch off Iceland had always been taken more than 12 miles offshore. (United States Embassy dispatch from Oslo, dated September 5, 1958.)

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REVIEW OF THE FISHERIES, 1957:

Norway's total commercial fish catch in 1957 was 1,556,650 metric tons valued at 618.5 million kroner (US$86.6 million), or 429,650 tons and 100.3 million kroner (US$14.0 million) less than in 1956. (Does not include catch in fresh waters, including salmon and trout.) The decrease was partly due to bad weather conditions and to unfavorable variations in fish stocks during the seasonal fisheries.

Table 1 - Norwegian Landings[1/] of Fishery Products, 1953-57

Year	Quantity	Ex-vessel Value	
	Metric Tons	Million Kroner	Million US$
1957	1,556,650	618.5	86.6
1956	1,986,300	711.2	99.6
1955	1,646,872	609.7	85.4
1954	1,904,881	567.8	79.5
1953	1,398,397	486.0	68.0

1/ Does not include fresh-water fisheries, including salmon and trout.

Herring and Sprat: Among the individual herring fisheries, the winter herring fishery is the principal and most productive of all Norwegian fisheries. Last year's winter herring production

Table 2 - Norwegian Landings and Production of Fishery Products, 1957

Species		Quantity	Ex-Vessel Value	
In English	In Norwegian	Metric Tons	1,000 Kroner	US$ 1,000
Capelin	Lodde	70,022	6,464	905
Greenland halibut	Bleakveite	3,861	2,303	322
Halibut	Kveite	4,695	15,257	2,136
Witch	Wareflyhdre	30	49	7
Plaice	Rødspette	1,072	1,605	225
Flatfish, other	Annen Flyhdre	86	105	15
Cusk	Brosme	11,340	6,869	962
Haddock	Hyse	41,198	22,818	3,195
Spawning cod	Skrei	59,497	43,648	6,111
Finmark cod	Loddetorsk	52,143	36,032	5,044
Cod, other	Annen Torsk	109,306	86,499	12,110
Whiting	Hvitting	103	95	13
Pollock	Lyr	2,646	1,953	273
Saithe	Sei	73,037	35,013	4,902
Hake	Lysing	50	47	7
Blue ling	Blaalange	196	112	16
Ling	Lange	9,071	7,039	985
Liver:				
Spawning cod	Skreilever	5,589	3,284	460
Finmark cod	Loddetorsklever	4,112	2,159	302
Roe, spawning cod	Skreirogn	3,509	2,868	402
Winter herring	Vin ersild	795,582	183,066	25,629
Fat herring	Feitsild	45,315	10,565	1,479
Small herring	Smaasild	129,663	23,356	3,270
Fjord herring	Fjordsild	1,145	840	118
Trawl herring	Traalsild	7,907	2,476	347
Icelandic herring	Islandssild	30,898	23,056	3,228
Sprat	Brisling	9,507	13,630	1,908
Mackerel	Makrell	11,366	7,138	999
Tuna	Makrellstørje	4,955	8,243	1,154
Sand eel	Tobis (sil)	3,221	742	104
Redfish	Uer	4,003	2,562	359
Wolffish	Steinbit	2,556	1,074	150
Dogfish	Pigghaa	18,506	6,774	948
Crab	Krabbe	2,558	1,657	232
Lobster	Mummer	648	6,595	923
Norway lobster	Sjøkreps	188	239	33
Deep-water prawn	Reker	6,971	20,251	2,835
Liver, other	Annan lever	12,944	7,030	984
Roe, other	Annan rogn	483	327	46
Other		16,671	-	3,459
Total		1,556,650	618,548	86,597

amounted to only 795,580 tons as compared to 1,145,860 tons in 1956. Total landings of herring and sprat in 1957 and 1956 were 1,017,400 and 1,380,130 tons, respectively.

Norway (Contd.)

Cod Fisheries: The landings of cod and byproducts of cod were much lower in 1957 than in 1956, the respective figures being 241,290 and 307,190 tons. Among the cod fisheries the spawning cod fisheries are usually the most important. They also comprise the Lofoten fishery, which last year failed to a serious extent. Owing to adverse hydrographical conditions only a small stock of cod appeared on the usual grounds. The catches at Lofoten, consequently, amounted to only 23,040 tons against 65,920 tons in 1956. Landings of spawning cod in all districts reached a total of only 59,500 tons as compared with 110,350 tons in 1956.

Table 3 - Disposition of Norwegian Landings of Fishery Products

Disposition	Herring & Sprat	Other Fish, etc.	Total
	(Metric Tons)		
Fresh consumption	62,823	113,071	175,894
Freezing	51,441	29,874	81,315
Curing	108,340	125,815	234,155
Drying		159,842	159,842
Canning	38,882	6,189	45,071
Reduction	741,731	103,542	845,273
Bait	14,185	667	14,852
Total	1,017,402	539,000	1,556,402

On the other hand the Finnmark young cod fishery was very successful. The landings in 1957 were 52,143 tons against the average of 40,050 tons between 1954 and 1956. Of deep-sea cod and fjord cod the combined catches were 110,380 tons as compared with 118,880 tons in 1956. Last year's long-line operations off Iceland accounted for a sizable portion of the deep-sea catch.

Production of Processed Fish: The disposition made of the commercial fish catch in 1957 is shown in Table 3; however, the disposition of approximately 250 tons is not accounted for. The herring and sprat used for reduction yielded 165,000 tons of meal and 65,000 tons of oil.

Commercial Fishing Fleet: As of July 1, 1957 the registered commercial fishing fleet totaled 38,571 vessels and craft as compared to 37,601 one year earlier. As of July 1, 1958, 12,583 were deck-covered vessels, 25,728 were open motorboats, and 260 were motorless craft. The number of covered vessels of steel and open motorboats showed increases of 41, and 1,021, respectively. The number of covered vessels of wood decreased by 71.

The average lengths of the various types of vessels as of July 1, 1957, were deck-covered vessels of wood, 40.2 ft.; deck-covered vessels of steel, 107.1 ft.; and open motor boats, 22.2 ft.

Number of Fishermen: The number of fishermen continues to drop. As of the beginning of 1957 there were in all 87,267 fishermen as compared with 90,499 at the beginning of 1956. Of the 87,267, 28,544 had fishing as their sole occupation, 32,790 as their main occupation, and 25,933 as a secondary occupation.

Table 4 - Norwegian Exports of Fishery Products and Byproducts 1/, 1957

Product	Quantity	Value	
	Metric Tons	1,000 Kroner	US$ 1,000
Fresh and iced herring	57,138	27,419	3,839
Frozen herring	45,686	28,634	4,009
Fresh and iced fish	26,375	45,836	6,417
Fresh and iced fish fillets	316	714	100
Whole frozen fish	7,872	29,657	4,152
Frozen fish fillets	17,318	44,552	6,237
Shellfish (including lobsters, crabs, shrimp)	2,897	28,813	4,034
Stockfish (dried fish)	36,040	155,517	21,772
Klipfish (salted and dried)	42,193	143,270	20,058
Salted herring	62,883	59,863	8,381
Salted fish	9,942	16,601	2,324
Smoked fish (including herring)	4,004	5,948	833
Other processed fish (not including canned fish)	10,943	15,443	2,162
Salted cod roe	1,387	1,709	239
Canned fish	31,938	158,014	22,122
Fish meal (including herring meal)	134,699	156,614	21,926
Total	491,631	918,604	128,605

1/ Does not include fish oils.

Fresh-Water and Salmon Fisheries: There are no statistics available on the fish catch in fresh waters. However, a conservative estimate of the annual yield of Norwegian fresh-water fisheries will be in the vicinity of 3,000 tons. The salmon and trout fisheries, which are mostly commercial, produce between 1,000-2,000 tons of fish a year.

Table 5 - Norwegian Exports of Selected Fishery Products and Byproducts to the United States, 1957

Product	Quantity	Value	
	Metric Tons	1,000 Kroner	US$ 1,000
Frozen fish fillets	2,102	6,606	925
Stockfish (dried fish)	459	2,797	392
Klipfish (salted and dried)	215	711	100
Salted herring	4,244	7,822	1,095
Canned fish	9,902	53,273	7,458
Fish meal (including herring meal)	3,642	3,681	515

Note: Exports of shellfish, including shrimp, are not available by country of destination; however, it is believed that some shrimp were exported to the United States in 1957.

The combined value of the fresh-water and salmon fisheries is estimated at about 25 to 30 million kroner (US$3.5-4.2 million) annually, split about evenly between the two.

Foreign Trade: Exports of fishery products--excluding fish oil and meal--totaled 356,932 tons valued at 761,990 kroner (US$106,679) f.o.b. Norwegian port in 1957 as compared with 375,279 tons valued at 764,057 kroner (US$106,968) in 1956 (tables 4 and 5).

Prices: Ex-vessel prices during the first half of 1957 increased on an average of about 5 percent over the corresponding period in 1956. The minimum price for dressed cod over 43 centimeters

Table 6 - Average Ex-Vessel Prices per Metric Ton for Some Norwegian Fish, 1954-57

Species	1957		1956		1955		1954	
	Kroner	US$	Kroner	US$	Kroner	US$	Kroner	US$
Herring and sprat	238	33.32	231	32.34	220	30.80	118	26.32
Cod	736	103.04	698	97.72	740	103.60	696	97.44
Saithe	468	65.52	466	65.24	451	63.14	435	60.90
Haddock	526	73.64	519	72.66	544	76.16	545	76.30
Mackerel	609	85.26	604	84.56	666	93.24	671	93.94
Tuna	1,618	226.52	1,668	233.52	1,628	227.92	1,558	218.12
Halibut	3,114	435.96	2,986	418.04	2,775	388.50	2,948	412.72

Note: Values converted at the rate of 1 kroner equals US$0.14; 1 øre equals US$0.0014.

Norway (Contd.)

(about 17 inches) in length was, like the previous year, 70 ǿre per kilogram (4.5 U. S. cents a pound) in Lofoten and 68 ǿre per kilogram (4.3 U. S. cents a pound) in Finnmark, while the average price actually paid in Lofoten was 76 ǿre per kilogram (4.8 U. S. cents a pound) and in Finnmark 67 ǿre per kilogram (4.3 U. S. cents a pound). The price in Lofoten was 5 ǿre (0.3 U. S. cents) higher than in 1956 while the price in Finnmark remained unchanged.

The poor Lofoten catch resulted in demand for extraordinary support for the fisheries. Some 7 million kroner (US$980,000) were appropriated from State funds for fishermen who had made unsuccessful trips and were unable to finance new equipment. In addition, an extraordinary grant was made from price regulation funds of 5 ǿre per kilogram (0.3 U. S. cents) for dressed cod, coalfish, etc., which had been caught along certain areas of the coast.

During the Finnmark cod fishery an average of 69 ore per kilogram (4.4 U. S. cents a pound) was paid, or 2 ǿre (0.1 U. S. cents) more than in the preceding season. The average price for live cod in the Norges Levendefiskelag district dropped from 87 ǿre per kilogram (5.5 U. S. cents a pound) in 1956 to 85 ǿre per kilogram (5.4 U. S. cents a pound) in 1957. For live coalfish there was a fall from 49 ǿre (3.1 U. S. cents) to 48 ǿre per kilogram (3.0 U. S. cents a pound).

Under the new price regulation rules for capelin the maximum price was fixed at 9.40 kroner per hectoliter (60 U. S. cents per 100 pounds) for the first 16 days after the fishing began and at 7.75 kroner per hectoliter (about 50 U. S. cents per 100 pounds) for the remainder of the fishing period. The average price paid to fishermen was 8.95 kroner per hectoliter (about 57 U. S. cents per 100 pounds), or somewhat less than in the previous season.

Following negotiations, a guaranteed price of 22.50 kroner per hectoliter (US$1.54 per 100 pounds) was fixed for large herring and 19.50 kroner (US$1.33) for spring herring. The fishermen on the average received 23.39 kroner per hectoliter (US$1.60 per 100 pounds) for large herring and 19.45 kroner per hectoliter (US$1.33 per 100 pounds) for spring herring.. For winter herring as a whole the price rise amounted to about 6 percent.

Under agreement between the herring marketing cooperatives and the canning industry, the price of brisling of the size 9-11.5 centimeters (3.5-4.5 inches) and with minimum 7 percent fat, was raised to 28 kroner (US$3.92) per bushel. The prices were raised for other qualities as well. The average ex-vessel price paid for brisling increased in 1957 from 17.34 kroner (US$2.43) per bushel in the last season to 25.00 kroner (US$3.50).

The ex-vessel price changes in the last few years for some species of fish are shown in table 6.

Position of Fishing Industry in the Economy: With some 61,300 persons having fishing as their sole or main occupation, fishermen comprise about 4 percent of the total labor force. The fishing sector of the economy accounted in 1957 for 1.9 percent of the gross national product and for 15 percent of total exports, exclusive of fish meal.

Panama

REVIEW OF THE FISHERIES, 1957: Summary: Shrimp is the only marine resource of Panama which is fully exploited. The shrimp industry is Panama's second industry. The extraordinary expansion experienced from July 1956 to September 1957 has halted. Risk capital is no longer attracted to the industry as it is not the lucrative business of a year ago. However, the concern that the country's shrimp resources are being overfished and are in danger of depletion is not substantiated by either a decline in the total take or an increasing number of young shrimp in boat catches. Two foreign technicians have been asked by the Government to appraise this possibility. The trade has increased processing to enhance the value of its product and introduce new gear on its boats to increase the shrimp catch. Shrimp fishing possibilities of new areas are being explored.

The fish-meal industry was developed to make use of the nonmarketable or scrap fish caught in the shrimp nets. When it did not prove practical for the shrimp boats to save their fish except for the last day out, the industry was left without an adequate supply of raw fish. The two plants are presently served by three purse seiners. The raw fish supply of both plants must be increased substantially if the fish meal industry of Panama is to operate at a commercial level.

The fresh and frozen fish industry for finfish is dependent on fish caught by the shrimp boats for its major supply. The fresh fish market is supplemented by catches of individual fishermen, but there are no boats engaged in commercial fishing for finfish. Frozen fillets are processed by only one shrimp packer from select but small fish brought in by its shrimp boats. The demand exceeds supply but it is not likely that other packers will enter this field in the near future. Fish caught by the shrimp boats customarily are used to pay the fifth hand of the crew. Loss of the select fish would cut earnings of the crew whose income has been sharply reduced this last year by the decline in the shrimp take per boat.

The bait-fishing industry should produce increased income for the Government of Panama if year-round fishing is possible. An increase in the fleet of purse seiners serving the fish meal plants may affect this industry.

The lobster-fishing industry possibly could be developed commercially if properly organized with sufficient capital. Current supply is not adequate to attract the necessary capital.

The boat-building industry must find new markets now that the expansion of the shrimp fleet has

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leveled off. Panamanian-built boats are now fishing in waters of El Salvador, Honduras, Colombia, and Brazil. This industry should be able to compete as to quality and price in the export market.

Government Policies and Programs: In March 1957, a Fisheries Department was established under the Secretary of Commerce of the Ministry of Agriculture, Commerce and Industries. The office is headed by a trained technician and has an allotment of $5,625 under the FY 1958 budget. The fisheries expert provided by United Nations Organization for Food and Agriculture returned to the United States because of ill health. This technician, provided under contract, is to be replaced shortly. The National Fisheries Laboratory, now directly under the Chief of the Fisheries Department, has continued its shrimp-farming project. The artificial lake, formed by means of an earth dam across existing mud flats off Chame, has been in existence for approximately a year. A recent check netted around 2,000 larvae in five minutes seining. The quantity of larvae is considered good but it is too early to judge the commercial feasibility of this pilot project, which is the Laboratory's first development work.

The Fisheries Office presently is concentrating on compiling reliable data with respect to total catch and types landed. Until such data are available, the Government cannot regulate intelligently the exploitation of its fisheries resources, particularly the shrimp industry. The Government has resisted the shrimp industry's desire for a limitation on the shrimp fleet since there is no data to substantiate the general fear that the large white shrimp are being overfished.

Decree No. 172 of August 5, 1953, restricts commercial fishing in Panamanian waters to boats constructed in the Republic. Foreign-built boats fishing as of the effective date of the Decree were exempted. The purpose of the legislation was to reserve the exploitation of marine resources in the Gulf of Panama for Panamanians. The effect of the Decree was to give a complete monopoly to a nonexistent industry, which has developed under its protective umbrella.

On the recommendation of the Inter-American Tropical Tuna Commission the Government authorized tuna bait fishing in Pacific waters during November and December 1957 and January 1958 under special permits. By Decree 148 of June 12, 1953, the tuna bait-fishing season is fixed as February 1 to October 31 of each year, with the season's license priced at $11 per net registered ton of the fishing vessel. The price of the special closed season permit was $4 per net ton registered for the vessel.

The shrimp industry, which has enjoyed the privileges and concessions of Law 12 of May 10, 1950, was made subject to income tax as of January 1, 1958. The agreement between the Government and companies provides that 50 percent of earnings, even though accruing from sales abroad, shall be subject to tax, payable quarterly.

Shrimp Industry: The extraordinary expansion, which began in mid-1956 and swelled capital investment in the industry to over $6 million by June 1957, tapered off rapidly in the latter part of the year and had practically halted by January 1958. To the extent possible expansion programs were held in abeyance until the future of the industry could be reassessed. Much of the investment capital from outside the industry, which was the principal contributor in the increase of the fleet, withdrew when reduced catches brought earnings substantially below anticipated income.

A July 1958 estimate by the Department of Fisheries placed capital investment in shrimp boats and plants at just under $8,500,000. The industry provides permanent employment to some 1,500 workers and part-time work for some 400 more.

Shrimp landings for the year July 1, 1957-June 30, 1958, were estimated at near 10 million pounds (heads off), about 1 million pounds more than the previous year. Local markets and the Canal Zone consumed an estimated 700,000 pounds and the balance entered the United States market. Peeled-and-deveined shrimp made up a substantially larger portion of the shipments than in previous years.

Panama's shrimp fleet totaled 217 trawlers on June 15, 1958, as compared with 157 a year ago. There were 42 more boats under construction, 32 of which will join the Panama fleet. The increase of 60 trawlers represents an even greater increase in the fishing power of the fleet as the new boats are larger and have more power. There are seven packing plants now processing shrimp. One other plant is under construction.

A number of the new companies organized between September 1956 and June 1957 have not con-

Table 1 - Panamanian Landings of Shrimp, Fish, and Other Fishery Products from the Gulf of Panama

Type	1957		1956 1/		1955 1/		1954	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	1,000 Lbs.	US$ 1,000	1,000 Lbs.	US$ 1,000	1,000 Lbs.	US$ 1,000	1,000 Lbs.	US$ 1,000
Shrimp (heads off) 2/ and lobster	8,864.0	5,200.0	6,645.0	2,503.0	4,466.0	1,760.0	3,648.0	1,440.0
Fish	1,319.0	222.0	1,315.0	59.0	1,672.0	101.0	706.0	66.0
Turtles	0.7	0.2	3.7	0.8	4.6	1.0	4.3	0.7
Oysters & clams	1.1	0.1	9.1	0.2	16.4	0.5	2.8	0.1
Total	10,184.8	5,422.3	7,972.8	2,563.0	6,159.0	1,862.5	4,361.1	1,506.8

1/ Revised.
2/ Total Panamanian shrimp landings are estimated at almost 10 million pounds heads off.
Note: Statistics for 1954 based on registrations at customs--Port of Panama, Arraijan, and Tocumen. Beginning with 1955 data based on information received from shrimp companies.

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tinued with plans to establish freezing plants. The majority have contracted their fleet of trawlers to one of the established packing companies. Several companies have their catch packed for sale under their own brand name. Little change is expected in the organization of the industry in the near future. If the catch of large whites does not improve and should the pinks fail to appear again next dry season, one or more of the packing companies may shift operations to another country. Reportedly, the catch of jumbo whites has been very good in Ecuadoran and Colombian waters.

Table 2 - Panamanian Shrimp Exports by Months

Month	1958		1957		1956	
	Quantity	Value	Quantity	Value	Quantity	Value
	Lbs.	US$	Lbs.	US$	Lbs.	US$
January	414,654	332,153	567,199	403,354	365,143	221,158
February	378,997	307,421	823,513	562,992	324,266	197,968
March	648,635	480,673	776,557	420,013	522,786	341,990
Total 1st Qtr.	1,442,286	1,120,247	2,167,269	1,386,359	1,212,195	761,116
April	789,068	561,108	753,146	541,205	431,978	288,333
May	815,413	535,591	961,023	779,891	800,938	395,883
June	-	-	819,639	612,015	842,722	556,449
Total 2nd Qtr.	-	-	2,533,808	1,933,111	2,075,638	1,240,665
Total 6 mos.	-	-	4,701,077	3,319,470	3,287,833	2,001,781
July	-	-	827,858	641,247	695,102	518,366
August	-	-	602,202	526,709	628,891	471,028
September	-	-	515,925	515,197	396,563	400,623
Total 3rd Qtr.	-	-	1,945,985	1,683,153	1,720,556	1,390,017
October	-	-	438,790	343,752	373,858	305,836
November	-	-	549,500	414,767	369,502	319,828
December	-	-	531,725	425,513	414,729	342,669
Total 4th Qtr.	-	-	1,520,015	1,184,032	1,158,089	968,333
Year's Total	-	-	8,167,077	6,186,655	6,166,478	4,360,131
Year's Total (Revised)	-	-	8,263,701	6,183,584	5,977,257	4,427,116

Note: Official monthly statistics are based on exporter's anticipated shipments filed with request for export license. Data based on shipping manifest are compiled only on an annual basis (year's total, revised). Usually exporter's estimates exceed quantity actually shipped but are lower than the actual value of shipment. Monthly data sufficiently accurate to reflect seasonal trend in catch.

Currently, 60 to 70 percent of the total shrimp catch is of the small species, titi, indio, tiger, known as "camarones." (Most of the small brown shrimp move into the market under the trade name "titi.") Titi landings have been heavy this season, the height of which is May, June, and July. This shrimp was discarded until mid-1955 when a United States soup company contracted to buy the small brown shrimp tails, peeled and deveined. There is considerable concern among packers that the United States price may break as stocks of "titi" in New York are known to be heavy.

The boat take of white jumbo shrimp or "langostino" has dropped sharply within the last 16 months. The average boat trip is around 100 pounds a day. For a 5- to 8-day trip a boat averages 400 to 600 pounds as compared to 1,500 to 2,400 pounds a year ago. White shrimp are taken the year around, but the best trawling is the rainy season, particularly April-September.

Both Government and industry are concerned that the sharply-reduced catches of the boats per trip may indicate that the white jumbo shrimp is being overfished. Absence of data on total catch by type makes it impossible to determine if the total catch as well as the average boat catch is diminishing. Assuming that total take was nearing maximum productivity, the increase in the fishing power of the fleet (more and larger trawlers) of approximately three times, should result in a decline in the take per boat. Moreover, the extended severe drought in 1957 is believed to have disturbed fishing patterns all along the Pacific Coast.

The pink of "roja" shrimp failed to come in within reach of the fleet this season. During the upwelling of cold water in the Gulf, which brings water temperature down, the pink shrimp appear in great abundance in the shallow water of the Gulf within easy reach of the shrimp fleet. The heavy run usually comes in the latter part of February or early March. There was a good take on February 28, and it appeared the run had started. However, the northeasterly wind did not continue, the water temperature rose, and the pinks disappeared. Some boats went out to deeper water to try and find them, but those located were in rocks, resulting in costly net damage. The 1958 total take of pink shrimp is estimated at 250,000 pounds (heads off) as compared with an estimated 2,500,000 pounds taken in 1957.

The jumbo whites are beheaded at sea. Packers are paying about 15 cents a pound under the sale price. The value of the catch of company-owned boats is estimated on the same basis. The catch averages 33 percent under 10 tails, 50 percent 11-15, 10 percent 16-20, and seven percent over 20 or broken. Some very large whites weighing five to six tails to the pound have been landed recently. The smaller species of shrimp usually are landed whole; however, when runs are heavy a premium price may be paid by a packer to crews of its own boats to induce them to behead at sea. Currently, packers are purchasing the titi at 10 cents a pound and the larger varieties at 30 cents a pound, whole.

Most trawlers average three trips a month of 5 to 8 days. Packers prefer the shorter trips as they permit more orderly handling of shrimp at the plant, ease the load on freezing equipment, and reduce losses from spoilage. Reduced catches per boat over the last year have encouraged captains to extend the trip and range as far west as the

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Costa Rican border. The general feeling is that the catch has not justified the 15-21 day trip. Reportedly, some boats have lost their entire catch because of failure of refrigeration equipment. Even with refrigeration, spoilage offsets a large part of the gain after the tenth day out. Boats fishing Colombian waters are out 21 days and the catch is averaging 4,000 to 5,000 pounds. Exploratory runs have been made off the Atlantic coast, particularly off Bocas del Toro. There is also an exploratory trip scheduled for the San Blas area. One company proposes to establish a fleet of about 10 trawlers in the Gulf of Chiriqui and send one trawler back to Panama City with the entire catch. To date the commercial shrimp industry has been confined entirely to the Pacific side of the Isthmus.

The Panamanian shrimp fleet had 217 trawlers in the water as of June 15, 1958, representing a capital investment roughly estimated at $6,800,000. At this time 42 additional trawlers were under construction, 32 of which expected to join the Panamanian fleet. Eleven trawlers have moved within the year to other fishing grounds; 6 to El Salvador, 4 to Honduras, and 1 to Colombia. The 12 now fishing in Colombian waters eventually will be transferred to Colombia and are not included as part of the Panamanian fleet. The Panamanian shrimp fleet is expected to level off around 250 trawlers.

Construction for the last two years has been more or less standardized to a modified "V" bottom, 5½-foot draft, 60-foot length (boats under 65 feet may transit the Canal without a pilot), and 18-foot beam. All are equipped with 150 to 200 horsepower Diesel motors and carry 25 tons. The 60-foot wooden trawler equipped with refrigeration costs between $30,000 and $40,000 and an additional $5,000 to $7,000 set to fish. Several steel boats have been constructed locally and are now fishing in the fleet. One fishing company reports construction costs of its steel boats to be approximately the same as the wooden ones. Commercially-built trawlers, reportedly, have cost about $10,000 more than the same boat in wood. Only boats built in the Republic may engage in shrimp fishing in Panamanian waters unless fishing as of August 5, 1953.

The boats should be pulled out at least three times annually for cleaning and painting and the engine overhauled once a year. However, Panama has no commercial marine railroad which discourages proper maintenance. Most boats are beached for cleaning, repair, and painting. One fishing company has its own marine railroad, which permits repair of trawlers of its own fleet, but its present facilities are limited. Work on its marine yard on Taboga Island has been stopped for the present. The new shrimp company now under construction will have a marine railroad but its use will be restricted to its own boats. There is a difference of opinion in the industry as to the saving in maintenance costs on the steel trawler. Reportedly, maintenance costs have increased sharply with the employment of untrained crews. One packing company has initiated an incentive program designed to encourage cleanliness and better maintenance of its trawlers by the crew.

The shrimp boats are using nets of 75 to 125 feet in length, the average being 90 feet. The tendency has been toward the bigger nets as catches declined over the year. This trend, however, may be reversed. The United States fishing expert, brought down by one of the packing companies, persuaded several captains on company boats that the smaller flat net would get as much shrimp, less scrap, and put less wear on the boat's motor. On the basis of the experience of these captains, other captains have requested that their boats be equipped with this 77-foot flat trawl. Nets are worked from a single beam with a side winch equipped with some 12,000 feet of steel cable, which permits fishing to a depth of 30-35 fathoms. Some boats have been equipped with 24,000 feet of cable which will permit fishing up to 80-90 fathoms.

One fishing company had redesigned a trawler for exploratory fishing to handle two nets, one off each side but worked from a single winch located in the center of the boat. The nets are 45-foot flat nets with 24,000 feet of steel cable which will permit trawling at 90 fathoms. One net will lead the other by 25 feet.

A large number of the trawlers, estimated at 40 percent of the total fleet, are now equipped with refrigeration. Most packers have a strong preference for ice over the refrigerated brine. Ice, however, is expensive at $9-$10 a ton and the boats, which require from 10-12 tons, can be supplied only at high tide. Refrigeration permits longer trips but lack of trained crew engineers able to make quick repairs has resulted in high losses.

A standard crew is captain, engineer, and two seamen. The crew is entitled to 35 percent of the value of the catch, which is divided 12 percent to the captain, 9 percent to the engineer and 7 percent each to the seamen. Most boats take on an extra hand known as the "pacotillo" who is paid by the other members of the crew or with fish caught in the shrimp nets. Some independent boat companies, temporarily, have increased the earnings of their crews by using a higher unit price in establishing the value of the catch. In this manner boat owners hope to hold good captains until shrimp fishing improves.

The rapid expansion of the fleet placed a premium on experienced reliable captains and trained fishing crews. Many of the boats were placed under newly-licensed captains, whose past experience was that of a seaman, and untrained fishing crews. Catches per boat dropped sharply with the increase in the fleet and earnings of the crew were cut proportionately. Bootlegging of shrimp over-the-side or at ports of the "Interior" developed to a critical point in the six months period of September 1957-March 1958. The shrimp was easy to sell and guilt was difficult to prove. The organized ring was uncovered in March with the theft of shrimp estimated at $50,000 monthly. Arrests include one packer and a number of boat captains, including some of the better ones.

Local consumption, including sales in the Canal Zone market, probably did not exceed 700,000 pounds within the year in view of the high price and short supply. Shipments for the year July 1, 1957-June 30, 1958 are estimated at 7,677,000 pounds of frozen shrimp. The jumbo whites made up about 40 percent of total exports. The smaller species, peeled and deveined, represent 60-70 percent of current shipments, and about 60 percent of the year's exports.

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The large white tails are sorted by size, in most instances mechanically, layer-packed in five-pound boxes, frozen, then given a heavy glaze. These are shipped in steel-banded master cartons holding 50 pounds. One packer is processing large white tails, peeled and deveined and frozen separately. These tails are arranged on large metal trays and placed in the blast-freezing room for approximately 40 minutes. They are finished with a heavy glaze and packed in $2\frac{1}{2}$-pound units and shipped 25 pounds to the master carton. The loss in processing is about 20 percent. Another packer is processing large whites, unpeeled, frozen separately. No individually brine-frozen shrimp are being processed at this time.

All packers have increased the processing of the small species of shrimp in an effort to offset the loss of the pink this year and the reduced take of whites. Generally speaking, tails up to 60 to the pound are layer-packed in five-pound boxes, frozen, and glazed in the same manner as the large whites. All under 60's are peeled and deveined, packed in five-pound plastic bags, jumbled, placed in five-pound boxes and frozen. No glaze is necessary. Currently, packers are peeling and deveining all the brown shrimp which available labor permits. A one-pound plastic package of peeled and deveined shrimp is processed in both "titi" and large browns for the local market and the Canal Zone.

Peeling and deveining and packaging is done on a piecework basis. Peelers receive 3 to 4 cents a pound. The more skilled workers may earn up to $25 a week with the average earning 20 to 30 cents an hour. An estimated 400 persons are permanently employed in the processing plants with some 400 additional peelers employed on a part-time basis.

All packers ship by the Panama Line which sails from Cristobal for New York on a 7-, 11-, 7-day schedule. The frozen shrimp, packed in 50-pound master cartons (frozen white jumbo "separates" have same packing as layer-packed tails but weigh only 25 pounds per master carton), is shipped by the Panama Railroad to Cristobal dockside in accordance with the sailing date of the Panama Line. The mechanical refrigerator cars, placed in service on the transisthmian railroad by the Panama Canal Company in October 1957, have met with favor by all packers. The refrigerator car, which may travel as part of the passenger train, permits orderly movement of the frozen shrimp from the holding room of packing plants to the refrigerated hold of the ship. Formerly, all shrimp moved by refrigerated trailers across the Isthmus.

The Grace Line is the regular carrier for frozen shrimp moving to the United States west coast and and carries occasional shipments to the Atlantic Coast. No air shipments have been made since the emergency shipments in February 1957.

Most sales are made f.o.b. Cristobal to United States importers. None of the packing companies have found it necessary to deal through brokers.

Reduced catches and increased processing facilities have held the price of fresh shrimp high. Packers purchase the shrimp of independently-owned boats on a scaling ex-vessel price ranging from 12-20 cents under current sales prices. The value of the catch of company-owned boats is established on the same basis. Currently packers are paying 80 cents a pound for heads-off whites, and 10 cents a pound for titi with heads, 20 cents heads off. The indio and tiger shrimp are purchased at 30 cents a pound heads off.

The f.o.b. Cristobal price averages 90-95 cents a pound for frozen jumbo whites, 45 to 55 cents a pound for frozen peeled and deveined "titi" and 55 to 65 cents a pound for peeled and deveined tails of the larger brown species.

Checks of local public markets in August 1958 indicated that the supply of shrimp offered has been limited. The local market favors the whole shrimp. Water from the smashed cooked head is used to flavor a native rice dish. Moreover, vendors customarily behead day-old shrimp. Supermarkets and select meat markets offer frozen, peeled, and deveined titi in one-pound bags, jumbled, for $1.05 a pound. The large types of frozen brown peeled and deveined shrimp were priced at $1.30 a pound package. No jumbo whites were available in markets checked. New shrimp products: breaded, cooked, and smoked--were available. Breaded fantails were 75 cents a ten-ounce frozen package. Two-ounce packages of shrimp rounds (balls) and smoked "titi" were priced at 31 and 32 cents, respectively. Dried "titi" tails were available at the checkout counter in small cellophane packages at 10 cents a package. The latter are served as cocktail tidbits or eaten as salted peanuts might be in the United States.

The Canal Zone currently is purchasing fresh jumbo whites without heads at $0.88 a pound. Peeled and deveined tails of the larger brown species, frozen, are purchased at $1.05 a pound and the smaller "titi" at 75 cents a pound. Frozen breaded fantails and shrimp rounds are available at 50 cents a ten-ounce box, 25 cents less than the price in Panama City supermarkets.

Shrimp continued to be Panama's second export product. Official statistics report exports of 8,263,701 pounds with a declared value of $6,183,584 for calendar year 1957. For the first five months of 1958, exports totaled 2,046,768 pounds valued at $2,216,946 as compared to 3,881,439 pounds valued at $2,707,455 for the same period in 1957. Export shipments for the 12 months, July 1, 1957-June 30, 1958, were estimated at 7,676,800 pounds net of frozen shrimp as compared to 7,023,658 pounds net for the previous 12 months, indicating a near 10-percent increase in spite of the absence of the pinks this season. Similar estimates for the seven months period, January-July 1958, compared with the same period 1957 indicates a decline of less than four percent although the take of pinks this season did not exceed 250,000 pounds as compared to 2,500,000 pounds taken in the first four months in 1957. Furthermore, a greater proportion of the shrimp is being peeled and deveined, which involves a weight loss in processing of 20 percent for large whites and 35 percent for the smaller species.

The impact of the importation of Colombian shrimp for processing will be reflected in Panama's exports for the last half of 1958. On the basis of current boat takes this traffic should amount to some 336,000 pounds of large whites, heads off, in the six months period granted a Panamanian

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shrimp company in its arrangement with the Colombian Government.

Panama continues to import a small amount of shrimp, dried or salted and canned. Imports in 1957 increased substantially over the quantity imported in 1956, due to withdrawal of Zone Commissary privileges of Panamanian Zone workers. The United States was the principal supplier for canned shrimp and Hong Kong for shrimp dried and salted. United States canned shrimp in August 1958 was priced in Panama City supermarkets at 84 cents a $4\frac{1}{2}$-ounce can of jumbo and 62 cents a $4\frac{1}{2}$-ounce can of small browns; Norwegian peeled shrimp 52 cents a $2\frac{1}{2}$-ounce can.

Fish Industry: The fresh fish industry continued primarily in the hands of one firm which supplies Panama and Canal Zone markets on both sides of the Isthmus, particularly hotels, clubs, and restaurants. Independent fishermen supplement the supply of vendors in the public markets.

A cooperative fillets and freezes select fish caught in the shrimp nets such as corbina, snook, flounder, and red snapper. Production is limited and the fillets are small since the fish are caught incidental to shrimp fishing. Production presently is off, but the company has processed as high as 15,000 pounds of fish a month within the year. The entire production is sold to select Panamanian markets and the Canal Zone. Demand continues to exceed supply.

For fish, in the public market corbina in August 1958 was selling for 25-30 cents a pound. A number of other smaller varieties of fish were offered at 10-15 cents each. The supply of fish fillets was limited although such choice fish as red snapper, snook, pargo, Spanish mackerel, and sierra are usually available. Supermarkets and select meat markets offer frozen fillets of corbina at 50 cents a pound and melo at 35 cents a pound. The Canal Zone currently purchases fresh fish at 25 cents, first grade, and 15-18 cents, second grade. Frozen corbina is priced at 36-40 cents a pound and flounder at 25-27 cents a pound.

A small amount of fish is dried and sold locally as cod. Flounder, which is not acceptable as a fresh fish because of its double eye on one side finds a ready market dried as cod. Young shark is also used. Interior markets offer sun-dried fish which is processed locally. Imports of dried cod in 1957 exceeded 1956 by 90,000 pounds. Canada was the principal supplier.

There are no canneries in Panama. Plans of the two shrimp companies who considered establishing canneries have been indefinitely deferred. There are no boats fishing commercially for fish. Most shrimp companies permit crews to keep the fish caught in the nets to pay the "pacotilla" or sell to increase their own income. There is little likelihood that other packers will process frozen fish fillets, at least for the near future.

Panama's imports in 1957 of canned sardines exceeded 1,400,000 pounds valued at $274,391. Imports of tuna were three times 1956 purchases and salmon imports doubled. The increase reflects the increased demand in the Panamanian markets as of January 1, 1957, when Zone workers lost commissary privileges.

Fish-Meal Industry: Panama's second fish-meal plant was completed in April 1957 at a cost of some $300,000 and was in commercial operation in the latter part of the year. The plant is located on Taboga Island in the Gulf of Panama and is owned by a shrimp company. Used plant equipment purchased in the United States was supplemented by new equipment imported or constructed in the company's shops. The plant is under the management of an experienced German technician. Capacity of the plant is 9-10 tons of raw fish an hour with the fish-meal recovery about 20 percent of the raw fish content. The meal runs about 60 percent protein and sells at $6.50-$7.00 a 100-pound bag ($130-140 a short ton).

Production of the Taboga plant as well as that of another plant established in February 1955 is very restricted by the lack of fish. The older plant lost one of its three purse seiners and is dependent on two boats for its fish supply. The Taboga plant has one purse seiner in operation under a Peruvian captain experienced in the use of the purse seine. Three other boats are under construction and will be equipped with purse seines and placed under experienced captains when completed. The plant's raw fish supply is supplemented by noncommercial fish from the company's shrimp boats. Noncommercial fish caught the last day or two of a shrimp trip is purchased from the crew at $10 a ton.

Panama consumes about one-half of the total meal production, primarily in commercial hog feeding; the balance is exported. In 1957 exports totaled 842,157 pounds valued at $40,500 as compared to 1956 exports of 225,791 pounds valued at $13,780. All shipments moved to the United States.

Both fish-meal plants are large and neither has been able to secure enough raw fish to operate at a quarter of plant capacity. There are some 50 varieties of noncommercial fish in the Gulf of Panama but fishing for these fish only is costly. Limited deck space on the shrimp trawler makes it impracticable to save fish caught in the shrimp nets except on the last day out. The company with the Taboga plant proposes to use a fleet of landing barges to pick up daily the fish from its shrimp boats. As yet this plan has not been put in operation. The future of the fish-meal industry is dependent on a solution of the problem of raw fish supply.

Bait Fishing: The United States tuna fleet considers the area around Chepillo Island and the mud flats east of Panama City one of the better "baiting" grounds for the anchovetta sardine. Since the anchovetta spawns within the first year and usually dies shortly thereafter it may be considered an annual crop.

The Government of Panama requires commercial tuna boats to purchase a bait-fishing license for the nine months season, February 1-October 31. The cost of the license is $11 per registered net tonnage of the fishing vessel. Some 71 tuna boats obtained bait fishing licenses for the regular 1957 season at a cost of $140,888. Requests were well above the 57 licenses obtained in 1956 at a cost of $117,485. Panama has received an average annual

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income of $135,129 for the last five years from the sale of bait-fishing licenses.

On the advice of the Inter-American Tropical Tuna Commission, Panama permitted tuna boats, under special permits, to bait-fish during the three months' closed season, November and December 1957 and January 1958. Reportedly, the Commission does not believe that bait fishing throughout the year in the Gulf entails any danger of depletion to the anchovetta. The price of the special permits was $4 per registered net tonnage of the fishing vessel. Some 27 boats obtained permits at a cost of $19,888. Requests for bait-fishing licenses for the current season as of June 30 were well behind 1957 sales.

There was some concern expressed at the annual reunion of the Inter-American Tropical Tuna Commission over the use of the anchovetta by the two fish-meal plants of Panama. The manager of Taboga plant, however, reported that the anchovetta made up less than 10 percent of the plant's supply of raw fish. Reportedly, Costa Rica has obtained Panama's consent to take anchovetta for use in restocking its waters of the Gulf of Nicoga.

Spiny Lobster Industry: The principal grounds for spiny lobster fishing are Playa Grande on the Pacific side and Bocas del Toro on the Atlantic side of the Isthmus. Transportation is the limiting factor as both locations are distant from the centers of consumption--Panama City, Colon, and the Canal Zone.

A small company, organized in 1957 to exploit lobster resources of Bocas del Toro, has ceased operations. The company purchased lobsters caught by divers for $3 a dozen and transported them by air to Panama City for processing at a local shrimp plant. The lobsters weighed from one to 1½ pounds, heads on. The catch averaged 4,000 pounds monthly. All were sold locally. The organizer of the company feels that a freezer boat is needed to operate profitably.

The shrimp packing company installed large cooking kettles for use in processing lobster for the export market. The company received around 4,000 pounds of fresh lobster a month from Bocas del Toro. Both the whole lobster and tails only were processed for export. Operations have been discontinued on the basis that the supply was too small.

Operations at Playa Grande on the Pacific were practically destroyed when most of the traps were broken loose and lost in a high wind. The traps have not been replaced and there is no organization to present limited operations.

The supply of lobster in the local market is erratic. There were none in August 1958 in Panama City markets. The Canal Zone currently pays 40 cents a pound for live spiny lobsters weighing from 1 to 4 pounds, but has no regular source of supply.

Exports of spiny lobsters in 1957 amounted to 1,382 pounds valued at $680. All were shipped to the United States market.

Boat-Building Industry: Panama's boat-building industry developed under the protection of Decree-Law 172 of August 5, 1953, and flourished with the extraordinary expansion in the shrimp industry. Boat builders, who in July 1957 were unable to accept additional orders for new boats, are now looking for orders. As of June 15, 1958 there were 38 boats under construction in the 11 boatyards and 4 being built on the beach. Several boatyards have closed. In the past six months the industry has had cancellations of orders and even stop orders on boats under construction. New speculative capital, the principal contributor in the expansion of the shrimp fleet, withdrew quickly when boat catches declined and earnings dropped below anticipated income. The investor, who had used borrowed money, has had difficulty maintaining his boats in operation with the reduced catch per boat, further aggravated by theft of the shrimp and failure of the pink shrimp season.

The Panama shrimp fleet is expected to level off at 250 trawlers. There were 217 in the water June 15 and 32 under construction which expect to join the fleet.

The future of the boat-building industry appears to depend on an export market. One boat yard has an order for 10 boats for the Brazilian fleet. Three have been completed and exported. Within the year 11 boats have been withdrawn from Panama's shrimp fleet and moved to neighboring republics. An additional 12, presently fishing Colombian waters, will be assigned permanently to Colombia.

Table 3 - Panamanian Imports of Fishery Products by Commodity and Country, 1957

Product & Country of Origin	Quantity	Value
	1,000 Lbs.	US$1,000
Shrimp, dried or salted:		
United States	1.5	1.5
Hong Kong	26.5	17.0
Nicaragua	2.2	1.0
Colombia	1.8	0.6
Total	32.0	20.1
Shrimp, canned:		
United States	7.2	8.1
Hong Kong	0.3	0.2
Free Zone	0.9	0.9
Total	8.4	9.2
Cod, dried:		
United States	10.5	2.9
Canada	1,215.6	242.4
France	70.7	19.8
Great Britain	59.0	10.6
Iceland	12.4	2.8
Others including Free Zone	19.9	4.0
Total	1,388.1	282.5
Tuna, canned:		
United States	17.0	9.8
Peru	169.4	43.8
Ecuador	23.9	4.0
Others including Free Zone	13.0	3.8
Total	223.3	61.4
Sardines, canned:		
Not available	1,428.8	274.4
Salmon canned:		
Not available	153.8	62.5
Grand Total	3,234.4	710.1

The Panamanian trawler has been more or less standardized to a modified "V" bottom with 5½-foot

Panama (Contd.)

draft, 60-foot length and 18-20-foot width. It is of heavy construction with a dead weight of 50 tons. Native woods are adaptable to boat building and have proved successful in tropical waters. The wood is impregnated with poison to deter attack by insects. New wooden trawlers are priced at $30,000-$40,000.

One commercial boatyard has constructed steel boats: 8 were on order a year ago; 9 have been completed; and 2 are under construction. One shrimp company also is building for its own use 4 steel boats. The completed one was converted to a purse seiner. Commercially-built steel boats are priced at $40,000-$50,000 but the shrimp company maintains that its construction costs are approximately the same on the steel as on the wooden ones.

In spite of the expansion of the boat-building industry there is no commercial marine railroad. Lack of these facilities discourages proper care, and maintenance on the trawlers runs high. An appropriate area for the location of a marine railroad is limited in and around Panama City. One fisheries company in Panama has suspended construction of its marine yard and shops on Taboga Island, which included plans for marine railroads to accommodate 10 to 12 shrimp boats.

A number of the present boatyards are expected to operate primarily in repair and rebuilding of existing shrimp boats. One proposes to introduce a small 36-foot trawler which will be able to get into rivers and on the mud flats. Several of the larger companies should be able to compete in the export market.

Peru

SPERM WHALE PRODUCTION, 1957:

Preliminary estimates indicate that during the 1957 whaling season in Peru, 2,363 sperm whales were captured, from which 7,802 metric tons of sperm oil were extracted. It is expected that the 1958 sperm-whale production will be double that of 1957 due to the installation of a new plant for processing sperm oil. (Boletin Informativo, No. 53, January 1958.)

Portugal

CANNED FISH EXPORTS, JANUARY-JUNE 1958:

Portugal's exports of canned fish during January-June 1958, amounted to 26,959 metric tons (1,673,700 cases), valued at US$14.6 million, as compared with 18,943 tons, valued at US$12.0 million, for the same period in 1957. Sardines in olive oil exported during the first six months of 1958 amounted to 19,183 tons, valued at US$10.4 million.

During January-June 1958, the leading canned fish buyer was Germany with 4,298 tons (valued at US$2.4 million), followed by Italy with 3,860 tons (valued at US$2.0 million), Great Britain with 3,070 tons (valued at US$1.6 million), the United States with 2,472 tons (valued at US$1.8 million), and Belgium-Luxembourg with 2,021 tons (valued at US$1.8 million). Exports to the United States included 1,245 tons of anchovies. (Conservas de Peixe, August 1958.)

Portuguese Canned Fish Exports

Species	January-June 1958	
	Metric Tons	US$ 1,000
Sardines in olive oil	19,183	10,355
Sardinelike fish in olive oil	2,925	2,006
Sardine & sardinelike fish in brine	495	121
Tuna & tunalike fish in olive oil	730	582
Tuna & tunalike fish in brine	279	133
Mackerel in olive oil	2,739	1,242
Other fish	608	180
Total	26,959	14,619

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CANNED FISH PACK, JANUARY-APRIL 1958:

The total pack of canned fish for January-April 1958 amounted to 5,424 metric tons as compared with 4,818 tons for the same period in 1957. Canned sardines in oil (2,876 tons) accounted for 53.0 percent of the January-April 1958 total pack, higher by 27.4 percent than the pack of 2,258 tons for the same period of 1957, the August Conservas de Peixe reports.

Table 1 - Portuguese Canned Fish Pack, January-April 1958

Product	Net Weight	Canners' Value
	Metric Tons	US$ 1,000
In Olive Oil:		
Sardines	2,876	1,602
Sardinelike fish	228	106
Anchovy fillets	1,282	1,112
Tuna	390	303
Other species (incl. shellfish)	145	107
In Brine:		
Sardinelike fish	323	51
Other species	180	61
Total	5,424	3,342

Note: Values converted at rate of 28.75 escudos equals US$1.

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Portugal (Contd.)

FISHERIES TRENDS, JUNE 1958:

Sardine Fishing: During June 1958 the Portuguese fishing fleet landed 8,002 metric tons of sardines (valued at US$696,696 ex-vessel or $87.07 a ton). In June 1957, a total of 6,934 tons of sardines were landed (valued at US$926,086).

Canneries purchased 35.8 percent or 2,864 tons of the sardines (valued at US$264,939 ex-vessel or $92.51 a ton) during June. Only 3 tons were salted, and the balance of 5,135 tons was purchased for the fresh fish market.

Matosinhos lead all other ports in June landings of sardines with 6,334 tons or 79.2 percent, followed by Peniche 1,004 tons (13.0 percent), and Lisbon 211 tons (2.6 percent).

Other Fishing: The June 1958 landings of fish other than sardines were principally 4,672 tons (value US$378,191) of chinchards, and 882 tons (value US$108,522) of anchovies. (Conservas de Peixe, August 1958.)

Singapore

CENTRAL FISH MARKET PLANNED FOR SINGAPORE:

Leading merchants and auctioneers plan to invest a million dollars in a central fish market in order to organize the marketing of marine products in Singapore. In the past the market has been scattered and irregular and the marketing of fish has been unsatisfactory.

The new scheme envisages the establishment of an auction center, a wholesale market equipped with new modern handling facilities, and an ice factory, as well as a boat landing for fishing craft. It is hoped that the new market will result in better quality fish being marketed at lower prices. Fish is an important source of protein for the people of Singapore, points out an August 26 dispatch from the United States Consulate in that Colony.

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FISHERIES IN 1957:

The total catch of fishery products in Singapore during the year 1957 was estimated at about 13,593 metric tons.

Very little of the domestic catch is processed. During the early part of the northeast monsoon, part of the anchovies caught is boiled in brine and sold as "boiled fish." The total volume of fish consumed in Singapore in 1957 was estimated as about 37,000 tons. Imports of fish during 1957 amounted to 25,577 tons of fresh fish and 12,944 tons of dried fish. Exports of fish amounted to 2,171 tons of fresh fish and 11,637 tons of dried fish. The number of fishing vessels licensed in 1957 were: 2,122 non-powered vessels; 488 vessels powered by outboard motors; and 156 vessels powered by inboard engines. A total of 1,924 licenses were issued in 1957 to fishing gear operators.

Spain

VIGO FISHERIES TRENDS, JULY-AUGUST 1958:

Fish Exchange: Landings of fish for the month of July 1958 at the Vigo Fish Exchange rose to 6,768.6 metric tons, an increase of 2,390.7 tons over the previous month, and a slight increase of 87.3 tons over July 1957. Primarily responsible for the increase were the landings of albacore, tuna, which rose from 169 tons in June this year to 2,660 tons in July (July 1957 catch: 1,963 tons). Sardine landings amounted to 547 tons, an appreciable increase over the 42 tons of July 1957. Other major species passing through the exchange were horse mackerel (944 tons), and small hake (538 tons).

Landings this July were valued at US$1,987,000 (at the official rate of US$1.00 = 42 pesetas), almost an 80 percent increase in value over June due to larger landings of the expensive albacore. Fresh albacore ex-vessel prices averaged 15 U.S. cents a pound during the month.

August 1958 fish landings were a disappointment after July. Total catches dropped 1,199.6 tons, and were also 381 tons less than August of 1957. Albacore landings were 1,343 tons, a drop of 1,317 tons from the preceding month, but considerably higher than the 831 ton figure for August 1957. Sardine landings dropped from 547 tons in August 1957 to 405 tons landed in August this year. Other leading species for the month were horse mackerel (1,228 tons), and small hake (418 tons). The total August catch was valued at US$1,390,843.

Fish Canning and Processing: Cannery production increased sharply in July with 2,597 tons of fresh fish processed followed by a drop in August to 1,640 tons. The increased activity reflected the larger catches of albacore and sardines for the two-month period. The sardine fishery continues to be a disappointment because of the light catches, and because of the small size of the fish.

The new premium for the export of canned fish products represents an approximate 11-percent increase, and puts Spain in a much more favorable competitive position with its two chief rivals, Japan and Portugal. Principal exports are sardines, anchovies, tuna, and albacore; with Italy, the United States, Cuba, and Switzerland buying almost 80 percent of the total.

The largest foreign market for Spanish fish products is Italy which in 1957 bought 19 percent of the sardines, 92.87

Spain (Contd.)

percent of the other tuna and albacore, and 71.85 percent of the anchovies, for a total of 61.02 percent of Spanish exports (United States share: 6.37 percent). Although refusing to raise its quota on tuna imports, Italy recently extended its commercial accord with Spain for one year (to April 1, 1959), reportedly agreeing to buy nearly 23 million pounds of all types of fish, a sizable 20 percent increase over the previous agreement.

Prospects of increased exports this year due to the new export premiums depend on various factors. Stocks are adequate, but sardines, the main export product, have failed again to appear in sufficient quantities. Anchovies are not canned until late winter when other activity has ceased. The only bright spot in the picture are the catches of albacore which are running much higher than last year. Exports will go up, stated an industry representative, but how fast and how much cannot be predicted.

Increased dollar earnings will depend on the sales of tuna, anchovies, albacore, and sardines to the United States, which purchased 1,781,572 pounds valued at US$627,000 in 1957. Exporters would particularly like to increase tuna and albacore sales.

Surinam

SHRIMP LANDINGS DOWN SHARPLY IN 1957:

Shrimp landings in Surinam during 1957 amounted to approximately 804,700 pounds, a decrease of 50.0 percent as

Surinam's Shrimp Landings, 1952-57			
Year	Quantity	Year	Quantity
	1,000 Lbs.		1,000 Lbs.
1957	804.7	1954	992.1
1956	1,622.6	1953	881.8
1955	1,234.6	1952	661.4

compared with 1.6 million pounds in 1956. The drop in landings was attributed to abnormally high temperature and salinity of the waters in river mouths and near the coast. (U. S. Consulate in Paramaribo dispatch August 16, 1958.)

Sweden

CONSUMPTION OF FISH AND FISHERY PRODUCTS, 1957:

Total Swedish consumption of fish and fishery products during 1957, according to preliminary figures of the Swedish State Agricultural Marketing Board, amounted to 135,100 metric tons, valued at 412 million Swedish crowns (US$79.5 million), as compared with 134,700 tons valued at approximately 400 million crowns (US$77.2 million) in 1956.

Fresh and frozen fish consumed in 1957 amounted to 88,700 tons, valued at 249 million crowns (US$48.1 million); canned and cured fish amounted to 46,400 tons valued at 163 million crowns (US$31.5 million).

Consumption of fresh fish has steadily increased during the past years, while the quantity of canned and cured fish consumed has decreased in each of the last two years. In 1957 this decrease was confined to imported products as opposed to 1956, when the decline was exclusively in domestic products.

Consumption of frozen fish fillets totaled 18,000 tons in 1957 as against 18,100 tons in 1956. This very small decrease of 100 tons is chiefly of interest because it breaks a steadily rising trend of some years duration.

Consumption of Fresh, Canned, and Cured Fish in Sweden, 1954-57				
Product	1957	1956	1955	1954
	(1,000 Metric Tons)			
Domestic salt-water fish:				
Fresh fish & fish fillets	52.8	51.0	53.8	52.4
Frozen fish fillets	6.6	5.8	4.9	3.4
Imported salt-water fish:				
Fresh fish & fish fillets	7.9	7.9	7.6	9.4
Frozen fish fillets	11.4	12.3	9.6	4.1
Fresh-water fish	10.0	10.0	10.0	10.0
Total fresh & frozen fish	88.7	87.0	85.9	79.1
Canned and cured fish:				
Domestic products	30.4	27.4	31.7	25.2
Imported products	16.0	20.3	16.1	19.3
Total canned & cured fish	46.4	47.7	47.8	44.5
Grand total	135.1	134.7	133.7	123.6

Despite the drop in total frozen fish fillet consumption, the amount supplied by domestic products rose. In other words the drop was absorbed by the imported frozen fish fillets which fell to 11,400 tons in 1957 as compared with 12,300 tons in 1956.

Imports during the past years have amounted to between 20 and 25 percent of the total fresh fish consumption, including frozen fish fillets, and for a considerably larger part of the consumption of canned and cured fish.

The per capita consumption of fresh fish increased from 26.0 pounds in 1956 to 26.2 in 1957, while the consumption of canned and cured fish dropped from 14.3 pounds to 13.7 pounds.

Sweden (Contd.)

The average retail price for fresh fish increased during 1957 and amounted to 2.86 crowns a kilogram (25 U. S. cents a pound), as compared with 2.72 crowns a kilogram (24 U. S. cents a pound) in 1956. The price of canned and cured fish on the other hand decreased from 3.44 crowns a kilogram (30 U. S. cents a pound) in 1956 to 3.34 crowns a kilogram (29 U. S. cents a pound) in 1957. (United States Consulate dispatch from Goteborg dated August 28, 1958.)

Note: Values converted at the rate of 1 Swedish crown equals US$0.193.

Union of South Africa

AUREOMYCIN TESTS WITH HAKE:

The use of aureomycin in fish preservation was tested earlier this year by the South African Fishing Industry Research Institute. Describing these experiments in their Bulletin No. 31, the findings were:

(1) Preliminary microbiological assays showed that a commercial antibiotic preparation, received from the United States some time before, was of correct "potency." Further assays showed that it was possible, by following closely the manufacturer's instructions, to prepare crushed ice containing between 2 and 5 p.p.m. aureomycin.

At sea, such ice was used for the storage of hake and the spoilage of these hake was followed for 13 days. Both bacteriologically and organoleptically the aureomycin ice had a marked beneficial effect; after 13 days, fish in ordinary ice were considered inedible while those from aureomycin ice were considered quite edible and of much better appearance. At earlier stages during storage (e.g. after 5 and 8 days in ice) the differences between the two batches were not organoleptically apparent, but bacterial counts on fish in ordinary ice were 10 or more times higher than the counts on fish in aureomycin ice.

(2) Hake were dipped in a 50 p.p.m. aureomycin in sea water solution, then stored in the aureomycin ice. Only a slight extra beneficial effect followed the use of the aureomycin dip in conjunction with storage in aureomycin ice, when compared with fish dipped in sea water alone and then stored in aureomycin ice.

(3) Because the industry might find it desirable to use aureomycin ice on only part of the catch, after it is landed, this aspect required investigation. Hake were held three days in ordinary ice and then switched to aureomycin ice containing 3-3.9 p.p.m. antibiotic. Control fish were held in ordinary ice all through the experiment. It was found that the use of aureomycin ice in this way had no beneficial effect until some time between the 10th and the 15th day of storage. By the 15th day the fish from both types of ice were considered inedible, despite the far lower bacterial counts on fish from aureomycin ice.

After 13 days' storage in aureomycin ice the outer (subcutaneous) layer of the muscle, to a depth of 1.5 cm., in fish treated as in (1) or (2) carried aureomycin concentrations of between 0 and 0.09 p.p.m., as determined by microbiological assay.

After 18 days' storage in aureomycin ice, two similar muscle samples from fish treated as under (3) carried aureomycin concentrations of 0.12 and 0.4 p.p.m. respectively, and a skin concentration of 1.35 to 0.067 p.p.m.

From the foregoing experiments, it appears that aureomycin ice is of practical benefit only if it is brought into contact with the fish immediately after catching. Further experiments are planned to determine whether some variation in the method of antibiotic application might allow treatment to commence 3 to 5 days after catching.

In the above experiments, it was found that the residual aureomycin in the fish, even after prolonged storage, was at such a low level as to be of no danger to the consumer's health. A short cooking of the fish further reduced the antibiotic's concentration, if not destroying it altogether. (The South African Shipping News and Fishing Industry Review, August 1958.)

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CAPE WEST COAST PILCHARD-MAASBANKER INDUSTRY, JANUARY-JUNE 1958:

The pilchard-maasbanker boats of the Union of South Africa Cape west coast landed 243,450 metric tons of fish during the first six months of 1958, consisting of 162,210 tons pilchards, 60,285 tons maasbanker (jack mackerel), and 20,955 tons mackerel. By the end of June 222,495 tons of the 250,000-ton pilchard-maasbanker quota for the season had been landed.

The Cape West Coast fish catch in June was 39,501 tons pilchards, 2,851 tons maasbanker, and 79 tons mackerel. The month's total catch of 42,431 tons yielded 7,321 tons fish meal, 487,698 gallons fish oil, 1,349,976 pounds canned pilchards, 1,074,141 pounds canned maasbanker, and 21,264 pounds canned mackerel.

The moon period early in July followed by a temporary shift of the pilchard shoals south from the Dassen Island area, caused a drop in the Union of South Africa west coast fish catch in that month.

Union of South Africa (Contd.)

The estimated total of about 25,000 tons should, however, bring the 1958 total catch to about 270,000 tons, and that for pilchards and maasbanker to just under the 250,000-ton quota.

With another month of fishing in August, the industry is well set to pass 250,000 tons for the first time since 1952.

The Union of South Africa's pilchard and maasbanker harvest this season may be the best since the record year of 1952. The waters of the Cape west coast have erupted in a rich gleaming mass of the fish. Fourteen factories, 1,000 fishermen, and 175 boats are reaping the glistening harvest.

"It has become a season of fantastic abundance; day and night boats return to the factories with full holds overflowing on to the decks. The boats are bigger, the nets deeper, and they catch all they can. But they make little impression on the packed shoals which seem to increase rather than diminish with the catching."

May yielded 55,164 metric tons of pilchard, maasbanker, and mackerel. At the end of May this year a total of 122,709 tons of pilchards, 57,434 tons of maasbanker, and 20,876 tons of mackerel had been landed.

Six years ago, when a record catch of 300,000 tons was attained, fishery scientists became alarmed and feared that the abundant waters of the Cape were in danger of being overfished. A 250,000-ton quota was introduced and later an agreement between factories and fishermen restricted the capacity of the fishing fleets. Since then the industry has struggled and failed to reach its 250,000-ton ceiling. Each year the catch decreased until in 1956 the quota total of pilchards and maasbanker dropped to a meager 134,874 tons.

Big boats roamed 100 miles and more from their factories searching for the elusive shoals. Then the echo sounder was introduced, and in mid-1957 a huge rush of maasbanker, found by echo sounders, helped to improve the catch to 211,742 tons.

As the boats went out for the 1958 season factories prepared for the long-range fishing of the previous few years. Then, early in February pilchard shoals appeared off the coast, and the run to and back from the grounds was reduced to about six hours. In April the shoals were so thick that it was often difficult to move through the packed mass of fish. Catches were made within a few miles of the coast, often within sight of the factories.

In all, the fishing industry of the Union and South-West Africa has landed nearly 400,000 tons of pilchards in the first six months of fishing this year.

The improvement in fishing has been matched by good sales of South African fish products abroad. The most outstanding increase has been to the Far East and the Philippines--more than 13,000 tons, including one order of 3,500 tons, probably the largest single load of canned products ever taken from South Africa. Large exports of fish meal included several cargoes of bagged meal to Britain, the Continent, and the United States.

At Walvis Bay in South-West Africa in June 44,961 tons of pilchards were landed to bring the total for the first six months of 1958 to 135,961 tons. The South-West Africa quota is also 250,000 tons. (The South African Shipping News and Fishing Industry Review, August 1958.)

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PILCHARD-MAASBANKER FISHING SEASON ENDED AUGUST 31, 1958:

The fishing season for pilchards and maasbankers in the Cape West Coast waters of South Africa ended on August 31, 1958, and will not reopen until January 1, 1959. This action was taken by the Union's Division of Fisheries after it became evident that the total combined catch of pilchards and maasbankers had passed the 250,000-ton quota. The fishery this year was the best since 1952 and the quota was reached for the first time since 1953. The estimated catch of pilchards and maasbankers for the 1958

Union of South Africa (Contd.)

season is 275,000 tons as compared with 300,000 tons in 1952, states a September 16, 1958, report from the United States Embassy in Pretoria.

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SHARK FISHERY PROSPERS:

Sharks are bringing prosperity to Gansbaai, a small bay about 90 miles from Cape Town, South Africa. Fishermen are already well on the way to beating their record of 60,000 sharks last year. In this season, which started on April 1, they have already caught more than 50,000. In June alone they caught over 15,000, against 10,000 for the previous June. For some fishermen the haul means anything up to US$56 a day. On some days more than 2,000 sharks have been delivered to the Gansbaai Fishery Cooperative.

The Cooperative sells the livers to a pharmaceutical manufacturing company which has set up an oil-extracting plant in the village. The carcasses are dried and sold to the Belgian Congo, Ghana, and Mauritius, and the dried fins are exported to China.

The shark is the "vaalhaai," which grows to about 6 feet, and averages about 40 pounds in weight. It is also known as the tope, school shark, or liver-oil shark.

The fishermen catch them on hand lines, using any scraps of fish or meat as bait. As the sharks are boated they are dispatched with a club. For each shark carcass, the fisherman receives about 35 U. S. cents and for the liver he gets about 14 U. S. cents a pound. As the average weight of a liver is 4 pounds, the total value of the shark is close to 91 U. S. cents. An official of the Cooperative said: "We sell the livers to the pharmaceutical company for about 16 U. S. cents a pound. The carcass is gutted, headed, and split down the spine. It is then rolled in salt and placed in brine vats for two days." (World Fishing, September 1958.)

U. S. S. R.

DEVICE SHOWS AMOUNT OF FISH IN TRAWL BEFORE HAULING:

One third of the time of a trawler is devoted to setting and hauling in the trawl. And it often happens that, when hauled, it is not full or sometimes is overfilled. Equipment has now been devised to check the amount of fish in the trawl before it is hauled, according to an item in Fiskaren, a Norwegian trade paper.

The device was constructed by an institute for fishery research in the Soviet Union. It consists of an ultrasonic transmitter in the forward part of the trawl and a fish-measuring apparatus. The equipment has a battery which functions continuously for 25 hours. The device was tested toward the end of last year during severe storms in the Northwest Atlantic and under the most difficult circumstances maintained contact between the trawl and the vessel and indicated the exact amount of fish in the trawl.

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FISHERY LANDINGS, 1957:

The total quantity of fishery products landed at U. S. S. R. ports during 1957 amounted to 2,850,000 metric tons, according to a recent report published in a French magazine. Landings of fish from off the Soviet coasts and from the Caspian Sea were lower; however, landings of fish from the North Sea, and the North Atlantic, and Antarctic oceans increased considerably.

Production of frozen fish in the U.S.S.R. increased in 1957 as compared with 1956. Canned and smoked fishery products production was also higher.

The increased fishery landings are partly due to the addition of 9 new trawlers to the Soviet fishery fleet. These trawlers (each 3,700 gross tons) are equipped to remain at sea for periods of as long as two months. In addition, reports indicate that Russia has 2,000 modern trawlers fishing (some of these are fishing on the Grand Banks). As a result, the Soviet fisheries in the Antarctic Ocean and waters of the Far East have expanded considerably. (Industria Conservera, Vigo, Spain, June 1958.)

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U. S. S. R. (Contd.)

NEW TRAWLERS EQUIPPED WITH REFRIGERATION PLANTS:

For the freezing of fish and fish fillets in tunnels and for their storage in the holds, the new Russian trawlers are equipped with a two-stage ammonia plant. The plant is designed for the freezing of 20 metric tons of fish fillets and of 10 tons of fish at an evaporation temperature of -40° F. within 24 hours and for the storage of the frozen fish at an air temperature of -0.4°F. in the holds.

The freezing plant is made of 3 two-stage ammonia "V" compressors, with 4 cylinders. Freezing occurs in 2 tunnels in which air is blown by fans; this air passes at first through the direct expansion batteries. The fish is placed into the tunnels, and loaded into the lockers. Every tunnel is designed for 4 lockers full of fish. In each locker 900-1,000 pounds of fish may be loaded. Four hours are necessary for freezing and the intervals between loadings are 15 minutes. (Rybnoe Hozjajstvo, U. S. S. R., Jan. 1958, No. 1.)

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OCEANOGRAPHIC SURVEY VESSEL TO VISIT UNITED STATES PORTS:

The U. S. Department of State on September 22, 1958, informed the Soviet Embassy that the United States Government would permit the Soviet oceanographic survey vessel Vityaz to call at San Francisco in November and Honolulu in December 1958, for the purpose of replenishing its stores of fresh water, fuel, and food products, and to allow scientific personnel and officers and men of the ship's crew to go ashore. The Vityaz is engaged in scientific investigations in the North and South Pacific Oceans which are a part of the program of the International Geophysical Year. It is assumed that the data collected will be made available to scientists of the other nations participating in the IGY.

United Kingdom

CONTROLS ON IMPORTS OF CANNED SALMON LIFTED:

The British Government announced on September 17, 1958, that controls would be lifted shortly on imports of canned salmon from all sources except the Soviet Bloc, according to a U. S. Department of Commerce release.

Later information revealed that British licensing of foreign purchases of canned salmon was ended.

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EFFECT OF ARTIFICIAL LIGHTS ON FISH STUDIED:

The Scottish Home Department has been carrying out experiments and research into the effect of artificial lights on fish and other marine organisms at sea.

Artificial lights are used extensively in fishing operations in different parts of the world. Their use is probably greatest in Japan, where important "light" fisheries for a number of species of fish have existed from the earliest times.

Lights are also used extensively in the Mediterranean, especially in the sardine fisheries.

Hitherto, however, the use of lights in the other European sea fisheries has been on a relatively limited scale. Jenkins (1927) reports that lights were used by Dutch fishermen to attract herring in the 15th century but they are not used by those fishermen today.

Norwegian fishermen use them in their purse-seine fishery and they are sometimes used by the Scottish ring-net fishermen to drive herring away from inaccessible places near the shore.

Experimental and commercial techniques for catching fish aggregated by lights are described by various workers. While most techniques require the positive attraction of fish to the light, a repellent action in adult herring is used by Scottish ring-net fishermen.

Lift nets or blanket nets for catching the aggregated fish are used off Japan and in other regions. The use of a fish pump associated with an electrical fishing apparatus for sucking up small herring 7 to 8 cm. (about 3 inches) long aggregated by lights has been described by Smith (1955) and a fish pump is also described by Borisov (1956) and Nikonorov (1957).

Since the war a number of experimental studies have been made in the North Sea and adjacent waters on the effect of artificial lights on fish. Experimental work with lights on Atlantic herring did not yield any positive results in the last century (Mitchell 1864). Krefft and Schubert (1950) reported the attraction of young herring to the surface by a 100-watt light.

The objectives of work with lights, guided by the above data, carried out from Aberdeen since 1952, have been: (a) to study the behavior of fish in response to lights and other factors; (b) to investigate the possibilities of using lights to attract or repel fish, particularly herring, as an aid to commercial fishing: (c) as a secondary objective, to assist in interpreting echo-traces.

Fifty-nine experiments have been carried out in the period 1953-57 in addition to others before this series was started. Thirty-one of these experiments were conducted off the east coast of Scotland and 28 off the Scottish west coast. The depth of water varied from 2 to 60 fathoms, the most usual depths being between 13 to 33 fathoms.

United Kingdom (Contd.)

The detailed results of the experiments by the Scottish Home Department appear in the booklet "Effect of Artificial Lights on Fish and Other Marine Organisms at Sea," Marine Research 1958 No. 2.

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EXPERIMENTS ON USE OF LIGHT TO ATTRACT LOBSTERS:

The use of light under water to attract lobsters has been attempted experimentally in East Fife, Scotland. A small battery-powered torch is used with a waterproof-wrapping to keep the battery dry while under water.

This light is inserted in the lobster pot which thus becomes an illuminated trap. Initial tests with such illuminated traps have shown good returns; one trap took two lobsters, one of $3\frac{1}{2}$ pounds, and the other of 2 pounds, within a three-hour period.

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OFFICIAL VIEWS ON ICELAND'S EXTENSION OF FISHING LIMITS TO 12 MILES:

The British Minister of Agriculture and Fisheries spoke on September 9, 1958, at Hull, England, on the dispute regarding Iceland's extension of fishing limits to 12 miles in order to make a distinction between economic and legal problems.

On the economic side, he pointed out that Icelandic fishermen are now catching over $2\frac{1}{2}$ times the prewar quantities of fish and that the total catch is increasing yearly. The British Minister acknowledged Iceland's special dependence on fisheries and that Iceland is entitled to preference. He added, however, that the needs of others should not be disregarded and pointed out that the United Kingdom catches 25 percent of all its fish in the high seas around Iceland, but the catch has not been increasing. He also pointed out that the United Kingdom shares Iceland's concern for the proper conservation of fish stocks, and that the Convention on Fishing and Conservation was adopted at the Geneva Conference. He stated that "This country will not be backward in accepting whatever measures scientists show to be needed," and that if Iceland has evidence fish stocks are being endangered it should be brought to the conference table and the United Kingdom "will do what is necessary."

On the legal side, the British Minister pointed out that no recognition of a 12-mile fishing limit was made at the Geneva Conference, and said that it was not right for any country to take the law into its own hands, but still no country should be expected to abandon its own convictions. The United Kingdom has not asked Iceland to abandon her claim to 12 miles, yet Iceland demands the United Kingdom to admit her claim. The British Minister believes that Iceland should be willing, along with other interested countries, to accept the judgment of a second world conference in regard to this dispute.

CANADIAN CONSUMERS PREFER ALUMINUM CANS FOR CANNED SARDINES

Recently, a chain store organization in Canada conducted a consumer survey to determine what the consumers thought about sardine cans. A consumer panel received two cans of sardines unidentified except for a code letter and were asked to fill in a questionnaire giving their opinions on the relative merits of the two cans. The results were as follows: 83.7 percent preferred the aluminum can because it was more easily opened, had no sharp jagged edges, and was cleaner looking inside. On external appearance, the aluminum can received an 81-percent vote of confidence because of its clean, attractive, and hygienic look. (World Fisheries Abstracts, January-February 1958.)