

UNITED NATIONS
GENERAL
ASSEMBLY

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A/CONF.10/SR.9
29 September 1955

ORIGINAL: ENGLISH

INTERNATIONAL TECHNICAL CONFERENCE ON THE CONSERVATION
OF THE LIVING RESOURCES OF THE SEA

SUMMARY RECORD OF THE NINTH MEETING

held on 23 April 1955 at 10 a.m.

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CHAIRMAN: Mr. SUNNANAA (Norway)

55-21577

(6 p.)

1. PRINCIPAL SPECIFIC INTERNATIONAL FISHERY CONSERVATION PROBLEMS OF THE WORLD AND MEASURES AND PROCEDURES APPLICABLE AND BEING APPLIED FOR THEIR SOLUTION (Item 12 of the agenda) (continued)

- (a) Problems for the resolution of which agreed international measures and procedures have been instituted in the following areas: (1) North Atlantic, (2) South Atlantic, (3) Mediterranean, (4) Indo-Pacific, (5) North Pacific, (6) South Pacific, (7) Antarctic and other whaling areas (A/CONF.10/L.5 and L.5 (Summary), L.8 and L.8 (Summary), L.11 and L.11 (Summary), L.13 and L.13 (Summary) (resumed from the 8th meeting)

Mr. MOISEEV (Union of Soviet Socialist Republics) said that the valuable paper by Mr. Herrington and Mr. Kask showed the effectiveness of regional agreements for the conservation and rational exploitation of sea resources.

In view of the fact that changes in the environment and intensive fishing were among the factors seriously affecting fish populations, it was necessary to develop research in order to provide a sound, scientific basis for practical action. Such research could be developed by the International Council for the Exploration of the Sea which had already provided valuable scientific information to the signatories of agreements covering the North Atlantic.

In the Pacific area, as had already been pointed out by the Japanese and United States representatives, existing conventions covered only the North-East Pacific, leaving large areas of the ocean unprotected. That fact should also be borne in mind.

He proposed to deal later in more detail with the technical aspects of conservation.

Mr. SCHAEFER, Observer for the Inter-American Tropical Tuna Commission, drew attention to certain differences between the Japanese representative's summary of his views in four main points, as reported in the summary record of the Fifth Meeting (A/CONF.10/SR.5), and the statements contained in his paper, A/CONF.10/L.1.

Regarding the Japanese representative's point (1) - the increase in the population described an S-shaped curve - he explained that in plotting the size of the population as abscissas and the rate of natural increase as ordinate, for the average relation between rate of natural increase and population size a curve of generally parabolic form would be obtained with a maximum at some intermediate size of population. The rate of natural increase would of course be zero at zero population or, more properly, at that level of population which represented the

threshold for survival. On the average it would also be zero at the largest population which could be supported by the means of subsistence. This latter size of population would be the average condition when there was no fishing. Between zero population and this upper limiting value there would be, for every size of population, some positive value of average rate of natural increase, and the curve would ordinarily have only a single maximum which would fall at some intermediate size of population.

Regarding point (3) - the natural increase reached its maximum when the density of population was greatest - he pointed out that the rate of natural increase would be zero at maximum population density. It would be maximum at some population density intermediate between the highest population density corresponding to no fishing and the threshold density for survival of the population.

Regarding point (4) - the idea of the optimum constant catch was that the volume of fish caught should be equal to the natural increase in population - he recalled that, as noted in paragraphs 69, 70 and 71 of his paper, the average equilibrium condition would be obtained whenever the catch would be equal to the rate of natural increase, and the catch under such circumstances would be defined as the equilibrium catch. Equilibrium could be established at any level of stock between the maximum possible stock (when there was no fishing) and the threshold level for survival. The idea of the optimum catch, called "the maximum sustainable catch", had been to establish the equilibrium between the rate of natural increase and the catch at that level where the equilibrium catch was maximum.

Mr. TSURUOKA (Japan) requested that point (3) of his statement as reported in the summary record of the Fifth Meeting be corrected to read: "the natural increase reached its maximum when the density of population was optimum."

Mr. SOLJAN (Yugoslavia) appreciated the fact that Mr. Herrington and Mr. Kask had stressed the difficulties as well as the advantages and successful results of the international measures taken for the conservation of the living resources of the sea.

Referring to Mr. Lucas' statement, he pointed out that the 1946 Convention had only solved the problems in part and that other solutions had to be developed. The symptoms of the over-fishing problem had been clearly stated, and every fishing nation should endeavour to avoid a diminution of catch per unit of effort by taking appropriate measures.

(b) International conservation problems requiring solution in the above mentioned areas and elsewhere (A/CONF.10/L.6 and L.6 (Summary))

Mr. KESTEVEN, United Nations Food and Agriculture Organization, by way of supplementing his and Mr. Holt's paper A/CONF.10/L.6, remarked that the purpose of sub-item 12 (b) of the agenda was, in the words of the annotations to the provisional Agenda, "to identify types of international fishery conservation problems for which the Governments concerned had not developed or agreed upon measures or procedures by which they could be handled" (A/CONF.10/2/Rev.1).

In order to carry out such an assignment, the answer to several difficult questions would have to be found.

One salient fact which had to be faced was that the term "conservation" signified restraint. Even Mr. Graham's appeal to fishermen to take a rest had concluded with the remark that they should make sure that all the other fishermen also took a rest. And it could not be denied that there might be two or more views on the desirability of restraint in a particular instance.

In a paper read at the United Nations Scientific Conference on the Conservation and Utilization of Resources, held from 17 August to 6 September 1949 in New York, Mr. Graham, after discussing the various criteria which had been applied in the attempt to identify a condition of overfishing, had stated:

"7. In either event the acknowledgment of overfishing depends on what people consider too much, as with over-exertion, overspending, over-reaching yourself, or "over" anything else. A more restricted definition might prevent something being done when it needs to be done; or might cause regulation when there is no need for it."

(E/CONF.7/7, page 23, para.7)

And Mr. Graham had concluded as follows:

"15. The best management of fishing is to leave it alone until evidence shows that overfishing is approaching. At that point, it is much more important to fix fishing, including fixing mesh and the effectiveness of gear, than it is to achieve the optimum. In an overfished stock, unfixed fishing pursues the operator relentlessly; whereas not-the-best fishing, if fixed, gives him peace. It also gives him profit from new devices; provided he makes, where necessary, compensating reductions in fishing."

(E/CONF.7/7, page 24, para.15)

Those quotations showed that even in well-studied situations it was not easy to determine: (a) whether there was need for conservation measures; (b) what kind of measures were necessary; and (c) how such measures could be implemented. The difficulty was naturally very much greater in the case of situations which had been insufficiently studied.

Dealing with those three points, Mr. Holt and himself had felt that the problem of conservation had to be examined in the light of an overall exploitation programme. Exploitation of a resource by human beings could be either unrestrained or managed. A management programme comprised sets of action intended to regulate industrial activity, generally with a view to increasing production and efficiency of operation. Conservation was a special case of a management programme, characterized by being directed towards the response of the stock to exploitation. It became necessary upon the appearance of such phenomena as: (1) decline in catch; (2) decline in catch per unit effort; (3) decline in average size; and (4) decline in value of catch. A conservational management programme differed from other management programmes in that it implied restraint. Conservation, however, increased the efficiency of exploitation, and reduced production costs while increasing the yield per unit effort.

In Appendix A of their paper they had endeavoured to set out by means of a generalized curve the historical development of a fishery by plotting catch against time. The curve was purely theoretical and he drew special attention to phase "C" which showed how a stabilized situation might be reached as a result of economic and technical factors, without the intervention of biological factors.

On a more practical plane, Appendix B gave a tentative first list of the most important unit fisheries and tabulated them so as to show against each resource, fishing methods, exploiting countries and treaty arrangements. Some errors and omissions were bound to occur in such a tentative first list; some had been pointed out to the authors and duly corrected upon the revision of that appendix as at 15 April 1955. They would be glad to receive any further corrections that might be necessary.

(c) Applicability of existing types of international conservation measures and procedures to pending problems

The CHAIRMAN said that no papers had been submitted on sub-item 12c of the Agenda, which he proposed be examined by the General Committee in order to determine the best manner of dealing with it.

It was so agreed.

2. TYPES OF SCIENTIFIC INFORMATION REQUIRED FOR A FISHERY
CONSERVATION PROGRAMME (Item 10 of the agenda)

- (c) Pertinent facts respecting the life history, ecology
and behavior of the species constituting the resource
(A/CONF.10/L.1, L.3, L.7, L.9, L.10, L.14, L.15)
(resumed from the 5th meeting)

Mr. YAMASHITA (Japan) said that the current Japanese oceanographic survey was termed economic oceanography as it sought to explore the environment of fish populations. Routine observations by a number of survey ships covered over 100,000 sea miles of navigation every year.

In that survey, the study of "community metabolism" was emphasized. Furthermore, fishing experiments were being conducted to determine the degree of co-action of populations through such factors as prey - predator relationships and food competition. It was believed that fluctuations of population were sometimes attributable to the internal rearrangement of communities due to environmental factors - both biotic and abiotic.

That survey would indicate whether it was preferable to protect spawning adults or fry by studying the problems of growth and natural mortality as well as reproduction efficiency.

There were no universal criteria or methods of conservation uniformly applicable to all species of fish, all fishing periods, and all fishing grounds. Each case had to be examined separately.

Furthermore, the extent of the dependence of fish populations upon the environment was different according to the populations. Some were extremely dependent, while others almost independent, of environment. Human efforts to control fish populations would therefore necessarily differ in their effects according to the populations. The principle of maximum sustained yield was properly applicable to those fish populations which were relatively independent of environment. As to populations more dependent on environment, it might be wiser to carry out flexible and adequate fishing in accordance with the law of natural fluctuations of populations as manifested in the course of fishing efforts. Such flexible and adequate fishing activities should, of course, allow the fish populations to grow sufficiently and to spawn adequately, by means of body size limitations, mesh and hook-size regulations, etc.

The meeting rose at 11.20 a.m.