



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

Rome - 18 April 1955

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SECOND REPORT OF DRAFTING SUB-COMMITTEE II TO THE GENERAL COMMITTEE
ON THE CONSENSUS OF THE CONFERENCE ON ITEM 10 OF THE AGENDA

Types of Scientific Information Required for a Fishery Conservation Programme

1. Effective conservation of the resources of the sea requires scientific information, which is based on statistical records of the amount and kind of fishing and of resulting catches, and on integrated research on the biology and conditions of existence of the resource. It is therefore essential that any nation engaging in fishing on the high seas collect adequate statistical records of fishing effort and catch, and it should also conduct pertinent biological and other investigations to serve as a basis of ensuring the conservation of the resources being exploited. Since both the determination of the need for conservation measures and the selection of adequate and effective measures often depend on having data over a long period of time, it is most desirable that adequate records be collected, and biological and other research be conducted, commencing from the beginning of the development of a fishery.

2. Scientific information is required in order to provide answers, for a given fishery resource, to the following problems:

- a) Whether regulation of the amount, manner or kind of fishing may be expected to produce desirable changes in the amount of the catch or its quality. (It is important to determine whether the amount, manner and kind of fishing is such that regulation would maintain or improve the quantity or quality of the sustainable catch, because

only in this case is the application of regulatory measures indicated. In order to make such a determination it is often necessary to consider also the fluctuations in the fish population resulting from the effects of environmental factors unconnected with amount, manner or kind of fishing).

- b) If conservation measures are indicated, what particular measures should be adopted to produce the effects desired.
- c) What measures, other than control of amount, manner or kind of fishing, can be undertaken to improve the quantity or quality of the catch.

3. The scientific information required will include some or all of the following types:

- a) Extent of separation of the fishery resource into independent or semi-independent populations, which constitute the natural biological units of the resources to be dealt with by a conservation programme.
- b) Magnitude and geographic ranges of the populations constituting the resource, as a basis for conducting effectively both investigation and regulation, since these need to be applied over whatever sea area is occupied by the populations to be conserved.
- c) Pertinent facts respecting the life history, (such as growth, mortality rates, migration, recruitment, etc.) ecology, behaviour and population dynamics of the species constituting the resource; including fluctuations in abundance and variations in distribution and behaviour which are due to changes in the biotic and abiotic factors of the environment, and which are independent of the amount of fishing; and including the inter-relationships of the community of organisms of which the exploited species forms a part.
- d) Effects of the amount and kind of fishing on the resource and on the quantity and quality of the sustainable average catch to be obtained from it.

- e) Relationships of the resource to other species which are members of the same ecological community and are being exploited simultaneously by the same fishing equipment.

4. The degree of elaboration of the scientific investigations required to solve the conservation problems presented by particular resources, or in particular areas of the sea, is extremely variable. In some cases quite simple investigations will be adequate to determine the need for application of conservation measures, and to indicate appropriate measures to be applied. In other cases very detailed and extensive investigations will be necessary. The requirements of each case must be determined on scientific evidence.