

ANNUAL MEETING - JUNE, 1965Report by FAO Fisheries Division to
the Annual Meeting of ICNAF
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The following notes report aspects of the current work of the Division, and activities since June 1964, on projects thought to be of concern or interest to the Commission. For convenience they follow the outline of previous such reports.

INTRODUCTION

During this period, staff of the Division have been very actively engaged in preparing an outline six-year program for strengthening the fisheries activities of FAO, with strong emphasis on marine resources research. This action resulted from the Resolution No. 8/63 on Fisheries Development of the Twelfth Session of the FAO Conference and follow-up action by the FAO Council (Forty-third Session, October 1964), which established an ad hoc Committee, which met in March 1965 to examine the Director-General's proposals in this regard. These proposals include the creation of a Department of Fisheries within FAO with strengthening in staff and program activities spread over the forthcoming three biennia, and also the creation of a Standing Committee on Fisheries consisting of representatives of selected countries having special interest in fisheries. The proposals, with the ad hoc Committee's Comments - which were favourable - will be presented to the FAO Council and Conference in 1965 for approval.

1. INFORMATION SERVICES, BIBLIOGRAPHIES AND REFERENCE BOOKS

Volume 7 of Current Bibliography of Aquatic Sciences and Fisheries (CBASF) has been published and distributed. Volume 8 is in the press. Collaboration with other international organizations towards the preparation of indexes to references entered in CBASF is continuing. UNESCO subsidized the translation of Russian titles of literature for publication year 1962 which are being entered in parts of Volume 9. The system employed by FAO and ASIRC for an integrated information retrieval service for marine and fresh-water sciences was developed further to help the needs of the scientists. ASIRC has, however, continuing serious problems of financing at the national level. A computer generated list of subject classification terms and descriptors used for literature retrieval has, however, been issued and some requests for literature searches continue to be met. (Copies of these and all other reference material prepared by FAO Fisheries Biology Branch are supplied to the ICNAF Secretariat, which is also provided by ASIRC with lists of references for the Northwest Atlantic for preparing the ICNAF list).

The second supplement to the first volume of the World List of Periodicals for Aquatic Sciences and Fisheries has now been published and distributed.

Two volumes (three parts) and the first part of Volume 3 of the quarterly Newsletters "International Marine Science", prepared by UNESCO and FAO, have been published. They include news of the ICNAF activities.

Volume 4 of the Proceedings of the World Scientific Meeting on the Biology of Tunas and Related Species, a comprehensive bibliography on tunas and related species, is now in press.

Also an annotated bibliography for the years 1956-63, on the pituitary gland and its relation to the reproduction of fishes in nature and in captivity (prepared by J.W. Atz and C.E. Pickford) was issued and distributed.

Mr. Pope's manual on Gear Selectivity is still being printed in English. On the matter of tests of the ICES gauge, no reports from Australia have been received. However, the results of the Mediterranean tests have been analysed and presented to the 8th session of the GFCM in a working paper. The Mediterranean scientists concerned favour the adoption of the ICES mesh gauge as the standard gauge for scientific purposes in their area.

A revised English edition of Mr. Gulland's part of the "Manual of Sampling Methods for Fisheries Biology" dealing with sampling is being printed in three languages. To it will be added in looseleaf form, sections on the application of particular statistical methods in fisheries research; these are being written by various scientists, under an agreement between ICES and FAO.

A Manual on Fish Population Analysis compiled by Mr. Gulland and based on notes used at various training courses over the past few years, was printed in English and distributed. It is being revised for printing in three languages as a part of a Manual on Fish Stock Assessment. Another part of this Manual will give tables of yield functions. Mackereel and Tuna research being held by FAO in Australia in November 1964, after which a revision will be made and French and Spanish editions issued.

The first tables of "Yield Functions for Fishery Assessment" were prepared in cooperation with Mr. Beverton (Lowestoft) and reproduced for trial use by the Stock Assessment Sub-Committee of ICNAF and other international bodies.

The Introduction and Report of the ICNAF Tagging Symposium have been translated into French and Spanish and is now in press in lieu of a manual on fish tagging. This document also includes a chapter by R. Jones (Aberdeen) on the theory of tagging experiments, which was prepared for the FAO Mediterranean Sardine Tagging Training Centre at which he was an instructor.

Fishermen and the Weather which was issued in the FAO Fisheries Circular series during the reporting period is being revised in cooperation with WMO and will be published on completion (see item 3.3.3).

2. AQUATIC RESOURCES APPRAISAL

2.1 Synopses of aquatic forms of economic importance

The preparation of synopses on the biology of species of living aquatic organisms by national institutions and international councils and commissions continued during the year according to the cooperation established with those institutions as reported to the 1964 session of the Sub-Committee. (See also 2.2).

2.2 Shrimps and Prawns

Preparation for the FAO World Scientific Meeting on the Biology and Culture of Shrimps and Prawns continued. A Consultative Group has been set up and has been assisting in the preparation of a plan and program for the meeting. These, together with other pertinent information will be included in a prospectus of the meeting to be issued during 1965.

Revised version of "A World List of Experts Concerned with the Study of the Biology and Culture of Shrimps and Prawns" has been issued and the revised version of the "List of Species of Shrimps and Prawns of Economic Value with Notes on their Geographic Distribution" will be issued shortly.

Synopses on the biology of species of shrimps and prawns are being drafted by various institutions. A set of these synopses will be prepared as background documentation for the meeting, which is expected to be held in Mexico, in 1967.

2.3 Rational Utilization of Atlantic Tuna

The FAO Council at its Forty-third Session, considered the report of the first session of the FAO Working Party for Rational Utilization of Tuna Resources in the Atlantic Ocean (FAO Fish.Rep., 13) and also the comments made on the report by thirty-three FAO Member Nations and Associate Member Nations, as well as by several international fisheries organizations.

The Council expressed its agreement with certain conclusions and recommendations of the Working Party, and considered the suggestion that a conference of plenipotentiaries of the interested nations should be called to discuss the character, functions and modus operandi of a proposed new organization to handle Atlantic tuna matters. In this regard the Council came to the conclusion that the matter should be referred to the Thirteenth Session of the FAO Conference for a decision, but requested the Director-General to undertake in the meantime preparatory work, including further consultation with member countries and interested international organizations, as well as the convening, if desirable, of a further session of the Working Party for Rational Utilization of Tuna Resources in the Atlantic Ocean. This preparatory work was requested by the Council on the assumption that, if a conference of plenipotentiaries should be approved by the Thirteenth Session of the Conference, it could meet, if possible, early in 1966.

Preparations for the second session of the Working Party to be held from 6 to 13 July 1965 are well in hand and ICNAF will be sending an observer.

2.4 Expert Panel for the Facilitation of Tuna Research

The Report (FAO Fish.Rep., 18) of the first session of the Panel (8-12 June 1964) has been issued in the three FAO working languages and has been widely distributed to member countries. Copies of the English version have been distributed to national laboratories and interested international fisheries councils and commissions.

According to the recommendations of the Panel, three Working Groups to consider various aspects of tuna research are being set up: Working Group on Tuna Ecology, on Tuna length measurements and tabulation and on Tuna Taxonomy. Mr. Mather, Woods Hole and Mr. Akyüz FAO, are preparing an illustrated review of the various kinds of tuna tags.

The second session of the Panel is scheduled to take place in Tokyo concurrently with the 11th Pacific Science Congress in 1966.

2.5 ICNAF Assessment Sub-Committee

FAO hopes to be host to the ICNAF Assessment Sub-Committee if it meets in Rome in September, 1965, at about the time of Statutory Meeting of ICES.

3. RESEARCH, METHODOLOGY and TECHNIQUES

3.1 FAO continues to cooperate with SCOR and IOC in Working Groups on standardization and inter-calibration of methods.

The ACMRR Working Group on Direct and Speedier Estimation of Fish Abundance (by the use of echo-sounders and other methods) was active. A report of the meeting held in Rome (25-28 February 1965) was submitted to the Third Session of the ACMRR (see item 4).

3.2 The Stock Assessment Unit in Biology Branch has now started work. Its priorities include: (i) analysis of status of Antarctic whale stocks as a basis for urgently needed international action to halt the catastrophic decline of this important food resource; (ii) preparatory compilation of biological statistics on Atlantic tuna stocks, as background for possible plenipotentiaries meeting in 1966 to establish a commission for their investigation and management; (iii) establishment of a Fisheries Data Centre initially for IIOE data on the basis of a request for such action by IOC.

(iv) analysis of the status of the anchovy resources off Peru, in cooperation with Dr. H. Einarsson and Mr. G. Saetersdal. (v) organization of a Latin American Training Course in Marine Resources Appraisal, to be held in 1966.

3.3 Serial Atlas for Marine Environment

- Several more Folios of the North Sea Synopses are now in the press and others are in preparation under ICES/FAO co-sponsorship.
- Several bodies of the Fisheries Oceanographic Synopsis for the Mediterranean, are now in preparation under the joint sponsoring of GFCM and CIESMM.

Booklets on Oceanography and Meteorology for Fishermen

- The booklet on "Fishermen and the Weather" drafted by Dr. K. Terada, FAO Fisheries Oceanographer, and which was based on the outline produced by the WMO Working Group on Weather Advice on Fishery Operations, was largely circulated among fisheries scientists and is being revised in the light of comments received. The 4th Session of the WMO Commission for Maritime Meteorology suggested the establishment of a Joint FAO/WMO Working Group for the study of this project.
- Another draft of a booklet of "Oceanography for Fishermen" is being prepared by Dr. Terada and will soon be circulated among experts and concerned international organizations and ICNAF for comments.

4. THIRD SESSION OF THE FAO ADVISORY COMMITTEE ON MARINE RESOURCES RESEARCH (ACMRR)

The Third Session of ACMRR took place in FAO Headquarters, Rome, from 1 - 8 March 1965. It was attended by ICNAF Dr. A. Needler (Chairman, Canada), Dr. C.E. Lucas (Vice-Chairman and Rapporteur, U.K.), Mr. D.L. McKernan (Vice-Chairman, U.S.A.), Mr. J.N. Adjetev (Ghana), Dr. W.M. Chapman (U.S.A.), Prof. W. Ciegiewicz (Poland), Dr. D. Cushing (U.K.), Prof. F. Gneri (Argentina), Prof. Y. Hiyama (Japan), Dr. G.L. Kesteven (Australia), Dr. P. Korringa (Netherlands), Dr. G.N. Mitra (India), Dr. D. Sahrhage (Federal Republic of Germany). Unfortunately Dr. G.K. Izhevsky (U.S.S.R.) had recently died and the illness of Dr. A.P. Alekseev (U.S.S.R.) prevented his attendance. Mr. B.B. Parrish (Assistant Rapporteur, U.K.), representatives and observers from UNESCO (Drs. K. Fedorov and G. Hempel), SCOR (Dr. Tam Ah Kow) and IBP (Dr. R. Glover) and staff members of FAO Fisheries Division also attended the Session. Dr. M. Ruivo of FAO Fisheries Biology Branch was the Secretary.

The ACMRR Session was preceded (from 25-27 February) by a meeting of its Working Party on Direct and Speedier Estimation of Fish Abundance. The following participated: Mr. B.B. Parrish (Convener), Dr. D. Cushing and Mr. L.S. Midttun (Norway); Mr. V. Valdez (FAO Consultant) and some ACMRR and FAO staff members.

Addressing the ACMRR at its opening meeting, the FAO Director-General stated that in line with the Committee's advice he had made proposals to strengthen FAO activities in the field of fisheries, including the establishment of a Committee on Fisheries and the creation of a Department of Fisheries within the Organization.

Cooperation between FAO, UNESCO and IOC has been extended during the past year and he noted with appreciation that the ACMRR has acted effectively as advisory body to both organizations. He drew attention to the part which he hopes the ACMRR will play in advising FAO on its "World Program of Marine Resources Research", and in its promotion of means to make rapid surveys of resource distribution and potential yield - a project which the ECOSOC Advisory Committee on the Application of Science and Technology to Development considered to merit high priority. Lastly the Director-General mentioned that FAO intends to cooperate with UNESCO in the sponsorship of the Second International Oceanographic Congress and support of the International Biological Programme; these are positive steps towards the goal of effective integrated action by both agencies, the

consequences of which will be to benefit the member countries and international science as a whole.

In his remarks following the Director-General's opening speech, Mr. Roy I. Jackson, Director of the FAO Fisheries Division, outlined interaction between the Regular Program and field operations under various forms of Technical Assistance and expressed the view that field projects, especially those under the UNSF, which are mainly national projects, must be developed in a broad international context, which will contribute to the effectiveness of each individual project. He mentioned various aspects of the Fisheries Division's activities in relation to stock assessment, conservation and management problems. He pointed out that marine pollution is another growing problem which, for the moment, does not seem to be so acute as the management of exploitation, but which, nevertheless, requires urgent action, to find the facts to determine the trends and to consider what might be required now or eventually in ways of control. These aspects will be discussed, at the request of FAO by the next session of the ACC Subcommittee on Oceanography.

The Committee considered in great detail Guide Lines for Future FAO Programs in the Field of Marine Resources Research. In relation to the Role of FAO in the World Fishery Development, the Committee expressed the view that the proposed creation of a Division of Fisheries Resources and Exploitation should bring operational advantages, and recognizing the essential international nature of living resources of the ocean and of the many problems that the investigations and rational exploitation of them present, expressed the hope that ACMRR may, through the Director-General be able to advise the proposed Committee on Fisheries on these research matters.

The Committee elaborated on the plans for the World Program on Marine Resources Research, preparation for which needs to be made as far as possible by FAO with the assistance or through the activities of those regional and specialized fisheries bodies which are concerned with marine investigations, and all the other interested UN Specialized Agencies. Requirements for scientific planning in field programs, especially in pre-investment projects of the UN Special Fund were also discussed in this context.

Particular attention was devoted to the Fisheries Aspects of Marine Pollution. The Committee agreed that FAO should initiate an active Program in this field in which consideration should be given to the known and possible effects of the accidental or deliberate introduction into the sea of significant quantities of foreign materials of all kinds. The Committee endorsed the FAO steps: to take the initiative through the ACC Subcommittee on Oceanography to obtain from governments information and their views about marine pollution, its effects and trends, relevant research conducted or planned and possible needs for control, with a view to developing concerted action by the UN and the Specialized Agencies concerned; and to prepare for and convening in the 1968/69 biennium a World Scientific and Technical Meeting on Marine Pollution and its Effects on Fisheries Research.

Attention was also devoted to the measures needed for improving FAO assistance to its Regional Councils and Commissions, and to promote Tuna Investigation and Conservation, especially the action taken towards the establishment of an appropriate intergovernmental body for the Atlantic Ocean.

The Committee considered in great detail the Fisheries Division Program of Work for 1966/67 and Following Biennia in the Field of Marine Resources Research and Management. Among other items on which specific action was recommended were the following:

- (a) FAO Meetings: on plans for World Scientific Meetings on the Biology of Species of Commercial Importance (Shrimps and Prawns, 1967; Anchovies or Hakes are under consideration for future biennia), on plans by the ACMRR Working Party (Convener, Dr. G. Steele, Aberdeen, U.K.) for a Symposium on Tropho-dynamics of Marine Communities, to be held eventually in conjunction with the

ICES 1968 annual meetings, possibly to be sponsored jointly by FAO, ICES, ICNAF, IOC/UNESCO and perhaps IBP; and plans for an FAO Symposium on Fish Behaviour and Gear Research, in 1966/67 to discuss the inter-play of engineering and biological factors governing capture of fish.

- (b) Development and Assistance in Stock Assessment: on plans for the organization of the FAO Fisheries Data Centre, including the maintenance, as a part of the development of the FAO World Program on Marine Resources Research, of an inventory of the biological statistics and exploited stocks being compiled by national research agencies and by regional fisheries bodies, on ways and means of improving the collection, compilation and dissemination of fisheries statistics for research purposes and the urgent necessity of getting the active collaboration of governments and regional fisheries bodies.
- (c) Direct and Speedier Estimation of Fish Abundance: the report of the ACMRR Working Party on this subject, reviewed the present state of development and application of some direct (acoustic and optical fish detection techniques) and indirect methods (use of eggs and larvae abundance surveys) of estimating relative and absolute fish abundance, which might be used, both in exploratory resources appraisal investigations and in detailed population studies of exploited stocks. FAO was requested to take steps to promote the better understanding of these techniques and their application by the convening of symposia, and arranging of seminars, for the preparation of training manuals and by holding training courses for fisheries scientists. Plans and arrangement for future activities of the Working Party were approved.

In discussing the Coordination and Cooperation of FAO with other Bodies, the extension of FAO cooperation with non FAO Regional Fisheries Councils and Commissions was envisaged; special agreements have already been established with some of these bodies, e.g. the Bureau of International Whaling Statistics and the International Whaling Commission. The Committee recommended that IOC and FAO should continue to support the International Biological Programme, launched by ICSU.

Particular attention was devoted to Matters Concerning the Intergovernmental Oceanographic Commission (IOC); the Exchange of Data and Information, and the Development of National Programs were considered; recommendations were approved on the following items:

- (a) General Scientific Framework for World Ocean Study: on future ACMRR cooperation with SCOR to revise the present GSF draft; an ACMRR Working Party (Convener, Dr. D. Cushing, Lowestoft, U.K.), was established to develop the fisheries section of this draft.
- (b) Second International Oceanographic Congress: on various aspects of the preparation for the Congress which will take place in the USSR, early in May 1966. FAO will co-sponsor the Congress and will be represented in the Logistic Group responsible for the organization; ACMRR agreed to be represented on the Progress Group, responsible for the scientific program.

For the forthcoming period of activities of ACMRR, the following officers were elected; Dr. C. Lucas, Chairman, Mr. D. McKernan, Vice-Chairman and Rapporteur, Dr. G. Mitra, Vice-Chairman.

The Committee will meet again probably in FAO Headquarters, in Rome, in the second half of 1966. Meanwhile, several Working Parties, both those continuing from previous years and others newly established, will work on their allotted tasks.

5. STATISTICS

Following the decision taken at the ICNAF meeting in 1963 that the European member countries use their STANA forms for catch and catch effort data early in 1964 (reporting 1963 calendar year data), these procedures, after their introduction in 1964, were continued in 1965 to obtain 1964 data.

Sufficient experience has now been gained by the countries using these STANA forms for ICNAF purposes by the ICNAF secretariat and by the FAO secretariat to process the data to prepare the final versions of the forms and instruction notes. The FAO and ICNAF secretariats have been in close touch on this question, and the FAO secretariat has prepared draft final forms and notes for submission to the 1965 ICNAF meeting for final approval before proceeding with the printing of the STANA IW and notes. These will be used early in 1966 for reporting the 1965 calendar year data.

FAO has also in close co-operation with the ICES Statistical Committee and ICNAF, prepared a Bulletin of Fishery Statistics No.6 (Catches in the North Atlantic, 1963). This is circulated as one of the ICNAF documents for the 1965 annual meeting. The contents of this Bulletin has also been reviewed by the Continuing Working Party during its Fourth Session, and the comments of the CWP appear in its report, which is also circulated as an ICNAF document. The very close co-operation between the FAO and ICNAF secretariat is continuing, and FAO has undertaken to prepare for the 1965 meeting, the summary tables required and to assemble the 1964 data needed for these tables. FAO has been in close touch with the various countries to obtain the figures in time for inclusion in the manuscript of this document.

6. OTHER MATTERS

6.1 Training and Education

- A Group Fellowship Study Tour on Fisheries Biology and Oceanography was organized in the Soviet Union (10 August-23 September 1964), under EPTA, in cooperation with the USSR government. Twenty fellows from eighteen countries from Africa, Asia, Europe and Latin-America, participated. A report has been published and the text of the lectures will be published in the FAO official languages.
- An FAO/GFCM Seminar on Sardine Tagging was held in Split, Yugoslavia (2 -14 November 1964), and was attended by nine scientists from five Mediterranean countries. The theoretical discussions and practical work covered some aspects of dynamics of fish population by acquainting the participants with modern methods of fish tagging and by recovery and analysis of the results of tagging experiments.
- In response to an IPFC recommendation, an FAO/IPFC Training Centre on Mackerel and Tuna Research was held in the laboratory of the Division of Fisheries of CSIRO, at Cronulla, Australia (2 - 27 November 1964). Eighteen fellows from IPFC member countries participated. The program consisted of lectures on stock assessment methods, followed by a study of available data for all scombriform fishes, including tunas.

6.2 Conservation of Whale Stocks

The Special Committee of Four Scientists established by the International Whaling Commission reported to the meeting of the Commission in June 1964 recommending drastic reductions in catches to enable stocks to re-build. The Commission did not act on these proposals, and the Committee of Four Scientists was disbanded. FAO had agreed, in principle, to a request by the Commission to cooperate in making continuing assessment of the status of whale stocks, but such cooperation could not be continued while the Commission was unable to take effective action in the

Antarctic. FAO, however, made its own arrangements in cooperation with the Bureau of International Whaling Statistics in Norway for analysis of the effects of the 1964/65 Antarctic season on the stocks.

6.3 United Nations Advisory Committee on the Application of Science and Technology to Development

A Series of papers have been submitted to the UN Advisory Committee and to the ACC Subcommittee on Science and Technology concerning "more adequate surveys of the world's fishery resources". This topic has been accepted by the Advisory Committee as one having special importance and susceptible to world-wide attack, since solution of present technical problems of rapid and direct resources assessment could lead to a very wide-spread application with special benefit to developing countries.

6.4 The International Biological Programme

The ICSU Special Committee for the International Biological Programme (SCIBP) met in Rome in February at FAO Headquarters and was preceded by a meeting of its Sectional Committee on the Productivity of Marine Communities. The PM Sectional Committee is the dependent of a joint IBP Committee on Marine Communities established last year by ACMRR, SCOR and the IBP Planning Committee. Fisheries Division staff participated actively in the meeting of the Sectional Committee and a series of arrangements for FAO cooperation in the marine aspects of the IBP were worked out.