

Report by FAO Fisheries Division to the 51st  
Statutory Meeting of ICES (Sept - Oct 1963)

The following notes report action by FAO Fisheries Division in response to recommendations made in the 50th Meeting of ICES and other aspects of the current work of the Division on projects concerning fisheries research and oceanography, in which it is believed that the Council may be interested.

1. INFORMATIONAL SERVICES, BIBLIOGRAPHIES, REFERENCE BOOKS

1.1 Information - general

1.1.1 The Biology Branch continued to prepare, on the basis of its registers of fisheries institutions and experts in fisheries science, lists of institutions and of workers in particular subjects. In particular a comprehensive list of inland fisheries workers in Europe has been issued and is now being revised for publication by EIFAC. The Branch has also assisted in the preparation of the World Directory of Hydrobiological Institutions just published by AIBS.

1.1.2 Volume 5 of the printed version of Current Bibliography for Aquatic Sciences and Fisheries has been published. Volume 6 is in the press. This work continues in collaboration with other international organizations and research institutions, and ICES has continued to contribute to this work by arranging for preparation of the general subject indexes. An advance has been made in the provision, jointly by FAO and the Aquatic Sciences Information Retrieval Centre (ASIRC) at the University of Rhode Island, U.S.A., of an integrated information retrieval service for marine and freshwater sciences. This integration has been achieved by the provision to FAO by ASIRC of punch-tape typewriters, so that machine search and print-out of selected bibliographies, sorted and indexed lists of experts and specialised institutions, and scientific periodicals, names of aquatic organisms, etc. are now possible. A code for genera of marine and freshwater organisms has been issued; special bibliographies and lists of scientists have been prepared as background material for meetings and in response to requests from regional bodies and other sources. Several hundred individual requests for such information have been met.

1.1.3 World List of Periodicals for Aquatic Sciences and Fisheries

The first volume of this list, containing the titles and their short forms of several thousand periodicals, has now been distributed as FAO Fish. Biol. Tech. Pap., (19.1): 239 p. + x19. The first supplement is being prepared and others will be issued regularly.

The second volume will give indexes to the list, and detailed bibliographic information, such as languages of texts and summaries, publishing address, subject coverage, availability (exchange, subscription, etc.) and frequency.

1.1.4 A paper entitled "A developing aquatic sciences information retrieval system", at the University of Rhode Island and based on the FAO Current Bibliography and related projects, has been published by J.S. O'Connor and S.B. Saila (1962) in Trans.Amer.Fish.Soc. 91(2):151-154. Reprints are available.

A second paper "An international service for retrieving aquatic science literature" by S.B. Saila, J.S. O'Connor and R.A. Shappy, has been published and distributed as FAC Fish.Biol.Tech.Pap., (28):8 p., and a paper on this subject sent to the International Zoological Congress, Washington D.C., August 1963.

#### 1.1.5 "International Marine Science"

The first 2 issues of this quarterly newsletter prepared jointly by the Office of Oceanography of UNESCO and the Biology Branch of the Fisheries Division of FAO have now been published. The newsletter is intended to help scientists, administrators and government officials to be better informed on international regional and national activities in this field.

The newsletter is based on information supplied to its compilers. Certain information is now furnished more or less regularly to UNESCO and to FAO and a further requirement for reporting has been established by the ICC. Material for sections on "Meetings" and "Training facilities" and under the section "Miscellaneous news items" on new periodical publications, research vessels and laboratories, is prepared by FAO, and pertinent information should be reported to the FAO Fisheries Division, Biology Branch. These items in some cases replace and continue certain sections of the FAO Current Bibliography for Aquatic Sciences and Fisheries.

About 3000 copies of each issue are being printed. An initial mailing list has been established jointly by UNESCO and FAO in order that the newsletter shall be available to both governmental and academic institutions concerned with the marine sciences and to other international organizations.

### 1.2 Reference Books

#### 1.2.1 Sampling Manual

X - Gulland, J. (1962)  
Manual of sampling methods for fisheries biology.  
FAO Fish.Biol.Tech.Pap., (25):75 p.  
has now been published and distributed.

This first draft of the Manual has so far been used during 1963 in Population Dynamics Training Courses at Lowestoft and Cronulla. The final version will be published in English, French and Spanish after the revision of the first draft is completed.

#### 1.2.2 Manual on Gear Selectivity

gauge  
Mr. Pope (Aberdeen) has now completed the final draft incorporating the comments and additions made by the Biology Branch. The first version of the Manual will be issued in the FAO Fisheries Biology Technical Paper series. FAO has brought to the attention of research workers in Australia and the Mediterranean region the decision of ICES to use the so-called ICES mesh-gauge as a reference standard for research purposes. We have already made available one gauge for tests in Australia and two more for the Eastern and Western Mediterranean. Further trials will be conducted in Japan and other IPFC countries, with a view to their adoption of the gauge as standard for research purposes. We have secured the adoption of the gauge in the Guinean Trawling Survey.

1.2.3 Manual on Fish Tagging

FAO is planning to give wide distribution to the Proceedings of the ICNAF symposium on this subject and to issue French and Spanish versions of the report, so that the scientists engaged in similar research will benefit from this publication until the Tagging Manual is printed.

1.2.4 Manual on Stock Assessment

Little progress has been made with this, but Mr. S.J. Holt and Mr. Cadima have completed drafts of some sections and other sections will be based on the material prepared by Mr. J.A. Gulland and collaborators for the 2nd Lowestoft Training Course in Stock Assessment held in February-March 1963 under ICBS auspices.

gear book

2. AQUATIC RESOURCES APPRAISAL

2.1 Species synopses

2.1.1 The synopsis on cod (Wise, J.P., 1961) is now being revised by the group of scientists consisting of Dr. J. Corlett (U.K., Convener), Mr. A. Hysten (Norway), Mr. Jón Jonsson (Iceland), Dr. Ju.Ju. Marty (U.S.S.R.), and Dr. U. Schmidt (Federal Republic of Germany) appointed by the Council at its 50th statutory meeting.

2.1.2 The Branch is continuing to develop the Synopsis Series and considers that Melanogrammus aeglefinus and the species of the genera Hippoglossus and Meluccius are among those which should have in the future the highest priority. The co-operation of ICBS in helping to prepare synopses on those species would be welcome. By arrangement between CSIRO, Australia and FAO, the Cronulla laboratory has begun to issue synopsis in the same pattern, and joint distribution system has been established.

At the 1963 ICNAF meeting, Dr. H.W. Graham (USA), Dr. A.S. Bogdanov (USSR), Dr. J. Hart (Canada), Dr. W. Templeman (Canada) and Dr. C.B. Lucas (UK) were nominated to assist, in the first instance, with synopses for haddock and halibut. ICBS may wish to add other names to this group of consultants.

2.1.3 Tunas

The proceedings of the FAO World Scientific Meeting on the Biology of Tunas and Related Species, at which 34 synopses were presented, and which was held 2-14 July 1962 at La Jolla, California are being published - the 1st volume (the Report) is distributed in English, French and Spanish. Vols. 2 and 3 (Synopses and contributed papers) have been issued in the original language. Vol. 4 (consolidated bibliography) will be ready by the end of 1963.

Among the 22 resolutions approved by the Meeting, Resolutions (5) International Tuna Tagging Programs; (6) Collection, Collation and Dissemination of Catch and Effort Statistics; (9) World-wide study of Tuna Eggs, Larvae and Juveniles; (12) Relation of Tuna Research to Ocean-Wide Surveys; and (19) Provision for Continuing Committee, are of special interest to the Council. The Director-General of FAO has in response to Resolution (19) established a Continuing Committee for Facilitation of Tuna Research consisting of scientists selected from the FAO Panel of Fisheries Experts and including members from the ICBS area. The Committee is working by correspondence and is expected to meet in 1964.

## 2.2 Prawns and Shrimps

The Eleventh Session of the Conference of FAO (November 1961) noted that international meetings had been held for the exchange of technical information on fisheries biology and to discuss future lines of research. It authorized future international meetings, for example, one on "Shrimps".

The Shellfish Committee of ICES in 1962 appreciated the value of holding a world meeting devoted to the biology and culture of shrimps and prawns under the auspices of FAO, and offered to assist in the formulation of a program for such a meeting.

Consideration is being given to include such a meeting in the FAO Program of Work and Budget for 1966/67; a preparatory work will be undertaken in 1964-65.

## 2.3 Atlantic Tuna

The FAO Council, at its meeting in June 1963, established a Working Party on the Rational Exploitation of the Tuna Resources of the Atlantic Ocean. This consists of delegates from selected member countries - Brazil, France, Japan, Nigeria, Portugal, Senegal, Spain, Turkey, U.S.A. - and follows past requests from CCTA, the World Tuna Meeting and certain countries for action concerning cooperative assessment and management of these stocks. The Working Party will meet first at the end of October, 1963 and will report to the FAO Biennial Conference on the next steps to be taken with regard to this matter, including the possible convening of a conference of plenipotentiaries.

## 3. RESEARCH, METHODOLOGY AND TECHNIQUES

### 3.1 Standardization of equipment and methods of assessment of plankton populations

FAO has kept in touch with work of SCOR and the IOC working group on this subject with reference to the International Indian Ocean Expedition (IIOE). This group has agreed to standard reference methods of zooplankton sampling and field comparisons of different methods are in progress.

FAO considers of fundamental importance such projects of standardization and intercalibration, and is prepared to support them, either directly or through its regional Fishery Councils and Commissions. Considerable attention was devoted to these matters by ACMRR. (See later). Dr. Franzkevitch (USSR, now on FAO staff) participated in the meeting in San Francisco, August 1963 of the ICES/SCOR/IAPO/UNESCO/Joint Panel. on the Equation of State of Sea Water.

### 3.2 Identification of aquatic organisms

The names listed in Current Bibliography for Aquatic Sciences and Fisheries - Taxonomic Classification. Alphabetical Key to 8 digit Code FAO Fish.Biol.Tech.Pap., (12):84 p., 1961 and related information have now been put on IBM punch-cards at the Aquatic Sciences Information Retrieval Center, Rhode Island, U.S.A., which will in future assist in the preparation of supplements to and revisions of the generic list as well as analyses of the taxonomic code. Common names of organisms of commercial importance will also be included on the punch-cards, as those are augmented from level of genus to that of species and sub-species.

### 3.3 Population dynamics, age determination, fish behaviour and related studies

Mr. E. Cadima (Portugal) working as a consultant to FAO, has been working on generalised equations for steady-state yields and on the analysis of gear selectivity data; two papers on these subjects are being prepared for publication.

### 3.4 Oceanography

#### 3.4.1 The following papers concerned with general and fishery oceanography have been published and distributed:

- X - Popovici, Z. (1963)  
Considerations on fishery oceanography  
FAO Fish.Biol.Tech.Pap., (29):6 p.
- Lucas, C.E. (1963)  
X International collaboration in fisheries  
research. A historical review with particular  
reference to the North Atlantic Region  
FAO Fish.Biol.Tech.Pap., (33):6 p.
- X - Cushing, D.H. (1962)  
Fisheries Oceanography  
FAO Fish.Biol.Tech.Pap., (24):11 p.

#### 3.4.2 Serial Atlas for Marine Environment

Folio 2 has been published. Folio 5 - Surface Water Types in the North Sea, by T. Laevastu, is in press; this is revised Sub-section (4.5) of the North Sea Synopsis. Mr. F.E. Lumb (U.K.) is preparing his folio on Sea and Swell for the North Sea (Section 3 of the revised North Sea Synopsis).

Oceanographic synopses prepared under FAO sponsorship will generally be issued as documents in the series "FAO Fisheries Biology Synopses". However, to avoid duplication of effort and facilitate ease of reference to these compilations by fisheries scientists, FAO has decided with the agreement of the Advisory Group for the "Serial Atlas" to submit instead for publication in the Atlas all such material pertaining to the areas within its scope, and to encourage other organizations, institutions and persons to do likewise. Since the area covered by Serial Atlas base maps now includes the Mediterranean and much of the African west coast, the General Fisheries Council for the Mediterranean and the newly formed Western Africa Fisheries Commission have been informed of this decision, and asked to consider taking similar steps for their particular area. The GFCM has agreed, initially, to use the base maps for projects concerning biology, statistics and fisheries for sardines and tunas. The FAO Advisory Committee for Marine Resources Research, at its first Session in Rome, January 1963, proposed that the GFCM and the International Commission for the Scientific Exploration of the Mediterranean Sea should collaborate in preparing a synopsis for the Mediterranean according to the standard pattern, and FAO has also proposed that the Serial Atlas base maps should be used for presentation of results of the Guinean Trawling Survey being conducted under the auspices of the CCTA, the EQUALANT surveys sponsored by the ICC under UNESCO, and the NCRWESTLANT project of ICNAF.

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- The 11th FAO Conference recommended that the possibility of holding a world symposium on Fishery Oceanography in 1964-65 biennium should be explored. The ACMRR considered that a symposium on the Effects of Environment on Fish Abundance and Distribution should receive top priority. The Secretariat was requested to prepare some material for further discussion and final decision at the second ACMRR session. The results of the ICNAF symposium on the influence of the environment on the groundfish stock in the North Atlantic, which will be held at FAC Headquarters in Rome from 27/1 to 1/2/1964, would represent a very valuable contribution to the proposed world meeting. FAO would

#### 4. FAO ADVISORY COMMITTEE ON MARINE RESOURCES RESEARCH

In recent years fisheries research and oceanography has shown an important expansion at national and international levels. In relation to this development, efforts have been made to adapt the existing international organizations and to meet the increasing need for co-ordination and co-operation in this field to set up new bodies where necessary.

An Advisory Committee on Marine Resources Research (ACMRR) has been established by the Director-General on the authorization of the Eleventh Conference of FAC. ACMRR is composed of not more than fifteen scientists and experts appointed, after consultation with member governments and regional fisheries bodies, for one-year period and eligible for reappointment. Regional and subject representation have been taken into consideration but members were selected on the basis of their expert knowledge and not as representatives of governments. Its purpose is to study and report to the Director-General on the formulation and execution of the programs of FAO concerned with research on marine fisheries resources, and the dissemination, interpretation and application of the results of such research; special attention being paid to the fisheries aspects of oceanographic research. The Intergovernmental Oceanographic Commission (IOC) under UNESCO was informed of these actions.

The IOC considered, at its second session in Paris (20-29 September 1962) the question of its own advisory bodies. A resolution was unanimously approved recognizing formally advisory bodies to the Commission:

- (i) The Scientific Committee on Oceanic Research (SCOR) of the International Council of Scientific Unions insofar as the world scientific aspects of oceanography were concerned;
- (ii) The FAO Advisory Committee on Marine Resources Research (ACMMR) on fisheries aspects of oceanography.

As it was noted that some member countries of the Commission were not at present members of FAO (this is true particularly of the U.S.S.R., whose role in fisheries and fisheries research is very important), the recommendation stated that for the purpose of advising ICC, the FAO Committee would be augmented by two additional members selected from scientists in the field of fisheries oceanography from the U.S.S.R. The resolution was communicated to the Director-General of FAO and accepted by him.

The first session of ACMRR took place in FAO Headquarters, Rome from 28 January to 2 February 1963. It was attended by Dr. A. Needler (Canada - Chairman), Dr. C.E. Lucas (U.K. - Vice-Chairman and Rapporteur), Prof. M. Uda (Japan - Vice-Chairman), Dr. V. Angelescu (Argentina), Mr. V.E. Brock (U.S.A.), Dr. M. Buljan (Yugoslavia), Dr. W.M. Chapman (U.S.A.), Dr. D. Cushing (U.K.), Dr. J. Furnestin (France), Dr. R. Margalef (Spain), Dr. N.K. Panikkar (India), Dr. H. Rotschi (New Caledonia) and by representatives from UNESCO (acting also as Observer for IOC) and IABA; IMCO, WMO and SCOR were not represented. Dr. M. Ruivo, Chief, Research Programs Section, Fisheries Biology Branch, FAO was appointed Secretary of the ACMRR. Dr. G. Rollefsen (Norway) was unable to attend the session. The IOC Chairman informed the Director-General of FAC that as the result of unexpected delays in consultations, the Bureau of the Commission had not been able to recommend names of two scientists from U.S.S.R. in the field of fisheries oceanography, for nomination to the Committee.\* The Committee considered the FAO Program for 1962-63 in the field of marine resources research and the proposals for the 1964-65 budgetary biennium and the questions referred to it by the Second Session of the IOC.

Among items on which specific action was recommended are the following:

\* This has now been done and Dr. G.K. Izhevsky and Dr. A.P. Alekseev have been nominated.

- (a) Intensified compilation and publication of statistics of fish catches, and also biological data, for various fisheries resources, on a regional basis; this to be done not only for use in future conservation and management, but also to give data on which rational fisheries development and expansion can be based;
- (b) Direct estimation of fish abundance by new echo-sounding techniques; and on the standardization and intercalibration of gear for sampling and for exploratory fishing;
- (c) Preparation of lists of aquatic organisms, and work on their systematics and distribution, especially in little-known regions;
- (d) Preparation for a world scientific meeting on the effects of the marine environment on fisheries resources;
- (e) Collaboration with SCOR and other bodies, including regional fisheries organizations, in preparing a comprehensive program for world ocean study, as requested by the Second Session of IOC;
- (f) Participation of marine and fisheries biologist in the International Biological Program being planned by ICSU on the Biological Productivity of Terrestrial, Freshwater and Marine Communities;
- (g) Fisheries aspects of the International oceanographic projects and fisheries for the Indian Ocean, Tropical Atlantic, North Pacific and the South Atlantic;
- (h) Review of research and development in the improvement of marine resources by transplanting, stocking, environmental manipulation and in other ways.

The full text of the pertinent resolutions has been made available to ICES in another document. The Committee will meet again in Rome 3-12 February 1964 just after the ICNAF Symposium. Meanwhile its report will be published in English, French and Spanish and made available to interested scientists, and several working groups established at this First Session will be active.

#### 5. CO-ORDINATION OF FISHERY STATISTICS

The Third Session of the Continuing Working Party on Fishery Statistics took place in Rome from 18 to 22 March 1963. ICES was represented by Mr. B.B. Parrish. Several papers were presented to the Third Session on the various aspects of the ICES-ICNAF-FAO common reporting system. The Continuing Working Party agreed to request ICNAF to consider again the subject of adopting the common reporting system or, at least, of taking some action towards the adoption of the system. The Continuing Working Party requested FAO to prepare a list of scientific and common names used by ICNAF and ICES for consideration at the following meetings of these two agencies. This has been done in a document entitled "Lists of Common and Scientific Names of North Atlantic Species appearing as Statistical Categories in ICNAF and ICES Tabulations" prepared by FAO Fisheries Division and presented at the 1963 ICNAF Meeting. The Report of the Third Session of the Continuing Working Party was also presented at the 1963 ICNAF Meeting.

It was agreed (1) that European countries would use the common reporting form STANA IW, while Canada and the U.S.A. would continue in 1963 to use the ICNAF forms for the western area; (2) that there should be a revision of sub-species grouping; (3) there should not for the moment be an extension of the terms of reference of the Working Party to other areas outside the N. Atlantic.

Early in 1963 the FAO Fisheries Statistics Section prepared for ICES Tables 4 and 9 for the 1961 Bulletin Statistique and preliminary statistics for 1962 have been prepared in FAO Fishery Statistics Bulletin No.3.

6. OTHER MATTERS

- 6.1 Mr. Holt, has acted as instructor in the Second Course on Fish Stock Assessment organized by ICBS in Lowestoft, U.K., February 1963; FAO-sponsored scientists from Ghana, Yugoslavia and Brazil also participated in this Course.
- 6.2 Training and education continues to receive much attention from the Division. 15 fellowships under EPTA, UNSF and André Mayer programs were organized by Biology Branch during the 1962-63 biennium. In 1964 will be held: a workshop on methods of research on mackerel, Malaya; seminar on sardine tagging, Yugoslavia; training centre and study tour on fishery biology and oceanography, U.S.S.R. FAO is collaborating with UNESCO in the organization of a training course in fishery oceanography for the Middle East, to be held in Turkey, in September-October 1963. Prof. M. Zei, FAO/EPTA Fisheries Biology Expert, in Ghana, will be one of the instructors.
- 6.3 FAO is collaborating with the CCTA in the Guinean Trawling Survey which has just been started, in planning and providing some scientific staff.
- 6.4 FAO has joined with SCOR and ICESU Planning Committee for the International Biological Program, in forming a joint sub-committee for the marine aspects of that program. The Sub-Committee will meet first in Madrid during the present Council meeting. Meanwhile, regional fisheries organizations, incl. ICBS, have been circularized concerning their interest in the program.
- 6.5 In December 1962 Mr. E. Akyuz of the Biology Branch Staff participated as a member at the meeting of the ICES Icelandic-Trawl Mesh Selection Working Group.
- 6.6 The 2nd FAO World Fishing Gear-Congress was successfully held in London in May 1963. Several papers on fish behaviour in relation to gear, on echo-sounding and detection and survey methods, were presented and discussed. All contributions and a summary of discussions will be published in book form.
- 6.7 FAO provided the Secretariat for the Fisheries Session of the U.N. Conference on the Application of Science and Technology for the benefit of the Less-Developed Areas, in Geneva, 3-13 February 1963. The report, with much reference to the assessment, exploitation and management of marine resources, has been published by the U.N.