

Report of the seventh session

COORDINATING WORKING PARTY ON ATLANTIC FISHERY STATISTICS

Rome, Italy, 10-16 November 1971



FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
ROME, 1972

FAO/ICES/ICNAF/ICCAT

Report of the
Seventh Session of the Coordinating
Working Party on Atlantic Fishery Statistics

Rome, Italy
10 - 16 November 1971

PREPARATION OF THIS DOCUMENT

This document is the Report of the Seventh Session of the Coordinating Working Party on Atlantic Fishery Statistics (CWP) held at FAO Headquarters, Rome, Italy, 10-16 November 1971. A preliminary version of this report was issued as FAO Fisheries Circular 291.

Until the end of 1968 the CWP was known as the "Continuing Working Party on Fishery Statistics in the North Atlantic Area". The change of name has been authorized in decisions taken by ICES, ICNAF and FAO during 1968.

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1. ADOPTION OF AGENDA AND RELATED PROCEDURAL MATTERS

(Agenda Item 1)

- 1.1 Mr. K. Løkkegaard opened the Seventh Session of the CWP in his capacity as Vice-Chairman, since Mr. A. Proulx (Canada), the Chairman of the Sixth Session of the CWP (Copenhagen, Denmark, 3-7 February 1969) was no longer a member of the Coordinating Working Party on Atlantic Fishery Statistics (previously known as the "Continuing Working Party on Fishery Statistics in the North Atlantic Area").
- 1.2 Mr. Løkkegaard introduced Dr. James A. Storer, Director, Fishery Economics and Institutions Division, FAO, who extended a welcome to the participants on behalf of FAO and in particular FAO's Department of Fisheries. Dr. Storer, in his address to the participants, stressed FAO's interest and desire to continue to collaborate closely with the other agencies in the field of fishery statistics and in particular welcomed ICCAT as a new agency participating in the activities of the CWP and the STATLANT programme of fishery statistics in the Atlantic. It was also noted that observers from the OECD and the Statistical Office of the European Communities were able to attend the Seventh Session.
- 1.3 The Acting Chairman then invited nominations for the Chairman, First Vice-Chairman and Second Vice-Chairman. Dr. A.W. May (Canada) was unanimously elected Chairman of the Seventh Session, Mr. K. Løkkegaard (Denmark) was elected as First Vice-Chairman and Mr. J.A. Pope (United Kingdom) as Second Vice-Chairman.
- 1.4 The draft agenda and a schedule of work were reviewed and adopted.
- 1.5 Rapporteurs were appointed and assigned agenda items as follows:
- | | | | |
|----------|---------------------------|-----------|---------------------------|
| 1.1-1.6 | Mr. L.P.D. Gertenbach | 6.1-6.3 | Mr. V.M. Hodder |
| 2.1 | Dr. M. Miyake | 7.1-7.3 | Mr. P.L.C. Adam |
| 2.2 | Mr. V.M. Hodder | 8.1-8.4 | Mr. P.L.C. Adam |
| 2.3 | Mr. J. Møller Christensen | 9.1-9.2 | Mr. J.A. Gulland |
| 2.4-2.7 | Mr. L.P.D. Gertenbach | 10.1-10.2 | Mr. J. Møller Christensen |
| 2.8 | Mr. P.L.C. Adam | 11.1-11.3 | Mr. V.M. Hodder |
| 2.9 | Mr. O. Thiede | 12.1-12.6 | Mr. L.P.D. Gertenbach |
| 3.1-3.10 | Mr. D.J. Mackett | 13.1-13.2 | Mr. L.P.D. Gertenbach |
| 4.1-4.2 | Mr. P.L. Mistle | 14.1 | Mr. L.P.D. Gertenbach |
| 5.1-5.2 | Mr. J. Møller Christensen | 15.1 | Mr. L.P.D. Gertenbach |
- 1.6 The Seventh Session of the CWP covered morning and afternoon meetings on Wednesday, Thursday and Friday and Monday and Tuesday from 10 November until 16 November. Dr. A.W. May chaired the meetings held on the first three days and on Monday, and Mr. J.A. Pope the meeting on Tuesday.
- 1.7 The Agenda, List of Documents and List of Participants are given in Appendixes 2, 3, 8 and 9 of this Report. The CWP considered it useful to list various Acronyms as in use in Appendix 10.

2. REVIEW OF AGENCY PROGRAMMES AND PUBLICATIONS PRESENTING
ATLANTIC FISHERY STATISTICS

(Agenda Item 2)

- 2.1 The Statistical Programme and Publications of ICCAT (International Commission for the Conservation of Atlantic Tuna)
- 2.1.1 The Assistant Executive Secretary of ICCAT expressed appreciation for the warm welcome by the CWP to ICCAT as a new member and asked future cooperation. He summarized Document CWP-7/50, explaining that the Commission is new and is still in the stage of establishing a data collecting system. All data are to be collected through national offices rather than the Commission itself and automatic data processing (ADP) is being considered for handling such data.

- 2.1.2 He stressed that the statistics required by ICCAT would be somewhat different from those required by ICES and ICNAF, since the number of species involved is much less but the coverage of the area is much wider, and all the tuna species are highly migratory. Since ICCAT would be having a biennial meeting immediately after this Seventh Session of CWP meetings, and since ICCAT is now establishing a new reporting format and systems for statistics, it was stressed that any decisions by this Session of the CWP on compatibility and standardization would be immediately taken up and that full consideration would be given to them.
- 2.1.3 The CWP was also asked to cooperate in collecting statistics for ICCAT's use from non-member countries fishing tuna and tuna-like species in the Atlantic Ocean.
- 2.2 The Statistical Programme and Publications of ICNAF (International Commission for the Northwest Atlantic Fisheries)
- 2.2.1 The Assistant Executive Secretary of ICNAF presented the report of the ICNAF Statistical Programme, 1969-1970 (CWP-7/46). He reviewed the status of ICNAF statistical publications and indicated that the Statistical Bulletin (Vol. 20) and the Sampling Yearbook (Vol. 15), both for the year 1970, were in preparation and would probably be ready for distribution prior to the 1972 ICNAF Annual Meeting. The ICNAF List of Fishing Vessels for 1968, together with summaries of fishing effort for the years 1966-1968, was issued in 1969 and a similar list for 1971 will be compiled and issued in 1972.
- 2.2.2 The CWP was informed that several species had recently been added to the ICNAF List of Species, the most notable change being the addition of a new group "Seals" involving the two species commonly referred to as "harp" and "hooded seals". Also revisions to the ICNAF List of Species were made such that the scientific names and authorities conform with the recently published American Fisheries Society "List of Common and Scientific Names of Fishes" (Third edition, 1970), but the common names as used by ICNAF were left unchanged.
- 2.2.3 In view of the publication in 1970 of FAO Bulletin of Fishery Statistics No. 25, the ICNAF List of Conversion Factors will not be published in future issues of the ICNAF Statistical Bulletin but a reference to the FAO Bulletin of Fishery Statistics No. 25 will be inserted.
- 2.2.4 The CWP was advised that ICNAF at its 1971 Annual Meeting decided to delete the effort measure "days on grounds" from all future requests for statistics from national offices.
- 2.2.5 Noting the concern of CWP that an appreciable percentage of effort data reported by some countries is arrived at by estimates (see page 11, Report of the Sixth Session of the Coordinating Working Party on Atlantic Fishery Statistics) ICNAF reviewed the problem at its 1970 and 1971 meetings. Information on estimation procedures was received from only a few countries with only one country reporting detailed data on estimates. It was decided that this matter should be kept under review by obtaining periodically from national offices brief descriptions of their recording and estimating procedures.
- 2.2.6 The CWP was informed that a special issue of the ICNAF Sampling Yearbook Vol. 13 Part II, containing herring length and age data for the years 1961-1968 was issued in 1969 and that subsequent issues will contain herring sampling data as a matter of routine.
- 2.2.7 A recent review of available sampling data by the ICNAF Assessment Sub-Committee pointed to a number of serious deficiencies for certain stocks and areas and, in order to stimulate more adequate sampling by Member Countries, ICNAF adopted, as a minimum sampling requirement for the commercial fisheries, the measurement by each country of 200 fish for every quarter of the year and division for each 1 000 tons of each species caught.
- 2.2.8 The Assistant Executive Secretary reviewed some of the current problems associated with statistics received from national offices. The species separation for flounders has improved considerably, since only about 5 percent of the total flounder catch in 1970 was reported as unspecified in contrast with 21 percent in 1969 and 39 percent in 1968. However, the late submission of STATLANT forms continues to affect the timely preparation of summary statistics required at the Annual Meeting and at meetings of Working Groups and causes delay in the compilation and publication of the Statistical Bulletin and Sampling Yearbook. Regarding the completion of STATLANT 21B forms for 1970 data, some countries apparently do not compile their statistics on the basis of "Main Species Sought", as they either made no entry in the appropriate box on the form or entered the word "mixed" for

all vessel classes and areas. One or two countries whose vessels caught appreciable quantities of cod by longlines in the ICNAF Area did not provide effort data or even a breakdown by month or subarea. Thus there is room for considerable improvement at the national level in reporting statistics.

- 2.2.9 The Assistant Executive Secretary indicated that ICNAF had already embarked on the use of ADP to facilitate the compilation and publication of statistical data and the rapid manipulation of data required by working groups for stock assessments. In this regard ICNAF is at present fortunate in having access to a CDC 3150 computer located in the same building as the Secretariat offices, courtesy of the Bedford Institute.

2.3 The Statistical Programme and Publications of ICES (International Council for the Exploration of the Sea)

- 2.3.1 The ICES Statistician presented the statistical programme of ICES and reviewed the status of publications. Attention was drawn to the following items:

- (a) Delay in submission of data which holds up publication of the Bulletin Statistique (see also (i)).
- (b) Statistical tables published in working group reports which are issued as "Cooperative Research Reports", Series A. It was noted that in several cases discrepancies exist between these data which are compiled by biologists, and the official catch data published in Bulletin Statistique.
- (c) Tables showing nominal catches by subareas and main species in the NEAFC regions for series of seven years published in "Cooperative Research Reports", Series B, annually from 1970 onward.
- (d) A new table showing nominal catch of selected species in principal fishing areas for a series of nineteen years published in Bulletin Statistique from Volume 54, 1969 onward.
- (e) Change in the layout and content of Table 5 "Invertebrates" in Bulletin Statistique according to a decision made at the 1971 meeting of ICES.
- (f) Polar cod (Boreogadus saida) to be listed as a separate species in Table 4 of Bulletin Statistique, Volume 56, from 1971 onward.
- (g) Standardization of tables published in the Statistical News Letters, and preparation of a special issue of Statistical News Letters containing charts showing subdivisions of fishing areas used by ICES and national agencies.
- (h) A working group set up at the 1971 ICES meeting, to evaluate the report of the CWP Study Group on ADP, to define users' specifications for an ICES ADP system for fisheries statistics and to draw up a complete specification for it.
- (i) Following a recommendation by the CWP at its Sixth Session, a meeting was arranged between the statistical authorities in Portugal, the Secretary of the CWP and the ICES Statistician to discuss means of overcoming the serious delay in reporting fishery statistics by Portugal. As a result of this meeting data for 1969 were submitted with very little delay. However, data for 1970 had not been submitted by the time of the CWP meeting and further delay may be expected.
- (j) In view of the importance of further and more precise statistics from the southern part of ICES statistical area, ICES decided in 1970 that its Statistician should visit France and Spain to establish personal contacts with the authorities responsible for reporting statistical data and to discuss possible ways to overcome present difficulties.

- 2.3.2 The CWP took note of items (c), (d), (e), (g), (i) and (j) and decided to refer items (a), (b), (f) and (h) to be dealt with later for discussion under relevant agenda items.

2.4 The Statistical Programme and Publications of FAO (Food and Agriculture Organization of the United Nations)

- 2.4.1 The main publications are the two Yearbooks of Fishery Statistics - "Fishery commodities" and "Catches and landings". Because of the demand for the latter types of statistics, emphasis has been given to these series. Some extension and rearrangement of the information included in the even numbered volumes of the Yearbook of Fishery Statistics are therefore planned.
- 2.4.2 It is proposed to give in the various sections data for different countries arranged by economic classes, continents, regions and subregions and to show by countries the catches by species with an indication of the fishing areas.
- 2.4.3 The second section would mainly consist of the catches by species in a three-tier arrangement, showing the species, taxonomic code, scientific name, followed by a fishing area breakdown, and in turn by a country breakdown.
- 2.4.4 The third section in the Yearbook would show, for each of the seven inland areas and the nineteen marine areas, the total fish catch for a selected number of years. Each area total would be broken down first by country and then secondly by species.
- 2.4.5 Further issues of the FAO Bulletin of Fishery Statistics are expected to be issued, covering detailed regional or species statistics. These will be prepared in close collaboration with the work of various FAO regional bodies such as CECAF and GFCM. It is likely that these will be developed along lines similar to the regional bulletins of ICES and ICNAF.
- 2.4.6 Fisheries Circulars will continue to be issued on special topics. Most of the more recent ones are available as documents for CWP.
- 2.4.7 The work of compiling the tabulations, presented in the Yearbooks and in the summary sections of the regional bulletins or circulars, requires the development and establishment of a standard classification of species and standard concepts with respect to gross catches, nominal catches, foreign landings and fishing activity coverages. It also requires the standard classification of fishing areas, fishing gear, fishing fleets, etc. Work of this nature is carried out in consultation with other regional bodies and with them through the CWP. The details of much of this work are set out in other documents submitted to the CWP. Through the use of standard forms, with precise notes for their completion, etc., every effort is made to ensure prompt and adequate replies from the national offices.
- 2.4.8 The presentation of data in greater detail and the increasing use of catch statistics within FAO, in relation to studies on the state of the stocks and the problems of management, have focused attention on the quality of fishery statistics reported to FAO. Although it is at present unrealistic to expect all countries to submit data of the same accuracy and detail a great deal could be done to improve the coverage and quality of nationally prepared submissions of fishery statistics to international agencies.
- 2.4.9 There are increasing demands for statistics on fishermen, fishing fleets, etc., and greater attention will have to be paid to these fields in the near future.

2.5 The Statistical Programme and Publications of the GFCM (General Fisheries Council for the Mediterranean)

- 2.5.1 The GFCM Working Party on Fishery Statistics and Biological Sampling was established in accordance with Resolution 2/67 of the Ninth Session of the Council (Split, Yugoslavia, 4-9 December 1967). It has held two meetings in Rome, the first during 4-8 March 1969 and the second during the course of the Tenth Session of the Council, 8-13 December 1969. As far as fishery statistics in general are concerned, work has been directed toward establishing:
- (a) the boundaries of the GFCM statistical area and its 8 subareas
 - (b) a list of species for statistical purposes
 - (c) a list of characteristics for fishing vessels

- 2.5.2 With the approval of the Tenth Session of the Council, a system has been designed for regional reporting of:
- (a) annual catch by species of subarea of capture
 - (b) the size and structure of fleets fishing in the Mediterranean and Black Sea
- 2.5.3 The next step, which is at present being undertaken, is the field testing of the designed reporting system. The results received will be evaluated and if satisfactory the Working Party will proceed with consideration of refinements to the system such as the further subdivision of subareas, at least for particular species, and the introduction of the reporting of fishing effort. If the results of the field testing are of limited value, efforts will be directed toward overcoming the difficulties before proceeding further.
- 2.5.4 Work in the field of biological sampling has led to development of a standardized system for the reporting of age and length data by national offices to FAO. Other work has included the drafting of a series of species identification sheets for statistical purposes which will be printed in the very near future.
- 2.6 The Statistical Programme and Publications of CARPAS (Regional Advisory Fisheries Commission for the Southwest Atlantic)
- 2.6.1 The Fourth Session of the CARPAS Working Party on Fishery Statistics and Biological Sampling was held in Mar del Plata (Argentina) on 16 and 17 March 1971. The report of this Working Party is published as Appendix 5 in the Report of the Fifth Session of CARPAS (see FAO Fish. Rep. (108):95 p.).
- 2.6.2 The first Bulletin of catch statistics for the area was presented to the Working Party and was approved.
- 2.6.3 The Working Party recommended the breakdown of the CARPAS Area into subareas and divisions. This was approved by the Fifth Session of CARPAS.
- 2.6.4 The Working Party recommended the adoption of the STATLANT forms and the notes for their completion.
- 2.6.5 The Working Party approved a general list of species for the area and recommended that this list be published as an FAO Fisheries Circular in accordance with the pattern established for other areas.
- 2.6.6 The Working Party approved the text and drawings of a first group of Argentinian and Brazilian fishes for inclusion in the series "Species Identification Cards".
- 2.6.7 The Working Party discussed conversion factors, layout and contents of future Bulletins on catches and landings, etc.
- 2.7 Statistical Programme and Publications of CEECAF (FAO Fishery Committee for the Eastern Central Atlantic)
- 2.7.1 The importance of fishery statistics and the urgent need to obtain improved coverage and quality of the data for the Eastern Central Atlantic fisheries were stressed at the Symposium on the Living Resources of the African Atlantic Continental Shelf between the Strait of Gibraltar and Cape Verde held at Santa Cruz de Tenerife, 25-28 March 1968 and by the ACMRR/ICES Working Party on the Fishery Resources of the Eastern Central and Southeast Atlantic, held in Santa Cruz de Tenerife, 29 March to 4 April 1968. This was re-emphasized by the FAO Fishery Committee for the Eastern Atlantic (CEECAF) at its First Session held in Accra, Ghana, 24-28 March 1969. The importance of fisheries was also stressed in the reports of the CEECAF Working Party on Regulatory Measures for Demersal Stocks (now renamed "Working Party on Resources Evaluation") which held its First Session in Rome, 20-24 April 1970 and its Second, 22-26 March 1971.
- 2.7.2 At its Second Session held in Casablanca, Morocco, 13-19 May 1971, CEECAF re-emphasized the importance of reliable, detailed and up-to-date statistics to its work in fisheries management and development. It noted that, while the statistical data available to the CEECAF Working Party on Regulatory Measures for Demersal Stocks had been sufficient for that group to reach significant conclusions about the state of some stocks, these data

2.7.2 (concluded)

were still very far from being complete. High priority should therefore be given to improving these statistics. At this session CECAF stressed the need to ensure that standard criteria should be used for reporting statistics and also noted that FAO had prepared standard forms for reporting regional statistics and that these had been circulated to countries in the CECAF Area.

2.7.3 The following appears in the Report of the Second Session of CECAF:

"Good regional statistics are impossible without adequate national statistics. The Committee therefore welcomed the establishment of a post of Regional Fishery Statistician for a period of one year".

"Adequate training of national personnel concerned with the collection and compilation of statistics is a very important step toward better statistics in the region".

2.8 Statistical Programme and Publications of OECD (Organization for Economic Cooperation and Development)

2.8.1 OECD has no responsibility for collecting statistics. Its work in the field is of a preparatory nature and is referred to under other items of the Agenda.

2.9 Statistical Programme and Publications of SOEC (Statistical Office of the European Communities)

2.9.1 The Observer from SOEC stated that in his organization fishery statistics are integrated with agricultural statistics which, up till now, have been given higher priority than fishery statistics. He hoped that, with the addition of new member countries with important fisheries, more attention will be devoted to fishery statistics.

2.10 An International Directory of Fishery Statistics

2.10.1 The CWP Secretary described the UN activities to prepare a directory of international statistics and that FAO might consider the possibility of preparing a "Directory of International Fishery Statistics". The CWP agreed that such a directory would be useful to national statistical offices as well as to international agencies and to an increasing number of users of international fishery statistics.

2.10.2 The CWP noted that for each agency covered in such a directory the following items might be included:

- (a) its responsibilities in international or regional statistical activities;
- (b) the organization of its statistical service; the latter's place within the agency or commission structure; its relation to governing bodies; its overall budget and staff figures, etc.;
- (c) its cooperative arrangements with other agencies in the field of fishery statistics;
- (d) its computer operations;
- (e) its basic publications;
- (f) its long-term programme of statistical activities.

2.10.3 The CWP recommends, should FAO be in a position to compile such a directory, that all the international agencies dealing with fishery should as far as possible assist FAO by providing the required information.

2.10.4 The CWP was strongly of the opinion that the peculiar international nature of fishery statistics, arising from the common property nature of most fishery resources, should be emphasized in the introduction of such a directory.

3. CONSIDERATION OF THE REPORT OF THE CWP STUDY GROUP ON ADP

(Agenda Item 3)

- 3.1 The CWP Study Group on ADP met under the chairmanship of Mr. J.A. Pope with Mr. D.J. Mackett as Rapporteur on Monday and Tuesday, 8 and 9 November 1971, FAO, Rome. The report of the Study Group is given as Appendix 1 to this Report of the Seventh Session of the CWP. The CWP endorsed this report and incorporated several of its recommendations in its own report for the convenience of the reader.
- 3.2 The CWP took note of the proposal of the ADP Study Group and recommends that the CWP Secretary prepare revised versions of the STATLANT forms conforming to the following:
- (a) These should be ready by January 1972 in time for discussions with the Assistant Executive Secretary of ICNAF, and if possible, the Statistician of ICES in Rome during the last half of January 1972.
 - (b) The ICES and ICNAF Secretariats, using their own experience in the field of ADP development, prepare sample forms broadly along the lines suggested in paragraph 10.2 of Appendix 1, in time for the above-mentioned discussions.
 - (c) The forms be adjusted to take into account the recent experience of ICNAF in transferring STATLANT information to data sheets for punching.
 - (d) The revised forms be submitted to ICNAF and ICES for consideration at their annual meetings in 1972.
 - (e) If these revised forms are approved by ICES and ICNAF, the CWP Secretary will introduce them when 1972 data are requested from national offices during the first few months of 1973.
- 3.3 The CWP, recognizing the urgent need for ICCAT to introduce forms for obtaining tuna fishery statistics, expressed the hope that these ICCAT forms would be introduced on an experimental basis only in 1972 pending the revision of the STATLANT forms to be used by ICES and ICNAF. ICCAT's experience with their forms should be made known to ICES, ICNAF and FAO.

4. QUANTITY CONVERSION FACTORS

(Agenda Item 4)

- 4.1 The Secretary presented FAO Bulletin of Fishery Statistics No. 25, "Conversion Factors: North Atlantic Species", which shows the conversion factors used by the countries fishing in the North Atlantic to convert landings from landed or product weight to live weight (nominal catch) arranged according to species. According to the opinion expressed by the CWP at its Fifth and Sixth Sessions, the intention is not to establish common international factors but to draw the attention of national statistical offices to significant differences in conversion factors used by other countries for the same species and degree of processing.
- 4.2 The Bulletin was submitted to the 1971 annual meetings of ICNAF and ICES who expressed the view that the Bulletin should be kept under constant review. The CWP was informed that the conversion factors will be dropped from the ICNAF Statistical Bulletin, and be replaced by a reference to the Bulletin of Fishery Statistics (see also Section 2.2.3 of this report).
- 4.3 The CWP examined the Bulletin, noted some deficiencies and apparent inconsistencies in national figures, and emphasized the importance of accurate conversion factors in connexion with catch quota regulatory measures.
- 4.4 The Assistant Executive Secretary of ICCAT expressed the wish that later issues of the Bulletin should include conversion factors for tuna species fished outside the North Atlantic.
- 4.5 In view of the expanding fleet of factory vessels landing an increasing variety of processed fish products, the CWP found it would be useful to extend future issues of the Bulletin to include such products.

- 4.6 The CWP, having discussed proposals for further action to improve the determination, collection and publication of conversion factors, recommends that:
- (a) conversion factors for processed products landed by factory vessels be included in future issues of the Bulletin;
 - (b) the CWP Secretary distributes the Bulletin to all countries fishing in the North Atlantic for examination, requesting them to report errors and explain apparent discrepancies;
 - (c) FAO, through the CWP Secretary, in cooperation with ICNAF, ICES, ICCAT, OECD, SOEC, keep the Bulletin under continuous review in collaboration with national offices.
- 4.7 The CWP recognized that a close link exists between the conversion factors used in catch/landing statistics and those reflecting extraction rates for processed commodities handled in shore-based establishments and markets and suggested that developments in these fields should be closely coordinated.

5. CLASSIFICATION OF FISHING AREAS OF THE ATLANTIC AND ADJACENT SEAS

(Agenda Item 5)

- 5.1 The CWP in reviewing the various papers providing details on the major Atlantic fishing areas and their breakdown into subareas and subdivisions took into account also the relevant paragraphs of the report of the ADP Study Group (see Section 9.2 of Appendix 1).
- 5.2 The CWP suggests that a graticule system could be used throughout the world by various regional and other bodies and where such a system is introduced the CWP recommends that rectangles be coded according to the following rules:
- (a) latitude should be given before longitude;
 - (b) each rectangle should be identified by the latitude and longitude meeting in the corner nearest to the Equator and Greenwich Meridian;
 - (c) the foregoing fields should be preceded by a digit indicating the size of the rectangle.
- For examples of this system see Appendix 5.
- 5.3 The CWP recommends that FAO combine in a single publication all the maps and area codes now used by the regional bodies in the Atlantic, and that this presentation should initially reflect only those codes referring to subareas, divisions and subdivisions.
- 5.4 The CWP recommends that, whenever boundaries for major statistical areas are established, those described in inter-governmental conventions are to be taken into account and, whenever overlapping has to occur, the areas common to both should be classified by the agencies, at preferably the subarea level.

6. CLASSIFICATION OF STATISTICAL CATEGORIES REFLECTING SPECIES, GENERA, FAMILY AND SPECIES GROUPS, FOR THE WORLD IN GENERAL AND THE ATLANTIC IN PARTICULAR

(Agenda Item 6)

- 6.1 The CWP, in reviewing the various papers providing details of the classifications of FAO, ICES and ICNAF of statistical categories reflecting species, genera and families, used in the collection of statistics and in the statistical publications of catches, took into account also the relevant paragraphs of the report of its ADP Study Group (see Section 9.3 of Appendix 1).

- 6.2 The CWP recommends that FAO, in its worldwide tabulations of data, continue to arrange the species items within the tables for each ISSCAAP group according to the numerical order of the taxonomic codes used in the "Current Bibliography for Aquatic Sciences and Fisheries".

7. CLASSIFICATION OF FISHING GEAR FOR STATISTICAL PURPOSES

(Agenda Item 7)

- 7.1 The CWP in reviewing the Report on the International Standard Statistical Classification of Fishing Gear also took into account the relevant paragraphs of the report of its ADP Study Group (see Section 9.4 of Appendix 1). The CWP recognizes that this gear classification should be used inter alia for the following two purposes:
- (a) as reference for lists of gear to appear in notes for the completion of STATLANT forms which cover effort and catch data and where such notes refer to gear types to identify "classes of fishing units";
 - (b) where effort data are not available the catch statistics by species could be broken down by types of gear to provide information about catches which would be useful for stock assessment and management programmes.
- 7.2 The CWP notes that the Report on the International Standard Statistical Classification of Fishing Gear was submitted to ICNAF and also to the Gear and Behaviour Committee of ICES. The members of the latter Committee were asked to suggest any changes that have to be introduced, and the CWP accordingly asked that the participants from the ICES Secretariat remind the Committee members to comment on this classification and at the same time to point out to them those aspects which should be further clarified.
- 7.3 The CWP recommends that the results of the ICES investigation should be incorporated in a paper to be submitted by the Secretary of the CWP to both ICNAF and ICES at their annual meetings in 1972.

8. FISHING FLEET STATISTICS AND THE ESTABLISHMENT OF INTERNATIONAL REGISTERS FOR FISHING CRAFT

(Agenda Item 8)

- 8.1 The CWP Secretary presented the FAO Bulletin of Fishery Statistics No. 23 ("Fishing Fleet Statistics, 1969") and mentioned that the intention was to make such a publication every two years, as the fleets are not likely to change so rapidly as to necessitate an annual publication. The CWP was in agreement with this point of view.
- 8.2 The CWP Secretary presented the FAO Bulletin of Fishery Statistics No. 24 ("North Atlantic Fishing Vessels, 1969") and pointed out that it covered only European countries and not Canada, U.S.A. and U.S.S.R. He recalled that this exercise had come from the wish of having a combined North Atlantic list of vessels for both ICNAF and ICES instead of the sole ICNAF list. This experiment proved to be so consuming of time and staff that it had to be limited in scope and that it would not be feasible for FAO to continue with this project.
- 8.3 The Assistant Executive Secretary of ICNAF indicated that ICNAF had decided at the 1970 and 1971 meetings to collect vessel list data for 1971 for publication in 1972. The ICES Statistician mentioned that ICES has discussed, but not decided, whether to prepare such a list for its area.
- 8.4 The Observer from OECD presented the work done by his agency to list, classify and define the vessel characteristics which could be collected when building up national registers for fishing vessels. He stressed that these extensive lists (CWP-7/48 and 7/49) should be regarded as a framework, within which any improvement or extension in national data collection should be made. The CWP suggested that these two OECD reports should be combined in one publication.

8.5 The CWP reviewed the tonnage categories used for different purposes (catch/effort statistics, national fleet or international fleet statistics) and also the problem of how to define the exact limits of the categories. The CWP recommends that the following breakdown for fishing fleet statistics according to GRT size categories should be adopted when tabulating fleet statistics:

Code Division Group		"Group" limits		Code Division Group		"Group" limits ^{1/}	
		lower	upper			lower	upper
		GRT	GRT			GRT	GRT
0	01	0	0.9	61		500	599.9
				62		600	699.9
				6	63	700	799.9
	11	1	4.9	64		800	899.9
	12	5	9.9	65		900	999.9
1	13	10	14.9				
	14	15	19.9				
	15	20	24.9	7	71	1 000	1 999.9
2	21	25	49.9				
				81		2 000	2 999.9
				82		3 000	3 999.9
				83		4 000	4 999.9
3	31	50	99.9				
				84		5 000	5 999.9
				8	85	6 000	6 999.9
				86		7 000	7 999.9
4	41	100	149.9				
				87		8 000	8 999.9
				88		9 000	9 999.9
	51	150	199.9				
	52	200	249.9			10 000	19 999.9
	53	250	299.9			20 000	29 999.9
5	54	300	349.9	9	93	30 000	39 999.9
	55	350	399.9			40 000	49 999.9
	56	400	449.9			50 000	99 999.9
	57	450	499.9				

^{1/} ".9" is understood to be recurring

8.6 The CWP recognizes that the general and immediate application of this would create some difficulties. The upper level of tonnage categories in ICES and ICNAF would have to be adjusted from 900 GRT to 1 000 GRT and from 1 800 GRT to 2 000 GRT. ICNAF and ICES were asked to review the matter. ICCAT should also review its classification of tuna vessels by GRT categories. It is noted that ICCAT has to use capacity tons (expressed in metric tons of the fish in the holds) for the tuna purse seiners.

8.7 The CWP noted that FAO intends to publish biennially a Bulletin of Fishery Statistics covering fishing fleets. It has been suggested that, as far as possible, this should follow the breakdown by GRT categories recommended in paragraph 8.5.

- 8.8 The CWP also noted that FAO and OECD might review the possibility of jointly compiling a world register of fishery vessels (of 1 000 GRT and above).

9. STATISTICS OF FISHING EFFORT IN THE ATLANTIC FISHERIES

(Agenda Item 9)

- 9.1 The CWP noted that "searching time" has always been considered an integral part of what has been defined as "fishing time" when it is expressed in "days fished". The regional commissions have expressed the wish to continue to have the amount of "searching time" included in "fishing time" but also to have "searching time" reported separately. The CWP recommends that the CWP Secretary write to all national offices and request them to report on the feasibility of recording "searching time" separately in addition to including it as an integral part of "fishing time" when the latter is expressed in "days fished".
- 9.2 The CWP noted that some types of effort statistics reported on the STATLANT forms are not recorded directly, but are calculated from one or two of the effort statistics obtained through extracts from log books and questionnaires completed by the crews. The CWP recommends that the Secretariats of ICES, ICNAF and ICCAT should ask national offices to report on their systems of collecting and recording the different types of effort measures.

10. EARLY REPORTING OF SELECTED BASIC CATCH AND LANDINGS INDICATORS

(Agenda Item 10)

- 10.1 The CWP discussed possible ways of obtaining data on nominal catches by species and fishing area at an early date (January-February) in the year following that to which the data relate, in order to meet the needs of working groups involved in stock assessment. It was noted that both ICES and ICNAF obtain such provisional data through the biological laboratories of some member countries. The CWP concluded that no other feasible means of obtaining such early catch data could be thought of at present.
- 10.2 The CWP noted that some of the agencies have already considered, and others may have to consider in the near future, systems for fast reporting of detailed catch data required for the possible regulation of fisheries.

11. REVISION BY NATIONAL OFFICES OF DATA FOR PREVIOUS YEARS

(Agenda Item 11)

- 11.1 The increasing demand for more timely submissions of catch statistics to various international agencies must often result in national reporting offices having to provide data available to them at that time only in provisional form.
- 11.2 In some cases revisions cannot be communicated by national offices to the international agencies in time for inclusion in the final version of the statistical publications to be issued by these agencies.
- 11.3 There are also instances where the national offices submit revisions significantly affecting species aggregates but without indicating the extent to which the catch and effort details by subareas and divisions have to be revised. Some national offices could revise summaries but might find it difficult to incorporate all revisions of the provisional entries already submitted by them on the catch/effort forms.
- 11.4 The need to update series of statistical data which have subsequently undergone revision at national offices was strongly reiterated, but the ways by which such revisions could be introduced in subsequent statistical publications of the various agencies concerned can only be decided once the nature and magnitude of the problem have been determined. The CWP suggests that the agency secretariats investigate together with the national offices the magnitudes and extent of these revisions and the timing of national submissions of such changes.

- 11.5 It is becoming increasingly more important for purposes of biological assessment of fish stocks and for international management of stocks, that countries be able to provide both detailed and accurate statistics of their fisheries. It is apparent that in some countries, where different agencies may have similar interests and overlapping responsibilities in the collection and compilation of fishery statistics, more than one series of catch statistics may be produced. For example, statistics submitted to various international agencies may not always be precisely the same as those given in national publications. Discrepancies between data available from these various sources are sometimes considerable. This has resulted in situations where national representatives (usually fishery biologists) for stock assessment working groups have preferred to use statistical data other than those which the countries have supplied to the international agency concerned. The CWP therefore recommends that countries give urgent attention to the problem of discrepancies between data provided by various national agencies and specifically that the individual countries arrange to bring together both collectors and users of such data (particularly fishery biologists, statistical officers and fishery economists) in an attempt to solve the problem.

12. REVIEW OF STATLANT FORMS AND NOTES FOR THEIR COMPLETION

(Agenda Item 12)

12.1 Review of all Forms to be used by Atlantic Regional Fishery Bodies, Commissions, Committees and Councils

- 12.1.1 It was decided that no major changes should be made and that any significant amendments should be postponed and incorporated when the new ADP-type format is introduced (see Section 10 of Appendix 1). The Working Party agreed that new forms could only be adopted after a very careful preparation, subsequent approval by the Commission and following an adequate period in which all national offices (statistical, scientific, etc.) have advance warning of the intended introduction of such new forms.
- 12.1.2 The CWP reviewed all the STATLANT forms and decided that the present ones should continue to be used early in 1972 to collect 1971 calendar year data and possibly also early in 1973 for obtaining 1972 figures.
- 12.1.3 The Working Party noted that ICNAF has approved certain minor changes in the STATLANT 21B form and recommends that the CWP Secretary introduce the following changes prior to the reprinting of this form:
- (a) Under the "effort measure" headings the entry "days on ground" should be deleted and the number of blank lines reduced to one.
 - (b) Under the listing of species the following changes are to be made:
 - (i) deletion of the entries for "sturgeons" and "river eels" as the small catches of these would be covered by the STATLANT 21A form showing summary catches by ICNAF subareas and divisions;
 - (ii) under the flatfishes to list, after "halibut" (which is to refer exclusively to Hippoglossus hippoglossus) a heading "other flounders, soles, etc." followed by a species breakdown:
 - 1 - Greenland halibut
 - 2 - witch flounder
 - 3 - yellowtail flounder
 - 4 - American plaice
 - 5 - summer flounder
 - 6 - winter flounder
 - 7 - flounders, not elsewhere specified
 - (c) Some space could be created by reducing the space left blank in the column headings of the calendar months.

12.1.4 The Working Party noted the ICES recommendations to expand the species listed in column C of the STATLANT form 27B and recommends that the CWP Secretary arrange for the introduction of the following additional changes when the 27B form is reprinted to obtain supplies for 1972 and 1973:

(a) The two entries for "sturgeons" and "river eels" should be deleted from these forms as the catch data would be available by ICES subareas and divisions from the STATLANT 27A catch summary form. (Some spaces could be created by reducing the space under the names of the months in the column headings.)

(b) The following additional species entries should be made:

1 - "Greenland halibut" to be inserted after "halibut" (which is to refer exclusively to Hippoglossus hippoglossus) and before "lemon sole"

2 - "Polar cod" between "Norway pout" and "pollack"

3 - "Norway lobster"

4 - "pandalid shrimps"

12.1.5 The CWP recognizes that ICGAT might encounter some difficulties should it attempt to mould its questionnaire for catch and effort data in the tuna fisheries on the present STATLANT forms. New STATLANT forms for tuna and other pelagic fisheries might be necessary for reporting tuna statistics.

12.2 Consideration of Instructions Related to Time Adjustments, Inclusions, Exclusions and Coverage of Data to be Reported

The CWP Secretary referred to the CWP the various Fisheries Circulars providing standard definitions and concepts for the completion of the various STATLANT forms. After a review of these the CWP recommended the following amendments to Fisheries Circular 260 (CWP-7/3):

(a) In Section 2.1, the "concepts" should be listed in the following sequence:

1st - "landings"

2nd - "nominal catch"

3rd - "catch"

4th - "gross catch"

5th - "discarded catch"

6th - "retained catch"

(b) A new Section 2.4 should be inserted to explain that the data on "gross catch", "discarded catch" and "retained catch" would generally be available only in logbook entries reflecting estimates by skippers or other crew members of the quantities involved, and that these estimates might be at variance with the results ("nominal catch") obtained by converting recorded landings to their live weight equivalent.

(c) A new Section 4.1 should be inserted and the existing two renumbered. This new insertion should reflect the definition of yield rates (conversion factors) also given in 8.1 (i) of this document.

(d) The footnote to the existing Section 4.1 should be amended to refer to Bulletin of Fishery Statistics No. 25.

12.3 Statistical Treatment of Catches and their Allocation According to Flag and Other Nationality Indicators of Fishing Craft

12.3.1 In papers prepared for international fishery meetings and for sessions of the UN Statistical Committee as early as 1952, the FAO Secretariat pointed out that the correct statistical treatment of direct foreign landings is to consider these deliveries as imports into the receiving country and as exports from the country whose fleets are

12.3.1 (concluded)

discharging their catches directly in foreign ports. Furthermore, FAO also stressed that the landings by foreign craft had to be excluded from the statistics on the domestic production of the receiving country, and should be included in the primary production of the country whose flag is flown by the craft making the catches, sometimes processing these at sea, before they are transported in the fishing vessel or in transport vessels for delivery in foreign ports.

12.3.2 The UN Statistical Commission, when its attention was drawn to these questions by the FAO Secretariat, at its Eighth Session (5-11 April 1954, Geneva) and at its Ninth Session (16 April to 2 May 1956, New York) expressed the opinion "that the attribution of provenance by flag of fishing craft would usually produce figures reasonably equivalent to country of provenance".

12.3.3 It should be noted, however, that with the introduction of costly, large size and long-range fishing vessels, the tendency to use "flags of convenience" might be encouraged by many factors. It is generally recognized that the increasing pressures on the fishery resources through the operations of long-distance fishing units whose fishing efficiency is steadily improving, have increased the need for resource management and conservation at the national and international levels. Many countries, often through fishery commissions, councils and other forms of multilateral agreements, have introduced conservation measures with regard to mesh sizes, closed seasons, permanent sanctuaries, quotas, limitation on types of gear, etc.

12.3.4 Some operators, faced with rising costs and what might seem to them to be onerous restrictions introduced by their governments singly or in consultation with other states, might attempt to escape from the obligation of complying with these management and conservation measures. This could be done by transferring the registration and flag of their fishing craft to states not involved in these arrangements, and with governments not concerned with their implementation and enforcement. Flags of convenience might be considered as the easy way for certain fishing boat owners to avoid management policies, including responsibility to keep and submit detailed statistics on fishing effort, catches by species and fishing grounds, etc. to national offices who, in turn, would submit these to regional and international fishery agencies.

12.3.5 The CWP, in reviewing these problems insofar as they have an implication for fishery statistics, noted that an attempt to arrive at a solution would no doubt lie in the fields of law, administration, etc. and expressed the hope that a solution would be found which would ensure *inter alia* that the statistical aspects would receive adequate attention. Unless this is done, in the opinion of the CWP, there would be an increasing danger of inadequate coverage of the statistics reported to the regional bodies. These inadequacies would have a serious adverse impact on the research activities of such regional institutions when undertaking stock assessment work and establishing resource management policies.

12.3.6 Pending a final solution the CWP recommends that catches be attributed by the flag of the fishing craft as proposed by the United Nations Statistical Commission.

12.4 Further Proposals for Improvement, Refinement and Standardization of Notes for the Completion of STATLANT Forms

12.4.1 The CWP reviewed the various Fisheries Circulars containing instructions for the completion of the various STATLANT forms. The following recommendations were made:

(a) Fisheries Circulars 267 (CWP-7/30), 273 (CWP-7/31), 275 (CWP-7/32)

(i) A new section be incorporated between 7.3 and 7.4 to indicate that "... " should be inserted wherever data are not yet available to the national office or might not become available.

(b) Fisheries Circulars 274 (CWP-7/36) and (CWP-7/37)

(i) A new section to be inserted between 7.3 and 7.4 to refer to use of "... " as explained above.

12.4.1 (concluded)

- (ii) Existing entry 7.3 should be amended to show that nil entries could be indicated by leaving lines or columns blank although "—" could be used in case of doubt.
- (c) In Fisheries Circular 276 (CWP-7/37) a new Section 6.5 is to be added to request countries to indicate species composition of the "pandalid shrimps" which has been inserted on the STATLANT 2/B forms.

12.5 Review of Existing Procedures for the Distribution and Collection of STATLANT Forms and Proposals for Improvements

12.5.1 Under current procedures the Secretary of the CWP submits annually on behalf of FAO, ICES and ICNAF, under cover letters to national offices, batches of STATLANT forms and notes for their completion. Some national offices feel obliged to reply by letter. It appears that there are at times difficulties in obtaining at short notice the assistance of secretarial staff to type the letters returning the completed forms to FAO in the offices of countries not having as their national language one of the official languages of FAO. In turn, the FAO Secretariat again, on receipt of the statistical material, types and mails to the national offices letters acknowledging FAO's receipt of the forms. When the forms do not arrive in time, letters and cables have to be sent by FAO, involving a new cycle of correspondence to obtain the material.

12.5.2 The CWP, noting that the existing procedures are cumbersome and time-consuming, accepted the proposals made by the CWP Secretary to use a multi-page form (STATLANT A) interleaved with monocarbon to transmit material to national offices. It would be possible to complete the reminder sheet to be used if the forms are not returned by the deadline date at the same time the top copies are prepared for initial despatch of the material. The pages representing the individual sheets of forms STATLANT A are presented in Appendix 7.

12.5.3 It is also noted that time for the national offices would be saved if a form similar to STATLANT A was used. Supplies of these could then be made available to the national offices to transmit to FAO, ICES and ICNAF the materials completed in response to the original STATLANT A1 request. A draft of such a form is presented in Appendix 7 as STATLANT B.

12.6 Consideration of Ways and Means to Expedite (a) the Return of Completed Forms and (b) the Publication and Distribution of Resultant International Tabulations

12.6.1 The CWP noted with great concern the failure of some countries to report in time their annual statistics by species and by ICES or ICNAF subareas and divisions. This failure on the part of one or two countries to provide the data in time for inclusion in the manuscript seriously delays the release dates of the bulletins of these agencies, and to some extent, nullifies the efforts of other countries who provide these agencies promptly with statistics.

12.6.2 The CWP recommends that FAO, ICES, ICNAF and ICCAT bring to the attention of member countries the need to avoid serious delays in international fisheries publications which occur if statistics are not made available in time.

12.6.3 The CWP also recommends that its supporting agencies urge all national authorities who are at present failing to meet deadlines to take the necessary steps to (a) improve their national collection and processing of statistics, and (b) to expedite the despatch of the required data to the international agencies.

13. STANDARDIZATION OF COUNTRY NOMENCLATURE AND SYMBOLS
AND FOOTNOTES IN FISHERY STATISTICAL PUBLICATIONS

(Agenda Item 13)

- 13.1 The Secretary informed the CWP that FAO is preparing a trilingual list of country names for statistical purposes. This publication, when issued in the near future, would provide 3-digit country codes which could be expanded by an addition of a fourth digit to cover breakdowns within countries. The publication would also provide lists of country names shortened, where necessary, to 24 characters and for computer purposes "truncated" to either 4 or 12 characters.
- 13.2 There was general agreement that a list would be of great use to all of the international agencies to standardize country names in agency publications. The country codes could also be used in ADP programmes.

14. PUBLICATION AND DISTRIBUTION OF REPORT OF THE
SEVENTH SESSION OF THE CWP

(Agenda Item 14)

- 14.1 The CWP decided that a preliminary release of the report would be prepared by the Secretary and distributed by FAO to all of the participants before the end of November. On receiving their comments and suggestions for corrections, the CWP Secretary would issue the final version as an FAO Fisheries Report during the first quarter of 1972. Copies would be available for distribution as Meeting Documents by ICES, ICNAF and ICCAT. The other agencies would also indicate to the Secretary whether they need additional copies for distribution to their contacts in statistical and fishery offices.
- 14.2 The CWP, noting that ICCAT is meeting in Madrid immediately after the Seventh Session of the CWP, approved the suggestion by the ICCAT participants that copies of preliminary release be airmailed to ICCAT for reproduction and distribution at that meeting.

15. OTHER MATTERS

(Agenda Item 15)

- 15.1 The CWP noted that at its Sixth Session the Secretary had indicated that he would amend and revise the CWP's Rules of Procedure, but that this work would have to be postponed in view of (a) ICCAT's decision to join and (b) the possibility that a new Commission, ICSEAF, might also decide to participate in the activities of the CWP. ICSEAF might decide on this matter during its First Session in February 1972 and the CWP noted, should it make an application, that this has to be approved by FAO (COFI and Council) as well as by ICES, ICNAF and ICCAT. The CWP suggests that the Secretary should have the Rules of Procedure reviewed and the draft put before the Eighth Session of the CWP.
- 15.2 The CWP considered it advisable to inform participating agencies that, in view of the rapid development of ADP matters, the Eighth Session might have to be organized early 1973. It expressed no opinion on the place, and asked the CWP Secretary to consult with the participating agencies on the final dates and place.

Appendix 1

REPORT OF THE CWP STUDY GROUP ON AUTOMATIC
DATA PROCESSING (ADP)

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1. IMPLEMENTATION OF ADP FOR TOTAL CATCH STATISTICS BY FAO AND REGIONAL BODIES

- 1.1 The Study Group discussed the present state of ADP within each of the regional bodies and FAO. ICNAF, at present, is the only body using ADP to process catch and effort data. However, even this application is regarded as experimental insofar as this is the first year it is being tried. Expansion of the system is planned. ICES, on the other hand, has not yet started ADP applications. A data processing working group was established during the 1971 statutory meeting of ICES to investigate the feasibility of using computers to handle at least some of their statistical data. This working group will meet during the first half of 1972. ICCAT is still in the process of setting out a system of collecting statistics of catch and effort from national offices. ADP application at this time is limited to a series of stock assessment computer programmes that were converted for use on a UNIVAC 1106 in Madrid. These programmes will be available to tuna scientists for analyses of their data.
- 1.2 A comparison of the various systems for processing catch, effort and biological data can be made from the descriptions that follow in Sections 2, 3, 4 and 5.

2. IMPLEMENTATION OF ADP BY ICNAF

2.1 Data Collection and Reporting

- 2.1.1 ICNAF catch and effort data are collected at the national level and reported to ICNAF on standardized STATLANT forms. Most countries submit their data either handwritten or typewritten on STATLANT forms, but one country (Canada) submits its data as a computer printout in STATLANT format. Nominal catch and effort data are published annually in ICNAF Statistical Bulletins. Tables 1 and 3 are based on STATLANT 21A forms and the remaining tables, which form the mass of the Bulletin, are based on STATLANT 21B forms.
- 2.1.2 Biological data, length and age frequencies and age/length keys, are collected usually by marine laboratories, whose scientists are studying the marine resources of the ICNAF Area. Data are submitted to ICNAF on standardized sampling forms, which require that data be reported on a per mille basis by species, month, gear, area, etc. These data are published annually in the ICNAF Sampling Yearbook.

2.2 Data Editing at the National Level

- 2.2.1 Data submitted to ICNAF on the various prescribed forms are in general well set out, but in many instances marginal totals are inaccurate, reflecting inadequate editing at the national offices. Noteworthy examples of this are the assignment of species to areas where these species have not been known to occur previously, the designation of a species as the "Main Species" when in fact another species was primarily caught. These and other obvious discrepancies are adjusted at the ICNAF Secretariat, after checking with the national offices concerned where necessary. The frequency of major discrepancies, noted at the ICNAF Secretariat, suggests that some of the submissions from national offices probably contain numerous minor discrepancies which are not detectable at the ICNAF office. The need for careful editing at the national offices is stressed.

2.3 Data Processing

- 2.3.1 After careful editing at the ICNAF Secretariat, data are transferred by hand from the presently prescribed forms to 80-column data forms preparatory to key punching on standard 80-column cards. Gears, vessel tonnage classes, subareas and divisions, main species designations and months are coded using numeric classifications. ICNAF is fortunate in having access, at no cost to the Commission, to key punching and computer facilities through the courtesy of the Bedford Institute.
- 2.3.2 At present ICNAF is experimenting with the production of the various tables of the ICNAF Statistical Bulletin, and plans to utilize ADP in preparing future issues of ICNAF Statistical Bulletins and Sampling Yearbooks. The introduction of ADP should cut the production time for preparation of these two basic statistical publications very substantially, thus not only providing scientists involved in assessments with complete statistics several months in advance of current publication dates, but also providing rapid manipulation of data and more time for the ICNAF Secretariat to carry out basic data analyses.

2.4 Problems Associated with the Use of ADP

- (a) Modification of STATLANT forms would be desirable so that the leading entries may be coded and the catch and effort data key-punched directly from the forms without the need of transferring the data to coded data forms.
- (b) More careful editing at national offices is needed.
- (c) Standardized numerical or alphanumerical coding procedures would be desirable for such categories as species, subareas and divisions, gears, vessel classifications, etc.
- (d) Some countries still report substantial quantities of mixed species catches under the species groupings of "groundfish", "other groundfish", "other fish", "other pelagic fish", etc., without a species breakdown.
- (e) For some countries' submissions the annual catches as reported initially on STATLANT 21A forms do not agree with annual catch figures derived from the STATLANT 21B forms. This is sometimes due to the fact that STATLANT 21A forms contain provisional data.

3. IMPLEMENTATION OF ADP BY ICCAT

3.1 Catch and Effort Data and Biological Data

- 3.1.1 All Atlantic tuna catch and effort data as well as biological data (at present only length frequencies) are collected by national statistical offices for ICCAT use. As ICCAT is still in the initial stage of establishing its statistical system, the quality of data presented by the national offices to the Secretariat varies to a great extent, from no data to computer output, edited and processed at the national office level. The Commission, therefore, is still in the stage of standardizing and setting up proper channels through which data can be collected.
- 3.1.2 At present, data processing is not performed by the Secretariat on catch and effort data or on biological data. However, several programmes for population studies have been installed at Headquarters for the use of scientists during their meetings. When ICCAT adopts ADP, in the very near future, it may have to perform two different levels of data processing at the Secretariat.

3.2 Level 1

- 3.2.1 Data received by the Secretariat are manually edited and compiled into a statistical bulletin. ICCAT is encouraging the national offices which cannot produce data or cannot produce them in the required form to start a more organized statistical system. When the Commission initiates an ADP system countries which can collect logbook data and do some field sampling but have no capability of compiling these data may pass on the raw data to the Secretariat. In these cases, the Secretariat would edit and process them.

3.3 Level 2

- 3.3.1 More complete and detailed data (mostly computer output provided by national offices) received by the Secretariat are reproduced and distributed to the scientists concerned and summarized and included in the Statistical Bulletin.
- 3.3.2 When ADP is adopted in ICCAT, such detailed data could be stored together with summary output from the Level 1, on cards, tape or disc. Further, the desirability of such information being linked to the analyses programmes already installed by the Secretariat has been stressed by the scientists during the meetings. However, all of these matters are to be settled at the Commission's meetings.

3.4 Tagging Data

- 3.4.1 ICCAT is conducting an international joint tagging experiment on tuna. There is some possibility of handling these data by ADP at the Secretariat when the project expands to a larger scale operation.

4. IMPLEMENTATION OF ADP BY ICES

4.1 ICES Statistical Series

4.1.1 The statistical publications of ICES consist of the Bulletin Statistique, issued annually, and Statistical News Letters, issued four times a year as follows:

- (A) Herring and Mackerel. Nominal Catch and Fishing Effort, by statistical rectangles.
- (B) Herring and Mackerel. Stock Record Data. Age, Length and Meristic characters.
- (C) Nominal Catch and Fishing Effort by Months, as reported on STATLANT 27B forms.
- (D) Demersal Species. Nominal Catch and Fishing Effort, by statistical rectangles. Stock Record Data. Age and Length.

4.1.2 Basic Data

The data from which the above publications are compiled are derived from the following special forms submitted by national agencies:

- (a) STATLANT 27A: Nominal Annual Catch by Country, Species and Fishing Area
- (b) STATLANT 27B: Nominal Monthly Catch and Corresponding Effort, by Country, Fishing Method, Craft Category and Area, and by Fishing Time Units, Fishing Power Units and Species
- (c) Special Form for Reporting of Fishing Power
- (d) FAO Yearbook of Fishery Statistics
- (e) Draft manuscripts for various tables in Statistical News Letters (A), (B) and (D).

4.2 Compiling Procedure

4.2.1 Compilation of data for publication is carried out manually. The work consists of copying, summarizing and calculating percentages. Preparation of Statistical News Letters (A), (B) and (D) simply requires the copying and rearrangement of tables submitted by the national laboratories. The data in Statistical News Letters (C) are extracted from STATLANT 27B. Table 6 of Bulletin Statistique is produced on the basis of Statistical News Letters (C) by summarizing catches and fishing times to an annual total by gear, fishing area and country, and by calculating the (unweighted) average GRT. In cases where GRT is not given, viz. Nephrops trawl, Danish seine, purse seine and ring nets, "Number of trips" and "Fishing Units operating" are tabulated.

4.2.2 As the data for these publications are being compiled they are scrutinized and any abnormal items are queried with the referring agency. Each country's data are also checked for consistency with previous submissions.

4.3 Advance Release

An advance release of Tables 1-5 of Bulletin Statistique is issued every year prior to the ICES Statutory Meeting in September-October. This is reviewed by the various contributors before the final version of the Bulletin published later.

4.4 Distribution

All publications are distributed free of charge to member countries of ICES and to other international agencies. Additional copies may be bought from the ICES Secretariat. Distribution within countries is largely the responsibility of the national agencies. Special requests for information not readily available in the ICES publications are handled by the Secretariat on an ad hoc basis.

4.5 ADP

At the Statutory Meeting of ICES in September 1971, a Working Group was established to evaluate the Report of the CWP Study Group on ADP, to define the user specifications for a possible ICES ADP system for fishery statistics and draw up a complete specification for it.

4.6 Problems

The main problem encountered in the preparation of these statistical publications arises from delays in the submission of data from national agencies.

5. IMPLEMENTATION OF ADP AT FAO DEPARTMENT OF FISHERIES

5.1 Data Collection

5.1.1 FAO collects worldwide fishery statistics from national fishery or statistical offices. The statistics fall into two broad categories: (1) fishery commodities - which are oriented to the economics of national fisheries, and (2) catch and effort statistics. The latter category covers statistics of nominal catches by species, fishing area, and type of gear as well as fishing effort.

5.1.2 These statistics form the bases of the statistical publications of the FAO Department of Fisheries. These publications are:

- (a) Yearbook of Fishery Statistics - "Catches and landings"
- (b) Yearbook of Fishery Statistics - "Fishery commodities"
- (c) Bulletins of Fishery Statistics - which supplement the Yearbooks
- (d) Fishery Circulars - containing selected tables for a fishery, species, or area for specific purposes, or contain preliminary statistics for eventual publication in the Bulletins or Yearbooks.

5.1.3 In addition to fishery statistics, selected biological data or resource survey data are collected usually in relation to a field project, or in cooperation with an international body such as the International Whaling Commission. Results of surveys of the data collection activities of national fishery agencies are also compiled from questionnaires returned by national offices.

5.2 Data Processing

5.2.1 In all cases, the fishery statistics received from national offices must be edited before compilation and publication can begin. A large percentage of the total data processing time is devoted to this function. The quality of the data received from some national offices until now precludes a direct approach to automatic data processing wherein the forms received would serve as source documents for punching. All processing of fishery statistics is carried out manually to produce the Yearbook figures. Examination of the manual process by computer experts has led them to the conclusion that manual processing would be less expensive and more efficient than any computer system which could be proposed at the present time (1971).

5.2.2 However, automatic data processing is being considered for the retrieval and rearrangement of the edited and qualified data appearing in the Yearbooks. A system is being proposed whereby selected tables could be produced for Bulletins and Fishery Circulars by computer. This would enable FAO to furnish statistical tables of specific interest to working parties, international organizations, and fishery scientists cooperating with FAO. The system specification for this work is only in its initial stage.

5.2.3 Arrangements for automatic data processing of selected biological data have been made from time to time using the FAO Honeywell 1250 computer or the GE Mark 1 system. For instance, a series of sperm whale age compositions were compiled from data stored in the FAO Fishery Data Centre for the Scientific Committee of the International Whaling Commission. The Data Centre has also written the specification for a computer-oriented data storage and retrieval system to process the resource survey data collected by the FAO field programme. The cost of this system is high and funds for its implementation are being sought.

5.2.4 A publication which contains several FORTRAN programmes for fisheries workers was published under the title of "Computer Programs for Fish Stock Assessment" compiled by N. Abramson, Fisheries Tech.Pap.101. Plans are underway to adopt this series of programmes to a computer in Rome for servicing FAO Headquarters and field programme fishery officers as well as stock assessment working parties.

6. DIRECT INPUT TO REGIONAL BODIES OF NATIONAL STATISTICS IN THE FORM OF PUNCHED CARDS, MAGNETIC TAPE OR COMPUTER PRINTOUTS

- 6.1 The standard reporting system at present used to transmit data from national agencies for fishery statistics to the regional commissions and to FAO involves the use of multi-sheet STATLANT forms. Some national offices which use computers to produce statistics to be used as inputs into the regional programmes have a considerable workload in transferring data from the computer printouts on to STATLANT forms. This is a source of error and is costly in terms of time and staff. Already one country, Canada, has replaced STATLANT forms by computer printouts in almost the same format as the STATLANT forms. Other countries with similar large volume outputs could follow the Canadian example. In such cases, prior to establishing the format for a computer printout, a country should consult with the regional body to ensure that the presentation will be satisfactory for their work of transferring the data to their publications and manuscripts or in editing, transcribing, coding and punching computer inputs.
- 6.2 The possibility of countries submitting statistics to regional bodies on either punched cards or magnetic tape was considered. Several problems exist with this procedure considering the present level of ADP employment in the regional bodies:
- (a) The quality of the data which now arrive in printed form is such that the agencies must spend a great deal of time correcting errors.
 - (b) Barring very sophisticated and expensive computer editing systems, the editing process of the agencies would be made more difficult if the data were on tape or cards. Tape or card submissions would in any case first have to be listed (printout) so that they could be edited manually, recoded and then repunched.
 - (c) If solutions to the previous problems could be overcome, the problem of non compatible tape formats would have to be solved. Though not insurmountable it would mean writing sophisticated input conversion programmes for each type of tape that is not compatible with the agencies' computer systems. Tape compatibility will probably not be a problem in a few years time.
- 6.3 The Group felt that improvements in editing should first be made at the national level before tapes or cards could be considered. Eventually, however, if national systems are able to conform to a regional body's computer system and editing requirements, this form of data submission would be desirable.
- 6.4 At the present time, only the submission of computer-produced printouts of statistics on forms resembling the standard forms, or cards in acceptable format would be considered an advantage over the standard form. As mentioned, Canada is already supplying computer printouts in STATLANT format to ICNAF. Future United States reporting to ICNAF will eliminate their job of transcribing the computer output to the standard form.

7. ADP FOR DETAILED CATCH, EFFORT AND BIOLOGICAL DATA

- 7.1 There was a general consensus that the processing of more detailed statistics than required at present by the international agencies would certainly require computer systems. In this case, only summaries of the data would be printed as now in statistical publications. Therefore, if the system were to give any advantage, computer-oriented data storage and retrieval systems would have to be developed. With a data retrieval system the services of the agencies would take on a different character. In addition to the summaries, and present statistical documents, detailed statistical reports could be prepared at the request of working parties, cooperating agencies, and individual scientists working on particular fisheries. This would have the advantage of freeing scientists from time-consuming compilation and calculation, thereby giving them more time for analyses. However, the problems of designing data retrieval systems for large collections of data are formidable to say nothing of the costs.

- 7.2 Even after the considerable experience of ICNAF and ICES with processing summary catch/effort data, several major problems of standardization and data quality still exist. If an international agency was required to process data containing more detail the problems of standardizing data collection, data editing and coding would be even more difficult than they are at present (see Item 9 of this report).

8. COMPATIBILITY BETWEEN SYSTEMS FOR CATCH, EFFORT AND BIOLOGICAL DATA

- 8.1 From time to time it has been suggested that all the data to be processed automatically should be dealt with in a single institution covering the needs of FAO and all regional bodies. However, it was pointed out that certain regional bodies are able to obtain computer services either free or at relatively low cost and it cannot be expected that they should sacrifice these benefits in exchange for advantages that might accrue from a centralized computer servicing unit. It is therefore suggested that each of the international agencies should proceed with its own programme toward the use of ADP. However, all steps should be taken to ensure that there is very close cooperation and discussion regarding development of ADP systems.
- 8.2 Although the chances are very slight of ever developing a single system that would service all regional bodies, a certain level of compatibility can be reached in the definitions and coding of several items common to all the statistical systems. For the present, this would mean a saving of effort on the part of national offices which are required to submit data to several regional bodies. Later, however, it will allow for a limited exchange of computer application systems, especially data analyses programmes.
- 8.3 The Study Group recommends mechanisms be devised for exchange of information on ADP systems development among the international agencies, and specifically that the key people in each agency involved with data processing should come together at opportune times to discuss mutual problems and to keep one another informed on the ADP systems development.

9. REVIEW OF FAO PROPOSALS FOR STANDARDIZED CODES AND CLASSIFICATION SYSTEMS

9.1 General

- 9.1.1 The Study Group reviewed the FAO proposals for reaching common coding systems for (a) areas of fishing, (b) species, (c) fishing gear, and (d) fishing fleet statistics. It was felt that at this early stage of ADP systems development, it was still possible to agree on common sets of codes which would facilitate both future data processing and the present exchange of information.
- 9.1.2 The Group was aware of the desire on the part of national offices to have a common coding and classification system for statistical reporting to several regional bodies and FAO. The Group found that, in general, national agencies which are using ADP would have little or no difficulty in reporting statistics to international agencies through a system of common codes. This could be accomplished by converting the codes used within a country to the standard ones for purposes of producing computer output to be submitted to international agencies.

9.2 Fishing Areas

- 9.2.1 The ADP Study Group noted the need for a 2-digit code to identify the seven inland and the nineteen marine "major fishing areas" throughout the world. These are used in FAO's Yearbook of Fishery Statistics and also in the collection of statistical data. The Group noted that many of the boundaries are based on Conventions and, bearing in mind the need for statistical information on catches in each Convention Area by the relevant Commission established by such Conventions, supported the view that it is essential to bear these Convention-established boundaries in mind when determining the boundaries of these major fishing areas.
- 9.2.2 The ADP Study Group noted that FAO had already established a simple numerical coding system for subareas and divisions within the major fishing areas of the Eastern Central Atlantic, the Mediterranean and Black Sea, the Southwest Atlantic and the Southeast Atlantic. It took into account that these codes are similar to those designed for ICNAF's traditional area system and now used by ICNAF for their numerically oriented inputs into ICNAF's ADP system.

- 9.2.3 The Study Group noted the need of ICES to have three different systems of area designation for the Northwest Atlantic (FAO Fishing Area 27). Also with reference to its traditional system, ICES intends to introduce new numerical designations for the existing subareas and divisions which may result in the eventual withdrawal of the old Roman numerals and alphabetic type of designation. The Working Group was also informed that a second system is used by ICES and this covers "rectangles" based on 1° latitude and 30' longitude. There is also a third system used for reporting area of catch for selected species or fisheries.
- 9.2.4 The ICCAT participants, however, indicated that the behaviour of the tuna resources to be covered by this Commission prevents it from adopting any of the boundaries of major fishing areas as established through other Conventions. Furthermore, ICCAT feels that it would be advisable to obtain statistics on tuna fisheries based on 5° "rectangles" and in some cases 1° "rectangles". In the North Atlantic in particular some of the boundaries used by ICES and ICNAF cut through these 5° "rectangles". On the other hand, this is not such a serious problem in the Central and South Atlantic where the 5° boundaries were often kept in mind when the new Convention boundaries and those of their subareas and divisions were drawn. The Study Group noted the task of national offices in countries fishing for tunas would be complicated by the need to report on a dual area system their catches by species of the tunas, bonitos, billfishes, etc. In the various regions of the Atlantic the catches would have to be reported by the major fishing areas and, in some cases, by the subareas and divisions used by ICES and ICNAF. Catch and effort would have to be reported to ICCAT according to 5° "rectangles".
- 9.2.5 National offices using ADP systems would not find different reporting styles an insurmountable difficulty provided that proper collection methods are observed. Other countries should take early steps in the development of their national fishery statistical systems to ensure that the tuna catch data are recorded on both ICES and ICNAF's traditional systems as well as on the ICCAT graticule system and that data on effort should also be on the graticule system to correspond with these catches.
- 9.2.6 The ADP Group noted that many countries might wish to obtain the effort and catch data (from logbooks) according to pinpointed positions using latitudes and longitudes. This could easily be modified into a graticule system with each "rectangle" identified by the latitude and longitude of the corner nearest to the point on the Equator crossed by the Meridian 0. This system could also be further expanded and subdivided by using, instead of rectangles based on 5° latitude and longitude, rectangles on 1° latitude and longitude, 30' latitude and longitude, 20' latitude and longitude and 10' latitude and longitude. Such a system obviously would require prefixes to indicate each of the four quadrants of the world as well as the size of the rectangles.
- 9.2.7 The ADP Study Group suggests that results from such compilations could be used throughout the world by various regional and other bodies. The Study Group recommends that rectangles be coded according to the following rules (see Appendix 5):
- (a) latitude should be given before longitude;
 - (b) each rectangle should be identified by the latitude and longitude meeting in the corner nearest to the Equator and the Greenwich Meridian;
 - (c) the foregoing field should be preceded by a digit indicating the quadrant of the globe;
 - (d) the size of the rectangle code should precede the latitude-longitude and quadrant fields.
- 9.2.8 An alternative method of geographical notation, the "Global Reference Code"^{1/} reported by the Smithsonian Institution, was discussed. This code is based on a grid-within-a-grid concept. It has an advantage in data processing work in that both Marsden squares and latitude-longitude coordinates can be converted in a computer to the "Global Reference Code" and vice versa. Therefore, it enables computations for determining distances,

^{1/} "Global Reference Code" is by D. Paoese, Jr., and R.A. Creighton "An Approach to the Geography Problem in Museums", Smithsonian Institution, Information Systems Innovations, Vol. II, No. 1, January 1970, Smith.Inst., Washington, D.C.

9.2.8 (concluded)

areas, etc. Its main drawback for data recording is that it does not lend itself to an easy recognition of location by those unfamiliar with the coding system, thus perhaps complicating data editing procedures.

- 9.2.9 The Study Group recommends that FAO combine in a single publication all the maps and area codes now used by the regional bodies in the Atlantic. It was agreed that for the time being this presentation should reflect only those codes used for production of statistical bulletins on catch and should not in this first stage show detailed area breakdowns used for special purposes and subject to change in the near future.

9.3 Statistical Categories at the Family, Genus and Species Level

- 9.3.1 The ADP Study Group expressed satisfaction at the steps FAO took to introduce, beginning with Volume 30 of the Yearbook of Fishery Statistics, a completely new arrangement of the species categories appearing in catch and landings tables. Continued use will be made of the ISSCAAP groups for the tabular arrangements and for listing the tables in sequence. Within these groups the statistical items are no longer to be arranged in a simple alphabetic order of English common names as hitherto. These items will follow the numerical system, i.e. the taxonomic order according to the numerical codes used in the Current Bibliography for Aquatic Sciences and Fisheries. This will ensure that all species belonging to the same genus will follow one another in an immediate sequence. Similarly all genera belonging to the same family will also be presented together. This should greatly facilitate the calculation by any user of the Yearbooks for compiling special subtotals by families, genera and other taxa. It is also expected that any species that might become important in the future could easily be extracted and placed closely to the others within the same genus or family.

- 9.3.2 The Group acknowledges that this taxonomic code might at first sight appear somewhat cumbersome due to the number of digits incorporated in it. Nevertheless, the ADP Study Group recommends its use for the arrangement of species in tables and, in particular, in tables with a worldwide coverage.

- 9.3.3 The Group noted that in the case of ICNAF and ICES the species breakdown of the total catches for their respective areas amounts to over 100 items each. In the case of ICCAT, the number of species would be approximately 30. These agencies, should they adopt ADP procedures, might prefer to use their own special codes but it is noted that these could be easily keyed and adapted to the taxonomic code proposed for use by FAO in its international tables.

- 9.3.4 The Group also noted the various regional lists of species for statistical purposes. These provide clear definitions of the statistical categories in terms of the taxonomic codes as well as appropriate keys linking the classifications with species codes which might be introduced by ICNAF, ICES and ICCAT. It also noted that these presentations would facilitate the introduction of new species entries as separate statistical categories whenever the regional bodies should find it necessary to make further species breakdowns in their species lists for statistical purposes.

- 9.3.5 It is noted that some Commissions, e.g. ICNAF, might prefer to rearrange the species in special groups. Experience has indicated that national offices, in particular those which still produce the data manually and have to submit them on STATLANT forms completed in handwriting or by typing, prefer a standard classification and arrangement of species. National offices which have already introduced computer programmes and intend to provide the Commissions with printouts similar to the STATLANT form 21B, would of course find it possible to programme these so as to provide each Commission with its own requirements as to species arrangements. This would of course apply mainly to the catch/effort data now reported on STATLANT forms 21B and 27B.

9.4 Classification of Fishing Gear for Statistical Purposes

- 9.4.1 The ADP Study Group reviewed the Interim Report on the International Standard Classification of Fishing Gear. It noted that this Report is not yet in final form insofar as the presentation is concerned. It is the intention of FAO to issue it together with illustrations providing examples of the gear types belonging to the different divisions and groups of this gear classification.

9.4.2 The Group noted that this gear classification could be used for two purposes:

- (a) the gear classification could be used as reference for lists of gear in the notes for the completion of the STATLANT forms 21B and 27B which cover effort and catch data and where such notes refer to gear types to identify "classes of fishing units";
- (b) where effort data are not available the catch statistics by species could be broken down by these classes of gear types (at various levels) to provide information about the catches taken by each type of gear. This would also provide useful bases for stock assessment and management programmes.

9.4.3 In reviewing the classification one or two minor difficulties appeared in adjusting it to the old lists of gear used hitherto in the STATLANT notes. The Group noted that the Gear and Behaviour Committee of ICES was asked at Helsinki to indicate to the ICES Statistician any changes they wish to suggest. The Study Group recommends that the Committee members be reminded by ICES of the urgency to do so and at the same time to point out to them certain aspects which should be further clarified, e.g. how to classify different types of trawls (herring trawls, shrimp trawls, Nephrops trawls and outrigger trawls with or without beams). The results should then be presented by the CWP Secretary in a paper to ICNAF and ICES at their 1972 meetings.

9.5 Fishing Fleet Statistics

9.5.1 The ADP Study Group reviewed the tonnage categories used hitherto in the catch/effort statistics reported to ICNAF and ICES and compared these with other GRT categories used for providing the number of fishing vessels in each tonnage category of the national fleets.

9.5.2 The ADP Group recognized the necessity of reconciling:

- (a) categories used to distinguish between the "classes of fishing units" on their catch effort forms; and
- (b) those categories used for tabulating fleet data.

9.5.3 It noted that there would be some difficulties in making adjustments for the upper level of classes of boats around 900-1 000 tons and around 1 800-2 000 tons. The Study Group recommends that ICES and ICNAF investigate the possibility of adjusting the 900 GRT limit to 1 000 GRT and the 1 800 GRT limit to 2 000 GRT.

9.5.4 The Group also looked into the methods of defining the precise GRT categories and noted that some difficulties would arise in arriving at a common international pattern for describing these various GRT classes. The Study Group requested the CWP to review this problem.

9.5.5 The ADP Study Group noted that the tonnage categories used by ICCAT in collecting and publishing fishing power and catch effort data are in some respects different from those used by ICNAF and ICES. ICCAT uses capacity tons for classifying purse seine boats. Although it is desirable to use GRT in all cases it is to be recognized that there might be some difficulty in changing size-class categories in reporting catch/effort statistics for the tuna purse seine fisheries. In these fisheries good data have been accumulated over a period of years according to various categories, expressed in terms of capacity tons; it would appear that the capacity of the boats might be a better indicator of fishing power than gross tonnage.

10. STATLANT FORMS AND THEIR MODIFICATION FOR ADP USE

10.1 The ADP Study Group considered the possibility of revising the format and layout of the STATLANT forms to facilitate the introduction of ADP reporting by national offices and ADP processing by the Secretariats of Commissions.

- 10.2 It took note that the STATLANT form is not readily usable by card punchers. It was felt that the STATLANT forms should be so redesigned that they could serve also as data sheets which, after coding, could be used as source documents by the card punchers.
- 10.3 Noting the urgency of the matter, the ADP Study Group recommends that a revised version of the STATLANT form be prepared which conform to the following requirements:
- (a) the forms must be usable by national offices still using manual methods for reporting catch and effort data;
 - (b) they should permit the editing and coding of the items according to the different programmes of the various regional commissions;
 - (c) the format should allow a certain amount of coding of the items to be undertaken at the national level;
 - (d) the instructions for completing the forms and their formats should facilitate the task of national offices having to submit similar data to different intergovernmental bodies: this implies standard codes and lists of species, classes of vessels, fishing gear, fishing areas, etc.
- 10.4 The ADP Study Group recommends that drafts of new forms to facilitate data processing operations should be ready by the middle of January 1972, in time for discussions with the Assistant Executive Secretary of ICNAF and, if possible, the Statistician of ICES in Rome during the last half of January. The ICES and ICNAF participants, utilizing their own ADP experience, might also develop sample forms along these lines in time for the discussions. The forms could then be adjusted to take into account the recent experience of ICNAF in transferring STATLANT information to data sheets for punching. The new STATLANT form could then be submitted to ICNAF and subsequently to ICES for approval and this would enable the CWP Secretary to bring these forms into common use when requesting 1972 figures during the first months of 1973.
- 10.5 The ADP Study Group noted that ICNAF is now developing a format for the reporting by national offices of catch and effort. This form will be designed to facilitate punching directly from these forms. The ICES, ICNAF and CWP Secretaries should also take into account ICCAT's experience when the new STATLANT forms are prepared in 1972.

11. PROCESSING OF LOGBOOK DATA

- 11.1 The Study Group pointed out that ICNAF is preparing specifications for a logbook system which will be presented to their member countries in an effort to collect more precise effort data. At the present time, ICNAF does not intend to process these detailed data but would rely on summaries provided by the national agencies. Aside from the direct costs of automatic data processing for such detailed data, a much larger staff would be required to edit and code the logbook data properly. However, it is felt that as a general rule, the editing should take place close to the source of data collection and by those who are familiar with the details of the fishery operation.

AGENDA: CWP STUDY GROUP ON AUTOMATIC DATA PROCESSING

1. Implementation of ADP for total catch statistics by:
 - (a) FAO
 - (b) ICES
 - (c) ICNAF
 - (d) ICCAT
 - (e) Compatibility between agencies
2. Direct input of national statistics on punched cards or tape
3. ADP for detailed catch and effort data
4. ADP for length and other routine biological data
5. Compatibility between systems for catch, effort and biological data
6. Other items concerning ADP on the provisional agenda for the Seventh Session of the CWP
 - (a) CWP Agenda Item 5.2
 - (b) CWP Agenda Item 6.3
 - (c) CWP Agenda Items 7.2 and 7.3
 - (d) CWP Agenda Item 8.4
 - (e) CWP Agenda Item 9.2
 - (f) CWP Agenda Items 12.1 through 12.6

PARTICIPANTS: CWP STUDY GROUP ON AUTOMATIC DATA PROCESSING

Mr. J.A. Pope (Chairman)
Mr. D.J. Mackett (Rapporteur)
Mr. L.P.D. Gertenbach (Secretary)
Mr. P.L.C. Adam
Mr. J. Møller Christensen
Mr. S. Hayashi
Mr. V.M. Hodder
Dr. A. May
Dr. M. Miyake
Mr. H. Stern, Jr.
Dr. H.A. Wheeland

Appendix 2

AGENDA: SEVENTH SESSION OF THE CWP

1. PROCEDURAL MATTERS
 - 1.1 Opening of session
 - 1.2 Approval of Agenda Items 1.3 through 1.6
 - 1.3 Election of Chairman
 - 1.4 Adoption of Agenda Items 2-13
 - 1.5 Review and adoption of schedule of work
 - 1.6 Appointment of Rapporteurs
2. REVIEW OF AGENCY PROGRAMMES AND PUBLICATIONS PRESENTING ATLANTIC FISHERY STATISTICS
 - 2.1 ICCAT statistical programme and publications
 - 2.2 ICNAF statistical programme and publications
 - 2.3 ICES statistical programme and publications
 - 2.4 FAO statistical programme and publications in general and specifically for the Atlantic
 - 2.5 CEECAF (FAO) statistical programme and publications
 - 2.6 GFCM (FAO) statistical programme and publications
 - 2.7 CARPAS (FAO) statistical programme and publications
 - 2.8 OECD statistical programme and publications
 - 2.9 SOEC statistical programme and publications
 - 2.10 An International Directory of Focal Points for Fishery Statistics in Intergovernmental Fishery and Other Bodies
3. CONSIDERATION OF THE REPORT OF THE CWP STUDY GROUP ON ADP
4. QUANTITY CONVERSION FACTORS
 - 4.1 Review of the FAO Bulletin of Fishery Statistics No. 25, "Conversion factors: North Atlantic Species, 1970"
 - 4.2 Proposals for further action to improve the determination, collection and publication of fishery conversion factors
5. CLASSIFICATION AND CODIFICATION OF FISHING AREAS OF THE ATLANTIC AND ADJACENT SEAS
 - 5.1 Review of papers consolidating existing material, including maps, of each of the major fishing areas in the Atlantic
 - 5.2 Development of an Atlantic-wide system, within a world framework, of a codification of areas for ADP processing of catch and effort data
6. CLASSIFICATION AND STATISTICAL CATEGORIES REFLECTING SPECIES, GENERA, FAMILY AND SPECIES GROUPS, FOR THE WORLD IN GENERAL AND THE ATLANTIC IN PARTICULAR
 - 6.1 Improvements needed in the FAO classification of statistical categories reflecting recommendations of regional bodies
 - 6.2 A review of the FAO classification and its possible modification for particular regions
 - 6.3 Consideration of a worldwide codification of statistical categories for use in an ADP system
7. THE CLASSIFICATION OF FISHING GEAR FOR STATISTICAL PURPOSES
 - 7.1 Review of the Report on the International Standard Statistical Classification of Fishing Gear
 - 7.2 Consideration of the utilization of this framework for listing fishing gear in the notes and in the statistics of regional Atlantic fishery commissions, committees and councils
 - 7.3 Consideration of the possibility of showing catch (by principal species) for regions according to principal types of gear

8. FISHING FLEET STATISTICS AND THE ESTABLISHMENT OF INTERNATIONAL REGISTERS OF FISHING CRAFT
 - 8.1 Review of FAO Bulletins of Fishery Statistics No. 23 ("Fishing fleet statistics, 1969") and No. 24 ("North Atlantic: Fishing vessels, 1969")
 - 8.2 Review of the OECD reports on fleet statistics covering craft (a) of 100 GRT and above, and (b) below 100 GRT
 - 8.3 Ways and means to improve statistics on the actual and potential fishing fleets
 - 8.4 The use of automatic data processing facilities for the collection and reproduction of craft data in an international register of fishing craft for the world as a whole, or specifically for the North Atlantic
9. STATISTICS ON FISHING EFFORT IN THE ATLANTIC FISHERIES
 - 9.1 Review of the Report of ICES Special Meeting on Measurement of Fishing Effort (Copenhagen, September 1970) and subsequent action and recommendations of ICES/ICNAF
 - 9.2 Improvements in effort concepts and definitions used in the Notes for the completion of STATLANT forms
10. EARLY REPORTING OF SELECTED BASIC CATCH AND LANDINGS INDICATORS
 - 10.1 The need for advance reporting of selected data
 - 10.2 Consideration of ways and means to obtain selected data without delays and without imposing burdens on national offices
11. REVISION BY NATIONAL OFFICES OF DATA FOR PREVIOUS YEARS
 - 11.1 Need for revisions by national offices of data for previous years already published
 - 11.2 Need to introduce these changes in subsequent publications of FAO, ICES, ICNAF and ICCAT
 - 11.3 Reconciliation of conflicting statistical series released by national offices
12. REVIEW OF STATLANT FORMS AND NOTES FOR THEIR COMPLETION
 - 12.1 Overall review of all forms to be used by Atlantic fishery regional bodies, commissions, committees and councils
 - 12.2 Consideration of instructions related to time adjustments, inclusions, exclusions and coverage of data to be reported
 - 12.3 Statistical treatment of catches and their allocation according to flag and other nationality indications of fishing craft
 - 12.4 Further proposals for improvement, refinement and standardization of notes for the completion of STATLANT forms
 - 12.5 Review of existing procedures for the distribution and collection of STATLANT forms and proposals for improvements
 - 12.6 Consideration of ways and means to expedite (a) return of completed forms and (b) the publication and distribution of resultant international tabulations
13. STANDARDIZATION OF COUNTRY NOMENCLATURE AND SYMBOLS AND FOOTNOTES IN FISHERY STATISTICAL PUBLICATIONS
 - 13.1 Standardization of country nomenclature and country codification
 - 13.2 Standardization of symbols, definitions and footnotes
14. PUBLICATION AND DISTRIBUTION OF REPORT OF THE SEVENTH SESSION OF THE CWP
 - 14.1 Publication of the Report of the Seventh Session of the CWP
 - 14.2 Distribution of the Report of the Seventh Session of the CWP
15. OTHER MATTERS
 - 15.1 Rules of Procedure and their revision

Appendix 3

LIST OF DOCUMENTS

<u>CWP</u> ^{a/} <u>No.</u>	<u>FAO</u> <u>FIES</u> <u>No.</u> ^{b/}	<u>Title</u>
1		Prospectus (including provisional agendas, list of possible participants, list of documents, etc.)
2	279	Report on the STATLANT Programme, 1971
3	260	"Nominal catches" and "Landings": definitions and notes
4	270	Nominal catches, by species, by fishing areas and by countries
5	BFS	Conversion factors: North Atlantic species
6	253	Notes on possible discrepancies in annual statistical reports due to differences between the year of catch and the year of landing
7	271	World chart: major fishing areas for statistical purposes
8	272	Fishery statistical notes: Antarctic areas (FAO fishing areas 48, 58 and 88)
9	235/1	Fishery statistical notes: Northwest Atlantic statistical area (FAO fishing area 21)
10	236/1	Fishery statistical notes: Northeast Atlantic statistical area (FAO fishing area 27)
11	238	Fishery statistical notes: Eastern Central Atlantic statistical area (FAO fishing area 34)
12	286	Fishery statistical notes: Mediterranean and Black Sea statistical area (FAO fishing area 37)
13	282	Fishery statistical notes: Southwest Atlantic statistical area (FAO fishing area 41)
14	239	Fishery statistical notes: statistical proposals on the ICSEAF Convention area (FAO fishing area 47 and subarea 51.9)
15	249	International standard statistical classification of aquatic animals and plants (ISSCAAP): 9 divisions and 51 groups of species; revised version, 23 February 1970
16	277	Northwest and Northeast Atlantic: classification of aquatic animals and plants for statistical purposes
17	237	CECAF: classification of aquatic animals and plants for statistical purposes
18	174	The statistical treatment of direct foreign landings
19	BFS	Fishing fleet statistics, 1969
20	BFS	North Atlantic: fishing vessels, 1969
21	266	Notes on the joint ICES/ICNAF list of vessels fishing in the North Atlantic

^{a/} See page 33

Appendix 3 (continued)

CWP No.	FAO FIES No. ^{a/}	Title
22	256	Classification of fishing vessels for statistical purposes
23	268	Proposals for the establishment of a world register of fishing craft
24	269	Notes on problems in fishery statistics related to flag and other nationality indicators of fishing craft
25	280	Interim report on the international standard statistical classification of fishing gear
26	248/1	Classification, definition and codification of fishing effort statistics
27	254	Notes on classification, definition and codification of fishing effort measures
28	255	Notes on "days on ground" as one of the effort measures
29	252	Notes on percentage of effort data arrived at by means of estimates
30	267	Notes for the completion of form STATLANT CS "all fishing areas: catch summary"
31	273	Notes for the completion of form STATLANT 21A "Northwest Atlantic area: catch summary"
32	275	Notes for the completion of form STATLANT 27A "Northeast Atlantic area: catch summary"
33	240	Notes for the completion of form STATLANT 34B "CECAF area: catch summary"
34	287	Notes for the completion of form STATLANT 37A "Mediterranean and Black Sea area: catch summary"
35	261	Draft notes for the completion of form STATLANT 47A "ICSEAF convention area: catch summary"
36	274	Notes for the completion of form STATLANT 21B "Northwest Atlantic area: catch/effort"
37	276	Notes for the completion of form STATLANT 27B "Northeast Atlantic area: catch/effort"
38	241	Notes for the completion of form STATLANT 34B "CECAF area: catch/effort"
39	290	Selected classification of fishing vessels by GRT and age classes
40	262	Draft notes for the completion of form STATLANT 47B "ICSEAF convention area: catch/effort"
41	278	Proposal to expedite the submission and the return of STATLANT forms
42	251	Notes on catch statistics of North Atlantic halibut and Greenland halibut

^{a/} See page 33

Appendix 3 (concluded)

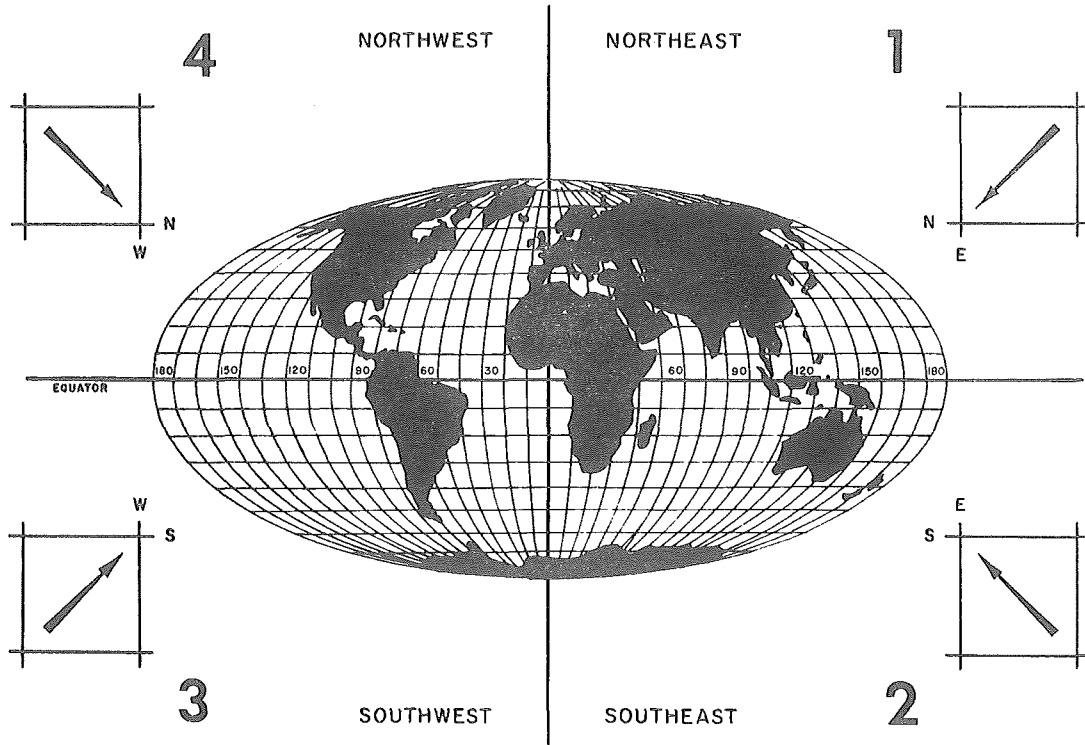
<u>CWP -7/ No.</u>	<u>FAO FILES No.^{a/}</u>	<u>Title</u>
43	<u>e/</u>	Subdivision of ICES statistical area
44	<u>e/</u>	Report on the ICES statistical activities, 1971
45	<u>e/</u>	Report of the ICES Special Meeting on Measurement of Fishing Effort, Copenhagen, September 1970
46	<u>f/</u>	Report on the ICNAF statistical programme and publications, 1971
47	<u>g/</u>	Report on the OECD statistical programme
48	<u>g/</u>	OECD report: Statistical classification of fishing vessels of 100 GRT and above
49	<u>g/</u>	OECD report: Statistical classification of fishing vessels and boats below 100 GRT
50	<u>h/</u>	Report on the ICCAT statistical programme and publications
51	<u>i/</u>	Report on the FAO fishery statistical programme and publications, 1969-1972
52	<u>h/</u>	First draft of field manual for ICCAT use
53	<u>h/</u>	First part of ICCAT Statistical Bulletin

Footnotes:

- a/ Three digit numbers refer to FAO Fisheries Circulars; these documents should be requested by their Fisheries Circular number and not by their CWP -7/ number
- b/ Bulletin of Fishery Statistics No. 25
- c/ Bulletin of Fishery Statistics No. 23
- d/ Bulletin of Fishery Statistics No. 24
- e/ Issued by ICES
- f/ Issued by ICNAF
- g/ Issued by OECD
- h/ Issued by ICCAT
- i/ Issued by FAO

Appendix 4

A GRATICULE SYSTEM (BASED ON LATITUDES AND LONGITUDES)
FOR IDENTIFYING STATISTICAL RECTANGLES

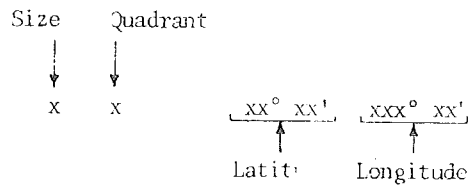


CODE TO INDICATE SIZE OF RECTANGLE

Code	Latitude	Longitude
1	10' x	10'
2	20' x	20'
3	30' x	30'
4	30' x	1°
5	1° x	1°
6	5° x	5°
7	10° x	10°
8	20° x	20°
9	30° x	30°

CODE TO INDICATE QUADRANT

Code	Quadrant of Globe	
1	NE	Northeast
2	SE	Southeast
3	SW	Southwest
4	NW	Northwest



Appendix 5

RECOMMENDED CLASSIFICATION OF FISHING CRAFT ACCORDING
TO SIZE-CATEGORIES EXPRESSED IN GROSS REGISTERED TONS

A. Classification by "Divisions"

"Division" Code	"Division" limits	
	Lower	Upper ^{a/}
	GRT	GRT
0	0	0.9
1	1	24.9
2	25	49.9
3	50	99.9
4	100	149.9
5	150	499.9
6	500	999.9
7	1 000	1 999.9
8	2 000	9 999.9
9	10 000	99 999.9

^{a/} ".9" is to be understood as recurring

B. Classification by "Groups"

"Division" Code	"Group" Code	"Group" limits	
		Lower	Upper ^{a/}
		GRT	GRT
0	01	0	0.9
1	11	1	4.9
	12	5	9.9
	13	10	14.9
	14	15	19.9
	15	20	24.9
2	21	25	49.9
3	31	50	99.9
4	41	100	149.9
5	51	160	199.9
	52	200	249.9
	53	250	299.9
	54	300	349.9
	55	350	399.9
	56	400	449.9
	57	450	499.9
6	61	500	599.9
	62	600	699.9
	63	700	799.9
	64	800	899.9
	65	900	999.9
7	71	1 000	1 999.9
8	81	2 000	2 999.9
	82	3 000	3 999.9
	83	4 000	4 999.9
	84	5 000	5 999.9
	85	6 000	6 999.9
	86	7 000	7 999.9
	87	8 000	8 999.9
	88	9 000	9 999.9
9	91	10 000	19 999.9
	92	20 000	29 999.9
	93	30 000	39 999.9
	94	40 000	49 999.9
	95	50 000	99 999.9

a/ ".9" is to be understood as recurring

Appendix 6

TRANSMITTAL FORMS STATLANT A AND STATLANT B

1. The four pages representing the individual sheets of the multi-page transmittal form STATLANT A will be used as follows:
 - A1 - This would be airmailed to advise offices that the statistical material and forms are being sent under separate cover. Provision is made to remind national offices that if the materials mailed under separate cover do not reach them in time that they should cable for extra supplies.
 - A2 - This sheet would accompany the statistical forms and materials mailed under separate cover.
 - A3 - This sheet would be kept by FAO until the day after the deadline date, when it would be airmailed as the first reminder. Subsequent reminders would follow by cable.
 - A4 - This sheet will be kept in the FAO files as a record of the various steps taken to obtain and retrieve material.

2. The single sheet which represents transmittal form STATLANT B will be made available to national offices to transmit to FAO, ICES, ICCAT, ICNAF, etc., materials completed in response to the original STATLANT A1 request. STATLANT B could also be used by the agencies to transmit materials among their Secretariats.



STATLANT A/1

<p>1. TO</p>	<p>4. FAO Ref. No. FIES 42/02 ()</p> <hr/> <p>5. Date of Statlant A/1</p> <hr/> <p>6. Date of dispatch under separate cover of Statlant A/2 together with material listed in box 3 below :</p> <p>Mailed by <input type="checkbox"/> air <input type="checkbox"/> surface</p> <p>If the material has not been received within 30 days of this date please cable for extra copies (CWP Secretary, Fisheries, FOODAGRI - ROME)</p>
<p>2. FROM</p> <p>The Secretary Coordinating Working Party on Atlantic Fishery Statistics (CWP) c/o Fishery Statistics and Economic Data Branch Department of Fisheries, FAO 00100 - Rome, Italy</p>	<p>10. Copies of Statlant A/1 mailed to :</p> <p><input type="checkbox"/> ICES <input type="checkbox"/></p> <p><input type="checkbox"/> ICNAF <input type="checkbox"/></p> <p><input type="checkbox"/> ICCAT <input type="checkbox"/></p>

3. NOTIFICATION OF DISPATCH UNDER SEPARATE COVER OF STATLANT FORMS AND RELATED QUESTIONNAIRES, LISTED BELOW, FOR COMPLETION AND FOR RETURN TO FAO, ICES, ICNAF, ICCAT, ETC. BEFORE INDICATED DEADLINE

Item	Description	Deadline	
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			



STATLANT A/2

<p>1. TO</p>	<p>4. FAO Ref. No. FIES 42/02 ()</p> <hr/> <p>5. Date of Statlant A/1</p>
<p>2. FROM</p> <p style="margin-left: 20px;">The Secretary Coordinating Working Party on Atlantic Fishery Statistics (CWP) c/o Fishery Statistics and Economic Data Branch Department of Fisheries, FAO 00100 - Rome, Italy</p>	<p>6. Date of dispatch of Statlant A/2 together with material listed in box 3 below:</p> <p>Mailed by <input type="checkbox"/> air <input type="checkbox"/> surface</p> <hr/> <p>7.</p> <hr/> <p>10. Copies of Statlant A/1 mailed to:</p> <p><input type="checkbox"/> ICES <input type="checkbox"/></p> <p><input type="checkbox"/> ICNAF <input type="checkbox"/></p> <p><input type="checkbox"/> ICCAT <input type="checkbox"/></p>

3.
COPY OF STATLANT A ATTACHED TO MATERIALS LISTED BELOW

Item	Description	Deadline	
1			
2			
3			
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6			
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9			
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11			



STATLANT A/3

4. FAO Ref. No. FIES 42/02 ()

5. Date of Statlant A/1

1. TO

6. Date of dispatch of Statlant A/2 together with material listed in box 3 below :

Mailed by air surface

7. Date of this reminder :

REMINDER

2. FROM

The Secretary
Coordinating Working Party
on Atlantic Fishery Statistics (CWP)
c/o Fishery Statistics and
Economic Data Branch
Department of Fisheries, FAO
00100 - Rome, Italy

10. Copies of Statlant A/1 mailed to :

- ICES
 ICNAF
 ICCAT

3.

PLEASE NOTE THAT BY THE DATE OF THIS REMINDER (BOX 7 ABOVE) THE MATERIALS MARKED WITH A CROSS IN THE LAST COLUMN HAVE NOT YET REACHED FAO

Item	Description	Deadline	Received
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			



STATLANT A/4

<p>1. TO</p>	<p>4. FAO Ref. No. FIES 42/02 ()</p> <hr/> <p>5. Date of Statlant A/1</p> <hr/> <p>6. Date of dispatch of Statlant A/2 together with material listed in box 3 below:</p> <p>Mailed by <input type="checkbox"/> air <input type="checkbox"/> surface</p> <hr/> <p>7. Date of reminder Statlant (A/3)</p> <hr/> <p>8.</p> <hr/> <p>9.</p> <hr/>
<p>2. FROM</p> <p style="margin-left: 20px;">The Secretary Coordinating Working Party on Atlantic Fishery Statistics (CWP) c/o Fishery Statistics and Economic Data Branch Department of Fisheries, FAO 00100 - Rome, Italy</p>	<p>10. Copies of Statlant A/1 mailed to:</p> <p><input type="checkbox"/> ICES <input type="checkbox"/></p> <p><input type="checkbox"/> ICNAF <input type="checkbox"/></p> <p><input type="checkbox"/> ICCAT <input type="checkbox"/></p>

3.

FILE RECORD OF ACTION TAKEN TO SUBMIT AND RETRIEVE MATERIALS ON FISHERY STATISTICS

Item	Description	Deadline	Received	Rem.
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				



STATLANT B

<p>1. FROM</p> <p>Date:</p> <p>Reference:</p>	<p>TO</p> <p>4. <input type="checkbox"/> The Secretary Coordinating Working Party on Atlantic Fishery Statistics (CWP) c/o Fishery Statistics and Economic Data Branch Department of Fisheries FAO 00100 Rome, Italy</p>
	<p>5. <input type="checkbox"/> The General Secretary International Council for the Exploration of the Sea (ICES) Charlottenlund Slot DK - 2920 Charlottenlund, Denmark</p>
	<p>6. <input type="checkbox"/> The Executive Secretary International Commission for the Northwest Atlantic Fisheries (ICNAF) c/o Bedford Institute P.O. Box 638 Dartmouth Nova Scotia, Canada</p>
	<p>7. <input type="checkbox"/> The Executive Secretary International Commission for the Conservation of Atlantic Tunas (ICCAT) Avenida General Mola, 17 - 7º Dcha. Madrid-1, Spain</p>
<p>2. Remarks</p> 	<p>8. <input type="checkbox"/></p>
	<p>9. <input type="checkbox"/></p>

3. LIST OF ATTACHED MATERIALS MAILED TO ADDRESSES INDICATED IN RIGHT-HAND COLUMN ABOVE

Item No.	Description
1	
2	
3	
4	
5	
6	
7	

FL 49/E 1271 500 altograpf-roma

Appendix L

LIST OF PARTICIPANTS AND OBSERVERS ACCORDING TO INTERNATIONAL AGENCY

1. ICNAF Participants

- | | | |
|-----|-------------------|--|
| 1.1 | Mr. V.M. Hodder | Assistant Executive Secretary, ICNAF |
| 1.2 | Dr. A. May | Chairman, ICNAF Subcommittee on Statistics
and Sampling |
| 1.3 | Dr. H.A. Wheeland | United States |
| 1.4 | Mr. K. Ljckegaard | Denmark |

2. ICES Participants

- | | | |
|-----|----------------------|-------------------------------------|
| 2.1 | Mr. J.M. Christensen | Statistician, ICES |
| 2.2 | Mr. J.A. Pope | Chairman, ICES Statistics Committee |
| 2.3 | Mr. P.L. Mielte | Norway |

3. ICCAT Participants

- | | | |
|-----|----------------|---|
| 3.1 | Dr. N. Miyake | Assistant Executive Secretary, ICCAT |
| 3.2 | Mr. S. Hayashi | Chairman, ICCAT Subcommittee on
Statistics |
| 3.3 | Mr. V. Valdez | Portugal |

4. FAO Participants (Also for CEECAF, GFCM and CARPAS)

- | | | |
|-----|------------------|--|
| 4.1 | Mr. J.A. Gulland | Chief, Fishery Statistics and Economic Data
Branch, FIED, FAO |
| 4.2 | Mr. L. Butler | Chief, Statistical Services Section,
FIES, FAO |
| 4.3 | Mr. B. Lindfors | Fishery Statistician, FIES, FAO |
| 4.4 | Mr. D.J. Mackett | Chief, Fishery Data Centre, FIRD, FAO |

5. Observers

- | | | |
|-----|-------------------|--|
| 5.1 | Mrs. E. Lund | Denmark |
| 5.2 | Mr. P.L.C. Adam | Chief, Fisheries Division, OECD |
| 5.3 | Mr. O. Thiede | Statistical Office of the European
Communities (SOEC) |
| 5.4 | Mr. H. Stern, Jr. | United States |

6. Secretary

- | | | |
|-----|-----------------------|---|
| 6.1 | Mr. L.P.D. Gertenbach | Chief, Current Statistics and Economic Data
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|-----|-----------------------|---|

Appendix 8

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Cables: FOODAGRI ROME
Phone: 5797, Ext. 456
Telex: 61181 FOODAGRI

Appendix 9

LIST OF ACRONYMS

CWP	Coordinating Working Party on Atlantic Fishery Statistics (formerly known as the "Continuing Working Party on Fishery Statistics in the North Atlantic Area")
STATLANT	(previously STANA) <u>Statistical Programme for Atlantic Fisheries</u>
ACMRR	Advisory Committee on Marine Resources Research
BIWS	Bureau of International Whaling Statistics
CARPAS	Southwest Atlantic Fisheries Advisory Commission
CECAF	FAO Fishery Committee for the Eastern Central Atlantic
COFI	Committee on Fisheries
EIFAC	European Inland Fisheries Advisory Commission
FAO	Food and Agriculture Organization of the United Nations
GFCM	General Fisheries Council for the Mediterranean
IATTC	Inter-American Tropical Tuna Commission
ICCAT	International Commission for the Conservation of Atlantic Tunas
ICES	International Council for the Exploration of the Sea
ICNAF	International Commission for the Northwest Atlantic Fisheries
ICSEAF	International Commission for the Southeast Atlantic Fisheries
ILO	International Labour Office
INCO	Intergovernmental Maritime Consultative Organization
IOC	Intergovernmental Oceanographic Commission
IOFC	Indian Ocean Fishery Commission
IPFC	Indo-Pacific Fisheries Council
ISSCAAP	International Standard Statistical Classification of Aquatic Animals and Plants
IWC	International Whaling Commission
NEAFC	North-East Atlantic Fisheries Commission
OECD	Organization for Economic Cooperation and Development
SOEC	Statistical Office of the European Communities
UNESCO	United Nations Educational, Scientific and Cultural Organization

