

Northwest Atlantic



Fisheries Organization

Serial No. N2511

NAFO SCS Doc. 95/9

SCIENTIFIC COUNCIL MEETING - SEPTEMBER 1995

Reports of the Coordinating Working Party on Atlantic
Fishery Statistics (CWP)

by

NAFO Secretariat

The Sixteenth Session of the CWP was held in Madrid, Spain, 20-25 March 1995, with participation from CCAMLR, CCSBT, EUROSTAT, FAO, GFCM, ICCAT, ICES, IPTP, NAFO, OECD, SPC and WECAFC. (see FAO Fisheries Report No. 521).

For bibliographic purposes, citation of this report should be as follows:

FAO. 1995. Report of the Sixteenth Session of the Coordinating Working Party on Fishery Statistics, Madrid, Spain, 20-25 March 1995.

Reports of previous sessions of the CWP have been published as follows:

FAO Fisheries Report No. 473. Report of the Fifteenth Session of the Coordinating Working Party on Fishery Statistics, Dartmouth, Nova Scotia, Canada, 8-14 July 1992.

FAO Fisheries Report No. 429. Report of the Fourteenth Session of the Coordinating Working Party on Atlantic Fishery Statistics, Paris, France, 5-9 February 1990 and Report of the Second Ad Hoc Consultation on Global Tuna Statistics, La Jolla, California, USA, 21-22 May 1987.

FAO Fisheries Report No. 379. Report of the Thirteenth Session of the Coordinating Working Party on Atlantic Fishery Statistics, Rome, Italy, 11-18 February 1987.

FAO Fisheries Report No. 316. Report of the Twelfth Session of the Coordinating Working Party on Atlantic Fishery Statistics, Copenhagen, Denmark, 25 July-1 August 1984.

FAO Fisheries Report No. 274. Report of the Eleventh Session of the Coordinating Working Party on Atlantic Fishery Statistics, Luxembourg, 21-28 July 1980.

FAO Fisheries Report No. 242. Report of the Tenth Session of the Coordinating Working Party on Atlantic Fishery Statistics, Madrid, Spain, 22-29 July 1980.

FAO Fisheries Report No. 197. Report of the Ninth Session of the Coordinating Working Party on Atlantic Fishery Statistics, Dartmouth, Nova Scotia, Canada, 17-13 August 1977.

FAO Fisheries Report No. 156. Report of the Eighth Session of the Coordinating Working Party on Atlantic Fishery Statistics, Paris, France, 12-20 September 1974.

FAO Fisheries Report No. 121. Report of the Seventh Session of the Coordinating Working Party on Atlantic Fishery Statistics, Rome Italy, 10-16 November 1971.

FAO Fisheries Report No. 70. Report of the Sixth Session of the Coordinating Working Party on Atlantic Fishery Statistics, Copenhagen, Denmark, 3-7 February 1969.

FAO Fisheries Report No. 45. Report of the Fifth Session of the Coordinating Working Party on Atlantic Fishery Statistics in the North Atlantic Area, Aberdeen, Scotland, 10-14 April 1967.

FAO Fisheries Report No. 21. Report of the Fourth Session of the Coordinating Working Party on Atlantic Fishery Statistics in the North Atlantic Area, Rome, Italy, 9-12 March 1965.

FAO Fisheries Report No. 7. Report of the Third Session of the Coordinating Working Party on Atlantic Fishery Statistics in the North Atlantic Area, Rome, Italy, 18-22 March 1963.

Report of the Second Session of the Continuing Working Party on Fishery Statistics in the North Atlantic Area, Washington, D. C., USA, 6-8 June 1961.

Report of the First Session of the Continuing Working Party on Fishery Statistics in the North Atlantic Area, Bergen, Norway, 25-26 May 1960.

FAO Fisheries Report No. 3. Requirements and Improvement of Fishery Statistics in the North Atlantic Region. [Based on documents presented at the meeting of experts in Edinburgh, Scotland, 22-29 September 1959.]

FAO Fisheries Circular No. 37. Report of the Expert Meeting on Fishery Statistics in the North Atlantic, Edinburgh, Scotland, 22-29 September 1959.

[THE ABOVE REPORTS HAD LIMITED DISTRIBUTION. THE NAFO SECRETARIAT LIBRARY HAS A COMPLETE SET OF THE DOCUMENTS INCLUDING ALL PAPERS CONSIDERED AT THOSE MEETINGS.]

**REPORT OF THE SIXTEENTH SESSION OF THE
COORDINATING WORKING PARTY ON
ATLANTIC FISHERY STATISTICS**

Madrid, Spain 20-25 March 1995

**FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
ROME, 1995**

PREPARATION OF THIS REPORT

This document is the Report of the Sixteenth Session of the Coordinating Working Party on Atlantic Fishery Statistics (CWP), held in Madrid, Spain, 20-25 March 1995. The section of the report in paragraphs 64-71 was adopted early in the meeting and, together with text explaining the background to the CWP, submitted by FAO as Secretariat for the Working Party to the Chairman of the UN Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks. It was issued to the Fifth Session of the Conference (New York, 27 March - 12 April 1995) on 27 March as United Nations General Assembly Document A/CONF.164/INF/13 in all UN official languages.

Distribution:

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FAO. Report of the sixteenth session of the Coordinating Working Party on Atlantic Fishery Statistics. Madrid, Spain, 20-25 March 1995.
FAO Fisheries Report, No. 521, Rome, FAO. 1995. 50 p.

ABSTRACT

The Report of the Sixteenth Session of the Coordinating Working Party on Atlantic Fishery Statistics (CWP) held in Madrid, Spain, 20-25 March 1995, is presented. Three major topics were considered. The first concerned the future role of the CWP following its reconstitution and the adoption of new statutes and rules of procedure. The second major topic concerned international initiatives of relevance to the CWP, including (a) a follow-up to the *Ad-hoc* Consultation on the Role of Regional Fishery Agencies in Relation to High Seas Fishery Statistics (La Jolla, USA, 13-16 December 1993); (b) the UN Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks; (c) the Agreement to Promote Compliance with Internationally Agreed Conservation and Management Measures by Fishing Vessels on the High Seas; and (d) the Code of Conduct for Responsible Fisheries. The third major topic concerned the improvement of the reliability of fishery statistics, including consideration of the consequences and extent of the problem of non-reporting and mis-reporting. Other topics considered included a review of recommendations from the Fifteenth Session of CWP; modifications to programmes in relation to fishery statistics; exchange of national fishery statistics on electronic media; modifications to STATLANT questionnaires; discrepancies among agency databases; bycatch and discard data; recreational and subsistence fishery statistics; fleet statistics; aquaculture statistics; conversion factors; the *Handbook of Fishery Statistics*; country and nationality issues; and economic statistics. Seventeen recommendations were agreed.

COORDINATING WORKING PARTY ON ATLANTIC FISHERY STATISTICS

Sixteenth Session

Madrid, Spain
20-25 March 1995

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COORDINATING WORKING PARTY ON ATLANTIC FISHERY STATISTICS

**Sixteenth Session
Madrid, Spain, 20-25 March 1995**

OPENING OF THE SESSION

(Agenda item 1)

1. The Sixteenth Session of the Coordinating Working Party on Atlantic Fishery Statistics (CWP) was held at the Headquarters of the International Commission for the Conservation of Atlantic Tunas (ICCAT), Madrid, Spain, from 20 to 25 March 1995. Twenty four experts from the following member or observer organisations participated:

- Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR);
- Commission for the Conservation of Southern Bluefin Tuna (CCSBT);
- Food and Agriculture Organization of the United Nations (FAO);
- General Fisheries Council for the Mediterranean (GFCM);
- Indo-Pacific Tuna Development and Management Programme (IPTP);
- International Commission for the Conservation of Atlantic Tunas (ICCAT);
- International Council for the Exploration of the Sea (ICES);
- Northwest Atlantic Fisheries Organization (NAFO);
- Organisation for Economic Cooperation and Development (OECD);
- South Pacific Commission (SPC);
- Statistical Office of the European Communities (Eurostat); and
- Western Central Atlantic Fishery Commission (WECAFC).

The list of Participants is in Appendix 1.

2. Dr Antonio Fernández, Executive Secretary of ICCAT, made an opening address, the text of which is in Appendix 2.

ADOPTION OF AGENDA

(Agenda item 1)

3. The Agenda as adopted is shown in Appendix 3. The documents provided to the Session are listed in Appendix 4 and the acronyms used in the report are listed in Appendix 5.

APPOINTMENT OF CHAIRMAN

(Agenda item 2)

4. Dr Peter M. Miyake, Assistant Executive Secretary, ICCAT, was elected Chairman after being nominated by NAFO and seconded by ICES. Various participants acted as rapporteurs for different agenda items.

STATUS OF STATUTES AND RULES OF PROCEDURE

(Agenda item 3; Documents CWP-16/3, 23)

5. Several fishery organizations concerned with the Atlantic have been established since the Statutes of CWP were last modified in 1968 specifying that the CWP will be composed of experts from only three organizations (FAO, ICES and ICNAF). Although the CWP Statutes and Rules of Procedure had not been modified to accommodate their participation, participants from the other organizations have played a full and active role in the work of the CWP. There is a clear need to modify the Statutes and Rules of Procedure to provide a sound basis for the CWP so as to ensure that it can effectively coordinate fishery statistical programmes among all relevant organizations in the future.

6. The *Ad Hoc* Inter-Agency Consultation on Atlantic Fishery Statistics (Madrid, 11-16 July 1994) was convened to consider the Statutes and Rules of Procedure for CWP. The Consultation proposed new Statutes and draft Rules of Procedure. The proposed new Statutes were designed to (1) regularise the composition of the Working Party according to previous CWP recommendations and decisions of member organizations, (2) provide a sound basis and more focused terms of reference for the CWP to meet the challenges resulting from the enhanced role of regional fishery organizations in relation to statistics which is likely to result, for example, from the UN Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks, (3) ensure that only minor modifications to the Statutes would be required if it is decided at a later stage to extend the remit of the CWP to areas outside the Atlantic, and (4) recognise that the various participating organizations have an equal role in the work of the CWP.

7. The CWP Secretary was requested by the Consultation to ask FAO, ICES and NAFO to consider for approval as soon as possible the proposed Statutes in accordance with their respective internal procedures. The other participating organizations were asked to subscribe to the new Statutes.

8. At its Annual Meeting in September 1994, NAFO agreed to endorse the proposed Statutes and further agreed that in order to provide for the possibility of future expansion to other areas, all references to "Atlantic" (including the title of the Working Party) be removed so that the geographical remit of the CWP will be defined only by its composition. The proposed Statutes as modified by NAFO are provided in Appendix 6. These were also endorsed by ICES at its Annual Science Conference in September 1994 and will be considered by the FAO Council in June 1995. Eurostat, ICCAT and NASCO have also subscribed to them.

9. CWP endorsed the proposed Statutes as modified by NAFO and ICES and recommended that all organizations listed in paragraph 2 of the proposed Statutes which have not yet subscribed to them, do so as soon as possible.

10. CWP reviewed the Rules of Procedure proposed by the *Ad Hoc* Inter-Agency Consultation and agreed that in order to be consistent with the proposed Statutes as modified by NAFO, all references to the "Atlantic" should be removed. With this change, the proposed Rules of Procedure were adopted by the CWP. These are provided in Appendix 7.

REVIEW OF RECOMMENDATIONS FROM CWP-15

(Agenda item 4; Document CWP-16/4)

11. FAO reported that in pursuance of the recommendations made by CWP-15 on high seas fishery statistics, it had undertaken a process of informal consultations with countries active in high seas fisheries. The survey had ascertained the availability of such statistics in national systems and the willingness to provide such data to FAO. The matter had been further discussed at the *Ad Hoc* Consultation on the Role of Regional Fishery Agencies in Relation to High Seas Fisheries Statistics (La Jolla, USA, 13-16 December 1993) which recommended that agencies provide FAO with catch and effort data split between EEZ and high seas areas. Special consideration was given to the provision of data by tuna agencies.

12. In the intersessional period, data reconciliation exercises were systematically conducted between FAO and ICCAT, NAFO, and SPC, pursuant to the recommendation that the elimination of discrepancies among databases should become a more routine exercise.

13. It was noted that all the recommendations concerning questionnaires, enquiries and misreporting of data were implemented. However, the problem with the definition of aquaculture had remained unresolved. FAO reported some further progress in the separation of mariculture from the total production data set. In addition to shrimp and salmon, a 1980 onward time series of cultured molluscs was now available.

14. Eurostat had implemented the recommendation that landings data reported by member agencies should refer to both quantities and values. The resulting legislation is applicable to EU member states and countries of the European Economic Area.

15. FAO undertook a further enquiry of factors used for converting product weights for on-board processing to live weight equivalents. An industry consultant had evaluated the result of the previous FAO enquiries and identified questionable factors. The factors had also been evaluated by a second consultant hired by FAO to review factors used for converting to live weight for land-based processing.

16. Following positive feedback from users, the package developed for retrieval, analysis and graphical presentation of catch time series (renamed FISHSTAT PC) was further enhanced and produced also for regional catch statistics, tuna statistics and aquaculture. A prototype version was also developed for fleet data.

17. Limited resources at the ICCAT Secretariat together with some difficulties concerning the allocation of data by ICCAT statistical rectangle to ICES statistical areas, had prevented the implementation of the relevant CWP-15 recommendation.

18. In relation to the recommendation to seek the collaboration of statisticians in eastern Europe and the former USSR, FAO had expended resources in order to try to maintain continuity in the catch time series. Contacts with national reporting offices were established. A workshop on Fishery Statistics was organized in May 1993 for Estonia, Latvia and Lithuania to review national and international requirements for fishery statistics and ascertain the ability of countries to provide them.

MODIFICATIONS TO PROGRAMMES IN RELATION TO FISHERY STATISTICS

(Agenda item 5; Documents CWP-16/5A - I)

CCAMLR

19. CCAMLR explained that there had been no specific modifications to its Programme in relation to fishery statistics in recent years. Cooperation has taken place with FAO and is expected to continue. It was pointed out that the scope of fishing operations within the CCAMLR Convention area was limited, when compared with the fishing activity undertaken in areas under the responsibility of other organizations participating in the Working Party.

20. The CCAMLR database is large, however, and growing rapidly following the introduction of new fine scale fishing data, extensive input from scientific research and surveys on certain prey and predators. These data are being collected within the framework of the CCAMLR Environment Monitoring Programme. The use and importance of this type of data in relation to the specific approach of the Convention to ecosystem management was briefly commented on, and examples of the type of work being undertaken with the data collected were explained.

CCSBT

21. CCSBT reported that the Commission does not have any statistical publications as it has yet to establish the Secretariat and budget. After these have been established, the CCSBT will have to consider statistical programmes and publications.

22. The CCSBT does, however, have a data collection program for stock assessment. The necessary data are collected mainly from the longline fishery, which is a major fishery targeting southern bluefin tuna. The number of fish caught is compiled by 5° X 5° squares and by month. The CCSBT also collects length distribution data through a special data collection program in which a certain number of scientific observers are deployed on board fishing vessels. The data are compiled by 5° latitude X 10° longitude by month.

Eurostat

23. There have been three major developments in Eurostat's programme of fishery statistics since the CWP-15 session:

a) the transfer of the fisheries data from the Cronos data-base to the FAME database has taken longer than originally foreseen and resulted in a temporary suspension of their publication and of the inter-agency collaboration to eliminate discrepancies in international data-bases,

b) EU legislation covering most of the STATLANT A questionnaires, the STATLANT 21B questionnaire, data on the quantities and values of landings and data on aquaculture production has been enacted or is in an advanced stage of development,

c) the Eurostat Working Group "Fishery Statistics" now has an extended list of countries invited to send participants to its meeting (29), has benefitted from joint sessions with the ICES Statistics Committee and has held a successful experimental session with a restricted number of participants to review a specific technical problem.

24. In answer to a number of questions, Eurostat said that compilation of supply balance sheets has been suspended partly because the establishing of the Single Market had necessitated the implementation of a new system (Intrastat) to collect the data relating to trade between EU Member States. Although the system is now in place, there were delays in certain Member States. No detailed comparison of the fisheries data from the original source (customs documentation) and the new source (value added returns from producers) has been conducted but it is evident that, for fisheries and agricultural data, there has been a rupture in the time series. However, there is a strong demand for data derived from supply balance sheets, namely per capita consumption and degree of self-sufficiency, and Eurostat would be looking at the possibility of re-establishing supply balance sheets as an active part of its statistical programme.

FAO

25. The FAO noted that there were no major changes to report of the on-going statistical collection and dissemination programme in regard to the historically established series of statistics collated by FAO. The annual time series of catches, aquaculture, commodities and fishing fleet continued to be updated, revised and disseminated, both as publications and, where possible, in magnetic media. Further improvements to the data quality and coverage had been achieved, through active cooperation with other agencies and with national fishery statistical offices. Major

efforts had in particular been expended to secure an adequate flow of information from the newly independent Republics of the former USSR.

26. The meeting was informed that following the new responsibility given to FAO by the Compliance Agreement and the availability of extra-budgetary funds, the work of establishing a computerized on-line database of vessels authorized to fish on the high seas, had started. When operational, representatives of Parties to the Agreement will have direct access to the register through an application running on the hardware of the FAO Fisheries Department computer.

27. It was reported that, as a special project to contribute to the 50th anniversary of FAO, time series of catches by fishing areas and by species, had been reconstructed for the period 1950 to 1969. FAO is planning to integrate the data into the catch database and thus make available to users a 45 year time series of comparable catch statistics.

28. Some improvements had been made to the classification of species, eliminating discrepancies and inconsistencies between lists of scientific and current names of aquatic organisms held by different units in FAO. Systems were designed to store, process and retrieve national data of catches disposition and the number of fishers, the two annual enquiries still processed manually. Both data sets still need screening before the data can be made available to users. The opportunity was taken to improve the questionnaire FISHSTAT FM, to include separate data on employment in aquaculture and disaggregation of employment statistics by gender. An electronic FISHSTAT NS1 Questionnaire has been developed and will be tested by a number of countries in the submission to the FAO of their 1994 catches.

29. It was reported that it had been necessary to reduce statistical activities in certain areas. In particular the work on food balance sheets for fishery products was halted for the best part of 1994 and the publication of the *GFCM Statistical Bulletin* for the Mediterranean had been discontinued; the dissemination of the database will, however, continue in computer readable form.

30. In the intersessional period, two of the posts assigned to the Statistical Unit which had become vacant, had been filled, while regrettably it had not yet been possible to fill the position of aquaculture statistician. Despite limitations, the staff of the Unit had been able to contribute to national, regional, and interregional meetings where fishery statistics were been discussed.

ICCAT

31. ICCAT's basic policy on collecting statistics on tuna and tuna-like fishes in the Convention Area (Atlantic Ocean and its adjacent seas) has not been changed from that reported to the CWP in the past. The basic databases are: 1) annual nominal catch; 2) catch and effort in rectangular area-time strata; and 3) size data. In addition, working files of catch at size have been updated for yellowfin, albacore, bluefin tunas and swordfish on a stock basis.

32. The major problems associated with statistics are the unreported catches made by the fishing vessels of non-Contracting Parties. This problem, particularly in regard to the catches of non-Contracting Parties in the Mediterranean area, has in part been solved through collaboration with the *Ad Hoc* Working Group for the Mediterranean Sea, jointly established between FAO and ICCAT. Three joint meetings have been held to work on the stocks of tuna and tuna-like fishes in the Mediterranean Sea and these have resulted in a significant improvement in the ICCAT database, which is also used for GFCM stock assessment purposes.

33. On the other hand, the quantity of unreported catches by vessels operating under flags of convenience and some other fleets of non-Contracting Parties which do not comply with the ICCAT regulatory measures has been increasing rapidly in recent years. Details of the problem are reported in the Document CWP-16/15A. This problem has been greatly alleviated by the introduction of the ICCAT Bluefin Tuna Statistical Document Program. The member countries are required, when importing northern bluefin tuna, to request that it be accompanied by the ICCAT Bluefin Tuna Statistical Document. The Document should contain information on the flag of the fishing vessels, area and time of the catches, etc. and must be verified by Government officials. This new system has proved to be very effective for estimating previously unreported catches of that species.

34. Reporting of statistics by high-seas and EEZ was discussed at the 1994 meeting of the Standing Committee on Research and Statistics (SCRS) of the Commission, and it was agreed that such a separation was not needed for the scientific work of the Commission, as tunas and tuna-like species are highly migratory and political boundaries are not related to biological factors. However, recognizing the increasing political demand for such a separation of statistics, FAO was asked to provide a map showing the boundaries of the high seas. The SCRS will study the feasibility of separating catches by such a boundaries if the map becomes available.

ICES

35. The official fishery statistics made available to ICES consist of preliminary catch data and STATLANT 27A and 27B data, and FISHSTAT AQ data for aquaculture production. Following discussions at CWP-15 and within the Council, the request for STATLANT 27B returns (monthly catch and effort data) was discontinued as from 1 January 1993. In previous years these data were very incomplete and inadequate for stock assessment purposes. The need for detailed data is nevertheless recognised and catch and effort data by fleet are supplied by most countries directly to stock assessment scientists.

36. Some improvement in the timeliness of STATLANT 27A submissions was noted. STATLANT 27A data for 1993 were received from 21 Statistical Offices before the end of 1994. No data have been received from Spain since 1988, however, and the data for France are incomplete and not provided in the detail required. FISHSTAT AQ returns are very incomplete although additional returns have recently been made available by FAO.

37. A number of instances of non-reporting and misreporting have been identified by the ICES Advisory Committee on Fishery Management. As a result of concern about the deterioration in the reliability of catch statistics, the Council in 1993 made representations to its Member Countries at diplomatic level.

38. Because of the incomplete submission of STATLANT 27 data ICES has not published *ICES Fisheries Statistics* since 1988. Publication of further volumes excluding the missing data from Spain is now being considered.

IPTP

39. The area of competence of IPTP has until now covered the Indian Ocean (FAO Major Fishing Areas 51 and 57) and the western Pacific near southeast Asia (part of Area 71). In view of the creation of the Indian Ocean Tuna Commission, the Area 71 data will be handled by SEAFDEC.

40. The databases maintained on tuna and tuna-like species include:

- Nominal catch by year, country, FAO area, species and gear;
- Catch and effort by month, country, species and gear, by one or, more frequently, five degree square area;
- Length-frequency by the same aggregation or from port sampling; and
- Fishing craft targeting tuna.

41. Only aggregated data are reported. Most data sets date back to 1970, a few starting in 1952. More recently, countries have been requested to supply data on transshipments or landings by DWFN vessels, as well as on the characteristics of the vessels. Data are also requested on discards. The response to these data requests has to date been poor.

42. Data are diffused through an annual "Data Summary" covering nominal catch and fishing craft statistics, with a delay of about 15 months on the most recent year covered. In addition, nominal catch data are being diffused on a diskette with a programme for querying of data by area, country, species or gear. This programme - TUNASTAT-PC - also allows graphical output and some statistical analysis.

43. Catch and effort data have in the past been diffused in hard copy or on magnetic media. An atlas of purse seine and longline data by 5° square is now being prepared and will most likely be followed by similar atlases for the Atlantic and Pacific oceans, to be published by FAO.

44. The IPTP nominal catch database has been extensively reviewed to correct inconsistencies in time series and to split aggregated data into their constituent species and gear categories. It has also been decided to modify the reporting areas in order to avoid bisecting important fishing zones and to facilitate reporting by coastal countries by placing the IPTP boundaries in line with the national reporting systems. The changes also align with the boundaries in use by ICCAT and SPC. The four changes from the FAO areas involve moving:

- the Area 51 western limit from 30° to 20° E;
- the Area 51/57 Northern boundary to correspond with the Tamil Nadu State limit;
- the Area 57/71 boundary from South of Java to 7° N; and
- the eastern limit of Area 57 to the New South Wales/South Australia boundary at 141°E.

These changes have been approved by the coastal countries concerned and the databases modified accordingly.

45. Present issues in data reporting include delays in the submission of data by some countries, non-reporting of catch and effort data for artisanal fisheries which are moving progressively offshore and non-reporting by longliners under various flags of convenience or joint-venture agreements with coastal countries.

NAFO

46. At its meeting in June 1992, the Scientific Council reconsidered the difficulties of obtaining STATLANT 21A and 21B data on a timely basis. It was agreed that the submission deadline should be written into the Rules of Procedure of the Scientific Council in order to place an obligatory requirement on the Contracting Parties. The new ratified Rule 4.4 of the Rules of Procedure revised the submission deadline of the previous year's data for STATLANT 21A to 15 May and for 21B to 30 June.

47. Since the NAFO Contracting Party membership dues are based on the catch statistics, the Scientific Council considered that there is now a mechanism in place to avoid undue delays in receiving data. It is hoped that the data submission trends observed in 1993 will continue to show positive results of this modification.

48. NAFO reported that the update of the nominal catch database dating back to 1960 had been updated, and a publication of the 30 year summary would be circulated by June 1995. This would include graphical presentations of fishery trends.

49. In 1991, NAFO Scientific Council had considered the possibility of keeping separate statistics for the Regulatory Area (outside the 200 mile coastal zone), noting that the data should be available in some Coastal State databases. However, the Scientific Council had not pursued this matter any further in recent years.

50. One of the major concerns of NAFO has been the non-Contracting Party fisheries within NAFO areas. Diplomatic and other measures have been continuing at NAFO, and initiatives to collect accurate data from non-Contracting Parties are showing some results.

51. At its Annual Meeting in September 1992, NAFO endorsed the implementation of an 18 month pilot project to test a NAFO Observer Scheme. The scheme deploying trained individuals on Contracting Party vessels was assessed to be of value in 1994 and the scheme was extended until 31 December 1995.

OECD

52. There were no modifications to the OECD statistical programme.

SPC

53. The Oceanic Fisheries Programme of the South Pacific Commission (SPC) collects nominal annual catch statistics, catch and effort data aggregated by time-area strata, and logbook data, covering tuna fisheries in the western tropical Pacific Ocean; total catches of the four main commercial species (albacore, bigeye, skipjack and yellowfin) in 1993 were 1.26 million mt, which was about half of the world catch of these species. During the inter-sessional period, estimates of catches of the offshore longline fleets of Japan, the People's Republic of China, and Taiwan, Province of China, which are based in ports across Micronesia, improved as the result of the introduction of new procedures for collecting landings data. Difficulties in obtaining timely estimates of annual catches from the governments of most distant-water fleets continued. Catch and effort data aggregated by time-area strata have been provided for the Japanese longline, pole-and-line and purse-seine fleets, and the distant-water longline fleets of the Republic of Korea and Taiwan, Province of China, but not for the Korean and Taiwanese purse-seine fleets. The quality of logbook data covering Korean and Taiwanese purse seiners, which are processed by SPC on behalf of SPC member countries, has improved following the ban on transshipment at sea which was implemented in June 1993; since that time, these vessels have transshipped their catches in ports across the region, which has allowed the catches reported on logbooks to be verified by landings data. SPC now provides technical and financial assistance to sampling programmes in fourteen ports in the region.

54. In February 1995, a Port Sampling and Observer Supervisor and three scientific observers were recruited under the European Commission-funded South Pacific Regional Tuna Resource Assessment and Monitoring Programme. A major objective of the observer component of the five-year programme will be to monitor discards and by-catch of the fleets active in the region. A workshop organised by the South Pacific Forum Fisheries Agency (FFA) and SPC on observer programmes was held in Brisbane, Australia, in February 1995; the meeting was attended by representatives of the observer programmes of Australia, Federated States of Micronesia, New Zealand, the Indo-Pacific Tuna Development and Management Programme, the IATTC, FFA and SPC.

55. The institutional structure for the collection and exchange of data for tuna fisheries in the western tropical Pacific Ocean is unique in that three of the four major distant-water fishing nations (Japan, Korea and Taiwan, Province of China) are not members of the regional organisation (SPC) that has been largely responsible for data collection. During the inter-sessional period, several events have taken place which may influence the institutional structure for management and research for tuna fisheries in the tropical western Pacific; these include the UN Conference on Highly Migratory Fish Stocks and Straddling Fish Stocks, the establishment of Management sub-Committee at FFA, the Multilateral High-level Conference on South Pacific Tuna Fisheries held in December 1994, and the institutional review conducted by South Pacific Organisations Coordinating Committee. A technical consultation on the collection and exchange of catch and effort data, and research, has been proposed; the meeting may be held in August 1995, at SPC headquarters in Noumea, New Caledonia. Ultimately, the roles of the coastal States and the fishing nations in research and management need to be resolved. Issues related to the collection and exchange of data that must be decided include the obligations of States with respect to the provision of data; the protocol for the exchange of data which best provides access to data for research, while maintaining confidentiality; and the sharing of costs incurred in the collection and exchange of data.

Mexico

56. In its present form, Mexico's fishery statistical system has been operative for the last two decades. Due to changes in the control mechanism, landing declarations have declined, particularly in coastal-artisanal fishing. To measure the amount of under reporting, the Mexican authorities are conducting a joint program with FAO.

57. Based on a sampling survey scheme (selecting landing sites, organizations and vessels), estimates of landings are being obtained. Comparison of these figures with those corresponding to landing declarations provide a measure of under reporting. Preliminary results indicate levels greater than 50% of declared landings. Consideration is being given to the idea of conducting the survey on a permanent basis to provide reliable statistics of coastal fishing. For a given cost, the main challenge is to devise a sampling design which could provide reasonable estimates for species and regions.

Namibia

58. The Republic of Namibia is developing an integrated Fisheries Information Management System (FIMS) and will have established a core system by the end of 1995. The FIMS will be expanded over time to provide management with the ability to integrate research, surveillance and enforcement, and economic, financial and social information.

59. This commitment to a detailed understanding of the nature of the fisheries stems from the importance that the fishery industries have in the growing economy since independence in 1990. Preliminary catch figures for 1994 were given as an illustration. The status of the current statistical system, changes that are being introduced and progress on the implementation of the FIMS were reported.

60. It is recognised that the fisheries depend critically on the nature of the Benguela current that originates off the west coast of South Africa and continues past Namibia to Angola. Research, management and development of Namibia's fisheries cannot proceed without gaining improved understanding of this current, its variability and the ways in which it supports the various fisheries as a large marine ecosystem (LME). Cooperation with Angola and South Africa with regard to research on the Benguela current was outlined. The particular importance of fisheries in Namibia is recognised in the establishment of the SADC Sector Coordinating Unit for Marine Fisheries and Resources of the Southern African Development Community (SADC) within Namibia's Ministry of Fisheries and Marine Resources. The responsibilities of this unit with regard to fishery databases, were described. Namibia recognises that its fisheries have a wider dimension than EEZ rights and responsibilities, both within the Benguela current and beyond to the high seas. Attitudes and programmes towards research and cooperation in the Benguela LME and the Atlantic Ocean were described. The paper presented by the Ministry of Fisheries and Marine Resources of the Republic of Namibia ended with some brief comments on specific issues that the papers of the Sixteenth Session of CWP addressed.

INTERNATIONAL INITIATIVES OF RELEVANCE TO THE CWP

Ad-hoc Consultation on the Role of Regional Fishery Agencies in Relation to High Seas Fishery Statistics (La Jolla, USA, 13-16 December 1993)
(Agenda item 6(a); Documents CWP-16/6, 7)

61. FAO introduced documents CWP-16/6 and CWP-16/7, which cover the report and follow-up to this Consultation. The terms of reference for the Consultation included that of specifying the requirements for statistics on high seas fisheries for research and management purposes.

making particular reference to Annex 1 of the Negotiating Text prepared by the Chairman of the UN Conference of Straddling Fish Stocks and Highly Migratory Fish Stocks. Few of the proposals made by the Consultation to elaborate the minimum requirements were incorporated in the Draft Agreement prepared during the Fourth Session of the Conference in August 1994. The Consultation also advised on the high seas fishery statistics which should be collated by FAO, and recommended that regional fishery organizations should provide FAO with an inventory of statistical and biological data held by them in relation to straddling and highly migratory fish stocks, and also provide FAO with brief commentaries on the fisheries with which they are concerned. The Chairman's Negotiating Text did not consider economic data; and the Consultation recommended that FAO should have this question investigated in an appropriate forum involving regional fishery organizations. This recommendation has not yet been followed up.

62. The CWP discussed the need to report on high seas data separately. While this is not necessary for stock assessment, it was recognized that there was sufficient interest in these data to warrant the attempt. None of the regional agencies dealing with tuna fisheries currently effects this separation since the same criteria are applied in reporting statistics for EEZs and the high seas. ICCAT agreed to attempt to evaluate the feasibility of separating the data between EEZ and high seas, provided FAO supplied a table classifying rectangles as belonging predominantly to an EEZ or high seas area. SPC will suggest to DWFNs at a Technical Consultation scheduled in August 1995 that they should supply data for high seas catches separately, but anticipated questions on the need to do this for stock assessment purposes and resistance from the countries concerned, due to the work involved. Failing their agreement on this, SPC could estimate the data, but with reduced accuracy. IPTP does not at this time possess data of a fine enough spatial resolution to make an estimate and anticipates reluctance from the countries supplying data unless contractual obligation to do so is established.

63. CWP recommended that FAO should determine the ability of regional agencies to supply the catch and effort data specified by the Consultation by circulating a format with explanatory notes. It was also recommended that regional fisheries agencies which hold data inventories, provide these for all data available on fish stocks which are held by them for 1993, together with brief commentaries on the fisheries with which they are concerned, where possible.

UN Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks¹
(Agenda item 6(b); Documents CWP-16/8, 26)

64. In considering the Draft Agreement², in particular Annex 1, "Minimum Standards for Collection and Sharing of Data", CWP welcomed the specification of the roles of regional fisheries agencies and flag States in the collection and exchange of data necessary to meet stock assessment requirements and support management objectives.

65. CWP recognised the importance of the stipulation of minimum data requirements in Annex 1 of the Draft Agreement, which provides an important specification of the data relevant to the conservation of fish stocks as referred to in the 1982 Convention Article 119(2), as well as the general data requirements specified by the FAO Technical Consultation on High Seas Fishing (Rome, 7-15 September 1992), and the UN Conference on Environment and Development.

66. CWP stressed that the standards in Annex 1 of the Draft Agreement should be considered as the minimum standards for stock assessment and to support management objectives. It was recognised that, for particular fisheries, additional standards might apply.

67. CWP recognised that the collection of certain types of data listed in Annex 1, such as data on discards and by catch, is not being undertaken by the majority of flag States at present. Nevertheless, CWP considered that all of the types of data listed in Annex 1 were necessary for stock assessment, and that flag States which do not already collect the types of data listed in Annex 1 should be encouraged to do so in the future.

68. CWP recognised that assessments must apply to the biological unity of fish stocks. CWP therefore considered that the minimum standards in Annex 1 should apply over the geographic range of fish stocks, whether it be within areas of national sovereignty or in international waters.

¹FAO was requested to transmit the text of this section to the Chairman of the UN Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks, Fifth Session (New York, 28 March - 13 April 1995) prior to the Session.

²Draft Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks.

69. CWP supported the requirement that States shall cooperate directly or through subregional or regional fisheries management organisations or arrangements to agree on the specification of data and the format in which those data are to be provided to subregional or regional fisheries management organisations or arrangements. CWP strongly encourages subregional or regional fisheries management organisations or arrangements to participate in the work of the CWP in order to review the specifications and formats of data which they adopt.

70. CWP further considered that the minimum standards in Annex 1 should apply to all flag States, and not only to members of regional fisheries management organisations or arrangements.

71. CWP considered that the subregional or regional fisheries management organisations or arrangements referred to in the two preceding paragraphs should also include intergovernmental organisations with a research or management advisory role.

Agreement to Promote Compliance with Internationally Agreed Conservation and Management Measures by Fishing Vessels on the High Seas
(Agenda item 6(c); Documents CWP-16/9, 10)

72. The Chairman introduced this topic by saying that all participants were informed about the Agreement itself, which will enter into force when accepted by 25 States (it had been accepted by seven States by February 1995).

73. FAO is responsible for the gathering and dissemination of global information relating to vessels authorized by States to fish on the high seas (Article VI of the Agreement). FAO reported on the implementation of its database system, the High Seas Vessels Authorization Record (HSVAR), explaining its objectives, structure, *modus operandi*, accessibility and state of development. HSVAR was also demonstrated at the Session.

74. The CWP discussed the topic, the following being the main points raised:

75. The Chairman of the GFCM informed that because the Mediterranean is mainly a high seas area (EEZs extend to 12 miles), there is a proposal to adopt for this area, 15 metres (rather than 24 metres) as the minimum length of vessels for authorization to fish on the high seas. The Member States of GFCM want to accept the Agreement as soon as possible in order to enhance management and conservation. The GFCM will study this issue at its forthcoming meeting in May 1995.

76. The database system was considered very useful, particularly to control the vessels flying flags of convenience. The CWP agreed that the updating and maintenance of accuracy of the database will imply a substantial job.

77. Given that authorizations limited to specific fishing areas are not a requirement of the Agreement, but an option to be included in the database on a voluntary basis, it may be difficult for a Party to identify a vessel fishing in a specific area, unless it has access to the complete vessel register. The CWP suggested that FAO ask the Contracting Parties to provide information, to the extent possible, on the fishing areas in which they authorize their vessels to fish.

78. Following the recommendation of the *Ad Hoc* Consultation on the Role of Regional Fishery Agencies in Relation to High Seas Fishery Statistics, the CWP recommended that regional fishery organisations provide FAO, where possible, with lists of vessels operating on the high seas within their respective convention areas.

Code of Conduct for Responsible Fisheries
(Agenda item 6(d); Document CWP-16/11)

79. CWP noted with interest the development of the Code of Conduct for Responsible Fisheries by FAO. CWP noted with satisfaction that the draft Code as it now stands places emphasis on the need for reliable data as a basis for effective fisheries management and policy making, and recommended that this need be fully recognised in the final Code and in the associated Guidelines.

EXCHANGE OF NATIONAL FISHERY STATISTICS ON ELECTRONIC MEDIA
(Agenda item 7; Document CWP-16/12)

80. At the Fifteenth Session of the CWP (Dartmouth, Canada, 8-14 July 1992), FAO had presented a prototype system designed for the Standardized Exchange of Fishery Statistics (SEFS). The system was set-up to run on personal computers and involved database functions for converting computerized catch data into a standardized format introduced by Eurostat. During the presentation of the system two major points were raised by the participants. The first concerned the utility of SEFS which was found to better suit the exchange of fishery statistics between agencies, rather than between countries and agencies. The second point underlined the

need for countries to also be able to use such data exchange tools for data entry purposes, a feature that was not included among the SEFS procedures.

81. In view of the above two major points, FAO developed and demonstrated to the CWP another PC-based prototype for the standard handling of catch statistics at national level and its exchange between national statistical offices and agencies. The objectives of this new system are to provide national statistical offices with full versions of historical time series for their national catches and not limit them to the present short periods on hardcopy forms. Data would be associated with computerized classification schemes for species and fishing areas, thus assisting users in the categorization of local species names and/or area sub-divisions and fishing grounds. Other components of the presented system include the exchange of textual information between national offices and agencies, as well as basic data management, analysis and reporting performed directly at national office level.

82. In considering the usefulness of the system presented, a major observation concerned countries already operating large volumes of computerized catch data and which would not benefit from the proposed system as they would be obliged to enter manually catch data already in computerized form. On the other hand, countries with limited catch data would still find it easier to continue the use of hardcopy questionnaires as data communication means. With respect to the system's data handling functions, several participants stressed the need to add the capability to identify revised data (including on the screen) and for increased data integrity and data security features so as to safeguard national users against sets of data being accidentally damaged or lost. Concerning system dissemination arrangements, it was stated that in addition to its present English version the software and data should also be issued in French and Spanish for the benefit of those national offices that operate and exchange data in these languages.

83. Based on the observations concerning the utility and functionalities of the presented system, the CWP recommended that FAO work out system changes and enhancements along the lines suggested by the meeting, so that the product better suits national needs. FAO was asked to implement the modified software in the form of case studies of a limited number of countries with the purpose of further evaluating its performance and utility and report its findings at the next Session of CWP.

MODIFICATIONS TO STATLANT QUESTIONNAIRES

(Agenda item 8; Documents CWP-16/2, 13A - C)

84. ICES had informed CWP at its Fifteenth Session that the STATLANT 27B questionnaire would be *discontinued*. ICES confirmed that the 27B series was discontinued as from January 1993. While discussing this issue, ICES had reviewed the need to modify the STATLANT 27A questionnaire to capture some of the 27B data, and had decided that no modifications were needed, because the data required for stock assessment purposes were in general provided directly to the appropriate scientists.

85. A number of changes to the 27A questionnaire were, however, being considered with respect to the species lists and the species nomenclature. The problems experienced by ICES were described (CWP-16/13A) and shown to be primarily related to new fisheries developing in the ICES area. A number of new species were being fished and not all of them were currently listed in the STATLANT 27A forms. A more difficult problem was that related to the appropriate species classifications and the coding of the categories. Specific examples were cited of the cartilaginous fishes, where reporting categories were not sufficiently comprehensive, and some deep water species for which no species categories were currently available.

86. CWP recognized that specific categories and species codings could be clearly described by Agencies and submitted to FAO for inclusion in the international 3-Alpha coding scheme and, where appropriate, in the relevant STATLANT questionnaire. CWP recommended that each agency should review their species lists and ensure that the major species categories are appropriately broken down to the species level, and that appropriate hierarchical group categories are available for landings not identified to the species level. These reviews should be collated for consideration at the next *Ad Hoc* Inter-Agency Consultation.

87. The particular experience of modifying a STATLANT form was highlighted by recent requirements of NAFO. In respect of a new Rule of the NAFO Scientific Council to establish deadline dates for submission of STATLANT 21 data, the NAFO Secretariat and the CWP Secretariat considered issuing revised STATLANT 21A and 21B questionnaires in 1994.

88. Considering the long time it takes to redraft and print these questionnaires (in the standard green colour) at FAO, Rome, the CWP Secretariat developed a word processing package to print them. While it is desirable to maintain the green print in the forms, NAFO was pleased with the interactive method of modifying the questionnaire and the relatively fast turn-around time. It was noted that FAO hoped to acquire a computer printer which could print the STATLANT questionnaires in A3 formats.

89. CWP observed that fishery data collection programs in the former ICSEAF area continued after ICSEAF was closed in 1990. CWP recommended that FAO should contact the fishing nations and the Namibian authorities to review the usefulness of continuing the STATLANT 47 inquiries. It was noted that attempts are being made to have the usefulness of the STATLANT 34B and 37B questionnaires reviewed by CECAF and GFCM, respectively.

DISCREPANCIES AMONG AGENCY DATABASES

(Agenda item 9; Documents CWP-16/14A - C)

90. CWP recognized the importance of comparison of databases between international agencies to eliminate discrepancies among databases, particularly to keep the statistics consistent and ensure that the most reliable data are used by all agencies.

91. It was found that although the concepts and definitions of data were similar among databases, many discrepancies arise as a result of different criteria and requirements for data collection. Specific examples were described as a result of regional agencies using STATLANT forms while FAO used FISHSTAT. For instance, STATLANT forms are completed on a yearly basis while FISHSTAT NS questionnaires allow reporting nations to revise the previous seven years' data.

92. The procedure for eliminating discrepancies between the international databases was established at the Fourteenth Session of the CWP. Exercises to eliminate discrepancies have been held between FAO and ICCAT, ICES, NAFO and SPC.

93. The reconciliation exercise conducted between ICES, NAFO and FAO resulted in the elimination of many errors over a 15 year database. Some harmonization was left temporarily unresolved, particularly where clarifications were not available during the unification of Germany, and for specific data from France and Spain for sea breams, sea basses and groupers.

94. With regard to tuna data, ICCAT and FAO have made considerable progress as a result of establishing an annual exchange of catch data. ICCAT has created a computer program for the detection of discrepancies between the ICCAT and FAO databases. FAO now maintains an annual exchange of tuna data with IATTC, IPTP and SPC.

95. CWP recommended that the review and reconciliation of databases between agencies be continued in order to maintain the most accurate and harmonized databases. It was proposed that attempts should be made to divide the reconciliation exercises into two criteria; viz the current data and the historical data, with priority being placed on the current data.

IMPROVEMENT OF RELIABILITY OF STATISTICS

(Agenda item 15; Documents CWP-16/A - H)

96. Official statistics on landings and other associated quantities such as fishing effort are collected primarily as potential data for management and the development and support of fisheries policy. Fish stock assessment, which is an integral part of fisheries management makes use of official statistics and is reliant on them for the majority of assessments. This is simply because these are the most easily accessible data which are scaled to the magnitude of the fishery. The dependence of assessments on official statistics means it is important that the data are of as high a quality as can be achieved. This quality is increasingly called into question, often by scientists who frequently make use of alternative estimates of the catch.

97. CWP recognised that it is important to appreciate the reasons why estimates of catch used for assessment purposes differ from official landings data since not all of the difference is due to illegal incorrect-reporting or non-reporting to the relevant authorities. Official landings can often only represent part of the actual catch from a stock. This may be due to:

- 1) A significant part of the catch may be discarded legally at sea and no accurate record kept of the quantities or species involved.
- 2) Part of the catch of a particular species or stock may be taken as an incidental bycatch in another fishery. Small mesh industrial fisheries are one example. Such fisheries may take a significant part of the total catch of a human consumption species but be recorded only as weight within the category of the target industrial species in which the catch was taken.
- 3) Official landings data are usually recorded by geographical or management unit area, not by biological stock unit. For assessment purposes this can be inappropriate and scientists may adjust official figures to reflect migration or different geographical areas more suited to the biological stock concerned.

98. In addition to these potentially important differences, official data may differ from

"scientific" estimates for essentially trivial reasons. For example, if landings are recorded by volume (e.g. number of boxes) and scaled by a standard multiplier (e.g. nominal box weight), scientific estimates may differ because an actual sampled box weight was used as the multiplier. Assessments of shared stocks require estimates of the total catch by all countries. Often minor components of the catch are missing where countries report figures late or use a TAC area for reporting, not management units. Assessment working groups usually have to estimate the incomplete data which can lead to discrepancies between official estimates and working group estimates.

99. CWP recognised that there may be a variety of reasons why mis-reporting or non-reporting occurs. A common problem in fisheries controlled by catch limits is the non-reporting of catch which exceeds the quota or the misreporting of the catch to an incorrect area or as another species. This is obviously done to avoid the control regime and highlights the problem of enforcement. Problems of this type are frequent in the North Atlantic in both the ICES and NAFO areas.

100. In some international fisheries, vessels flagged to countries which are non-contracting parties to a convention may not be under any obligation to report catches either to international organisations or to the home country. Examples of this problem were noted by ICCAT in the Mediterranean Sea.

101. In some countries there may be pressure to report excessively high catches in order to justify certain political objectives. There is a tendency for this problem to be more common in countries where fishery management is not highly sophisticated.

102. A review of fishery statistics by FAO (Document CWP-16/15F) shows that problems with data occur in most regions with a number of countries simply not reporting data. Particular gaps are absences of data from Brazil, France, Myanmar and Spain. Data from some Asian countries lack sufficient species detail. FAO often makes estimates of the catch if data are missing or are clearly erroneous. However, this is no substitute for good data.

103. The problems described in the preceding paragraph for the FAO data refer primarily to problems in the supply of data by statistical authorities. The extent of mis-reporting by fishers to the appropriate authorities is somewhat more difficult to quantify. Most data in catch-controlled fisheries suffer from misreporting to a greater or lesser degree. The problem is known to be widespread in the ICES and NAFO areas. In some areas, however, where observers are sent on board vessels, such as in the CCAMLR area, the problem is not thought to be significant.

104. Mis-reporting is obviously likely to undermine stock assessments but the severity of the problem depends on the type of misreporting. If the level of misreporting is consistent over many years, absolute estimates of abundance will be biased but the year-to-year changes are unaffected and the level of exploitation can be adequately determined. However, the estimated productivity of the fishery will be misleading. Large changes in misreporting will have the most severe effect and this can be substantial, particularly on the forecast of future catch upon which TACs are frequently based. The ICES Advisory Committee on Fishery Management (ACFM) has been unable to provide catch forecasts for a number of stocks as a result of suspected significant misreporting. The Scientific Council of NAFO has also reported that the quality of stock assessments in recent years has been less than desired because basic catch data have been insufficient or lacking. This can lead to a vicious circle where the means of fishery control leads to worsening management advice.

105. By its nature, misreporting is problematic to estimate precisely. In view of this it is right to question whether the estimates made are adequate for the purpose to which the data are put.

106. The source of the estimate of mis-reporting can be quite precise. For example, if production or trade figures are compared with recorded landings it may be possible to obtain quite good estimates of the truth. ICCAT has been able to use these data to correct catch data for certain tuna stocks. Similarly if undeclared landings are nevertheless sold on legitimate markets it is not difficult to estimate the missing landings. Where estimates are largely anecdotal there is a more substantial problem and it is highly desirable to seek corroborative information before rejecting official figures. Most working groups will attempt to perform sensitivity analyses of assessments to catch data before deciding to reject official statistics. While this is good practice, it unfortunately does not resolve the problem of which assessment to accept and it does not help managers to select an appropriate TAC.

107. There are perhaps two classes of problem which lead to misreporting. There may be inherent weaknesses in the statistical recording system or there may be deliberate attempts by those contributing data to mis-inform the competent authorities for reasons outlined above. The solutions to these problems may be quite different.

108. Some agencies, notably ICES, Eurostat and NASCO, have requested or required

methodological reports from those supplying data. These reports help to identify weaknesses in recording systems and potential inconsistencies in the data. CWP agreed that this was a very useful way of discovering problems and identifying the ways and means of improving the recording of the data. The outline of methodological reports as requested by ICES and Eurostat is given in Appendix 8.

109. CWP considered that when it is difficult to obtain accurate data from a single source, it may be useful to collect data at several different sampling points. For example, SPC obtains data from log-books, at the point of unloading and from observers on vessels. This helps to refine catch estimates by species and size of fish as well as cross validating catch statistics. The use of trade statistics may provide a very useful means of filling in missing catch data or cross-validating suspect catch information. In the case of Bluefin tuna, for example, ICCAT instituted a Statistical Document Program which obliges contracting parties to report imports of bluefin tuna from any source. This helps to repair otherwise incomplete data.

110. In some circumstances, recourse to legislation may help statistical agencies bring pressure to bear on the reporting authorities. Eurostat, for example, has found that EU legislation has assisted in obtaining data from reluctant reporters.

111. Dealing with the problem of intentional mis-reporting by the fishing industry itself is more difficult because enforcement is usually very limited. As has been mentioned earlier, trade statistics may help. Sometimes, fish not officially reported do appear on legitimate markets and can be recorded accurately from this source.

112. CWP recognised that observer programmes feature in a number of fishery management systems and are clearly a potentially very valuable means of avoiding problems of mis-reporting. They have the added advantage of offering a means of obtaining data on by-catches and discards. Such schemes should be introduced where it is feasible.

113. CWP noted that many of the problems of deliberate mis-reporting arise as a result of poor enforcement. Maritime enforcement is by its nature difficult and expensive. In the future, the use of electronic monitoring equipment, such as satellite tracking or continuous recording systems may help with this difficulty. A number of countries are already introducing such systems or are undertaking experiments with possible systems.

114. It is a common occurrence that some time after data have been submitted to a statistical agency, the reporting authorities submit revised or amended data. CWP considered that it is important to accept a revision only if the revision can be justified. In particular, agencies which submit amendments or corrections to data published previously should simultaneously provide accompanying information on reasons for the modifications containing a description of the methods of re-calculation.

115. Clearly when published data are corrected or revised there is a problem in the dissemination of the corrections to which careful thought needs to be given. As electronic media become the standard means of publishing data this difficulty will diminish since revisions can be made easily with minimal cost.

116. Methodological reports appear to be an effective way of identifying weaknesses in recording systems and therefore ways of improvement and achieving common standards. The CWP recommended that all statistical agencies request methodological reports from their statistics providers. The outline shown in Appendix 8 may be useful for this purpose.

117. In order that the consequences of misreporting on stock assessment be better understood and quantified, CWP recommended that a number of case studies be undertaken. Such studies should consider the effect of misreporting on the efficacy of the prevailing fishery management regime.

118. Observer programmes potentially offer a means of avoiding many of the problems of bias and inaccuracies in data as well as additional information on by-catch and discards. The CWP recommended that, where feasible, the competent bodies should be encouraged to mount observer programmes on fishing vessels.

119. CWP recommended that revisions to data should be subject to the conditions outlined in paragraph 114 and that such revisions be cross-referenced between agencies holding the same data in order to ensure consistency.

BYCATCH AND DISCARD DATA (Agenda item 11; Documents CWP-16/A, B)

120. The CWP Secretary introduced a recent FAO publication titled *A Global Review of Bycatch and Discards* (FAO Fisheries Technical Paper No. 339), which represents a first attempt to quantify bycatches and discards on a global scale.

121. ICCAT tabled a paper which pointed out that many non-target species are taken as by-catch in tuna fisheries and that since 1992, the Commission has been investigating the species and magnitude of non-tuna by-catch. During its 1994 meeting, the subject was again discussed and the Commission decided that shark statistics could be collected under the terms of its mandate. ICCAT has also established an *Ad Hoc* Working Group to study the collection of by-catch data and the criteria for the collection of statistics. CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) passed a resolution which expresses concern about some sharks and the need to acquire more information, at its Ninth Meeting of the Conference of the Parties (Fort Lauderdale, USA, 7-18 November 1994).

122. In many cases bycatch and discard data are requested in fishing logbooks, but are not usually reported. Some organizations are preparing changes in their logbooks to include data on bycatch and what are termed "sensitive" species. It was pointed out that countries often do not have any information on the origin of these catches and discards, and that some fisheries actually have no discards (e.g. artisanal tuna fisheries in the Indian Ocean), while others have a very high rate of discards (e.g. export oriented tuna fishing), even when targeting the same species, which makes any systematic collection of data even harder. Legislation forbidding "by-catch" was observed to make its reporting impossible.

123. Several organizations have set up, or are setting up, working groups to study by-catches. Some groups have been set up to concentrate on elasmobranchs, others on species ecologically related to the main target species, and others on the incidental mortality of birds induced by fishing operations. Coordination and cooperation is required among the organizations. A noticeable degree of cooperation between organizations represented in the CWP was detected in the form of joint working groups, information exchange and the preparation of symposia to concentrate on specific problems.

124. In general, the CWP considered that the use of observers aboard the fishing vessels was the best way to obtain the required information. However, it was also stressed that the presence of observers aboard may induce changes in normal fishing practices, thus complicating interpretation of the facts, and that the cost of these programmes for adequate coverage is very high.

RECREATIONAL AND SUBSISTENCE FISHERY STATISTICS

(Agenda item 12; Document CWP-16/17)

125. The CWP noted that, with some exceptions (e.g. ICCAT, IPTP and NASCO), catch statistics collected under the auspices of the CWP generally exclude data for recreational and subsistence fisheries, although it is usually requested that subsistence catches be included. The earlier decision to exclude recreational catches had been taken due to the fact that such data were generally difficult to obtain. However it was now recognised that for certain species such fisheries were of considerable importance and consequently CWP recommended that where available, data on both recreational and subsistence fisheries should be included in data submitted on STATLANT and FISHSTAT questionnaires. CWP further recommended that national reporting offices should be requested to supply data on recreational and subsistence fisheries for previous years where such data are available.

FLEET STATISTICS

126. The CWP reviewed a report evaluating FAO's *Fishery Fleet Statistics Programme*. The report, prepared by an FAO consultant, Dr H. Wheeland, stressed that fleet statistics are needed for a variety of reasons: 1) to develop fleet capitalization policies; 2) make business decisions; 3) develop marketing strategies; 4) assess the economic condition of national fishing industries; and 5) assist with evaluating environmental and safety issues. The report concludes that investing in a solid fishery fleet statistics program makes good economic sense.

127. The report discusses areas of concern about the current FAO Fleet Statistics Programme, and identifies additional data that could be collected. The areas of concern are: 1) classifying vessels fishing more than one type of gear as "multi-purpose" is restrictive; 2) dividing the number of vessels by geographic area into only four GRT categories; 3) non- or under-reporting by countries; 4) reporting the total number of vessels for a country even though many of the vessels may be idle; and 5) irregular and untimely publication of the *FAO Bulletin of Fishery Statistics: Fishery Fleet Statistics*.

128. The additional data identified in the report as needed are: 1) the capacity of vessels and fleets to catch fish; 2) the amount of time vessels and fleets spend fishing in a given year; 3) employment on fishing vessels; and 4) costs and returns of fishing vessels.

129. The report recommends that: 1) the FAO and CWP should examine ways to further refine the "multi-purpose" category; 2) on the FISHSTAT FF forms requesting number of vessels by fishing area, the GRT classes of 100-499.9 and 500-999.9 should each be divided into two equal

classes; 3) for vessels below 100 GRT, after exhausting "paper" sources to fill data gaps, FAO should consider visiting non-reporting countries to obtain missing data first-hand (estimated cost: U.S.\$103,000); 4) FAO should obtain the number of vessels that actually operated during a year, in addition to the total number in a country's register; and 5) FAO should publish the *Bulletin of Fishery Statistics: Fishery Fleet Statistics* at least once every two years, with data no more than two years old.

130. The report's recommendations for the four data needs are: 1) FAO and CWP should evaluate the feasibility of establishing an index of capacity that could be applied to vessels and fleets; 2) FAO and CWP should evaluate the feasibility of establishing an effort index that could be applied to vessels and fleets to give an indication of gross fishing "power;" 3) FAO should request statistics on employment on fishing vessels along with other fishing fleet statistics; and 4) FAO, in cooperation with CWP, should design a program for collecting costs and earnings data (the FAO consultant estimates such a program could cost in the order of U.S.\$114,000).

131. In response to a question about the specific types of cost data that would be collected, the consultant recommended that a standard form be used to collect the data, similar to forms used in cost and earnings studies, containing entries for variable costs, such as labour, fuel, supplies, and maintenance, and entries for fixed costs, such as depreciation, insurance, and gear.

132. Asked if the costs and returns data would be collected and reported annually, the consultant responded that initially FAO should strive to publish one report containing representative costs and earnings for different types of vessels, then update that report when sufficient additional data justified an update.

133. A number of other concerns were expressed in relation to fleet statistics: 1) the number of vessels can change dramatically depending on the reference date selected; 2) there is a need to define what is meant by "active fleet", since vessels in some areas may only fish once a month; 3) need to decide if vessel "type" is based on design or use; 4) Lloyd's is an unreliable source of fleet statistics for the EU fleet because of the changes that Lloyd's may make to their vessel registration file (FAO pointed out that Lloyd's had made steady improvements in their fishing vessel database, increasing their reliability for filling gaps for vessels 100 GRT and over); 5) it is difficult for national agencies to assign vessels to ISSCFV categories; 6) GRT is an outdated indicator of tonnage class -- GT should be used; 7) when categorizing into power classes, the power of subsidiary units should be included; 8) many users believe the current length classes are not useful; 9) it would be best to obtain data on capacity, revenues and geographic areas by establishing a link between a vessel register and logbooks; and 10) the number of fishermen can vary from one trip to another, making it difficult to obtain an accurate estimate of the total number of fishermen. Eurostat indicated that it may be better to obtain data on fleet statistics through the establishment of a register, and that no further demands should be placed on the EU for fleet statistics.

134. A point was made about the difficulty of dealing with definitions of "capacity," "effort," and "number of vessels actually operating."

135. Regarding the publication of capacity indices, it was suggested that FAO should provide the basic data for calculating such indices, rather than the indices themselves, as different indices will be required for different purposes.

136. NAFO pointed out that it periodically publishes a comprehensive list of fishing vessels, and noted the difficulty of obtaining data from member countries in a timely fashion.

137. FAO is now testing a computerized version of fleet statistics, called FLEET-PC.

138. The CWP agreed with the need for fishery fleet statistics, and recognised the importance of continuing to evaluate the possibility of publishing additional types of fleet statistics, such as those presented in the FAO consultant's report. However, for the present, the CWP recommended that FAO concentrate on publishing the fishery fleet statistics it now collects, in as timely a manner as possible.

139. The CWP also recognized that problems may exist with the fishing vessel classification systems, and recommended that the CWP review these systems during the intersessional period.

AQUACULTURE

(Agenda item 14; Documents CWP-16/A, B)

140. The CWP noted that although the definition of aquaculture has been reviewed regularly at previous sessions, there were some unresolved problems. CWP recommended that a small group of experts (representing appropriate interests including the suppliers and users of aquaculture statistics) be established to undertake a review as soon as possible.

141. FAO reported on the submission of data on the FISHSTAT AQ questionnaire and the

sources it used to estimate data for non-reporting countries and to overcome deficiencies in reported data. Among the issues still under review were the inclusion of data of the production for the aquarium trade and the method of dealing with data relating to hybrids. The data on the structure of the aquaculture industry have still to be studied in detail but it is evident that consultations will be necessary with reporting countries to increase the level of submissions and to decrease the degree of inconsistencies in the reported data. FAO also reported that it was reviewing the part of the questionnaire on output for stocking purposes in the light of comments that certain elements (in particular that relating to identification to the stages in the life cycle) were inadequate.

142. Eurostat reported that, in developing EU legislation, its Working Group "Fishery Statistics" has expressed concern as to the problems of reporting timely and reliable data on the structure of the industry. Consequently the legislation would restrict itself to the data on the quantities produced by the aquaculture industry.

143. The CWP noted that, despite the concern expressed at earlier sessions, the separation of aquaculture data from capture data in the FAO data-base has still not taken place. CWP recommended that this task be given a high priority in FAO's programme of work.

144. The CWP recorded its appreciation of FAO's work in the compilation and validation of long-term production series for certain species. CWP recommended that this work be extended to include a wider range of species.

CONVERSION FACTORS

(Agenda item 15; Documents CWP-16/A, B)

145. In response to a recommendation from the Fifteenth Session of CWP, FAO conducted analyses and evaluation of previously documented national conversion factors for on board processing, with a consultant from a fish processing equipment manufacturer (Baader). Conversion factors used for land based fish processing, as well as the results from the analysis of the on board conversion factors, were also reviewed by another consultant. CWP had also recommended that FAO determine from reporting countries, the source and methodology used in determining their reported conversion factors, but the response from the countries was very poor.

146. A comparison of conversion factors from several sources (FAO Circular No. 847, FAO Technical Paper No. 309, Torry Advisory Note No. 17 and the Baader Co.), indicated that the best current source of conversion factor data is FAO Circular No. 847. It covered a variety of species and products and included data from a number of countries, possibly including those provided in the other described reports. Conversion factors from Baader covered relatively few species and were generally lower, which probably resulted from the use of more efficient equipment than that available for general use.

147. The question of adequacy and appropriateness of conversion factors in use has become increasingly important in recent years. It was noted that many countries use their own conversion factors and this could be substantially different from others. This can have a significant impact on fisheries management as it affects catches taken under quota management.

148. Eurostat is currently dealing with the conversion factor issue and will, in the near future, determine the actual values currently in use by countries involved and the methods used in their determination. The aim is toward some standardization.

149. The Scientific Council of NAFO has also considered the conversion factor issue in recent years. It was decided to review the most recent report from FAO on this issue before attempting further work on compiling conversion factors. The most recent data in this area is FAO Circular No. 847.

150. Because of the increased requirements for conversion factor data, CWP recommended that the most recent data collected by FAO (questionnaire for 1993) be processed and documented. CWP also suggested that the impact of the use of conversion factors on the estimation of landings be analyzed using techniques such as sensitivity analysis. Furthermore, national agencies providing conversion factors should provide some indication as to the accuracy of the conversion factor estimates. It was suggested that it would be appropriate to request this information again from national agencies.

HANDBOOK OF FISHERY STATISTICS

(Agenda item 21; Documents CWP-16/A, B)

151. FAO reported that the original English version of the Handbook has been published in French and Spanish versions incorporating certain up-datings. There were still a number sections to be published; advanced drafts of certain of them have been prepared but others have not been

drafted or are only in a preliminary state. Eurostat reported that, whereas a few years ago its programme of work permitted time to be allocated to preparing and editing sections of the Handbook, the programme was now more heavily charged and it was not foreseen that time could be spent developing the remaining sections. Other CWP agencies reported that they were in a similar position. Reaction to the Handbook from users has been very positive. This was particularly the case with reference to translators and interpreters who required definitions of technical terms. CWP recommended that the existing sections be up-dated, where necessary, and that the remaining sections be developed. CWP further recommended that, bearing in mind the difficulty of CWP agencies achieving this with their current staff resources, attention be paid to the possibility of obtaining funds to finance the engaging of outside help for this task.

COUNTRY AND NATIONALITY ISSUES (Agenda item 17; Documents CWP-16/22C, F)

152. FAO reported on the modifications required to keep compatibility in the presentation of present and future FAO publications, especially the *FAO Yearbook of Fishery Statistics: Catches and Landings*. Document CWP-16/22F listed the major changes in the Yearbook, which particularly reflect the political changes which have occurred in the former Union of Soviet Socialist Republics and Eastern Europe. Other CWP agencies such as Eurostat, ICES and NAFO had experienced similar problems and had found solutions to these problems along the same lines as FAO.

153. FAO also reported that in future issues of the *FAO Yearbook of Fishery Statistics* Economic Classes will reflect a more realistic situation about the legitimacy of developing and developed countries. The new classification will be that used by the United Nations. The division of countries into two major groups, developed and developing countries will be maintained, while the first group of countries will be divided into two sub-groups: industrialized countries and economies in transition. The latter sub-group will contain the former centrally planned economies (Eastern Europe and former USSR) and the new republics of the former Yugoslav SFR.

154. The Chairman drew attention to the problem of the reporting of catches from joint venture fisheries and fishing under charter agreements, a problem which is getting more and more serious. This problem is experienced by several agencies and has in some cases led to double-reporting. It was recalled that the problem had been discussed earlier by the CWP and it was reiterated that the responsibility for the reporting of catches in principle lies with the flag States. In a joint venture agreement or a charter agreement it should be clearly stated in the agreement who is responsible for reporting catches. It was recognized, however, that it could be a problem of information, a flag State not always being informed of the agreement. NAFO reported that in its STATLANT it is clearly stated that flag States should report catches under joint ventures.

ECONOMIC STATISTICS (Agenda item 18; Document CWP-16/24)

155. Professor W. Schrank introduced document CWP-16/24, "Economic Data Requirements for Fishery Management"¹, a paper which he had prepared with Professors Pontecorvo and Hannesson. The emphasis was on the need for revenue and cost data. While it was noted that although economists had been stressing the need for such data since Professor Scott's presentation to the Edinburgh Conference in 1959, there is still no systematic collation of these data by the FAO, and rarely are these data collected by national agencies.

156. There followed an extensive discussion during which it was noted that despite a general interest in incorporating the work of economists into fisheries management, certain agencies perceived a lack of unanimity on the part of economists regarding which data are of greatest importance and on how they should be used. These agencies felt that before governments would be willing to allot resources to collecting these data, economists would have to clarify, and justify, their requirements.

157. Professor Schrank remarked that while the consolidation of economic analysis into current fisheries management raises problems that remain to be worked out, the minimal request that was made in the paper is for sufficient data to monitor the economic state of the fleet. The cost and earnings data required for such work is not controversial among economists and has been a consistent request from the time of the Edinburgh Conference of 1959 to the recent submission

¹This document represented the views of the authors and not necessarily those of FAO which invited Professor Schrank to participate in the Session and prepare a paper.

by economists with the United States National Marine Fisheries Service to the September 1994 OECD Workshop on the Requirements of Fishery Statistics for Management.

158. It was commented that fisheries economists have been hesitant to offer fishery performance indicators. There seems to be no agreement as to what performance indicators are required.

159. It was noted that the paper referred to the FAO's 1992 publication *Marine Fisheries and the Law of the Sea: A Decade of Change*, which of necessity made considerable assumptions to show how the world's fishing fleets are performing. The publication showed that with fishing effort not declining there are enormous subsidies. This interesting observation has been widely quoted but not seriously challenged. It is not clear whether most countries could present cost data, although many countries do collect value data on landings.

160. ICES had taken over a database developed by STECF, which contains data for two years. The data gathered include spatially-disaggregated catch and effort data for 95 fleets as well as price data, although there are no cost data. These data were used in models to evaluate the effects of changes in mesh size and area closures, but economists seemed unwilling to use the data and little further economic work is being done.

161. It was pointed out that the United States had a very small but successful group of people collecting cost and price data from individual vessel captains. The government then provided operational analysis based on these data back to the captains. This was a very successful operation while it lasted.

162. OECD expressed full support for the paper, declaring that economists must be brought into fisheries management. The Commission of the EU is trying to integrate economic advice into fishery management. It is recognised that some data are lacking. When the OECD requested data for a cost and earnings analysis, only Norway supplied them.

163. FAO remarked on the outcome of the FAO/SEAFDEC/SIFR Regional Workshop on Fisheries Information and Statistics (Bangkok, 18-22 January 1994) where Japan and Australia had reported on extensive economic data programmes. The Workshop concluded that there seemed to be a lack of cooperation among members of different agencies within particular countries, for instance, among statisticians, economists and fishery managers. The Workshop noted a need for better coordination among these government agencies.

164. It was suggested that economists would have to show that they can use data that already exist before they can justify additional funding for the collection of new data. Professor Schrank replied that there are different uses for data and that the kind of analysis he and his colleagues were calling for required coordinated, consistent, and continuous data sets.

165. CWP noted that this type of data generally does not exist and it is desirable that such data be collected nationally and collated by FAO.

166. FAO remarked that the gathering of consistent time series on costs would require a huge effort which FAO could not be committed to make at present. FAO may be able to recommend gathering value data for catches and already does this for aquaculture.

167. In summary, CWP noted that:

- a) in view of fleet overcapacity, declining stocks and the existence of subsidies to fisheries, there is increased need for economic analysis in fisheries management;
- b) there is a lack of basic statistics for economic studies;
- c) extra funding would be required to gather cost statistics as they cannot be gathered with currently available resources; and
- d) the gathering of ex-vessel value statistics may be feasible at this time.

168. CWP recommended that, consistent with paragraph 30 in the *Report of the Ad Hoc Consultation on the Role of Regional Fisheries Agencies in Relation to High Seas Fishery Statistics, La Jolla, California, USA, 13-16 December 1993*, FAO initiate interdisciplinary meetings to specify economic data needs for fisheries management.

169. CWP recommended that FAO and other agencies collate ex-vessel value data.

THE CWP AND ITS FUNCTIONS (Agenda item 19)

170. In discussing the procedure for admitting new organisations to the CWP, the CWP agreed

that applications could be handled intersessionally by correspondence. To help existing participating organisations to reach their own internal decisions on whether to support the admission of an applicant organisation, it was suggested that applicants should be asked to provide information on the objectives of their organisation, their involvement in fishery statistics collection, compilation and publication and the composition of their governing body. In this context, the observer from CCSBT noted that the organisation he represented had prepared a document outlining the work of the Commission. The possible application for membership of the CWP by this Commission is to be discussed at their next meeting at which an observer from ICCAT would be present. The observer from SPC also stated that his organisation was exploring the possibility of applying to become a participating organisation in the CWP.

171. ICES noted two concerns about the extension of the work of the CWP to the global scale: the implication for travel costs for all agencies and the possible diminution in the time available for discussion of issues pertinent to the Atlantic. The CWP considered that these concerns could be met by careful consideration of the frequency of full meetings of the CWP and by holding meetings of regional sub-groups in the intersessional periods as suggested by the *Ad hoc* Consultation on the Role of Fishery Agencies in Relation to High Seas Fishery Statistics.

172. The CWP considered that there is a need to supply existing and potential participating organisations with information about the structure and functions of the CWP. It was agreed that the paper prepared by the Secretariat (CWP-16/23) would be an excellent vehicle for such information, and that the CWP Secretary should arrange for a revision and updating of the paper incorporating comments from the participating organisations.

173. It was noted that in the past *Ad Hoc* Inter-Agency Consultations had been held on an informal basis in the intersessional periods to review progress in the implementation of recommendations from the CWP and to plan the agendas for the CWP meetings. Although it was recognised that the future arrangements for these consultations would need to be considered in the light of the widening of the remit of the CWP, it was agreed that there is no need for any change until the participation in CWP is widened.

ANY OTHER BUSINESS

(Agenda item 20)

174. Eurostat reported that the *Statlant Newsletter* had not been produced for about five years due to pressure of work. The *Newsletter* had been sent to about 200 persons in national and agency offices, and the cost had been borne by Eurostat. A number of agencies expressed the view that the *Newsletter* had served a useful purpose, particularly in providing information to national fishery statistical offices, although no other agency was prepared to take responsibility for preparation and dissemination of such a fishery statistical newsletter. Eurostat said that it would try to produce future issues of the *Newsletter*, although this could not be guaranteed. Agency representatives were requested to provide Eurostat with an updated list of addressees for their agency.

ARRANGEMENTS FOR THE 17TH SESSION OF CWP

(Agenda item 21)

175. CCAMLR stated that it may be prepared to host the Seventeenth Session of the CWP in Hobart, Australia. Agency representatives were requested to investigate the feasibility of attending a meeting in Hobart and report their findings to the CWP Secretary before October 1995. An alternative venue might be the Eurostat office in Luxembourg. It was agreed that it would be appropriate to hold the Seventeenth Session in February or March 1997 for five working days.

176. CWP agreed that an *Ad Hoc* Inter-Agency Consultation should be held in mid-1996, possibly in Rome. The Consultation should monitor progress in following up on CWP recommendations and make plans for the Seventeenth Session.

ADOPTION OF THE REPORT

(Agenda item 22)

177. This Report was adopted. Recommendations contained in the report are listed in Appendix 9.

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**Address by Dr. Antonio Fernández, ICCAT Executive Secretary, to the Sixteenth Session
of the Coordinating Working Party of Atlantic Fishery Statistics**

Dear Colleagues,

It is with great pleasure and honour that I welcome the participants in the 16th Session of the Coordinating Working Party on Atlantic Fishery Statistics, convened by FAO, to the ICCAT Headquarters.

Your presence here highlights the real interest of your respective Organizations and countries in the continuous improvement of the collection of data and the reliability of statistical methods related to fisheries.

The postponement by one year of the celebration of this Sixteenth Session has provided us with the opportunity of hosting the meeting on the new ICCAT premises. Those of you who attended the *Ad Hoc* Inter-Agency Consultation last July may notice the difference between these new premises and the facilities of our old seat, thanks to a generous decision taken by the Spanish authorities. Nevertheless, that Consultation was very productive in drafting the new Statutes and Rules of Procedure, now presented for your consideration, with regard to the future role of the CWP in ensuring a more effective coordination of fishery statistical programs among all the relevant Organizations.

As is clear from the agenda for this session, there are several international initiatives taking place which have a bearing on the work of the CWP and which recognize the need for reliable fishery statistics. Firstly, the UN Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks is discussing the possible establishment of minimum requirements for statistics. In order to provide some expert input from the point of view of regional fishery organizations, FAO convened the *Ad Hoc* Consultation on the Role of Regional Fishery Agencies in Relation to High Seas Fishery Statistics which met in La Jolla in December 1993. Secondly, the Agreement to Promote Compliance with Internationally Agreed Conservation and Management Measures by Fishing Vessels on the High Seas is in place, and is likely to become operational fairly soon, when it has been accepted by 25 countries, having already been accepted by seven. Thirdly, a Code of Conduct for Responsible Fisheries is being developed and it is likely to recognize the essential need for reliable data as a basis for responsible fisheries policy making and management.

As you know, at the Fifteenth Session of the CWP it was noted that an increasing number of issues facing the Working Party, such as the ones I have just mentioned, are global rather than just related to the Atlantic, and it was recommended that experts from agencies outside the Atlantic should be encouraged to participate in CWP meetings as observers. At the meeting in La Jolla, the Consultation went a stage further, recommending that the CWP should extend its remit beyond the Atlantic. Given the need to revise the Statutes of the CWP so as to accurately reflect the current activities and participation in the CWP, the *Ad Hoc* Inter-Agency Consultation on Atlantic Fishery Statistics took the opportunity to propose new Statutes which leave the way open for agencies outside the Atlantic to join the CWP. These new Statutes have already been adopted by several of the existing CWP member Agencies, and are likely to be fully operational in the near future. Needless to say, this is a very important session of the CWP, and one which will pose a new challenge for the Working Party.

The interest in a continuous improvement in fishery statistics is the cementing substance of the CWP, under the umbrella of the FAO. The ICCAT Statistics Department improves and updates the various *modules* of our database on a continuous basis, although due to the lack of pertinent resources, both human and financial, it has been necessary to reduce, or temporarily postpone, statistical commitments in certain areas. I am confident that the outcome of your meeting will represent an important support for improving our performance in this important field.

It is clear, therefore, that the 16th Session of the CWP is likely to be an historical meeting, as it represents a turning point. The CWP has a noble history, having pioneered the adoption of standards and classifications, and the implementation of standard methodologies for the collection and reporting of fishery statistics, and has coordinated reporting schemes in order to try to reduce demands on national reporting offices. This experience leaves the CWP well equipped to face the major new challenges awaiting it.

Dear colleagues, I hope you will understand my inability to attend all your discussions during this week, due to other commitments, but I will keep myself duly informed of your progress through the ICCAT staff attending this session, in particular through Dr. Miyake, whose experience in statistical issues is widely recognized. Please feel free at any moment to request any information, guidance or help from any of us; we are happy to be at your service.

To digress a moment, it appears that DHA (Docosahexaenoic acid) exists in the eyes of Tuna fish, which is suspected of having properties which can improve the performance of the human brain. As I do not underestimate the depth of the problems to be addressed at this Meeting, I hope you will all take advantage of the wisdom floating in this tuna library, a wisdom accumulated patiently during the 25 years of ICCAT's existence.

Maybe you could also take advantage of your stay in Madrid to enhance your cultural experience through features of the Spanish way of life. In this respect I am pleased to extend to all of you an invitation to share with the ICCAT Secretariat, tomorrow evening, a taste of several Spanish culinary specialties, which I hope you will all enjoy. I wish you a pleasant stay with us. Thank you for your attention.

APPENDIX 3

AGENDA

1. Opening of Session and Adoption of Agenda
2. Appointment of Chairman
3. Status of Statutes and Rules of Procedure
4. Review of Recommendations from CWP-15
5. Modifications to Programmes in Relation to Fishery Statistics
6. International Initiatives of Relevance to the CWP:
 - (a) the *Ad-hoc* Consultation on the Role of Regional Fishery Agencies in Relation to High Seas Fishery Statistics (La Jolla, USA, 13-16 December 1993)
 - (b) the UN Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks
 - (c) the Agreement to Promote Compliance with Internationally Agreed Conservation and Management Measures by Fishing Vessels on the High Seas
 - (d) Code of Conduct for Responsible Fisheries
7. Exchange of national fishery statistics on electronic media
8. Modifications to STATLANT questionnaires
9. Discrepancies among Agency Databases
10. Improvement of reliability of statistics
 - (a) Consequences and extent of problem
 - (b) Catches of vessels flying flags of convenience
 - (c) Misreporting/Non-reporting of data
 - (d) Procedures for adopting major revisions to data
11. Bycatch and Discard Data
12. Recreational and Subsistence Fishery Statistics
13. Fleet Statistics
14. Aquaculture:
 - (a) Definition of aquaculture
 - (b) FISHSTAT AQ questionnaire
15. Conversion Factors
16. Handbook of Fishery Statistics
17. Country and Nationality Issues
18. Economic statistics
19. The CWP and its Functions
20. Any Other Business
21. Arrangements for the 17th Session of CWP
22. Adoption of the report

LIST OF DOCUMENTS

<u>Document Number</u>		
CWP-16/A	FAO	General Announcement
B	FAO	Provisional Agenda
D	FAO	Provisional List of Documents
E	FAO	Provisional List of Participants
F	FAO	CWP Sessions: Dates, venues, etc.
G	FAO	List of Acronyms
CWP-16/1	FAO	Report of the 15th Session of the CWP (Dartmouth, Canada, 8-14 July 1992)
2	FAO	Report of the <i>Ad-hoc</i> Inter-Agency Consultation on Atlantic Fishery Statistics (Dublin, 21-22 September 1993)
3	FAO	Report of the <i>Ad-hoc</i> Inter-Agency Consultation on Atlantic Fishery Statistics (Madrid, 11-15 July 1994)
4	FAO	Review of Recommendations from CWP-15
5	A - ICCAT B - ICES C - NAFO F - FAO G - Eurostat I - Namibia	Modifications to Agency Programmes in Relation to Fishery Statistics
6	FAO	Report of the <i>Ad-hoc</i> Consultation on the Role of Regional Fishery Agencies in Relation to High Seas Fishery Statistics (La Jolla, California, 13-16 December 1993)
7	FAO	Follow-up actions in response to the <i>Ad-hoc</i> Consultation on the Role of Regional Fishery Agencies in Relation to High Seas Fishery Statistics (La Jolla, USA, 13-16 December 1993)
8	FAO	Review of the UN Conference on Highly Migratory Fish Stocks and Straddling Fish Stocks (New York, 12-30 July 1993) (Annexed: Negotiating Text prepared by the Chairman of the Conference)
9	FAO	Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas (including "Guidelines")
10	FAO	Follow-up actions in response to the Agreement to Promote Compliance with Internationally Agreed Conservation and Management Measures by Fishing Vessels on the High Seas.
11	FAO	Review of the development of the Code of Conduct for Responsible Fisheries with respect to fishery statistics
12	FAO	Exchange of national fishery statistical on electronic media
13	A - ICES B - NAFO C - FAO	Modifications to STATLANT Questionnaires
14	A - NAFO B - FAO C - Eurostat	Discrepancies among Agency Databases

15	A - ICCAT B - ICES D - OECD F - FAO G - Eurostat H - NASCO	Improvement of reliability of Statistics
16	A - FAO B - ICCAT	Bycatch and Discard Data
17	FAO	Recreational and Subsistence Fishery Statistics
18	A - FAO B - Eurostat	FAO Fishery Fleet Statistics: Evaluation and Recommendations
19	A - FAO B - Eurostat	Aquaculture
20	A - FAO B - NAFO	Conversion Factors
21	A - FAO B - Eurostat	Handbook of Fishery Statistics
22	C - NAFO F - FAO	Country and Nationality Issues
23	FAO	The Role and Structure of the CWP
24	Schrank	Economic statistics
25	SPC	Collection and exchange of data for tuna fisheries in the western tropical Pacific Ocean
26	FAO	Draft Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (UNGA Document A/CONF.164/22)

APPENDIX 5

LIST OF ACRONYMS USED IN THIS REPORT

CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CCSBT	Commission for the Conservation of Southern Bluefin Tuna
CECAF	Fishery Committee for the Eastern Central Atlantic (FAO Regional Body)
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora (Ninth Meeting of the Conference of the Parties, Fort Lauderdale, USA, 7-18 November 1994)
CWP	Coordinating Working Party on Atlantic Fishery Statistics
DWFN	Distant Water Fishing Nation
EU	European Union
EEZ	Exclusive Economic Zone
EIFAC	European Inland Fishery Advisory Commission (FAO Regional Body)
Eurostat	Statistical Office of the European Communities
FAO	Food and Agriculture Organization of the United Nations
FAME	Forecasting, Analysis and Modelling Environment (Eurostat)
FFA	South Pacific Forum Fisheries Agency
FIDI	Fishery Information, Data and Statistics Service (Fisheries Department, FAO)
FISHSTAT	Fishery Statistical Database (Fisheries Department, FAO)
GFCM	General Fisheries Council for the Mediterranean (FAO Regional Body)
GRT	Gross Registered Tonnage
GT	Gross Tonnage
HSVAR	High Seas Vessels Authorization Record
IATTC	Inter-American Tropical Tuna Commission
ICCAT	International Commission for the Conservation of Atlantic Tunas
ICES	International Council for the Exploration of the Sea
ICSEAF	International Commission for the Southeast Atlantic Fisheries (ceased: 1990)
IPFC	Indo-Pacific Fisheries Commission (FAO Regional Body)
IPTP	Indo-Pacific Tuna Programme (FAO Regional Body)
ISSCFV	International Standard Statistical Classification of Fishery Vessels
NAFO	Northwest Atlantic Fisheries Organization (previously ICNAF - International Commission for the Northwest Atlantic Fisheries)
NASCO	North Atlantic Salmon Conservation Organization
OECD	Organization for Economic Cooperation and Development
SEAFDEC	South East Asian Fishery Development Centre
SEFS	Standardized Exchange of Fishery Statistics
SIFR	Strategy for International Fishery Research
SPC	South Pacific Commission
STACREC	Standing Committee on Research Coordination (of Scientific Council of NAFO)
STATLANT	STATistical Programme for the ATLANTic Fisheries (previously STANA)
STECF	Scientific, Technical and Economic Committee for Fisheries (EU)
TAC	Total Allowable Catch
UNGA	United Nations General Assembly
WECAF	Western Central Atlantic Fishery Commission

COORDINATING WORKING PARTY ON FISHERY STATISTICS

PROPOSED STATUTES AS APPROVED BY NAFO AND ICES

1. **TERMS OF REFERENCE.** The Coordinating Working Party on Fishery Statistics (CWP) shall:
 - (i) keep under continuous review the requirements for fishery statistics (including aquaculture) for the purposes of research, policy-making and management, taking into account *inter alia* their purpose, usefulness, cost, burden in collection and collation, timeliness, quality, confidentiality needs and regional differences;
 - (ii) agree standard concepts, definitions, classifications and methodologies for the collection and collation of fishery statistics;
 - (iii) make proposals and recommendations for action in relation to the collection, collation and dissemination of fishery statistics, recognising the need to coordinate activities so as to avoid duplication.

2. **COMPOSITION.** The Working Party shall be composed of experts nominated by intergovernmental organizations which have a competence in fishery statistics. The following shall be the participating organizations initially:

Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR)
Food and Agriculture Organization of the United Nations (FAO)
International Commission for the Conservation of Atlantic Tunas (ICCAT)
International Council for the Exploration of the Sea (ICES)
North Atlantic Salmon Conservation Organization (NASCO)
Northwest Atlantic Fisheries Organization (NAFO)
Organisation for Economic Cooperation and Development (OECD)
Statistical Office of the European Communities (Commission of the EU/Eurostat)

Participating organizations may admit other intergovernmental organizations having competence in fishery statistics. Participating organizations may withdraw from the Working Party.

Each of the participating organizations may nominate up to five experts in accordance with their respective internal procedures.

3. **SECRETARY.** The Secretary to the Working Party shall be appointed by the Director General of FAO and shall be administratively responsible to him.

4. **RULES OF PROCEDURE.** The Working Party will adopt its own Rules of Procedure and amendments thereto which shall come into force unless any participating organization objects within three months of the adoption.

5. **AMENDMENTS OF STATUTES.** Proposals for amendments to the Statutes shall be submitted to the CWP Secretary by one or more participating organizations or shall be recommended by the Working Party. Amendments shall come into force upon receipt by the CWP Secretary of notification of approval by all of the participating organizations in accordance with their respective internal procedures.

APPENDIX 7

COORDINATING WORKING PARTY ON FISHERY STATISTICS

RULES OF PROCEDURE

(as adopted on 20 March 1995)

1. **SESSIONS.** Unless contrary to the views of the majority of participating organizations, the interval between successive sessions of the Coordinating Working Party on Fishery Statistics (CWP) shall not exceed three years. The Working Party shall meet on announcement by the CWP Secretary who shall respect the wishes of the majority of participating organizations. The announcement shall generally be made at least six months before the session starts.
2. **AGENDA.** A provisional agenda for each session shall be prepared by the CWP Secretary in collaboration with the secretariats of the participating organizations. The first item on the provisional agenda shall be the adoption of the agenda. The agenda shall be distributed with the announcement of the session.
3. **NOMINATION OF EXPERTS.** Participating organizations should, where possible, notify the CWP Secretary of the names and affiliations of their nominated experts at least four months before the session.
4. **DOCUMENTATION.** Documents for each session should, if possible, be distributed to all participating organizations and nominated experts at least two months before the session. Each participating organization shall be responsible for the timely distribution of its documents in accordance with the mailing list supplied by the CWP Secretary.
5. **OFFICERS.** At the start of the Session, the Chairman or Vice-Chairman appointed at the previous session shall call the session to order. In their absence, the CWP Secretary will call the session to order. Following adoption of the agenda, the Working Party shall elect a Chairman and Vice-Chairman from among its members; they shall remain in office until the election of the new Chairman and new Vice-Chairman at the next session. The outgoing Chairman and Vice-Chairman shall be eligible for re-election.
6. **EXPENSES.** The expenses incurred by experts attending sessions of the Working Party shall be borne by the nominating organization or as otherwise arranged between the experts and the respective nominating organizations.
7. **WORKING LANGUAGE.** English shall be the working language of the Working Party.
8. **VOTING.** A majority of the participating organizations shall constitute a quorum. Each participating organization is entitled to one vote. Decisions of the Working Party shall be taken by a simple majority of votes cast by those present at the session. When necessary, the Chairman may exercise a casting vote.
9. **REPORTS.** At each session the Working Party shall adopt a report of the session which will include *inter alia* all decisions and recommendations. The report shall be distributed by the CWP Secretary to the participating organizations and nominated experts, and to other individuals or organizations as requested by the Working Party. FAO should make the report available as widely as possible.
10. **MONITORING OF RECOMMENDATIONS.** Although recommendations and decisions of the Working Party are not binding on participating organizations, the Working Party shall monitor and report on the implementation of recommendations and decisions.
11. **INTERSESSIONAL ACTIVITIES.** The Working Party may arrange such intersessional activities as are required for its effective functioning, including *inter alia* holding informal preparatory meetings, holding meetings of regional or subject groups, preparation of working papers, and communication by correspondence.
12. **SUSPENSION OF THE RULES OF PROCEDURE.** Suspension of the Rules of Procedure may be adopted by the Working Party by a two thirds majority of the votes cast, provided that 24 hours' notice of the proposal for the suspension had been given to the Working Party.

13. **AMENDMENT TO THE RULES OF PROCEDURE.** Amendments to the Rules of Procedure may be adopted by the Working Party by a two thirds majority of the participating organizations provided that three months notice of the proposal for the amendment had been given to all participating organizations. An amendment shall come into force unless any objection is received by the CWP Secretary from any participating organization within three months of being adopted.
14. **NEW PARTICIPATING ORGANIZATIONS.** An intergovernmental organization having competence in fishery statistics may become a participating organization of the Working Party if it is so decided by a two thirds majority of the participating organizations provided that three months notice of the proposed admission had been given to all participating organizations.
15. **WITHDRAWAL OF PARTICIPATING ORGANIZATIONS.** Any participating organization may withdraw from the Working Party after giving three months' notice to the CWP Secretary who will inform other participating organizations. If a participating organization does not provide any experts for three consecutive sessions without notification, it will be deemed to have withdrawn.

APPENDIX 8

OUTLINE OF METHODOLOGICAL REPORTS REQUESTED BY EUROSTAT

**PROPOSED STRUCTURE OF THE REPORTS OF NATIONAL SYSTEMS
OF FISHERY STATISTICS
(Council Regulations Nos. 1382/91, 33800/91 and 3881/91)**

1. Organisation of the national system of fishery statistics
 - 1.1 Authorities responsible for the collection and processing of data and their respective responsibilities.
 - 1.2 National legislation on the collection of fishery statistics.
 - 1.3 Unit responsible for the transmission of data to Eurostat.
2. Method of collecting, processing and compiling the data on catches, landings and average prices
 - 2.1 For each type of data the source should be indicated.
 - 2.2 A description of the methods used to collect the data (e.g. logbooks, landing declarations, interviews) for each component of the national fishing fleet.
 - 2.3 For catch statistics, a description of the method used to collect data for landings in foreign ports and for transshipments.
 - 2.4 Methods used to attribute the fishing area in catch statistics.
 - 2.5 Description of processing and compilation of the data together with an indication of the delays involved.
3. Reliability and representativity of the data
 - 3.1 If sampling techniques are used for some elements of the data, a description of the methods, an estimate of the level of use of such methods and an estimate of the reliability of such methods.
 - 3.2 Shortcomings of the national systems with an indication as to the possibility of overcoming them.

LIST OF RECOMMENDATIONS CONTAINED IN THIS REPORT

STATUS OF STATUTES AND RULES OF PROCEDURE

9. CWP endorsed the proposed Statutes as modified by NAFO and ICES and recommended that all organizations listed in paragraph 2 of the proposed Statutes which have not yet subscribed to them, do so as soon as possible.

INTERNATIONAL INITIATIVES OF RELEVANCE TO THE CWP

Ad-hoc Consultation on the Role of Regional Fishery Agencies in Relation to High Seas Fishery Statistics (La Jolla, USA, 13-16 December 1993)

63. CWP recommended that FAO should determine the ability of regional agencies to supply the catch and effort data specified by the Consultation by circulating a format with explanatory notes. It was also recommended that regional fisheries agencies which hold data inventories, provide these for all data available on fish stocks which are held by them for 1993, together with brief commentaries on the fisheries with which they are concerned, where possible.

Agreement to Promote Compliance with Internationally Agreed Conservation and Management Measures by Fishing Vessels on the High Seas

78. Following the recommendation of the *Ad Hoc* Consultation on the Role of Regional Fishery Agencies in Relation to High Seas Fishery Statistics (La Jolla; USA, 13-16 December 1993), the CWP recommended that regional fishery organisations provide FAO, where possible, with lists of vessels operating on the high seas within their respective convention areas.

Code of Conduct for Responsible Fishing

79. CWP noted with interest the development of the Code of Conduct for Responsible Fisheries by FAO. CWP noted with satisfaction that the draft Code as it now stands places emphasis on the need for reliable data as a basis for effective fisheries management and policy making, and recommended that this need be fully recognised in the final Code and in the associated Guidelines.

EXCHANGE OF NATIONAL FISHERY STATISTICS ON ELECTRONIC MEDIA

83. Based on the observations concerning the utility and functionalities of the presented system, the CWP recommended that FAO works out system changes and enhancements along the lines suggested by the meeting, so that the product better suits national needs. FAO was asked to implement the modified software in the form of case studies of a limited number of countries with the purpose of further evaluating its performance and utility and report its findings at the next Session of CWP.

MODIFICATIONS TO STATLANT QUESTIONNAIRES

86. CWP recognized that specific categories and species codings *could be clearly described* by Agencies and submitted to FAO for inclusion in the international 3-Alpha coding scheme and, where appropriate, in the relevant STATLANT questionnaire. CWP recommended that each agency should review their species lists and ensure the major species categories are appropriately broken down to the species level, and that appropriate hierarchical group categories are available for landings not identified to the species level. These reviews should be collated for consideration at the next *Ad Hoc* Inter-Agency Consultation.

89. CWP observed that fishery data collection programs in the ICSEAF area continued after ICSEAF was closed in 1990. CWP recommended that FAO should contact the fishing nations and the Namibian authorities to review the usefulness of continuing the STATLANT 47 inquiries. It was noted that attempts are being made to have the usefulness of the STATLANT 34B and 37B questionnaires reviewed by CECAF and GFCM, respectively.

DISCREPANCIES AMONG AGENCY DATABASES

95. CWP recommended that the review and reconciliation of databases between agencies be continued in order to maintain the most accurate and harmonized databases. It was proposed that attempts should be made to divide the reconciliation exercises into two criteria; viz the current data and the historical data, with priority being placed on the current data.

IMPROVEMENT OF RELIABILITY OF STATISTICS

116. Methodological reports appear to be an effective way of identifying weaknesses in recording systems and therefore ways of improvement and achieving common standards. The CWP recommended that all statistical agencies request methodological reports from their statistics providers. The outline shown in Appendix 8 may be useful for this purpose.

117. In order that the consequences of misreporting on stock assessment be better understood and quantified, CWP recommended that a number of case studies be undertaken. Such studies should consider the effect of misreporting on the efficacy of the prevailing fishery management regime.

118. Observer programmes potentially offer a means of avoiding many of the problems of bias and inaccuracies in data as well as additional information on by-catch and discards. The CWP recommended that, where feasible, the competent bodies should be encouraged to mount observer programmes on fishing vessels.

119. CWP recommended that revisions to data should be subject to the conditions outlined in paragraph 114 and that such revisions be cross-referenced between agencies holding the same data in order to ensure consistency.

RECREATIONAL AND SUBSISTENCE FISHERY STATISTICS

125. The CWP noted that, with some exceptions (e.g. ICCAT, ITP and NASCO), catch statistics collected under the auspices of the CWP generally exclude data for recreational and subsistence fisheries, although it is usually requested that subsistence catches be included. The earlier decision to exclude recreational catches had been taken due to the fact that such data were generally difficult to obtain. However it was now recognised that for certain species such fisheries were of considerable importance and consequently CWP recommended that where available, data on both recreational and subsistence fisheries should be included in data submitted on STATLANT and FISHSTAT questionnaires. CWP further recommended that national reporting offices should be requested to supply data on recreational and subsistence fisheries for previous years where such data are available.

FLEET STATISTICS

138. The CWP agreed with the need for fishery fleet statistics, and recognized the importance of continuing to evaluate the possibility of publishing additional types of fleet statistics, such as those presented in the FAO consultant's report. However, for the present, the CWP recommended that FAO concentrate on publishing the fishery fleet statistics it now collects, in as timely a manner as possible.

139. The CWP also recognized that problems may exist with the fishing vessel classification systems, and recommended that the CWP review these systems during the intercessional period.

AQUACULTURE

143. The CWP noted that, despite the concern expressed at earlier sessions, the separation of aquaculture data from capture data in the FAO data-base has still not taken place. CWP recommended that this task be given a high priority in FAO's programme of work.

144. The CWP recorded its appreciation of FAO's work in the compilation and validation of long-term production series for certain species. CWP recommended that this work be extended to include a wider range of species.

CONVERSION FACTORS

150. Because of the increased requirements for conversion factor data, CWP recommended that the most recent data collected by FAO (questionnaire in 1993) be processed and documented. CWP also suggested that the impact of the use of conversion factors on the estimation of landings be analyzed using techniques such as sensitivity analysis. Furthermore, national agencies providing conversion factors should provide some indication as to the accuracy of the conversion factor estimates. It was suggested that it would be appropriate to request this information again from national agencies.

HANDBOOK OF FISHERY STATISTICS

151. FAO reported that the original English version of the *Handbook of Fishery Statistics* has been published in French and Spanish versions incorporating certain up-datings. There were still

a number sections to be published: advanced drafts of certain of them have been prepared but others have not been drafted or are only in a preliminary state. Eurostat reported that, whereas a few years ago its programme of work permitted time to be allocated to preparing and editing sections of the *Handbook*, the programme was now more heavily charged and it was not foreseen that time could be spent developing the remaining sections. Other CWP agencies reported that they were in a similar position. Reaction to the *Handbook* from users has been very positive. This was particularly the case with reference to translators and interpreters who required definitions of technical terms. CWP recommended that the existing sections be up-dated, where necessary, and that the remaining sections be developed. CWP further recommended that, bearing in mind the difficulty of CWP agencies achieving this with their current staff resources, attention be paid to the possibility of obtaining funds to finance the engaging of outside help for this task.

ECONOMIC STATISTICS

168. CWP recommended that, consistent with paragraph 30 in the *Report of the Ad Hoc Consultation on the Role of Regional Fisheries Agencies in Relation to High Seas Fishery Statistics, La Jolla, California, USA, 13-16 December 1993*, FAO initiate interdisciplinary meetings to specify economic data needs for fisheries management.

169. CWP recommended that FAO and other agencies collate ex-vessel value data.