

Report of the

**EIGHTEENTH SESSION OF THE COORDINATING WORKING PARTY
ON FISHERY STATISTICS**

Luxembourg, 6-9 July 1999



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M-40
ISBN 92-5-104355-8

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PREPARATION OF THIS DOCUMENT

This document is the report of the eighteenth session of the Coordinating Working Party on Fishery Statistics (CWP), held in Luxembourg, Grand Duchy, 6-9 July 1999.

FAO.

Report of the eighteenth session of the Coordinating Working Party on Fishery Statistics. Luxembourg, Grand Duchy, 6-9 July 1999.

FAO Fisheries Report. No. 608. Rome, FAO. 1999. 62p.

ABSTRACT

The report of the eighteenth session of the Coordinating Working Party on Fishery Statistics (CWP), Luxembourg, Grand Duchy, 6-9 July 1999, is presented. Major topics discussed were: reviews of recommendations from CWP-17; agency programmes in fishery statistics; harmonization among agency databases; exchange and dissemination of information and statistics; STATLANT issues; integrated fisheries monitoring; definition of nationality of catch; major fishing area modifications; statistical implications of the Precautionary Approach; elasmobranch statistics; fishery trade data; socio-economic indicators for fisheries (fisher statistics, landing value statistics, and fleet statistics, vessel data and vessel monitoring systems); and future activities of the CWP. Further consideration was given to (a) the recently published Guidelines for the Routine Collection of Capture Fisheries Data (FAO/DANIDA); and (b) the conclusions of the International Conference on Integrated Fisheries Monitoring. The Indian Ocean Tuna Commission and the Commission on the Conservation of Southern Bluefin Tuna had been admitted as new participating organizations of the CWP. CWP-18 made twenty recommendations.

Distribution:

FAO Fisheries Department
FAO Regional Fishery Officers
FAO Member Countries
CWP Members
Participants

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OPENING OF THE SESSION AND ADOPTION OF AGENDA

(Agenda item 1)

1. The Eighteenth Session of the Coordinating Working Party on Fishery Statistics (CWP) was held at the office of Eurostat, Luxembourg from 6 to 9 July 1999.

Twenty-eight experts representing the following member organizations participated in CWP-18 and its Sub-Groups:

- 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);
- Indian Ocean Tuna Commission (IOTC)
- International Commission for the Conservation of Atlantic Tunas (ICCAT);
- International Council for the Exploration of the Sea (ICES);
- International Whaling Commission (IWC)
- Northwest Atlantic Fisheries Organization (NAFO);
- Organisation for Economic Co-operation and Development (OECD);
- Secretariat for the Pacific Community (SPC);
- Statistical Office of the European Communities (EU/Eurostat)

An expert from the Inter-American Tropical Tuna Commission (IATTC) participated at the invitation of SPC. At the invitation of FAO, a representative of the process establishing the Southeast Atlantic Fisheries Organization (SEAFO) also participated. National experts from Canada and Japan participated as nominees of NAFO and FAO respectively. The list of Participants is in Appendix 1.

2. The Chairman of the Seventeenth Session, Dr Peter Miyake of ICCAT, opened the Eighteenth Session and invited Mr David Heath, Director of Agricultural, Environmental and Energy Statistics in Eurostat, to address the meeting. Mr Heath welcomed participants to Luxembourg and Eurostat. He emphasised the increasing importance of the work of CWP due to the growing recognition of the need for reliable data to address the many issues facing fisheries management and policy making.

3. The Agenda as adopted is shown in Appendix 2. The documents provided to the Session are listed in Appendix 3 and the acronyms used in the Report are listed in Appendix 4.

APPOINTMENT OF CHAIRPERSON

(Agenda item 2)

4. Following nomination for Chairperson by NAFO and seconded by ICES, Mr. David Cross (Eurostat) was elected as Chairperson for the Eighteenth Session of CWP and the following inter-sessional period. The incoming Chairperson and the Secretary paid tribute to Dr Miyake's immense contribution to the CWP as Chairperson for two Sessions and inter-sessional periods during which the CWP was reconstituted with a global remit and with more focussed terms of reference so as to allow it to respond more effectively to global and regional issues concerning fisheries statistics.

5. Various participants were appointed rapporteurs for different agenda items.

CHANGES IN MEMBERSHIP OF THE CWP

(Agenda item 3; Document CWP-18/3)

6. The Secretary reported that CCSBT had been admitted to CWP in 1998. IOTC had applied to become a participating organisation of CWP in 1999, and copies of the application and supporting background information were sent to CWP participating organisations for their review on 3 April 1999. The Secretary reported that as more than the requisite two-thirds of the participating organizations (i.e. eight or more votes) had approved the application, and as the necessary three months notice had passed, IOTC was now also a member of CWP. The Chairman welcomed the new participating organisations of CWP.

REVIEW OF RECOMMENDATIONS FROM CWP-17

(Agenda item 4; Document CWP-17/4)

7. Follow-up to recommendations from CWP-17 was reviewed, and the main actions are described in Appendix 5. It was noted that there had generally been good progress in follow-up to the recommendations.

MODIFICATIONS TO AGENCY PROGRAMMES IN FISHERY STATISTICS

(Agenda item 5; Documents CWP-18/5)

CCAMLR

8. CCAMLR is responsible for the acquisition, compilation, analysis and dissemination of data on fisheries and related research conducted on marine species within its Convention Area. The data are used by the Scientific Committee and its Working Groups in advising the Commission on the management of Antarctic fisheries and marine living resources. All data are managed by the Secretariat and are subject to strict rules of access and use. The key elements of CCAMLR's fisheries statistics were described in CWP-18/5-CCAMLR, and are summarised here.

9. Four types of fishery data are required from Member Countries fishing within the Convention Area: 'real-time' reports on catch and effort for each 5-day, 10-day or monthly interval during the fishing seasons; fine-scale catch, effort and biological data; observer data and reports; and, annual and monthly summaries of catch and effort (STATLANT 08 data). These data are required for all fisheries in the Convention Area, including those targeting toothfish, icefish, lanternfish, krill, crab and squid. Fine-scale data may be reported by fine-scale 'square' (0.5° latitude by 1.0° longitude), 10 x 10 n. mile squares or haul-by-haul; the preferred format is haul-by-haul.

10. CCAMLR's Scheme of International Scientific Observation was established in 1992 and was designed to gather and validate scientific information essential for assessing the status of populations of Antarctic marine living resources, and the impact of fishing on populations of harvested, related and dependent species. The Scheme is applied equally to harvesting and research vessels, and requires that at least one international scientific observer appointed under CCAMLR's Scheme should be aboard each fishing vessel operating in new or exploratory fisheries, and fisheries targeting

toothfish, crab and icefish; the placement of scientific observers in other fisheries is recommended.

11. The CCAMLR Ecosystem Monitoring Program (CEMP) was set up in 1985 to: (1) detect and record significant changes in critical components of the ecosystem, to serve as a basis for the conservation of Antarctic marine living resources; and, (2) distinguish between changes due to the harvesting of commercial species and changes due to environmental variability, both physical and biological. Assessments are based on indices derived from data on penguins, seabirds, seals, krill and the environment collected by standard methods within the three integrated study regions of the CCAMLR Convention Area. Species were chosen because of their potential to respond to changes in prey availability or environmental factors or because their potential harvest would have a major effect on other components of the ecosystem. The environmental data consist of sea-ice distribution and sea surface temperature derived from remote sensing.

12. The Statistical Bulletin summarises the fishery data reported to the Secretariat, and is published annually. Each volume of the Statistical Bulletin reports on catch and effort in the Convention Area over the past split-year (1 July of one year to 30 June of the following year), and the previous nine years. Catches of krill taken outside the Convention Area in Division 41.3.2 (Southern Patagonia), adjacent to Subareas 48.1 and 48.3, are included.

13. The following elements have been added since CWP-17:

- a vessel registry is being developed to record basic information on vessels operating in CCAMLR's Convention Area;
- a new Conservation Measure was adopted which requires each Contracting Party to establish a VMS to monitor the position of its fishing vessels operating in the Convention Area, except those fishing for krill, by March 1999 if feasible, and in any event no later than 31 December 2000;
- the research survey database has been re-structured to make better use of data from acoustic and fishery surveys; and,
- the CCAMLR website (www.ccamlr.org) is being developed in the four official languages of CCAMLR (English, French, Russian, Spanish) to deliver:
 - (1) general information and published material via open-access web pages; and
 - (2) detailed information, meeting business and selected datasets to meeting participants and approved users via password-protected web pages.

CCSBT

14. While the CCSBT has not established its own independent data collection and management system, individual Commission members maintain detailed data collection and analysis systems to facilitate stock assessments. The Commission has agreed in principle to the establishment of independent data system and is currently seeking to finalize details.

Eurostat

15. Since the CWP-17 Session Eurostat has increased the size of its data-base on fishery statistics three-fold. The data-base contains data on catches, aquaculture production, quantity and value of landings, fishing fleet, number of fishers and foreign trade. It may now be consulted via Eurostat's web-site.
16. The hard-copy publications programme has also been expanded with the Yearbook of Fishery Statistics being supplemented by a number of special publications (methodologies and reviews of data) and by a CD-ROM of the New Cronos data-base. Particular attention is being given to topical reports in the Eurostat series "Statistics in Focus". Communication with its customers and data suppliers has been improved by the publication of a twice-yearly Newsletter.
17. The Working Group "Fishery Statistics" has met at least once per year since the CWP-17 Session. Several of these meetings have been held either jointly with ICES or concurrently with ICES meetings. Such collaboration has proved successful and there are plans to extend this to cover other organisations. The participants at Eurostat meetings include all the EU Member States (except Luxembourg), Iceland, Norway and observers from the EU Candidate Countries.
18. Collaboration with the EU Candidate Countries has increased by means of a special seminar on the EU requirements for fisheries data and the compilation a report on the methodologies used by the national authorities in fishery statistics. The national authorities have started to send Eurostat on a routine basis copies of the data transmitted to other international agencies.
19. Collaboration with other CWP agencies continues to be central to Eurostat's program of fishery statistics with Eurostat participating in meetings of their statistical bodies, with Eurostat issuing them with invitations to attend its meetings and through joint exercises such as that on conversion factors and the elimination of discrepancies between international data-bases.

FAO

20. Although no major structural changes have taken place in the FAO fishery statistical programme, various improvements have occurred in many facets of the programme.
21. The inter-sessional period has been one of consolidation and streamlining of the databases, in preparation to their migration to a common platform (Oracle). A major change was implemented in the separation of aquaculture production and capture fisheries production from 1984 onwards. The ISSCAAP classification has been expanded (e.g. for groups 38 Sharks, rays and skates, and 91-94 Seaweeds) and work has started to load in electronic files taxonomic information on fish and shellfish available in paper files. Time series of employment in fishing and aquaculture, historically collected, have been screened and published. Fishery products (e.g. corals, sponges, seaweed) the trade of which had not previously been monitored have been added to the database, and the improvement of information on their regional utilization

is in progress. Revisions to the structure and variables included in the world fishing fleet inquiry, and closer collaboration with relevant units are expected to result in improved coverage and data reliability. Preparatory work has started to progressively replace paper forms with electronic files, taking advantage of modern communication technology, thus reducing the burden in statistical reporting as well as the need for data keyboarding. Work is in progress for re-instating the gross value of landings in the capture fisheries database, through the undertaking of an ad hoc world survey.

22. Methodological work on data collection has received priority attention. Guidelines for the collection of structural aquaculture data, in connection with the 2000 round of World Agricultural Censuses, and draft guidelines on the routine collection of capture fisheries statistics for appropriate monitoring have been prepared and published.

23. There has been steady and close collaboration with regional agricultural statistical commissions, addressing problems of fishery and aquaculture statistics in the broader context of national statistical systems, and with regional fishery bodies. A revived interest from many developing countries to improve methods of data collection and introduce modern data processing techniques for fisheries monitoring has resulted in the provision of technical advice, mainly to countries in Africa.

24. There have been signs of increasing interest for world fishery statistics. Users' demand has been met mostly by publications and ad hoc responses and more recently by releasing most of the time series via Internet, as well as on CD-ROM. New dissemination database software which incorporates retrieval and analysis, formerly available only for DOS, has been developed in the WINDOWS environment with much enhanced functionality (FISHSTAT PLUS).

25. Further consolidation of improvements to the statistical programme may be possible only with greater human and financial resources. In times of budgetary stringency, there is ground for cautious optimism as the FAO strategic framework for the next 15 years assigns top priority to the work in statistics and recognizes the gathering and dissemination of data and information as central to the FAO mandate and an area of comparative advantage. Synergies with other fishery agencies, already in place through the CWP mechanism, are a key element to the maintenance of data quality.

ICCAT

26. The ICCAT system for the collection of statistics has not undergone many changes recently. The following are the new activities and/or changes introduced since the last CWP meeting.

- Collection of shark by-catch data has been intensified.
- Bluefin Tuna Statistical Document program has been modified to distinguish the re-exportation and exportation of farmed tuna from normal bluefin catches.
- More strict regulations applied for proposed changes in historical data base.
- The data base posted on the home page has been up-dated more frequently and is being more widely used.

- Estimation of non-reported catches has been improved and the quantities based on these estimates have decreased.
- All the programs are being modified to accept the entry of year 2000.
- For some species, catch at size by sex data are now requested by 5x5 area on a monthly basis.
- A critical review of the ICCAT data base and data dissemination system has been initiated.

ICES

27. No new volume in ICES Bulletin Statistique series has been published. ICES decided in January 1999 to abandon further publications in that series and instead issue the data on CD-ROM. ICES intends to publish such a CD ROM towards the end of 1999 presenting the data series 1973-1998 as far as these have been presented to ICES by the national authorities.

28. ICES will investigate with FAO, ICCAT and Eurostat if a joint publication of North East Atlantic fisheries statistics in the form of a CD ROM is feasible and of interest to all agencies. Such a proposal was discussed at a joint Eurostat/ICES meeting in January 1999 discussed this proposal for international collaboration in the dissemination of fisheries statistics for the Northeast Atlantic. This proposal from the ICES Secretariat, supported by both Eurostat and FAO, was designed to provide a better service to data users than was currently possible. It involved collaboration between ICES, ICCAT, FAO and Eurostat in publishing STATLANT 27A data in a time series format on CD-ROM and/or a WWW site. This proposal was subsequently briefly discussed by the ICES Bureau and the ICES ACFM committee (the motherhood committee for fisheries statistics in the ICES system). Both these bodies approved. The proposal including comments made by various meetings within ICES is presented for discussion at the CWP-18.

29. The data system that is used at the ICES secretariat in its work with fisheries statistics has been changed in 1998 and is now implemented under the SAS system.

30. ICES is interested in extending this database back before 1973. ICES recognises that in compiling the above-mentioned common data-base the opportunity should be taken to computerise that valuable hard-copy archives of ICES data prior to 1973. However no initiative has been taken so far to promote such a project.

31. Systematics for statistical use is under discussion by the ICES Study Group on Elasmobranch fisheries. The STATLANT 27A has been expanded to include a number of elasmobranch species.

IOTC

32. The mandate of IOTC is to promote cooperation among its Members with a view to ensuring, through appropriate management, the conservation and optimum utilisation of stocks of 16 tuna and tuna-like species covered by the Agreement and encouraging sustainable development of fisheries based on these stocks.

33. The scope of data collated is therefore very wide, being intended to cover stock assessment, management and development aspects. Commercial, subsistence and recreational catch, discards, fish on-grown in pens and experimental fishing are covered. Statistics are compiled on by-catch, although there is no management mandate for non-listed species. A longline vessel registry will be constituted, with particular emphasis on flag of convenience fleets, but also covering domestic vessels of over 24m LOA.

34. The Commission is authorised to reflect scientists' estimates rather than official reports where these are considered more complete or accurate. The data supplied are normally aggregated by reporting agencies and are usually raised. Native level data (logbooks; sample data) are not in general available.

35. IOTC follows CWP guidelines on flag state reporting. IOTC does not operate any observer programmes. Data from national observer programmes and sampling schemes have been used to estimate discards, by-catch, etc. IOTC does not operate any VMS. Little use has been made to date of trade data, other than as a means to verify fishery data. Fleet size and composition has been used, in relation to samples, to estimate possible catches of unreported fishing.

36. IOTC has adopted mandatory reporting requirements and a confidentiality policy and procedures.

37. The IOTC databases are stored in an integrated relational structure using MS Access 97. It is intended to migrate them to SQL-Server by the end of 1999. The data situation and transactions effected on the databases are covered by an auxiliary database that tracks correspondence relevant to submissions of data with Data Correspondents. This auxiliary database is in turn linked to a system that maintains an inventory of the modifications carried out on the data prior to their incorporation into the main database, with hyperlinks to the documents associated with each transaction.

38. Public domain data are diffused in print publications, on magnetic media and through the Web. The FAO Fishstat Plus package is used for nominal catch query. A geographically referenced package is being developed to display catch and effort and length-frequency data.

IWC

39. The data collected and held by the IWC are primarily for use by IWC scientists; in particular, for use in stock assessments and the new and revised management procedures for regulating commercial whaling. On request, data are also supplied to the wider public and in the future will be made available on the IWC Web site.

40. The IWC continues to collect and publish catch data for large whales from its member countries on an annual basis. Subsistence catches by aboriginal peoples are included, as are catches taken under national scientific permits and commercial catches taken under objection to the moratorium. The IWC has also begun to collect data on incidental catches of large cetaceans.

41. Work continues on the database of individual catch records, adding new and checking existing data. The database is annotated wherever revisions have been made. The catch database is currently kept in ASCII format. Plans are being made to convert the data into a standard data base package which should speed up data extractions and make it more 'user friendly'.

42. The IWC continues to collect data on small cetaceans, which are published annually. The tables include all known takes and contain both actual and estimated numbers. The data are necessarily incomplete since by-catches are frequently unrecorded and there is no official recognised requirement for nations to supply data on small cetaceans to the IWC. The magnitude of small cetacean catches is a matter of concern to the IWC Scientific Committee, which continues to assess the status of stocks of small cetaceans and to encourage the collection and reporting of data.

43. The IWC continues to add new data to its database of dedicated sightings survey data and to improve data extraction utilities. It has also extended the database of whale marking tag and recapture data.

44. In the absence of commercial whaling there is currently no implementation of an observer scheme or of vessel monitoring systems. An improved observer programme would be an important part of the Revised Management Scheme and the IWC is currently discussing the details. In addition, the IWC would expect to use a vessel monitoring system. It is likely this would be an existing standard scheme, possibly with modifications to allow information on key vessel characteristics to be transmitted.

NAFO

45. NAFO continues the acquisition of fishery statistics for the Northwest Atlantic (FAO Fishing Area 21) through the STATLANT system. The Rules of Procedure of the NAFO Scientific Council has the STATLANT 21A submission deadline of 15 May for the preceding year's data. This is particularly important for stock assessment work by the Scientific Council in June. NAFO reports some improvements on timely submissions have been seen.

46. NAFO has taken steps to annotate any divergences between official nominal catches reported in STATLANT forms and those from other sources used in stock assessments.

47. The Scientific Council Rules of Procedure has the deadline for the submission of STATLANT 21B reports of 30 June for the preceding year's final catch and effort statistics which are used for the publication of the NAFO Statistical Bulletin. NAFO reports that timely submission of data appear to have improved, however, incidental but significant delays are noted.

48. NAFO in 1997 had decided to place the STATLANT data on the NAFO website. It was agreed that the 21A data should be in the public domain, while the 21B data were considered to be too detailed for any practical use in the public domain.

49. After a complete revision of the database (1960 to present) for year 2000 compatibility, NAFO has now placed the 1994 to 1998 21A data on the NAFO website, www.nafo.ca. in a standard ASCII file format. Further website development will reassess the format, and the entire 21A database will be installed.

50. Over the recent years the NAFO Observer Programme has evolved to 100% coverage. However, the information base and format were developed by Contracting Parties to suit their own requirements. These data were usually submitted in hard copy form, and remain not computerised. NAFO has recognised the importance of these data and are currently focussing on harmonising this database.

51. The vessel monitoring system has concurrently developed at NAFO. This VMS is also evolving with new computer hardware and software designed to capture valuable data on a timely basis. These two data collection programmes are now collectively addressed under the NAFO management guidelines of the Conservation and Enforcement Measures.

52. NAFO reported to CWP-18 their most recent list of publications related to statistics.

OECD

53. The OECD Committee for Fisheries decided at its 82nd Session (12th to 14th October 1998) that the Review of Fisheries text part become biennial but that a Statistical Annex be published on an annual basis. This will help ensure that the time-series collected by the OECD is kept intact and thus provide a basis for policy analysis.

54. It has been the practice now for a number of years that the Secretariat provides each delegation with a diskette containing formatted blank tables (MS Excel 97 & 5.0/95 Workbook version) to be filled in with data.

55. The Secretariat has discussed ways in which it could streamline the statistics collection to reduce the workload of correspondents in providing the OECD with data. In this context we have determined to suppress the table dealing with utilization of catch since it has given rise to numerous problems as different countries have interpreted the table, and hence reported, in different ways.

56. We have also decided that it is now feasible to directly download trade data from the OECD's comprehensive trade database. Thus, the member countries no longer have to supply the Fisheries Division with trade data. However, all the trade tables to be used for the Review are going to be distributed to the member countries for approval before they are made public. Moreover, for the EU countries we have determined to use the EUROSTAT database for fleet capacity statistics (vessels GRT/GT). Hence EU countries are exempted from providing the Secretariat with these data.

57. An important table requesting information on government financial transfers to the harvesting, processing, marketing and aquaculture industries has now been added

to the country chapter submission. This table distinguishes between direct payments, cost reducing transfers and general services, as well as shows cost recovery charges being paid by the fishing industry.

58. Based on suggestions from member countries some additional changes have been made to the tables, i.e.:

- seaweed production is included in both capture fisheries and aquaculture tables,
- “salmon” has been divided into “Atlantic salmon” and “Pacific Salmon”.

For the aquaculture tables:

- entries for carp, eels, jacks, mullets, sauries, tilapias, and other cichlids have been added for fish,
- for shellfish entries for clams, cockles and arkshells, freshwater crustaceans, and freshwater mollusks have been added.

SPC

59. SPC compiles annual catch estimates, catch and effort logsheet data, catch and effort data grouped by time-area strata, port sampling and observer data, and other types of data for tuna fisheries in the western and central Pacific Ocean (WCPO).

60. Annual catch estimates for tuna fisheries of the WCPO were previously compiled by the Secretariat of the Pacific Community (SPC) only for target species (i.e. albacore, bigeye, skipjack and yellowfin), but in the future estimates covering certain major non-target species (i.e. blue marlin, black marlin, striped marlin and swordfish) will also be compiled. Annual catch estimates for Indonesia and the Philippines continue to be problematic. Estimates for these two countries covering recent years are either missing or of questionable reliability; these two fishing nations account for about 20 percent of the catch of target species in the WCPO.

61. Catch and effort data grouped by 5° latitude, 5 ° longitude and month, for all fishing nations combined, are now available on the SPC website (<http://www.spc.org.nc/>) for major fishing methods (driftnet, longline, pole-and-line, purse seine and troll). The Regional Tuna Bulletin, which contains tables of monthly catch rates for major fleets, and the Tuna Fishery Yearbook, which contains annual catch estimates for the SPC Statistical Area, are also available on the website. Various documents concerning the Standing Committee on Tuna and Billfish are available online, including a working paper containing estimates of annual catches for the WCPO and other ocean areas.

62. The Standing Committee on Tuna and Billfish (SCTB) is concerned with research and statistics on tuna fisheries of the western and central Pacific Ocean. The terms of reference of the SCTB were modified in 1997 such that it became independent of SPC, thereby allowing SCTB participants from SPC member countries and participants from non-SPC member countries to have equal status. One consequence of the new terms of reference was the establishment of six working groups, including the Statistics Working Group and five species research group. The objective of the Statistics Working Group is to coordinate the collection, compilation and dissemination of tuna fishery data. At its inaugural meeting in June 1998, procedures to accomplish

the objectives were established, including the specification of data items for compilation and the establishment of a policy on the dissemination of data. Further information concerning these procedures is available in the report of the Eleventh Meeting of the Standing Committee on Tuna and Billfish, which is available on the SPC website.

IATTC

63. The Inter-American Tropical Tuna Commission develops and maintains data bases for fisheries capturing tunas and tuna-like fishes in the eastern Pacific Ocean (EPO), including catches, landings, vessels and gear configuration, skippers and navigators, imports and exports, biological data, and various other information required to meet its mandated responsibilities for conservation and management of fisheries resources of the EPO. Data sources include such as fishing vessels, canners and fresh fish processors, transshipment agencies, customs agencies, and various other government and fisheries agencies with information on the catches and landings of fishes taken from the EPO. As well the Commission operates a scientific observer program that currently places observers on nearly 100 percent of the large purse seine vessels (> 363 MT fish carrying capacity) operating in the eastern Pacific. To collect and maintain these data and observer programs, the Commission hires an independent scientific and technical staff and operates field stations throughout Central and South America at major ports of unloadings. Employees regularly visit locations around the region to collect data directly from originating sources. The data obtained from these sources is frequently of a highly confidential nature, and is not released or published except in aggregated format within which the activities of individual companies and vessels are not identifiable. Policies on confidentiality of data provide that data may be released to the original source (an archive function that has frequently proven invaluable to companies and agencies) or to third parties only on receipt of written permission for such release from the data source. Detailed information on the operations of the Commission may be obtained from its weekly, quarterly, and annual report series and from its technical and scientific bulletin series. The IATTC regularly interacts with other tuna management and research agencies, and with FAO in a multitude of fisheries venues.

SEAFO

64. At the invitation of the FAO, the current Chair of the meetings of coastal States and other interested States on a regional fisheries organisation for the South East Atlantic (the SEAFO process) briefed the meeting on the background to and current state of the process.

65. The SEAFO process began in 1997 as an initiative of the coastal States, Angola, Namibia, South Africa and the United Kingdom in respect of St Helena and its dependencies. The other participants are the European Community, Iceland, Japan, Norway, Poland, Republic of Korea, Russian Federation, Ukraine and United States. FAO is an observer to the process. Working from an initial draft prepared by the coastal States, four meetings have worked on a text for a convention to create a South East Atlantic Fisheries Organisation (SEAFO). The main features of the discussions to date have included a wish to draw on principles and language from, in particular, the

UN Convention on the Law of the Sea, the Code of Conduct and the UN Fish Stocks Agreement, in order to create a regional fisheries organisation to regulate straddling fish stocks and discrete high seas stocks (not highly migratory stocks) in the south east Atlantic. The current draft proposes that the SEAFO area will be limited to the high seas, but with measures to ensure compatibility between measures on the high seas and within 200 mile zones. Participants in the discussions have made a commitment to openness and sharing of data. Work is currently underway to compile an initial set of reliable and verifiable fisheries information to provide the basis for a SEAFO database.

66. A target date of end 1999 has been set to conclude the SEAFO process. Meeting this target will depend on the participants. At present the process has been deemed 'informal' and no commitments are being made until there is a consolidated convention text. A number of participants have entered specific reservations on provisions of the existing draft text.

67. A background note on the SEAFO process was provided as document CWP-18/5.

68. Following discussion by the CWP, the SEAFO Chair undertook to relay to SEAFO participants a request from FAO for their views on the proposal (paragraph 130 of the Report of CWP-17) to adjust the boundary between FAO Areas 47 and 51 at the eastern boundary of the proposed SEAFO area; and to pass on the FAO observation that the north west boundary of the proposed SEAFO area deviates slightly from FAO divisions.

69. The CWP Chair noted that with respect to paragraph 112 of the Report of CWP-17, Eurostat and FAO had recovered the ICSEAF database on Areas 47A and 47B, but that no work has been done to update the database.

HARMONIZATION AMONG AGENCY DATABASES

(Agenda item 6; Documents CWP-18/6)

70. The meeting noted that, in response to previous CWP recommendations, NAFO, CCAMLR, ICCAT and FAO, in the inter-sessional period, conducted three special exercises to eliminate catch data discrepancies. The sessions were conducted back to back with other meetings.

71. The bilateral exercise, based on a listing prepared by CCAMLR, identified minor discrepancies which were resolved, although some problems still exist with the data for the Former USSR during the 1970s.

72. The bilateral exercise conducted on tuna statistics held by FAO and ICCAT, based on software developed by ICCAT, identified that the differences were due mainly to different area boundaries.

73. In the two FAO/NAFO consultations, based on a listing prepared by Eurostat, catch discrepancies in respect of 26 countries were identified and largely resolved, also with the help of NAFO member countries. However there remained outstanding problems in past years of the FAO and NAFO time series for Canada, Japan, USA,

and the former USSR. Some of the discrepancies refer to historical data and although national authorities are committed to collaborate, these discrepancies will likely remain unresolved.

74. It was noted that some of the discrepancies between FISHSTAT NS and STATLANT data for Mediterranean (GFCM) and East Central Atlantic (CECAF) statistics, whereby the aggregation of catch by sub-area may not tally with the area total in the global capture database, are due to the different timing of updating of the respective databases, and in the case of the Mediterranean to the inclusion of aquaculture production.

75. In response to a query, FAO indicated that the modifications to tuna data for the IOTC area of competence arrived too late for inclusion in the 1997 catch database.

76. In this connection FAO noted that although the harmonization exercise is important as it adds to data credibility, it is not feasible to undertake bulk revisions of the catch database more than once a year. Automatic procedures of simple data replacements, as suggested by some members, have not been established, and in some cases the data modifications may require simultaneous adjustments to other time series (e.g. there may be a difference in the species classification level, which may require adjustments to other time series as well).

77. It was acknowledged that the main source of data discrepancy is the lack of a single national data sourcing. For example, FAO may receive data generated for economic purposes, which are likely to differ from those provided to regional bodies for scientific use and/or management purposes. Also the time at which the data are obtained by the agencies is critical. For instance Japan reported that since 18 months is required for completing the logical and technical validation cycle of its statistics, preliminary data are later substituted with final data. Tuna agencies noted the difficulty they encounter in reporting data to FAO according to its major statistical areas boundaries.

78. Some members held the view that, on the basic assumption that regional agencies' databases are more reliable, FAO should recognize their scientific authority and simply accept all proposed revisions to data which have been critically reviewed. However, while CWP recognized that this is true for tuna bodies, data held by other regional agencies are not equally reliable for species for which no scientific assessment is conducted.

79. The question of the discrepancies between tuna data held in ICES and NAFO and data maintained according to a different geographical stratification by ICCAT was debated, and the North Atlantic agencies agreed to take a fresh look at solving the problem.

80. Noting that identifying the causes for discrepancies and agreeing on revisions to data is a time-consuming and difficult task, the CWP debated more fundamental aspects of the inter-agency harmonization exercise. CWP noted that there is a danger in having multiple data sets, and based on a proposal from ICES, accepted that since

scientific scrutiny adds to the reliability of data, regional bodies' data should be preferred for species which are assessed or otherwise scrutinized.

81. In conclusion, CWP recommended that its members should in general regard as the most reliable source of data those held by the regional body which has assessment responsibility for the stock. It also recommended that FAO should introduce a more systematic way of adopting such data in its data set, automating the process as much as possible. To establish this process, lead agencies need to be identified on a species and area basis. CWP recommended that FAO, in consultation with the regional fishery agencies, develop a table for this purpose. The table of lead agency designations should then be circulated to all agencies and finalized, if possible, at an inter-sessional meeting.

82. SPC offered to take the lead to resolve discrepancies with FAO data for tuna fisheries in the western and central Pacific Ocean, and to work with FAO to overcome problems due to different area boundaries.

83. IATTC made a similar offer with respect to tuna fisheries in the Eastern Pacific.

EXCHANGE AND DISSEMINATION OF INFORMATION AND STATISTICS BY AGENCIES

(Agenda item 7; Document CWP-18/7)

Proposal on a Joint CD ROM Publication of North Atlantic Landing Statistics

84. ICES introduced its proposal for a joint CD ROM publication of North Atlantic Landing Statistics. The dissemination of the data could be in two forms (1) a CD-ROM containing the data bases at the time of publication, which would be issued annually and (2) a WWW site giving on-line access to the latest information available to the organisations. Inter-agency links between the web sites would be a useful first step to ensure that the users have access to the complete data sets. All data should be held in a common format in separate databases that should be accessed using software that permits searching, extracting and aggregation of data. It should be investigated if the FAO FISHSTAT PLUS software could be used for this purpose. ICES has noted that several organisations already had or were in the process of publishing statistics on CD ROMs and ICES saw the advantage of a single publication even if such a CD ROM would hold separate databases originating from different agencies.

85. Eurostat supported the proposal and informed CWP that EU member countries were in agreement with the exception of whether these data should be made available free of charge. Eurostat explained the content of the New Cronos CD ROM and emphasised that this CD ROM already included all STATLANT statistics including areas outside the North Atlantic as well as other statistical series. This CD ROM product meets most if not all of requirements described in the ICES proposal. The price of the New Cronos CD is EUR 500. CWP agencies make STATLANT data available free of charge to contracting parties. It is expected that Eurostat's pricing policy would not block the proposed project and that Eurostat would find a workable solution should CWP choose to go ahead with the project.

86. A web site dissemination can provide better service to the user by providing access to the latest available information and several agencies have already made catch data available on a public domain Web site. It was also noted that some agencies have established links to other agency web pages. However these web pages only presented the data without the supporting software. Most participants thought that Web site dissemination alone would not be sufficient and a CD ROM product would be desirable. FAO, ICES and NAFO have obligations to provide hard copy statistical publications and a Web site dissemination would not meet this obligation at this time.

87. ICCAT and NAFO informed CWP that joining such a project requires a number of steps following examination of the proposal including obtaining approval of the project by their competent bodies. Such approval might be initiated in the autumn of 1999.

88. This publication should be a joint publication from Eurostat, FAO, ICCAT, ICES and NAFO. Where an overlap occurs, e.g. for tuna data, only data from the best source should be presented. Each agency remains the owner of its data and has the responsibility to maintain data integrity and to update its own database. Eurostat, FAO, ICCAT, ICES and NAFO should before the end of 1999 clarify the conditions under which they would enter into such a cooperation. When the necessary approval has been obtained the agency representatives should meet for 1-2 days to clarify the practical arrangements.

89. CWP found good grounds for further exploring the proposal of a single publication in electronic form of the entire database of North Atlantic catch statistics. CWP therefore recommended that Eurostat, FAO, ICCAT, ICES and NAFO investigate the possibility for producing a publication following the ICES proposal. ICES undertook to take the lead on this issue.

90. IOTC recognised the need for a CD ROM based publication but proposed that it should not be limited to North Atlantic Fisheries Statistics. There was general agreement that format and software should be standardised for the purpose of statistical publications on CD ROM. The FAO Fishstat Plus was considered to be a good candidate for such a standard.

FAO Fisheries Global Information System (FIGIS)

91. FAO introduced paper CWP-18/7 which described the development of a Fisheries Global Information System (FIGIS) which will be an Internet-based integrated system of world-wide information on fishery resources, fisheries, fishing fleets, aquaculture and many other information modules related to fisheries. FIGIS will at a second stage allow other organisations to disseminate their own data and information under their control but as part of an integrated global system. The aim is to make accessible comprehensive global information on fisheries and fishery resources utilising the best information from numerous global, regional and national agencies through the development of partnership arrangements. This will be mutually beneficial to all participating agencies by providing the global community with a comprehensive knowledge base for monitoring the implementation of the Code of

Conduct for Responsible Fisheries, sharing fisheries management experiences, developing fishery policies, accessing basic information, and promoting transparency.

92. FIGIS will be built around a core including information on species, stocks, resources fishery statistics and fleets. Around this core there are satellites including databases such as High Seas Fishing Authorization Records, GlobeFish, aquaculture information, species introductions, aquatic animal pathogen databases, quarantine information, Aquatic Sciences and Fisheries Abstracts (ASFA).

93. The status of FIGIS is that the requirement study has been completed and detailed design development has commenced. The implementation mainly will be in Java and Oracle. FAO is at present developing a prototype following which other agencies will be invited to consider participating in the partnership.

94. CWP noted that the resource module of the FIGIS core included several modules that would have very different time horizons for being implemented, but that the statistics element would probably be the first element to be implemented based on coordination through the CWP.

Charging for access to catch and landing data

95. FAO's statistics are in the public domain and generally there are no charges for access to these data. SPC informed that it does not charge for access to data but charges USD 50 annually from some users for printed publications. ICES and NAFO informed that they provide landing data free of charge to contracting parties but ICES charges for preparatory work in the secretariats. IATTC provides data free of charge to all users. In contrast, Eurostat provides data and sells the New Cronos Fishery Statistics CD ROM at an approximate price of EUR 500. CWP noted that there are some differences between the cost recovery policy among CWP agencies. Since some agencies disseminate data from other agencies, it was felt that some harmonization should be achieved. CWP reiterated that catch and landing statistics published by agencies are in the public domain but noted that charging policy for the work involved in making the data available differs between agencies.

Atlas of Tuna and Billfish

96. FAO has published atlases of tuna and billfish catches as a book for the Pacific Ocean and as a CD ROM for the whole world. The atlases provide easy access to catch data broken down by species, year quarter, gear (purse seine, long line and pole and line) and area (5° x 5°). The CD ROM atlas allows data presentation by maps.

97. It was recognised that updates for the tuna atlas are required regularly. Most agencies believed that this could best be achieved by agencies making their latest data available on the Web in the atlas format

98. IOTC is developing an electronic atlas with an improved mapping presentation system. This software will be available to other agencies and may be included in a future version of the FAO atlas. SPC reported on the Catch and Effort System (CES) for presentation of maps and tables and demonstrated the system which is built in

Visual FoxPro and MapInfo. IATTC noted plans to present statistics on a Web site, which will allow access to the most recent information available.

STATLANT ISSUES

(Agenda item 8; Documents CWP-18/8)

99. CWP-18 noted that recommendations made during the CWP-17 (paragraphs 98 and 112 of CWP-17 Report) had been addressed inter-sessionally (see paragraph 7).

100. The STATLANT A questionnaires for reporting annual nominal catches (for FAO areas 08, 21, 27, 34, 37 and 87) are generally found to have no major problems and are useful as a source of data for regional organizations.

101. The format for STATLANT A and B varies from area to area. It was noted that the 27A ICES questionnaire had recently been extended by a further 37 species items, which included 17 Elasmobranchs. For STATLANT 21 A and B NAFO has proposed the inclusion of approximately 12 new Elasmobranch species items from among those encountered in the NAFO area.

102. FAO reported on recent studies on STATLANT 34B and 37B questionnaires. In both cases it was found that very few returns were being received and the question was asked whether these B questionnaires should be discontinued. The FAO study concluded that data submitted on the 34B questionnaire seem to be insufficiently reliable, but at the same time could still provide data of potential utility if it undergoes a certain degree of improvement. CWP noted that in the future the completion of the 34B should involve a strict collaboration between the national reporting offices and the stock assessment experts responsible for the use of the data.

103. With respect to STATLANT 37B it was concluded that a revision to the form was necessary for it to be a useful statistical tool for the regional data. CWP noted that the issue should be further analyzed by GFCM.

104. CWP found that STATLANT 47A questionnaire had proved to be useful in providing background statistical information for the area, and that it would serve for establishing a historical database for the future possible convention area in the Southeast Atlantic (SEAFO).

105. Based on the Eurostat proposal (Doc. CWP-18/8-Eurostat) concerning the FAO major fishing area 07 (the former USSR) inland fisheries statistical data, CWP observed that it would not be possible to break down the USSR data for marine fisheries and reassign them to individual republic States before the breakup of the USSR. Looking to the future, CWP agreed that disaggregation of data, particularly for the Baltic States, would be valuable. CWP recommended that FAO and regional organizations should look into the possibility of undertaking this disaggregation during the inter-sessional period.

106. NAFO inter-sessionally had proposed a new definition for the measure of effort for boat seines. CWP noted responses from regional organizations had suggested minor editorial changes. Accordingly, NAFO presented to CWP the new definition

for adoption. CWP recommended acceptance of the new global definition which should read as follows: "Boat seines (Danish etc). Effort measure: hours fishing per day. Definition: number of times the gear was set or shot per day, times the estimated mean set or shot duration."

INTERNATIONAL CONFERENCE ON INTEGRATED FISHERIES MONITORING

(Agenda item 9 ; Relevant documents : CWP-18/9, CWP-18/Inf.3, CWP-18/Inf.4)

107. The Integrated Fisheries Monitoring conference (1-5 February, 1999, Sydney, Australia) recommended that FAO be requested to develop Guidelines on Integrated Fisheries Monitoring. A synopsis of the Sydney meeting was reported to the CWP and the output summarised. Consideration was particularly addressed to identifying areas of improvement to the existing guidelines (preliminary) on the Routine Collection of Capture Fishery Data prepared at the FAO/DANIDA expert consultation (Bangkok 18-30 May 1998).

108. The processes involved in the attribution and recovery of monitoring costs, the provision of further detail on environmental quality and procedural review standards, a web-based directory of stakeholders and experts in monitoring related areas were identified by the Conference as subjects requiring particular attention. The proposal to encourage the formation of regular, formal and informal communication mechanisms between stakeholders, clients and other parties was also encouraged.

109. The recognition of the importance of the socio-economic aspects of monitoring and data capture in fisheries, although addressed in a number of sections in the capture fishery guidelines, was identified by the Conference as an area requiring improvement in emphasis and output.

110. CWP was informed that an analysis of the cost benefits of different management systems between countries and fisheries is planned by OECD. Other agencies did not provide any obligations or intentions relating to cost analyses or the development of protocols for cost recovery. It was generally accepted, however, that the costs of routine data capture in many fisheries are fishery specific and historically entrenched.

111. CWP noted that regular archiving is an essential action for all fishery data sets and databases and recommended that the relevant section in the capture Guidelines should be supplemented with further advice and direction in this regard. Individual agencies should take all due measures to ensure that archiving occurs on a regular basis and in the most contemporary format available. Agencies should also give consideration to the formal drafting of a 'Doomsday' plan to secure their data from permanent loss should circumstances destroy the on-site repository for such data.

112. Although FAO was suggested as a repository for copy datasets and databases, it was generally accepted that data collection agencies should hold primary responsibility for archiving their data and that FAO could act as a receiving repository only in the event of the dissolution of that agency. Data backups or copy databases deposited in this manner at FAO or deposited at other sites, external to the parent agency, should be accompanied by detailed information on all manipulations exercised on the original

data, including any other relevant paperwork or other media pertaining to the data set. In all cases consideration could be given to the encryption of the data archives prior to storage.

113. CWP commended the new Guidelines on the Routine Collection of Capture Fishery Data and recommended that FAO provide copies to all agencies and distribute the publication as widely as possible.

DEFINITION OF NATIONALITY OF CATCH

(Agenda item 10; Document CWP-18/10)

114. Under this item a paper was presented by the FAO Legal Office, entitled "Legal Aspects of the Collection of Fisheries Data". This paper addressed, inter alia, the international law regime, focussing in particular on the provisions of the UN Convention on the Law of the Sea, 1982, and the 1995 UN Fish Stocks Agreement, as well as other international instruments (Code of Conduct for Responsible Fisheries, and other regional and subregional agreements). It also considered the purpose for which fisheries data is collected, and analyzed the phrase "nationality of catches" as used by CWP (drawing attention in particular to its ambiguity), and in this regard, it considered some aspects of European Community Law and national laws, especially with respect to the problems which might arise with respect to joint ventures and charters. The paper concluded with a proposed reformulation of the CWP criteria regarding the nationality of the catch.

115. In discussion, attention was drawn to some further information, in particular, the obligation under EU law for reporting, and relevant experiences of ICCAT, IOTC, SPC, and IATTC.

116. CWP noted that the question of nationality of catch had been a regular agenda item of CWP, and that reporting problems had persisted.

117. CWP reiterated the principle that the primary responsibility for reporting catch and landing data rests on the flag State. CWP also accepted that the responsibility for reporting catch did not depend on the ownership of the catch.

118. The meeting also considered the proposed revised formulation of the criteria for determining the nationality of catches. The proposed formulation has been revised to reflect the changes suggested, and is set out in the following paragraph. CWP accepted the revised formulation as a refinement of the previous version and recommended that it be applied as widely as possible, by CWP organizations and States.

119. CWP recommended the revised formulation for determining the nationality of catch data, as follows:

The flag State of the vessel performing the essential part of the fishing operation shall be responsible for the provision of catch and landing data.

Where a foreign flag vessel is fishing in the waters under the national jurisdiction of another State, the flag State of the vessel shall have at all times the

responsibility to provide relevant catch and landing data. The only exceptions to this shall be:

(a) where the vessel undertakes fishing under a charter agreement or arrangement to augment the local fishing fleet, and the vessel has become for all practical purposes a local fishing vessel of the host country;

(b) where the vessel undertakes fishing pursuant to a joint venture or similar arrangement in waters under the national jurisdiction of another State and the vessel is operating for all practical purposes as a local vessel, or its operation has become, or is intended to become, an integral part of the economy of the host country.

In any situation where there is uncertainty as to the application of these criteria, any agreement, charter, joint venture or other similar arrangement shall contain a provision setting out clearly the responsibility for reporting catch and landing data, which shall be reported to the flag State, and, where relevant, to any coastal State in whose waters fishing operations are to take place or competent sub-regional, regional or global fisheries organization or arrangement.

MAJOR FISHING AREA BOUNDARY MODIFICATIONS

(Agenda item 11; Documents CWP-18/11)

120. CWP-17 agreed that any proposed changes should take into account the following factors:

- Statistical boundaries should not cut through major fishing areas, and should, as far as possible, lie in areas of low fishing intensity;
- Account should be taken of the feasibility and ease of reporting for flag States fishing in the affected areas; and
- It must be possible to recalculate time series into the correct aggregates for the newly defined areas if significant quantities of catch are involved.

121. Applying these criteria, CWP-17 recommended changes in relation to four major fishing area boundaries: (1) between Areas 47 and 51, (2) between Areas 51 and 57, (3) between Areas 57 and 71 and (4) between Areas 57 and 81, subject to the agreement of national fisheries statistical authorities of the countries fishing these waters and assurances that historical time series can be adjusted. The inclusion of industrial tuna catches in these areas into the appropriate FAO statistical area aggregates is possible as data are available by 5° x 5° (and sometimes 1° x 1°) grid areas. Maps showing the proposed changes are provided in Annex 5 of the CWP-17 Report.

122. Most of the CWP proposals were endorsed by APFIC at its meeting in 1998. APFIC asked FAO to work with Indonesia to help overcome some difficulties related to lack of computerisation of most of the data. Staff changes within the national reporting authority in Indonesia have delayed resolution of these. A FAO mission to Indonesia to follow up on this is planned for 1999. A proposed modification to the boundary between FAO major fishing areas 47 and 51 should await consultation with SEAFO which is presently being established.

123. CWP-18 recommended that the modification to the boundary between major fishing areas south of Australia should be implemented immediately as Australia (the only major country affected) has agreed. CWP also recommended that FAO should follow up the recommendation concerning modification to the boundary between areas 51 and 57 between India and Sri Lanka in order to have this implemented as soon as possible.

124. SPC provided details of the boundaries of two new statistical areas to be used by the Standing Committee on Tuna and Billfish (SCTB) for compiling annual catch estimates for tuna and billfish fisheries in the Pacific Ocean i.e. the Western and Central Pacific Ocean (WCPO) and the Eastern Pacific Ocean (EPO) (Appendix 9). Although these boundaries do not correspond to those of FAO major fishing areas, it is not expected that this will be a problem as the geographical resolution of the tuna data is fine enough to allow adequate matching of data to the FAO areas, if necessary.

STATISTICAL IMPLICATIONS OF THE PRECAUTIONARY APPROACH (Agenda item 12; Documents CWP-18/12)

125. The Precautionary Approach is mainly discussed in management and stock status contexts and is not a central statistical issue. However, because of the need for more extensive data on the effects to the ecosystem from fishing, which is an integral part of the approach, an increased need for more extensive fisheries statistics is expected. Therefore, it is appropriate that CWP discuss the statistical implications of implementing the Precautionary Approach. Implementation of the Precautionary Approach is still discussed in many fora and it may be early days to draw conclusions.

126. FAO outlined the work on the development of a Precautionary Approach for Tuna fisheries. This work aimed at input for the FAO Consultation on Precautionary Approach on tuna, which will take place in March 2000. One of the working groups set up under these consultations would discuss data requirements and statistics issues.

127. ICCAT created a Working Group on the Precautionary Approach in Atlantic tuna fisheries in 1997 and studied the background biological information in 1998. The Working Group met in 1999 and tentatively concluded that the scientists must provide the administrators with the best possible assessments and their associated uncertainties, and that the scientists should also monitor whether the management decisions are in accordance with the Precautionary Approach. Most of the uncertainties in the assessments and projections are related to the lack of reliability in basic fisheries and biological data. ICCAT decided to carry out a series of computer simulations to find out the extent of uncertainties associated with unreliable catch data. Other sources of uncertainties come from environmental variability. The Working Group will meet immediately after the CWP-18 meeting. The outcome of this meeting and the computer simulation results will be input to the FAO Consultation on the Precautionary Approach on Tuna in March 2000.

128. The Workshop on Precautionary Limit Reference Points for Highly Migratory Fish Stocks in the Western and Central Pacific Ocean was held from 28 to 29 June 1998, in Honolulu, USA, as part of the Eleventh Meeting of the Standing Committee on Tuna and Billfish. SPC acted as the secretariat for the workshop. The workshop

came to several conclusions concerning the development of a precautionary management framework, the delivery of scientific advice using limit reference points, the use of limit reference points to avoid recruitment overfishing, the use of fishery indicators in the absence of assessments, etc. The workshop also concluded that funding support for data collection, research and stock assessment was currently insufficient to allow management to be guided by good science.

129. IWC uses the Precautionary Approach in management where it is fundamental in the development of a revised management procedure. This work uses computer simulations. In addition, pollution and environmental programmes are being developed and will include collaboration with CCAMLR.

130. IOTC has agreed that data on by-catch and discards for tuna fisheries would be required and not restricted to the 16 convention species. This is currently considered sufficient to meet the data requirements that are foreseen under management consistent with the Precautionary Approach of the 16 convention species.

131. The IATTC Convention covers all species caught in tuna fishing operations and this database is considered likely to be sufficient for the time being to meet the data requirements imposed by the Precautionary Approach. IATTC realises that extension of databases will have cost implications.

132. CCSBT noted that the Precautionary Approach has had a significant influence on the current management strategy for CCSBT. An objective of rebuilding the spawning stock biomass to the 1980 level by the year 2020 has been determined. However, members are still trying to reduce uncertainties in the data sets and reach agreement on stock recovery projections.

133. OECD's planned work on "Fisheries Sustainability Indicators" is related to work on the Precautionary Approach ongoing in FAO, Regional Fisheries Organizations and other agencies. OECD's work will be undertaken in the period 2000-2002 and require empirical contributions from member countries.

134. In working towards its objectives, CCAMLR has adopted a Precautionary Approach to the management of the Antarctic marine ecosystem. In general, this approach encompasses monitoring and managing fisheries and the ecosystem of the Southern Ocean; monitoring marine debris and their impact on marine animals; and reducing the interaction between fisheries and non-target species including seabirds and fish by-catch (see CWP-18/12-CCAMLR).

135. CCAMLR has recognised that during the phase when a fishery is classified as 'new', detailed fishery statistics and biological information should be collected to provide a scientific basis for the further development of the fishery in its 'exploratory' phase. The Commission aims to ensure that an exploratory fishery is not allowed to expand faster than the acquisition of the information necessary for the fishery to be managed, in accordance with the principles of the Convention. In order to ensure that adequate information for the evaluation of a fishery during its exploratory phase is made available, the Scientific Committee is required to maintain a Data Collection Plan. There is also a requirement to restrict fishing effort by setting a precautionary

catch limit at a level not substantially above that necessary to obtain the information specified in the Data Collection Plan.

136. CCAMLR's Precautionary Approach draws on four main sources of data:

- fishery data provided by Member Countries conducting fishing in the Convention Area, including those data collected under the Data Collection Plan;
- biological information and information on by-catch of fish and incidental mortality of seabirds and marine mammals collected by scientific observers during fishing operations;
- fishery-independent information obtained from surveys; and,
- biological information on indicator species and environmental data collected under the CCAMLR Ecosystem Monitoring Program.

137. ICES has worked on the implementation of a Precautionary Approach when providing advice on fisheries management. This work has been ongoing since 1996. The Advisory Committee on Fisheries Management has developed reference points (both precautionary and limit reference points) for the stocks that are assessed by ICES. Governments and Commissions that receive ICES advice on fisheries management are committed to the implementation of a Precautionary Approach to management and are in the process of detailing such an approach in the specific situations.

138. ICES has not yet considered the implications for the collection of statistics resulting from an implementation of the Precautionary Approach. ICES expects that both the Precautionary Approach and the development of an ecosystem approach to management that takes place in commissions such as OSPAR and HELCOM will eventually increase the need for timely, reliable data. The data types that will be required are probably wider than what is currently being collected.

139. NAFO Scientific Council has since June 1997 worked with the Precautionary Approach when providing scientific advice to fisheries management. At its meeting during the 27 April – 1 May 1999 in San Sebastian, the NAFO Scientific Council undertook stock assessments by taking three types of databases (NAFO SCS Doc. 99/4):

- Stocks for which data were good with both fishery and survey data being available for a currently open fishery.
- Stock for which data were relatively good, but recent data availability is restricted due to closed fishery
- Stock for which data are poor

140. The outcome of the meeting of the Scientific Council was immediately introduced to the managers of NAFO at a joint Working Group of Scientific Council and the Fisheries Commission (NAFO FC Doc. 99/2). The NAFO Scientific Council during its June 1999 stock assessment meeting considered the points made regarding the Precautionary Approach during the meetings in San Sebastian, and those are reflected in the scientific advice provided under the relevant stocks. The Council agreed that other information pertaining to the Precautionary Approach,

including research documents submitted at this meeting, will be taken up during the 13-17 September 1999 Annual Meeting of Scientific Council.

141. The problem of ecosystem advice was raised in several contexts. CCAMLR and ICES both indicated that they assess conflict between the use of the marine environment for fishing and other human usage and at the same time being the home of other marine animals, e.g. between marine mammals and penguins or sea birds.

142. Potentially, adoption of the Precautionary Approach provides a powerful tool to obtain more reliable data than has been the situation hitherto. This is a result of the reversal of the burden of proof on the possible harmful effects of fishing. Agencies may want to make their members aware of this increased importance of fisheries statistics. Under the Precautionary Approach it is now even more important for countries to provide complete and reliable data. However, the costs of gathering additional data may well mean that in reality a compromise between accepting risk (based on lack of knowledge) and financing the collection of additional data will be made in many cases. This may result in future battles for funds for information.

Nomenclature for use in Precautionary Approach

143. NAFO and ICES have realised that their organisations use different nomenclature for concepts that are virtually identical. While this problem is either outside or at the fringe of the CWP brief, it was found useful to raise this point with so many interested organisations being present. NAFO and ICES will take steps to develop a harmonised nomenclature and in particular avoid the current practice of using the same term for different concepts. This work is planned for the year 2000. Both organisations saw an urgent need for standardisation for the North Atlantic fisheries but also recognised that their needs were confined to the Atlantic fisheries. The problem could be addressed by the two organisations without reference to other agencies. CWP believed that finding a solution to the problem is urgent.

144. IATTC noted that while governments generally are committed to a Precautionary Approach, the implementation of such an approach is under development in most organisations with the concepts still being discussed and so it may be too early to define a standard terminology. CWP noted that under the Precautionary Approach, terms like "data quality" or "reliable data" need to be defined and in addition there is a need for some more objective mechanisms for assessing data quality.

145. CWP recommended that a table of terminology relating to the Precautionary Approach used by different organisations should be prepared by FAO based on input from the regional organisations. This document should be available for the Expert Consultation on Implications of the Precautionary Approach: Tuna Biological and Technological Research. This meeting is planned in March 2000.

ELASMOBRANCH STATISTICS

(Agenda item 13; Documents CWP-18/13)

146. CWP reviewed the history of deliberations relating to sharks by CITES. (The terms "shark(s)" is intended to include "sharks, skates and rays"). The issue of sharks

was raised at CITES 9th Meeting of the Conference of Parties (COP-9) in 1994 and on the basis of its discussion, CITES requested that monitoring of catch and trade data of sharks be undertaken by FAO and by Regional Agencies. At COP-10 in 1997, CITES reviewed the report presented by its Animals Committee and TRAFFIC and requested that the situation to be further studied and reported upon at the Eleventh Meeting of the Conference of the Parties (COP-11), scheduled for 2000.

147. FAO reported that it has been trying to intensify collection of shark statistics and the list of sharks in the FAO species list classification has been extended. It was also reported that a series of actions has been taken by FAO in order to develop the International Plan of Action for the Conservation and Management of Sharks. The process was started with the first Technical Working Group on the Conservation and Management of Sharks meeting in Tokyo, April, 1998, followed up by a preparatory meeting in Rome, July, 1998 and finalized by the Consultation on the Management of Fishing Capacity, Shark Fisheries and Incidental Catch of Seabirds in Longline Fisheries, in Rome September, 1998. At the 1999 FAO Committee on Fisheries, the final Plan of Action was approved (CWP-18/13-FAO). It was pointed out that at the first Technical Meeting, mentioned above, a guideline for the collection of shark related data was developed (FAO Fisheries Report No. 583: Report of Data Needs Working Group) and this guideline may serve for national and/or Regional Agencies in collecting those data.

148. FAO is requesting that special donor funding be made available to intensify and improve the collection of shark statistics. However, this funding has not yet become available.

149. FAO reported that following a special inquiry concerning elasmobranch fisheries and catches, a preliminary review of the status of shark species has been prepared and is in press. In addition, many case studies of shark fisheries management will be published. The technical paper on the utilization of sharks is being updated.

150. ICES started collection of shark data, following the CITES resolution. After studying the shark species occurring in the Northeast Atlantic and studying the significance of catches, it requested FAO to add several species of Elasmobranchs in the STATLANT 27A questionnaire, and these have been included (CWP-18/13-ICES). Likewise, NAFO also studied those Elasmobranch species available in the area and selected species for which the data to be collected (CWP-18/13-NAFO). This list of species is, at present, under the review of the Contracting Parties. After the review is complete, FAO will be requested to add these selected species in STATLANT 21A & B.

151. ICCAT reported that the new data format has been prepared and all the countries which have shark by-catches by tuna fishing vessels have been requested to report using this form (CWP-18/13-ICCAT). ICCAT is also working on the estimation of shark catches of major species in the historical period, using incidental catch rates and shark species' compositions as by-catches.

152. IOTC has prepared a list of sharks likely to be caught in the Indian Ocean, and has requested members to report catches of these species.

153. FAO reported that trade data of shark products (mostly fins) by categories of products and, to a small extent by species, are collected. CWP noted that the shark fin trade is very complicated as species identification is very difficult. Also the same fin can be subject of export and import on several occasions during the different stages of processing.

154. Difficulties in identifying species of sharks have been stressed. Following the recommendation by the Technical Working Group on the Conservation and Management of Sharks (Tokyo, April 1998), FAO has formatted identification sheets for 20 important shark species for the Web, selected from the FAO Species Catalogue Vol.4. Part 1 : Sharks of the world, and complemented by other information on conservation status (Please see: http://www.fao.org/fi/sidp/htmls/shark_ma.htm). In the NAFO area it was also recognized that Canada has developed an identification guide for common shark and skate species in the Northwest Atlantic Ocean, and that a similar guide for identification of Atlantic deep water sharks has been produced in Germany. Japan developed identification keys for dried shark fins of major species of sharks.

155. IATTC regularly collects data on catches of sharks by purse seine vessels participating in the observer programs of the Commission. These data generally include information on species and approximate size. Also some data on catches of sharks in gillnet and longline fisheries are obtained from logbook data. Data are reported in various reports of the Commission.

REPORT ON SOCIAL, ECONOMIC, COMMODITY AND TRADE ISSUES (Agenda items 14-17; Sub-Group A: Agenda; Eurostat 1; FAO 1 – FAO 4)

156. This report prepared by Sub-Group A on this topic is presented in Appendix 6. The CWP reviewed the report, in particular noting the following points:

Socio-economic data

157. CWP noted the trend for socio-economic data to be increasingly requested for use in fisheries management and hence the need for the improved availability of such data. An essential step would be collaboration between the fishery statisticians, economists and managers in determining the data required and the concepts and definitions to be applied to these data. Since additional requests on the national statistical services were unlikely to be welcomed, the socio-economic data should, as far as possible, be covered by existing statistical collection programmes.

Foreign trade data

158. Trade statistics offer an alternative way of validating catch data, and national fishery authorities should be encouraged to monitor such data in addition to catches

159. When used for validating fishery data, trade data should be used with caution and judiciously, due to the possible distortions of the trade statistics themselves

160. To monitor catch adequately, fishery trade classifications should include a wider combination of species/products than that provided by the most commonly

used trade classification. However, this use of trade statistics did not in itself justify the elaboration of trade classifications, which are developed for economic purposes.

161. Despite trends in the opposite direction, CWP recommended that efforts should be pursued with classification maintenance agencies to make the classification more detailed, especially for species of little volume of trade, but for which there are conservation concerns.

162. Although some of the possible reasons for discrepancies among fishery trade data of CWP agencies were identified, CWP recommended that Eurostat, FAO and OECD should investigate the causes of discrepancies in published data and should attempt to eliminate these discrepancies or, where the differences were due to the use of differing concepts in the compilation of the data, provide adequate documentation in the publications explaining the concepts used.

Foreign landings and trans-shipping

163. CWP noted the usual absence of data on foreign landings and trans-shipments from official foreign trade data and recommended the CWP agencies publishing fishery trade data to intensify their efforts to obtain the foreign landings and trans-shipment data from the national authorities.

Fishery commodity statistics

164. CWP noted the scarcity of comprehensive data on the fish processing industry. It accepted that the introduction of annual programmes collecting and compiling such data would be an unwelcome increase in the demands on the national statistical services and it was suggested that occasional regional or national studies might be sufficient to meet the demand.

Supply balance sheets for fishery products

165. CWP recognised the value of supply balance sheets in assessing the *per capita* consumption and the degree of self sufficiency, particularly for food-deficient countries. The balance sheets were also valuable for the qualitative evaluation of data derived from the various sectors (production, foreign trade and processing).

166. However it accepted that the compilation of balance sheets was a statistical exercise exhibiting a number of difficulties (e.g. conversion factors for the trade data and low availability of data on the use made of catches). Accordingly it encouraged FAO and Eurostat to collaborate in developing balance sheets which minimise these inherent risks.

REPORT ON FISHING FLEET STATISTICS, VESSEL STATISTICS AND VESSEL MONITORING SYSTEMS

(Agenda item 18; Documents Sub-Group B: Agenda; FAO 3)

167. The report prepared by Sub-Group B dealing with these topics is presented in Appendix 7. The CWP reviewed the report, in particular noting the following points:

Fleet and vessel statistics

168. FAO's revised FISHSTAT FF questionnaire for fishing fleet statistics was generally welcomed, particularly with regard to the replacement of the tonnage (GT or GRT) by the length overall (LOA) as the primary parameter used in the breakdown of national fleets. However, it was noted that the proposed breakdown by vessel type would cause difficulties in certain quarters (for example, for the fleets of EU Member States).

Vessel Monitoring Systems (VMS)

169. The CWP considered that the Sub-Group's review of Vessel Monitoring Systems had been of great value and that development of VMS should be followed closely by the CWP.

170. The CWP agreed that there is an urgent need for an international standard format which accommodates the reporting of position, fishing activity, catch and other data through VMS. The format should allow very extensive flexibility in the data elements to be included. One such possible standard which seemed to meet these criteria is the "Danish standard" adopted by many agencies in the Atlantic, but there may be other candidates. The CWP strongly recommended that an international standard be developed and promoted, and that FAO consider facilitating this process as a matter of urgency. Presentation of the "Danish standard" and other candidate standard formats on the FAO Web site would assist this process.

FUTURE ACTIVITIES OF THE CWP

(Agenda item 19)

171. An inter-sessional meeting is proposed to finalize the table designating lead agencies for catch statistics (and effort, if available) for particular species in particular areas, as recommended in paragraph 81. It would also be desirable to consider the methodology and logistics of adopting data from the lead agencies. The CWP Secretary should take the lead in arranging this meeting, which could possibly be held in conjunction with the FAO ACFR Working Party on Status and Trends of Fisheries which will meet in November 1999.

172. An inter-sessional meeting of agencies concerned with dissemination of North Atlantic catch statistics (Eurostat, FAO, ICCAT, ICES and NAFO) as recommended in paragraphs 88 and 89 is also proposed. ICES will take the lead in arranging this meeting, which will probably take place in the first quarter of 2000. The same meeting

may also be an appropriate occasion to consider historical statistics of the former USSR, and particularly the Baltic States, as recommended in paragraph 105.

173. Initial organization of CWP-19 might be considered at the meeting referred to in paragraph 171 with a second organizational meeting possibly taking place in conjunction with the meeting of regional fishery organizations which is in turn planned to be held in combination with the FAO Committee on Fisheries meeting in February 2001.

ANY OTHER BUSINESS

(Agenda item 20)

174. CWP-18 recommended that the title of the STATLANT Newsletter be changed to the CWP Newsletter and that it be made available on the Web with links from the CWP site on the FAO Fisheries Web site. CWP-18 recommended that Eurostat and FAO should cooperate to implement this.

175. CWP recommended that the Handbook of Fishery Statistics be also made available as a CD ROM and on the CWP Web site when it has been completed in the revised version. Consideration should also be given to renaming it, possibly as the "CWP Compendium on Fisheries Statistics".

176. The table prepared at the Ad Hoc Consultation on the Role of Regional Fishery Agencies in Relation to High Seas Fishery Statistics (La Jolla, California, 13-16 December 1993), summarizing the statistical programme of each agency, has been extensively quoted and is generally considered to be useful. CWP-18 recommended that it should be modified and updated and that each agency should provide by 30 October 1999 to the CWP Secretary a brief description for each of following attributes for each agency to be included in a revised version of the table:

- Main purpose and usage of statistics
- Catch and effort data structure, geographical and temporal resolution and length of time series
- Are catch data available by EEZ?
- Data source (e.g. official report, scientists' estimates, agency observer programme, agency port sampling programme)
- Availability of retained fish by-catch (non-target) species data
- Availability of discard data (including birds and mammals)
- Availability of biological data (including size)
- Availability of economic data
- Availability of environmental data
- Catch data verification methods (e.g. trade data)
- Usage of fishery-independent data
- Reporting policy in relation to nationality of catch
- Are countries obliged to report data?
- Do all member countries report data?
- What is included in catch statistics? (e.g. discards, recreational, fish on-grown in pens, experimental fishing)
- Observer programmes

- Vessel monitoring systems
- Restrictions on access to data

ARRANGEMENTS FOR THE 19TH SESSION OF CWP

(Agenda item 21)

177. CWP noted that there are several new international developments and issues which may impact on the work of the Working Party and that the nineteenth session of CWP should be held in 2001. As a recently-joined member of CWP, SPC stated that it would like to host CWP-19 at its offices in Noumea, New Caledonia. CWP-18 gratefully accepted this invitation with the understanding that dates will be confirmed at a later stage. The suggested dates are during the week of 9-13 July 2001.

ADOPTION OF THE REPORT

(Agenda item 22)

178. This Report was adopted. Recommendations contained in the report are listed in Appendix 8.

CLOSING

179. CWP noted with sadness the deaths during the inter-sessional period of Mr Dormehl Gertenbach, former FAO Senior Fishery Statistician and the first CWP Secretary and of Dr Roger Bailey, former ICES Fisheries Advisor and CWP participant.

180. CWP also noted that Mr Maurizio Perotti, FAO Fishery Statistician, would be retiring in 1999 after many years of distinguished service to FAO during which he undertook extensive collaboration with all CWP agencies. CWP expressed gratitude to him for his tireless work in fishery statistics and wished him a happy retirement.

181. Eurostat was thanked for its hospitality and for providing excellent meeting facilities. The Chairperson thanked the participants who had acted as rapporteurs. Participants expressed their appreciation of the Chairman for his handling of the meeting. The Chairman declared the Session closed.

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AGENDA

1. Opening of Session and Adoption of Agenda
2. Appointment of Chairman
3. Changes in Membership of CWP
4. Review of Recommendations from CWP-17
5. Agency Programmes in Fishery Statistics
 - Modifications since CWP-17
 - Main purpose and usage of statistics
 - Catch data structure (e.g. what is included? discards, recreational, fish on-grown in pens, experimental fishing, official or scientists estimates)
 - Reporting policy in relation to nationality of catch
 - Observer programmes
 - Vessel monitoring systems
 - Fishery-independent data
6. Harmonization Among Agency Databases
7. Exchange and Dissemination of Information and Statistics by Agencies
 - Data management and dissemination policies
 - Possible live linkages among data sets for dissemination
 - Tuna Atlas data
 - Fishstat Plus dissemination software
 - Joint publication on CD ROM for North Atlantic
8. STATLANT Issues
9. Integrated Fisheries Monitoring
10. Definition of Nationality of Catch
11. Major Fishing Area Boundary Modifications
12. Statistical Implications of the Precautionary Approach
13. Elasmobranch Statistics
14. Report on Fishery Trade Data¹
 - Commodity classification
 - Foreign landings and trans-shipping
15. Report on Socio-Economic Indicators for Fisheries ¹

¹ Report from Sub-Group A Meeting on 5 July 1999

16. Report on Fisher Statistics²
17. Report on Landing Value Statistics¹
18. Report on Fishing Fleet Statistics, Vessel Data and Vessel Monitoring Systems²
19. Future Activities of the CWP
20. Any Other Business
21. Arrangements for the 19th Session of the CWP
22. Adoption of the Report

² Report from Sub-Group B Meeting on 5 July 1999

LIST OF DOCUMENTS

CWP-18/A	FAO	General Announcement
B	FAO	Agenda
C	FAO	Annotated Agenda
D	FAO	List of Documents
E	FAO	List of Participants
F	FAO	CWP Sessions: Dates, venues, etc.
G	FAO	List of Acronyms
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CWP-18/1	FAO	Report of the 17th Session of the CWP (3-7 March 1997, Hobart)
2	FAO	Report of the <i>Ad Hoc</i> CWP Inter-Sessional Meeting (25-27 February 1998, Rome)
3	FAO	Changes in Membership of CWP (<i>document not issued</i>)
4	FAO	Review of Recommendations from CWP-17
5	All Agencies	Modifications to Agency Programmes in Fishery Statistics
6	Eurostat FAO	Harmonisation Among Agency Databases
7	FAO	Exchange and Dissemination of Information and Statistics by Agencies <ul style="list-style-type: none"> - Data management and dissemination policies - Possible live linkages among data sets for dissemination
8	FAO NAFO ICES CCAMLR Eurostat	STATLANT Issues
9	FAO	Integrated Fisheries Monitoring
10	FAO	Definition of Nationality of Catch
11	FAO	Major Fishing Area Boundary Modifications

12	ICES CCAMLR NAFO FAO	Statistical Implications of the Precautionary Approach and Integrated Fisheries Monitoring
13	FAO ICCAT	Elasmobranch Statistics
14	Sub-Group A	Report of Fishery Trade Data - Commodity classification - Foreign landings and trans-shipping
15	Sub-Group A	Report on Socio-Economic Indicators for Fisheries
16	Sub-Group A	Report on Fisher Statistics
17	Sub-Group A	Report on Landing Value Statistics
18	Sub-Group B	Report on Fishing Fleet Statistics and Vessel Monitoring Systems

CWP-18 Information Documents

CWP-18/Inf.1	Report of the Meeting of FAO and Non-FAO Regional Fishery Bodies or Arrangements. Rome, Italy, 11-12 February 1999. FAO Fishery Report No.FIPL/R597
CWP-18/Inf.2	FAO Technical Guidelines on Vessel Monitoring Systems
CWP-18/Inf.3	Guidelines for the Routine Collection of Capture Fisheries Data (prepared at the FAO/DANIDA Expert Consultation. Bangkok, 18-30 May 1998 (Preliminary Version)
CWP-18/Inf.4	International Conference on Integrated Fisheries Monitoring
CWP-18/Inf.5	Draft Guidelines for the 1998 Statistical Review - OECD

LIST OF ACRONYMS

APFIC	Asia-Pacific Fishery Commission
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)
CPPS	Comisión Permanente del Pacífico Sur
CWP	Coordinating Working Party on Fishery Statistics
EEZ	Exclusive Economic Zone
EIFAC	European Inland Fishery Advisory Commission (FAO Regional Body)
EPO	Eastern Pacific Ocean (SPC)
EU	European Union
Eurostat	Statistical Office of the European Communities
FAO	Food and Agriculture Organization of the United Nations
FFA	South Pacific Forum Fisheries Agency
FIDI	Fishery Information, Data and Statistics Unit (Fisheries Department, FAO)
FIGIS	FAO Fisheries Global Information System
GFCM	General Fisheries Commission for the Mediterranean (FAO Regional Body)
GT	Gross Tonnage
HS	Harmonized System of fishery commodity classification
IATTC	Inter-American Tropical Tuna Commission
ICCAT	International Commission for the Conservation of Atlantic Tunas
ICES	International Council for the Exploration of the Sea
IOTC	Indian Ocean Tuna Commission (FAO Regional Body)
ICSEAF	International Commission for the Southeast Atlantic Fisheries (ceased: 1990)
ISSCAAP	International Standard Statistical Classification of Aquatic Animals and Plants
IWC	International Whaling Commission
NAFO	Northwest Atlantic Fisheries Organization (previously ICNAF - International Commission for the Northwest Atlantic Fisheries)
NASCO	North Atlantic Salmon Conservation Organization
New Cronos	Eurostat Database (previously CRONOS)
OECD	Organization for Economic Cooperation and Development
ORACLE	Database Management System used by FAO
SCTB	Standing Committee on Tuna and Billfish (SPC)
SEAFO	South East Atlantic Fisheries Organisation (currently being formed)
SPC	Secretariat of the Pacific Community
STACREC	Standing Committee on Research Coordination (of Scientific Council of NAFO)
STATLANT	STATistical Programme for the ATLANTic Fisheries (previously STANA)
TAC	Total Allowable Catch
VMS	Vessel Monitoring Systems
WCPO	Western and Central Pacific Ocean (SPC)

REVIEW OF RECOMMENDATIONS FROM CWP-17

The main actions taken in response to recommendations from CWP-17 are as follows (paragraph references below refer to the CWP-17 Report):

1. (Para. 82) The Secretariat is not aware of any new observer programmes introduced during the inter-sessional period. Several CWP organizations have observer programmes, and some have been recently enhanced.
2. (Para. 85) Many new plans for VMS implementation have been developed since CWP-17. There has been some cooperation in the adoption of formats and standards for data reporting, particularly for the North Atlantic. CCAMLR has introduced mandatory VMS in toothfish fisheries (Conservation Measure 148/XVII), and each Contracting Party was required to establish by March 1999 an automated VMS to monitor the position of all of its fishing vessels in the Convention Area. The implementation of VMS on vessels while participating only in a krill fishery is not currently required. Any Contracting Party unable to establish VMS by March 1999 was required to inform the CCAMLR Secretariat and communicate its intended timetable for implementation of VMS. All Contracting Parties are required to establish VMS at the earliest possible date, and in any event, no later than 31 December 2000. In 1982 the IWC took the decision that, from the 1986 and 1985/86 seasons, that the catch limits for all commercial whaling would be zero. As this decision is still in force there is currently no implementation of vessel monitoring systems. However, if commercial whaling is resumed, the IWC would be likely to use an existing standard system, possibly with modifications to allow information on key vessel characteristics to be transmitted (e.g. tension on the whale line or engine speeds which would allow monitoring of whale chasing situations). During the inter-sessional period, FAO published Guidelines for VMS.
3. (Para. 95) ICES has made several studies using fisheries independent data for the estimation of catches when these are suspected to be unreliable. It has become current practice in some assessment working groups to check the catch statistics against the trawl survey data. Experience however indicates that the precision of such estimates are quite poor and only in cases when gross misreporting occurs do these techniques improve the assessments, i.e. accurate catch statistics is a keystone in proper fish stock assessment work.
4. (Para. 98) FAO is developing an electronic questionnaire which can be tailored to the individual FISHSTAT and STATLANT questionnaires (see Doc. CWP-18/5-FAO). It will be tested by FAO and relevant agencies during 1999. The questionnaire will be offered to countries in 2000 as one possible way to report. ICES has for many years accepted STATLANT 27A data in electronic form and the system is used by many countries although not all. ICES will repeat the announcement of the ability to accept STATLANT 27A data in electronic form, e.g. as attachment to e-mails.
5. (Para. 99) The Secretariat is not aware of any developments.
6. (Para. 107) Eurostat has conducted a survey of national authorities submitting fisheries data to comment on Eurostat's policy with regard to dissemination of fisheries data. With one exception, all EU member States have agreed to the free dissemination of fisheries statistics. The CCAMLR Secretariat has begun work on a multi-lingual CCAMLR website, and sections of the website have been developed in English. The homepage is located at <http://www.ccamlr.org>. The objective of the website is to provide a framework for organising,

presenting and delivering information to Members, related organisations and the general public in the four languages of the Commission. The information will be delivered at two levels: (1) general information and some published material will be available to Members and the general public via open-access web pages; and (2) detailed information, meeting business and selected datasets will be restricted to CCAMLR Members via password-protected web pages. Development of the website will continue in 1999, and will include the implementation of the French, Russian and Spanish sections. The placement of STATLANT data on the CCAMLR website has been discussed and some options for the dissemination of these data have been evaluated. At this stage, it is likely that CCAMLR's Statistical Bulletin will be available via the website sometime in 2000, and that a 'queriable' STATLANT database will be made available at a later date. In the meantime, CCAMLR will continue to make available STATLANT data electronically on request. The ICCAT home page contains total catch statistics and catch distribution (FAO atlas base) by species, 5° x 5° area, by quarter and by major gear. These data are very widely used. Many data inquiries are referred to these data bases on the home page and this reduces the burden of responding to inquiries. The total catch base is updated about 4 times a year and catch distribution, once a year. The IWC has a requirement that member nations provide it with details of catches of large whales. This information is in the public domain. It is planned that a summary of the catches of large whales since 1900 will be added to the IWC Web site (<http://ourworld.compuserv.com/homepages/iwcoffice>) as soon as possible, once the problem with falsified Soviet data has been resolved. In addition tables of recent catches of small cetaceans will be given. The Fisheries Global Information System (FIGIS) being developed by FAO will offer future possibilities for CWP agencies to disseminate their statistics through an integrated global system, entirely under their own control (see Doc. CWP-18/7-FAO).

7. (Para. 112) Eurostat has not yet had the possibility of processing 47A and 47B data though it should be possible in the near future. For IWC, this is not applicable at present (because of moratorium on commercial catches - see above). If commercial whaling is resumed it is likely that there would be a requirement to collect effort data in some form. The GFCM Working Party on Fisheries Economics and Statistics reviewed the STATLANT 37B reporting scheme (see Doc. CWP-18/8-FAO).

8. (Para. 117) Eurostat's data-base has been constructed so that it can readily identify discrepancies in international data-bases. ICCAT has software which identifies discrepancies between ICCAT and FAO catch data for tunas in the Atlantic. As reported in Doc. CWP-18/2, database harmonization exercises were conducted during the inter-sessional period between NAFO and FAO data and between ICCAT and FAO data. ICES has continued its critical review of its database. Since the last CWP meeting a number of cases with inconsistent data held by ICES and other international agencies have been identified and clarified through contact with the national authorities. Where ICES or other CWP agencies have received updates these have been communicated with a view to harmonise comparable data held by different agencies.

9. (Para. 118) Eurostat, NAFO and FAO have conducted a major review of the catch data for 1960-96. Many discrepancies have been eliminated. Serious problems exist for four major fishing nations and contacts have been established with the national authorities in an attempt to resolve the problems. Most of the largest discrepancies are for the earlier part of the study period and are unlikely to be resolved. Severely limited staff resources in ICES in the inter-sessional period have prevented the proposed Eurostat/ICES/FAO study of data for the Northeast Atlantic. A comparison of ICCAT and ICES data was not undertaken due to a lack of human resources. A proposed new ICCAT position of Biostatistician was refused. As soon as such a position is established, this work can be undertaken.

10. (Para. 124) In general, CCAMLR Flag States will have assigned to them for the purpose of Article XIX.3 of the Convention, catches taken by their vessels on the high seas in the Convention Area. In cases of vessel charter between Members of the Commission, the Flag State and the State whose nationals control the vessel's operations may agree otherwise in respect of the responsibility for catch reporting and the attribution of the catch for the purpose of Article XIX.3 of the Convention. Members are requested to provide information on such agreements to the Secretariat as soon as they are concluded (CCAMLR-XVI, paragraph 8.16). In addition, in the case of joint ventures where one party is not a Member of CCAMLR, the party which is a Member of CCAMLR would be expected to assume responsibility for reporting data and ensuring compliance with conservation measures (CCAMLR-XVI, paragraph 8.17). ICCAT has experienced continued problems with the attribution of nationality to catches, although repeated warnings to flag States and the initiation of trade actions by ICCAT has resulted in some improvement in the situation and more concern amongst flag of convenience countries, some of which joined the Commission and cancelled fishing licences (i.e. Panama). Another problem is that some coastal States refuse to report catches by flags and insist that all catches taken in waters of national jurisdiction should be attributed to the coastal State. The motivation for this is anticipation of future quota allocations based on historical catches. This procedure recommended by CWP would be the basis for designating the nationality of catches reported by the IWC. A review of the legal aspects of the collection of fisheries data and implications for the attribution of nationality to catch has been prepared by FAO (see Doc. CWP-18/10-FAO).

11. (Para. 130) Follow-up to proposal 1 above, although agreed in principle by South Africa, should now await accordance from the Southeast Atlantic Fisheries Organization (SEAFO) which is currently being established. Proposals relating to area 57 were considered by the APFIC Joint Working Party on Fishery Statistics and Economics (JWP). JWP made recommendations which were subsequently adopted by APFIC. The items are considered in more detail in Doc. CWP-18/11-FAO.

12. (Para. 150) The FAO fleet statistics programme was reviewed and this is reported to CWP-18 in Doc. Sub-Group B/Agenda item 3-FAO.

13. (Para. 156) This has been completed and a publication has been prepared and will soon be released.

14. (Para. 163) CCAMLR is very interested in determining the value of fishery products taken from the Southern Ocean, and trends in world markets, as well as quantities landed and traded. For example, the Working Group on Ecosystem Monitoring and Management tasked participants to gather "... information on past and current market prices for krill. This information would provide further insight into the fishery, for instance in an appreciation of the economic factors affecting this fishery" (SC-CAMLR-XVII, Annex 4, paragraph 2.9). CCAMLR is currently developing a Catch Documentation Scheme to track the worldwide trade of *Dissostichus*, and we have made extensive use of available trade information to quantify the extent of illegal fishing for this species both within, and outside, the CCAMLR Convention Area.

15. (Para. 165) This was done.

16. (Para. 166) This was not addressed during the inter-sessional period.

17. (Para. 167) This was undertaken in respect of NAFO, ICCAT and FAO data (see Doc. CWP-18/2).

18. (Para. 168) This procedure was followed for the distribution of documents for CWP-18 using a page on the FAP Fisheries Web site to list documents for downloading. However, the gain in timeliness of document distribution noted for CWP-17 was not repeated for CWP-18 as agencies took advantage of the more rapid distribution by submitting documents later than usual. At least one agency (NASCO) experienced difficulty in accessing the documents.

19. (Para. 170) This was not undertaken due to other commitments.

20. (Para. 171) Catches from research vessels are usually included in the STATLANT data reported to CCAMLR. ICCAT requests for data submission now include this provision. Catches by research-training vessels are included in the ICCAT catch data but catches by pure scientific research vessels are usually not included, but these generally do not account for much. The IWC includes research vessel catches in its catch statistics and has done so for many years.

**Report to CWP-18 of Sub-Group A on
SOCIAL, ECONOMIC, COMMODITY AND TRADE ISSUES**

Luxembourg, 5 July 1999

Participants: A. Crispoldi (FAO), D. Cross (Eurostat), O. Flaaten (OECD), K. Hegar (Eurostat), M. Henrard (Eurostat), J-M Huylebroek (EC-DG14), K. Katsuyama (JFA, Japan), G. Robledo Fraga (EC-DG14), S. Ziegler (Eurostat)

OPENING AND ADOPTION OF AGENDA

1. Mr Michel Henrard (Chairperson) opened the meeting by welcoming the participants and the provisional agenda was adopted.

SOCIO-ECONOMIC DATA AND INDICATORS

2. The EC-DG14 reported on the Extraordinary meeting on Fishery Statistics held in Brussels on 24 June 1999. During that meeting, a draft regulation proposing, inter alia, the collection of socio-economic indicators for fisheries was announced to the EU-Member States. Although the reaction from the EU-Member States was generally positive a number of them commented that they would experience difficulties in collecting and compiling the data. The EC-DG14 acknowledged the work on socio-economic aspects of fisheries done by the EU's Scientific, Technical and Economic Committee for Fisheries but foresaw a lack of relevant data. The details of the socio-economic data to be compiled would require consultations with fisheries economists and statisticians of the Member States.

3. FAO emphasised the increasing interest for socio-economic aspects of fisheries but acknowledged that the required type of statistics is often not available. FAO underlined the necessity to distinguish between data and indicators. Data definitions and harmonisation of data were regarded as difficult. FAO suggested achievement of international data standards and enhancing data availability exploiting ad hoc surveys.

4. OECD reviewed changes in its Review of fisheries, which are summarised as follows:

- Review of fisheries in OECD countries becomes a biannual publication: however the Statistical Annex will be published annually
- OECD-Member States will receive blank tables (Excel format) on diskette to be completed
- The "Utilisation of catch" has been removed from the Statistical Annex.
- The trade tables will be completed by the Secretariat from data held by the OECD Trade Division.
- Tables requesting information on governmental financial transfers to the harvesting, processing, marketing and aquaculture industries have been added to the Review
- Seaweed production was introduced to the tables: salmon has been divided into "Atlantic salmon" and "Pacific salmon": and certain items have been added to the catch and aquaculture tables
- Additional information on employment in aquaculture and the processing industry has been added to the "Employment" table.

5. Eurostat and EC-DG14 reviewed the status of on-going employment studies in EU-Member States undertaken by external consultancies. FAO noted the report on fisher statistics

and underlined the conceptual and methodological problems which are accentuated by a low return rate of questionnaires to the survey. In 1995 the FAO FISHSTAT FM questionnaire was modified to bring it in line with the sub-categories included in the International Standard Classification of Occupation of the ILO.

6. Eurostat reviewed the preliminary results of a study being undertaken by a postgraduate student from Lancaster University (UK) on the existence and completeness of potential socio-economic data available within Eurostat's services (see Annex). It is evident that a range of socio-economic data are available in the different domains of the Eurostat New Cronos database but it remains unclear as to how far the available information is harmonised. Certain data determining the demand for food and non-food fish products or fishing effort are completely missing. Some tables from the preliminary results of this study are annexed to this document.
7. FAO reviewed the initial data collection strategies to model demand for fish consumption (food/non-food). FAO is continuing collection of catch utilisation data which are not published due to a low return rate of questionnaires (between 35 and 45%).
8. The Sub-Group regarded value added as an important socio-economic indicator for fisheries. However, the difficulties in obtaining figures for the fisheries sector alone were discussed. Usually, value added figures are provided exclusively for the ensemble of agriculture, forestry and fishery with the exception of a few countries (e.g. Norway) where a more detailed breakdown of the primary producing sector is provided. EC-DG14 noted the FADN (Farm Accounts Data Network) as a potential example how fisheries management may deal with this problem in the future. It was noted that knowledge of production costs is essential in order to estimate the viability of a fishery. Data might be difficult to obtain from national offices and an alternative approach to contact professional organisations was suggested. The importance of data on wages and salaries as a reliable source of information was discussed. The confidentiality of data was noted as the main problem. Employment studies could provide further insight into the problem.
9. Subsidies and public expenditure for fisheries management were pointed out as very important in socio-economic terms. EC-DG14 noted that EU-Member States often have difficulties to provide this information because these data are aggregated in broader budget categories (i.e. fisheries research in oceanographic research, fisheries control in coastal, environmental and defence control, etc.). FAO noted that data on subsidies and public expenditure are politically very sensitive; this fact is accentuated in developed countries. Subsidies are subject to ambiguity: on the one hand they can keep an inefficient industry alive, but on the other hand they may provide political stability.
10. Value of landings was discussed in terms of different approaches between OECD and the Eurostat regulation. OECD requires nationality of landings by flag of vessel whereas the latter distinguishes only between EU and other vessels. FAO reported on the ad hoc survey launched for countries to report gross value of catches for 1995-97 in preparation for the integration of such information in the annual inquiry. Eurostat foresaw difficulties in supplying the data for EU-Member States.
11. Prices of products, per capita consumption of fish products, externalities (by-catch), and the introduction of a system of environmental accounting were noted as potentially useful socio-economic data or indicators. FAO presented the 'Guidelines for the Routine Collection of Capture Fishery Data' (FAO Fisheries Technical Paper No. 382, in press) as a useful overview of potential socio-economic indicators for fisheries. The session concluded with a discussion why socio-economic data are important for fisheries management. OECD noted that amongst

the approximately 20,000 taxonomically described fish species, only about 1,000 are commercially harvested due to economic reasons.

FOREIGN TRADE DATA

Trade data as fisheries independent data

12. The group noted that external trade statistics are increasingly used to supplement catch and landing statistics of certain species or to provide a basis for control and validation of data coming from sources directly related to fisheries. Agency representatives were requested to indicate which type of trade data are available in their organization and to which extent they are used as a fisheries independent source of information to validate catch.

13. It was noted that this use of trade statistics is not common in OECD. Fishery trade data are collected on an annual basis; until recently member countries were approached by the Fishery Division directly and the information provided was used for analytical purposes within OECD. From now on fishery trade data will come directly from the Trade Directorate database and will be sent to member countries' fishery administrations for checking and analysis. As stipulated in its 2000-2002 work program, OECD has a project to study market liberalization and its effects on trade issues: trade statistics will be used to analyze the effects on trade flows of fisheries products. Some member countries will likely use these data when preparing for trade rounds at WTO. Also the ongoing OECD study on responsible post-harvest, utilization and trade is expected to give some useful results.

14. A recent example of the use of trade statistics for catch data validation was that of Patagonian toothfish. It was found that there was a higher level of trade than would have been otherwise possible from reported catch of the regulated fishery of this species.

15. The general assumption that trade data are more reliable than catch data has to be used cautiously. It was emphasized that trade statistics may be subject to distortions, due, for example, to different tariffs for different species creating an incentive in reporting imports of low tariff species. It was also noted that, with the installation of the EU Single Market and the resultant reorganisation of the data collection methods for trade between EU-Member States, the intra-EU trade data are currently not as reliable as the data for the trade between the EU and third countries.

16. The FAO annual world fishery trade statistics compilation - in compliance with the policy of not placing undue burden on national statistical offices relies largely upon data made available to FAO by member countries for the whole agricultural sector. Cross checking between catch and trade data for validation takes place on a country level within the FAO supply-utilization accounts system established for the estimation of annual average food consumption, including fish and fishery products. In the past it has been possible to identify some national catch data deficiencies by means of comparison with external trade statistics. World harvest of corals and production of crocodiles are entirely based on external trade data, obtained from external sources, which are considered more reliable than nationally reported data for those species. FAO reported that starting with 1997 trade statistics, data of imports and exports of seaweed, corals and sponges are also included in the database (such products were covered by the FAO classification but data were not monitored).

Trade classifications

17. The Sub-group analyzed the classifications used for fishery products in OECD, Eurostat and FAO. OECD and Eurostat use similar classifications, while that used by FAO for collation

of national data includes a more detailed breakdown for certain products, but an almost one-to-one equivalence with the Harmonised System (HS) and Eurostat classification is ensured. It is difficult to modify trade classifications, to include the species detail necessary for the validation of catch statistics. For instance, based on the outcome of a visit to the WCO in July 1998 by FAO and Eurostat, it was noted HS classification in world-wide use is subject to continuous review, with proposed changes incorporated in 4-5 year cycles: the current round of revisions started in 1998. Within the overall policy of minimising changes to the HS and to maintaining the size of the HS classification within workable limits, proposals for inclusion of new commodities have to be fully documented and supported by evidence that the world import trade is at least US\$ 20 million worth. While commodities falling below the threshold are automatically eliminated at each revision cycle, there is no process for the automatic inclusion of new commodities: the inclusion of qualifying commodities has to undergo a lengthy procedure, that it is best operated through member states recommendations rather than by agencies with an observer status. Despite these shortcomings, FAO was encouraged to proceed as soon as possible with its proposal to WCO for inclusion of additional fishery commodities in the HS.

18. The EU Common Nomenclature basically identifies species included in the Common Fishery Policy market management scheme. Similar to the WCO policy of commodity containment, the EU SLIM project targets to reducing the trade classification to 6 digits from the present 8 (CN) +2 (national) digits presently allowed for meeting the requirements of market schemes management at community and national level.

Foreign landings and trans-shipping

19. A part of the trade in fishery products takes place in off-shore waters as trans-shipments between vessels or does not cross the national borders being fish landed directly in a foreign port. The practice recommended by the UN Statistical Commission, to include such quantities in foreign trade, is not applied by all countries. FAO reported that, as far as possible, landings in foreign ports are reflected in its foreign trade data compilations as exports of the flag country using information on foreign landings provided by the national authorities.

20. It was noted that data on trans-shippings are difficult to obtain and, at present, no correction is made for such transactions. EU-Member States are under the obligation of recording in logbooks trans-shipments and landings in other than home ports, but it is problematic to process and incorporate such data in foreign trade. The European Commission does not have access to the logbooks which are retained by the national authorities.

21. The group discussed possible sources of often significant discrepancies noted in the trade data published by OECD, Eurostat and FAO for the same country.

22. FAO noted that, in its collation of annual data, certain commodities included in the EU classification were not included i.e. heading 16.03 Extracts and juices, and item 0307 60 Snails, other than sea snails. Also, in line with the recommendations of the UN Statistical Commission, customs data are adjusted for the landings abroad, when they are known.

23. However, since differences could not explained by landings abroad or trans-shippings exclusively, it was recommended that the Eurostat, FAO and OECD should identify possible sources of trade data differences with a view to harmonizing the data published. The exercise should concentrate on the quantities traded, because discrepancies in the value of trade could be due to differing currency conversions.

24. The difficulty of correctly attributing nationality to catches in certain joint ventures operations may add to the difficulty of the correct attribution to trade of landings in foreign port. The problem is further complicated in the case of catches by flag of convenience vessels landed abroad or trans-shipped.

25. OECD noted that the paramount information for countries allowing foreign vessels to fish under access agreement is how much is removed from stocks and not the nationality of the country performing the operation. This is because the profitability of the fisheries is the most important element in negotiations and in determining access fees.

Fishery commodity and fisher statistics

26. Policy makers often ask for information on the economic and employment implications of changes in TACs and other fishery management instruments. General industrial statistics are not complete enough because of the non-inclusion of small enterprises (with less than 20 employees or turn-over below a certain level) or where the major commodities are non-fish products.

27. The EU needs such data for the planning and implementation of the Common Fisheries Policy. FAO needs such data for its food supply balance reviews. OECD is currently collecting data for the processing industries as part of a post-harvesting study.

28. It may not be necessary to establish an annual request for commodity data from national authorities: periodic studies of the processing industry, or well-defined parts of it, may be sufficient to provide the information required.

29. The European Commission will be discussing with EU Member States the possibility of establishing the submission of more complete data on the fish processing industry (as an element of EU legislation on data collection) than are available from standard industrial surveys.

OTHER MATTERS

Supply balance sheets for fishery products

30. FAO emphasised the importance of supply balance sheets for assessing the per capita supply and the degree of self-sufficiency in fishery products of, in particular, developing and under-developed countries.

31. Eurostat commented that the per capita consumption of fishery products was among the most frequently requested data on fisheries.

32. The Sub-group noted that the compilation of supply balance sheets is a statistical exercise which draws together data from various sectors (for example, production and trade) and which can be useful in assessing the reliability of the component data-sets. One of the greatest uncertainties in this exercise involves the application of conversion factors to the trade data. Large annual variations in the apparent per capita consumption are more likely to be due to problems associated with the compilation of the balance sheets than they are to be reflections of changes in the population's consumption habits.

33. Household expenditure surveys are conducted in many (though not all) countries and are an alternative source of per capita consumption data. They have the advantage that they can be used to provide sub-national data: supply balance sheets are limited to national data by their

dependence on external trade data. However, household expenditure surveys do not normally include consumption outside of households and consumption of fishery products in restaurants and cafeteria can be appreciable.

34. Eurostat announced that it was studying the possibility of compiling supply balance sheets automatically from the various components of its New Cronos data-base on fisheries and that it would welcome consultations with FAO as the work progressed.

“Utilisation of catch” tables

35. Eurostat noted that the request to provide a breakdown of the utilisation of the catch has caused problems for national authorities and that, as a result, OECD has dropped this table from its Annual Statistical Review. FAO acknowledged that this table did cause problems but noted that it was often a valuable source of information on the proportion of the total catch destined for reduction to meal and oil and that, particularly for non-developed countries, it was the sole source of the information essential for the compilation of supply balance sheets.

Annex: Review of socio-economic indicators for fisheries produced by EU-Eurostat.

Availability and resolution of data in the EU-Eurostat New Cronos database over the period 1989-98. NACE: Statistical Classification of Economic Activities in the European Communities. NUTS: Nomenclature of territorial units for Statistics in the European Communities (e.g., NUTS 0 - National level). N/A - Data not available.

Item	Indicators	Variables	NACE	Spatial resolution	Temporal resolution
1.	Demand for food fish	<ul style="list-style-type: none"> • q_T : per capita consumption of product • P_T : price per unit of product • Y/N : real per capita income (real aggregate consumer income Y divided by population N) • P_1, \dots, P_n : price per unit for goods that are substitutes for product in consumption 		N/A	N/A
2.	Demand for industrial use of fish	<ul style="list-style-type: none"> • Q : utilisation (quantity) of fish meal • P_F : price of fish meal • C : aggregate consumption of chickens • P_{SB} : price of substitutes for fish meal 		N/A	N/A
3.	Price elasticity	<ul style="list-style-type: none"> • percent change in quantity demanded • percent change in price 		N/A	N/A
4.	Balance of trade	<ul style="list-style-type: none"> • Million ECU 	<ul style="list-style-type: none"> • Processing and preserving of fish and fish products 	NUTS 0	Annually 1990-98
5.	Apparent consumption	<ul style="list-style-type: none"> • Million ECU 	<ul style="list-style-type: none"> • Processing and preserving of fish and fish products 	NUTS 0	Annually 1990-98
6.	Share of domestic market	<ul style="list-style-type: none"> • Percent 	<ul style="list-style-type: none"> • Processing and preserving of fish and fish products 	NUTS 0	Annually 1990-98
7.	Extraversion rate	<ul style="list-style-type: none"> • Percent 	<ul style="list-style-type: none"> • Processing and preserving of fish and fish products 	NUTS 0	Annually 1990-98
8.	Specialisation ratios				
	a) Production	<ul style="list-style-type: none"> • Percent 	<ul style="list-style-type: none"> • Processing and preserving of fish and fish products 	NUTS 0	Annually 1990-95
	b) Export	<ul style="list-style-type: none"> • Percent 		NUTS 0	Annually 1990-98

Item	Indicators	Variables	NACE	Spatial resolution	Temporal resolution
	c) Import	<ul style="list-style-type: none"> Percent 		NUTS 0	1990-98
9.	Population density	<ul style="list-style-type: none"> Inhabitants per km² ratio of live births to the total resident population ratio of total deaths to the total resident population 		NUTS 3	Annually 1989-96
10.	Civilian labour force	<ul style="list-style-type: none"> Sex (male, female, total) Age (y15_24, y25_34, y35_44, y45_54, y55_64, y65 max, total) 		NUTS 2	Annually 1989-97
11.	Conventional unemployment rate	<ul style="list-style-type: none"> Sex (male, female, total) Age (total, y0_24, y25 max) 		NUTS 3	Annually 1993-97
12.	Long-duration unemployment rate	<ul style="list-style-type: none"> Ratio long-term unemployed / working population 		NUTS 2	Annually 1993-97
13.	Gross Domestic Product	<ul style="list-style-type: none"> ECU per habitant Million ECU 		NUTS 3	Annually 1989-96
14.	Interregional migration	<ul style="list-style-type: none"> Number of persons migrated to geopolitical entity Declaring and partner geopolitical entity 		NUTS 2	Annually 1989-95
15.	Importance of ports	<ul style="list-style-type: none"> Quantity and value of landings 		NUTS 0	Monthly 1989-98
16.	Number of associated industries	<ul style="list-style-type: none"> Number of enterprises by size class Number of births / deaths of enterprises 	<ul style="list-style-type: none"> Processing and preserving of fish and fish products Wholesale of other food incl. fish, crustac. Retail sale of fish, crustac. 	NUTS 0	Annually 1995-96
17.	Subsidies and public expenditure	<ul style="list-style-type: none"> Sum of subsidies and public expenditure 		N/A	N/A
18.	Sector employment	<ul style="list-style-type: none"> Part-time, full-time, occasional 	<ul style="list-style-type: none"> Fish producing sector 	NUTS 0	Annually

Item	Indicators	Variables	NACE	Spatial resolution	Temporal resolution
		<ul style="list-style-type: none"> Sex (male, female, total) Number 	<ul style="list-style-type: none"> Processing and preserving of fish and fish products Wholesale of other food incl. fish, crustac. Retail sale of fish, crustac. 	NUTS 0	1989-95 Annually 1995-96
19.	Growth rate of employment	<ul style="list-style-type: none"> (employment year n - employment year n-1) / employment year n-1 	<ul style="list-style-type: none"> Processing and preserving of fish and fish products Wholesale of other food incl. fish, crustac. Retail sale of fish, crustac. 	NUTS 0	Annually 1996
20.	Labour productivity	<ul style="list-style-type: none"> Gross value added per person employed 	<ul style="list-style-type: none"> Processing and preserving of fish and fish products Wholesale of other food incl. fish, crustac. Retail sale of fish, crustac. 	NUTS 0	Annually 1995-96
21.	Personnel costs	<ul style="list-style-type: none"> Total costs calculated as employer's social security costs, wages and salaries 	<ul style="list-style-type: none"> Processing and preserving of fish and fish products 	NUTS 0	Annually 1993-95
22.	Investments	<ul style="list-style-type: none"> Gross investment in tangible goods Gross investment in land Gross investment in existing buildings and structures Gross investment in construction and alteration of buildings Gross investment in machinery and equipment 	<ul style="list-style-type: none"> Processing and preserving of fish and fish products Wholesale of other food incl. fish, crustac. Retail sale of fish, crustac. 	NUTS 0	Annually 1995-96
23.	Gross value of production	<ul style="list-style-type: none"> Total production multiplied by price received 	<ul style="list-style-type: none"> Processing and preserving of fish and fish products 	NUTS 0	Annually 1995-96

Item	Indicators	Variables	NACE	Spatial resolution	Temporal resolution
			<ul style="list-style-type: none"> • Wholesale of other food incl. fish, crustac. • Retail sale of fish, crustac. 		
24.	Value added at factor cost	<ul style="list-style-type: none"> • Million ECU 	<ul style="list-style-type: none"> • Agriculture, forestry, fishery • Processing and preserving of fish and fish products • Wholesale of other food incl. fish, crustac. • Retail sale of fish, crustac. 	<p>NUTS 3</p> <p>NUTS 0</p>	<p>Annually 1989-96</p> <p>1995-96</p>

Report to CWP-18 of Sub-Group B on**FISHING FLEET STATISTICS, VESSEL DATA AND VESSEL MONITORING SYSTEMS**

Luxembourg, 5 July 1999

Participants: T. Amaratunga (NAFO), D. Ardill (IOTC), D. Cross (Eurostat), R. Grainger (FAO), W. Edeson (FAO), M. Hinton (IATTC), Katsuyama (JFA, Japan), H. Lassen (ICES); R. Long (EC-DG14), C. McGregor (CCSBT), P. Miyake (ICCAT), V. Shibanov (NAFO/STACREC), M. Showell (NAFO/Canada), R. Van San (EC-DG14)

OPENING AND ADOPTION OF AGENDA

1. Mr. David Ardill was elected Chairperson for the meeting and the provisional agenda was adopted.

FLEET STATISTICS AND VESSEL DATA
(Documents SG B 3-FAO, CWP-18/Inf. 2)

2. FAO presented the results of a review of its fleet statistics programme which had been undertaken during the inter-sessional period following a recommendation from CWP-17 and reported the changes which had recently been introduced to the annual FISHSTAT FF inquiry. Response rates to the inquiry had been very poor and this was thought to be due partly to the complexity of the questionnaire as well as to the fact that the questionnaires had traditionally been distributed to the national fishery statistical authorities which are often not responsible for maintaining vessel registers or issuing fishing licences. The questionnaire has been simplified to just two forms (one each for decked and undecked vessels) both of which request fleet numbers, GT and power broken down by length overall and a simplified vessel type classification. The previous requested breakdown by GRT class rather than length had been abandoned because of problems with countries slowly changing their reporting from GRT to GT units (which usually results in an increase in tonnage) but often not specifying the units and the fact that the units were not distinguished in the database resulting in a mixture of units in the time series. It is believed that length overall is a standard measure which is more easily obtained for all types and sizes of vessel than tonnage (in whatever unit) and so should lead to more consistent and comparable international statistics. From now on there will also be more active follow up with countries to obtain reports and resolve problems.

3. Some concern was expressed that the simplification of the vessel type categories included in the questionnaire would lead to a loss of detail in the statistics. However, few countries had provided a full vessel type breakdown with many vessels classified as multipurpose or type unknown, and FAO hopes that the simplified request will lead to an increase in responses to the questionnaire.

4. Eurostat has experienced difficulties in providing a breakdown by vessel type as for the multi-annual guidance programme (MAGP) EU vessels are classified using different classifications for different countries. There are about 70 MAGP segments of the fishing fleet for all EU countries combined. It is expected that the simplified vessel type breakdown now requested by FAO will not be any easier to provide.

5. It was recommended that Eurostat and FAO should jointly examine all the MAGP segments with a view to trying to classify them according to the FAO breakdown in order to respond to the FAO inquiry as far as possible.
6. Eurostat also expressed concern that fleet statistics reported to FAO by EU member states might differ from those provided by Eurostat based on the administrative file held by EC-DG14 for administration of the Common Fisheries Policy (CFP), and urged that the Eurostat official data be used if there were differences. FAO responded that while it always reserves the right to use whatever data are considered most reliable, it would try to utilize the Eurostat data unless in some unlikely event there was some compelling reason for doing otherwise.
7. It was pointed out that the multipurpose vessel type should only be used for truly multipurpose vessels and that countries should be urged by FAO to classify vessels as far as possible according to their primary fishing method. Also, it is recognized that there are several different measures of power and FAO should provide clearer guidance on what measure should be reported.
8. In conclusion, while recognizing the many difficulties with the FAO fleet statistics inquiry, it was agreed that the revised questionnaire represented an improvement over the old one, particularly regarding the use of length overall as the main classifier.
9. Eurostat reported that it now bases its statistics for EU fleets on the administrative file of EC-DG14 which is used for monitoring implementation of the CFP. Whereas the vessel data are considered confidential and access to the database is restricted, the summary statistics for tonnage, length, power and vessel type for each country can be disseminated publicly. Data for Norway and Iceland (as EEA members) will be also included.
10. IOTC reported that it has been collecting aggregated fleet data but that it had been decided to now also collate from contracting and collaborating parties individual vessel data for tuna longliners over 24 m LOA operating in the Indian Ocean as well as information on all non-contracting party tuna vessels based or landing in member states.
11. IATTC tries to track all tuna vessels fishing in its area, and even for up to a year after they leave the area. Detailed data collected directly by IATTC staff who inspect the vessels are used to supplement vessel data from licensing authorities. Maximum landing capacity (cubic metres of well space) has been adopted as the best measure of fishing capacity and this is used as a basis for fees. There are no data on undecked vessels. There are problems attributing nationality to some flag of convenience vessels. Aggregated fleet statistics are published, as is the following vessel-specific information: vessel name, flag, GT and dates of entry to and exit from the operational tuna fleet in the eastern Pacific Ocean.
12. ICCAT reported that it collates fleet statistics for tuna vessels in the convention area in terms of numbers by gear type, size of vessel and country. There are considerable problems tracking flag of convenience vessels which frequently change flag (e.g. from Belize to Philippines to Thailand).
13. It was recommended that the OECD fleet statistics tables should be harmonized and coordinated as much as possible with those of Eurostat and FAO so as to avoid confusion which would result from non-comparable data and minimize the burden on reporting offices.
14. Japan reported that all major fishing vessels are licensed and that a 20% reduction in the distant water tuna longliner fleet is being implemented, and the export of decommissioned vessels is banned. All data requested in the FAO FISHSTAT FF questionnaire can be provided.

15. Tuna vessels, in particular, are highly mobile and increased sharing of information amongst tuna agencies could greatly facilitate improved tracking of vessels.

VESSEL MONITORING SYSTEMS AS A SOURCE OF FISHING ACTIVITY AND CATCH DATA

(Document CWP-18/Inf. 2)

16. EC-DG14 described the current status and future plans for implementation of VMS within the EU. Simple legislation has been introduced which specifies the requisite functionality but not particular hardware and software. Vessels in particular fisheries were obliged to implement VMS in 1998 but from 1 January 2000 this will be extended to all EU vessels over 24 m LOA wherever they are fishing (about 4000 vessels), except that there will be exemptions for vessels operating only within 12 nautical miles of the coast or those which never spend more than 24 hours at sea. Belgium, Greece and Portugal have voluntarily extended this requirement to smaller vessels. Vessels will be required to install tamper-proof "blue boxes". Current intentions are that VMS will track vessel movements and indicate vessel activity through speed and course. Fishing effort reports may be an optional requirement of states and will in fact be compulsory in certain areas. Catch reports (input manually) may also be included as an option. Compulsory electronic logbook reporting may be included as mandatory items in the future, but no such plans exist at present. Portugal has already opted to incorporate electronic logbook reporting for its vessels.

17. VMS reports from EU vessels will be reported to the flag State's Fisheries Monitoring Centre (FMC) every two hours. FMCs will be responsible for monitoring flag State vessels wherever they operate and will also monitor other States' vessels from which they will receive simultaneous VMS reports. VMS reporting obligations are also being established by the EU in order to meet the needs of regional fishery organizations (e.g. CCAMLR, ICCAT, NAFO, NEAFC) and are being incorporated into bilateral agreements (e.g. with Mauritania, Morocco, Norway, Faeroe Islands, Baltic States, Poland and Russia). From 1 January 2000, NEAFC Contracting Parties (Denmark on behalf of the Faeroe Islands and Greenland, European Community, Iceland, Norway, Poland and Russia) will be required to provide the NEAFC Secretariat every six hours with position reports and fishing zone entry/exit reports in computer readable format. The agreed computer format, termed the "Danish standard", is straightforward and flexible, incorporating mandatory and optional fields which can easily be added to in the future. The format will also be used by ICCAT and thus is becoming a de facto standard in the Atlantic.

18. NAFO over the last three years has been developing a format similar to the "Danish standard" and specifying computer software and hardware for a VMS system taking into consideration issues of confidentiality and compatibility with NAFO statistical databases and observer programmes.

19. It was noted that flag States are ultimately responsible for ensuring reporting by their vessels, irrespective of where the vessels are, and for the compilation of the data. There is an essential need to ensure confidentiality, and for this reason reporting via the Internet is not considered an option at present.

20. ICCAT reported that VMS is being implemented in 1999 as a pilot project. Flag States are responsible for its operation and will retain the source data. Only summary data will be provided to ICCAT. IATTC is considering future implementation of VMS.

21. Japan has implemented some experimental VMS reporting for distant water fishing vessels using INMARSAT A-C and ARGOS. There are as yet no plans for an obligatory VMS implementation except where this is a requirement of regional fishery organizations or bilateral

access agreements. However, in any implementation Japan stresses the need for total confidentiality for the source data, having had past experience of “data leakage” to third countries. Japan requires some larger vessels to make regular radio reports on their activity and catches which is later confirmed through the submission of catch reports based on logbooks.

22. Some documentation on VMS implementation in Australia was made available to the meeting. Australia has been developing and using VMS since the early 1990s. FFA recently completed development of an integrated VMS for use by members and Australia has adopted the system for use in its domestic fleet. A major concern is that a proliferation of VMS reporting formats and protocols will take place around the world requiring vessels engaged in different fisheries to install multiple systems. To avoid this, agreement on a standard format for the “meta” data which defines the content and format of the basic data is essential. The Australian report stated that in the absence of a FAO based international standard for this, regional standards may be required “to allow agencies to get on with the job of implementing catch reporting”.

23. It was agreed that there is an urgent need for an international standard format which accommodates the reporting of position, fishing activity, catch and other data through VMS. The format should allow very extensive flexibility in the data elements to be included. One such possible standard which seems to meet these criteria is the “Danish standard” adopted by many agencies in the Atlantic, but there may be other candidates. It is strongly recommended that an international standard be developed and promoted, and that FAO consider facilitating this as a matter of urgency. Presentation of the “Danish standard” and other candidate standard formats on the FAO Web site would assist this process.

OTHER MATTERS

24. There were no other matters.

RECOMMENDATIONS FROM CWP-18

1. CWP recommended that its members should in general regard as the most reliable source of data those held by the regional body which has assessment responsibility for the stock. It also recommended that FAO should introduce a more systematic way of adopting such data in its data set, automating the process as much as possible. To establish this process, lead agencies need to be identified on a species and area basis. CWP recommended that FAO in consultation with the regional fishery agencies develop a table for this. The table of lead agency designations should then be circulated to all agencies and finalized, if possible, at an inter-sessional meeting. (Para.81)
2. CWP found good grounds for further exploring the proposal of a single publication in electronic form of the entire database of North Atlantic catch statistics. CWP therefore recommended that Eurostat, FAO, ICCAT, ICES and NAFO investigate the possibility for producing a publication following the ICES proposal. ICES undertook to take the lead on this issue. (Para.89)
3. Based on the Eurostat proposal (Doc. CWP-18/8-Eurostat) concerning the FAO major fishing area 7 (the former USSR) inland fisheries statistical data, CWP observed that it would not be possible to break down the USSR data for marine fisheries and reassign them to individual republic states before the breakup of the USSR. Looking to the future, CWP agreed that disaggregation of data, particularly for the Baltic States, would be valuable. CWP recommended that FAO and regional organizations should look into the possibilities during the inter-sessional period. (Para. 105)
4. NAFO inter-sessionally had proposed a new definition for the measure of effort for boat seines. CWP noted responses from regional organizations had suggested minor editorial changes. Accordingly, NAFO presented to CWP the new definition for adoption. CWP recommended acceptance of the new global definition should read as follows: "Boat seines (Danish etc). Effort measure: hours fishing per day. Definition: number of times the gear was set or shot per day, times the estimated mean set or shot duration." (Para.106)
5. CWP noted that regular archiving is an essential action for all fishery data sets and databases and recommended that the relevant section in the capture Guidelines should be supplemented with further advice and direction in this regard. Individual agencies should take all due measures to ensure that archiving occurs on a regular basis and in the most contemporary format available. Agencies should also give consideration to the formal drafting of a 'Doomsday' plan to secure their data from permanent loss should circumstances destroy the on-site repository for such data. (Para.111)
6. CWP commended the new Guidelines on the Routine Collection of Capture Fishery Data and recommended that FAO provide copies to all agencies and distribute the publication as widely as possible. (Para.113)
7. The meeting also considered the proposed revised formulation of the criteria for determining the nationality of catches. The proposed formulation has been revised to reflect the changes suggested, and is set out in the following paragraph. CWP accepted the revised formulation as a refinement of the previous version and recommended that it be applied as widely as possible, by CWP organizations and States. (Para.118)
8. CWP recommended the revised formulation for determining the nationality of catch data, as follows: (para 119)

The flag State of the vessel performing the essential part of the fishing operation shall be responsible for the provision of catch and landing data.

Where a foreign flag vessel is fishing in the waters under the national jurisdiction of another State, the flag State of the vessel shall have at all times the responsibility to provide relevant catch and landing data. The only exceptions to this shall be:

(a) where the vessel undertakes fishing under a charter agreement or arrangement to augment the local fishing fleet, and the vessel has become for all practical purposes a local fishing vessel of the host country;

(b) where the vessel undertakes fishing pursuant to a joint venture or similar arrangement in waters under the national jurisdiction of another State and the vessel is operating for all practical purposes as a local vessel, or its operation has become, or is intended to become, an integral part of the economy of the host country.

In any situation where there is uncertainty as to the application of these criteria, any agreement, charter, joint venture or other similar arrangement shall contain a provision setting out clearly the responsibility for reporting catch and landing data, which shall be reported to the flag State, and, where relevant, to any coastal State in whose waters fishing operations are to take place or competent sub-regional, regional or global fisheries organization or arrangement.

9. Applying these criteria, CWP-17 recommended changes in relation to four major fishing area boundaries: (1) between Areas 47 and 51, (2) between Areas 51 and 57, (3) between Areas 57 and 71 and (4) between Areas 57 and 81, subject to the agreement of national fisheries statistical authorities of the countries fishing these waters and assurances that historical time series can be adjusted. The inclusion of industrial tuna catches in these areas into the appropriate FAO statistical area aggregates is possible as data are available by 5° x 5° (and sometimes 1° x 1°) grid areas. Maps showing the proposed changes are provided in Annex 5 of the CWP-17 Report. (Para.121)

10. CWP-18 recommended that the modification to the boundary between major fishing areas south of Australia should be implemented immediately as Australia (the only major country affected) has agreed. CWP also recommended that FAO should follow up the recommendation concerning modification to the boundary between areas 51 and 57 between India and Sri Lanka in order to have this implemented as soon as possible. (Para.123)

11. CWP recommended that a table of terminology relating to the Precautionary Approach used by different organisations should be prepared by FAO based on input from the regional organisations. This document should be available for the Expert consultation of the Precautionary Approach: Tuna Biological and Technological Research. This meeting is planned in March 2000. (Para.145)

12. Despite trends in the opposite direction, CWP recommended that efforts should be pursued with classification maintenance agencies to make the classification more detailed, especially for species of little volume of trade, but for which there are conservation concerns. (Para. 161)

13. Although some of the possible reasons for discrepancies among fishery trade data of CWP agencies were identified, CWP recommended that Eurostat, FAO and OECD should investigate the causes of discrepancies in published data and should attempt to eliminate these discrepancies or, where the differences were due to the use of differing concepts in the compilation of the data, provide adequate documentation in the publications explaining the concepts used. (Para.162)

14. CWP noted the usual absence of data on foreign landings and trans-shipments from official foreign trade data and recommended the CWP agencies publishing fishery trade data

to intensify their efforts to obtain the foreign landings and trans-shipment data from the national authorities. (Para.163)

15. The CWP agreed that there is an urgent need for an international standard format which accommodates the reporting of position, fishing activity, catch and other data through VMS. The format should allow very extensive flexibility in the data elements to be included. One such possible standard which seemed to meet these criteria is the "Danish standard" adopted by many agencies in the Atlantic, but there may be other candidates. The CWP strongly recommended that an international standard be developed and promoted, and that FAO consider facilitating this process as a matter of urgency. Presentation of the "Danish standard" and other candidate standard formats on the FAO Web site would assist this process. (Para.170)

16. An inter-sessional meeting is proposed to finalize the table designating lead agencies for catch statistics (and effort if available) for particular species in particular areas as recommended in paragraph 81 above. It would be desirable to also consider the methodology and logistics of adopting data from the lead agencies referred to in 1 above. The Secretary should take the lead in arranging this meeting which could possibly be held in conjunction with the FAO ACFR Working Party on Status and Trends in Fisheries which will meet in November 1999. (Para.171)

17. An inter-sessional meeting of agencies concerned with dissemination of North Atlantic catch statistics (Eurostat, FAO, ICCAT, ICES and NAFO) as recommended in paragraphs 88 and 89 is also proposed. ICES will take the lead in arranging this meeting which will probably take place in the first quarter of 2000. The same meeting may also be an appropriate occasion to consider historical statistics of the former USSR, and particularly the Baltic States, as recommended in 105 above. (Para.172)

18. CWP-18 recommended that the title of the STATLANT Newsletter be changed to the CWP Newsletter and that it be made available on the Web with links from the CWP site on the FAO Fisheries Web site. CWP-18 recommended that Eurostat and FAO should cooperate to implement this. (Para.174)

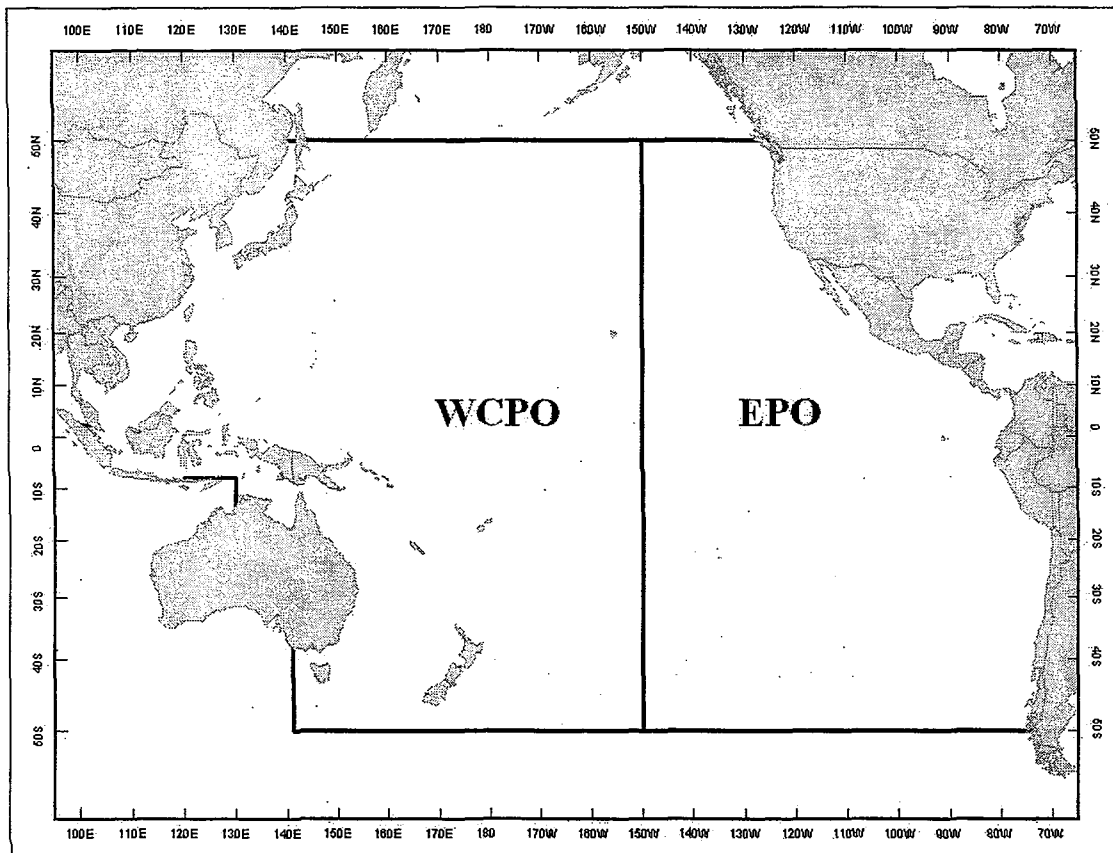
19. CWP recommended that the Handbook of Fishery Statistics be also made available as a CD ROM and on the CWP Web site when it has been completed in the revised version. Consideration should also be given to renaming it, possibly as the "CWP Compendium on Fisheries Statistics". (Para.175)

20. The table prepared at the 1993 Ad Hoc Consultation on High Seas Fishery Statistics for Regional Fishery Agencies summarizing the statistical programme of each agency has been extensively quoted and is generally considered to be useful. CWP-18 recommended that it should be modified and updated and that each agency should provide by 30 October 1999 to the CWP Secretary a brief description for each of following attributes for each agency to be included in a revised version of the table: (Para.176)

- Main purpose and usage of statistics
- Catch and effort data structure, geographical and temporal resolution and length of time series
- Are catch data available by EEZ?
- Data source (e.g. official report, scientists' estimates, agency observer programme, agency port sampling programme)
- Availability of retained fish by-catch (non-target) species data
- Availability of discard data (including birds and mammals)
- Availability of biological data (including size)
- Availability of economic data
- Availability of environmental data

- Catch data verification methods (e.g. trade data)
- Usage of fishery-independent data
- Reporting policy in relation to nationality of catch
- Are countries obliged to report data?
- Do all member countries report data?
- What is included in catch statistics? (e.g. discards, recreational, fish on-grown in pens, experimental fishing)
- Observer programmes
- Vessel monitoring systems
- Restrictions on access to data

**BOUNDARIES OF NEW STATISTICAL AREAS TO BE USED BY THE
STANDING COMMITTEE ON TUNA AND BILLFISH FOR
COMPILING ANNUAL CATCH ESTIMATES FOR TUNA AND BILLFISH
FISHERIES IN THE PACIFIC OCEAN, I.E. THE WESTERN AND CENTRAL
PACIFIC OCEAN (WCPO)
AND THE EASTERN PACIFIC OCEAN (EPO)
(SPC)**



The Eighteenth Session of the Coordinating Working Party on Fishery Statistics (CWP) was held in Luxembourg from 6 to 9 July 1999. Major topics discussed were: reviews of recommendations from CWP-17; agency programmes in fishery statistics; harmonization among agency databases; exchange and dissemination of information and statistics; STATLANT issues; integrated fisheries monitoring; definition of nationality of catch; major fishing area modifications; statistical implications of the Precautionary Approach; elasmobranch statistics; fishery trade data; socio-economic indicators for fisheries (fisher statistics, landing value statistics, and fleet statistics, vessel data and vessel monitoring systems); and future activities of the CWP. Further consideration was given to: the recently published Guidelines for the routine collection of capture fisheries data (FAO/DANIDA); and the conclusions of the International Conference on Integrated Fisheries Monitoring.

