

# **GENERAL FISHERIES COMMISSION FOR THE MEDITERRANEAN**

## **SCIENTIFIC ADVISORY COMMITTEE**

### **Sub-Committee on Statistics and Information (SCSI)**

**Nicosia, 3-6 June 2003**

1. The meeting was called to order by the SCSI Coordinator, Prof. Dino Levi, and welcomed the participants who were subsequently invited to comment on any changes which needed to be made to the agenda before its adoption. On adoption of the agenda, Mr. Matthew Camilleri was appointed rapporteur for the meeting.

2. The terms of reference given by the Scientific Advisory Committee (SAC) to the SCSI were recalled and the work carried out over the last three years was evaluated. It was agreed that the SCSI had, in fact, during this period prepared the groundwork for its future with the implementation of the GFCM autonomous budget. It was agreed that the SCSI should now seek to set up a number of thematic working groups and that this sub-committee should constitute an active advisory forum for countries and national experts.

3. The participants noted that the SCSI had put a lot of effort on the issue of Operational Units with some preliminary conclusions being reached by scientists from different disciplines during the recent Working Group meeting held in April 2003 in Rome.

4. The current status of the MedFiSIS project was later discussed at length. It was recalled that this project would not develop a system whereby countries are simply asked to submit data, but would assist in designing and / or improving tailor-made national fisheries statistical systems and data collection schemes in Mediterranean countries, whilst ensuring sustainability and regional harmonisation, as well as meeting statistical requirements of international bodies. It was stressed that the project will be successful only if the countries collaborate actively, since the project will not carry out the work for the country but will give advice and technical support. It was also stressed that the project output will be compatible with the requirements of the GFCM capture database and FAO statistical databases. Compatibility with FIGIS will also be ensured as much as possible within the requirements of the participatory countries. It was explained that the budget for MedFiSIS will be provided in part by the European Community and in part through FAO Technical Cooperation Programmes which will provide funds to assist in developing national systems in eligible countries. The project is expected to focus on the census of fishing vessels and catch and effort data collection schemes along with the development of related information systems, all for the purpose of managing Mediterranean fisheries resources.

5. The development and maintenance of a GFCM information system and website was also discussed. It was agreed that existing databases and information systems, particularly those of FAO-FIDI and GFCM regional support projects, should form the basis of those of the GFCM which would be posted on its website. It was suggested that the three FAO fishery services, FIRM, FIDI and FIPL, would coordinate the development of a prototype of the GFCM website through funds (about \$15,000 are needed) which may be granted by the GFCM secretariat upon a formal request by SAC. The participants also agreed that the maintenance of this website would be the responsibility of focal points identified within each of the four sub-committees under the coordination of the Coordinator of the SCSI. It was

suggested that the SIPAM aquaculture network website may be used as an example and basis for the GFCM website, whilst focussing on an inventory of databases as an initial component of this website. The representative of FAO-FIDI tabled a list of databases related to the Mediterranean and Black Sea area available in FAO fishery statistics databases managed by FIDI (Annex I). An overview on the status of the inventory of aquatic resources and related fisheries in the Mediterranean was also presented (Annex II).

6. A report on the implementation of the statistical programme MedStat was delivered outlining progress achieved in various countries on the inventory of artisanal fisheries, the fishing vessel census and catch and effort data collection schemes. Whilst the artisanal fisheries inventory was completed in all COPEMED countries, an entire census of fishing vessels was carried out in Malta, Morocco and Libya, with Tunisia and Algeria making steady progress in this regard. A pilot study of a catch and effort survey has been completed in Malta and a permanent scheme has been established on the results obtained from the former. Morocco has also completed a pilot study related to a catch and effort data collection system focussing on one type of fishery. In developing these statistical programmes, efficient reporting of reliable statistical reports to international fisheries bodies has been ensured.

7. The participants were also informed that Adriamed has similarly implemented fishing fleet censuses and catch and effort data collection exercises in Slovenia, Croatia and Albania. However, the inventory of artisanal fisheries has yet to be compiled for the Adriatic region.

8. The difficulties encountered in standardising the measure of fishing effort in data collection schemes were highlighted. In this respect, it was agreed that a thematic working group within the SCSi should be formed to work specifically on this issue in the immediate future.

9. The representative of FIDI later presented a report (Annex III) focussing on the implications of the “FAO strategy for improving information on status and trends of capture fisheries”, for the SCSi and SAC. This report also included recommendations on data collection standards in catch and effort assessment surveys and proposals to the SCSi for a short-term programme of work for the inter-sessional period. The meeting agreed that the national statistical offices shall be invited to attend the SCSi meetings and be involved in the intersessional work also to try to solve the issue of discrepancies between the national official statistics and those prepared by research institutions whenever it is the case.

10. An outline of the COPEMED information system was later presented to the sub-committee which agreed that the incorporation of this system into that of the GFCM after the termination of the project was an important action to be considered.

11. Likewise, the Adriamed information system and website also had a very important contribution to make to the development of the GFCM system. The Adriamed representative explained that the AdriaMed Project Information System includes several activities carried out by the Project including: web site, Project technical documents, mailing list and data banks. It has been developed to incorporate knowledge that has already been acquired, establishing a unique databank and circulating information that has been collected in the Adriatic area by the Project. It has been designed following the design implemented by ITAFISH. The databases are incorporate in the a section called “AdriaMed Information Centre” (AIC) including :

- a) Research Institutions: this database contains information on the relevant research institutions (n.111) in the Adriatic Sea Region (laboratories, location, specialization, equipment, areas of research, etc). At the moment information on 111 relevant research institutions in the Adriatic region has been included.
- b) Adriatic Links: over 250 links associated with Project area of interest and fishery information related directly or indirectly to the Adriatic region.
- c) AdriaMed Available Documents: this database contains all the documents produced by the Project (Technical Documents, Occasional Papers and Translations). At present 25 documents (45 contribution) have been issued, a total of 1014 pages have been published.
- d) Virtual Library: this databank contains scientific serials published in the Adriatic Sea Region. At the moment this database includes 48 serials from Albania, Croatia and Slovenia and the 200 institutions (and related libraries) in the whole Adriatic area.
- e) Adriatic Fishery Ports and Fishery Markets: this database contains information on fishing ports (no. 244) and related fish markets (no. 27) in the Adriatic Sea. For each database a queries information sheet is available with all the related information.

At present over 250 people, (researchers, scientists, decision makers) have been registered in the mailing list of AdriaMed. . The AdriaMed Website is available in English and Italian (a total of 700 pages) and for the basic information there are pages in Albanian, Croatian, and Slovenian. The average number of visitors per week since April 2003 is 550, whilst the latest report reveals that there were 6000 visitors in March 2003, from a total of 75 countries from all over the world. A recent report shows that up to 2000 documents are downloaded per month.

12. It was also reported that MedSudMed is developing a database and information system containing fishery, biological, environmental and physical components. It is envisaged that national independent systems and a regional (central Mediterranean) system will be developed, and these will be open and transportable to other regions. It is expected that a prototype of this system will be ready by September 2003. A web survey on relevant databases to the project has also been carried out over the last few months and the related information is being compiled in a format which could be posted on the MedSudMed website.

13. National experts were then invited to present the statistical situation in their respective countries:

**Morocco:** The national statistics system in Mediterranean area has been finished very recently and started to function through the construction of several computerised modules that help in the collection and organisation of data. The fisheries administration is also interested on some of the results achieved by this system and is now studying the possibility of sharing part of the system to take advantage of its utilities and hopefully, at a later stage adopt it also on the Atlantic coast. The achievement of this statistical system has been possible thanks to the assistance of FAO experts and within the framework of the COPEMED project.

**Tunisia:** In Tunisia, statistics are collected and centralised at the General Direction of the Fisheries and Aquaculture (DGPA). Production and fishing effort are provided by port, by month and fishing activity. Statistical reports are available annually since 1979 including data of landings in quantities and values, on the fleet and on fishermen. The statistics system covers all the coast of the country. About forty ports are covered by statistics where a representative of the Administration (DFPA) is present to collect data. It is recommended that a reduction in confusion between species during data collection, as well as an improvement in the collection of artisanal statistics, particularly effort data, should be sought.

**Spain:** Under Regulation (CE) 1453/2000 Spain has established a national programme for compilation and management of data for a period from 2002 to 2006 inclusive.

In general, two main sources will be used for the compilation of data:

- The existing data in the centralized control database of the General Secretariat of Marine Fishing (Secretaria General de Pesca Marítima).
- The data from biological economic sampling.

The biological data will be compiled and processed by the Spanish Institute of Oceanography (IEO), and made available to the responsible national organisation, the General Secretariat of Marine Fishing. The basic biological data will be stored in an ORACLE database located in the IEO (Madrid). This database will be accessible for users from the different participant organisations, from authorized IP addresses and via the Intranet.

The data from existing data sources concerning catch and effort will be obtained from the centralised fishing control database of the General Secretariat of Marine Fishing. For their aggregation and processing, the data will be stored in specifically created databases according to the criteria established in the European Commission Regulation.

In addition, a global database for basic data will be designed in order to store the data from both the Spanish Institute of Oceanography and the General Secretariat of Marine Fishing. The data will be entered according to the requirements of the EC Regulation and will form the database that will be able to be consulted by authorised users, as foreseen in this regulation.

**Croatia:** Catch data have been collected since 1990 by the State Statistics Bureau. The total catch represents a summary of local estimates made by the bureau's local offices collected for their counties. These estimates are related only to commercial fishermen.

The fisheries register is organised in the Directorate of fisheries within the Ministry of Agriculture and Forestry, and hold a database related to fishermen, vessels, gear and catch. The Directorate of fisheries has a main office in Zagret and seven county offices.

The database is organised in such a way as to follow the number of fishermen (commercial and small scale), fishing vessels, gear and catch. The catch is obtained from data logbooks submitted by the fishermen in county offices.

Croatia was not satisfied with the state of its statistical system, capacity and performance of the databases and therefore took the opportunity to obtain support from the FAO-Adriamed project.

**The improvement of the fishery statistical system in the Republic of Croatia:** This project is still in progress and all the data related to the project and situation in the country will soon be published as an FAO-Adriamed paper.

**Malta:** The Fisheries Conservation and Control Division (FCCD) has completed the census of fishing vessels and an electronic fishing vessel register and fishery information system (MaltaStat) have been fully developed. MaltaStat has a fully operational vessel licensing facility as well as reporting facilities to meet national and international obligations related to the submission of data and information on the fleet.

The Malta Centre for Fisheries Sciences (MCFS) within the FCCD has established a permanent team of field recorders and officers to collect data on fishing effort and catches, in order to estimate the total production and activity of the various categories making up the Maltese fleet. The data and resulting information are not only used to satisfy the reliable and timely submission of statistics to national and international bodies, but are also used by scientists to assess the status of specific fisheries and resources.

The activity of vessels under 10m in length is presently monitored every other month through a Catch Assessment Survey (CAS) by 5 field recorders (one acting as a supervisor and coordinator) in 6 representative sample ports. Each recorder is assigned a timetable of work (may change according to valid sampling fishing days) whereby activity monitoring and sampling is undertaken over 12 hours per day for three fishing days and over 24 hrs per day for a further 3 fishing days. Prior to the each sampling period, the status of the registered fishing vessels for each particular port is determined through field inspections and telephone interviews in the case that the vessel is missing from the port. The CAS database and information system is located at the Malta Centre for Fisheries Sciences and data entry and management of the system is performed by the CAS field supervisor.

On the other hand, the activity of vessels over 10m is expected to be monitored by census through a logbook scheme in which fisheries protection officers would be responsible for the collection and validation of declarations at landing sites. Data entry will be conducted separately from the CAS.

The MCFS is also active in the Medits trawl survey which estimates abundance of demersal resources and other specific projects involving biological sampling and assessments (eg. dolphin-fish, tuna). In the near future, routine biological sampling schemes on-board vessels, in ports and in markets will be established in accordance with EC regulations.

**Italy:** The Italian national programme is based on the Council Regulation (EC) No 1543/2000 of 29 June 2000 establishing a Community framework for the collection and management of the data needed to conduct the common fisheries policy. As provided by Regulation (EC) No 1639/2001, the national programme is divided into the following three modules: (A) module of evaluation of inputs: fishing capacities and fishing effort; (B) module of evaluation and of sampling of catches and landings; and (C) module of evaluation of the economic situation of the sector. The structure includes the participation of the Fisheries Department of Ministry of Agricultural and Forestry Policies (Planning Bureau – National correspondent; the Scientific Committee; the Technical Co-ordination Unit ; and four Operational Units: FINSIEL (for database), SIBM (the Italian Association of Marine Biologists, for the module biological sampling), UNIMAR (for the specific effort data collection), and IREPA (for evaluation of inputs and of the economic situation). The operational units must send data to the co-

ordination unit following data exchange protocols and standardised codes. A new centralised database, containing merged data in aggregated form is currently under development (2003) and raw data will be kept for five years in order to carry out any relevant task by the operational units and they will not be part of the centralised database.

**Cyprus:** The Department of Fisheries and marine Research (DFMR), Ministry of Agriculture, Natural Resources and Environment, is according to the Fisheries Law responsible for the collection and processing of fishery statistics, as well as their transmission to all international organizations and agencies. Fishery statistical data are collected by the means of various sources, which are the following:

**Trawler Log-books:** Collection of data is carried out by daily return of log-book sheets, which all skippers are required to hand in prior to landing their catch.

**Monthly coastal (boat) fishery reports:** Data on the inshore fishery are collected from a sample of this category of fleet. In this system a representative sample of boat owners are required to fill weekly reports.

**Aquaculture statistics:** The collection of data on aquaculture is based on the information given by the farm owners/ managers by reports on Production, Fishfood consumption, Prices and Personnel. These forms are provided to the farmers at the beginning of the year and are to be returned to the Department within three months.

**Boat Registration forms:** All fishing boats with tonnage of less than 15 tons (GRT) are registered in the Fishing Register that is kept by the DFMR. All the characteristics of the boats, as well as the owner are included in the forms.

**Fishing licenses:** The fishermen apply for fishing license every year. Fishing license applications include information on the boat characteristics, the engine electronic equipment, and the fishing equipment.

The information on the fishing fleet is obtained by processing the data given in the application forms for boat/ trawler registration and for fishing licenses, which are verified by the Fisheries Inspectorate Service.

**Fish prices:** According to the system of the trading of fish, the prices of the various species and grades of fish are mostly fixed in Cyprus. Interviews with first hand buyers and the skippers/ fishermen give the prices of the landings of trawlers and of the inshore fishery as well as the prices of the aquaculture products that are submitted on the Prices Reports to the Department of Fisheries every year by the fish farmers.

The log-book sheets are collected on a daily basis and the monthly fishery reports are collected on a monthly basis by the Fisheries Inspectorate service located at the main fishing ports of Cyprus. These data are sent at regular intervals to the Statistics Section of the Department for computer processing and analysis. The statistical tables are completed in January/ February of the following year. Official reports, (which include all aspects of the fishery in Cyprus) are published in May/June every year.

The data recorded on the monthly coastal boat fishery reports are accurate as regards to the catches and the species breakdown. The system is highly reliable.

In the collection of the data all the Inspectorate Service of the DFMR is involved. One person is full time occupied in the Nicosia Central Offices of the Department, assisted by several assistants, working partly on the system.

The officer responsible at institutional level, as well as for the implementation, is, according to the Law, the Director of the DFMR.

14. Issues related to European Commission regulations on data collection standards were discussed. Some reservations were expressed on the EC requirements to collect data practically on a census basis with no more than 10% of the information being collected through a sample approach. The Eurostat representative explained that these regulations are being reviewed internally.

15. After thanking the participants for their work over the last three years, Prof. Dino Levi then invited them to nominate candidates for role of Coordinator of the SCSI since his term in this position had come to an end. He also asked for nominations for the role of coordinators for two working groups within the SCSI. Mr. Matthew Camilleri was unanimously elected as the new SCSI Coordinator, whilst Mr. Jorge Baro and Mr. Hechmi Missaoui were unanimously elected coordinators of the Operational Units and Fishing Effort Working Groups respectively.

16. The Coordinator gave an overview of the report of the Working Group on Operational Units. It was recalled that Copemed and Adriamed offered to support a practical exercise to draw up a database of Operational Units. It was suggested that the catch assessment surveys carried out in various countries should provide the basis for the extraction of information on Operational Units.

17. Finally, it was suggested that the MedStat system should be presented for discussion and evaluation in the last quarter of 2003, in order to initiate the implementation process of MedFiSIS through the experience obtained in the former initiative.

18. The report was adopted on 5 June 2003.

## ANNEX I

**Description of the data related to the Mediterranean and Black Sea area available in the  
FAO fishery statistics databases managed by FIDI**

<b>Title of the database:</b>	<i>GFCM capture production</i>
<b>Period of coverage:</b>	1970-2000 (2001 data available at about May-June 2003)
<b>Area of coverage:</b>	GFCM area (Mediterranean and Black Sea) subdivided into 10 divisions
<b>Main attributes:</b>	country, species item, division, catch in volume
<b>Frequency of data:</b>	annual
<b>Units:</b>	tonnes
<b>Main sources:</b>	national correspondents; FAO estimates of missing data marked by a 'F'
<b>Method of data collection:</b>	STATLANT 37A questionnaire
<b>No. of Mediterranean countries represented:</b>	26
<b>No. of Distant Water Fishing Nations represented:</b>	6
<b>No. of records related to Mediterranean countries:</b>	1,751
<b>Dissemination:</b>	FISHSTAT+ software

<b>Title of the database:</b>	<i>Capture production</i>
<b>Period of coverage:</b>	1950-2001
<b>Area of coverage:</b>	global, including Mediterranean and Black Sea FAO fishing area
<b>Main attributes:</b>	country, species item, FAO fishing area, catch in volume
<b>Frequency of data:</b>	annual
<b>Units:</b>	tonnes
<b>Main sources:</b>	national correspondents; FAO estimates of missing data marked by a 'F'
<b>Method of data collection:</b>	National Summary (NS1) and STATLANT 37A questionnaires
<b>No. of Mediterranean countries represented:</b>	26
<b>No. of Distant Water Fishing Nations represented:</b>	6
<b>No. of records related to Mediterranean countries:</b>	1,260
<b>Dissemination:</b>	FAO Yearbook – Capture production; FISHSTAT+ software; FIGIS

<b>Title of the database:</b>	<i>Aquaculture production</i>
<b>Period of coverage:</b>	1950-2001
<b>Area of coverage:</b>	global, including Mediterranean and Black Sea FAO fishing area
<b>Main attributes:</b>	country, species item, FAO fishing area, environment, aquaculture production in volume
<b>Frequency of data:</b>	annual
<b>Units:</b>	tonnes
<b>Main sources:</b>	national correspondents; FAO estimates of missing data marked by a 'F'
<b>Method of data collection:</b>	AQ questionnaire
<b>No. of Mediterranean countries represented:</b>	19*
<b>No. of records related to Mediterranean countries:</b>	153*
<b>Dissemination:</b>	FAO Yearbook – Aquaculture production; FISHSTAT+ software; FIGIS
<b>Notes:</b>	*Only records of mariculture reported as taking place in area 37 (Mediterranean and Black Sea) have been considered.

<b>Title of the database:</b>	<i>Aquaculture production values</i>
<b>Period of coverage:</b>	1984-2001
<b>Area of coverage:</b>	global, including Mediterranean and Black Sea FAO fishing area
<b>Main attributes:</b>	country, species item, FAO fishing area, environment, aquaculture production in value
<b>Frequency of data:</b>	annual
<b>Units:</b>	US\$ 1,000
<b>Main sources:</b>	national correspondents; FAO estimates of missing data marked by a 'F'
<b>Method of data collection:</b>	AQ questionnaire
<b>No. of Mediterranean countries represented:</b>	19*
<b>No. of records related to Mediterranean countries:</b>	153*
<b>Dissemination:</b>	FAO Yearbook – Aquaculture production; FISHSTAT+ software; FIGIS
<b>Notes:</b>	*Only records of mariculture reported as taking place in area 37 (Mediterranean and Black Sea) have been considered.

<b>Title of the database:</b>	<i>Total fishery production</i>
<b>Period of coverage:</b>	1950-2001
<b>Area of coverage:</b>	global, including Mediterranean and Black Sea FAO fishing area
<b>Main attributes:</b>	country, species item, FAO fishing area, fishery production in volume
<b>Frequency of data:</b>	annual
<b>Units:</b>	tonnes
<b>Main sources:</b>	the total fishery production is obtained by the sum of capture and aquaculture productions; FAO estimates of missing data marked by a 'F'
<b>Method of data collection:</b>	no specific data collection
<b>No. of Mediterranean countries represented:</b>	26
<b>No. of Distant Water Fishing Nations represented:</b>	6
<b>No. of records related to Mediterranean countries:</b>	1,318
<b>Dissemination:</b>	FISHSTAT+ software; FIGIS; FAOSTAT

<b>Title of the database:</b>	<i>Fisheries commodities, production and trade</i>
<b>Period of coverage:</b>	1976-2001 (updated FISHSTAT+ release in April 2003)
<b>Area of coverage:</b>	global
<b>Main attributes:</b>	country, commodity, import quantity, export quantity, re-export quantity, import value, export value, re-export value, production quantity
<b>Frequency of data:</b>	annual
<b>Units:</b>	tonnes and US\$ 1,000
<b>Main sources:</b>	national correspondents, national electronic files and agricultural trade questionnaires provided by FAO-ESS, other published and Internet released information, UN COMTRADE database; FAO estimates of missing data marked by a 'F'
<b>Method of data collection:</b>	FC1, FTR and DNC questionnaires
<b>No. of Mediterranean countries represented:</b>	25
<b>No. of records related to Mediterranean countries:</b>	14,178*
<b>Dissemination:</b>	FAO Yearbook – Fishery commodities; FISHSTAT+ software; FIGIS
<b>Notes:</b>	*Trade statistics do not permit to identify area of capture, records for some countries may also refer to trade of species caught outside the Mediterranean

<b>Title of the database:</b>	<i>Food Balance Sheets (fish and fishery products)</i>
<b>Period of coverage:</b>	1961-1999 (provisional data for 2000 and 2001)
<b>Area of coverage:</b>	global
<b>Main attributes:</b>	country, commodities, commodity groups, elements of the Supply Utilization Accounts, nutritional factors
<b>Frequency of data:</b>	annual
<b>Units:</b>	tonnes, 1,000 (population), kilograms (per caput supply), grams per caput per day (proteins and fats), number per caput per day (calories)
<b>Main sources:</b>	elaboration of data included in the FAO-FIDI and FAO-ESS databases on the basis of established methodology for Food Balance Sheets
<b>Method of data collection:</b>	no specific data collection
<b>No. of Mediterranean countries represented:</b>	27
<b>No. of records related to Mediterranean countries:</b>	~10,900
<b>Dissemination:</b>	FAO Fisheries Circular No. 821, Rev. 6 (latest issue published in 2002) "1961-1999 fish and fishery products: world apparent consumption statistics based on Food Balance Sheets"; FAOSTAT
<b>Notes:</b>	data provide indicators on the role of fish in national diet

<b>Title of the database:</b>	<i>Number of fishers</i>
<b>Period of coverage:</b>	1970-2001
<b>Area of coverage:</b>	global
<b>Main attributes:</b>	country, number of fishers, working time, aquatic environment, gender
<b>Frequency of data:</b>	annual
<b>Units:</b>	numbers
<b>Main sources:</b>	national correspondents
<b>Method of data collection:</b>	FM questionnaire
<b>No. of Mediterranean countries represented:</b>	25
<b>No. of records related to Mediterranean countries:</b>	
<b>Dissemination:</b>	FAO Fisheries Circular No. 929, Rev. 2 (latest issue published in 1999)
<b>Notes:</b>	The database includes only data made available to FAO

<b>Title of the database:</b>	<i>Fishery fleet</i>
<b>Period of coverage:</b>	1970-1998
<b>Area of coverage:</b>	global
<b>Main attributes:</b>	country, fishing vessel type, decked/undecked, length class, number of vessel by category, capacity indicators
<b>Frequency of data:</b>	annual
<b>Units:</b>	numbers, HP, kW, GT, GRT
<b>Main sources:</b>	national correspondents
<b>Method of data collection:</b>	FF1 and FF2 questionnaires
<b>No. of Mediterranean countries represented:</b>	18
<b>No. of records related to Mediterranean countries:</b>	
<b>Dissemination:</b>	FAO Bulletin of fishery fleet statistics (latest issue published in 1998, a new issue is in preparation); FIGIS
<b>Notes:</b>	Since 1996 fleet statistics formerly reported in GRT (or GT) classes, are reported in vessel length overall (LOA) classes. The international classification used as a basis for the inquiry was revised; these changes will be reflected in the upcoming release of the database including data up to 1998.

Internet addresses to access or download the databases:

**FISHSTAT+:** <http://www.fao.org/fi/statist/FISOFT/FISHPLUS.asp>

**FIGIS:** <http://www.fao.org/figis/servlet/FiRefServlet?ds=staticXML&xml=webapps/figis/wwwroot/fi/figis/tseries/index.xml&xsl=webapps/figis/staticXML/format/webpage.xsl>

**FAOSTAT Fisheries data:** <http://apps.fao.org/page/collections?subset=fisheries>

**FAOSTAT Food Balance Sheets:** <http://apps.fao.org/page/collections?subset=agriculture>

## FIGIS Fishery Resources Monitoring System (FIRMS)

### Inventory of Aquatic Resources and related Fisheries in the Mediterranean

30/06/2003

#### Introduction

The FAO Committee on Fisheries (COFI) at its meeting in February 2003 adopted a strategy for Improving Information on Status and Trends of Capture Fisheries. This strategy is expected to be endorsed by the FAO Council in June 2003, when it will become official. Among other items, it recommends that “States should participate in, or support coordinated efforts for the compilation of a global inventory of fisheries and fish stocks (biological management units) or stock-complexes as a basis to improve the completeness of available information on the status and trends of fisheries and for inclusion in FIGIS.”

One of the major issues facing fisheries is the poor state of world fisheries resources. To better manage this problem, FAO Fisheries department is setting-up a network called “Fishery Monitoring System” (FIRMS). The primary aim of FIRMS is to provide access to a wider range of high-quality information on the global monitoring of marine resources than is now possible. FIRMS draws together a unified partnership of international organizations, regional fishery bodies and national scientific institutes, collaborating within a formal agreement, who are willing to report and share information on fisheries resources.

Information collected in the frame of the FIRMS network is managed and published using the **FIGIS** global information system on fisheries. The development of the FIGIS system is coordinated by the FAO Fisheries Information, Data and Statistics Unit (FIDI). Two services of the FAO Fisheries Department are more specifically involved in the inventories of fisheries and stocks: Fishing Technology Service (FIIT) and Marine Resources Service (FIRM). One of the main concepts related to the management of information within FIGIS is the Ownership of a set of homogeneous data sets (called collections). The owner of a collection is responsible for the validation of the inventoried objects and for a regular reporting.

#### The situation for the Mediterranean and Black Sea

- Fish Stocks

GFCM is the regional partner of FIRMS for the Mediterranean and Black Sea. A first case study was conducted during the SAC 2001-2002 intersession with the support of the COPEMED project. Results were presented in 2002 to the SAC sub-committee on Stock Assessment (SCSA) and to the sub-committee on Statistics and Information (SCSI).

This case study (Hake in the Gulf of Lions and SCSA 2001 report) was used to make a pre-inventory of the resources, together with others sources of information:

- PopDyn database,
- GFCM SAC SCSA reports (annual session and working groups),
- ICCAT reports,
- FAO regional review.

This pre-inventory has been already integrated in FIGIS.

A brief analysis of the GFCM SAC SCSA reports shows that some criteria could be considered in order to establish priorities for the inventory of the stocks in the region:

	Species	
	SAC Priority list	Others
Shared stock		
Not Shared		

In order to illustrate how FIGIS works, a sub-set constituted by the shared stocks listed by the SAC in 2002 has been published on the FIGIS INTRANET. For some of these stocks, PopDyn database and SAC-SCSA 2001 observations are available. GFCM SAC SCSA has been selected as the owner of these shared stocks (Cf. figure 1).

The screenshot shows the FIGIS (fisheries global information system) interface. At the top, there's a navigation bar with links like 'home', 'search', 'references', 'links', 'statistics', 'maps', 'pictures', 'glossary', and 'toolbox'. Below this is a search bar with 'SEARCH', 'SAVE', and 'PRINT' buttons. A prominent note states: 'NOTE: This is a prototype of the Fishery Resources Monitoring System (FIRMS). Its objective is to present - validated lists of Stock or Resource units falling under the mandate of GFCM; - a harmonised presentation of stocks status reports across various contributing institutions, based on case studies implemented with these institutions. It may not contain the latest information and so there may be discrepancies between the content of FIRMS and the most recent reports of the partner agency which provided the information. Comments and suggestions: send an e-mail to figis-comments@fao.org'. The main content area is titled 'Stock Fact Sheet' and features a fish icon. Below the icon, it lists 'Ownership: GFCM - Scientific Advisory Committee Sub Committee Stock Assessment Reports' and 'Cover Page: Species under GFCM management'. The title 'Merluccius merluccius in the Adriatic Sea' is displayed in large orange text, followed by 'stock type: Shared Stock'. Under 'Species:', there is an illustration of a European hake and the text 'Merluccius merluccius - European hake'. The 'Area:' field is currently empty. On the left side, there is a sidebar with navigation options like 'aquatic species', 'marine resources', 'marine fisheries', 'fishing technologies', and 'coming soon!' with sub-links for 'trade & marketing', 'aquaculture', 'inland fisheries', and 'fisheries'.

Figure 1 – FIGIS Stock Fact sheet – ownership

- Fisheries

Concerning the fisheries, the pre-inventory has not yet been prepared, even if some fisheries have been already identified as information about the exploitation of some stocks. FIRMS consider different approaches for the inventory of fisheries, taking in account different points of view (resources, production means and socio-economic factors, fishing technique, management).

### To complete the inventory

In order to complete the inventory of stocks and fisheries, it is proposed to work by GFCM sub-areas (30 areas). In a first step, inventory and reporting could be limited to the species under priority for the SAC (both shared and not shared).

#### Human resources

#### Tasks

FIGIS team	Application improvements, data processing, editors training
FIRM service	Coordination of the inventory – “FAO review”
FIIT, Other?	“FAO review” for Fisheries inventory
Sub-regional experts:	Inventory of the stocks / resources in this region

SAC SCSA	Advises - Final validation for shared stocks
SAC SCSI National Fish. Authorities	Ensure the compatibility of this inventory with other SAC activities Final validation for not shared stocks

### Chronogram

- 1- Update definitions (fishery, typologies for stocks, stock/resource, etc...)
- 2- Identification of sub-regional collaborators having good knowledge of the fisheries in the area (e.g. sub-regional projects, national scientific institutions).
- 3- Revision of the stocks/resources pre-inventory prepared by FIGIS, which include the validation of the proposed stocks/resources and their attributes, the identification of gaps, the establishment of hierarchies between the stocks/resources inventoried
- 4- Inventory of the fisheries from a biological point of view
- 5- Document the identified objects with observations: SCSA reports from 2002 and 2003 could be processed in priority but other sub-regional or national sources of information could be considered.

**GFCM - SAC**  
**Sub-Committee on Statistics and Information**

**Annual meeting**  
**Nicosia (Cyprus) 3 – 6 June 2003**

**Agenda item 8**  
**Report of the FAO Fishery Information, Data and Statistics Unit (FIDI) and FIGIS**

**Description of the data related to the Mediterranean and Black Sea area available in the FAO fishery statistics databases managed by FIDI**

See document (available on request) distributed at the GFCM-SAC Meeting on Operational Units, Rome 8-9 April 2003, including also:

- List of FAO's national correspondents for fishery statistics in the GFCM area
- List of species items (up to the genus level) having catch statistics in each of the GFCM statistical division
- Congruences and incongruences between the GFCM management units and the GFCM statistical divisions

**FAO Strategy for Improving Information on Status and Trends of Capture Fisheries**

**Objectives and Required Actions of relevance to the GFCM Sub-Committee on Statistics and Information (SCSI)**

This Strategy was adopted by the FAO Committee on Fisheries (COFI) at its meeting in February 2003 and is expected to be endorsed by the FAO Council in June 2003, when it will become official. The following is an extract from the section "Part 3: Objective":

12. The overall objective of the Strategy is to provide a framework for the improvement of knowledge and understanding of fishery status and trends as a basis for fisheries policy-making and management for the conservation and sustainable use of fishery resources within ecosystems.

13. The Strategy will be implemented through arrangements between States, directly or through their participation of regional fishery organizations, and FAO working cooperatively to assemble information on the status and trends of fisheries, and using modern information technology to manage and disseminate it. These arrangements should be established at various geographic scales, ranging from local, to national, to regional, and they should be linked to form a global system under the auspices of FAO. Wherever, and whenever, possible, existing organizations should be used as the basis of the arrangements.

14. Global efforts to assemble and disseminate comprehensive information (e.g., through the FAO Fisheries Global Information System (FIGIS)) on the status and trends of fisheries are currently hindered because a complete inventory of the fisheries and fish stocks of the world does not exist. A key element of the Strategy is to prepare such inventories, which would be implemented in FIGIS.

15. Consistent with Article 5 of the Code of Conduct, the capacity of developing countries should be duly taken into account in implementing the Strategy. The capacity of developing countries, particularly the least-developed among them, small island States, and countries whose data collection systems are in a critical condition, needs to be greatly enhanced so that they can fulfill existing commitments to collect fisheries statistics and to conduct fisheries research, thus allowing them to more fully participate in the Strategy.

The following paragraphs, which are some of those relevant to the work of the Sub-Committee on Fishery Statistics and Information, are extracted from the section "Part 5: Required Actions":

*Need for capacity-building in developing countries*

23. States, relevant intergovernmental and non-governmental organizations, and financial institutions, should address developing country needs for financial and technical assistance, technology transfer, training and scientific cooperation, in order to build capacity to implement cost-effective and sustainable fishery data collection, data processing, analysis and reporting, and exchange information. Capacity building is necessary to fulfill national needs, the needs of regional fishery bodies and arrangements, existing obligations for reporting fisheries data to FAO, and so that developing countries can more fully participate in, and benefit from, the Strategy.

*Data collection systems in small-scale fisheries and multispecies fisheries*

27. States should cooperate through their regional fishery organizations and regional programmes, if necessary with the cooperation of FAO, to develop and adopt effective and pragmatic standards and systems for data collection, which should be compatible with FAO systems.

29. States should approach the implementation of the Code of Conduct, in particular as this relates to Article 7 (Fisheries Management), especially Article 7.4.2 and Article 12 (Fisheries Research), by consideration of ways to expand the scope of status and trends reporting to meet the responsibilities recommended therein for research and the dissemination of information on the effects of climatic, environmental and socio-economic factors on fishery conservation and management.

31. FAO, with support of Members, and with full participation of regional fishery organizations should further address the issue of indicators of sustainable development, as a follow-up to the Australia-FAO Technical Consultation on Sustainability Indicators in Marine Capture Fisheries (Sydney, Australia, January 1999).

*Global inventory of fish stocks and fisheries*

32. States should participate in, or support coordinated efforts for the compilation of a global inventory of fisheries and fish stocks (biological management units) or stock-complexes as a basis to improve the completeness of available information on the status and trends of fisheries and for inclusion in FIGIS.

*FIGIS participation, structuring and capacity-building*

35. States should support, both directly or through participation in regional fisheries organizations, development of Fisheries Global Information System (FIGIS), by:

- Providing national user requirements for outputs from and inputs to the system;
- Participating in national, regional and international processes to define the protocols for information exchange, quality assurance or quality rating, and transparency provisions to be specified in partnership agreements;
- Contributing timely information to FIGIS;
- Facilitating a systematic synthesis of information on fishery status and trends from national to regional and global levels; and
- Participating in complementary information and communication technology initiatives aimed at improving the generation and dissemination of research-based knowledge relevant to sustainable development.

36. States should, either directly or through their participation in regional fisheries organizations, provide FIGIS with the best scientific information available. The assurance of information quality could be established by review processes at the national or regional level.

*Development of arrangements for the provision and exchange of information*

41. States, directly or through their participation in regional fisheries organizations, should seek and agree on arrangements to facilitate the provision and exchange of information on the status and trends of fisheries with FAO, as appropriate. These arrangements should address the roles and entitlements of the partners, including in relation to information quality, transparency and confidentiality.

*Sustaining data collection, information on the status and trend of fisheries*

45. States should monitor their systems for data collection, analysis and reporting. States should ensure the sustainability of these systems to meet the needs of fishery policy making and management and the agreed requirements of regional fishery organizations and FAO and take corrective actions as appropriate.

**Implications of the Strategy for the SCSI and SAC**

The Strategy has clear implications for the work of the Sub-Committee and SAC. Some of the required actions in the Strategy relating to GFCM (and other regional fishery organizations) are already being addressed by the Sub-Committee and SAC (e.g. paragraph 23). However, there are other required actions which are not currently addressed or only partly addressed by the Sub-Committee, and the Sub-Committee and SAC may wish to consider adding these to the TORs of the Sub-Committee and future workplans. In particular, the following activities could be considered for the long term, subject to SAC priorities:

- Develop effective and pragmatic standards and systems for data collection, compatible with the requirements of GFCM (e.g. STATLANT 37, Medfisis, SIPAM) and FAO (e.g. FISHSTAT AQ, FISHSTAT FF, FISHSTAT FM, FISHSTAT FC, FISHSTAT DC)<sup>1</sup> (paragraph 27).
- Together with the three other Sub-Committees, consider the needs for information on the effects of climatic, environmental and socio-economic factors on fishery conservation and management for the Mediterranean (paragraph 29) and indicators of sustainable development (paragraph 31).
- Develop and maintain a regional inventory of fisheries and fish stocks (biological management units) or stock-complexes (paragraph 32).
- Develop regional protocols for regional information exchange, quality assurance or quality rating, including contributing timely information to FIGIS, and facilitating a systematic synthesis of information on fishery status and trends from national to regional and global levels (paragraphs 35 and 41), to provide GFCM and FIGIS with the best scientific information available (paragraph 36).
- Monitor and propose corrective actions, when necessary, to ensure the sustainability of these systems to meet the needs of fishery policy making and management and the agreed requirements of GFCM and FAO (paragraph 45).

**Data collection standards in catch/effort assessment surveys**

Among the major tasks of the Fisheries Department is the promotion of improved approaches and techniques for the collection of fishery data at national level. Implementation of national fishery statistical programmes often requires significant human effort and funds and these are major constraints for many countries with limited human and financial resources. The merits of sampling approaches lie in providing cost-effective and efficient methods for the collection of data, further contributing to the development of the statistics urgently needed by fishery managers and planners.

Collection of basic data on catches, fishing effort and prices provide the primary data for a wide variety of statistical applications. In addition, more detailed data (fishing vessels, gear and operations; socio-economic data; etc) from sample-based fishery surveys conducted on a regular basis are an important source of fishery information of wide utility and scope. To help meet national needs for basic fishery data FAO has been assisting countries in upgrading their data collection, processing and reporting capabilities. Technical assistance at national and regional level is a significant component of the work programme of FAO's technical units responsible for fishery statistical development and involves both normative (=setting-up of standards) and field

<sup>1</sup> Questionnaires for the collection of data on aquaculture production, fishery fleets, number of fishers, fishery commodities production and disposition of fishery production.

programme activities. Outputs of normative activities include technical documents on sampling methodology and guidelines for data collection. Field programme activities involve project formulation and implementation, technical backstopping and organization of training courses and workshops.

Although it is accepted that national statistical requirements differ from country to country, it has nevertheless been verified that there exists a common denominator of methodological and operational modalities, especially in the sector of artisanal fisheries. Over the last five years Fisheries Department has prepared a number of technical documents and handbooks with the view of providing survey planners with simple and step-by-step guidance for developing and implementing cost-effective and sustainable fishery surveys. The methodological and operational concepts are standardized and are equally applicable to both marine and inland capture fisheries. Standards concern sample size and frequency, statistical diagnostics relating to precision and accuracy of estimates, as well as generic scenarios for the collection of primary data on catch and fishing effort.

**Proposals for the short term programme of work for the inter-sessional period**

For the short term programme of work for the inter-sessional period for the Sub-Committee (to be discussed under agenda item 15), the following items are proposed as requiring urgent attention:

- Develop detailed data requirement specifications for the Medfisis regional information system, ensuring that it is able to satisfy the statistics and data requirements of GFCM and FAO. These specifications should be developed in close collaboration with the other three Sub-Committees and FIDI. [Falls under SC TOR no. 1]
- Develop detailed system requirement and development specifications for the Medfisis regional information system, ensuring that it is able to satisfy the national and regional functionality requirements and that these are fully compatible with those of FIGIS. This specification should be developed in close collaboration with national statistics and data providers and with the FIGIS team. [Falls under SC TOR no. 4]
- Review and try to resolve problems with the STATLANT 37A catch statistics for the Mediterranean (this reporting scheme was established under GFCM Rec. 3/65) and provide advice as to how their quality can be improved. This necessarily will need to be undertaken in close collaboration with national statistical offices, which should be invited to attend the SCSI meetings and involved in the intersessional work & FIDI statisticians. [Falls under SC TOR no. 2]
- Provide expertise to the GFCM Secretary concerning the upgrading of the Commission WEB Page, in accordance with standards developed by the FAO Fisheries Department (Regional Fishery Bodies Fact Sheets, Files repository, Events databases, etc.)
- Collaborate with the Sub-Committee on Stock Assessment regarding the inventory of Fisheries and Stocks, in particular to ensure the compatibility of this inventory with other SAC activities (e.g. Operational Units data base, etc.)

Finally, the SCSI and SAC may consider whether an additional term of reference should be added to those of the Sub-Committee as a result of the adoption of the Status and Trends Information Strategy, such as the following:

"Prepare proposals and provide advice on implementation of the FAO Strategy for Improving Information on Status and Trends of Capture Fisheries in the GFCM region."