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منظمة الأغذية
والزراعة
للأمم المتحدة

联合国
粮食及
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Food
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des
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Organización
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Naciones
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para la
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y la
Alimentación

GENERAL FISHERIES COMMISSION FOR THE MEDITERRANEAN

SCIENTIFIC ADVISORY COMMITTEE

Seventh Session

Rome, Italy, 19-22 October 2004

CONCLUSIONS AND RECOMMENDATIONS OF THE FOUR SUB-COMMITTEES

INTRODUCTION

1. This document summarizes the findings and recommendations of the four Sub-Committees of the Scientific Advisory Committee (SAC) which met simultaneously at the Palacio de la Aduana, in Malaga, Spain, from 10 to 12 May 2004. The joint GFCM/ICCAT *ad hoc* Working Party on Large Pelagic held its seventh Session on 13 and 14 May. The Coordinating Meeting of the Sub-Committees (CMSC) met on the 13th of May. The holding of the meetings of these Subsidiaries of SAC, on the same venue and in parallel or back to back, proved efficient. It allowed for a better interaction of expertise in the various disciplines concerned and, favoured a slight increase in participation (number of experts and countries represented) compared to previous years. The lack of attendance by scientists from the Black Sea sub-region was however noted with concern.

2. In addition to standard agenda item, the Sub-Committees reviewed issues related to their *modus operandi*, including on frequency and scheduling of meetings, role and accountability of National Focal Points, Coordinators and Facilitators, format of recommendations, etc., as a follow-up to preliminary suggestions¹ made by CMSC in its Report of October 2003 (GFCM/SAC7/2004/Mad.7). Consequently, the Sub-Committees reviewed and supported the draft terms of reference suggested for the CMSC and for the SAC Focal Points and Coordinators.

¹ The assessment by the CMSC followed up on suggestions made in the Report of the *ad hoc* Meeting of Experts on the Independent Appraisal of the Achievements of SAC (GFCM: SAC7/2004/Inf.6).

3. The Sub-Committees and thereafter the CMSC assessed the progress made in implementing the priorities of the work programme provided in the Reference Framework for the mandate of SAC (2003-2004) as updated by the Commission at its Twenty-eighth Session. The Sub-Committee on Statistics and Information (SCISS) consolidated the building of data base on Operational Units (OUs). The Sub-Committee on Economic and Social Sciences (SCESS) further enlarged the scope of the socio-economic indicators, particularly with respect to sociological and marketing parameters. The Sub-Committee on Marine Environment and Ecosystem (SCMEE) gave emphasis to the issues of by-catch, driftnet fishing and sensitive habitats.

4. The number of new stocks assessments presented to the Sub-Committee on Stock Assessments (SCSA) proved particularly limited, but there was substantial progress on the identification of biological reference points. The Joint GFCM/ICCAT *ad hoc* Working Party on Large Pelagics considered, for the first time, the status of small tunas in the Mediterranean.

AD HOC JOINT GFCM/ICCAT WORKING PARTY ON STOCKS OF LARGES PELAGIC FISHES

5. The Seventh *ad hoc* Joint GFCM/ICCAT Working Party on Stocks of Larges Pelagic Fishes reviewed the biological knowledge and data available on small-tunas, billfish and albacore, on the basis of national reports covering the historical developments of those fisheries.

6. No paper was presented on albacore. In its draft report (document GFCM:SAC7/2004/Mad.5) the Working Party stated than available data were too limited to allow any reliable assessment of that species. It was also noted that data on small tunas (Atlantic bonito, Atlantic black skipjack, bullet tuna) as well as of billfish and other tuna-like species, were very poor. Important quantity of catch is likely reported as unidentified species in the ICCAT catch database. The Working Party also stressed that, while the presence of skipjack is unusual, that of bigeye, blue marlin, white marlin and other tropical spearfih was occasional in the Mediterranean. A proposal for a regional research project on small tuna was discussed and endorsed as a good starting point to improve the current knowledge on these species.

7. The Working Party analyzed the information available and further recommended that:

- the historical ICCAT database on catches be reviewed in order to complete data and validate existing statistics;
- all countries make an effort to improve the small tuna statistics as well as the current knowledge on biology, stock structure and other relevant aspects of these species and that another GFCM/ICCAT joint meeting be held during the next Small Tuna Species Group meeting of ICCAT;
- the objectives of the proposed research project on small tuna be supported by ICCAT and GFCM;
- the collection of statistics of small tuna be considered in the work of the FAO regional projects, particularly of MedFisis and, that CopeMed pursue current research activities on Large pelagic species;
- a review of the historical series on shark statistics existing in the ICCAT database be undertaken;
- scientists provide to the ICCAT Secretariat, the information required for the Survey on Statistic Collection Systems.

8. The Working Party also reiterated its recommendation made at the Fifth session in Malta concerning albacore, as no new information had been provided since 2002. It expressed appreciation of the efforts made by FAO and ICCAT to coordinate and validate tuna statistics and recommended that the results of this ongoing work be presented at the next session of the ICCAT/Scientific Committee on Research and Statistics (SCRS), early October 2004.

SUB-COMMITTEE ON STOCK ASSESSMENT

9. The SCSA reviewed the assessments submitted by its Working group on demersal species (14 assessments, covering 7 species in 6 Geographical Sub-Areas (GSAs)) and by its Working group on small pelagics (8 assessments, covering 2 species, in 6 GSAs). It noted that no assessment were made of demersal shared stocks while only two assessments were presented on shared stocks of small-pelagic. A table updating and summarising the assessments endorsed by the SCSA is attached as Annex 1. The GFCM table on GSAs is reproduced as Annex 2.

10. The SCSA proposed to add the bluefish, *Pomatomus saltatrix*, to the list of GFCM priority species. It noted that no new shared stocks had been identified to complete the list adopted by GFCM at its Twenty-eighth Session.

11. The report of SCSA (GFCM:SAC/7/2004/Mad.4) provides a full description of the status of the stocks reviewed as well as the justification for each management advice, as summarized below.

For Demersal species

Hake (*Merluccius merluccius*) in GSAs 01 (Northern Alboran), 05 (Balearic Islands) and 06 (Northern Spain):

- the selectivity should be improved, e.g. by using 40 mm square mesh size, instead of the 40mm diamond mesh size;
- the fishing effort should be controlled on nursery areas.

Red mullet (*Mullus barbatus*) in GSAs 01 and 06:

- more effective control in closed coastal areas should be encouraged to protect recruitment;
- stricter controls of the legal mesh size to improve the selectivity should be ensured. Moreover, the use of 40 mm square mesh size which might improve exploitation pattern (compared to the 40 mm diamond mesh size) should be encouraged.

Striped mullet (*Mullus surmuletus*) in GSA 05:

- the fishing effort should not be increased;

Red mullet (*Mullus barbatus*) and **deep water rose shrimp** (*Parapenaeus longirostris*) in GSA 03 (Southern Alboran):

- the fishing effort in coastal areas should be reduced through transferring part of the effort to more offshore fishing grounds;
- mesh size regulations and coastal areas closures should be properly enforced.

Blue and red shrimp (*Aristeus antennatus*) in GSAs 01, 05 and 06; **giant red shrimp** (*Aristaeomorpha foliacea*) in GSA 11 (Sardinia); **red mullet** (*Mullus barbatus*) and **bluefish** (*Pomatomus saltatrix*) in GSA 14 (Gulf of Gabes) :

- the fishing effort should not be increased.

For small-pelagic species

Anchovy (*Engraulis encrasicolus*) and **sardine** (*Sardina pilchardus*) in GSAs 01 and 06:

- the fishing effort should not be increased;
- the minimum size at catch should be adjusted to length at first maturity;
- control on the commercialization of undersized specimens should be improved;
- yearly assessments should be undertaken to guarantee timely the availability of catch and effort data;

- data acquisition for proceeding towards other indirect methods of assessment, e.g. tuned VPA, should be pursued.

Sardine (*Sardina pilchardus*) in GSA 03:

- the fishing effort should be progressively decreased over a 3 year period;
- a seasonal closure of one month during the sardine spawning period should be implemented;
- more information on the growth and reproductive parameters should be acquired to ameliorate the assessment;
- a seasonal closure should be established for the area east of Nador (from Kariat Arkmen to Ras Kibdana), where juveniles concentrate during the recruitment period (May-June);
- artisanal fishing in nursery grounds (small bays and lagoons) should be prohibited.

Sardine (*Sardina pilchardus*) and **anchovy** (*Engraulis encrasicolus*) in GSA 17 (Northern and Central Adriatic):

- the fishing effort should not be allowed to rise.

12. The SCSA further examined the results of the analyses on length at first maturity (LFM) of anchovy (*Engraulis encrasicolus*). It noted that, since 2002, analysis using histological methodology, in accordance with the agreed protocol, have been made only in GSAs 6 and 17, and that new data of LFM in GSA 16 (South of Sicily) using the maturity key analysis had been presented. The Sub-Committee concluded that:

- there is enough scientific evidence to statute that the anchovy of western Mediterranean has a length at first maturity (L50) of 11 cm total length;
- for the Adriatic anchovy, the previously reported LFM of 9 cm could be validated using histological methods;
- there is a need to ensure the monitoring of inter-annual estimation of L50, taking into account that the 1st maturity length may vary over year.

13. The SCSA also reviewed the results of the Workshop on Biological Reference Points. It endorsed the criteria suggested for adopting related indicators (e.g: minimization of basic assumptions; performance with respect to interactions between fishery and the environment; applicability to different scenarios and, comprehensiveness by stakeholders). The Sub-Committee further recommended that specific indicators be identified for each fishery or operational unit (poly-indicator system). While favouring the use of multi-species indicators (e.g., BOI index) and ecological indicators as well as indicators derived from composite models and surveys, the SCSA suggested that each reference point should undergo a robustness and/or sensitivity test before being formally adopted.

14. The SCSA also:

- appreciated the progress of the CopeMed Working Group on dolphinfish, *Coryphaena hippurus*, and expressed concern for the future of this group, should the project terminate;
- reiterated the importance of reviewing assessment methods, thereby welcoming the survival analysis approach and recommending the use of trawl surveys in the assessments for the estimation of discards; more generally, it emphasized the need to use trawl survey data, in parallel with the commercial data, and to use more the typical VPA method for assessments;
- recommended the establishment of a Working Group on selectivity with the view to identify common protocol of methodology to implement specific experimental work.

SUB-COMMITTEE ON STATISTICS AND INFORMATION

15. The SCSI noted that further progress had been achieved with regard to the harmonization of data collection and the development of national statistical systems developed within the framework of the MedStat statistical programme with support from CopeMed, AdriaMed and the eastern component of the MedFisis project. This included inventories of artisanal fisheries, fishing vessel census and catch and effort data collection schemes in various countries, as required by SAC.

16. The Sub-Committee endorsed the methodology identified by the meeting of Experts on Operational Units (OUs). It expressed its satisfaction for the work initiated through the two pilot studies, respectively in the Alboran Sea under the *aegis* of CopeMed and in the Adriatic under the *aegis* of AdriaMed². It noted however that limited progress had been made for the standardization of fishing effort on a regional scale.

17. In its report (document GFCM:SAC7/2004/Mad.2), the SCIS acknowledged the collaboration with FIRMS/FIGIS in relation to the implementation of the strategy for improving Information on Status and Trends of Capture Fisheries (Strategy-STF) and noted that activities should be enlarged to cover the following two major components, i.e., “Development of inventories, methodologies, and operational guidelines” and “Field training and implementation”.

18. The Sub-Committee further recommended that:

- the two pilot studies on Operational Units be finalized as soon as possible, so as to adapt the methodology to suit other GSAs;
- an *ad hoc* Working group composed of selected experts be established to undertake a feasibility study on the standardization of fishing effort by Operational Unit;
- the regional projects and the Sub-Committees increase their contribution to the GFCM website through the provision of relevant documents and other information which will be processed by the Secretariat.

SUB-COMMITTEE ON ECONOMIC AND SOCIAL SCIENCES

19. The SCESS noted progress achieved in implementing its four medium-term priorities:

- feasibility studies related to the collection of socio-economic indicators;
- training in the realm of fisheries socio-economic analysis and management;
- case studies on the application of the socio-economic indicators to fisheries management and the development of bio-economic models;
- research related to the marketing of fish and fisheries products.

20. In relation to strengthening research on fish markets, the Sub-Committee suggested that more emphasis be given to prices, quality control, processing and labelling, with a view to monitor issues related to national and regional policies, distribution systems, import and export trends and their impact on fisheries management and approaches. SCESS called for the formulation of guidelines on implementing market studies, taking into consideration AdriaMed experiences.

² Further details on OPs are provided in document GFCM:SAC7/2004/4 on the Major activities of the FAO Regional projects.

21. SCESS also expressed the need for an increased understanding of social component of the fisheries sectors in relation to the implementation of management measures. To this regard, SCESS suggested that i) guidelines on implementing fisheries sociological studies be developed, based on the AdriaMed experience and ii) that studies on social aspects of fisheries management be promoted taking into consideration relevant indicators.

22. The Sub-Committee identified opportunities to strengthen collaboration between SAC and the Committee on Aquaculture (CAQ), in the field of socio-economic analysis. It recommended to consider the implementation of joint activities between the CAQ Network on Socio-Economic and Legal Aspects of Aquaculture in the Mediterranean (SELAM) and SCESS, in areas such as market and environmental impact analyses. It further reiterated the need to strengthen the interaction with SCIS to timely favour the implementation of a data entry and analysis program for socio-economic indicators.

23. The SCESS further recommended that SAC:

- include specifically in the SAC mandate for the intersessional period 2005-2006 the use of bio-economic models in the analysis of management advice and assure the participation of social scientists from all the sub-regions in the development and test application of the BEMMFISH model;
- apply the SCESS Manual of Fisheries Sampling Surveys in data gathering procedures in order to guarantee data quality and comparable outputs;
- extend activities on indicators under the Operational Units concept to all GFCM GSAs through the regional projects and through the inclusion of an economics and social sciences component into the forthcoming EastMed project
- seek support from the FAO for organising the technical meeting on the use of socio-economic indicators in fisheries management suggested in 2003.

24. The SCESS also sought guidance from SAC on the possible inclusion of the monitoring of legal studies related to fisheries management in its work. The Sub-Committee noted that this would, *inter alia*, favour the continuation and geographical enlargement of the work carried out by the CopeMed Legal Working Group. It therefore called the attention of the Committee on the “Draft Comparative Study on Fisheries Regulatory Framework in the Mediterranean” (document GFCM:SAC/2004/Mad.10), prepared jointly by CopeMed, AdriaMed and the Secretariat with support from the FAO FishCode project.

25. The report of SCESS is provided as document GFCM:SAC7/2004/Mad.3.

SUB-COMMITTEE ON MARINE ENVIRONMENT AND ECOSYSTEMS

26. The SCMEE had no meeting of its Working groups during the intersession. The Sub-Committee reviewed a wide range of issues and formulated various opinions in its report (document GFCM:SAC7/2004/Mad.1) as well as some recommendations, as follows.

27. On the issues of incidental catches of protected species and on the by-catch of large migratory sharks, the SCMEE invited SAC to consider:

- adopting the MED-LEM (Mediterranean Large Elasmobranches Monitoring) protocol and information system, already endorsed by FAO, IUCN and the EU, with the perspective of sharing and distributing information on Large Elasmobranches, and promoting the funding of the related project proposals;
- strengthening the coordination with Regional Programmes aimed at monitoring by-catches of all vulnerable or endangered species, in particular those related to cartilaginous fishes, large pelagic sharks and cetaceans.

28. In relation to the impact of surface and bottom longline fisheries on non commercial fish species, birds and turtles, the Sub-Committee noted that no paper had been prepared. It therefore deferred the analysis on the effects of fishing gear on marine ecosystems but suggested, however, that available results of experiments concerning sound producing devices for turtles be compiled.

29. SCMEE expressed the opinion that an ecosystem approach to fisheries (EAF) for the whole Mediterranean, including the mapping of fish habitats, would be facilitated through the support of projects at regional scale. It also recommended that an ECOPATH training course, focusing on studies in pilot areas, be organized to promote ecosystem approach to fisheries management.

30. The Sub-Committee also expressed great concern on fishing at depths greater than 1000m. It reiterated the need to apply a precautionary approach in this respect and invited SAC to address the issue of deep sea fishing. It stressed similar concern in relation to the impact of large scale driftnet fisheries on biodiversity and on threatened or endangered species, in many GFCM' GSAs.

COORDINATING MEETING OF THE SUB-COMMITTEES

31. Following the sessions of the four Sub-Committees, the CMSC met among others to review the respective conclusions reached by the Sub-Committees and coordinate issues of common concern among SAC subsidiary bodies. Participants endorsed the final report of the CMSC meeting which immediately followed the Twenty eighth session of GFCM (document GFCM: SAC7/2004/Mad.7), including the suggested terms of reference for the CMSC itself and for National Focal Points and Coordinators of Sub-Committees.

32. The CMSC thanked the FAO regional projects for their efforts in supporting the work of the SAC subsidiaries and the participation of some experts to meetings. The Coordinating Meeting agreed to call the attention of SAC on the proposal that travelling and subsistence costs of Facilitators and Coordinators of Sub-Committees should be supported by the GFCM autonomous budget. It further endorsed the change of Coordinator for SCSA, following the resignation of the former bearer.

33. The Coordinating Meeting briefly reviewed the state of implementation of the priorities laid down in the Reference Framework for the work of SAC, as updated by the Twenty-eighth session of the Commission. The request of GFCM to promote the assessments of shared multispecies fisheries and to back up the scientific advice from SCSA with social and economic analysis was stressed. The Meeting noted with concern that no new data and/or assessment had been presented to the SCSA on demersal shared stocks. It was considered highly desirable to make available integrated data on shared stocks and on nurseries at the next session of SAC.

34. The CMSC further noted that in the case of multidisciplinary or transversal topics (such as Operational Unit), every effort should be made to ensure that individual results from the Sub-Committees concerned are, as possible, harmonized and integrated. In relation with current work on the measurement of fishing effort, a common concern would be the difficulty of applying current international standard, that is the Gross Tonnage (instead of GRT). SCIS and SCESS were invited to consider this issue, subject to further guidance from the SAC.

35. The Coordinating Meeting reiterated the need for the Sub-Committees to use similar standards and, when appropriate, terminology, in their respective reports, in order to facilitate the presentation of findings to the SAC. The CMSC also acknowledged the need to make a better use of the GFCM "Studies and Reviews" Series and suggested to consider establishing a redaction committee for this purpose. It stressed that the development of the GFCM web-site was an issue of common concern for which each Sub-Committee should contribute through providing documents or otherwise. It was however noted that the criteria, standards and procedure concerning the open access to the working documents of SAC subsidiaries still needed to be clarify by the Committee. Similarly, the status of the

ad hoc Joint GFCM/ICCAT Working Party on Stocks of Larges Pelagic Fishes within the frame of SAC Subsidiaries was questioned and it was suggested that the drafting of proper or revised terms of reference for this body would help clarifying the issue.

36. The CMSC acknowledged the establishment of the Association of Professional Fishers for the Mediterranean (MEDISAMAK) and invited SAC to provide guidance on possible working relationship with this non governmental organization that was granted the status of observer with GFCM at the Extraordinary Session of the Commission (July, 2004).

37. The report of the CMSC is made available as document GFCM:SAC7/2004/Mad.8.

SUGGESTED ACTION BY THE COMMITTEE

38. The Committee is invited to review the findings, conclusions and recommendations of its Sub-Committees and *ad hoc* Working Groups. In doing so, it is suggested to pay special attention to issues such as the assessment of multispecies shared fisheries, the measurement of fishing effort and the use of socio-economic indicators and reference points in relation to Operational Units.

39. The Committee is also invited to review the activities proposed by the Sub-Committees and decide on priorities concerning their respective programmes of work, on the opportunities to enhance the integration of activities, taking into consideration the proposed Provisional Reference Framework for 2005-2006 laid down in document GFCM:SAC7/2004/5 as well as comments provided by the two meetings of the CMSC held during the intersession.

ANNEX 1. Summary table of assessments endorsed by the SCSA in 2003 and 2004

Stocks assessed in 2004. Bold number and grey background: shared stock

Species	GSAs																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
<i>Sardina pilchardus</i>	1		1			2	*									*	1							5
<i>Engraulis encrasicolus</i>	1					1	*		*			*	*	*		*	1							3
<i>Mullus barbatus</i>	1		1			1	*	*	*		1					*	*							4
<i>Aristeus antennatus</i>	1				1	1																		3
<i>Merluccius merluccius</i>	1				1	1	*	*	*							*	*							3
<i>Aristeomorpha foliacea</i>							*	*			1													1
<i>Mullus surmuletus</i>					1		*	*																1
<i>Parapenaeus longirostris</i>			1				*	*								*	*							1
<i>Pomatomus saltatrix</i>														1										1
<i>Illex coindetii</i>																*	*							0
<i>Nephrops norvegicus</i>							*	*	*															0
<i>Pagellus bogaraveo</i>							*	*																0
<i>Pagellus erythrinus</i>																*	*							0
<i>Phycis blennoides</i>																*	*							0
	5	0	3	0	3	6	0	0	0	0	2	0	0	1	0	0	2	0	0	0	0	0	0	22

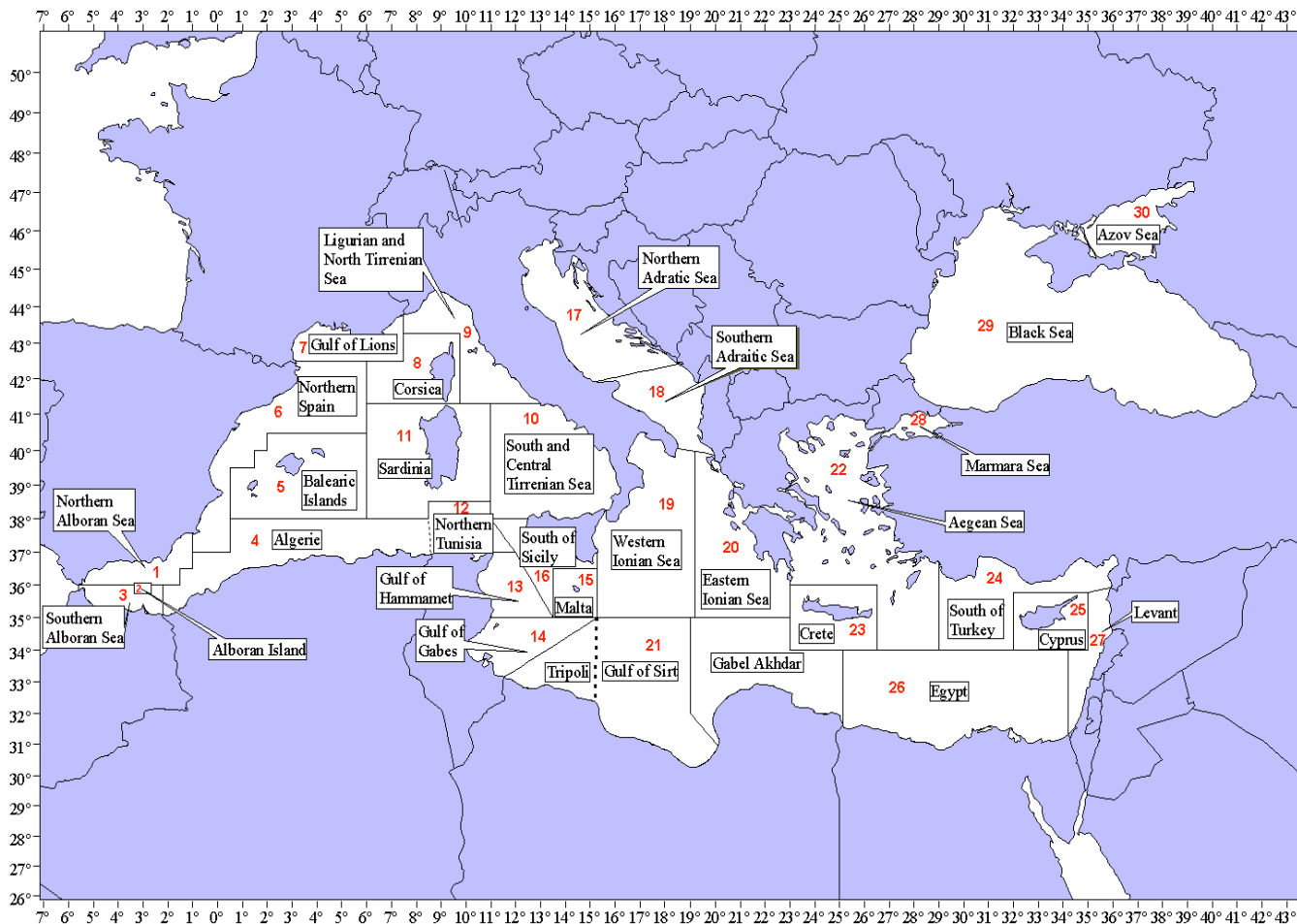
* Complementary information to assessments (biomass index trends, nurseries, distribution, etc.)

Summary of assessments

Total	22
GSAs	7
Species	9
Shared stocks	2

ANNEX 2.

GFCM Geographic Sub-areas (Athens, June 2001)



1. Northern Alboran Sea
2. Alboran Island
3. Southern Alboran Sea
4. Algeria
5. Balearic Islands
6. Northern Spain
7. Gulf of Lions
8. Corsica Island
9. Ligurian and North Tirrenian Sea
10. South Tiffenian Sea
11. Sardinia
12. Northern Tunisia
13. Gulf of Hammamet
14. Gulf of Gabes
15. Malta Island
16. South of Sicily
17. Northern Adriatic
18. Southern Adriatic Sea
19. Western Ionian Sea
20. Eastern Ionian Sea
21. Libya
22. Aegean Sea
23. Crete Island
24. South of Turkey
25. Cyprus Island
26. Egypt
27. Levant
28. Marmara Sea
29. Black Sea
30. Azov Sea