GENERAL FISHERIES COMMISSION FOR THE MEDITERRANEAN

COMMISSION GÉNÉRALE DES PÊCHES POUR LA MÉDITERRANÉE

SCIENTIFIC ADVISORY COMMITTEE (SAC)

Sixteenth Session

St Julian's, Malta, 17-20 March 2014

Report of the fourteenth session of the Subcommittee on Marine Environment and Ecosystems (SCMEE)

Bar, Montenegro, 4–5 February 2014

EXECUTIVE SUMMARY

The fourteenth session of the Subcommittee on Marine Environment and Ecosystems (SCMEE) of the GFCM Scientific Advisory Committee (SAC) addressed the proposal of Guidelines on Artificial Reefs for the Mediterranean and Black Sea, reviewed the outcomes of the Workshop on the Regional Management Plan for red coral (including the main provisions of such draft plan), and reviewed the outcomes of the GFCM Working Group on marine protected areas. The SCMEE also agreed on the terms of reference for an ad hoc workshop on elasmobranchs to be held in late 2014, and was informed about recent activities on deep-sea habitats and vulnerable marine ecosystems; in this framework a joint study GFCM – UNEP-MAP RAC/SPA to assess the feasibility of protecting areas less deep than 1000 m from fisheries was proposed. Also, the SCMEE agreed on the amendment of the template of FRA proposal (i.e. section 3.3.1 of the form) and proposed to add some fields to the by-catch data collection section included in the new GFCM data collection reference framework (DCRF).

OPENING OF THE SUBCOMMITTEE MEETINGS

1. The opening session of the SAC subcommittees, held back-to-back with the SCMEE Working Group on Marine Protected Areas (WG MPAs) and the SCESS Working Group on a common methodology to carry out socio-economic analysis in Bar, Montenegro, from 3 to 5 February 2014, was opened by Mr Abdellah Srour, GFCM Executive Secretary, who welcomed participants by recalling the latest achievements and activities of the GFCM that would be object of the subcommittees work.

2. He stressed the renewed interest in small-scale fisheries in the Mediterranean, which account for 80% of the fisheries in the region and mentioned the results obtained during the First Regional Symposium on Sustainable Small-Scale Fisheries (organized in November 2013, Malta) and referred to the FAO Technical Consultations on Voluntary Guidelines for Securing Sustainable Small-Scale Fisheries held on 3–7 February 2014. He also introduced the main issues pertaining to the process of amendment of the GFCM legal and institutional framework - foreseen to empower the GFCM and to make its decision-making process more effective to sustain tangible results in all spheres.

3. Subsequently, H.E. Petar Ivanovic, Minister of Agriculture and Rural Development of Montenegro, greeted participants and underlined the efforts undertaken by his country to contribute to sustainable fishing in the Mediterranean, particularly in the Adriatic Sea in light of recent GFCM and European Union decisions and agreements, giving special priority to the development and recovery of the small fishing fleet. He also stressed the alarming state of fishery resources in the Mediterranean as a consequence of failure to implement previous decisions.

4. In this regard, he added that fisheries development was not just a matter of legislation and procedures, but also of finding mechanisms that should allow to fish in a balanced way with the actual market demand. He finally officially opened the subcommittee sessions expressing true hope that such meetings could help find answers to questions related to mechanisms and recommendations for the sustainable use of resources.

TRANSVERSAL SESSION ON REVIEW OF THE DRAFT PROPOSAL FOR A GFCM DATA COLLECTION REFERENCE FRAMEWORK (DCRF)

5. Mr Miguel Bernal, from the GFCM Secretariat, introduced the transversal session of the SAC subcommittees on the GFCM Data Collection Reference Framework (DCRF), underlining the importance of the DCRF to achieve a more efficient data collection programme at subregional level and a better integration of data collection within the mandate of the GFCM. He highlighted that the DCRF contained GFCM data requirements included in the previous GFCM recommendations, but taking into consideration suggestions provided by the GFCM Members to simplify and clarify data requirements. He briefly recalled the preparatory steps of the document proposal, starting from the activities launched within the data collection work package (WP02) of the GFCM Framework Programme (FWP). In particular, he referred to the two assessments carried out in 2013, one internal (at Secretariat level), and the other external (at countries level through questionnaires filled by the national focal points) and mentioned the three subregional workshops on data collection (held through March and April 2013) which served as technical basis for the elaboration of the proposal.

6. Mr Paolo Carpentieri, data collection regional coordinator, delivered the presentation on the GFCM-DCRF proposal[1]. After an overview of the historical background, including the GFCM performance review, the Task Force process, the Framework Programme as well as the data collection activities, he summarized the main issues in terms of gaps, difficulties and proposals which arose from

[1] Proposal for the GFCM Data Collection Reference Framework (DCRF) – Draft version before editing (24 January 2014)

the subregional workshops on data collection. The presentation went on with a summary of DCRF tasks including the type of requested data and their purposes (as reproduced on table n.2 of the proposal):

T.I Catch (landing data, catch data per species)

T.II Bycatch of vulnerable species

T.III Fleet

T.IV Effort

T.V Socioeconomics

T.VI Biological information (stock assessment, length data, other biological data, dolphin fish, red coral)

7. Attention was drawn to the ten annexes of the DCRF document forming integral part of the proposal. Particular focus was placed on the priority species subdivided into three proposed groups according to different criteria (frequency of assessments, fishery importance, and conservation status) following a subregional approach.

8. The presentation concluded mentioning the potential strength of the DCRF: its potential to encompass all the requested data in a single "volume" with a common structure for all the Tasks; its modular approach with scattered deadlines; the simplification of data with a better definition of data fields; the establishment of official data calls; the improvement of the submission tools and of the communications with the countries (summary report, national focal points).

9. Once the floor was opened for discussion, participants expressed general appreciation of the DCRF proposal underlining the importance of the work carried out to strengthen the data collection framework in the GFCM area. The main issues emerged during the discussion are listed below.

Language and distribution of the document

10. Clarifications were asked concerning the timing, language and the distribution list of the GFCM DCRF proposal. The Secretariat informed that the document was circulated ten days before the meeting among the national focal points of the Framework Programme (for activities on data collection and management plans), the SAC subcommittees coordinators and the FAO regional projects. The draft proposal was initially sent in English, the working language of the SAC subcommittees, but translation into French and comments received at the subcommittee meetings would be provided in time for the sixteenth session of the Scientific Advisory Committee.

Subregions and priority species

11. Some concern was expressed in relation to the subregions and the list of priority species proposed in Annex A of the DCRF proposal. With regards to the first matter, the importance of evaluating the separation of the Adriatic subregion from the central area was stressed. As for the proposed list of species, more information on criteria to classify the species into three different groups was requested. It was clarified that the proposed groups of species were based on the outputs of the three subregional workshops on data collection held in 2013. The grouping criteria took into consideration the frequency of assessments presented to the GFCM working groups (group 1), the percentage of contribution to total landing at sub-regional level (group 2) and the inclusion of the species under any recovery action plan for conservation plus non-indigenous species of greatest potential impact (group 3).

12. Furthermore, it was underlined that although all countries in a specific subregion should collect information for the identified species, some exemption rules (such as presence/absence, landing by weight per species in the country percentage contributions at the subregional level) should be

considered. Moreover the identified species at subregional level should be redefined also taking into consideration the commercial value of the species. It was recalled that the lists were not static and that they could change over time according to the identified criteria.

Fleet segmentation (effort, landing and biological variables)

13. General consensus was expressed on the "revised" fleet segmentation, composed of already existing segments (with a more detailed breakdown by length classes) with the addition of the beam trawler (Annex B of the proposal). Concerning the method of assigning a fleet segment to a vessel, it was agreed to use the dominance criteria. This would be based on the percentage of time at sea using the same fishing gear over the year.

14. It was proposed to collect effort and landing data for each identified fleet segment whereas the biological variables should be collected for the most important ones. In this respect, the introduction of a subregional threshold was considered advisable (in terms of activities or number of vessels within the segment).

Survey data biological information

15. Participants suggested to include survey data, when available, in order to provide the requested biological information in the DCRF proposal.

Data transmission (frequency, deadlines and submission tools)

16. Comments were made on the proposed data submission calendar (Annex A of the proposal) with particular respect to dolphin fish fisheries (*Coryphaena hippurus*) and red coral. It was noted that the proposed deadline for the transmission of dolphin fish data was June of each calendar year thus giving more time to the countries to prepare datasets, but posed a problem of discrepancy with current EU data call (January). Concerning red coral, although the harvesting season ends at the closure of the year, it was explained that the proposed move to June was aimed at allowing countries to better prepare their data for final transmission to GFCM.

17. The subcommittees were also informed that relevant data transmission protocols and submission tools would be provided by the Secretariat upon adoption of the DCRF.

Stock assessment

18. Clarifications were asked in relation to the issue of stock assessment forms in terms of the nature of the data (official or scientific), the national entities in charge for their transmission and the newly proposed deadline for submission (September). It was explained that data used for stock assessment should be included in the stock assessment forms and presented to the GFCM working groups on stock assessment by the experts attending the meeting, providing a clear indication of the origin (official landings, scientific surveys, etc.) and coverage of the data. Concerning the deadline for transmission, the idea was to set it shortly before the working groups, so that stock assessment-related data for reference year n-1 could be available for the meetings.

Data quality

19. The subcommittees raised the issue of data quality control on datasets transmitted to GFCM within the framework of the DCRF. In this respect, attention was drawn to the different levels of quality control: i) the national level, under the responsibility of each country before data transmission, and ii) the regional level, under the responsibility of the GFCM Secretariat once data are received. Experts were informed that some preliminary standards for quality control would be investigated upon adoption of the DCRF.

Data confidentiality and accessibility

20. Several questions were raised in relation to the confidentiality and accessibility of the collected data. In this respect, Resolution GFCM/35/2011/2, in force and defining the rules on data confidentiality, security and access for all data, reports and messages (electronic and of other nature) transmitted and received pursuant to GFCM recommendations, was recalled. In light of the revision of GFCM data collection, these important issues should be tackled upon adoption of the proposed DCRF.

National focal points

21. Participants reiterated the importance of the role national focal points appointed for activities on data collection and management plans under the Framework Programme in 2013 and stressed the need to maintaining these functions for the coming years.

OPENING AND ARRANGEMENT OF THE SCMEE

22. The fourteenth session of the GFCM Subcommittee on Marine Environment and Ecosystems (SCMEE) was held in Bar, Montenegro, on 4–5 February 2014. It was organized by the GFCM Secretariat in collaboration with the Montenegrin authorities. The meeting was attended by 22 participants from seven GFCM Members, representatives of IUCN, ACCOBAMS, UNEP/MAP-RAC/SPA, OCEANA, FAO regional projects and the GFCM Secretariat (list of participants in Appendix B).

23. Mr Federico Álvarez, coordinator of the SCMEE and chair of the meeting, opened the session and welcomed participants. He recalled the mandate of the subcommittee which – under the framework of the GFCM – had to tackle a broad variety of topics dealing with marine environmental and conservation aspects.

24. Ms Pilar Hernández and Ms Aurora Nastasi, from the GFCM Secretariat, were elected rapporteurs of the meeting. The agendas was adopted and is reproduced in Appendix A.

OUTCOMES OF THE WORKSHOP ON ARTIFICIAL REEFS

25. **Presentation of the Guidelines on Artificial Reefs**. Mr Giuseppe Scarcella presented the final draft of the GFCM Guidelines on Artificial reefs[2] to be presented to the Scientific Advisory Committee (SAC) and to the Commission for possible endorsement as official GFCM guidelines for the coherent and rational use and deployment of artificial reefs in the Mediterranean and Black Sea area. The presentation highlighted the process that had led to the preparation of the guidelines and its main chapters and contents.

26. Participants welcomed the document and congratulated the authors for the excellent work done. Some clarifications on specific topics were requested to the author(s) and it was agreed that in the next version of the document the following observations would be considered and properly included:

- include a definition for **artificial reefs with the aim of protecting the ecosystems**;
- include the term **dissuasion** with reference to the definition of the function of artificial reefs as a device to protect the environment from illegal fishing, in the sense of: "artificial reefs as **dissuasion** tools for fisheries and as **protection** tools for the environment" (the document

[2] http://151.1.154.86/GfcmWebSite/SAC/SCMEE/14/docs.html

was referring to "protection from fisheries" and this was not considered the appropriate phrasing and the word "dissuasion" was missing in the document);

- better define the use of artificial reefs for diving/tourism activities as **attractive** tools.

27. It was also requested to update the definition of **Artificial reefs** in the GFCM SAC glossary with the following definition adopted in the guidelines:

> An artificial reef is a submerged (or partly exposed to tides) structure deliberately placed on the seabed to mimic some functions of a natural reef, such as protecting, regenerating, concentrating and/or enhancing populations of living marine resources. This includes the protection and regeneration of habitats. It will serve as habitat that functions as part of the natural ecosystem while doing "no harm". The term excludes artificial islands, cables, pipelines, platforms, mooring, and structures for coastal defense (e.g. breakwaters, dikes, etc.) which are primarily constructed for other purposes, as well as the Fish Aggregation Devices (FADs) employed to merely attract fish in certain fishing areas.

28. The GFCM Secretariat informed the SCMEE about the progresses made towards the launch of the regional database on artificial reefs in the GFCM website which had been built upon the already existing Italian database. The new GFCM database was foreseen to be launched by the first half of 2014 and participants were invited to inform national experts about this new tool, which had the final aim of gathering and showing artificial reefs data from all Mediterranean and Black Sea countries.

FOLLOW UP ON REGIONAL MANAGEMENT PLAN FOR RED CORAL (RMP)

29. The GFCM Secretariat informed the SCMEE about the conclusions and recommendations of the Workshop on the Regional Management Plan for red Coral held in Brussels in January 2014, as well as the main actions and decisions that had been taken by the GFCM during the last five years – including the decision of adopting a regional management plan for the sustainable exploitation of red coral.

30. It was also underlined that the conclusions and recommendations of the above mentioned workshop (Appendix C) had included draft terms of reference for an ad hoc workshop to further discuss the potential use of remotely operated underwater vehicle (ROV) to be held in 2015.

31. The SCMEE asked about the level of participation of relevant stakeholders in all GFCM meetings held on the topic, to tackle especially the socio-economics aspects related to the industry and employment sustained by the exploitation of the resource. The GFCM Secretariat highlighted that for the sake of transparency, the participation to these fora had always been opened to all interested stakeholders.

PROTECTED AREAS IN THE MEDITERRANEAN AND BLACK SEA

32. **Outcomes of the first meeting of the GFCM Working Group on marine protected areas.** The GFCM Secretariat presented to the SCMEE the conclusions and recommendations of the GFCM Working Group on Marine Protected Areas that was held on 3 February 2013 in Bar, Montenegro. The SCMEE welcomed the outcomes and provided minor comments and inputs (Appendix D).

33. **Amendment of the template of FRA proposal.** The chair presented the standard form for the submission of proposals for GFCM fisheries restricted areas (FRA) in the Mediterranean and Black Sea with special reference to section 3.3.1 (Current human use and development of fisheries). He proposed to amend this section of the form by including more detailed information on fisheries activities, such as:

- **Number of vessel by fishery operating in the area**
- **Total annual catches by species of each fishery in the area**

- **Percentage of total catches fished in the area with respect to the total**
- **Value of this catches**
- **Percentage with respect to the total**
- **By-catch rates of vulnerable species in the area**

34. The SCMEE agreed to endorse this proposal of modification to the standard form for the submission of proposals for GFCM fisheries restricted areas (FRA) in the Mediterranean and Black Sea recommending to include two additional items (full amended form reproduced in Appendix E):

- **Number of fishers involved in the fisheries operating in the area**
- **Name(s) of base port(s)**

35. The SCMEE also suggested to further investigate the definition of "total" for the purpose of referring the percentage of catches and value.

36. **New proposals of FRAs.** No new proposals were brought to the attention to the SCMEE.

37. **Review of the status of Balearic Seamounts FRA proposal.** The GFCM Secretariat reported on the status of the proposal for a new FRA to be established in the Balearic Seamounts area (Spain) submitted by OCEANA to the GFCM in 2010. In particular, the SCMEE was informed about the contents of an official communication from Spain[3] to the GFCM Secretariat reporting that the Spanish Government was preparing a ministerial order to protect parts of the area originally proposed by OCEANA.

38. OCEANA's representative welcomed the last developments of the FRA proposal in the Balearic seamounts and other areas surrounding the Cabrera National Park. However, she highlighted that the Spanish proposal exclusively complied with the EC Mediterranean Regulation 1967/2006 which prohibits fishing with trawl nets, dredges, shore seines or similar nets above coralligenous and maërl beds. She also remarked that this proposal from Spain was far from matching the expectations of OCEANA which, in line with the ecosystem approach to fisheries (EAF) and the precautionary approach was proposing a much larger area of the seamount to be designated as a fisheries restricted area, in light of the significant benthic vulnerable habitats (e.g. *Isidella ellongata* gardens) and protected species occurring in the area.

PROGRAMME ON ELASMOBRANCHS

39. The chair informed the subcommittee about the communication on the outcomes of the GFCM three-year programme on Elasmobranchs presented at the 40th Congress of CIESM (Marseille, France, October 2013) (Appendix F).

Elasmobranchs longline fisheries in the Gulf of Gabès. Mr Mohamed Bradai presented a study carried out to analyze elasmobranchs catches with longline fisheries in the south of the Gulf of Gabès in 2007–2008. In total, 21 and 20 pelagic and bottom longline fishing trips were conducted; eight elasmobranch species were caught: four batoids and four sharks. Discards, due essentially to low commercial value and size, represented 7.6 percent of total number of elasmobranch specimens caught. Longline landings in the Gulf of Gabès were mainly composed of sandbar shark, *Carcharhinus plumbeus*, representing, respectively, 94.14 percent and 21.17 percent in number of pelagic and bottom longline captures.

40. The OCEANA representative expressed her concern for the results of the study regarding the high percentage of retained discards from the bottom longlines. She specially highlighted the case for

[3] https://gfcmsitestorage.blob.core.windows.net/documents/SAC/SCMEE/14/SpainLetter_FRA_Mallorca_estado%20situaci%C3%B3n.pdf

guitar fish *Rhinobatos cemiculus* (88.6% retained) and *Rhinobatos rhinobatos* (63.6% retained) currently classified as Endangered in Annex II to the SPA/DB Protocol.

41. The SCMEE highlighted that the recommendation GFCM/36/2012/3 on fisheries management measures for conservation of sharks and rays stated that Members should ensure a high protection from fishing activities to elasmobranch species listed in Annex II of the SPA/BD protocol of the Barcelona Convention and that these should be released unharmed and alive to the extent possible and could not be retained on board, transshipped, landed, transferred, stored, sold or displayed or offered for sale.

42. Participants suggested that given the high occurrence of some elasmobranchs species in the Gulf of Gabès, restocking practices could be considered to restore other Mediterranean areas where the same species were known to be very scarce.

43. **Workshop on Elasmobranchs (2014): Draft terms of references.** The GFCM Secretariat presented to the SCMEE the terms of references (see Appendix G) of a new workshop on elasmobranchs that would be tentatively held in the second half of 2014, hosted by Ifremer (Sète, France), and funded by the EU through the GFCM Framework Programme.

44. Some participants proposed that this workshop could also identify potential donors to fund the actions that were already defined in the second GFCM medium-term research programme on Elasmobranchs and that needed to find financial coverage.

45. Mr François Poisson (Ifremer) presented to the subcommittee the website www.stellaris-asso.org which displayed the tracks of tagged blue sharks (*Prionace glauca*) in the Gulf of Lion and underlined the need for funds to continue such type of studies at a larger scale permitting to gather information on the habitat use by pelagic sharks.

46. He also mentioned that Ifremer had initiated, in collaboration with the domestic longline fishery targeting bluefin tuna, a two-year research programme to assess the interactions between the longline gear and sharks, sea turtle and seabirds. Pelagic sharks and sea turtles should be tagged with different types of satellites tags in order to understand their ecological preferences.

47. The GFCM Secretariat recalled that a pilot study on sharks' tagging was already foreseen within the second GFCM medium-term research programme on Elasmobranchs, although a lack of funding prevented the launch of the pilot study.

DEEP-SEA HABITATS AND VULNERABLE MARINE ECOSYSTEMS (VMEs)

Action plan for the conservation of habitats and species associated with seamounts, underwater caves and canyons, aphotic engineering benthic invertebrates and chemo-synthetic phenomena in the Mediterranean Sea. Mr Cebrian presented the new action plan on dark habitats launched by UNEP-MAP RAC/SPA and showed on maps the location of dark habitats such as canyons, volcanoes, seamounts, coral banks, etc. in the Mediterranean. He underlined the need for oceanographic campaigns to investigate better these poorly known ecosystems and advised that fisheries restricted areas were not enough to protect these areas, given the large extension of dark habitats and the existence of further threats than unsustainable fisheries.

48. The chair reminded that all these "dark zones" which were below 1000 m are already protected from bottom trawling according to the Rec. GFCM/29/2005/1 on the management of certain fisheries exploiting demersal and deepwater pelagic, however participants noted that these habitats could be threatened by other impacts than trawling, e.g. ghost nets and pollution.

49. The IUCN representative informed the meeting that there was an initiative to classify Mediterranean seamounts according to their physical and biological characteristics.

50. The GFCM Secretariat expressed interest in collaborating with UNEP-MAP RAC/SPA to develop some actions foreseen by the action plan on dark habitats. It also reminded that the FAO Global Database for VMEs, including FRAs, was under development.

CETACEANS-FISHERY INTERACTIONS

ACCOBAMS-GFCM joint project on interactions between cetaceans and fishing activities. Mr Chedly Rais presented the framework and main objectives of the project funded by the MAVA Foundation and to be carried out by the secretariats of both organizations. The project was to be carried out in the western part of the Mediterranean Sea and several case studies were identified to mitigate the impacts of the interactions of seabirds, sea turtles, sharks and cetaceans with relevant fisheries.

51. It was also mentioned that the focal points of ACCOBAMS and GFCM had been informed since the beginning about the objectives of this project and were invited to nominate correspondent organizations to collaborate with the ACCOBAMS and GFCM secretariats.

52. He also emphasized that the project was a step forward in establishing collaboration between GFCM and ACCOBAMS and that the project was not only conservation oriented but that it also took into consideration the concerns of the fishers, particularly for the losses generated by the above mentioned interactions.

53. The GFCM Secretariat informed the SCMEE that thanks to this project it would have been possible to give proper follow-up to GFCM decisions aimed at mitigating by-catch of the mentioned groups of species and, according to these decisions, the Secretariat should provide Members with guidelines and other informative materials to advise about by-catch mitigation techniques for different fisheries and groups of marine animals.

54. Several participants expressed their interest in the project and recommended that close collaboration was established with the national authorities in charge of fisheries and with associated organizations (e.g. RAC/SPA).

BY-CATCH OF SEABIRDS, SEA TURTLES AND MONK SEALS

Review of the recent actions of the French sea turtle conservation group and perspectives. Mr François Poisson presented a study carried out by experts on by-catch from the Groupe Tortues Marines France (GTMF), which since its creation in 2007 had conducted with the support of the National department of Fisheries several actions aiming at reducing the sea turtle by-catch mortality. A manual providing appropriate handling practices to ensure crew safety and increase the odds of survival for released animals had been developed and widely disseminated. These guidelines were meant for fishers using trawl, longline or set net. In addition, information to identify the species and indications on the procedure to identify comatose turtles were provided. A quick reference code (QR code) added on each sheet allowed fishers to have access with a smart phone to a video clip explaining the different phases of the procedure. In 2012, the GTMF had met French experts from other taxonomic groups (elasmobranchs, marine mammals and seabirds) – the so-called RESOCAP group – in order to exchange information on the recent resolutions and recommendations proposed in the different RFMOs and on the ongoing and future programmes dealing with mitigation methods implementation or by-catch estimates.

55. The GFCM Secretariat once again underlined the need to produce similar guidelines and informative materials at the regional level in coordination with FAO-FIPI and other Mediterranean organizations or institutions, in order to give follow-up to GFCM decisions on by-catch (e.g. recommendation GFCM/35/2011/4 on the incidental by-catch of sea turtles in fisheries in the GFCM competence area).

Updated Action Plans for seabirds and sea turtles and Strategy for the recovery of monk seal. Mr Daniel Cebrian presented several initiatives undertaken by RAC/SPA in order to decrease incidental catches of vulnerable species in fisheries, especially trawling and longlines. He also reported on the last sightings of monk seals in Mediterranean and on implementations by countries to protect this marine mammal as foreseen by the action plan on monk seal developed by UNEP-MAP RAC/SPA.

56. The SCMEE also underlined that together with by-catch mitigation measures, other protection measures such as limited access to reproduction sites of sea turtles and monk seals which had been mapped should be considered as an effective and suitable way to protect these animals. However, it was remarked that under the GFCM framework focus should be given to fisheries-related issues.

57. The SCMEE noted the difficulties of assessing the rate of by-catch for these species and that regional information should be collected and made available under the GFCM umbrella.

58. Mr Daniel Cebrian also presented the proposed timetable of the 2014–2019 Action Plan for the conservation of seabirds, sea turtles and monk seal with special reference to the actions which the Parties to the Barcelona Convention proposed to be jointly developed by GFCM and RAC/SPA.

59. The SCMEE welcomed these updates of the Barcelona Convention Action Plans, since they had provided indications to the Contracting Parties which were in line with the last GFCM decisions on the topic of by-catch. Nonetheless it was highlighted that in the process of identifying actions to be jointly developed with partners' organizations (e.g. GFCM), a better communication between secretariats was crucial. The existing memorandum of understanding between GFCM and UNEP/MAP was considered as the best framework to establish communication on a regular basis.

SCMEE INPUTS ON THE GFCM DATA COLLECTION REFERENCE FRAMEWORK (DCRF)

60. The SCMEE examined sections of relevance within the new DCRF, with special reference to the new Task II developed to submit data on annual by-catch rate of vulnerable species. The new aggregation level of data to be submitted to GFCM by countries is presented below:

Table II.1 - Vulnerable species
Mandatory data for species listed in Annex E

FIELDS
Country
Reference year
GSA
Group of the vulnerable species
Species
Gear group
Fishing Gear
Number of individuals

61. The SCMEE recommended disaggregating the "Number of individuals" field into "Number of specimens released alive" and "Number of dead specimens" and revising the list of vulnerable species presented in Annex E of the DCRF document since it was considered unclear and not complete, especially with reference to the Annex II of the Barcelona Convention.

ANY OTHER MATTER

Online database on marine invasive species in the Mediterranean Sea (www.mamias.org). Mr Cebrian presented the online database developed by RAC/SPA. This database should act as a tool to

provide a qualified georeferenced system on marine invasive alien species in the Mediterranean, exchange data and information among the scientific community, environmental managers, students, etc. and rapidly circulate information on occurrence of new alien of species.

Developing MSP in the Adriatic-Ionian Macroregion: the ADRIPLAN Project. Mr Fabio Grati presented the ADRIPLAN (ADRiatic Ionian maritime spatial PLANning) project that had been selected by DG MARE under the call for proposal 25/MARE/2012 – Project on Maritime Spatial Planning in the Mediterranean Sea and/or the Black and for which the GFCM was one of the observer organizations. Mr Grati underlined that among different uses of the sea to be harmonized and promoted in a sustainable way, fisheries and aquaculture played a crucial role. Several human activities were taking place in the Adriatic Sea and the coastal area and, inevitably, spatial conflicts occurred between fisheries (both commercial and recreational) and aquaculture. Rational management of these activities implied effective and efficient marine spatial planning, where a number of management measures aimed at mitigating the existing conflicts could be evaluated through the drawing of potential future scenarios.

62. The OCEANA representative expressed concern on some activities that had been proposed in the previous year work programme of SCMEE and that had not been carried out during the current intersessional period, in particular those related to the identification and conservation of deep-sea-habitats. The Secretariat informed that, as agreed by the Commission in Split May 2013, *"the programme of work for all subsidiary bodies should be executed according to the availability of funds, either through the autonomous budget or extra-budgetary funds"*.

GENERAL CONCLUSIONS AND RECOMMENDATIONS

63. The following recommendations were endorsed by the SCMEE 2014:

ARTIFICIAL REEFS

- Taking into account the outcomes of the GFCM Workshop on Artificial Reefs held in Izmir, Turkey (27 September 2013) and the final draft Guidelines on Artificial Reefs in the Mediterranean and Black Sea, the SCMEE recommended to consider and include in the guidelines some minor amendments as discussed during the meeting, and to consider the official adoption of these comprehensive and valuable guidelines by the Commission.
- To update the definition Artificial Reefs in the SAC glossary in coherence with the definition agreed within the guidelines.

REGIONAL MANAGEMENT PLAN ON RED CORAL (RMP)

- Taking into consideration the outcomes of the Workshop on the Management plan of red coral held in Brussels, Belgium (21–22 January 2014) and the revision of the contents of the draft proposal, the SCMEE endorsed all conclusions and recommendations as deriving from the workshop (Appendix C) for consideration by SAC.

PROTECTED AREAS IN THE MEDITERRANEAN SEA

- After a thorough revision of the outcomes of the meeting of the GFCM Working Group on marine protected areas held in Bar, Montenegro (3 February 2014), the SCMEE endorsed all conclusions and recommendations deriving from the meeting (Appendix D) for consideration by SAC. The SCMEE also indicated that the meeting of this working group provided useful inputs and agreed to continue giving support to this initiative.
- With reference to the proposal of modifications to the Standard form for the submission of proposals for GFCM Fisheries Restricted Areas (FRA) in the Mediterranean and Black Sea, the SCMEE recommended to adopt the new form as reproduced in Appendix E.

GFCM DATA COLLECTION REFERENCE FRAMEWORK (DCRF)

- With regards to the new GFCM data collection reference framework and in particular to the section relating to the official reporting of by-catch data to the GFCM, and the need to gather information on the rate of lethal/non-lethal by-catch events for vulnerable species, the SCMEE advised to amend the entry "Number of individuals" reported in table **II.1 - Vulnerable species**, as follows:

FIELDS
Country
Reference year
GSA
Group of the vulnerable species
Species
Gear group
Fishing Gear
Total number of individuals
Number of individuals released alive
Number of dead individuals

- The SCMEE also advised to carefully review and check the completeness of the list of vulnerable species proposed in Annex E of the DCRF and to better indicate those species included in the Annex II to the Protocol SPA/BD of the Barcelona Convention.

2014 SCMEE WORK PLAN

64. The following activities were proposed by the SCMEE 2014:

- Organize a Workshop on Elasmobranchs in the Mediterranean and the Black Sea to be held in the second half of 2014 in Sète, France, which was already approved for 2013. The terms of reference are provided in Appendix G.
- Within the framework of the activities undertaken by GFCM, RAC/SPA, ACCOBAMS and countries on the issue of by-catch, proper follow-up should be given to recommendations GFCM/35/2011/2, GFCM/35/2011/3, GFCM/35/2011/4 by implementing the following activities, also taking into account existing materials:
  1. produce informative material and leaflets on good practices to reduce the fishing mortality of sea turtles to be available for download on the GFCM website;
  2. collate existing information on technical tools and management measures to reduce by-catch of seabirds and monk seals.
- Subject to the availability of funds, and within the context of the MoU signed between GFCM and UNEP/MAP, a study should be developed in collaboration with RAC/SPA on deep sea habitats VMEs with the aim of assessing the feasibility of protecting areas less deep than 1000 m together with the related fisheries implications.

DATE AND VENUE OF NEXT SESSION

65. The date and venue of next session would be decided at a later stage, in accordance to the programme of work adopted by the Commission.

ADOPTION OF THE CONCLUSIONS AND CLOSURE OF THE MEETING

66. The conclusions and recommendations as presented in this report were adopted by the subcommittee on 5 February 2013 at 17.00 hours. The report was subsequently adopted after revisions and amendments by e-mail.

67. The GFCM Secretariat reiterated its thanks to Montenegro for the hospitality and the excellent support provided in the organization of the meetings and to the participants for the fruitful participation and contributions.

Appendix A

Agenda

1. **Transversal session on the review of the draft proposal for the GFCM Data Collection Reference Framework (DCRF)**
2. **Introduction of participants and adoption of the SCMEE agenda**
3. **Outcomes of the Workshop on Artificial reefs**
4. **Follow-up on the Regional management plan for red coral (RMP)**
5. **Protected areas in the Mediterranean and Black Sea**
6. **Follow-up on:**
   - 6.1. Programme on Elasmobranchs
   - 6.2. Deep-sea habitats and vulnerable marine ecosystems
   - 6.3. Cetaceans-fishery interactions
   - 6.4. By-catch of seabirds, sea turtles and monk seals
7. **GFCM Data Collection Reference Framework (DCRF)**
8. **Any other matter**
9. **General conclusions and recommendations**
10. **2014 SCMEE work plan**
11. **Date and venue of next session**
12. **Adoption of the conclusions and closure of the meeting**

Appendix B

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Appendix C

Conclusions and recommendations of the GFCM Workshop on the regional management plan for red coral (Belgium, January 2014)

- With regard to the operational objectives proposed by the draft RMP-RC, participants agreed that during a first phase, management could be based on ensuring that the current legal size (with 10 percent of tolerance in weight for undersized colonies) be respected until the present situation of many data-poor fisheries would be overcome and official yield data allow to set up quotas.

- The data entry tool presented by the Secretariat was well received by the participants, with some remarks to modify and improve the system, including incorporating a comments section for feedback from the first year of data entry (the deadline for the first submission was unofficially extended until the end of February 2014). It was recommended that indications on optional fields be included in the table for harvesting and that the table corresponding to biological information be filled only if a research or sampling programmes were in place.

- Regarding management measures to be adopted by Members to control that the objectives of the plan (when adopted) are met, participants agreed that a licensing system and annual catch levels (quotas) were of high value and also feasible. Opinions differed on the effectiveness of complementing those with daily quotas.

- Regarding monitoring, control and surveillance measures, participants agreed on the effectiveness and feasibility of the use of logbooks, designated ports with required facilities and as much as possible trained staff, prior notification before landing, and validation of logbooks on land, tracking devices, as well as patrols and inspections. Observers on board were recognized as an effective tool, but concerns were raised on logistical and financial constraints.

- Commercial traceability mechanisms are used by some participant countries, and their potential benefits were recognized, although they were not considered as a priority since other actions such as data collection and stock assessment were seen as more urgent. The examples of Sardinia and Spain were agreed to be taken as good practices to be potentially used as models for the future.

- The participants agreed with the proposal of 3–5 years review time of the RMP and suggested the first interval at 3 years, after the first reception of the official data through the GFCM data entry tool.

- Stakeholder involvement was seen by all participants as strongly needed when designing and implementing plans. All resources should be put at disposal for consultation with all the actors.

- Participants acknowledged that the research needs specified during the GFCM red coral workshops in Alghero and Ajaccio in 2010 and 2011 still applies and in this regard, in coherence with the GFCM Guidelines for Management Plans, they all agreed that GFCM and its Members should join efforts to improve knowledge on the biology and on fisheries of red coral including, as adequate, entering into cooperative arrangements with other appropriate international frameworks, and promoting participatory programmes with relevant stakeholders.

- Discussions on ROV concluded that, in view of the SAC advice expected after 2015, a dedicated technical workshop on ROV should be conducted.

Workshop on the use of ROV (after 2015)
Draft terms of reference

1. State of the art of ROV technology
2. Practicability of ROV for selective red coral harvesting
3. Socioeconomic analysis
4. Management considerations for the commence of ROV harvesting of red coral
5. Conservation considerations in the context of ROV harvesting
6. Adaptive framework for the use of ROV

Appendix D

Conclusions and recommendations of the GFCM Working Group on marine protected areas (Bar, Montenegro 2014)

- Participants agreed that the GFCM fisheries restricted area (FRA) was a valuable tool to be considered at the regional level as it offered some important advantages including: i) a linear and simple process for its establishment, ii) open to different type of stakeholders and iii) easy to be complemented with additional protection measures (to be adopted by other regional competent organizations and national authorities).

- In this light, it was recommended to provide added value to the GFCM FRAs proposing the overlap among different protection layers, and namely by:

  - designating national MPAs in those areas which fall within national waters and that already overlap with the designated FRA in areas deeper than 1000 m.

  - designating fisheries restricted areas in areas already protected by different designations (e.g. the Pelagos Sanctuary could host a FRA if relevant for the objectives of this recognized SPAMI)

- Regarding the issue of making the different processes more compatible and complementary between the several organizations, the first step was taken by the working group which agreed on proposing the standardization of some elements of the existing form templates to request different protection measures in the Mediterranean region. It was therefore recommended that the three existing official forms for fisheries restricted areas (GFCM), Areas of special importance for cetaceans (ACCOBAMS), and Specially Protected Areas of Mediterranean Importance (UNEP/MAP) include the following elements regarding fishing activities and related socio-economics aspects:

  - Number of vessel by fishery operating in the area

  - Total annual catches by species of each fishery

  - Percentage of total catches fished in the area

  - Value of this catches and percentage respect to the total

  - By-catch rates of endangered species

- This proposal of shared elements within the forms should be prepared and presented to the Contracting Parties of each organization for final endorsement and adoption.

- The working group underlined that for the harmonization with final purpose of protecting biodiversity and recovery of exploited resources, the technical collaboration and cooperation among the different organizations or bodies such as UNEP-MAP RAC/SPA, ACCOBAMS, UNESCO, IMO, MedPAN, OCEANA, WWF, was strongly needed. On this regard the existing MoUs established with UNEP/MAP, MedPan and the one in progress with WWF were seen as the most appropriate tool to progress in this direction.

- Within the institutional framework, the importance of strengthening collaboration and cooperation among the relevant intergovernmental organizations was underlined, in particular with the aim of strengthening current measures and exploring the possibilities of developing new joint designations, either by submitting the same proposal to two governing bodies or endorsing the designation one after the other.

- The working group highlighted the importance of risks/benefits assessment, communication or awareness-raising on the type and objectives of spatial management measures among relevant stakeholders, particularly the fishing sector, and stressed that a participatory process was a key element for the success of protection initiatives.

- A pilot study to test collaboration between organizations could be carried out focusing firstly on the conservation of exploited resources (e.g. spawning grounds, nursery areas). It could be complemented in a second step by extended protection in terms of surface and of activities.

- The GFCM Working Group on Marine Protected Areas outlined the future actions to be carried out:

  - Inventory of existing national areas subject to spatial based fisheries management measures under the provisions of national legislation (e.g. seasonal closures, gear restrictions) (GFCM Secretariat in collaboration with MedPAN and involved national authorities).

  - Exploring the possibility of assigning IUCN protected areas management categories to GFCM FRAs and to the above mentioned areas (GFCM Secretariat in collaboration with IUCN).

- Furthermore, in light of the outcomes of the questionnaires on the status of the GFCM fisheries restricted areas, mechanisms to ensure control and enforcement of existing FRAs should be defined. Criteria for the regular evaluation of FRA management should also be foreseen as well as the possibility to define a scheme of joint international surveillance at the regional level.

Appendix E

Standard form for the submission of proposals for GFCM Fisheries Restricted Areas (FRA) in the Mediterranean and Black Sea

(as modified by SCMEE 2014)

Date of endorsement by the SCMEE

STANDARD FORMAT FOR THE SUBMISSION OF PROPOSALS FOR GFCM FISHERIES RESTRICTED AREAS (FRA) IN THE MEDITERRANEAN

Name of the FRA:

Submitted by (Institution, Scientists, GFCM Members…):

Date of submission:

1 EXECUTIVE SUMMARY (maximum 500 words)

Supply a summary of the information contained in sections 2 to 8, including the expected results.

2 AREA IDENTIFICATION

2.1 GFCM GEOGRAPHICAL SUBAREA

http://www.gfcm.org/gfcm/topic/16162/en

2.2 NAME OF THE FRA

2.3 GEOGRAPHIC LOCATION

2.3.1 General location

2.3.2. Precise location of the proposed core area

Provide geographical coordinates (latitude and longitude in degrees, minutes and seconds) for the vertex of a polygonal area.

2.3.3. Buffer area (if applicable)

Provide geographical coordinates (latitude and longitude in degrees, minutes and seconds) for the vertex of a polygonal area.

2.3.4. Location Map

Include geographical coordinates of the core and buffer areas, bathymetry, and the boundary of international waters. Add a global reference map of the Mediterranean with the location of the site.

2.3.5. Depth range (in m; specify core and buffer area, if applicable)

2.4 SURFACE AREA (in ha and km^2; specify core and buffer area, if applicable)

3 SITE DESCRIPTION

3.1 MAIN PHYSICAL FEATURES

3.1.1. Geology/Geomorphology

Give a brief description of the geological aspects; processes of sedimentation and erosion observable in the area and other geomorphologic features or geological risks. Indicate bibliographical sources.

3.1.2. Other interesting physical or chemical features such as hydrodynamics, frontal areas, upwelling, etc than support the proposal.

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3.2 BIOLOGICAL FEATURES

3.2.1. Habitats

Brief description of the dominant marine habitats including pelagic ones if applicable

3.2.2. List of regionally important species

List here those marine species protected by international agreements (specify the agreement) and/or included in the GFCM priority list. If applicable, give the IUCN category. Any other species may be listed if it is clearly considered of regional importance given its high representation in the area. For each species state:
a) its relative abundance as Common (C), Uncommon (U) or Occasional (O), b) Its regional status as rare (r), endemic (e) and/or threatened (t), and c) its status as an important resident population (R), or important for its breeding (B), feeding (F), wintering (W) or migratory passage (M)

SPECIES	Rel. Abundance (C) (U) (O)	Regional STATUS (r) (e) (t)	Local STATUS (R) (B) (F) (W) (M)

3.2.3. Occurrence of biological and ecological processes relevant to fish resources (essential fish habitats)

3.3 USE OF NATURAL RESOURCES

3.3.1. Current human use and development of fisheries

a) Briefly describe the current use of the area by artisanal, industrial and recreational fishing, including information on:

- *Number of vessel by fishery operating in the area*
- *Total annual catches by species of each fishery in the area*
- *Percentage of total catches fished in the area with respect to the total*
- *Value of this catches*
- *Percentage with respect to the total*
- *By-catch rates of vulnerable species in the area*
- *Number of fishers involved in the fisheries operating in the area*
- *Name(s) of base port(s)*

b) Enter how many of the users depend on these resources, seasonality, and assessment of the social and economic importance of their use and of the perceived impact on the conservation of the area, in a score of 0-1-2-3 (meaning null, low, medium, high).

ACTIVITY AND CATEGORY	ASSESS IMPORTANCE OF		ESTIMATED No. of USERS	SEASONALITY
	SOCIO-ECONOMIC	CONSERV. IMPACT		
FISHING				
Artisanal	0 1 2 3	0 1 2 3		
Industrial	0 1 2 3	0 1 2 3		
Other:				
- Aquaculture				
-				

3.3.2. Current human use and development (except for fisheries)

a) Briefly describe the current use of the area for other economic sectors.

b) Enter how many of the users depend on these resources, seasonality, and assessment of the social and economic importance of their use and of the perceived impact on the conservation of the area, in a score of 0-1-2-3 (meaning null, low, medium, high).

ACTIVITY AND CATEGORY	ASSESS IMPORTANCE OF SOCIO-ECONOMIC	CONSERV. IMPACT	ESTIMATED No. of USERS	SEASONALITY
OTHER ACTIVITES				
Tourism	0 1 2 3	0 1 2 3		
Transport	0 1 2 3	0 1 2 3		
Mining				
-				
-				

4 REGIONAL IMPORTANCE OF THE SITE

This Section aims at stressing the importance of the site for conservation at the regional scale.

4.1 PRESENCE OF ECOSYSTEMS/HABITATS OF PARTICULAR IMPORTANCE IN THE MEDITERRANEAN

4.2 PRESENCE OF HABITATS THAT ARE CRITICAL TO ENDANGERED, THREATENED OR ENDEMIC SPECIES

Name the habitat types and the species linked to it. Give information about its status (IUCN classification, etc.).

4.3 OTHER RELEVANT FEATURES

4.3.1. Educational Interest

E.g. particular values for activities of environmental education or awareness

4.3.2. Scientific Interest

Explain if the site represents a particular value for research.

5 IMPACTS AND ACTIVITIES AFFECTING THE AREA

5.1 IMPACTS AND ACTIVITIES WITHIN THE SITE

5.1.1. Exploitation of natural resources

Assess if the current rates of exploitation of natural resources within the area (e.g. fishing, sand and mineral exploitation) are deemed unsustainable in quality or quantity, and try to quantify these threats, e.g. the percentage of the area under threat, or any known increase in extraction rates.

5.1.2. Threats to habitats and species

Mention any serious threats to the habitat (e.g. modification, disturbance, pollution) or to species (e.g. disturbance, poaching, introduced alien species...) within the area.

5.2 IMPACTS AND ACTIVITIES AROUND THE SITE

5.2.1. Pollution

Name and describe sources of pollution.

5.2.2. Other external threats, natural and/or anthropogenic

Briefly describe any other external threat to the ecological, biological, aesthetic or cultural values of the area (such as unregulated exploitation of natural resources, serious threats on habitats or species, pollution problems) likely to influence the area in question.

5.2.3. Sustainable development measures

Comment whether the area is covered by a management plan, or bordering upon a zone under such a plan.

6 EXPECTED DEVELOPMENT AND TRENDS[1]

This is not always easy to assess and thus, it is not obligatory to fill in this Section.

6.1 EXPECTED DEVELOPMENT AND TRENDS OF THREATS TO AND PRESSURES UPON THE AREA

Deal briefly with the development of economic activities within the area

[1] By expected development and trends are meant the development, which is thought most likely to occur in the absence of any deliberate intervention to protect and manage the site.

7 MANAGEMENT AND PROTECTION REGIME

7.1 LEGAL STATUS (if applicable)

7.1.1. Historical background of the management related to the area

7.1.2. Regulatory measures currently ruling the management on the site

Mention if the area, or part of it, has been designated and on what date, with an international conservation category.

7.1.3. Objectives

Name in order of importance the objectives of the area as stated in its legal declaration.

7.2 LEGAL BACKGROUND

Briefly mention if the area or part of it is subject to any legal claim, or to any file open in that connection within the framework of an international body.

7.3 LEGAL PROVISIONS FOR MANAGEMENT

7.3.1. Zoning regulating the area

Briefly state if the legal text protecting the area provides for different zones to allocate different management objectives of the area (e.g. core and scientific zones, fishing zones, etc) and in this case the surface area of these zones. Include a map as an annex.

7.3.3. Legal competencies

Legal competence and responsibility with regard to administration and implementation measures

7.3.4. Other legal provisions

Describe any other relevant legal provisions, such as those requiring a management plan or any other significant measures concerning the protection and management of the area.

8 OBJECTIVES OF THE FRA AND PROPOSED MANAGEMENT MEASURES

8.1 OBJECTIVES OF THE FRA

State the reasons that justify the designation of the FRA

8.2 PROPOSED PROTECTION MANAGEMENT MEASURES FOR THE FRA

8.2.1. Management measures

Suggest management measures to be implemented in the FRA

8.2.2. Monitoring, Control and Surveillance measures

Suggest measures to effectively enforce the FRA

8.2.3 Socioeconomic impact(s) of the FRA

Prevision of the socioeconomic impact(s) of the proposed measures

8.2.3.1. Economic evaluation of the ecosystems services (not only marketable)
Economic value of the goods and services that the ecosystem supports

9 OTHER RELEVANT INFORMATION

10 RELEVANT ADDRESSES

(stakeholders (if applicable) and name(s), position(s) and contact address(es) of the person(s) that compiled the report and/or can provide further information).

Appendix F

OUTCOMES OF THE GFCM THREE-YEAR PROGRAMME ON ELASMOBRANCHS IN THE MEDITERRANEAN AND BLACK SEA

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Abstract
Reverse shark and ray populations' decline is one of the main objectives of national and regional management plans aimed at guaranteeing the sustainability of fisheries activities worldwide. The biological characteristics of the elasmobranchs make them severely vulnerable to fisheries which, nowadays, are targeting elasmobranchs species that in the past were discarded. This document reports the main outcomes of a three-year research programme of the General Fisheries Commission for the Mediterranean (GFCM) launched in 2010 to improve the knowledge and asses the status of elasmobranchs in the Mediterranean and Black Sea.

Keywords: Elasmobranchii, Conservation, Stock assessment, Black Sea, South-Central Mediterranean

Sharks, skates and rays, collectively referred to as elasmobranchs (Class Chondrichthyes) form a relatively small and evolutionarily conservative group that has functioned successfully in diverse ecosystems for over 400 million years. Despite their evolutionary success, many species are increasingly threatened with extinction as a result of human activities. Because of their biological characteristics such as slow growth, late maturity, and low fecundity, elasmobranchs have very low rates of population increase and limited recovering potential from overfishing (direct or indirect) and other threats, such as pollution and habitat destruction [1]. In light of this international organizations developed action plans, such as the FAO International Plan of Action for the Conservation and Management of Sharks and Rays 1998 (FAO IPOA-Sharks), the Action Plan for the conservation of the cartilaginous fishes in the Mediterranean (UNEP-RAC/SPA, 2003), the EC Action Plan for the Conservation and Management of Sharks, aimed at promoting responsible fisheries practices and environmental strategic policies which converge into the protection of the elasmobranch stocks. In this view, regional fisheries management organizations (RFMOs), such as the General Fisheries Commission for the Mediterranean (GFCM), have the fundamental role of providing administrations with indications based on the most accurate scientific background. In 2010, the GFCM started a three-year programme on elasmobranchs with the aim of identifying and filling priority gaps in the current knowledge of the status of elasmobranchs populations in order to better assess and manage their stocks in the Mediterranean and Black Sea. The programme was divided into three periods of activities. The first period was financed by the GFCM regular budget and included the organization of the First Expert Meeting on the status of Elasmobranchs in the Mediterranean and Black Sea (September 2010), which served as common ground for experts to share valuable information on research carried out in their respective countries and to collate the scarce and disperse knowledge on elasmobranchs in terms of life cycles, population dynamics, ecology, taxonomy and fisheries [2]. The meeting also selected seven species according to various criteria (existing data on age and growth, abundance, conservation status, economic value, knowledge of biological parameters) for which stock assessments were considered a priority. The second and third periods of activities were supported by the European Commission (Agreement Number SI2.603726) and included the workshops on Stock Assessment of selected species of Elasmobranchs (December 2011) and on age determination of elasmobranchs in the GFCM area (October 2012). During the stock assessment workshop, 8 stocks of 6 different elasmobranch species were assessed and discussed (Tab. 1). Identification of biological reference points (BRPs) and maximum sustainable yield (MSY) proxies and issues related to the biology, by-catch, growth parameters, trends in catches and sampling approaches of the species were also discussed [3]. The Workshop on age determination of elasmobranchs in the GFCM area consisted in a practical course on age reading and it was a hands-on exercise with an important training component. Prior to the meeting some preparatory work included the preparation of biological raw material with the assistance of the lecturer. A technical manual on age determination of Elasmobranchs, suited to both novice and experienced age readers, was prepared and is going to be published by the end of 2013 [4]. This detailed guide reviews the best methods for ageing sharks, skates and rays with emphasis on vertebral sections and image analysis techniques as applied to elasmobranch species from the Mediterranean basin. Finally, a bibliographic review to sum up the information gathered during the above mentioned meetings, including the outputs of the Workshop on Stock assessment was prepared and published in 2012 within the series GFCM Studies and Reviews [5].

Tab. 1. Summary of the assessments discussed during the Workshop on Stock Assessment of selected species of Elasmobranchs in the GFCM area (GSA=Geographical Sub-Area, 4=Algeria, 9=Ligurian and North Tyrrhenian Sea, 14=Gulf of Gabes, 15-16=Malta Island and South of Sicily, 29=Black Sea. References points: F_{rm}=0, $F_{30\%SSB}$ and $F_{0.1}$ for stocks n 1, 2, 4 and 6; F_{max}, $F_{30\%SSB}$ and $F_{0.1}$ for stocks 3, 5, 7 and 8).

n	Stock	GSA	Method and software	Stock Status
1	*Raja asterias*	9	Leslie matrix, catch curve and Y/R. Software: [illegible] and YPR NOAA	is overfishing
2	*Raja clavata*	9	Leslie matrix, SEINE and Y/R. Software: peptools and YPR NOAA	is overfishing
3	*R. clavata*	15-16	Catch curve and Y/R. Software: LFDA and Yield of CEFAS-FAO	is overfishing
4	*Scyliorhinus canicula*	9	Leslie matrix, SEINE and Y/R. Software: peptools and YPR NOAA	is overfishing
5	*S. canicula*	4	Catch curve and Y/R. Software: LFDA and YPR NOAA	is overfishing
6	*Galeus melastomus*	9	Leslie matrix, SEINE and Y/R. Software: peptools and YPR NOAA	is overfishing
7	*Glaucostegus cemiculus*	14	Catch curve and Y/R. Software: VIT and YPR NOAA	underexploitation
8	*Squalus acanthias*	29	Catch curve and Y/R. Software: VIT and YPR NOAA	uncertain

References

1 - Camhi, M.D., Valenti, S.V., Fordham, S.V., Fowler, S.L. and Gibson, C. 2009. The Conservation Status of Pelagic Sharks and Rays: Report of the IUCN Shark Specialist Group Pelagic Shark Red List Workshop. IUCN Species Survival Commission Shark Specialist Group. Newbury, UK

2 - Report of the GFCM First Expert Meeting on the status of Elasmobranchs in the Mediterranean and Black Sea (Sfax, Tunisia, 20-22 September 2010)
http://151.1.154.86/GfcmWebSite/MeetingsReportsRepository.html

3 - Report of the GFCM Workshop on Stock Assessment of selected species of Elasmobranchs in the GFCM area (Brussels, Belgium, 12-16 December 2011)
http://151.1.154.86/GfcmWebSite/MeetingsReportsRepository.html

4 - Campana S. Age determination of elasmobranchs, with special reference to Mediterranean species: A technical manual. GFCM Studies and Reviews No 94. 2013. In press

5 - Bradai M.N., Saidi B. and Enajjar S. Elasmobranchs of the Mediterranean and Black Sea: status, ecology and biology. GFCM Studies and Reviews No 91. 2012. www.fao.org/docrep/017/i3097e/i3097e.pdf

Appendix G

Workshop on Elasmobranchs of the Mediterranean and Black Sea (second half of 2014)

Draft terms of reference

- Collate historical datasets and review all the ongoing research programs in the region to update previous 2010 publication
- Identify main fisheries and other human activities impacting sharks
- Identify sensitive areas for elasmobranchs
- Assess by-catch rates in selected fisheries and other mortality rates induced by human activities
- Proposals for improvements for the monitoring of by-catch, stock assessments and for the control of illegal finning
- Proposals for a series of technical measures to mitigate by-catch in the identified fisheries to be included within multiannual management plans including time or area closures in identified sensitive areas
- Discuss on the best option for the creation of a community of practice for elasmobranchs in the Mediterranean and Black Sea hosted at the GFCM secretariat