Food and Agriculture Organization
of the United Nations

Organisation des Nations Unies
pour l'alimentation et l'agriculture

FIPI/R1245(Bi)

FAO
Fisheries and
Aquaculture Report

Rapport sur les
pêches et l'aquaculture

ISSN 2070-6987

GENERAL FISHERIES COMMISSION FOR THE MEDITERRANEAN
COMMISSION GÉNÉRALE DES PÊCHES POUR LA MÉDITERRANÉE

Report of the twentieth session of the

SCIENTIFIC ADVISORY COMMITTEE ON FISHERIES

Tangiers, Morocco, 26–29 June 2018

Rapport de la vingtième session du

COMITÉ SCIENTIFIQUE CONSULTATIF DES PÊCHES

Tanger, Maroc, 26-29 juin 2018

General Fisheries Commission
for the Mediterranean
Commission générale des pêches
pour la Méditerranée

FAO Fisheries and Aquaculture Report No.1245
FAO, Rapport sur les pêches et l'aquaculture nº1245 FIPI/R1245 (Bi)

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Rome, 2018

Required citation/Citation requise:
FAO. 2018. General Fisheries Commission for the Mediterranean. *Report of the twentieth session of the Scientific Advisory Committee on Fisheries, Tangiers, Morocco, 26-29 June 2018/Rapport de la vingtième session du Comité scientifique consultatif des pêches,. Tanger, Maroc, 26-29 juin 2018*. [FAO Fisheries and Aquaculture Report/FAO Rapport sur les pêches et l'aquaculture No. R1245.] Rome, Italy/Italie. 225 pp. Licence: CC BY-NC-SA 3.0 IGO.

ISBN 978-92-5-131049-6

PREPARATION OF THIS DOCUMENT

This is the final report approved by the participants in the twentieth session of the Scientific Advisory Committee on Fisheries of the General Fisheries Commission for the Mediterranean held in Tangiers, Morocco, from 26 to 29 June 2018.

PRÉPARATION DE CE DOCUMENT

Le présent document est le rapport final adopté par les participants de la vingtième session du Comité scientifique consultatif des pêches de la Commission générale des pêches pour la Méditerranée tenue à Tanger, Maroc, du 26 au 29 juin 2018.

ABSTRACT

The Scientific Advisory Committee on Fisheries (SAC) of the General Fisheries Commission for the Mediterranean (GFCM) held its twentieth session in Tangiers, Morocco, from 26 to 29 June 2018. The session was attended by delegates from 14 Mediterranean contracting parties, seven observers, representatives of the FAO regional projects, the GFCM Secretariat and invited experts. The Committee reviewed the work carried out during the 2017–2018 intersession, including within its four subregional subsidiary bodies (Subregional Committee for the Adriatic Sea, Subregional Committee for the Central Mediterranean, Subregional Committee for the Eastern Mediterranean and Subregional Committee for the Western Mediterranean) which all met during the intersession. In relation to the mid-term strategy (2017–2020) towards the sustainability of Mediterranean and Black Sea fisheries, the Committee welcomed the progress in multiple priority activities as well as cooperation with partners. Issues in relation to fishery data quality, data collection needs and methodologies, estimation and quantification of illegal, unreported and unregulated fishing and formulation of advice on the status of fisheries were discussed. Recalling the need to improve knowledge on small-scale fisheries in the the Mediterranean and the Black Sea, the work underway to test a characterization matrix as well as the forthcoming Regional Plan of Action for Small-Scale Fisheries in the Mediterranean and Black Sea were tackled. Furthermore, the Committee formulated advice on the following aspects: i) overall status of Mediterranean stocks; ii) management of European eel; iii) management of deep-sea fisheries and identification of VMEs and iv) roadmap towards a network of essential fish habitats. In line with the subregional approach and based on the conclusions of the four subregional committees, the SAC also provided specific advice for each subregion. In particular, attention was paid to: i) blackspot seabream in the western Mediterranean; ii) demersal fisheries in the Strait of Sicily; iii) small pelagic fisheries in the Adriatic Sea; iv) demersal fisheries in the Adriatic Sea, including the monitoring of the Jabuka/Pomo Pit fisheries restricted area; and v) deep-water red shrimps in the central and eastern Mediterranean. In addition, the Committee also endorsed un updated table of priority species by subregion. Finally, the Committee agreed upon its work plan for 2018–2020 and elected its new Bureau.

RÉSUMÉ

Le Comité scientifique consultatif des pêches (CSC) de la Commission générale des pêches pour la Méditerranée (CGPM) a tenu sa vingtième session à Tanger, Maroc, du 26 au 29 juin 2018. Ont participé à la session les délégués de 14 parties contractantes de Méditerranée, sept observateurs, des représentants des projets régionaux de la FAO, le Secrétariat de la CGPM et des experts invités. Le Comité a passé en revue les travaux réalisés pendant la période intersessions 2017-2018, notamment dans le cadre de ses quatre organes subsidiaires sous-régionaux (Comité sous-régional pour la mer Adriatique, Comité sous-régional pour la Méditerranée centrale, Comité sous-régional pour la Méditerranée orientale et Comité sous-régional pour la Méditerranée occidentale) qui ont tous tenu des réunions durant la période intersessions. S'agissant de la stratégie à moyen terme (2017-2020) en faveur de la durabilité des pêches en Méditerranée et en mer Noire, le Comité s'est félicité des progrès réalisés dans le cadre de plusieurs activités prioritaires ainsi que de la coopération avec les partenaires. Il a en outre examiné des questions portant sur la qualité des données sur les pêches, les besoins et les méthodologies en matière de collecte de données, l'estimation et la quantification de la pêche illicite, non déclarée et non réglementée et la formulation d'avis sur l'état des pêches. Rappelant la nécessité d'améliorer les connaissances sur la pêche artisanale en Méditerranée et en mer Noire, le Comité s'est en outre penché sur les travaux en cours pour tester une matrice destinée à la caractérisation de la pêche artisanale ainsi que sur le futur Plan d'action régional pour la pêche artisanale en Méditerranée et en mer Noire. Par ailleurs, le Comité a formulé des avis portant sur les aspects suivants: i) état général des stocks en Méditerranée; ii) gestion de l'anguille européenne; iii) gestion de la pêche profonde en haute mer et identification des écosystèmes marins vulnérables; et iv) feuille de route en vue d'un réseau d'habitats halieutiques essentiels. collecte de données et indicateurs de qualité. Conformément à l'approche sous-régionale mise en œuvre et à partir des conclusions des quatre comités sous-régionaux, le CSC a également fourni des avis spécifiques à chaque sous-région. Une attention particulière a été accordée à: i) la dorade rose en Méditerranée occidentale; ii) les pêches démersales dans le canal de Sicile; iii) la pêche de petits pélagiques en mer Adriatique; iv) les pêches démersales en mer Adriatique, y compris le suivi de la zone de pêche réglementée de la fosse de Pomo/Jabuka; et v) les crevettes rouges du large en Méditerranée centrale et orientale. De plus, le Comité a approuvé un tableau actualisé des espèces prioritaires par sous-région. Enfin, le Comité est convenu de son programme de travail pour 2018-2020 et a procédé à l'élection de son nouveau bureau.

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OPENING AND ADOPTION OF THE AGENDA

1. The twentieth session of the Scientific Advisory Committee on Fisheries (SAC) of the General Fisheries Commission for the Mediterranean (GFCM) of the Food and Agriculture Organization of the United Nations (FAO) was held in Tangiers, Morocco, from 26 to 29 June 2018. The session was attended by delegates from 14 Mediterranean contracting parties, 7 observers, representatives of the FAO regional projects, the GFCM Secretariat and invited experts. The list of participants is provided in Appendix 2.

2. Mr Bouchta Aichane, Director of the Department of Marine Fisheries of Morocco, on behalf of Ms Zakia Driouich, General Secretary for Marine Fisheries, welcomed participants to Tangiers. In recognizing the alarming state of fisheries stocks in the region and the negative repercussions for the sector, in particular for small-scale fisheries (SSF), he reiterated his country's commitment to promoting the sustainability of fisheries through an integrated, participative and responsible approach. Similarly, he highlighted the important work done within the framework of the GFCM in this respect and in fulfilling international commitments.

3. Mr Othman Jarboui, SAC Chairperson, thanked the government of Morocco for its warm hospitality and excellent organization of the session. In praising the tireless work of the experts and countries during the intersession, he stressed that the SAC faced an unprecedented volume of activities in light of the broad mission assigned by the Commission at its last session and within the mid-term strategy (2017–2020) towards the sustainability of fisheries in the Mediterranean and the Black Sea (mid-term strategy). He then highlighted achievements of the Committee in the provision of sound scientific advice and technical elements for fisheries management, including within the framework of the subregional approach.

4. On behalf of the GFCM Chairperson, Mr Abdellah Srour, GFCM Executive Secretary, also welcomed participants and thanked the host country for the impeccable hospitality. He then informed the delegations that the statement of competence and voting rights of the European Union (EU [Member Organization]) and its Member States submitted at the forty-first session of the Commission also applied to this session. After introducing delegates and observers, the GFCM Executive Secretary informed the meeting of organizational arrangements.

5. The Committee adopted the agenda as attached under Appendix 1. The list of documents is reproduced in Appendix 3 and the opening speeches are included in Appendix 4.

FOLLOW-UP ON RELEVANT DECISIONS BY THE FORTY-FIRST SESSION OF THE COMMISSION

6. The GFCM Secretariat recalled the main objectives of relevant recommendations adopted at the forty-first session of the Commission, namely: i) Recommendation GFCM/41/2017/2 on the management of blackspot seabream fisheries in the Alboran Sea (geographical subareas 1 to 3) for a two-year transition period; ii) Recommendation GFCM/41/2017/3 on the establishment of a fisheries restricted area in the Jabuka/Pomo Pit in the Adriatic Sea; iii) Recommendation GFCM/41/2017/5 on the establishment of a regional adaptive management plan for the exploitation of red coral in the Mediterranean Sea; and iv) Recommendation GFCM/41/2017/6 on the submission of data on fishing activities in the GFCM area of application. A number of resolutions relevant to the work of the SAC were also adopted, namely i) Resolution GFCM/41/2017/3 on the reactivation of the Working Group on Fishing Technology; ii) Resolution GFCM/41/2017/4 on a permanent working group on vulnerable marine ecosystems; and iii) Resolution GFCM/41/2017/5 on a network of essential fish habitats in the GFCM area of application.

7. The delegate of Morocco informed the Committee that work in relation to Recommendation GFCM/41/2017/2 in the Strait of Gibraltar was about to start in his country and that Recommendation GFCM/41/2017/5 had full support from Morocco.

Implementation of the subregional approach

8. The GFCM Executive Secretary reflected on the subregional approach, which was making headway despite its feasibility still being in a testing phase. In particular, this approach had been effective at enhancing the participation of experts (scientific and administrative) and partners in dedicated meetings, efficiently formulating advice in support of management plans and addressing issues of subregional importance. In addition, it had led to better coordination with partners, including the FAO regional projects.

9. The delegates of Egypt, Montenegro, Morocco, Spain and Tunisia expressed appreciation for the work carried out by the subregional committees (SRCs), mentioning the successful results obtained so far. In particular, they underlined that the subregional approach had enabled sharing of scientific information, discussing issues of common interest among neighbouring countries and preparing draft advice in support of the formulation of subregional multiannual management plans for common fisheries resources.

10. The delegate of the EU echoed previous comments, noting that additional support was needed to continue improving the quality and coverage of stock assessments, and looked forward to seeing how subregional management could lead to successful synergies among contracting parties and cooperating non-contracting parties (CPCs).

11. The Committee welcomed the fruitful results obtained by the subregional committees and noted that the next performance review of the GFCM could provide an opportunity to assess their effectiveness, thus allowing for a decision towards their consolidation.

12. Finally, the Committee took note of the progress made towards the establishment of GFCM subregional technical units in Lebanon (eastern Mediterranean) and Spain (western Mediterranean), which were important for supporting the SAC in implementing its subregional approach. The Committee acknowledged the offer to host the technical units in Malta, for the central Mediterranean, and in Croatia, for the Adriatic Sea, and requested that the GFCM Executive Secretary be in contact with the relevant governments in order to arrange for their establishment.

13. The GFCM Executive Secretary clarified that the technical units were established in the context of the subregional approach, also with the aim of supporting the GFCM Secretariat at the subregional level, ensuring its presence in the field and offering a base for the work of experts and young scientists.

14. Upon a suggestion by the delegate of Tunisia, who informed that his country was also interested to host the subregional technical unit for the central Mediterranean, the Committee expressed its favour for the principle of a rotational basis for the technical units, providing additional countries with the opportunity to also host these offices in due course for a five-year period.

National reports to the SAC

15. The GFCM Secretariat presented, on the basis of document GFCM:SAC20/2018/Inf.5, a synthesis of the information contained in 15 national reports sent by Mediterranean countries. The following elements were worth noting: i) landings kept oscillating across countries, showing, since 2012, a steady increase in Albania (+28%), Croatia (+16%), Spain (+33%) and Tunisia (+8%), and a considerable decrease in Algeria (-18%) and Morocco (-31%); ii) despite some increases observed over the same period in Algeria (+26%), Cyprus, (+55%), France, (+16%), and Tunisia, (+16%), fleet size remained stable overall or continued

decreasing, in particular for Greece (-13%), Italy (-8%), Lebanon (-18%), Morocco (-13%) and Spain (-17%); iii) data on incidental catches of vulnerable species were reported for the first time by several countries, providing useful information in line with existing GFCM recommendations; and iv) the topics of ongoing projects at the national level and future research needs expressed by countries were found to match the activities already launched or foreseen within the mid-term strategy. The national reports are reproduced in Appendix 14.

16. The delegate of Albania clarified that the changes observed in the trends of landings and fleet capacity in his country were caused by errors in previous submissions. He reported that 2013–2016 data had been appropriately revised and were currently being submitted. Moreover, he suggested these data be used for future analysis of variations in the Albanian fishing sector.

17. The Committee welcomed the GFCM Secretariat's collaboration in supporting the new practice of submitting national reports through the electronic tool and praised the efforts of all countries in this endeavour. Nonetheless, it noted that countries still faced setbacks in compiling all the fields requested, especially for bycatch issues.

18. In this regard, the delegates of Morocco and Spain, supported by the delegates of Algeria, Egypt and Tunisia, expressed concerns about potential redundancies between information requested through national reports and other GFCM requirements, the time necessary to complete the reports and the difficulty to produce updated data by the set deadlines. They also shared doubts about the current utility of the reports in appropriately providing the SAC with useful information for management.

19. It was recognized that the concept of national report, or at least its current format, was obsolete compared to when it was first introduced as a mandatory instrument. This was especially true since recently adopted recommendations, new processes and tools all required the submission of similar information, such as data on fleet and landings, now submitted in line with the GFCM Data Collection Reference Framework (DCRF) as well as data on national legislations, managed through the Compliance Committee (CoC) and included in the GFCM database on national legislations. In this regard, the Committee proposed to reflect on the use and/or structure of national reports, possibly in the context of the performance review, so that the SAC could take better advantage of this tool as a support to fisheries management.

INTERSESSIONAL ACTIVITIES OF RELEVANCE TO THE SAC, INCLUDING WITHIN THE FRAMEWORK OF THE MID-TERM STRATEGY

20. On the basis of document GFCM:SAC20/2018/2, the SAC Chairperson presented the technical activities carried out during the intersession, including 12 regional meetings and six subregional meetings. He made specific reference to the progress made in the implementation of select mid-term strategy activities, including scientific surveys at sea, the regional socio-economic survey, actions in support of small-scale fisheries, efforts to improve data collection on recreational fisheries and bycatch monitoring programmes. Events such as the High-level conference on sustainable small-scale fisheries in the Mediterranean and the Black Sea and the Forum on Fisheries Science (Fish Forum) were recalled, as well as various activities carried out within the framework of the subregional committees.

21. The Committee praised the remarkable work carried out during the intersession, noting that not only did technical activities cover increasingly varied and complex topics, but also that these activities enjoyed stronger support and participation by experts in the region. The Committee noted that this work had provided a strong basis for the formulation of advice for the Commission.

22. The delegates of the EU and Morocco, supported by the delegates of Algeria and Egypt, noted that the increased volume of work within the context of the SAC also required synthesized reporting on the

outcomes and conclusions of the work, and the GFCM Executive Secretary suggested to further synthesize the summary included in document GFCM:SAC20/2018/2.

COOPERATION WITH PARTNERS IN SUPPORT TO THE MID-TERM STRATEGY

Major activities of the FAO Mediterranean regional projects

23. The most significant activities carried out by the FAO regional projects during the intersession were presented on the basis of document GFCM:SAC20/2018/Inf.22, including their support to data collection (catches and landings, surveys at sea and socio-economic surveys), stock assessment, fisheries monitoring, statistics and information systems, capacity-building and scientific cooperation.

24. The Committee acknowledged the impressive work carried out by the FAO regional projects and welcomed their considerable efforts to support SAC activities, which resulted in the optimization of resources and improved achievements.

25. Delegations of all countries benefiting from regional project support thanked the donors and commended the significant contribution of the projects in fostering discussions on fisheries management, promoting communication, enhancing capacity and gathering fisheries-related data, in line with the objectives of the mid-term strategy.

26. The delegate of the EU highlighted the role of the regional projects in supporting the GFCM subregional approach and the mid-term strategy. She also emphasized the need to jointly identify appropriate actions to ensure future continuity, also towards increased integration within the GFCM.

27. The representative of Oceana made particular reference to the important work accomplished on essential fish habitats (EFH) within the framework of AdriaMed and expressed hopes that similar results could be achieved in other regions with the support of other regional projects.

Activities by other partners

28. The representative of OceanCare informed the Committee of recent activities related to anthropogenic underwater noise, highlighting the production of a comprehensive literature review on the subject, the outcomes of a workshop on the mitigation of ocean noise pollution specifically focussed on the Mediterranean region, as well as the recent inclusion of the topic within the United Nations Informal Consultative Process on Oceans and the Law of the Sea. She underlined the importance of considering the effects of ocean noise within the Mediterranean region, remarking that OceanCare would be happy to provide the SAC with support in doing so.

29. The representative of the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area (ACCOBAMS) took the floor to inform about successfully implemented joint activities, in particular on the incidental catch of vulnerable species. Among the main outputs, she mentioned the co-publication with the GFCM of four guides on good practices for handling incidentally-caught vulnerable species. Since data collection on incidental catches remained an important issue, she expressed hopes that information gaps be filled in the context of recently launched joint activities. She finally informed the Committee about the ongoing ACCOBAMS Survey Initiative to assess the distribution and abundance of cetaceans in the Mediterranean, which would represent a useful tool to better address incidental catch and depredation issues.

ISSUES RELATED TO FISHERIES DATA QUALITY, DATA COLLECTION METHODOLOGIES AND THE PROVISION OF ADVICE

Analysis of data on fishing activities, submitted in line with relevant decisions, including the implementation of quality indicators

30. The GFCM Secretariat recalled Recommendation GFCM/41/2017/6 on the submission of data on fishing activities in the GFCM area of application, highlighting the possibility for CPCs to propose ad hoc fleet segment aggregations to represent the activity of their fishing fleet by geographical subarea (GSA). The decision was also recalled to tentatively apply quality checks to the data of select countries submitted in 2017. Finally, the methodology used, including the list of thresholds for conformity and stability checks, as well as the preliminary results of this analysis were presented, highlighting that a number of issues had been found, including inconsistencies in the data submitted by various CPCs.

31. The delegate of Morocco stressed that when CPCs were not able to comply with data submission obligations in line with existing recommendations, it was necessary to identify the problems hampering appropriate submissions and provide targeted technical assistance accordingly.

32. The delegate of the EU expressed appreciation of the progress made in the field of quality indicators, stating that their application on a permanent basis would be essential to support efficient scientific advice.

33. The Committee suggested extending the feasibility phase for the implementation of quality indicators (timeliness, completeness, conformity, stability and consistency) to data transmitted by all CPCs through the DCRF online platform, in line with Recommendation GFCM/41/2017/6, stressing the need to contact relevant CPCs in order to try to overcome potential issues in data quality.

Review of the GSA grid in line with data collection needs in the Strait of Gibraltar

34. The Committee was informed that the Subregional Committee for the Western Mediterranean (SRC-WM), during technical discussions on the distribution of blackspot seabream in the Strait of Gibraltar, noted that the fishery was concentrated in the Strait of Gibraltar but that some fishing activities existed in the nearby areas, west and east of the Strait of Gibraltar. In this respect, it was noted that while the western-most limit of GSAs 01 and 03 coincided with that of FAO statistical area 37 (Mediterranean and Black Sea), the limit of the Strait of Gibraltar was the imaginary line between Cape Spartel and Cape Trafalgar as according to the existing definitions of Mediterranean Sea.

35. The delegate of Morocco recalled that the SRC-WM had proposed to continue efforts to assess and manage blackspot seabream in the Strait of Gibraltar, within the GFCM context, even if part of the fishery was outside the exact limits of FAO statistical area 37. He also highlighted that the Strait of Gibraltar had different hydrodynamic conditions, ecosystems and fishing activities in comparison with the Alborán Sea (GSA 01 and 03), and that it should therefore be treated separately.

36. The delegate of Spain raised concerns on the implications of the issue. In particular, she highlighted that national and European legislation in place defined the westernmost Mediterranean limit in the middle of the Strait of Gibraltar, instead of along the Cape Spartel/Cape Trafalgar imaginary line. In her view, these implications should be carefully considered, in particular since geographical delimitations might not necessarily be the appropriate criteria to use in the context of a regional fisheries management organization (RFMO), but rather fisheries management aspects should be taken into account.

37. The delegate of the EU echoed the statements made by the other delegations, underlining that the issue needed to be carefully examined from a scientific, statistical and, especially, legal point of view, also because the area in question fell within the competence of three other international organizations, namely the Fishery Committee for the Eastern Central Atlantic (CECAF), the International Council for the Exploration of the Sea (ICES) and the North East Atlantic Fisheries Commission (NEAFC), and that such jurisdictional matters could not be handled unilaterally.

38. The GFCM Executive Secretary was tasked with liaising with relevant FAO services and reporting to the Commission, at its next session, on the exact limits of the GFCM area of application as well as on the potential implications in case the westernmost limit would be located beyond the current FAO statistical area 37.

Data collection methodologies for select mid-term strategy activities

39. The GFCM Secretariat presented the four documents to be used as guidelines for relevant mid-term strategy data collection activities, namely the monitoring of discards and incidental catches of vulnerable species, the implementation of scientific surveys at sea and the collection of recreational fisheries data. It was explained that the objective of each document was a harmonized methodological framework for data collection that would be applicable to the realities of different countries and would enable the comparison of data at a regional level.

40. The Committee praised the important effort done and congratulated the GFCM Secretariat for such an exhaustive work. It was agreed that these documents would be used on a voluntary basis, as reference instruments in the execution of mid-term strategy activities. Reflecting the interventions of the delegates of the EU and Morocco regarding the need for more time to carefully review and analyse the documents, it was agreed that further comments could be integrated into these documents at a later stage.

41. In line with the roadmap endorsed at the first meeting of the Working Group on Small-scale Fisheries (WGSSF), the Committee agreed that the draft handbook for data collection on recreational fisheries be tested through pilots studies and that, on the basis of these outcomes, the next meeting of the Working Group on Recreational Fisheries (WGRF) should consolidate this experience, together with comments on its application, into a revised version of the handbook. In this respect, Tunisia proposed itself as one of the pilot sites and other countries were invited to submit similar proposals. This was supported by the delegate of the EU, and the Committee expressed its agreement.

42. The delegates of Algeria and Egypt underlined that the specificities of recreational fisheries in each country varied widely and, as such, there was a need to pilot the methodology in diverse geographic and economic scenarios. In this respect, the SAC Chairperson suggested that a wide range of pilot studies be carried out in order to test the applicability of the methods and ensure necessary revisions could be integrated.

Work plan for the estimation/quantification of illegal, unreported and unregulated (IUU) fishing

43. The GFCM Secretariat summarized the work plan for the estimation/quantification of IUU fishing in the Mediterranean and the Black Sea with the aim of providing the Committee with an opportunity to re-evaluate it, in light of the additional technical work done in drafting a survey covering IUU assessment-related issues at the national level. This survey was aimed at establishing a clear picture, by country, of the relative priorities in tackling the various components of IUU fishing towards facilitating its assessment at the regional and subregional levels.

44. The delegate of the EU welcomed the quantification of IUU fishing in the Mediterranean Sea, noting that this work was central to target 3 of the mid-term strategy, and invited the CPCs to continue working on the surveys and submit comments by September 2018.

45. The delegate of Morocco highlighted the difference between the fight against IUU fishing, which pertained solely to the CoC, and the estimation of IUU fishing, which should be included in the scientific work towards the assessment of stock status carried out under the umbrella of the SAC. In this respect, the Committee proposed to endorse the first three activities of the work plan for the estimation/quantification of IUU fishing as reproduced in Appendix 6, while an expert meeting would be required to evaluate the advances made and provide advice on additional activities needed to complete the assessment, in coordination with the CoC, as appropriate.

Provision of advice on the status of fisheries

46. The GFCM Secretariat outlined discussions held during the intersession towards improving the provision of advice, including through the establishment of benchmark assessments (to be carried out every 3–4 years), an external review of the assessment methods and a proposal for a detailed work plan to address the advice on priority species. In addition, the need to anticipate the formulation of advice to the first semester of the year was highlighed so that it could be based on the most recent possible data ahead of the session of the Commission.

47. The Committee endorsed the concept of benchmark assessment and agreed on its terms of reference (ToRs) (reproduced in Appendix 13), stressing the importance of data preparation work, especially in the case of shared stocks, as well as the external review of the methods. It agreed that calendar issues related to the provision of advice would be addressed during discussions on the work plan.

PROGRESS IN IMPROVING KNOWLEDGE ON SMALL-SCALE FISHERIES

48. Recalling the need to improve the characterization of SSF in the Mediterranean and the Black Sea, the GFCM Secretariat presented work underway to test a characterization matrix, in line with ongoing processes at a global level within FAO. It was underlined that this preliminary testing would inform further discussions at a regional level.

49. The GFCM Secretariat also presented advancements in coordination with partner organizations working on SSF in the Mediterranean, with whom a coordination group had been established. To this end, an online mapping tool was under development to build synergies among the work of the Organization and enhance knowledge dissemination. It was highlighted that this tool could also be used to monitor progress made towards the implementation of the Regional Plan of Action for Small-Scale Fisheries in the Mediterranean and Black Sea (RPOA-SSF), foreseen to be signed at the High-level conference on sustainable small-scale fisheries in the Mediterranean and the Black Sea in September 2018.

50. Finally, the main conclusions of the study on social protection for SSF were outlined, based on the case studies carried out in Albania, Egypt, Lebanon, Morocco and Tunisia. The contribution of this study to the implementation of the RPOA-SSF was further highlighted.

51. The Committee praised the work done and supported continued efforts in this regard.

FORMULATION OF ADVICE ON LIVING MARINE RESOURCES AND FISHERIES MANAGEMENT

Status of resources and technical management measures

Overall status of stocks

52. The GFCM Secretariat presented an overview of the overall status of Mediterranean stocks (as reproduced in Appendix 5), noting that the working groups on stock assessment (WGSAs) had reviewed a total of 63 stocks (44 demersal and 19 pelagic stocks) and provided advice for 51 of them. Based on an analysis of the agreed indicators of good environmental status (GES), most stocks (>80 percent) were in overexploitation with fishing mortality more than three times higher than F_{MSY} for approximately 25 percent of the stocks. It was also highlighted that 42 percent of the stocks showed low relative biomass and 37 percent showed intermediate relative biomass. Nevertheless, the number of assessed stocks had increased as had the percentage of sustainably exploited stocks in the most recent biennium.

53. The delegate of Italy noted that, although the situation of overfishing was generalized when stocks were assessed in terms of fishing mortality indicators, the evaluation of standing stock biomass portrayed a less dramatic situation where 60 percent of assessed stocks showed stable or increasing relative biomass. This could be interpreted as a first sign of the positive effects of measures adopted in recent years.

54. The GFCM Secretariat then outlined the status of demersal and small pelagic species. In particular, the status of European hake showed overexploitation ratios up to 12.7 (GSA 07); the need for strong and urgent measures was underlined. The situation of mullets and shrimp was slightly better, with some stocks being sustainably exploited, although others were still exploited at over twice F_{MSY}. Regarding small pelagic stocks, many assessments had been accepted on a precautionary basis and coverage was still fragmentary, particularly for the central and eastern Mediterranean.

55. The Committee congratulated the WGSAs on the huge strides made towards strengthened advice on the status of stocks. It endorsed their suggestions, in particular on the standardization of survey and commercial catch per unit effort (CPUE) data and on increasing the coverage of small pelagic assessments. Moreover, it was proposed that, in the future, the outcomes of the working groups be presented by their coordinators so that they could directly address follow-up questions.

56. In relation to interactions between red mullet and non-indigenous species (NIS) in the eastern Mediterranean, the delegate of Turkey drew attention to the need for new approaches/methodologies that took into account variations in natural mortality due to interspecific interactions.

57. The delegate of Egypt and the SAC Chairperson underlined the need to account for interactions between species in the assessment of small pelagic stocks, while the delegates of Italy and Algeria also highlighted the importance of considering environmental conditions, particularly in the western Mediterranean.

58. In light of the negative situation of European hake at the regional level, the delegate of the EU urged the Committee to put forth clear indications for potential management measures, underlining that the EU was in the process of adopting a multiannual management plan for this species in GSAs 01, 05, 06, 07, 08, 09, 10 and 11. The delegate of Morocco suggested that ensuring strong compliance with measures in place and awareness-raising among stakeholders were equally important.

59. The delegate of Tunisia supported these comments, underlining nevertheless that sequential specificities in the exploitation of this species called for appropriate measures accounting for the

exploitation of different life stages in subregional fisheries. This statement was echoed by the delegate of Italy, who also recalled that European hake was difficult to manage as it was rarely a target species but rather the bycatch of other fisheries such as those for crustaceans in deep waters. In order to reduce fishing mortality for this species, he stressed that the catch of undersized individuals should be reduced using for example selection grids and/or establishing protected nursery areas. Moreover, many delegations noted the socio-economic importance of this fishery.

60. The importance of protecting juveniles as a technical measure to reduce F was strongly supported by the representative of Oceana, who also recalled the obligations within Resolution GFCM/41/2017/5 on a network of essential fish habitats in the GFCM area of application and the commitments set forth by the MedFish4Ever Declaration to establish, by 2018, a coherent network of EFH.

Advice on the management of European eel

61. The GFCM Secretariat summarized the work done on European eel stressing the need to take immediate action to address its critical state. Amendments to the DCRF tables as identified by the joint EIFAAC/ICES/GFCM Working Group on European Eel (WGEEL) were suggested and technical elements for the management of the species in the Mediterranean were proposed. The Committee was informed that the management of European eel was also being discussed at a global scale in the context of the Convention on the Conservation of Migratory Species of Wild Animals, a forum in which the GFCM was ensuring its presence.

62. The delegate of the EU applauded the significant efforts made and informed the Committee that a joint proposal for a management plan was under preparation with Tunisia and would be presented at the next session of the Commission. She further underlined that a research programme should be launched in 2019 with a view to devising long-term science-based management measures.

63. The delegate of Tunisia raised a question on the origin of the data used to assess the stock, as this species had a global distribution and only a portion of its population was present in the Mediterranean. It was clarified that both Atlantic and Mediterranean data had been used for the assessment of the resource in its area of distribution within the framework of the WGEEL and that a dedicated session on the Mediterranean had enabled to greatly improve information from this area. Moreover, it was stressed that, in order to facilitate recovery, focus should be placed on juveniles and the reduction of glass eel fishing and the precautionary approach should be used.

64. In reply to questions by the delegates of Egypt and Tunisia on restocking practices and the management of glass eel fisheries, the GFCM Secretariat explained that regulations in place were technically aimed at reducing juvenile mortality while returning part of that population alive for restocking purposes. In this respect, the delegate of Egypt stressed that alternative measures to increase stock size, such as the adoption of quotas, could be more effective.

65. In light of these discussions, the Committee endorsed the amendments to the DCRF and advised the Commission to adopt immediate management measures for European eel in line with the technical elements included in Appendix 7(a).

Interactions between fisheries and marine ecosystems and environment

Management of deep-sea fisheries and identification of VMEs

66. The GFCM Secretariat informed the Committee of the revision of the technical elements for the protection of vulnerable marine ecosystems (VMEs). A phased approach was presented suggesting, in a

first phase, the adoption of an encounter reporting protocol while concurrently working towards the determination of the footprint of deep-sea fisheries and the identification of potential thresholds of VME indicator abundance beyond which (semi-)automatic move-on rules could be triggered. A second phase would foresee the adoption of an exploratory fishing protocol and an encounter protocol including move-on rules.

67. In commending the technical work done, the delegate of the EU, supported by Morocco and Tunisia, underlined the importance of protocols for protecting vulnerable species as well as the need to learn from the work of other RFMOs in managing deep-sea fishing activities.

68. The Committee expressed support for the suggested two-phase approach and advised the Commission to adopt measures for the management of deep-sea fisheries and VMEs in line with the technical elements provided in Appendix 7(b).

Mapping and roadmap towards a network of essential fish habitats

69. In response to Resolution GFCM/41/2017/5, a dedicated session on EFH within the Working group on vulnerable marine ecosystems (WGVME) drafted a catalogue of projects covering aspects related to EFH and sensitive habitats (SH) in the Mediterranean and collated model-derived maps for priority species. The WGVME agreed on the need to compile composite observation-based maps for EFH and SH of priority species and proposed a roadmap aimed at fully addressing the resolution.

70. The representative of Oceana presented a document compiling data towards a Mediterranean network of EFH, made available to the delegations. She underlined that it intended to propose a preliminary approach to a scientific catalogue of technical elements for EFH identification in the Mediterranean. Information had been exhaustively reviewed and compiled in a map and was therefore ready to be used in aid of the implementation of management measures, when needed.

71. The delegates of Egypt, Morocco and Tunisia commended the working group for its efforts, supporting the recommendations put forth. However they requested that additional work be carried out in certain areas, keeping in mind socio-economic impacts, for example in the case of the proposal by Oceana, to restrict extensive areas.

Review of new proposals towards the establishment of fisheries restricted areas

72. The GFCM Secretariat summarized a proposal for a fisheries restricted area (FRA) in the Bari canyon (southern Adriatic Sea) aimed at protecting deep-sea VMEs and EFHs. In this respect, the Subregional Committee for the Adriatic Sea (SRC-AS) agreed that the technical contents were sound and complete and could be presented to the SAC for validation.

73. The delegate of the EU noted that the establishment of the FRA was in line with the commitments made in the mid-term strategy and the MedFish4Ever Declaration. However, recalling the extensive consultation process carried out for the Jabuka/Pomo Pit FRA, she noted that, in this case too, discussions with stakeholders were needed and the proposal would benefit from a more comprehensive socio-economic assessment. She therefore suggested keeping working towards resubmitting an enriched proposal in the coming year. The delegates of Egypt and Tunisia, supported by the representative of the World Wide Fund for Nature (WWF), echoed this suggestion, stressing that it was essential from the outset to engage stakeholders and that the socio-economic impacts of the implementation of FRAs should be examined, both *ex ante* and *ex post*.

74. The representative of the International Union for Conservation of Nature (IUCN) recalled discussions held within the SRC-AS. She noted that dialogue with stakeholders had been initiated and positive feedback had been received, and informed the Committee that a more extensive meeting would be held in the coming months with relevant CPCs, including in particularly the EU and Italy.

Advances towards an adaptation strategy for climate change and non-indigenous species

75. In view of an adaptive plan for climate change, in line with the mid-term strategy, the GFCM Secretariat presented the outcomes of an expert meeting, co-organized with the FAO Fisheries and Aquaculture department and WWF, where the potential implications of climate change on Mediterranean and Black Sea fisheries had been identified. As an outcome of this meeting, a roadmap towards an adaptation strategy had been proposed, focusing on a vulnerability assessment to be carried out through pilot studies in relevant areas.

76. The Committee fully supported the roadmap and endorsed the methodology proposed for the assessment of vulnerability to climate change, as reproduced in Appendix 8.

77. Considering the significant role and impact of NIS in the Mediterranean, the GFCM Secretariat recalled the outcomes of a meeting, jointly held with the United Nations Environment/Mediterranean Action Plan (UN Environment/MAP). On this occasion, a pilot monitoring programme in the eastern Mediterranean was proposed to revise available information from all sources and analyse it in a harmonized way using simple indicators. The topic of NIS had also been addressed in dedicated sessions of the Subregional committee for the central Mediterranean (SRCCM) and the SRC-WM. In particular, the SRC-CM proposed the monitoring programme be extended to the central Mediterranean.

78. The representative of AdriaMed and MedSudMed recalled the successful application of a local ecological knowledge methodology in the Adriatic Sea and the Gulf of Gabès and was in favour of replicating it in other areas.

79. The Committee recognized that NIS had significant impacts in the region, acknowledging the need for further work in relation to certain species (e.g. blue swimming crab and lionfish) and reflecting on how commercial NIS should be managed. The Committee underlined that clear elements were still lacking on the root causes of NIS introductions, on the link between NIS and climate change and on tools available to address the issue. It endorsed the subregional monitoring plan for NIS in relation to fisheries, reproduced in Appendix 9.

80. The delegate of IUCN recalled the economic and environmental impacts caused by some of these invasive non-native species, with larger impacts in the eastern and central Mediterranean. She remarked that some of these species (e.g. pufferfish) were having a strong impact on the small-scale fisheries sector within and around marine protected areas (MPAs) and highlighted the need to collect information on their economic impacts. Any mitigation programme, which could include commercialization, should be addressed with care and at the transnational level.

Red coral

81. Recalling Recommendation GFCM/41/2017/5 on the establishment of a regional adaptive management plan for the exploitation of red coral in the Mediterranean Sea, the GFCM Secretariat notified the Committee that no information on the use of remotely operated vehicles (ROV) had been submitted by CPCs to date, preventing the Committee from providing advice on this issue. It was stressed that the current deadline for the submission of information from ROV should be revised to a date prior to the SAC session if it were to provide advice. Furthermore, elements for a research programme had been prepared, including

those for a call for tender covering three main themes: i) data collection; ii) the improvement of advice on status of red coral fisheries; and iii) pilot studies on the recovery of red coral stocks.

82. The delegate of Morocco informed that his country was planning to use ROV and that the Commission would be accordingly informed in due course.

83. The delegate of the EU recalled that it had prohibited the use of ROV and called upon other CPCs to provide data in order to assess the use of ROV. She stressed that the research programme was urgent and essential to move to the second stage of the regional adaptive management plan, which called for setting management measures and guiding research. The delegate of Tunisia supported this proposal.

84. The Committee endorsed the proposed elements for a research programme on red coral, as reproduced in Appendix 10.

Advice on subregional fisheries management

85. It was recalled that, in data deficient situations, the SAC strongly recommended the provision of precautionary advice. This would entail establishing basic precautionary management rules towards sustainability, while concurrently taking action to ensure the collection of data for quantitative stock assessments as well as the provision of comprehensive advice towards the adoption of management plans. In this respect, the discussion on precautionary catch and/or effort limits was recalled, underlining their potential usefulness when advice could not provide quantitative reference points.

86. The Committee was in favour of carrying out further work towards the use of precautionary catch and/or effort limits for small pelagic species and suggested experts share their experience on the determination of catch limits, for example in the context of estimating national quotas in Morocco, based on direct stock biomass estimates.

87. In relation to subregional management plans and in light of the outstanding contribution of the Workshop on the assesment of management measures (WKMSE) towards facilitating the advice discussed at the SRCs, the Committee agreed to make it a permanent working group, underlining its work would be carried out year-round, irrespective of the organization of a meeting, according to its terms of reference in Appendix 13.

Priority species

88. The Committee took note of the need expressed by the SRCs to give special attention to additional species and endorsed an updated table of priority species (below, new species in bold). The GFCM Secretariat explained that *Coryphaena hippurus* was added regionally to align with Recommendation GFCM/30/2006/2 on the establishment of a closed season for common dolphinfish fisheries using fish aggregating devices. In this respect, the GFCM Executive Secretary recalled that a move towards a subregional approach did not preclude pursuing regional priorities.

	Western Mediterranean	Central Mediterranean	Adriatic Sea	Eastern Mediterranean
Pelagic species	*Engraulis encrasicolus*	*Engraulis encrasicolus*	*Engraulis encrasicolus*	*Engraulis encrasicolus*
	Sardina pilchardus	*Sardina pilchardus*	*Sardina pilchardus*	*Sardinella aurita*
				Sardina pilchardus
Demersal species	*Parapenaeus longirostris*	*Parapenaeus longirostris*	*Mullus barbatus*	*Mullus barbatus*
	Merluccius merluccius	*Merluccius merluccius*	*Merluccius merluccius*	*Saurida lessepsianus*
	Pagellus bogaraveo	***Aristeus antennatus***	***Nephrops norvegicus***	***Merluccius merluccius***
		Aristaeomorpha foliacea	***Parapenaeus longirostris (GSA 18)***	***Aristeus antennatus***
		Mullus barbatus	***Solea solea (GSA 17)***	***Aristaeomorpha foliacea***
			Sepia officinalis	
			Squilla mantis	
Species of regional importance	***Coryphaena hippurus***			
Species of conservation concern	*Anguilla anguilla*			
	Corallium rubrum			
Non-indigenous species	*Pterois miles*			
	Lagocephalus sceleratus			

Blackspot seabream in the western Mediterranean

89. The main conclusions and recommendations of the SRC-WM on blackspot seabream were reported, including the overexploitaion status of the stock in the Strait of Gibraltar and the proposed technical elements for the management of the fishery. In line with Recommendation GFCM/41/2017/2, a roadmap for the quantitative assessment of blackspot seabream had been devised, comprising data collection activities followed by a data preparation meeting and a benchmark assessment ahead of the next SAC session.

90. The delegate of the EU praised the advances by the SRC-WM, mentioning the implementation of the roadmap as an essential step towards providing the Commission with relevant elements to support the adoption of management measures in 2019. She called upon the parties involved to deploy all their efforts in this endeavor. In this regard, the CopeMed representative reiterated the project would support data collection and organize the data preparation meeting.

91. The delegate of Morocco confirmed his country stood ready to work towards a quantitative assessment of the stock according to the roadmap but specified that, in order to complete a full year in the life cycle of the species, biological data would be available from July 2019 only. This, with the results of the benchmark assessment, would facilitate the work of the forty-third session of the Commission towards adopting a minimum conservation reference size and other measures such as spatial and temporal closures.

92. The delegate of Spain outlined the data collection efforts underway in his country, informing that work had also started to collect samples in order to gather information on juvenile distribution.

93. In relation to the provision on the marking of all passive fishing gear in the recommendation, it was specified that the Spanish fleet targeting blackspot seabream used handlines, considered to be active gear, and that those were not marked. In this respect, the delegate of Morocco explained that his country's fleet consisted mainly of artisanal vessels (passive gear) and counted up to 500 small-scale vessels, making such marking extremely difficult and costly. The Committee agreed this would be further discussed.

94. The Committee commended the work done by the SRC-WM and endorsed the elements for the management of blackspot seabream as reproduced in Appendix 7(c).

Demersal fisheries in the Strait of Sicily

95. The main conclusions of the SRC-CM regarding demersal fisheries in the Strait of Sicily were discussed, underlining the overexploition status of European hake and deep-water rose shrimp and recalling the recommendation to protect juveniles as a direct way to achieve reduction of F. The work done within the WKMSE was summarised, highlighting that a reduction of F to achieve the F_{MSY} of deep-water rose shrimp (40 percent) was the scenario providing the best outcomes across the board.

96. The delegate of the EU acknowledged the outcomes of the SRC-CM stressing the additional need to enhance inspection plans so to ensure measures already adopted were adequately implemented.

97. The Committee supported future scientific work towards improving selectivity, including the use of grids whose effectiveness was not yet fully assessed. An example was given by the delegate of Turkey who noted that large amounts of plastics in the area made their grids ineffective. The Committee also agreed on the importance of investigating the socio-economic implications of using grids as well as their acceptability by fishers. In this respect, the representative of WWF recalled the ongoing MINOUW project while the SAC Chairperson reminded the Committee of the useful work carried out within the Working Group on Fishing Technology (WGFIT).

Small pelagic fisheries in the Adriatic Sea

98. The conclusions of the SRC-AS regarding small pelagic fisheries in the Adriatic Sea were discussed, including the work done within the WKMSE which highlighted the poor situation of anchovy in particular. Adaptive management scenarios (e.g. the application of the harvest control rules in Recommendation GFCM/37/2013/1 on a multiannual management plan for fisheries exploiting small pelagic stocks in geographical subarea 17 [northern Adriatic Sea] and on transitional conservation measures for fisheries exploiting small pelagic stocks in geographical subarea 18 [southern Adriatic area]) were identified as those ensuring the lowest risks of the SSB falling below B_{LIM} and the recovery of socio-economic indicators. The bioeconomic analysis indicated the reduction of the number of fishing days as an effective way to manage the fishery. Perpetuation of the current situation would lead to the collapse of both fisheries. The urgent need to either revise the management plan or establish new management measures was underlined.

99. The Committee commended the experts for the important work carried out on these stocks whose situation was critical, and on the one hand recommended urgent management measures be taken based on the advice provided and, on the other hand, underlined the importance of adapting control measures and establishing a pilot project for inspections at sea.

100. The delegate of Albania agreed on the adoption of new emergency measures, stating that his country had complied with all measures to date. The delegate of Montenegro thanked the Commission for its indulgence while his country continued its efforts towards fullfilling all requirements set forth by existing recommendations.

Demersal fisheries in the Adriatic Sea, including the monitoring of the Jabuka/Pomo Pit FRA

101. In presenting the conclusions of the SRC-AS, the GFCM Secretariat underlined that further work should be done in support of the management of demersal stocks in the Adriatic. In addition, a programme to monitor the effectiveness of the Jabuka/Pomo Pit FRA at protecting VMEs and important EFH in response to Recommendation GFCM/41/2017/3 was described.

102. The delegate of the EU further underlined the need for specific management actions on demersal stocks in the Adriatic and proceeded in outlining a number of potential measures that could be applied to address the overfishing of priority demersal stocks, compatible with the framework set out by the GFCM for the preparation of management plans as well as with the elements for management provided for other fisheries. The hope of the EU was that the Committee and its subsidiary bodies take this proposal into account with the aim of discussing it during the intersession. To this end, he proposed to include the evaluation of this proposal in the SRC-AS work plan with the ToRs outlined in Appendix 13.

103. The proposal was supported by the delegates of Croatia and Italy who also highlighted the need to carefully examine the various potential measures proposed, taking into account existing national and regional measures in place, including understanding the effects of the Jabuka/Pomo Pit FRA.

104. The Committee endorsed the monitoring programme for the Jabuka/Pomo Pit, as detailed in Appendix 11, especially considering that this area was subject to co-management with multiple objectives but underlining the fact that its main aim was the recovery of selected demersal commercial species. The delegate of MedReact, echoed by IUCN, expressed concern regarding the sampling methods (bottom trawl) proposed by the monitoring programme since the objective of the FRA was to forbid the use of bottom trawl in the core area.

105. The GFCM Executive Secretary, while acknowledging the Jabuka/Pomo pit monitoring proposal, underlined the lack of a general framework for monitoring the effects of other established FRAs, inviting the Committee to establish a follow-up strategy.

106. The delegate of the EU proposed the reactivation of the Working group on marine protected areas (WGMPA) to monitor the effectiveness of existing FRAs and examine future FRAs, possibly in collaboration with the WGVME.

107. The Committee agreed on this proposal underlining that, as for the WKMSE, these working groups would have to be active year-round, and that the assessment of the efficiency of FRAs should be carried out by WGMPA experts, which should meet once advances on this issue are achieved.

Deep-water red shrimps in the central and eastern Mediterranean

108. The GFCM Secretariat described the work carried out by the Subregional Committee for the eastern Mediterranean (SRC-EM) and the SRC-CM on the assessment and management of deep-water red shrimps (*Aristeus antennatus* and *Aristaeomorpha foliacea*) fisheries in the eastern-central Mediterranean, recalling that the most recent stock assessments dated back to 2013. In this respect, a roadmap for the assessment of the two shrimp species in a data limited framework was proposed. It was recalled that the SRCs had recommended to immediatly establish measures for the management of this fishery, including vessel authorizations and the identification of the main fishing grounds as well as the determination of the historical fishing footprint, in line with measures discussed for deep-sea fisheries. Finally, the SRCs proposed updated technical elements for the joint management of this fishery in both subregions.

109. The Committee welcomed the work done and agreed to endorse the roadmap for the assessment of deep-water red shrimps (available in Appendix 13). It concurred on the need to proceed within a precautionary context, with a first phase where management rules (e.g. fishing authorizations) are established and a research project is drafted to collect the data necessary to proceed towards a more adaptive management framework. The Committee endorsed the proposed technical elements as reproduced in Appendix 7(d), recognizing the need to update them upon availability of improved data and scientific advice.

110. The delegates of Egypt and Tunisia underlined the importance of the proposed plan of action remarking that its success would heavily depend on close cooperation between the main stakeholders in both subregions.

SAC WORK PLAN FOR 2018–2020

111. The GFCM Secretariat introduced the preliminary work plan, based on the outcomes of the intersessional work. The GFCM Executive Secretary highlighted that the plan should efficiently reconcile the ambitious objectives of the Committee with regional capacities.

112. The delegates of Morocco, Tunisia and Turkey, while recognizing the achievements in the first years of the mid-term strategy, remarked that countries faced limitations, especially in human resources, to sustain this level of work. In light of this, they were in favour of prioritizing activities to ensure efficiency and streamlined processes for addressing the objectives agreed upon.

113. The delegate of the EU recalled, however, the important commitments put forth within the mid-term strategy and, at the ministerial level, within the MedFish4Ever Declaration. She also underlined the advice discussed during the present session in which it was agreed that urgent action was needed. Furthermore, she underscored the need to maintain the course in order to reach the objectives towards reverting the trend in the status of commercially exploited stocks.

114. The Committee commented on the further role that could be played by the SRCs and pointed to the need to coordinate on certain activities with other relevant organizations, including the EU Scientific, Technical and Economic Committee for Fisheries (STECF). Finally, the GFCM Executive Secretary recalled the importance of incorporating young scientists into these activities in order to begin building additional capacity and forming the next generation of experts in the region.

115. The GFCM Secretariat presented a three-year plan, based on the discussions held within the SRCs and inputs provided by experts, to organize the provision of advice, in light of the concepts of updated and benchmark assessment. One of the main objectives was to reduce the time between assessment work, the SAC and Commission sessions for selected fisheries during a testing phase.

116. The Committee agreed conceptually that there was a need to advance on this work. However, the delegates of Italy, Morocco, Spain, and Tunisia noted that they faced difficulties in meeting the deadlines proposed. They highlighted that such a calendar potentially required changes in data collection and data submission procedures.

117. The Committee validated the plan for benchmark assessments, as included in Appendix 12, and agreed that this new approach would be attempted for the first year, with additional efforts to submit the necessary data on time, and that the calendar for the two subsequent years would be nevertheless reviewed and revised, if necessary.

118. The Committee agreed upon its 2018–2020 work plan as reported below.

Regional issues

Stock assessment and strengthened advice

- Compile relevant information on priority species towards increasing the coverage of stock assessment for these species.
- Organize data preparation and benchmark sessions, including external reviews, in line with the agreed calendar for the provision of advice.
- Continue supporting the implementation of harmonized scientific surveys at sea in line with the established roadmap to provide additional relevant information and serve as tuning indices for assessment purposes.
- Continue compiling socio-economic fisheries data, including on small-scale fisheries, in line with the agreed survey methodology and roadmap for data collection, with a view to providing accurate, timely and complete baseline data on fisheries for its integration in management advice.
- Develop robust MSE frameworks that can be applied to a variety of fisheries and data availability situations, with particular focus on fisheries under or for which a management plan is being discussed.
- Conduct theoretical and applied training activities to increase the capacity in the subregions to performing quantitative assessments of management scenarios, including on the use of socio-economic models.
- Prepare elements for a comprehensive research programme on European eel in the Mediterranean.

Data collection and quality indicators

- Streamline the communication flow with CPCs for the exchange of information on data quality assessment through the DCRF online platform.
- Implement conformity, stability and consistency quality indicators, together with timeliness and completeness, on the DCRF online platform for all the data transmitted by CPCs.
- Initiate the harmonization of data reporting requirements, set in existing GFCM recommendations, including on management plans, with the DCRF, update the DCRF manual accordingly and release the related transmission tools on the DCRF online platform.

Sustainable small-scale and recreational fisheries

- Compile information on the characterization of small-scale fisheries through data collected from the socio-economic survey.
- Pilot the methodology for recreational fisheries in Tunisia and in other countries to be selected and, if necessary, update the handbook according to pilot study outcomes.
- Steer and coordinate the implementation of technical elements within the RPOA-SSF, including the development of a timetable with short-term and mid-term targets for the implementation of the technical actions therein.
- Further refine the mapping tool of ongoing SSF activities by regional organizations, broaden it to incorporate additional stakeholder organizations and make it available online.

- In line with the RPOA-SSF, support the organization of a conference on social development, employment and decent work related to small-scale fisheries, with a view to enhancing knowledge on these topics towards improving fisher livelihoods.

IUU fishing

- Support the implementation of activities 1–3 of the work plan for the estimation of IUU fishing and pilot the survey on IUU fishing.
- Organize an expert meeting to address activities 4 and 5 of the work plan for the estimation of IUU fishing, in coordination with the CoC.

Interactions between fisheries and the marine environment and ecosystems

Management of deep-sea fisheries (DSF) and protection of vulnerable marine ecosystems (VMEs)

- Develop the GFCM Mediterranean geodatabase on VME indicator features and species.
- Complete and resubmit the proposal of a FRA in the Bari canyon (south Adriatic) for discussion at the SRC-AS.
- Resubmit the proposal of a FRA in deep-water essential fish habitats and sensitive habitats in the south Adriatic (Otranto channel) for discussion at the WGVME and the SRC-AS.

Mapping and roadmap towards a network of essential fish habitats

- Work towards producing composite observation-based EFH maps for some GFCM priority species.
- As a second step of the proposed roadmap towards a network of EFH, work towards determining how previously identified EFH and SH are connected. This analysis should include scientific knowledge of how nursery and spawning habitats are ecologically connected.

Bycatch and fishing technology issues

- Produce a regional review on the current state of bycatch in the GFCM area.
- Keep on implementing, with relevant partners, a bycatch monitoring programme and related training activities, to collect representative data and facilitate the potential adoption of management measures towards the reduction of bycatch rates as well as the protection of VMEs.
- Develop a catalogue of fishing gear, building on existing work developed through the MyGears project and other similar projects, and on the basis of the template on fishing technology by fishing gear and fisheries to be filled by experts (Appendix 4 of the WGFiT report).

Red coral fisheries

- Launch a call for tender for the implementation of a research programme on red coral in the Mediterranean Sea.
- Provide an updated status of red coral populations, including adequate catch levels and updated advice on conservation measures established in line with relevant decisions.

Advances towards an adaptation strategy for climate change and non-indigenous species

- Implement the methodology for the assessment of the vulnerability of fisheries in the Mediterranean and Black Sea to the effects of climate change in select case studies at the subregional level.

- Produce a qualitative analysis of the interaction between NIS and fisheries in Mediterranean subregions, including an inventory of all NIS recorded in catches, rank of the five most important species in terms of volume (numbers or tonnes) of catches and harm caused to the fishery.
- Implement a NIS pilot monitoring plan in the central and eastern Mediterranean.
- Work towards the identification of potential management measures for those NIS that become a target fishery.

Subregional issues

Adriatic Sea

- Implement the monitoring plan of the Jabuka/Pomo Pit FRA, with the support of the AdriaMed project.
- Provide advice on the proposal for technical elements for the management of demersal resources in the Adriatic Sea.

Western Mediterranean

- Provide advice on blackspot seabream based on the roadmap for the quantitative assessment of the species.
- Organize a dedicated session on non-indigenous species.

Central Mediterranean

- In the context of the implementation of surveys at sea, validate simulated potential nursery areas for European hake and deep-water rose shrimp in the Strait of Sicily.
- Provide advice on the state of deep-water red shrimps based on the roadmap for the quantitative assessment of the species.
- Provide advice on precautionary conservation measures for the deep-water red shrimp fishery in the eastern and central Mediterranean.

Eastern Mediterranean

- Provide advice on the state of deep-water red shrimps based on the roadmap for the quantitative assessment of the species.
- Provide advice on precautionary conservation measures for the deep-water red shrimp fishery in the eastern and central Mediterranean. Collect information from fishers on the resources and fishing activities (local ecological knowledge associated).

MEETINGS

Meeting	Place/Date
Working groups on stock assessment of demersal (WGSAD) and small-pelagic species (WGSASP)	FAO HQ, Rome 19–23 November 2018
WGVME, including EFH	January 2019
WGSSF	February 2019
SRC-CM	Palermo, Italy March 2019
SRC-EM	March 2019
SRC-WM, including a benchmark session on blackspot seabream	Sète, France April 2019
SRC-AS, including a benchmark session on small pelagic species	May 2019
WKREDCORAL	May/June 2019
Twenty-first session of the SAC	Egypt, June/July 2019

ELECTION OF THE SAC BUREAU

119. The Executive Secretary referred to Articles 7 and 8 of the GFCM Rules of Procedures related to the election and functions of the bureau. He informed that all contracting parties had been invited to submit proposals in writing in view of the election.

120. All delegations paid special tribute to Mr Othman Jarboui (Tunisia) for his continuous efforts as Chairperson and for his dedication to the work of the SAC, as well as to Mr Ali Cemal Gücü (Turkey) and Ms Claire Saraux (France), first and second Vice-Chairperson respectively, expressing deep gratitude for the outstanding commitment shown during their mandates.

121. On the basis of the proposals and information received, the Committee unanimously elected Mr Alaa El-Haweet (Egypt) as SAC Chairperson as well as Mr Eyup Mumtaz Tirasin (Turkey) and Mr Aleksandar Joksimovic (Montenegro) as first and second Vice-chairpersons, respectively.

ANY OTHER MATTER

122. The representative of the Marine Stewardship Council (MSC) presented the outcomes of the MedFish and Bluefish projects, which aimed to conduct an analysis of the state of marine resources using MSC standards as a tool to drive sustainability improvements, in select Mediterranean fisheries.

123. The representative of WWF informed the Committee about the objectives of a workshop to be organized as part of the “Science to Action” initiative, aimed at bridging marine conservation, sustainable development, policy and scientific research. He presented the results of a sectoral analysis of the trends of the main economic activities in the Mediterranean under a blue growth perspective.

124. Among the comments made, the representative of OceanCare expressed interest in looking into connections with underwater noise, while the delegate of Egypt highlighted the need to raise awareness on the social and food security benefits of fisheries besides their economic importance.

125. The Committee welcomed these initiatives, as they represented opportunities to complement its work with relevant information, such as feedback from fishers and results from cross-cutting approaches.

126. In the context of the subregional approach, the GFCM Executive Secretary recalled the important role envisaged for the SRC coordinators. Echoing statements by delegates, he urged that these coordinators be identified and play a more active role in the near future, not only in supervising the work carried out in the intersession, but also communicating and defending the SRC work to the SAC.

127. The Committee repeatedly thanked the Government of Morocco for the perfect organization and working conditions offered during the session. The excellent support provided and especially the warm hospitality extended to all participants were highly appreciated.

128. The SAC Chairperson and delegates thanked the GFCM Secretariat for the tireless efforts made to ensure a smooth preparation and conduct of the session. Delegates and experts were congratulated for constructively contributing to the success of SAC activities.

DATE AND PLACE OF THE NEXT SESSION

129. The Committee agreed that its twenty-first session would be held in June 2019 and took note of the kind invitation made by the delegation of Egypt to host it, subject to official confirmation by the competent authorities.

ADOPTION OF THE REPORT

130. The report, including its appendixes, was adopted on Friday 29 June 2018.

OUVERTURE DE LA SESSION ET ADOPTION DE L'ORDRE DU JOUR

1. Le Comité scientifique consultatif des pêches (CSC) de la Commission générale des pêches pour la Méditerranée (CGPM) de l'Organisation des Nations Unies pour l'alimentation et l'agriculture (FAO) a tenu sa vingtième session à Tanger (Maroc) du 26 au 29 juin 2018. Ont participé à la session des délégués de 14 parties contractantes de la Méditerranée et de sept observateurs, ainsi que des représentants des projets régionaux de la FAO, les membres du Secrétariat de la CGPM et un certain nombre d'experts invités. On trouvera la liste des participants à l'annexe 2.

2. M. Bouchta Aichane, Directeur du Département de la pêche maritime du Maroc, intervenant au nom de Mme Zakia Driouich, Secrétaire générale du Département, a souhaité la bienvenue aux participants. Reconnaissant l'état alarmant des stocks halieutiques dans la région et les incidences négatives de cette situation pour le secteur de la pêche et, en particulier, pour les pêches artisanales, il a réaffirmé l'engagement de son pays à promouvoir des pêches durables par une approche intégrée, participative et responsable. M. Aichane a également insisté sur l'importance du travail réalisé à cet égard dans le cadre de la CGPM, ainsi que sur l'action menée en vue de la concrétisation des engagements internationaux.

3. M. Othman Jarboui, Président du Comité scientifique consultatif des pêches, a remercié le Gouvernement marocain pour son accueil chaleureux et l'excellente organisation de la session. Saluant les efforts que les experts et les pays avaient déployés sans relâche pendant la période intersessions, il a souligné que le Comité était appelé à faire face à un volume d'activités sans précédent compte tenu de la mission d'envergure dont la Commission l'avait investi à sa dernière session, ainsi que de la stratégie à moyen terme (2017-2020) en faveur de la durabilité des pêches en Méditerranée et en mer Noire (ci-après, la stratégie à moyen terme). M. Jarboui a ensuite insisté sur les résultats obtenus par le CSC qui avait fourni des avis scientifiques et des éléments techniques solides à l'appui de la gestion des pêches, notamment dans le cadre de l'approche sous-régionale.

4. Au nom du Président de la CGPM, M. Abdellah Srour, Secrétaire exécutif de la CGPM, a lui aussi souhaité la bienvenue aux participants et a remercié le pays hôte de son accueil impeccable. Il a informé les délégations que la déclaration sur l'exercice des compétences et du droit de vote de l'Union européenne (UE [Organisation Membre]) et ses États membres soumise à la quarante et unième session de la Commission s'appliquait également à la présente session. Après avoir présenté les délégués et les observateurs, le Secrétaire exécutif de la CGPM, a informé les participants des modalités d'organisation de la session.

5. L'ordre du jour a été adopté par le Comité tel qu'il figure à l'annexe 1. On trouvera la liste des documents à l'annexe 3 et les allocutions d'ouverture à l'annexe 4.

SUITE DONNÉE AUX DÉCISIONS PERTINENTES PRISES PAR LA COMMISSION À SA QUARANTE ET UNIÈME SESSION

6. Le Secrétariat de la CGPM a rappelé les principaux objectifs des recommandations pertinentes que la Commission avait adoptées à sa quarante et unième session, à savoir: i) la Recommandation CGPM/41/2017/2 relative à la gestion des pêcheries de dorade rose en mer d'Alborán (sous-régions géographiques 1 à 3) pour une période transitoire de deux ans; ii) la Recommandation CGPM/41/2017/3 relative à l'établissement d'une zone de pêche réglementée dans la fosse de Pomo/Jabuka en mer Adriatique; iii) la Recommandation CGPM/41/2017/5 relative à la mise en place d'un plan régional de gestion adaptative pour l'exploitation du corail rouge en mer Méditerranée; et iv) la Recommandation CGPM/41/2017/6 relative à la communication de données sur les activités de pêche dans la zone d'application de la CGPM. Un certain nombre de résolutions applicables aux travaux du CSC avaient également été adoptées, à savoir: i) la Résolution CGPM/41/2017/3 sur la reprise des activités du Groupe

de travail sur la technologie de pêche; ii) la Résolution CGPM/41/2017/4 relative à un groupe de travail permanent sur les écosystèmes marins vulnérables; et iii) la Résolution CGPM/41/2017/5 relative à l'établissement d'un réseau d'habitats halieutiques essentiels dans la zone d'application de la CGPM.

7. Le délégué du Maroc a informé le Comité que les travaux relatifs à la Recommandation CGPM/41/2017/2 dans le détroit de Gibraltar allaient bientôt commencer au Maroc et que son pays soutenait pleinement la Recommandation CGPM/41/2017/5.

Mise en œuvre de l'approche sous-régionale

8. Le Secrétaire exécutif de la CGPM s'est penché sur la question de l'approche sous-régionale, dont la mise en œuvre avançait, même si la faisabilité d'une telle démarche était encore en phase d'évaluation. L'approche sous-régionale avait offert, en particulier, un moyen efficace d'améliorer la participation d'experts (dans les domaines scientifique et administratif) et de partenaires à des réunions portant sur des sujets précis, et de recueillir ainsi des avis pertinents à l'appui des plans de gestion ainsi que sur des questions d'importance sous-régionale. Elle avait aussi permis d'assurer une meilleure coordination avec les partenaires, y compris les projets régionaux de la FAO.

9. Les délégués de l'Égypte, de l'Espagne, du Maroc, du Monténégro et de la Tunisie se sont félicités du travail accompli par les comités sous-régionaux, évoquant les bons résultats obtenus jusqu'à présent. Ils ont souligné en particulier que l'approche sous-régionale avait facilité la mise en commun des informations scientifiques, l'examen des questions d'intérêt commun entre pays voisins et l'élaboration de projets d'avis à l'appui de l'établissement de plans sous-régionaux pluriannuels pour la gestion des ressources halieutiques communes.

10. La déléguée de l'UE a fait écho aux observations précédentes, notant qu'un soutien supplémentaire était nécessaire pour continuer d'améliorer la qualité et la couverture des évaluations des stocks, et a dit attendre avec intérêt de voir dans quelle mesure une gestion sous-régionale pourrait favoriser la création de synergies efficaces entre les parties contractantes et les parties non contractantes coopérantes (PCC).

11. Le Comité s'est félicité des résultats positifs que les comités sous-régionaux avaient obtenus et il a noté que la prochaine évaluation du fonctionnement de la CGPM pourrait offrir l'occasion d'évaluer l'efficacité de ces comités en vue d'une décision finale au sujet de leur renforcement.

12. Enfin, le Comité a pris note des progrès accomplis dans la mise en place d'unités techniques sous-régionales de la CGPM au Liban (Méditerranée orientale) et en Espagne (Méditerranée occidentale), qui ont apporté un appui important au Comité, en vue de la mise en œuvre de son approche sous-régionale. Le Comité a salué l'offre de Malte, qui a proposé d'héberger l'unité technique pour la Méditerranée centrale, et de la Croatie, qui pourrait héberger l'unité technique pour la mer Adriatique, et a demandé au Secrétaire exécutif de la CGPM de communiquer avec les gouvernements concernés, afin d'organiser leur mise en place.

13. Le Secrétaire exécutif de la CGPM a précisé que les unités techniques étaient mises en place dans le cadre de l'approche sous-régionale, car l'objectif est aussi d'appuyer le Secrétariat de la CGPM au niveau sous-régional, afin d'assurer sa présence sur le terrain et de proposer une base pour les travaux des experts et des jeunes scientifiques.

14. Sur la proposition du délégué de la Tunisie, qui a communiqué l'intérêt de son pays à accueillir l'unité technique pour la Méditerranée centrale, le Comité s'est déclaré favorable au principe de rotation des unités techniques, qui donne à d'autres pays l'occasion d'héberger aussi ces bureaux le moment venu pendant cinq ans.

Rapport nationaux établis par les parties contractantes à l'intention du Comité scientifique consultatif des pêches

15. Le Secrétariat de la CGPM, s'appuyant sur le document portant la cote GFCM:SAC20/2018/Inf.5, a présenté une synthèse des informations contenues dans les 15 rapports nationaux transmis par les pays méditerranéens, dont il ressortait que: i) les quantités débarquées n'avaient cessé de fluctuer dans les divers pays, les chiffres faisant apparaître, depuis 2012, une augmentation constante en Albanie (+28 pour cent), en Croatie (+16 pour cent), en Espagne (+33 pour cent) et en Tunisie (+8 pour cent), parallèlement à une forte diminution des débarquements en Algérie (-18 pour cent) et au Maroc (-31 pour cent); ii) malgré une légère augmentation observée pendant la même période en Algérie (+26 pour cent), à Chypre (+55 pour cent), en France (+16 pour cent) et en Tunisie (+16 pour cent), la taille des flottilles était restée stationnaire dans l'ensemble ou avait diminué, notamment en Espagne (-17 pour cent), en Grèce (-13 pour cent), en Italie (-8 pour cent), au Liban (-18 pour cent) et au Maroc (-13 pour cent); iii) des données sur les captures accidentelles d'espèces vulnérables étaient disponibles pour la première fois, plusieurs pays ayant en effet fourni des informations utiles à ce sujet conformément aux recommandations de la CGPM; et iv) les thèmes des projets en cours au niveau national et les besoins futurs en matière de recherche indiqués par les pays semblaient correspondre aux activités déjà mises en route ou prévues au titre de la stratégie à moyen terme. Les rapports nationaux sont reproduits à l'annexe 14.

16. Le délégué de l'Albanie a précisé que les changements observés dans les tendances relatives aux débarquements et à la capacité des flottilles dans son pays étaient imputables à des erreurs dans les rapports précédents. Il a indiqué que les données pour 2013-2016 avaient été dûment révisées et qu'elles étaient maintenant mises à disposition. Par ailleurs, il a proposé que celles-ci soient utilisées pour l'analyse future des variations dans le secteur de la pêche en Albanie.

17. Le Comité s'est félicité de la collaboration fournie par le Secrétariat de la CGPM qui avait appuyé la nouvelle pratique consistant à utiliser l'outil électronique pour la communication des rapports nationaux et il a salué les efforts déployés par tous les pays à cet égard. Cependant, il a noté que les pays étaient encore confrontés à des difficultés au moment de renseigner les champs demandés, notamment en ce qui concerne les captures accessoires.

18. À cet égard, les délégués du Maroc et de l'Espagne, appuyés par ceux de l'Algérie, de l'Égypte et de la Tunisie, ont fait part de leurs inquiétudes concernant d'une part, une éventuelle redondance entre les informations à fournir dans le cadre des rapports nationaux et les renseignements que la CGPM demandait par ailleurs, et d'autre part, le temps nécessaire pour l'établissement des rapports et la difficulté à produire des données actualisées dans les délais impartis. Ils ont également émis des doutes quant à l'utilité actuelle des rapports nationaux, s'agissant d'apporter les informations dont le CSC avait besoin pour éclairer la gestion des pêches.

19. Il a été reconnu que le concept des rapports nationaux, du moins sous leur forme actuelle, était maintenant obsolète par rapport à l'instrument à caractère obligatoire qui avait été présenté au départ. Cela était particulièrement vrai dans la mesure où toutes les nouvelles recommandations récemment adoptées et tous les nouveaux processus et outils exigeaient des pays qu'ils communiquent des informations du même type, telles que les données sur les flottilles et les débarquements, qui étaient maintenant transmises pconformément au Cadre de référence pour la collecte de données (DCRF) de la CGPM, et les données relatives aux législations nationales, qui étaient gérées dans le cadre du Comité d'application et versées dans la base de données de la CGPM sur les législations nationales. À cet égard, le Comité a proposé d'engager une réflexion sur l'utilisation et/ou la structure des rapports nationaux, éventuellement dans le cadre de l'évaluation du fonctionnement de la Commission, afin que le CSC puisse mieux exploiter cet outil à l'appui de la gestion des pêches.

ACTIVITÉS INTERSESSIONS INTÉRESSANT LE MANDAT DU COMITÉ SCIENTIFIQUE CONSULTATIF DES PÊCHES, Y COMPRIS DANS LE CADRE DE LA STRATÉGIE À MOYEN TERME

20. S'appuyant sur le document publié sous la cote GFCM:SAC20/2018/2, le Président du CSC a présenté les activités techniques menées au cours de la période intersessions, dont 12 réunions régionales et 6 réunions sous-régionales. Il a mentionné spécifiquement les progrès accomplis dans la mise en œuvre des activités de la stratégie à moyen terme, notamment les études scientifiques en mer, l'enquête socioéconomique régionale, les actions de soutien de la pêche artisanale, les mesures visant à améliorer la collecte de données sur la pêche récréative et le programme de suivi des captures accessoires. Des manifestations telles que la Conférence de haut niveau sur la pêche artisanale durable en Méditerranée et en mer Noire et le Forum sur les sciences halieutiques (Fish Forum) ont été évoquées, ainsi que différentes activités conduites dans le cadre des comités sous-régionaux.

21. Le Comité a loué le travail remarquable effectué durant la période intersessions, notant qu'en plus d'aborder des thèmes de plus en plus variés et complexes, les activités techniques bénéficiaient d'une participation et d'un soutien plus actifs de la part des experts de la région. Le Comité a noté que ce travail avait donné une base solide à la formulation des avis destinés à la Commission.

22. Les délégués de l'UE et du Maroc, soutenus par ceux de l'Algérie et de l'Égypte, ont fait remarquer qu'en raison du volume de travail accru dans le cadre du CSC, une synthèse des résultats et des conclusions des travaux serait utile. Le Secrétaire exécutif de la CGPM a suggéré de synthétiser davantage le résumé du document portant la cote GFCM:SAC20/2018/2.

COOPÉRATION AVEC LES PARTENAIRES À L'APPUI DE LA STRATÉGIE À MOYEN TERME

Principales activités menées dans le cadre des projets régionaux de la FAO dans la zone méditerranéenne

23. Les activités les plus importantes menées dans le cadre des projets régionaux de la FAO durant la période intersessions ont été présentées sur la base du document portant la cote GFCM:SAC20/2018/Inf.22, parmi lesquelles l'appui apporté en matière de collecte de données (captures et quantités débarquées, études en mer et enquêtes socioéconomiques), d'évaluation des stocks, de suivi des pêches, de statistiques et de systèmes d'information, de renforcement des capacités et de coopération scientifique.

24. Le Comité a pris acte du travail impressionnant qui avait été accompli dans le cadre des projets régionaux de la FAO et s'est réjoui des efforts considérables déployés à l'appui de ses activités, effort qui a permis d'optimiser les ressources et d'améliorer les réalisations.

25. Les délégations de tous les pays qui bénéficient d'une aide au titre des projets régionaux ont remercié les donateurs et salué l'importante contribution de ces projets, qu'il s'agisse de nourrir le débat sur la gestion des pêches, de renforcer la communication, d'améliorer les capacités ou de recueillir des données relatives aux pêches, conformément aux objectifs de la stratégie à moyen terme.

26. La déléguée de l'UE a insisté sur le rôle des projets régionaux dans la contribution apportée à l'approche sous-régionale et à la stratégie à moyen terme. Elle a également insisté sur la nécessité de définir conjointement les mesures appropriées pour faire en sorte que cela se poursuive, notamment vers une intégration accrue au sein de la CGPM.

27. La représentante d'Oceana a évoqué en particulier le travail important accompli sur les habitats halieutiques essentiels dans le cadre du projet AdriaMed et a exprimé l'espoir que des résultats analogues seraient obtenus dans d'autres régions, avec l'appui d'autres projets régionaux.

Activités menées par d'autres partenaires

28. La représentante d'OceanCare a informé le Comité sur les activités récentes en rapport avec le bruit sous-marin d'origine anthropique, mettant en lumière la production d'un examen approfondi des travaux publiés sur le sujet et les résultats d'un atelier sur l'atténuation des nuisances sonores dans l'océan axé spécifiquement sur la région méditerranéenne, ainsi que l'intégration récente de ce thème dans le Processus consultatif informel des Nations Unies sur les océans et le droit de la mer. Elle a souligné à quel point il importait de prendre en considération les effets du bruit en milieu marin dans la région méditerranéenne, indiquant qu'OceanCare apporterait volontiers son aide au CSC dans ce domaine.

29. La représentante de l'Accord de Monaco sur la conservation des cétacés de la mer Noire, de la Méditerranée et de la zone Atlantique adjacente (ACCOBAMS) a pris la parole pour donner des informations sur les activités conjointes mises en œuvre avec succès, en particulier concernant la capture accidentelle d'espèces vulnérables. Parmi les principaux produits, elle a mentionné la copublication avec la CGPM de quatre guides de bonne pratique pour la prise en charge des espèces vulnérables capturées accidentellement. La collecte de données sur les captures accidentelles demeurant une question importante, elle a exprimé l'espoir que les déficits d'informations seraient comblés dans le cadre des activités conjointes récemment lancées. Enfin, elle a informé le Comité sur l'étude menée actuellement par l'ACCOBAMS afin d'évaluer la répartition et l'abondance des cétacés en Méditerranée, qui constituerait un outil utile pour mieux aborder les problèmes de capture accidentelle et de déprédation.

QUESTIONS RELATIVES À LA QUALITÉ DES DONNÉES, AUX MÉTHODES DE COLLECTE DE DONNÉES DANS LE SECTEUR DE LA PÊCHE ET À LA FORMULATION D'AVIS

Analyse des données relatives aux activités de pêche, présentées conformément aux décisions pertinentes, y compris la mise en œuvre d'indicateurs de qualité

30. Le Secrétariat de la CGPM a rappelé la Recommandation CGPM/41/2017/6 relative à la communication de données sur les activités de pêche dans la zone d'application de la CGPM, soulignant la possibilité de proposer des regroupements ad hoc de segments de la flotte qui représentent l'activité de leur flotte de pêche par sous-région géographique. Il a également rappelé la décision d'effectuer à titre temporaire des contrôles de qualité sur les données communiquées en 2017 par un échantillon de pays. Enfin, il a présenté la méthode utilisée, y compris la liste des seuils retenus dans les contrôles de conformité et de stabilité, et les résultats préliminaires de l'expérimentation, soulignant qu'un certain nombre de problèmes avaient été décelés, dont des incohérences dans les données communiquées par différentes PCC.

31. Le délégué du Maroc a insisté sur le fait que, lorsque les PCC n'étaient pas en mesure de respecter les obligations de communication de données prévues par les recommandations existantes, il était nécessaire de déterminer quelles difficultés les en empêchaient et d'apporter une assistance technique en conséquence.

32. La déléguée de l'UE s'est félicitée des progrès accomplis dans le domaine des indicateurs de qualité, affirmant que leur application à titre permanent serait une contribution essentielle à l'efficience des avis scientifiques.

33. Le Comité a suggéré d'étendre la phase de faisabilité pour la mise en œuvre des indicateurs de qualité (ponctualité, exhaustivité, conformité, stabilité et cohérence) aux données transmises par toutes les

PCC par l'intermédiaire de la plateforme en ligne du DCRF, conformément à la Recommandation CGPM/41/2017/6, insistant sur la nécessité de prendre contact avec les PCC concernées pour tenter de résoudre les problèmes potentiels de qualité des données.

Examen du quadrillage des sous-régions géographiques compte tenu des besoins en matière de collecte de données dans le détroit de Gibraltar

34. Le Comité a été indiqué que, durant les débats techniques sur la répartition de la dorade rose dans le détroit de Gibraltar, le Comité sous-régional pour la Méditerranée occidentale (SRC-WM) avait noté que la pêcherie était concentrée dans le détroit de Gibraltar mais qu'il existait d'autres activités de pêche dans les zones à proximité, à l'ouest et à l'est du détroit de Gibraltar. À cet égard, il a été noté qu'alors que la limite occidentale des sous-régions géographiques 01 et 03 coïncidait avec celle de la zone statistique 37 (Méditerranée et mer Noire) de la FAO, la limite du détroit de Gibraltar correspondait à la ligne imaginaire reliant le cap Spartel au cap de Trafalgar, conformément aux définitions existantes de la mer Méditerranée.

35. Le délégué du Maroc a rappelé que le SRC-WM avait proposé de poursuivre les efforts relatifs à l'évaluation et la gestion de la dorade rose dans le détroit de Gibraltar, dans le contexte de la CGPM, même si une partie de la pêcherie se trouvait en dehors des limites exactes de la zone statistique 37 de la FAO. Il a également souligné que les conditions hydrodynamiques, les écosystèmes et les activités de pêches du détroit de Gibraltar étaient différents de ceux de la mer d'Alborán (sous-régions géographiques 01 et 03) et qu'il faudrait traiter cette zone séparément.

36. La déléguée de l'Espagne a exprimé des inquiétudes quant aux conséquences liées à cette question. Elle a souligné en particulier que la législation nationale et européenne en vigueur plaçait la limite occidentale de la Méditerranée au milieu du détroit de Gibraltar, et non le long de la ligne imaginaire reliant le cap Spartel au cap de Trafalgar. À son avis, ces incidences devaient être soigneusement examinées, d'autant que la délimitation des aires géographiques n'était pas nécessairement le bon critère à utiliser dans le contexte d'une organisation régionale de gestion des pêches (ORGP), et que l'on devrait plutôt prendre en compte les aspects afférents à la gestion des pêches.

37. La déléguée de l'UE a repris à son compte les déclarations des autres délégations, insistant sur le fait que la question devait être examinée attentivement sous l'angle scientifique, statistique et surtout juridique, ne serait-ce que parce que la zone en question relevait de la compétence de trois autres organisations internationales, à savoir le Comité des pêches de l'Atlantique Centre-Est (COPACE), le Conseil international pour l'exploration de la mer (CIEM) et la Commission des pêcheries de l'Atlantique Nord-est (CPANE), et que ces questions juridictionnelles ne pouvaient pas être traitées unilatéralement.

38. Le Secrétaire exécutif de la CGPM a été chargé de se concerter avec les services concernés de la FAO et de faire connaître à la Commission, à sa prochaine session, les limites exactes de la zone de compétence de la CGPM et les incidences possibles dans le cas où la limite occidentale se trouverait au-delà de la zone statistique 37 actuelle de la FAO.

Méthodes de collecte de données dans un certain nombre d'activités relevant de la stratégie à moyen terme

39. Le Secrétariat de la CGPM a présenté les quatre documents qui doivent servir de guides pour les activités de collecte de données relevant de la stratégie à moyen-terme, à savoir le suivi des rejets et des captures accidentelles d'espèces vulnérables, les campagnes en mer et la collecte de données sur la pêche récréative. Il a expliqué que le but de chaque document était d'offrir un cadre méthodologique harmonisé de collecte de donnée qui puisse s'adapter aux réalités des différents pays et permette de comparer les données au niveau régional.

40. Le Comité a salué l'important effort fourni et a félicité le Secrétariat de la CGPM pour ce travail approfondi. Il est convenu que ces documents seraient utilisés à titre volontaire, en tant qu'outils de référence qui aideront à mettre en œuvre les activités prévues dans la stratégie à moyen terme. Compte tenu des interventions des délégués de l'UE et du Maroc, qui ont demandé plus de temps pour examiner et analyser attentivement les documents, il a été convenu que de nouveaux commentaires pourraient être intégrés ultérieurement aux documents.

41. Comme le prévoyait la feuille de route approuvée lors de la première réunion du Groupe de travail sur la pêche artisanale (WGSSF), le Comité est convenu que le projet de manuel relatif à la collecte de données sur la pêche récréative serait mis à l'épreuve lors d'études pilotes et qu'à la réunion suivante du Groupe de travail sur la pêche récréative (WGRF) les résultats de cette expérimentation ainsi que les observations réunies sur l'application du manuel seraient intégrés dans une version révisée du manuel. La Tunisie s'est proposée pour être l'un des sites pilotes et d'autres pays ont été invités à soumettre des propositions similaires. La déléguée de l'UE a appuyé cette proposition et le Comité a exprimé son accord.

42. Les délégués de l'Algérie et de l'Égypte ont souligné que les spécificités de la pêche récréative variaient considérablement d'un pays à l'autre et qu'à ce titre il était souhaitable d'expérimenter la méthode dans des situations géographiques et économiques diverses. À ce propos, le Président du CSC a suggéré de mener un large éventail d'études pilotes afin de tester l'applicabilité des méthodes et de s'assurer que les révisions nécessaires pourraient être intégrées.

Plan de travail relatif à l'estimation/la quantification de la pêche illicite, non déclarée et non réglementée (INDNR)

43. Le Secrétariat de la CGPM a récapitulé le plan de travail relatif à l'estimation/la quantification de la pêche INDNR en Méditerranée et en mer Noire, afin de donner au Comité l'occasion de la reconsidérer en tenant compte du travail technique supplémentaire qui était effectué pour le projet d'étude couvrant les questions relatives à l'évaluation de la pêche INDNR au niveau national. Cette étude a pour but d'établir un panorama précis, par pays, des priorités relatives dans la lutte contre les différentes composantes de la pêche INDNR, afin de faciliter l'évaluation de celle-ci aux niveaux régional et infrarégional.

44. La déléguée de l'UE a accueilli avec satisfaction la quantification de la pêche INDNR en Méditerranée, notant que ce travail était fondamental pour la cible 3 de la stratégie à moyen terme et a invité les PCC à poursuivre leurs travaux relatifs aux enquêtes et soumettre leurs commentaires d'ici septembre 2018.

45. Le délégué du Maroc a souligné la différence entre la lutte contre la pêche INDNR, qui est l'apanage du Comité d'application, et l'estimation de cette même pêche, qui devrait être comprise dans les travaux scientifiques visant l'évaluation de l'état des stocks réalisés sous la direction du CSC. À cet égard, le Comité a proposé d'approuver les trois premières activités inscrites dans le plan de travail et qui concernent l'estimation/la quantification de la pêche INDNR (voir l'annexe 6). Une réunion d'experts serait par ailleurs nécessaire pour évaluer les progrès accomplis et donner des avis sur les activités supplémentaires à mener pour compléter l'évaluation, en coordination avec le Comité d'application, selon qu'il conviendrait.

Formulation d'avis sur l'état des pêches

46. Le Secrétariat de la CGPM a exposé dans les grandes lignes les débats qui s'étaient tenus durant la période intersessions et qui visaient à améliorer la formulation d'avis, y compris par la mise en place d'évaluations comparatives (qui seraient effectuées tous les 3 ou 4 ans) et au moyen d'un examen externe des méthodes d'évaluation et d'une proposition de plan de travail détaillé intéressant les avis sur les espèces

prioritaires. Il a souligné en outre la nécessité de prévoir la formulation d'avis au premier semestre de l'année, de sorte que ceux-ci puissent être fondés sur les données les plus récentes possibles avant la session de la Commission.

47. Le Comité a approuvé le principe d'une évaluation comparative et a donné son accord sur le cadre de référence correspondant (reproduit à l'annexe 13), insistant sur l'importance des travaux de préparation des données, surtout dans le cas de stocks partagés, ainsi que de l'examen externe des méthodes. Il est convenu que les questions de calendrier relatif à la formulation des avis seraient abordées durant les débats sur le plan de travail.

PROGRÈS ACCOMPLIS EN MATIÈRE D'AMÉLIORATION DES CONNAISSANCES RELATIVES À LA PÊCHE ARTISANALE

48. Rappelant la nécessité d'améliorer la caractérisation de la pêche artisanale en Méditerranée et en mer Noire, le Secrétariat de la CGPM a présenté les travaux en cours pour tester une matrice à cette fin, en accord avec les processus en cours au niveau mondial à la FAO. Il a souligné que cette expérimentation préliminaire éclairerait d'autres débats au niveau régional.

49. Le Secrétariat de la CGPM a également présenté les progrès réalisés dans la coordination avec les organisations partenaires travaillant sur la pêche artisanale en Méditerranée, avec lesquels un groupe de coordination avait été établi. À cette fin, un outil de cartographie en ligne était en cours de développement, qui devait renforcer les effets de synergie entre les différents travaux de l'Organisation et améliorer la diffusion des connaissances. On soulignait que cet outil pourrait aussi être utilisé pour suivre les progrès accomplis dans la mise en œuvre du Plan d'action régional relatif à la pêche artisanale en Méditerranée et en mer Noire (PAR-SSF), que l'on prévoyait de signer à la Conférence de haut niveau sur la pêche artisanale durable en Méditerranée et en mer Noire, en septembre 2018.

50. Enfin, les principales conclusions de l'étude sur la protection sociale au service de la pêche artisanale ont été exposées, fondées sur les études de cas réalisées en Albanie, en Égypte, au Liban, au Maroc et en Tunisie. La contribution de cette étude à la mise en œuvre du PAR-SSF a été à nouveau mise en relief.

51. Le Comité a loué le travail accompli et apporté son soutien à la poursuite de ces activités.

FORMULATION D'AVIS SUR LES RESSOURCES BIOLOGIQUES MARINES ET LA GESTION DE LA PÊCHE

État des ressources et mesures techniques de gestion

État général des stocks

52. Le Secrétariat de la CGPM a présenté une synthèse de l'état général des stocks de la Méditerranée (figurant à l'annexe 5), notant que les groupes de travail sur l'évaluation des stocks en avaient examiné 63 au total (44 stocks d'espèces démersales et 19 stocks de petits pélagiques) et avaient formulé des avis pour 51 d'entre eux. Sur la base d'une analyse des indicateurs convenus de bon état écologique, on constatait que la plupart des stocks (plus de 80 pour cent) étaient surexploités et que, pour 25 pour cent des stocks environ, la mortalité par pêche était plus de trois fois supérieure au taux de mortalité par pêche correspondant au rendement maximal durable (F_{MSY}). Il fallait souligner également que 42 pour cent des stocks présentaient une biomasse relative faible et 37 pour cent, une biomasse relative moyenne. Il n'en restait pas moins qu'au cours de l'exercice biennal le plus récent, le nombre de stocks évalués avait augmenté, de même que le pourcentage de stocks exploités de façon durable.

53. Le délégué de l'Italie a fait remarquer qu'au regard des indicateurs de mortalité par pêche, la surpêche était certes généralisée au moment de l'évaluation des stocks, mais que l'évaluation de la biomasse du stock présent montrait une situation moins alarmante, puisque 60 pour cent des stocks évalués affichaient une biomasse relative stable ou en hausse. On pouvait interpréter cela comme les premiers signes d'un effet favorable des mesures adoptées ces dernières années.

54. Le Secrétariat de la CGPM a ensuite décrit dans les grandes lignes l'état des espèces démersales et des petits pélagiques. Le merlu européen, en particulier, présentait des ratios de surexploitation allant jusqu'à 12,7 (sous-région géographique 07); il était donc nécessaire de prendre sans attendre des mesures fortes. La situation des mulets et de la crevette était légèrement meilleure, mais, si certains stocks étaient exploités de façon durable, d'autres continuaient d'être exploités à plus de deux fois le F_{MSY}. Concernant les stocks de petits pélagiques, un grand nombre d'évaluations avaient été acceptées à titre de précaution et la couverture était encore fragmentaire, en particulier en Méditerranée centrale et orientale.

55. Le Comité a félicité les groupes de travail sur l'évaluation des stocks pour les immenses progrès accomplis, qui donnaient une meilleure assise aux avis sur l'état des stocks. Il a approuvé les suggestions formulées par les groupes de travail, en particulier concernant la normalisation des données d'enquête et des données commerciales de capture par unité d'effort et concernant l'extension de la couverture des évaluations des petits pélagiques. En outre, il a été proposé qu'à l'avenir les résultats des groupes de travail soient présentés par leurs coordonnateurs de sorte que ceux-ci puissent répondre directement aux questions complémentaires.

56. À propos des interactions entre le rouget de vase et les espèces non-indigènes en Méditerranée orientale, le délégué de la Turquie a attiré l'attention sur la nécessité d'adopter des approches/méthodes nouvelles prenant en compte les variations de la mortalité naturelle dues aux interactions entre espèces.

57. Le délégué de l'Égypte et le Président du CSC ont tenu à rappeler qu'il était nécessaire de tenir compte des interactions entre espèces dans l'évaluation des petits pélagiques, et les délégués de l'Italie et de l'Algérie ont ajouté qu'il importait de prendre en considération les conditions environnementales, en particulier en Méditerranée occidentale.

58. Au vu de la situation défavorable du merlu européen au niveau régional, la déléguée de l'UE a demandé instamment au Comité de proposer des pistes claires quant aux mesures de gestion potentielles, soulignant qu'un plan de gestion pluriannuel de cette espèce dans les sous-régions géographiques 01, 05, 06, 07, 08, 09, 10 et 11 était en cours d'adoption dans l'UE. Le délégué du Maroc a fait valoir qu'un niveau élevé d'application des mesures en place et une sensibilisation des parties prenantes étaient tout aussi importants.

59. Le délégué de la Tunisie s'est associé à ces observations, rappelant néanmoins que les spécificités continues en ce qui concernait l'exploitation de cette espèce appelaient des mesures appropriées qui tiennent compte des différents stades de développement auxquels l'espèce était exploitée dans les pêcheries sous-régionales. Cette déclaration a trouvé un écho auprès du délégué de l'Italie, qui a rappelé également que le merlu européen était difficile à gérer car il constituait rarement une espèce cible, et qu'il était plutôt une capture accessoire d'autres pêches, notamment de la pêche de crustacés en eaux profondes. Il a insisté sur le fait que, pour réduire la mortalité par pêche du merlu européen, il faudrait faire baisser les captures d'individus de calibre inférieur, en utilisant des grilles sélectives, par exemple, ou en définissant des zones d'alevinage protégées. De plus, de nombreuses délégations ont noté l'importance socioéconomique de cette pêcherie.

60. L'importance d'une protection des juvéniles comme mesure technique pour réduire la mortalité par pêche (F) a été vigoureusement confirmée par la représentante d'Oceana, qui a également rappelé les

obligations contenues dans la Résolution CGPM/41/2017/5 relative à un réseau d'habitats halieutiques essentiels dans la zone d'application de la CGPM, ainsi que les engagements figurant dans la Déclaration de Malte MedFish4Ever et visant à établir un réseau cohérent d'ici 2018.

Avis sur la gestion de l'anguille européenne

61. Le Secrétariat de la CGPM a présenté une synthèse des travaux accomplis sur l'anguille européenne, insistant sur la nécessité d'agir sans délai pour remédier à l'état critique de l'espèce. Des modifications des tableaux du DCRF, telles que définis par le Groupe de travail CECPAI/CIEM/CGPM sur l'anguille européenne (WGEEL), ont été suggérées et des éléments techniques de gestion de cette espèce en Méditerranée ont été proposés. Le Comité a été informé que la gestion de l'anguille européenne était également débattue à l'échelle mondiale dans le contexte de la Convention sur la conservation des espèces migratrices appartenant à la faune sauvage, un forum auquel la CGPM veillait à participer.

62. La déléguée de l'UE a salué chaleureusement le travail considérable accompli et a informé le Comité qu'une proposition commune de plan de gestion était en préparation avec la Tunisie et serait présentée à la prochaine session de la Commission. Elle a également souligné qu'un programme de recherche devait être lancé en 2019 en vue d'élaborer des mesures de gestion à long terme reposant sur une base scientifique.

63. Le délégué de la Tunisie a soulevé la question de l'origine des données utilisées pour évaluer le stock, étant donné que les populations d'anguilles présentes en Méditerranée ne représentaient qu'une partie des effectifs de l'espèce, dont la répartition était mondiale. Il a été précisé que l'évaluation de la ressource dans sa zone de répartition dans le cadre du WGEEL reposait sur des données relatives à l'Atlantique et à la Méditerranée et qu'une session consacrée aux données relatives à la Méditerranée avait permis d'améliorer grandement les informations concernant cette zone. En outre, on a insisté sur le fait que, pour faciliter la reconstitution des stocks, l'accent devrait être mis sur les juvéniles ainsi que la réduction de la pêche à la civelle et qu'il faudrait adopter une approche de précaution.

64. En réponse aux questions des délégués de l'Égypte et de la Tunisie sur les pratiques de reconstitution des stocks et de gestion de la pêche à la civelle, le Secrétariat de la CGPM a expliqué que, sur le plan technique, les règlements en vigueur visaient à réduire la mortalité des juvéniles tout en veillant à ce qu'une partie de cette population soit remise à l'eau vivante à des fins de reconstitution. À cet égard, le délégué de l'Égypte a souligné que d'autres mesures pourraient être plus efficaces pour accroître la taille du stock, notamment l'adoption de quotas.

65. Compte tenu de ces échanges, le Comité a approuvé les modifications à apporter au DCRF et a conseillé à la Commission d'adopter des mesures de gestion immédiates pour l'anguille européenne, dans l'esprit des éléments techniques figurant à l'annexe 7 a).

Interactions entre la pêche et les écosystèmes et l'environnement marins

Gestion de la pêche profonde en haute mer et identification des écosystèmes marins vulnérables

66. Le Secrétariat de la CGPM a informé le Comité sur la révision des éléments techniques en faveur de la protection des écosystèmes marins vulnérables. Une approche par phase a été présentée: la première phase proposait l'adoption d'un protocole de signalement de la rencontre d'un écosystème marin vulnérable, tandis qu'en parallèle on mènerait des travaux visant à déterminer l'emprise des pêches en eaux profondes et à définir les seuils potentiels à associer aux indicateurs d'écosystème marin vulnérable, seuils au-delà desquels des mesures d'évitement (semi-)automatiques pourraient être déclenchées. Une seconde

phase prévoirait l'adoption d'un protocole exploratoire et d'un protocole à appliquer en cas de rencontre d'un écosystème marin vulnérable, comprenant des règles d'évitement.

67. Tout en saluant le travail technique effectué, la déléguée de l'UE, soutenue par les délégations du Maroc et de la Tunisie, a réaffirmé l'importance de protocoles destinés à protéger les espèces vulnérables et la nécessité de tirer des enseignements du travail accompli par d'autres ORGP en vue de gérer les activités de pêche en eaux profondes.

68. Le Comité s'est dit favorable à l'approche en deux phases telle que proposée et a conseillé à la Commission d'adopter des mesures de gestion des pêches en eaux profondes et des écosystèmes marins vulnérables dans l'esprit des éléments techniques fournis à l'annexe 7 b).

Cartographie et feuille de route en vue d'un réseau d'habitats halieutiques essentiels

69. En réponse à la Résolution CGPM/41/2017/5, une réunion du Groupe de travail sur les écosystèmes marins vulnérables (WGVME) consacrée aux habitats halieutiques essentiels a permis d'établir la première mouture d'un catalogue des projets couvrant différents aspects des habitats halieutiques essentiels et des habitats sensibles en Méditerranée et de réunir des cartes – issues de modèles – des espèces prioritaires. Le WGVME est convenu qu'il était nécessaire de colliger les cartes, fondées sur l'observation et disparates, des habitats halieutiques essentiels et des habitats sensibles des espèces prioritaires, et a proposé une feuille de route visant à répondre pleinement à la résolution.

70. La représentante d'Oceana a présenté un document compilant des données préparatoires à un réseau d'habitats halieutiques essentiels en Méditerranée, document qui avait été distribué aux délégations. Elle a souligné que le but était de proposer une approche préliminaire d'établissement d'un catalogue scientifique d'éléments techniques pour l'identification des habitats halieutiques essentiels en Méditerranée. Les informations avaient été revues en détail et colligées en une carte, elles étaient donc prêtes à être utilisées pour aider à la mise en œuvre des mesures de gestion, selon que de besoin.

71. Les délégués de l'Égypte, du Maroc et de la Tunisie ont félicité le groupe pour son travail, apportant leur soutien aux recommandations formulées. Ils ont toutefois demandé que des travaux complémentaires, qui tiendraient compte des incidences socioéconomiques, soient menés sur certains aspects, comme le fait de réglementer des zones étendues ainsi que le prévoyait la proposition d'Oceana.

Examen de nouvelles propositions en vue de l'établissement de zones de pêche réglementées

72. Le Secrétariat de la CGPM a résumé une proposition de zone de pêche réglementée au niveau du canyon sous-marin de Bari (mer Adriatique méridionale), dont l'objet était de protéger des écosystèmes marins vulnérables et des habitats halieutiques essentiels situés en eaux profondes. Le Comité sous-régional pour la mer Adriatique (SRC-AS) avait établi que le contenu technique était fiable et complet et pouvait être présenté au CSC pour validation.

73. La déléguée de l'UE a fait remarquer que la création de la zone de pêche réglementée allait dans le sens des engagements pris dans la stratégie à moyen terme et dans la Déclaration de Malte MedFish4Ever. Cependant, rappelant le processus de consultation de grande envergure qui avait été mené pour la zone de pêche réglementée de la fosse de Pomo/Jabuka, elle a ajouté que le cas présent avait aussi besoin d'être débattu avec les parties prenantes et qu'une évaluation socioéconomique plus approfondie profiterait à la proposition. Aussi suggérait-elle de poursuivre le travail et de représenter une proposition enrichie dans l'année à venir. Les délégués de l'Égypte et de la Tunisie, soutenus par le représentant du Fonds mondial pour la nature (WWF), ont manifesté leur accord avec cette suggestion, insistant sur le fait qu'il était

essentiel d'associer les parties prenantes dès le départ et que les incidences socioéconomiques de la mise en œuvre de la zone de pêche réglementée devaient être examinées, *ex ante* et *ex post*.

74. La représentante de l'Union internationale pour la conservation de la nature (UICN) a rappelé les discussions qui s'étaient tenues au sein du SRC-AS. Elle a fait remarquer que le dialogue avec les parties prenantes avait été amorcé et qu'il avait donné lieu à des retours d'information intéressants, et a informé le Comité qu'une plus longue réunion se tiendrait dans les mois à venir avec les PCC concernées, notamment l'UE et l'Italie.

Progrès accomplis dans l'élaboration d'une stratégie d'adaptation face au changement climatique et aux espèces non-indigènes

75. Dans la perspective d'un plan d'adaptation aux effets du changement climatique, et conformément à la stratégie à moyen terme, le Secrétariat de la CGPM a présenté les résultats d'une réunion d'experts co-organisée avec le Département des pêches et de l'aquaculture de la FAO et le WWF, au cours de laquelle les incidences potentielles du changement climatique sur la pêche en Méditerranée et en mer Noire avaient été recensées. En conclusion à cette réunion, une feuille de route en vue d'une stratégie d'adaptation avait été proposée, axée sur une évaluation de la vulnérabilité qui devrait être menée au moyen d'études pilotes dans les zones concernées.

76. Le Comité a apporté son total soutien à la feuille de route et approuvé la méthode proposée pour évaluer la vulnérabilité au changement climatique, telles qu'elles figurent à l'annexe 8.

77. Compte tenu du rôle et des incidences considérables des espèces non-indigènes en Méditerranée, le Secrétariat de la CGPM a rappelé les résultats d'une réunion, qui s'était tenue conjointement avec le Plan d'Action pour la Méditerranée du Programme des Nations Unies pour l'environnement (ONU environnement/PAM). À cette occasion, un programme pilote de suivi en Méditerranée orientale avait été proposé, l'objectif étant de revenir sur les informations disponibles, toutes sources confondues, et de les analyser de façon uniformisée à l'aide d'indicateurs simples. La question des espèces non-indigènes avait également été traitée lors de réunions, consacrées à ce sujet, du Comité sous-régional pour la Méditerranée centrale (SRC-CM) et du SRC-WM. Le SRC-CM en particulier, proposait que le programme de suivi soit étendu à son secteur.

78. Ayant rappelé l'application réussie d'une méthode reposant sur des connaissances écologiques autochtones en mer Adriatique et dans le golfe de Gabès, le représentant d'AdriaMed et de MedSudMed a préconisé de procéder de même dans d'autres secteurs.

79. Le Comité a reconnu que les espèces non-indigènes avaient des effets déterminants dans la région, confirmant qu'il était nécessaire de mener des travaux supplémentaires sur certaines d'entre elles (l'étrille bleue et le pterois, par exemple) et d'examiner comment les espèces non-indigènes commerciales devaient être gérées. Le Comité a souligné que l'on manquait encore d'éléments précis sur les causes profondes de l'arrivée d'espèces non-indigènes, sur le lien entre espèces non-indigènes et changement climatique et sur les outils disponibles pour s'attaquer au problème. Il a approuvé le plan de suivi sous-régional des espèces non-indigènes (reproduit à l'annexe 9).

80. La déléguée de l'UICN a rappelé les incidences économiques et environnementales causées par certaines de ces espèces non-indigènes invasives, dont les incidences sont de plus grande ampleur en Méditerranée orientale et centrale. Elle a souligné que certaines de ces espèces (par exemple le poisson-globe) ont un fort impact sur le secteur de la pêche artisanale à l'intérieur et autour des aires marines protégées (AMP) et a insisté sur la nécessité de collecter des informations sur leurs incidences économiques.

Tout programme d'atténuation, qui pourrait notamment traiter de la commercialisation, devrait être abordé avec attention et à l'échelle multinationale.

Corail rouge

81. Rappelant la Recommandation CGPM/41/2017/5 relative à la mise en place d'un plan régional de gestion adaptative pour l'exploitation du corail rouge en mer Méditerranée, le Secrétariat de la CGPM a fait savoir au Comité qu'aucune information sur l'utilisation de véhicules commandés à distance n'avait encore été communiquée par les PCC, ce qui empêchait le Comité de formuler un quelconque avis. Le Secrétariat a insisté pour que la date limite actuelle d'envoi des informations sur les véhicules commandés à distance soit reportée à une date antérieure à la session du CSC si l'on voulait que celui-ci formule un avis sur la question. Par ailleurs, les éléments d'un programme de recherche avaient été préparés, y compris ceux nécessaires à un appel d'offres couvrant trois axes principaux: i) la collecte de données; ii) l'amélioration des avis sur l'état de l'exploitation du corail rouge; et iii) des études pilotes sur la reconstitution des stocks de corail rouge.

82. Le délégué du Maroc a indiqué que son pays planifiait d'utiliser des véhicules télécommandés et que la Commission en serait informée en conséquence le moment venu.

83. La déléguée de l'UE a rappelé que l'UE avait interdit l'usage de véhicules télécommandés et a exhorté les autres PCC à fournir des données afin que l'on puisse évaluer cet usage. Elle a insisté sur le fait que le programme de recherche était urgent et essentiel si l'on voulait passer à la deuxième phase du plan régional de gestion adaptative, lequel demandait la mise en place de mesures de gestion et de travaux de recherche directeurs. Le délégué de la Tunisie a appuyé cette proposition.

84. Le Comité a approuvé les éléments proposés en vue d'un programme de recherche sur le corail rouge, tels qu'ils figurent à l'annexe 10.

Avis sur la gestion des pêches au niveau sous-régional

85. Il a été rappelé que, dans les cas où les données disponibles n'étaient pas suffisantes, le CSC recommandait vivement de formuler des avis conservatoires. Cela supposait d'établir des règles de gestion de base reposant sur le principe de précaution afin de favoriser la durabilité, tout en prenant des mesures pour assurer la collecte de données pour les évaluations quantitatives des stocks, ainsi que la communication d'avis exhaustifs en vue de l'adoption de plans de gestion. À cet égard, le Comité a évoqué la discussion relative aux limites de précaution s'agissant des captures et/ou de l'effort de pêche, en soulignant l'utilité potentielle de ces dispositions lorsque les avis ne fournissaient pas de points de référence quantitatifs.

86. Le Comité était favorable à la poursuite des travaux sur l'utilisation de limites de précaution s'agissant des captures et/ou de l'effort de pêche pour les petits pélagiques, et a proposé que les experts fassent part de leur expérience en matière de détermination des limites de captures, par exemple à l'occasion de l'estimation de quotas nationaux directement fondés sur les estimations de la biomasse des stocks au Maroc.

87. Compte tenu des plans de gestion sous-régionaux et au vu de la contribution remarquable de l'Atelier sur l'évaluation des mesures de gestion alternatives (WKMSE), qui ont permis de faciliter l'examen des avis par les comités sous-régionaux, le Comité est convenu de transformer cet atelier en groupe de travail permanent, en soulignant que, conformément à son mandat (reproduit à l'annexe 13), ce dernier mènerait ses travaux sur l'ensemble de l'année, indépendamment de l'organisation des réunions.

Espèces prioritaires

88. Le Comité a pris note de la nécessité soulignée par les comités sous-régionaux d'accorder une attention particulière à des espèces supplémentaires et a approuvé le tableau actualisé des espèces prioritaires (voir ci-après, nouvelles espèces en gras). Le Secrétariat de la CGPM a expliqué que l'espèce *Coryphaena hippurus* avait été ajoutée au niveau régional conformément à la Recommandation CGPM/30/2006/2 concernant l'établissement d'une saison de fermeture pour les pêcheries de coryphène commune utilisant des dispositifs de concentration du poisson existante. À ce propos, le Secrétaire exécutif de la CGPM a rappelé que la transition vers une approche sous-régionale n'interdisait pas de continuer de porter une attention aux priorités régionales.

	Méditerranée occidentale	**Méditerranée centrale**	**Mer Adriatique**	**Méditerranée orientale**
Espèces pélagiques	*Engraulis encrasicolus*	*Engraulis encrasicolus*	*Engraulis encrasicolus*	*Engraulis encrasicolus*
	Sardina pilchardus	*Sardina pilchardus*	*Sardina pilchardus*	*Sardinella aurita*
				Sardina pilchardus
Espèces démersales	*Parapenaeus longirostris*	*Parapenaeus longirostris*	*Mullus barbatus*	*Mullus barbatus*
	Merluccius merluccius	*Merluccius merluccius*	*Merluccius merluccius*	*Saurida lessepsianus*
	Pagellus bogaraveo	***Aristeus antennatus***	***Nephrops norvegicus***	***Merluccius merluccius***
		Aristaeomorpha foliacea	***Parapenaeus longirostris (sous-région géographique 18)***	***Aristeus antennatus***
		Mullus barbatus	***Solea solea (sous-région géographique 17)***	***Aristaeomorpha foliacea***
			Sepia officinalis	
			Squilla mantis	
Espèces d'importance régionale	***Coryphaena hippurus***			
Espèces dont la conservation est prioritaire	*Anguilla anguilla*			
	Corallium rubrum			
Espèces non-indigènes	*Pterois miles*			
	Lagocephalus sceleratus			

Dorade rose en Méditerranée occidentale

89. Les principales conclusions et recommandations du SRC-WM s'agissant de la dorade rose qui ont été présentées portaient notamment sur l'état de surexploitation du stock dans le détroit de Gibraltar et les éléments techniques proposés pour la gestion de la pêcherie. Une feuille de route avait été élaborée pour l'évaluation quantitative du stock de dorade rose, conformément à la Recommandation CGPM/41/2017/2. Elle prévoyait des activités de collecte de données suivies d'une réunion pour la préparation de ces dernières et d'une évaluation comparative, prévues avant la prochaine session du CSC.

90. La déléguée de l'UE a salué les avancées du SRC-WM, en présentant la mise en œuvre de la feuille de route comme une étape essentielle pour fournir à la Commission les éléments nécessaires pour étayer l'adoption des mesures de gestion en 2019. Elle a appelé les parties concernées à mettre toutes leurs forces dans cette entreprise. À cet égard, la représentante de CopeMed a rappelé que le projet apporterait son concours à la collecte des données et organiserait la réunion de préparation de ces dernières.

91. Le délégué du Maroc a confirmé que son pays était prêt à contribuer à une évaluation quantitative du stock conformément à la feuille de route, mais a précisé qu'il faudrait attendre juillet 2019 pour disposer des données biologiques pour une année complète du cycle de vie de l'espèce. Ces données, ainsi que les résultats de l'évaluation comparative, faciliteraient les travaux qui seront menés lors de la quarante-troisième session de la Commission en vue d'adopter une taille minimale de référence à des fins de conservation et d'autres mesures telles que des fermetures spatiales et temporelles.

92. Le délégué de l'Espagne a exposé les activités de collecte de données actuellement menées dans son pays, en indiquant que la collecte d'échantillons destinée à recueillir des informations sur la distribution des juvéniles avait également commencé.

93. S'agissant de la disposition de la recommandation relative au marquage de tous les engins de pêche dormants, il a été indiqué que les navires espagnols ciblant la dorade rose utilisaient des lignes à main, qui étaient considérées comme des engins actifs et qui n'étaient donc pas marquées. À ce sujet, le délégué du Maroc a expliqué que la flottille de son pays était principalement constituée de navires artisanaux (engins dormants) et comptait jusqu'à 500 navires de petite taille, ce qui rendait le marquage extrêmement difficile et coûteux à réaliser. Le Comité est convenu de discuter plus avant de ce point.

94. Le Comité s'est félicité du travail accompli par le SRC-WM et a approuvé les éléments pour la gestion de la dorade rose tels que reproduits dans l'Annexe 7(c).

Pêches démersales dans le canal de Sicile

95. Le débat a porté sur les principales conclusions du SRC-CM concernant les pêches démersales dans le canal de Sicile, mettant en lumière la surexploitation du merlu européen et de la crevette rose du large et rappelant la recommandation de protection des juvéniles comme moyen direct de réduire F. Le travail accompli au sein de l'Atelier sur l'évaluation des mesures de gestion a été résumé, en soulignant que le scénario qui donnait les meilleurs résultats sur tous les plans était une réduction de F jusqu'à atteindre F_{MSY} pour la crevette rose du large (40 pour cent).

96. La déléguée de l'UE a pris acte des résultats du SRC-CM, ajoutant qu'il était également nécessaire d'améliorer les plans d'inspection afin de vérifier que les mesures déjà adoptées étaient correctement mises en œuvre.

97. Le Comité a confirmé la nécessité de futurs travaux scientifiques visant à améliorer la sélectivité, y compris l'utilisation de grilles sélectives dont l'efficacité n'avait pas encore été complètement évaluée; un exemple a été donné par le délégué de la Turquie, qui a indiqué que les grilles étaient rendues inefficientes par les grandes quantités de plastique qu'on trouvait dans la zone. Le Comité a également confirmé l'importance d'une enquête sur les incidences socioéconomiques de leur utilisation ainsi que sur leur acceptabilité par les pêcheurs. Sur ce point, le représentant du WWF a mentionné le projet en cours MINOUW, tandis que le Président du CSC a rappelé au Comité les travaux utiles menés au sein du Groupe de travail sur la technologie de la pêche (WGFIT).

Pêche de petits pélagiques en mer Adriatique

98. Le débat a porté sur les conclusions du SRC-AS concernant la pêche de petits pélagiques en mer Adriatique, y compris le travail effectué au sein de l'Atelier sur l'évaluation des mesures de gestion, qui mettait en lumière le piètre état des deux stocks, et surtout celui de l'anchois, désignant les scénarios de gestion adaptative (l'application des règles de contrôle des captures figurant dans la Recommandation CGPM/37/2013/1 relative à un plan de gestion pluriannuel des pêcheries exploitant les stocks de petits pélagiques dans la sous-région géographique 17 [mer Adriatique septentrionale] et à des mesures de conservation transitoires pour les pêcheries exploitant les stocks de petits pélagiques dans la sous-région géographique 18 [mer Adriatique méridionale], par exemple) comme étant ceux qui présentaient le risque le plus faible que la biomasse du stock reproducteur (SSB) tombe au-dessous de B_{LIM} et assuraient le redressement des indicateurs socioéconomiques. L'analyse bioéconomique indiquait que la réduction du nombre de jours de pêche était un mode de gestion efficace. Le prolongement de la situation actuelle conduirait à l'effondrement des deux stocks. Il y avait nécessité pressante soit de réviser le plan de gestion, soit d'établir de nouvelles mesures de gestion.

99. Le Comité a félicité les experts pour le travail essentiel mené sur ces stocks, dont la situation était critique, recommandant d'une part que des mesures de gestion soient prises sans délai sur la base de l'avis formulé et soulignant d'autre part qu'il importait d'adapter les mesures de contrôle et de mettre en place un projet pilote d'inspection en mer.

100. Le délégué de l'Albanie a approuvé l'adoption de nouvelles mesures d'urgence, déclarant que son pays s'était conformé à toutes celles qui avaient été prises jusque-là. Le délégué du Monténégro a remercié la Commission pour son indulgence tandis que son pays poursuivait ses efforts en vue de remplir l'ensemble des obligations découlant des recommandations existantes.

Pêches démersales en mer Adriatique, y compris le suivi de la zone de pêche réglementée de la fosse de Pomo/Jabuka

101. Dans le cadre de la présentation des conclusions du SRC-AS, le Secrétariat de la CGPM a souligné qu'il convenait de mener des travaux supplémentaires à l'appui de la gestion des stocks d'espèces démersales en mer Adriatique. Un programme de suivi de l'efficacité de la zone de pêche réglementée de la fosse de Pomo/Jabuka s'agissant de la protection des écosystèmes marins vulnérables et des habitats halieutiques essentiels, élaboré en réponse à la Recommandation CGPM/41/2017/3, a également été décrit.

102. La déléguée de l'UE a rappelé la nécessité de prendre des mesures de gestion spécifiques pour les stocks d'espèces démersales en mer Adriatique, et a poursuivi en exposant une série de mesures potentielles qui pourraient être appliquées pour remédier à la surpêche des stocks d'espèces démersales prioritaires, conformément au cadre défini par la CGPM pour l'élaboration de plans de gestion ainsi qu'aux éléments de gestion communiqués pour les autres pêches. L'UE espérait que le Comité et ses organes subsidiaires examineraient cette proposition lors des débats qui se tiendraient durant la période intersessions. À cette fin, elle proposait d'intégrer l'évaluation de cette proposition dans le plan de travail du SRC-AS, selon le mandat exposé à l'annexe 13.

103. La proposition était soutenue par les délégués de la Croatie et de l'Italie, qui ont en outre insisté sur la nécessité d'examiner soigneusement les diverses mesures possibles qui étaient proposées, en tenant compte de celles qui étaient déjà en place aux niveaux national et régional, et en cherchant notamment à déterminer les effets de la zone de pêche réglementée de la fosse de Pomo/Jabuka.

104. Le Comité a approuvé le programme de suivi de la fosse de Pomo/Jabuka, tel que présenté à l'annexe 11, dans la mesure, notamment, où cette zone faisait l'objet d'une cogestion poursuivant de

multiples objectifs, mais en soulignant que son but principal était la reconstitution des stocks des espèces démersales commerciales retenues. Le délégué de MedReact, appuyé par l'UICN, a fait part de ses inquiétudes concernant les méthodes d'échantillonnage (chalut de fond) proposées par le programme de suivi étant donné que la zone de pêche réglementée avait pour objectif d'interdire l'utilisation du chalut de fond dans la zone centrale.

105. Le Secrétaire exécutif de la CGPM, tout en prenant acte de la proposition de suivi de la fosse de Pomo/Jabuka, a insisté sur l'absence de cadre général pour étudier les effets d'autres zones de pêche réglementée, et a invité le Comité à définir une stratégie de suivi.

106. La déléguée de l'UE a proposé de réactiver le Groupe de travail transversal sur les aires marines protégées (WGMPA) pour assurer le suivi de l'efficacité des zones de pêche réglementée existantes et examiner la possibilité d'en créer d'autres, éventuellement en collaboration avec le WGVME.

107. Le Comité a accepté cette proposition en faisant observer que, comme dans le cas du WKMSE, ces groupes de travail devraient être opérationnels toute l'année, et que l'évaluation de l'efficacité des zones de pêche réglementée devrait être menée par des experts du WGMPA, qui devraient se réunir une fois que des avancées auraient été obtenues sur cette question.

Crevettes rouges du large en Méditerranée centrale et orientale

108. Le Secrétariat de la CGPM a présenté les travaux effectués par le Comité sous-régional pour la Méditerranée orientale (SRC-EM) et le SRC-CM sur l'évaluation et la gestion de la pêche des crevettes rouges du large (*Aristeus antennatus* et *Aristaeomorpha foliacea*) en Méditerranée orientale et centrale, rappelant que les dernières évaluations en date des stocks remontaient à 2013. À cet égard, une feuille de route a été proposée pour l'évaluation des deux espèces de crevette dans un cadre applicable à des données limitées. Il a été rappelé que les comités sous-régionaux avaient recommandé l'établissement immédiat de mesures de gestion de cette pêche, notamment la mise en place d'autorisations pour les navires et le recensement des principales zones de pêche ainsi que l'élaboration d'un historique de l'impact de la pêche, conformément aux mesures débattues pour les pêches en eaux profondes. En dernier lieu, les comités sous-régionaux ont proposé des éléments techniques actualisés de gestion conjointe de cette pêche dans les deux sous-régions.

109. Le Comité s'est félicité du travail accompli et a accepté d'approuver la feuille de route pour l'évaluation des crevettes rouges des eaux profondes (figurant à l'annexe 13), et a confirmé qu'il était nécessaire d'agir en respectant le principe de précaution, avec une première phase au cours de laquelle on établirait des règles de gestion (des autorisations de pêche, par exemple) et où l'on préparerait un projet de recherche visant à collecter les données nécessaires pour aller plus loin et définir un cadre de gestion plus adaptatif. Le Comité a approuvé les éléments techniques proposés tels que reproduits à l'annexe 7 d), reconnaissant qu'il faudrait les actualiser dès que l'on disposerait de données et d'avis scientifiques de meilleure qualité.

110. Les délégués de l'Égypte et de la Tunisie ont souligné l'importance du plan d'action proposé, faisant remarquer que sa réussite dépendrait fortement d'une coopération étroite entre les principaux acteurs des deux sous-régions.

PLAN DE TRAVAIL DU CSC POUR 2018-2020

111. Le Secrétariat de la CGPM a présenté le programme de travail préliminaire, établi sur la base des résultats des travaux menés pendant la période intersessions. À cet égard, le Secrétaire exécutif a souligné

que ce programme devait concilier efficacement les objectifs ambitieux du Comité avec les capacités régionales.

112. Les délégués du Maroc, de la Tunisie et de la Turquie, tout en saluant les réalisations accomplies dans les premières années de mise en œuvre de la stratégie à moyen terme, ont fait observer que les pays avaient eu des difficultés à soutenir le niveau d'activité prévu, notamment en termes de ressources humaines. Ils étaient donc favorables à une hiérarchisation des activités qui permettrait de travailler de manière efficace et de rationaliser les processus en vue de la réalisation des objectifs convenus.

113. La déléguée de l'UE a rappelé, cependant, les engagements importants qui étaient inscrits dans la stratégie à moyen terme et, au niveau ministériel, dans la Déclaration MedFish4Ever. Elle a également souligné que suite à l'examen des avis lors de la présente session, il avait été convenu qu'une action urgente était nécessaire. Par ailleurs, elle a insisté sur la nécessité de garder le cap afin d'atteindre les objectifs visant à inverser l'évolution de l'état des stocks exploités à des fins commerciales.

114. Le Comité a évoqué le rôle que pouvaient jouer les comités sous-régionaux, soulignant que certaines activités devaient être menées en coordination avec d'autres organismes compétents, notamment le Comité scientifique, technique et économique de la pêche de l'Union européenne. Enfin, le Secrétaire exécutif a rappelé qu'il était important de faire appel à de jeunes scientifiques pour commencer à mettre en place des capacités supplémentaires et à former la prochaine génération d'experts dans la région.

115. Le Secrétariat de la CGPM a présenté un programme de travail triennal, établi sur la base des débats tenus au sein des comités sous-régionaux et des contributions fournies par les experts, et visant à organiser le processus de formulation d'avis, en tenant compte des concepts d'évaluation actualisée et d'évaluation de référence, de manière à réduire les délais entre les travaux d'évaluation et les sessions du CSC et de la Commission, pour certaines pêches, lors d'une phase d'essai.

116. Le Comité est convenu, sur le plan théorique, qu'il fallait faire avancer les travaux. Cependant, les délégués de l'Espagne, de l'Italie, du Maroc et de la Tunisie ont fait observer qu'ils avaient eu des difficultés à respecter les délais impartis. Ils ont souligné que le calendrier proposé pouvait impliquer une modification des procédures de collecte et de communication des données.

117. Le Comité a validé le programme relatif aux évaluations de référence, tel qu'il figure à l'annexe 12, et il est convenu que cette nouvelle approche serait mise à l'essai pendant la première année, au prix d'efforts supplémentaires pour la communication des données requises en temps voulu, et que le calendrier pour les deux années suivantes serait néanmoins réexaminé et révisé, le cas échéant.

118. Le Comité a approuvé son programme de travail pour 2018-2020, comme suit:

Questions régionales

<u>Évaluation des stocks et avis améliorés</u>

- Rassembler des informations pertinentes sur les espèces prioritaires afin d'améliorer la couverture de l'évaluation des stocks de ces espèces.
- Organiser des sessions consacrées à l'élaboration des données et aux évaluations de référence, y compris les examens externes, conformément au programme convenu aux fins de la formulation d'avis.
- Continuer d'apporter un appui à la mise en œuvre de campagnes scientifiques en mer harmonisées, conformément à la feuille de route établie, afin de fournir des informations pertinentes

supplémentaires et de les utiliser en tant qu'indices de calibration (indices de *tuning*) aux fins des évaluations.

- Continuer de rassembler des données socioéconomiques sur les pêches, y compris sur la pêche artisanale, conformément à la méthodologie d'enquête et à la feuille de route pour la collecte de données établies, en vue de fournir des données de base sur les pêches précises, complètes et actualisées en vue de leur intégration dans les avis de gestion.
- Élaborer des cadres d'évaluation de la stratégie de gestion applicables à différentes pêcheries et à diverses situations de disponibilité des données, en mettant l'accent plus particulièrement sur les pêcheries pour lesquelles un plan de gestion est en vigueur ou en cours d'examen.
- Conduire des activités de formation théorique et appliquée afin de renforcer les capacités dans les sous-régions à des fins d'évaluation quantitative des scénarios de gestion, y compris sur l'utilisation de modèles socioéconomiques.
- Préparer les éléments d'un programme de recherche détaillé sur l'anguille d'Europe en Méditerranée.

<u>Collecte de données et indicateurs de qualité</u>

- Rationaliser la communication avec les PCC s'agissant de l'échange d'informations sur l'évaluation de la qualité des données au moyen de la plateforme en ligne du DCRF.
- Mettre en œuvre des indicateurs de qualité relatifs à la conformité, à la stabilité et à la cohérence ainsi qu'à l'actualité et à l'exhaustivité des données sur la plateforme en ligne du DCRF et pour toutes les données transmises par les PCC.
- Lancer l'harmonisation des exigences relatives à la transmission des données, telles que fixées par les recommandations de la CGPM, y compris sur les plans de gestion, conformément au DCRF, actualiser le manuel du DCRF en conséquence et diffuser les outils de transmission des données correspondants sur la plateforme en ligne du DCRF.

<u>Pêche artisanale et pêche récréative durables</u>

- Rassembler les informations sur la caractérisation de la pêche artisanale au moyen des données collectées à partir de l'enquête socioéconomique.
- Conduire une étude pilote de la méthodologie pour la pêche récréative en Tunisie et dans d'autres pays à sélectionner et, le cas échéant, actualiser le guide en fonction des résultats de l'étude pilote.
- Diriger et coordonner la mise en œuvre d'éléments techniques dans le cadre du PAR-SSF, y compris la mise au point d'un calendrier avec des cibles à court et moyen terme pour l'exécution des mesures techniques dudit plan.
- Affiner davantage l'outil de cartographie sur les activités de pêche artisanale mises en œuvre par les organisations régionales, l'élargir afin d'y intégrer des organisations de parties prenantes supplémentaires et le mettre à disposition en ligne.
- Conformément au PAR-SSF, appuyer l'organisation d'une conférence sur le développement social, l'emploi et le travail décents liés à la pêche artisanale, en vue d'améliorer les connaissances sur ces questions et, par suite, d'améliorer les moyens d'existence des pêcheurs.

<u>Pêche INDNR</u>

- Appuyer la mise en œuvre des activités 1-3 du plan de travail pour l'estimation de la pêche INDNR et conduire l'enquête sur la pêche INDNR.
- Organiser une réunion d'experts pour aborder les activités 4 et 5 du plan de travail pour l'estimation

de la pêche INDNR, en coordination avec le Comité d'application.

Interactions entre la pêche et les écosystèmes et l'environnement marins

Gestion des pêches en eaux profondes et protection des écosystèmes marins vulnérables

- Mettre au point la base de données spatiales de la CGPM sur les caractéristiques et les espèces qui indiquent la présence d'écosystèmes marins vulnérables en Méditerranée.
- Compléter et soumettre à nouveau la proposition de zone de pêche réglementée dans canyon de Bari (mer Adriatique méridionale) pour examen par le SRC-AS.
- Soumettre à nouveau la proposition de zone de pêche réglementée dans les habitats halieutiques essentiels et les habitats sensibles en eau profonde en Adriatique méridionale (canal d'Otrante) pour examen par le WGVME et le SRC-AS.

Cartographie et feuille de route en vue d'un réseau d'habitats halieutiques essentiels

- Œuvrer à la mise au point de cartes mixtes des habitats halieutiques essentiels de certaines espèces prioritaires de la CGPM à partir d'observations.
- Œuvrer, comme deuxième étape de la feuille de route proposée en vue d'un réseau des habitats halieutiques essentiels, à la caractérisation des liens qui existent entre les divers habitats halieutiques essentiels et habitats sensibles précédemment recensés. Cette analyse doit comprendre des connaissances scientifiques sur la manière dont les zones de frai et de nourricerie sont connectés sur le plan écologique.

Captures accessoires et technologie des pêches

- Élaborer un examen régional de l'état actuel des captures accessoires dans la zone de la CGPM.
- Poursuivre la mise en œuvre, avec des partenaires pertinents, d'un programme de surveillance des captures accessoires et des activités de formation connexes, afin de recueillir des données représentatives et de faciliter l'adoption éventuelle de mesures de gestion visant la réduction du taux de captures accessoires et la protection des écosystèmes marins vulnérables.
- Élaborer un catalogue des engins de pêche, à partir des travaux menés dans le cadre du projet MyGears et d'autres projets du même type, ainsi que sur la base du formulaire que les experts doivent remplir sur les technologies de pêche, par engin et par pêcherie (annexe 4 du rapport Groupe de travail sur la technologie des pêches).

Pêche du corail rouge

- Lancer un appel d'offres aux fins de la réalisation d'un programme de recherche sur le corail rouge en Méditerranée.
- Fournir un état actualisé des populations de corail rouge, y compris les niveaux de prélèvement appropriés, et formuler des avis actualisés sur les mesures de conservation établies conformément aux décisions pertinentes.

Progrès accomplis dans l'élaboration d'une stratégie d'adaptation face au changement climatique et aux espèces non-indigènes

- Mettre en œuvre la méthodologie pour l'évaluation de la vulnérabilité des pêches en Méditerranée et en mer Noire par rapport aux effets du changement climatique dans des études de cas sélectionnées au niveau sous-régional.
- Réaliser une étude qualitative des interactions entre les espèces non-indigènes et les activités de pêche dans les différentes sous-régions de la Méditerranée, y compris un inventaire de toutes les espèces non-indigènes enregistrées dans les captures, le classement des cinq espèces les plus importantes en volume (nombre ou tonnes des captures) et les incidences préjudiciables sur la pêche.
- Mettre en œuvre un plan de suivi pilote des espèces non-indigènes en Méditerranée centrale et orientale.
- Œuvrer aux fins du recensement d'éventuelles mesures de gestion des espèces non-indigènes qui deviennent l'objet d'une pêche ciblée.

Questions sous-régionales

Mer Adriatique

- Mettre en œuvre le plan de suivi de la zone de pêche réglementée dans la fosse de Pomo/Jabuka (mer Adriatique), avec l'appui du projet AdriaMed.
- Formuler des avis sur la proposition d'éléments techniques pour la gestion des ressources démersales en mer Adriatique.

Méditerranée occidentale

- Formuler des avis sur la dorade rose à partir de la feuille de route pour l'évaluation quantitative de l'espèce.
- Organiser une session consacrée aux espèces non-indigènes.

Méditerranée centrale

- Dans le cadre de la mise en œuvre de campagnes en mer, valider les éventuelles zones de nourricerie simulées pour le merlu européen et la crevette rose du large dans le canal de Sicile.
- Formuler des avis sur l'état des crevettes rouges des eaux profondes à partir de la feuille de route pour l'évaluation quantitative des espèces.
- Formuler des avis sur des mesures de conservation précautionnelles pour la pêcherie de crevettes rouge en eau profonde en Méditerranée orientale et centrale.

Méditerranée orientale

- Formuler des avis sur l'état des crevettes rouges en eaux profondes à partir de la feuille de route pour l'évaluation quantitative des espèces.
- Formuler des avis sur des mesures de conservation précautionnelles pour la pêcherie de crevettes rouge d'eau profonde en Méditerranée orientale et centrale. Collecter auprès des pêcheurs des informations sur les ressources et sur les activités de pêche (connaissances écologiques locales).

RÉUNIONS

Réunion	Lieu/date
Groupes de travail sur l'évaluation des stocks d'espèces démersales (WGSAD) et des stocks de petits pélagiques (WGSASP)	Siège de la FAO, Rome (Italie) 19-23 novembre 2018
Groupe de travail sur les écosystèmes marins vulnérables (WGVME), y compris les habitats halieutiques essentiels	janvier 2019
Groupe de travail sur la pêche artisanale (WGSSF)	février 2019
Comité sous-régional pour la Méditerranée centrale (SRC-CM)	Palerme (Italie), mars 2019
Comité sous-régional pour la Méditerranée orientale (SRC-EM)	mars 2019
Comité sous-régional pour la Méditerranée occidentale (SRC-WM) (y compris une séance consacrée aux évaluations de référence sur la dorade rose)	Sète (France), avril 2019
Comité sous-régional pour la mer Adriatique (SRC-AS) (y compris une séance consacrée aux évaluations de référence sur les petits pélagiques)	mai 2019
Atelier sur le corail rouge (WKREDCORAL)	mai/juin 2019
Vingt et unième session du Comité scientifique consultatif des pêches (CSC)	Égypte, juin/juillet 2019

ÉLECTION DU BUREAU DU COMITÉ SCIENTIFIQUE CONSULTATIF DES PÊCHES

119. Le Secrétaire exécutif s'est référé aux articles 7 et 8 du Règlement intérieur de la CGPM, relatifs à l'élection et aux fonctions du Bureau. Il a informé que toutes les parties contractantes avaient été invitées à présenter des propositions en vue de l'élection.

120. Toutes les délégations ont rendu un hommage appuyé à M. Othman Jarboui (Tunisie) pour son travail assidu en tant que Président du Comité et son investissement dans les travaux du CSC, ainsi qu'à M. Ali Cemal Gücü (Turquie) et Mme Claire Saraux (France), premier vice-président et deuxième vice-présidente respectivement, et ont exprimé leur profonde gratitude pour le dévouement exceptionnel dont ils avaient fait preuve durant leur mandat.

121. Compte tenu des propositions et des informations reçues, le Comité a élu à l'unanimité M. Alaa El-Haweet (Égypte) à la fonction de Président du Comité et MM. Eyup Mumtaz Tirasin (Turquie) et Aleksandar Joksimovic (Monténégro) en tant que premier vice-président et deuxième vice-président, respectivement.

QUESTIONS DIVERSES

122. Le représentant du Conseil d'intendance des mers (MSC) a présenté les résultats des projets MedFish et Bluefish, qui visaient à produire une analyse de l'état des ressources marines en utilisant les normes du MSC comme outil d'amélioration de la durabilité dans certaines pêcheries de Méditerranée.

123. Le représentant du WWF a informé le Comité des objectifs d'un atelier qui serait organisé dans le cadre de l'initiative De la science à l'action, qui consiste à jeter des ponts entre la conservation des ressources marines, le développement durable, les politiques et la recherche scientifique. Il a fait part des résultats d'une analyse sectorielle portant sur l'évolution des principales activités économiques pratiquées en Méditerranée, dans l'optique d'une croissance bleue.

124. Entre autres observations, la représentante d'OceanCare a indiqué qu'elle souhaitait se pencher sur les liens avec le bruit en milieu marin. La délégation égyptienne, quant à elle, a souligné la nécessité de faire mieux connaître les aspects économiques de la pêche et les avantages de cette activité en matière de sécurité alimentaire, outre son importance économique.

125. Le Comité s'est réjoui de ces initiatives, dans la mesure où elles offraient la possibilité de compléter ses travaux par des informations pertinentes, notamment des renseignements communiqués par les pêcheurs et les résultats des approches transversales.

126. Dans le cadre de l'approche sous-régionale, le Secrétaire exécutif de la CGPM a rappelé le rôle important qu'il était envisagé d'accorder aux coordonnateurs des comités sous-régionaux. Faisant écho aux déclarations des délégués, il a demandé que ces coordonnateurs soient désignés et commencent à jouer un rôle actif dans un avenir proche, non seulement en supervisant les activités menées durant la période intersessions, mais aussi en transmettant les travaux des comités sous-régionaux au Comité, et en les défendant.

127. À plusieurs reprises, le Comité a remercié le Gouvernement marocain pour la remarquable organisation de la session et les conditions idéales dans lesquelles elle s'était déroulée. Il a particulièrement apprécié l'excellent appui qui avait été fourni et l'accueil chaleureux qui avait été réservé à l'ensemble des participants.

128. Le Président du Comité et les délégués ont remercié le Secrétariat de la CGPM d'avoir veillé sans relâche à assurer une préparation fluide et la bonne tenue de la session. Les délégués et les experts ont été félicités d'avoir contribué de façon constructive à la réussite des activités du Comité.

DATE ET LIEU DE LA PROCHAINE SESSION

129. Le Comité est convenu que sa vingt et unième session se tiendrait en juin 2019 et a pris note de l'aimable invitation lancée par l'Égypte, qui s'est proposée d'accueillir la réunion, sous réserve de confirmation officielle par les autorités compétentes.

ADOPTION DU RAPPORT

130. Le rapport, y compris ses annexes, a été adopté le vendredi 29 juin 2018.

List of appendices

1) Agenda
2) List of participants
3) List of documents
4) Opening statements
5) Status of Mediterranean stocks
6) Roadmap for the assessment of IUU fishing in the Mediterranean and the Black Sea
7) Technical elements for the management of selected fisheries
    a) Technical elements for the management of European Eel in the Mediterranean Sea
    b) Technical elements for the protection of VMEs in the GFCM area of application
    c) Technical elements for the management of fisheries for blackspot seabream (*Pagellus bogaraveo*) in the Strait of Gibraltar
    d) Technical elements for the management of bottom trawling fisheries for deep-water red shrimps (*A. foliacea* and *A. antennatus*) in the central-eastern Mediterranean (GSA 12 – 16; 19 -27)
8) Overview of the methodology for the assessment of the vulnerability of fisheries in the Mediterranean and Black Sea to the effects of climate change
9) Proposal of a subregional monitoring plan on non-indigenous species in relation to fisheries
10) Elements for the implementation of a research programme on red coral in the Mediterranean Sea
11) Monitoring plan for the Jabuka/Pomo Pit FRA 2018-2020
12) Proposed stock assessment work plan by priority species and GSAs, for 2018 – 2020, in support of the provision of advice
13) Draft terms of reference for selected meetings
14) National reports

Appendix 1

Agenda

1. Opening and adoption of the agenda
2. Follow-up on relevant decisions by the forty-first session of the Commission
3. National reports to the SAC by contracting parties
4. Intersessional activities of relevance to the SAC, including within the framework of the mid-term strategy
5. Issues related to fisheries data quality, data collection methodologies and the provision of advice
6. Progress in improving knowledge on small-scale fisheries
7. Formulation of advice on marine living resources and fisheries management
8. SAC work plan for 2018–2020, including by subregion
9. Any other matter
10. Date and place of the next session
11. Adoption of the report

Annexe 1

Ordre du jour

1. Ouverture de la session et adoption de l'ordre du jour
2. Suite donnée aux décisions pertinentes prises par la Commission à sa quarante et unième session
3. Rapport nationaux établis par les Parties contractantes à l'intention du Comité scientifique consultatif des pêches
4. Activités intersessions intéressant le mandat du Comité scientifique consultatif des pêches, y compris dans le cadre de la stratégie à moyen terme
5. Questions relatives à la qualité des données et aux méthodes de collecte de données dans le secteur de la pêche
6. Progrès accomplis en matière d'amélioration des connaissances relatives à la pêche artisanale
7. Formulation d'avis sur les ressources biologiques marines et la gestion des pêches
8. Programme de travail du Comité scientifique consultatif des pêches pour 2018-2020, y compris par sous-région
9. Questions diverses
10. Date et lieu de la prochaine session
11. Adoption du rapport

Appendix 2

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Appendix 3

List of documents

GFCM:SAC20/2018/1	Provisional agenda and timetable
GFCM:SAC20/2018/2	Executive report of SAC intersessional activities, recommendations and work plan
GFCM:SAC20/2018/Inf.1	List of documents
GFCM:SAC20/2018/Inf.2	List of participants
GFCM:SAC19/2017/Inf.3	Report of the forty-first session of the General Fisheries Commission for the Mediterranean (GFCM) (Montenegro, 16–20 October 2017)
GFCM:SAC19/2017/Inf.4	Report of the nineteenth session of the Scientific Advisory Committee on fisheries (SAC) (Slovenia, 16–20 March 2017) (bilingual)
GFCM:SAC20/2018/Inf.5	National reports to the SAC by contracting parties
GFCM:SAC20/2018/Inf.6	Report of the Subregional Committee for the Central Mediterranean (SRC-CM) (Tunisia, 18–20 April 2018)
GFCM:SAC20/2018/Inf.7	Report of the Working Group on Fishing technology (WGFiT) (Tunisia, 17–18 April 2018)
GFCM:SAC20/2018/Inf.8	Report of the Workshop on the management of European eel (WKMEASURES-EEL) (Tunisia, 16 April 2018)
GFCM:SAC20/2018/Inf.9	Report of the Subregional Committee for the Adriatic Sea (SRC-AS) (Croatia, 12–13 April 2018)
GFCM:SAC20/2018/Inf.10	Report on the Workshop on the assessment of management scenarios for Mediterranean case studies, including an ad hoc session for small pelagic species in the Adriatic Sea (WKMSE) (Croatia, 9–11 April 2018)
GFCM:SAC20/2018/Inf.11	Report of the Subregional Committee for the Western Mediterranean (SRC-WM) (Spain, 22–23 March 2018)
GFCM:SAC20/2018/Inf.12	Report of the expert meeting on mitigation of interactions between predators and vulnerable species with fisheries (Spain, 21 March 2018)
GFCM:SAC20/2018/Inf.13	Report of Subregional Committee for the Eastern Mediterranean (SRC-EM) (Greece, 6–8 March 2018)
GFCM:SAC20/2018/Inf.14	Report of the expert meeting on non-indigenous species in the Eastern Mediterranean (Greece, 5 March 2018)
GFCM:SAC20/2018/Inf.15	Report of the meeting for the preparation of the High-level meeting on small-scale fisheries (FAO headquarters, 2 March 2018)
GFCM:SAC20/2018/Inf.16	Report of the expert meeting on the formulation of advice on fisheries (WKADVICE) (FAO headquarters, 1 March 2018)
GFCM:SAC20/2018/Inf.17	Report of the Working Group on Vulnerable Marine Ecosystems (WGVME) (FAO headquarters, 26–28 February 2018)
GFCM:SAC20/2018/Inf.18	Report of the Working Group on Stock Assessment of Demersal Species (WGSAD) (FAO headquarters, 13–18 November 2017)

GFCM:SAC20/2018/Inf.19	Report of the Working Group on Stock Assessment of Small Pelagic Species (WGSASP) (FAO headquarters, 13–18 November 2017)
GFCM:SAC20/2018/Inf.20	Report of the first meeting of the Working Group on Small-Scale and Recreational Fisheries (WGSSF) (FAO headquarters, 12–13 September 2017)
GFCM:SAC20/2018/Inf.21	Report of the Expert Meeting on Climate Change Implications for Mediterranean and Black Sea Fisheries. Rome, 4 to 6 December 2017. Fisheries and Aquaculture Report No. 1233. Rome, Italy.
GFCM:SAC20/2018/Inf.22	Major activities of the FAO regional projects (in English only)
GFCM:SAC20/2018/Inf.23	Mediterranean regional report on the biology, fishery and trade of precious corals
GFCM:SAC20/2018/Inf.24	Results of the GFCM survey on fisheries data quality: assessment of data quality control process carried out at the national level by CPCs of the GFCM
GFCM:SAC20/2018/Dma.1	Scientific surveys in the Mediterranean and the Black Sea: protocol for demersal and acoustic pelagic surveys
GFCM:SAC20/2018/Dma.2	Manual for data collection on recreational fisheries in the Mediterranean and the Black Sea
GFCM:SAC20/2018/Dma.3	Monitoring discards in Mediterranean and Black Sea fisheries: methodology for data collection
GFCM:SAC20/2018/Dma.4	Monitoring the incidental catch of vulnerable species in the Mediterranean and the Black Sea: methodology for data collection
GFCM:SAC20/2018/Dma.5	Carbonara, P., ed. 2018. *Handbook on fish age determination: a Mediterranean experience*. Studies and Reviews. General Fisheries Commission for the Mediterranean. Rome. Draft before publication
GFCM:SAC20/2018/Dma.6	Matrix for the characterization of fishing activities
GFCM:SAC20/2018/Dma.7	Climate change impacts, vulnerabilities and adaptations: Mediterranean Sea and the Black Sea marine fisheries. In Barange, M., Bahri, T., Beveridge, M., Cochrane, K., Funge-Smith, S., Poulain, F. (Eds.) 2018. Impacts of Climate Change on fisheries and aquaculture: Synthesis of current knowledge, adaptation and mitigation options. FAO Fisheries Technical Paper 627 (in press).
GFCM:SAC20/2018/Dma.8	Manual of the GFCM Data Collection Reference Framework (DCRF) – Version 2018.1 (available in English and French)

Annexe 3

Liste des documents

GFCM:SAC20/2018/1	Ordre du jour et calendrier provisoires
GFCM:SAC20/2018/2	Rapport exécutif sur les activités intersessions, les recommandations et le plan de travail du Comité scientifique consultatif des pêches (CSC)
GFCM:SAC20/2018/Inf.1	Liste des documents
GFCM:SAC20/2018/Inf.2	Liste des participants
GFCM:SAC19/2017/Inf.3	Rapport de la quarante et unième session de la Commission générale des pêches pour la Méditerranée (CGPM) (Monténégro, 16-20 octobre 2017)
GFCM:SAC19/2017/Inf.4	Rapport de la dix-neuvième session du CSC (Slovénie, 16-20 mars 2017) (bilingue)
GFCM:SAC20/2018/Inf.5	Rapports nationaux des parties contractantes au CSC
GFCM:SAC20/2018/Inf.6	Rapport du Comité sous-régional pour la Méditerranée centrale (SRC-CM) (Tunisie, 18-20 avril 2018)
GFCM:SAC20/2018/Inf.7	Rapport du Groupe de travail sur les technologies de pêche (WGFiT) (Tunisie, 17-18 avril 2018)
GFCM:SAC20/2018/Inf.8	Rapport du Groupe de travail sur la gestion de l'anguille d'Europe (WKMEASURES-EEL) (Tunisie, 16 avril 2018)
GFCM:SAC20/2018/Inf.9	Rapport du Comité sous-régional pour la mer Adriatique (SRC-AS) (Croatie, 12-13 avril 2018)
GFCM:SAC20/2018/Inf.10	Rapport de l'atelier sur l'évaluation des scenarios de gestion relatifs à des études de cas en Méditerranée, y compris une session spéciale sur les espèces de petits pélagiques en mer Adriatique (WKMSE) (Croatie, 9-11 avril 2018)
GFCM:SAC20/2018/Inf.11	Rapport du Comité sous-régional pour la Méditerranée occidentale (SRC-WM) (Espagne, 22-23 mars 2018)
GFCM:SAC20/2018/Inf.12	Rapport de la réunion d'experts sur l'atténuation des interactions des prédateurs et des espèces vulnérables avec les pêches (Espagne, 21 mars 2018)
GFCM:SAC20/2018/Inf.13	Rapport du Comité sous-régional pour la Méditerranée orientale (SRC-EM) (Grèce, 6-8 mars 2018)
GFCM:SAC20/2018/Inf.14	Rapport de la réunion d'experts sur les espèces non-indigènes en Méditerranée orientale (Grèce, 5 mars 2018)
GFCM:SAC20/2018/Inf.15	Rapport de la réunion préparatoire à la Conférence de haut niveau sur la pêche artisanale en Méditerranée et en mer Noire (siège de la FAO, 2 mars 2018)
GFCM:SAC20/2018/Inf.16	Rapport de la réunion d'experts sur la formulation d'avis en matière de pêche (WKADVICE) (siège de la FAO, 1 mars 2018)

GFCM:SAC20/2018/Inf.17	Rapport du Groupe de travail sur les écosystèmes marins vulnérables (siège de la FAO, 26-28 février 2018)
GFCM:SAC20/2018/Inf.18	Rapport du Groupe de travail sur l'évaluation des stocks d'espèces démersales (WGSAD) (siège de la FAO, 13-18 novembre 2017)
GFCM:SAC20/2018/Inf.19	Rapport du Groupe de travail sur l'évaluation des stocks d'espèces de petits pélagiques (WGSASP) (siège de la FAO, 13-18 novembre 2017)
GFCM:SAC20/2018/Inf.20	Rapport de la première réunion du Groupe de travail sur la pêche artisanale et la pêche récréative (WGSSF) (siège de la FAO, 12-13 septembre 2017)
GFCM:SAC20/2018/Inf.21	Rapport de la Réunion d'experts sur les conséquences du changement climatique sur la pêche en Méditerranée et en mer Noire. Rome, 4-6 décembre 2017. Rapport Pêche et Aquaculture No. 1233. Rome, Italie.
GFCM:SAC20/2018/Inf.22	Activités principales des projets régionaux de la FAO (en anglais seulement)
GFCM:SAC20/2018/Inf.23	Rapport régional en Méditerranée sur la biologie, les prises et le commerce de coraux précieux
GFCM:SAC20/2018/Inf.24	Résultats de l'enquête de la CGPM sur la qualité des données en matière de pêche: évaluation du processus de contrôle de la qualité des données mené au niveau national par les PCC de la CGPM
GFCM:SAC20/2018/Dma.1	Scientific surveys in the Mediterranean and the Black Sea: protocol for demersal and acoustic pelagic surveys
GFCM:SAC20/2018/Dma.2	Manual for data collection on recreational fisheries in the Mediterranean and the Black Sea
GFCM:SAC20/2018/Dma.3	Monitoring discards in Mediterranean and Black Sea fisheries: methodology for data collection
GFCM:SAC20/2018/Dma.4	Monitoring the incidental catch of vulnerable species in the Mediterranean and the Black Sea: methodology for data collection
GFCM:SAC20/2018/Dma.5	Carbonara, P., ed. 2018. *Handbook on fish age determination: a Mediterranean experience.* Studies and Reviews. General Fisheries Commission for the Mediterranean. Rome. Draft before publication
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GFCM:SAC20/2018/Dma.8	Manuel du Cadre de référence pour la collecte de données de la CGPM (DCRF) – Version 2018.1 (disponible en anglais et en français)

Appendix 4

Opening statements

Opening address by Ms Zakia Driouich
General Secretary of the Department for marine fisheries of Morocco

Monsieur le Secrétaire exécutif de la CGPM,

Honorables Délégués,

Mesdames et Messieurs,

C'est avec un réel plaisir que je voudrais vous souhaiter la bienvenue au Maroc, et particulièrement à Tanger qui a eu le privilège grâce à votre choix, d'abriter la 20ème session du Comité Scientifique Consultatif (CSC) de la Commission Générale des Pêches pour la Méditerranée (CGPM).

Le Maroc abrite pour la 2ème fois une réunion de ce Comité après celle de Marrakech en décembre 2008.

Notre ambition étant de parvenir à une gestion saine et pérenne de nos pêcheries notamment méditerranéenne et une valorisation adéquate de l'ensemble de nos ressources naturelles dans un contexte de changement climatique avéré.

Nous sommes tous convaincus ici, que les stocks halieutiques de la Méditerranée s'amenuisent. Ce constat nous préoccupe par les répercussions possibles de cette situation sur les milliers de pêcheurs et principalement les pêcheurs artisans en Méditerranée d'où le besoin à la fois de promouvoir la conservation de nos ressources halieutiques et les avantages socio-économiques associés.

Le Royaume du Maroc s'est très tôt engagé volontairement et fortement, dans la préservation de ses ressources naturelles de toute nature et leur valorisation économique raisonnée, dans le cadre d'une approche intégrée, participative et responsable.

Comme vous avez pu le suivre au cours de ces deux dernières années, le Maroc s'est effectivement engagé dans cette voie en mettant en place, depuis 2009, la stratégie « Halieutis », basé sur le concept d'une pêche durable et compétitive valorisant le patrimoine halieutique national et le développement humain, et faisant du secteur un véritable moteur de croissance de l'économie du Maroc.

Dans ce sens et dans la continuité de l'engagement de notre Royaume en faveur du développement durable notamment vis-à-vis des ORGP y compris la CGPM, le Maroc a endossé la stratégie à moyen terme de la CGPM pour la Méditerranée et la mer Noire (2017-2020) lors de la dernière session annuelle en mai 2016 et la déclaration ministérielle « Med Fish 4ever » à Malte en mars 2017, et a signé le protocole d'accord avec la CGPM en novembre 2017 à Marrakech, et prochainement la Conférence de haut niveau sur la pêche artisanale durable en Méditerranée et en mer Noire prévue à Malte en septembre 2018.

Le Royaume du Maroc persuadé que cette session du Comité Scientifique Consultatif (CSC) de la CGPM sera l'occasion de mener des débats riches et générateurs de synergie à même de conforter les aspirations de chacun d'entre nous pour mettre les ressources Halieutiques à l'abri des incertitudes et des situations difficilement maîtrisables.

Pour clore cette intervention, je me fais un devoir d'adresser mes vifs remerciements à tous ceux qui ont rendu possible l'organisation de cette importante rencontre. Je vous remercie de votre attention et vous souhaite un agréable séjour dans cette prestigieuse ville au nord du Royaume.

Opening address by Mr Othman Jarboui

SAC Chairperson

Vos Excellences,

Honorables délégués,

Chers collègues de la FAO et de la CGPM,

Mesdames et Messieurs,

C'est un grand plaisir pour moi de participer et de vous accueillir à la vingtième session du Comité consultatif scientifique des pêches de la CGPM. Avant toute chose, permettez-moi de remercier chaleureusement le gouvernement ainsi que nos collègues du Maroc pour leur accueil et pour l'excellente organisation de cette session. Je profite également de cette occasion pour féliciter les pays membres et les experts pour leur investissement et pour les efforts qu'ils ont fourni dans le cadre des activités de ce comité.

Cette période intersessions a été particulièrement intense pour le SAC, qui a dû faire face à un volume d'activités sans précédent. La quarante-et-unième session de la Commission a en effet confié une vaste mission à notre Comité, qui a dû répondre à de très nombreuses attentes, sur de multiples fronts. Malgré l'importance du défi et des exigences, les experts du SAC se sont montrés à la hauteur de la tâche et je remercie chacun pour les efforts considérables qui ont été fournis.

Des progrès considérables ont été réalisés dans de nombreux domaines au cours de cette intersession, et je ne mentionnerai ici que les principaux.

Sur le plan de l'approche sous-régionale, nous pouvons constater que le cadre est désormais consolidé, ce qui a permis de rendre le SAC plus moderne et efficace. La formulation d'avis par sous-région s'est renforcée et nous pouvons observer des progrès certains, notamment pour ce qui est de la Méditerranée orientale. Le travail mené au sein des comités sous-régionaux a permis d'améliorer la capacité du SAC à traiter des questions spécifiques aux sous-régions et de mieux répondre aux demandes de la Commission en ce qui concerne les plans de gestion. Nous disposons désormais de propositions d'éléments techniques concrets et solides pour la gestion des ressources partagées en Méditerranée orientale et occidentale. Nous sommes également parvenus à proposer des éléments techniques sur l'anguille, ce qui nous permettra d'avancer également sur la gestion de cette espèce.

Cette période intersessions a également été marquée par la mise en œuvre de nombreuses activités dans le cadre de la « La stratégie à moyen terme (2017-2020) en faveur de la durabilité des pêches en Méditerranée et en mer Noire », et nous pouvons dire que la mise en œuvre de la stratégie a désormais atteint sa vitesse de croisière. Ces résultats devraient notamment permettre à la Commission de respecter les engagements internationaux pris au titre de la Déclaration de Malte MedFish4Ever. Tous les grands chantiers de la stratégie à moyen-terme sont pleinement mis en œuvre. Je tiens à mentionner en particulier les progrès suivants : l'amélioration des avis scientifiques en général ; les progrès accomplis dans le secteur de la pêche artisanale grâce aux travaux sur la caractérisation des activités de pêche artisanale et à l'élaboration d'un manuel sur la collecte de données relatives à la pêche récréative ; l'actualisation de la feuille de route pour la lutte contre la pêche illicite, non déclarée et non réglementée ainsi que la mise en place d'un nouveau questionnaire pour évaluer le phénomène au niveau régional ; les avancées réalisées dans l'élaboration de méthodologies grâce à la mise au points de manuels pour la collecte de données sur les captures accessoires ainsi que sur les captures accidentelles d'espèces vulnérables ; les travaux effectués sur les espèces allogènes et les changements climatiques, et enfin, le renforcement des activités d'assistance technique et de la coopération dans le nombreux domaines.

Enfin, grâce aux efforts qui ont été réalisés, nous disposons aujourd'hui d'informations valables et concrètes pour procéder à des analyses approfondies dans de nombreux domaines, qui seront notamment présentées dans la deuxième édition du rapport sur la situation des pêches en Méditerranée et en mer Noire (SoMFi), dont la préparation avance à grand pas et qui devrait être publié d'ici la fin de cette année. Le rapport SoMFi a été reconnu comme un outil de référence efficace et utile à la prise de décision et il ne fait aucun doute que le deuxième numéro sera encore plus informatif et complet.

Nous avons de nombreuses tâches qui nous attendent et je ne souhaite pas abuser davantage de votre temps. Je vous remercie pour votre contribution aux travaux de ce comité et je ne doute pas que les discussions qui se tiendront dans les prochains jours seront particulièrement fructueuses. Bon travail !

Opening address by Mr Abdellah Srour

GFCM Executive secretary

Excellences,

Honorables délégués,

Chers collègues,

Mesdames et Messieurs,

C'est un plaisir et un honneur pour moi d'être à nouveau parmi vous à l'occasion de cette vingtième session du Comité consultatif scientifique des pêches de la CGPM. Je souhaite adresser mes plus sincères remerciements au Maroc ainsi qu'à tous les collègues marocains pour leur accueil chaleureux dans cette ville magnifique ainsi que pour la remarquable organisation de la réunion.

Je souhaite remercier en particulier les experts scientifiques pour le travail considérable qu'ils ont fourni afin de répondre aux attentes de la Commission. Nous avons constaté une participation et une contribution accrue à l'ensemble des réunions techniques qui ont été organisées au cours de cette intersession au niveau régional et sous-régional, ce qui témoigne d'un investissement croissant de la part des pays et je m'en félicite tout particulièrement.

Le niveau des discussions a été particulièrement élevé, ce qui a permis de cibler davantage les travaux et d'obtenir des résultats tangibles et concrets dans tous les domaines.

Cette année, nous avons exécuté une quantité de travail considérable et réalisé des progrès majeurs, mais si nous voulons atteindre nos objectifs, nous ne devons pas perdre de vue les tâches qui nous attendent qui sont à la fois colossales et essentielles. Nous devons consolider notre communauté d'experts et déployer tous les efforts nécessaires en vue d'améliorer la formulation d'avis de qualité dont la CGPM a besoin pour traiter les priorités de la région.

Je tiens également à féliciter les pays membres et les experts pour leur investissement et pour les efforts qu'ils ont fourni dans le cadre des activités de ce comité.

Cette période intersessions a été particulièrement intense pour le SAC, qui a dû faire face à un volume d'activités sans précédent. La quarante-et-unième session de la Commission a en effet confié une vaste mission à notre Comité, qui a dû répondre à de très nombreuses attentes, sur de multiples fronts. Malgré l'importance du défi et des exigences, le SAC s'est montré à la hauteur de sa tâche et je remercie chacun pour les efforts considérables qui ont été fournis.

Des progrès considérables ont été réalisés dans de nombreux domaines, et je ne vais mentionner ici que les principales avancées.

Sur le plan de l'approche sous-régionale, nous pouvons constater que le cadre est désormais consolidé, ce qui a permis de rendre le SAC plus moderne et efficace. La formulation d'avis par sous-région s'est renforcée et nous pouvons observer des progrès certains, notamment pour ce qui est de la Méditerranée orientale. Le travail mené au sein des comités sous-régionaux a permis d'améliorer la capacité du SAC à traiter des questions spécifiques aux sous-régions et de mieux répondre aux demandes de la Commission en ce qui concerne les plans de gestion. Nous disposons désormais d'éléments techniques concrets et solides pour la gestion des ressources partagées en Méditerranée orientale et occidentale. Nous sommes également parvenus à produire des éléments techniques sur l'anguille, ce qui nous permettra d'avancer dans la gestion de cette espèce.

Cette période intersessions a également été marquée par la mise en œuvre de nombreuses activités dans le cadre de la « La stratégie à moyen terme (2017-2020) en faveur de la durabilité des pêches en

Méditerranée et en mer Noire », et nous pouvons dire que la mise en œuvre de la stratégie a désormais atteint sa vitesse de croisière. Ces résultats ont notamment permis à la Commission de respecter les engagements internationaux pris au titre de la Déclaration de Malte MedFish4Ever. Tous les objectifs de la stratégie à moyen-terme sont pleinement mise en œuvre. Je tiens à mentionner en particulier les progrès suivants : l'amélioration des avis scientifiques en général ; les progrès accomplis dans le secteur de la pêche artisanale grâce à la caractérisation des activités de pêche artisanale et à l'élaboration d'un manuel sur la collecte de données relatives à la pêche récréative ; l'actualisation de la feuille de route pour la lutte contre la pêche illicite, non déclarée et non réglementée ainsi que la mise en place d'un nouveau questionnaire pour évaluer le phénomène au niveau régional ; les avancées réalisées dans l'élaboration de méthodologies grâce à la mise au points de manuels pour la collecte de données sur les captures accessoires ainsi que sur les captures accidentelles d'espèces vulnérables ; les travaux effectués sur les espèces allogènes et les changements climatiques, et enfin, le renforcement des activités d'assistance technique et de la coopération dans le nombreux domaines.

La stratégie à moyen terme insiste sur le travail du SAC en soulignant la nécessité d'un avis plus précis et plus complet pour atteindre les objectifs qu'elle comporte. En ce sens, le SAC a d'ores et déjà anticipé ces besoins en élargissant et en améliorant les avis qu'il a fourni au cours des dernières années. Cependant, d'importants défis restent à relever, notamment la mise en œuvre d'activités ambitieuses telles que l'organisation d'études en mer, l'amélioration de la collecte des données socio-économiques et l'établissement d'un forum sur les sciences halieutiques. D'autres activités essentielles sont lancées dans le cadre de cette stratégie afin de mieux soutenir la pêche artisanale, de réduire la pêche INDNR, de traiter des interactions entre la pêche et les écosystèmes marins (notamment l'amélioration des connaissances en termes de captures accidentelles), et de renforcer les capacités et l'assistance technique. Nous nous réjouissons à l'idée de voir le fruit de ces efforts qui seront bénéfiques au travail du SAC.

Après le succès de notre rapport sur la situation des pêches en Méditerranée et en mer Noire (SoMFi), dont la première édition a été publiée l'année dernière, une deuxième édition est en cours et devrait voir le jour en 2018. Des démarches ont été entreprises pour améliorer la présentation des analyses et faire en sorte que cette deuxième édition devienne un outil de référence encore plus efficace et utile à la prise de décision au sein de la CGPM.

Au vu de l'important travail que nous avons à accomplir ces jours-ci, je ne souhaite pas abuser davantage de votre temps. En conclusion, j'aimerais vous rappeler de la nécessité de formuler un avis clair, précis et raisonné à partir duquel la Commission puisse prendre des mesures rapides pour faire face aux urgences auxquelles nos pêcheries sont confrontées. Il nous faut être capables d'identifier les zones dans lesquelles des mesures prioritaires doivent être adoptées et d'apporter des réponses claires à la Commission sur des sujets qui requièrent notre opinion.

Je vous remercie pour votre contribution aux travaux de ce comité et je ne doute pas que les discussions qui nous attendent dans les prochains jours seront particulièrement fructueuses. Bon travail.

Appendix 5

Status of Mediterranean stocks

Table 1: Scientific advice on the status of the assessed demersal stocks

N	GSA	Species	Methodology used	Current values	Reference points	F_{curr}/F_{unique}	Stock status (exploitation and biomass[1] level)	Scientific advice	WGSAD comments
Western Mediterranean									
1	01&03	*Merluccius merluccius*	XSA, Y/R	Fcurr= 1.70	F0.1= 0.20	8.50	In overexploitation with relative low biomass	Reduce fishing mortality	Fbar was set at ages 0-4 and the YpR carried out to derive the reference point for F excluded age 5. It was suggested future assessments should investigate the effects of having an Fbar at set to ages 0-2 and then use FLBRP to derive the F0.1 reference point. The use of a standardized commercial CPUE as a tuning index was discussed.
2	05	*Merluccius merluccius*	XSA, Y/R	Fcurr= 1.48	F0.1= 0.17	8.70	In overexploitation with relative low biomass	Reduce fishing mortality	There are large oscillations in landings and the model does not seem to reflect all the knowledge. There is a need for a more complex model to account for more possibly unaccounted mechanisms, including environmental conditions.
3	06	*Merluccius merluccius*	SCAA (a4a)	Fcurr= 1.8	F0.1= 0.2	9.00	In overexploitation with relative low biomass	Reduce fishing mortality	Two assessments were presented: an XSA and an a4a. The results were very similar but owing to the direction of the WG to proceed towards the use of SCAA, a4a was used for advice.

[1] The indication to the biomass level is referred to relative reference points deriving from the 33rd and 66th percentile of the stock assessment and not to absolute values of biomass.

* When more than one model was performed for the given assessment, asterisk refers to the final model validated by the WGSAD and to which reference values reported in this tables refer to.

N	GSA	Species	Methodology used	Current values	Reference points	F_{curr}/F_{unique}	Stock status (exploitation and biomass[1] level)	Scientific advice	WGSAD comments
4	07	*Merluccius merluccius*	XSA, Y/R	Fcurr= 1.90	F0.1= 0.15	12.7	In overexploitation with relative low biomass	Reduce fishing mortality	Two models were used for the assessment: XSA and a SCAA using a4a, the precautionary final model considered for the assessment was XSA. The reference point was recalculated with new data (0.14) and compared to the one used in the management plan for the Gulf of Lion (0.15). The original value of 0.15 was maintained.
5	09	*Merluccius merluccius*	SS3	Fcurr= 0.61	F0.1= 0.26	2.34	In overexploitation with relative low biomass	Reduce fishing mortality	The increase in F is impressive, and most likely due to the fact that the model is fit to length data from 2006 meaning that until then the model is effectively a production model, thus affecting the estimate of F in the first part of the series. In addition, the estimation of SSB and recruitment gives a bad picture of the stock which is confirmed by the MEDITS survey which has stable LFD modes, but decreasing abundances implying a lack of recruitment. This is further corroborated by the fact that the gillnet fishery previously targeting European hake is now only landing it as bycatch.
6	06	*Mullus barbatus*	XSA, Y/R	Fcurr= 0.74	F0.1= 0.26	2.84	In overexploitation with relative high biomass	Reduce fishing mortality	The growth parameters looked too fast.
7	07	*Mullus barbatus*	XSA, Y/R	Fcurr= 1.18	F0.1= 0.35	3.37	In overexploitation with relative high biomass	Reduce fishing mortality	An apparent contradiction was noted between the increase in standing stock from both models and surveys, and the strong overfishing signal

N	GSA	Species	Methodology used	Current values	Reference points	F_{curr}/F_{unique}	Stock status (exploitation and biomass[1] level)	Scientific advice	WGSAD comments
8	10	*Mullus barbatus*	XSA	Fcurr=0.2	$F_{0.1}$=0.45	0.44	Sustainably exploited with relative high biomass	Maintain the current level of fishing mortality	The period during which the MEDITS trawl survey was conducted was noted as particularly important for this species; the issue of further standardizing MEDITS surveys in some GSAs was raised. It was acknowledge that this stock should be assessed with a SCAA method.
9	05	*Mullus surmuletus*	XSA, Y/R	Fcurr= 1.07	F0.1= 0.42	2.5	In overexploitation with relative low biomass	Reduce fishing mortality	An SS3 model was also attempted using the same assumptions of the VPA: it should be advanced to separate the assessment by fleet. Concern was expressed for the value of t_0 and the assessment re-run with different growth parameters as well as F&M before spawning set to 0.5 to account for a birth date mid-year.
10	05	*Aristeus antennatus*	XSA, Y/R	Fcurr= 0.62	F0.1= 0.31	2.0	In overexploitation with relative low biomass	Reduce fishing mortality	A disproportionate decrease in effort was noticed in 2016 which was attributed to a displacement of the fleet shallower than 800m owing to the disappearance of the species in the fishing grounds.
11	06	*Aristeus antennatus*	XSA, Y/R	Fcurr= 0.64	F0.1= 0.33	1.94	In overexploitation with relative high biomass	Reduce fishing mortality	There is an overall trend of increasing SSB and decreasing recruitment; could this depend on the fishery and the surveys not catching juveniles?
12	09	*Aristeus antennatus*	SCAA (a4a)	Fcurr = 0.63	$F_{0.1}$ = 0.43	1.46	In overexploitation with relative low biomass	Reduce fishing mortality	
13	09	*Aristeaomorpha foliacea*	SCAA (a4a)	Fcurr = 0.69	$F_{0.1}$ = 0.45	1.53	In overexploitation with relative low biomass	Reduce fishing mortality	Future assessments should consider joining GSAs 9, 10 and 11.

N	GSA	Species	Methodology used	Current values	Reference points	F_{curr}/F_{unique}	Stock status (exploitation and biomass[1] level)	Scientific advice	WGSAD comments
14	05	*Parapenaeus longirostris*	XSA, Y/R	Fcurr= 0.88	F0.1= 0.77	1.14	In overexploitation with relative intermediate biomass	Reduce fishing mortality	The M vector was very low and cthis could be due to problems related to the Prodbiom spreadsheet. The assessment was re-run using different M parameters and the results were more consistent.
15	06	*Parapenaeus longirostris*	XSA, Y/R	Fcurr=1.60	F0.1=0.70	2.29	In overexploitation with relative high biomass	Reduce fishing mortality	
16	09	*Parapenaeus longirostris*	XSA	Fcurr = 0.64	$F_{0.1}$ = 0.71	0.90	Sustainably exploited with relative high biomass	Maintain the current level of fishing mortality	
17	10	*Parapenaeus longirostris*	XSA	Fcurr=2.1	$F_{0.1}$=0.89	2.4	In overexploitation with relative intermediate biomass	Reduce fishing mortality	
18	01&03	*Pagellus bogaraveo*	GADGET				In overexploitation	Reduce fishing mortality	Accepted with qualitative advice (Refer to the Advice section in the Conclusions and Recommendations)
Central Mediterranean									
19	12-16	*Merluccius merluccius*	XSA, Y/R	Fcurr= 0.73	F0.1= 0.20	3.7	In overexploitation with relative high biomass	Reduce fishing mortality	GADGET model was also presented; XSA and GDGET models yield similar results.
20	13&14	*Mullus barbatus*	XSA, Y/R	Fcurr= 1.31	F0.1= 0.53	2.48	In overexploitation with relative intermediate biomass	Reduce fishing mortality	An SS3 model is also in the process of being built.
21	15&16	*Mullus barbatus*	XSA, Y/R	Fcurr= 0.55	F0.1= 0.45	1.2	In overexploitation with relative low biomass	Reduce fishing mortality	The use of prodbiom was discussed in relation to this stock and other short-lived species. An SS3 model is also in the process of being built.
22	12-16	*Parapenaeus longirostris*	XSA, Y/R	Fcurr=1.37	F0.1=0.84	1.63	In overexploitation with relative intermediate biomass	Reduce fishing mortality	XSA and GADGET models yield similar results.

N	GSA	Species	Methodology used	Current values	Reference points	F_{curr}/F_{unique}	Stock status (exploitation and biomass[1] level)	Scientific advice	WGSAD comments
Adriatic Sea									
23	17-18	*Merluccius merluccius*	SS3	Fcurr= 0.33	F0.1= 0.21	1.52	In overexploitation with relative low biomass	Reduce fishing mortality	Two models were run: one with combined sexes, and one with separate sexes. Despite the Group acknowledged the fact European hake (as well as other species, such as red mullet) should be assessed by maintaining sexes separate, they accepted the results of the model run with combined sexes as the one providing more coherent results
24	17	*Mullus barbatus*	SS3	Fcurr = 0.50	F0.1 = 0.21	2.38	In overexploitation with relative low biomass	Reduce fishing mortality	The period during which the MEDITS trawl survey was conducted was noted as particularly important for this species; the issue of further standardizing GRUND and MEDITS surveys in some GSAs was raised. The formalization of a peer-review system was discussed in relation to this and all other stocks assessed with SS3.
25	18	*Mullus barbatus*	SS3	Fcurr=0.18	F0.1=0.48	0.4	Sustainably exploited with relative high biomass	Maintain the current level of fishing mortality	
26	17-18	*Mullus barbatus*	SS3	Fcurr=0.19	F0.1=0.55	0.35	Sustainably exploited with relative high biomass	Maintain the current level of fishing mortality	SSB quadruples over 4 years but catches do not reflect this and it is likely market driven owing to a shift to fishing for deep-water rose shrimp. The period during which the MEDITS trawl survey was conducted was noted as particularly important for this species; the issue of further standardizing MEDITS surveys in some GSAs was raised.

N	GSA	Species	Methodology used	Current values	Reference points	F_{curr}/F_{unique}	Stock status (exploitation and biomass[1] level)	Scientific advice	WGSAD comments
27	17-18	*Parapenaeus longirostris*	SS3	Fcurr=0.43	F0.1=0.9	0.48	Sustainably exploited, with relative high biomass	Maintain the current level of fishing mortality	The increase in SSB observed is accompanied by an increase in survey indices and a decrease in mean length, indicating it is most probably due to an increase in recruitment.
28	17	*Sepia officinalis*	CMSY	Fcurr= 0.39	F_{MSY}= 0.48	0.81	Sustainably exploited with absolute low biomass ($B_{current}/B_{MSY}$ = 0.8)	Reduce fishing mortality	Two approaches were presented: a Harvest ration approach and a catch only method (CMSY). The group decided on CMSY.
29	17	*Squilla mantis*	SS3	Fcurr=0.99	F0.1=0.51	1.94	In high overexploitation with relative low biomass	Reduce fishing mortality	
30	17	*Solea solea*	SS3	Fcurr= 0.41	F0.1= 0.26	1.58	In overexploitation with relative low biomass	Reduce fishing mortality	
Eastern Mediterranean									
31	22	*Merluccius merluccius*	SPiCT	Fcurr= 0.39	F_{MSY} = 0.33	1.17	In overexploitation with relative low biomass	Reduce fishing mortality	There seems to be a change in fishing pattern since 2010, mainly due to the endorsement of EC regulation 1967/2006, which bans bottom-trawl activities within 1.5 nautical mile off the coast and in depths below 50m. Following this, as shown by VMS as well, fishing effort was pushed further offshore significantly affecting European hake.
32	22	*Mullus barbatus*	SPiCT	Fcurr= 0.13	F_{MSY}= 0.38	0.33	Sustainably exploited with relative high biomass	Maintain the current level of fishing mortality	The endorsement of EC regulation 1967/2006, which bans bottom-trawl activities within 1.5 nautical mile off the coast and in depths below 50m, pushed fishing effort further offshore leading to the reduction of fishing pressure on this continental shelf species.

N	GSA	Species	Methodology used	Current values	Reference points	F_{curr}/F_{unique}	Stock status (exploitation and biomass[1] level)	Scientific advice	WGSAD comments
33	25	*Mullus surmuletus*	SepVPA				In overexploitation	Reduce fishing mortality	Accepted with qualitative advice (Refer to the Advice section in the Conclusions and Recommendations)
34	26	*Mullus surmuletus*	LCA (VIT)	Fcurr= 0.59	F0.1= 0.16	3.57	In overexploitation	Reduce fishing mortality	
35	26	*Metapenaeus stebbingi*	LCA (VIT)	Fcurr= 2.35	F0.1= 0.87	2.71	In overexploitation	Reduce fishing mortality	The assessment was based on five years of data. The assessment on separate and combined years provided stable and consistent results.
36	25	*Boops boops*	XSA, Y/R	Fcurr= 0.37	F0.1= 0.29	1.28	In overexploitation with relative intermediate biomass	Reduce fishing mortality	The assessment was first presented using Prodbiom to calculate the M vector and re-run using Gislason. Gislason was chosen as more stable. The CPUE was not standardized.
37	27	*Upeneus moluccensis*	LCA (VIT)				In overexploitation	Reduce fishing mortality	VIT was carried out both separately on each year and on combined years and was stable. The Group asked to re/run the models with different M vectors in addition to the one estimated with Prodbiom (Gislason and Chen & Watanabe). Chen & Watanabe was chosen. Accepted with qualitative advice (Refer to the Advice section in the Conclusions and Recommendations)

Table 2: Scientific advice on the status of the assessed small pelagic stocks

GSA	Species	Methodology used	F/F_{MSY} *(E/E=0.4)	B/B_{MSY} *B/B_{pa} **B/B_{lim}	Stock status	Scientific advice	WGSASP comments
Western Mediterranean							
01	*Engraulis encrasicolus*	Catch trends	--	--	Possibly in overexploitation	Reduce fishing mortality	Catches are highly variable and mainly based on recruitment. The population is very small and often restricted to one bay. The acoustic survey exhibits some problems to be used in stock assessment. An in-depth analysis of the survey usefulness for stock assessment is urgently needed (comparison of fishing grounds and survey area, etc.). No analytical stock assessment could be endorsed. Based on the long-term decreasing trend in catches (1979-2016 time series), the WG suggests to adopt a precautionary approach and to decrease fishing mortality.
03	*Sardina pilchardus*	XSA	--	--	Possibly in overexploitation	Reduce fishing mortality	Current model is unstable, so that different parametrizations would give different perspectives of the stock (from low exploitation to overexploitation). Under a precautionary approach, the exploitation rate in the worse scenario is 0.57.
01-03	*Sardina pilchardus*	XSA	--	--	Possibly in overexploitation	Reduce fishing mortality	The stock is mainly driven by catches in GSA3. Current model is unstable, so that different parametrizations would give different perspectives of the stock (from low exploitation to overexploitation). Under a precautionary approach, the exploitation rate in the worse scenario is E=0.58.
06	*Engraulis encrasicolus*	SPICT	--	--	Overexploited and in overexploitation	Reduce fishing mortality	Uncertainty in the growth curve and ultimately natural mortality prevented XSA to give satisfactory results. A SPICT biomass model using a longer timeseries of catches from 1945 and MEDIAS and ECOMED biomasses as tuning was also run. Some concerns were raised and a longer timeserie of the acoustic biomass or the use of priors might be helpful to improve it next year. Both models (XSA and SPICT) show an increase in biomass in the recent part, which suggests that the stock is recovering. However, SPICT takes into account the whole timeserie and in this case, B/BMSY would be between 0.6 and 0.8 and F/FMSY between 1.2 and 1.7.

GSA	Species	Methodology used	F/F_{MSY} *(E/E=0.4)	B/B_{MSY} *B/B_{pa} **B/B_{lim}	Stock status	Scientific advice	WGSASP comments
06	*Sardina pilchardus*	XSA	--	--	In overexploitation	Reduce fishing mortality	Both catches and acoustic estimates have been decreasing a lot in the last years. Body condition, growth, and size have also been decreasing. The advice is based on XSA using both ECOMED and MEDIAS as two different survey indices. Discrepancies in growth parameters and age slicing have been shown and need an important revision for next year. Nonetheless, the group decided to use the most coherent model (E = 0.50) to provide a qualitative advice of the stock.
07	*Sardina pilchardus*	Direct acoustic estimate & Indirect method (2-stage biomass model)	*0.002	--	Ecologically unbalanced Very low fishing mortality.	Fishing mortality should not be allowed to increase.	The situation is very similar to previous years: the size and body condition are still low and the age composition unbalanced. A 2-stage biomass model has been performed combining acoustic biomass and catches from 1993 to 2016 confirming the very low fishing mortality. The biomass estimate in 2017 is the second lowest in the time series due to a very poor recruitment (abundance of age 0 6 times lower than previous years). The WG recalls that the low fishing effort is due to the small size of sardines and an absence of market for them. Management measures need to ensure that if size increases again the fishing activity would not increase too much to allow the stock for a recovery and the WG suggests this could be done through a precautionary catch limit approach.
07	*Engraulis encrasicolus*	Direct estimate from acoustics	--	*1.32 **2.65	Ecologically unbalanced	Fishing mortality should not be allowed to increase.	The biomass in 2017 increased strongly and is above B_{pa}. Yet, this seems to be due only to a higher age1 class and a good recruitment last winter. There is no improvement in the other age classes nor in body condition or size. As for sardines, management measures need to ensure that if size increases again the fishing activity would not increase too much to allow the stock for a recovery and the WG suggests this could be done through a precautionary catch limit approach.
09, 10, 11	*Engraulis encrasicolus*	XSA	1.54	--	In overexploitation	Reduce fishing mortality	This is a very welcome assessment as no assessment had been presented before for this area. It relies on an XSA using MEDITS (3 GSA combined) as a tuning index and catches from GSA 9 and 10 only. A suggestion to include GSA8 as well as to compare MEDITS and MEDIAS indices for future assessment has been made.

GSA	Species	Methodology used	F/F_{MSY} *(E/E=0.4)	B/B_{MSY} *B/B_{pa} **B/B_{lim}	Stock status	Scientific advice	WGSASP comments
09, 10, 11	*Trachurus trachurus*	XSA	2.43	--	In overexploitation	Reduce fishing mortality	The WG welcomed this assessment, as Atlantic horse mackerel had never been assessed before in GFCM. An XSA was fitted using MEDITS as a tuning index. The model fit and diagnosis were good. However, there are some deficiencies in the data, especially in terms of discards for some gears and some years. Both catches and the index rely mostly on recruits, so that SSB might not be very well represented. Include MEDIAS as an index should be envisioned for the future
Adriatic Sea							
17-18	*Sardina pilchardus*	Indirect method (SAM)	2.77	*0.64 **1.29	Overexploited and in overexploitation	Reduce fishing mortality	This is an updated assessment from the benchmark of 2015. A few corrections in the data have been made (total amount of Albanian catches and change in the acoustic tuning from the East from catch at age to biomass only on the 2003-2012 period). These changes did not affect the assessment and reference points on biomass remained the same. Regarding fishing mortality, due to the high sensitivity of FMSY to the choice of breakpoint in the stock-recruitment relationship and autocorrelation in the time series, the WG agreed to use E Patterson as a proxy for FMSY and to report the ratio between Fcurr and FMSY. SSB decreased this year, as did fishing mortality.
17-18	*Engraulis encrasicolus*	Indirect method (SAM)	2.23	*0.63 ** 1.25	Overexploited and in overexploitation	Reduce fishing mortality	Work is continuing on age reading and no agreement has yet been reached. Nonetheless, the ALK of the surveys have been improved resulting in a change in the age slicing of the tuning indices. As for sardines, Albanian catches have also been corrected and a change in the acoustic tuning from the East from catch at age to biomass only on the 2003-2012 period has been agreed. Despite these changes, the historical perspective of the stock has remained the same and biomass reference points remained the same. Regarding fishing mortality, due to the high sensitivity of FMSY to the choice of breakpoint in the stock-recruitment relationship and autocorrelation in the time series, the WG agreed to use E Patterson as a proxy for FMSY and to report the ratio between Fcurr and FMSY. The WG recommends an agreement to be reached on age reading as currently 4 different methods are used and strongly suggests the birthdate to be moved to 1st of January to be coherent with the stock assessment model. SSB decreased and the fishing mortality is the highest of the series.

GSA	Species	Methodology used	F/F_{MSY} *(E/E=0.4)	B/B_{MSY} *B/B_{pa} **B/B_{lim}	Stock status	Scientific advice	WGSASP comments
Eastern Mediterranean							
22	*Engraulis encrasicolus*	Indirect method (a4a & SAM)	--	--	No sign of overexploitation	Do not increase fishing mortality	The WG welcomed the assessment of GSA22, which had not been conducted in the last few years. This stock was assessed through two different statistical catch at age models (SAM and a4a). Due to logistics problems, there are gaps in the data (in terms of survey but also of catch at age). As a consequence, results are uncertain and the two models give slightly different perspectives (F/FMSY = 0.74 according to SAM and F/FMSY = 1 according to a4a).
22	*Sardina pilchardus*	Indirect method (a4a & SAM)	--	--	In overexploitation	Reduce fishing mortality	The WG welcomed the assessment of GSA22, which had not been conducted in the last few years. This stock was assessed through two different statistical catch at age models (SAM and a4a). Due to logistics problems, there are gaps in the data (in terms of survey but also of catch at age). As a consequence, results are uncertain and the two models give slightly different perspectives (F/FMSY = 1.97 according to SAM and F/FMSY = 1.06 according to a4a).
27	*Sardinella aurita*	Indirect method (VIT)	--	--	In overexploitation	Reduce fishing mortality	According to last year's recommendations, a sampling plan was developed in Lebanon, enabling for the first time to compute a local growth curve. However, Gislason equation gives very unrealistic natural mortality values, so that Prodbiom had to be used. Also, the WG underlines the need to integrate other catches from the area such as those from Egypt in the future.

Appendix 6

Work plan for the estimation/quantification of IUU fishing in the Mediterranean and the Black Sea

1. Introduction

The Food and Agriculture Organization of the United Nations (FAO) has been acting at the global level to promote responsible fishing practices and to curb IUU fishing. Among the instruments available are FAO Code of Conduct for Responsible Fisheries and the FAO International Plan of Action to Prevent, Deter and Eliminate IUU fishing (IPOA-IUU).

The FAO is acting as a custodian for several Sustainable Development Goals (SDGs) included in the 2030 Agenda for Sustainable Development, which were adopted by world leaders at the UN Sustainable Development Summit 2015 (New York, 25–27 September). These include SDG 14.4 whose aim is to end Illegal, Unreported and Unregulated (IUU) fishing by 2020. To support the achievement of targets stemming from SDG 14, in 2016 the GFCM launched the Mid-term Strategy (2017-2020) towards the sustainability of Mediterranean and Black Seas fisheries. Target 3 of the GFCM Mid-term Strategy is of particular relevance to IUU: Curb Illegal Unreported and Unregulated (IUU) Fishing, through a Regional Plan of Action (RPOA). Ultimately, at its 41st session in 2017, the GFCM has adopted the RPOA-IUU. This seminal legal instrument will be key to curb IUU fishing in the Mediterranean and the Black Sea regions together with the numerous recommendations, resolutions and decision[2] adopted to date.

While the work done by the GFCM on IUU fishing has concentrated mainly on aspects related to Monitoring, Control and Surveillance (MCS), little progress has been made towards the development of a scientific plan of action for the quantification/estimation of IUU. Two roadmaps have been adopted by the GFCM in 2013 and 2014 for the purpose of fighting IUU fishing in the Black Sea (GFCM 37th annual session, May 2013 Croatia), and in the Mediterranean Sea (GFCM 38th annual session, FAO Headquarters, May 2014). These roadmaps had already expressed the need to develop, and agree on, standard methodologies to evaluate IUU catches and trade of fishing products in support of scientific advice. The GFCM Working Group on IUU Fishing of the GFCM advised that such a task should be carried out in coordination with the FAO as the Organization is in the process of developing a global methodology to assess IUU fishing.

In light of the above, this draft work plan for the estimation/quantification of IUU Fishing in the Mediterranean and Black Seas has been drafted, proposing a stepwise framework to quantify and assess IUU based on an agreed methodology tailored for the GFCM area. More specifically, the work plan has been developed to specifically addresses Output 3.1.a of the Mid-term Strategy (Assessment of the quantity, magnitude and characteristics of IUU fishing) thus proposing a framework towards bridging the gap between MCS and the quantification of IUU in support of scientific advice using standard methodologies as endorsed by the GFCM in its previous sessions. It was has also been designed considering other targets in the Mid-term Strategy, e.g. the move towards increased spatial management to address impacts of fishing on marine ecosystems (Mid-term Strategy, Output 4.2) as well as capacity building in a number of areas identified by the Committee on Compliance (Outputs 5.1.b.ii, 5.1.b.iv and Output 5.1.b.v).

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[2] Rec. MCS-GFCM/40/2016/1; Mid-term strategy (2017-2020) Resolution GFCM/40/2016/2; Recommendation CM-GFCM/39/2015/3; Resolution GFCM/38/2014/1; Recommendation GFCM/35/2011/1; Recommendation Dir-GFCM/33/2009/5; Recommendation MCS-GFCM/33/2009/6; Recommendation MCS-GFCM/33/2009/7); Recommendation MCS-GFCM/33/2009/8); Two roadmaps which have been adopted by the GFCM for the purpose of fighting IUU fishing in the Black Sea (GFCM 37th annual session, May 2013 Croatia), and in the Mediterranean Sea (GFCM 38th annual session, FAO Headquarters, May 2014).

Finally, the work plan was thought in synergy with the RPOA-IUU, taking into account the advances towards a methodology to assess IUU done by FAO in the meantime.

2. Key Challenges

With respect to the quantification and assessment of IUU, the GFCM area of application presents a number of important challenges which are taken into due consideration in the proposed work plan:

i. Addressing the variation generated by differing levels of MCS across the littoral countries in the region: the approach developed will necessarily have to be able to function at the regional scale (independent of country level capacity)
ii. Addressing the variation related to the differing levels of attention devoted to IUU in the data collection by each country: the methodology will have to be adaptable to both data-rich and data-poor contexts
iii. Addressing the variation in the range of possible behaviours that contravene regulations, stemming from the differences in fisheries regulations across countries and fisheries (e.g. closed areas, gear restrictions etc). This will require the development of a dataset and potentially a geodatabase on legal requirements imposed on operators by each littoral state.
iv. Addressing the variation stemming from the fact that relative importance of IUU related issues will likely vary in space and time, indicating that context will be very important for establishing estimates and developing priorities.
v. Understanding the distribution of effort, compliance behaviour, and other factors driving IUU levels in the small-scale sector (~80% of fisheries in the region)

3. A Proposed work plan

The proposed draft work plan seeks to balance short-term and readily achievable activities that will provide some information on IUU, with more in-depth and resource intensive approaches, which are likely to provide better estimates but require more time, focus and resources. The six activities suggested lend themselves to a staged approach (Figure 1), with activities 1 and 2 possible in the near term, supporting the development of activity 3. Activities 4 and 5 can then proceed to some extent independently, building on the information gained in the first three. Activity 6 can be integrated throughout the process, beginning with the development of the quantitative survey in Activity 3 and carrying forward through building spatial models and developing an independent estimate of effort. Finally, as important case studies are identified, Activity 6 can continue, potentially addressing economic values of IUU landings or possibly creating automated risk assessment models based on integration of VMS, logbook, and observer data.

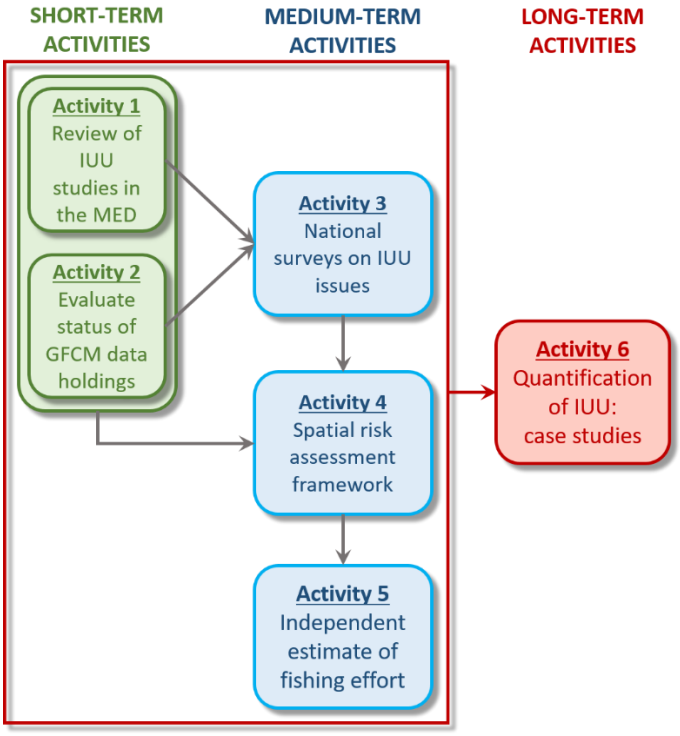


Figure 1. Schematic representation of the proposed activities towards the quantification of IUU

Activity 1 - Compile and review existing published and un-published studies and reports on IUU related issues in the Mediterranean and Black seas.

A number of the littoral countries have research efforts ongoing on IUU related issues. Countries such as Morocco were identified in a survey implemented in 2013 by the GFCM (see Appendix C of the report of the GFCM Workshop on IUU Fishing in the Mediterranean Sea, Tunis, Tunisia, 3-4 October, 2013) as having ongoing research on IUU activities. In combination with reports to the GFCM Committee on Compliance (CoC) Working Group on IUU (WGIUU), these records form a useful picture of the current state of knowledge on IUU issues in the region. This information will provide a picture of regional progress in addressing IUU and could be used to evaluate overall trends as well as to adress specific questions, such as shifts in IUU effort in the region in response to increased interdictions in some countries.

***Activity 2 - Evaluate the current status of data holdings by GFCM on IUU related issues*, including vessel lists (see GFCM/33/2009/8) and other reports**

The GFCM holds a variety of records that could be of use in making qualitative or quantitative assessments of IUU:

- IUU vessel lists
- National fleet sizes and composition,
- National catch levels, enforcement activities and outcomes,
- Logbook and observer records,
- Landings

A complete assessment of available information, including its coverage and quality, would be a key piece of information in designing subsequent analyses.

Activity 3 - Development and administration of a quantitative survey covering IUU related issues at the national level

Quantitative surveys covering IUU related issues across littoral countries in the Mediterranean and Black seas could provide information on both key targets for estimation by country, and useful data for making those estimates. This survey should aim to update the information collected in the survey delivered in 2013. One key outcome of the survey would be a clear picture, by country, of the *relative priorities in tackling the various components of IUU fishing*: strictly illegal behaviours, those related to issues with reporting, and those related to a lack of regulation on particular activities. Three components are envisaged:

i. Targeting higher-level fisheries officials, familiar with national policy directions and priorities, in a workshop setting
ii. Focussing on IUU related issues in the field, targeting responses from fisheries officers within each of the littoral countries, attempting to get a representative sample across each of the fisheries agencies
iii. Understanding organizational and institutional aspects of IUU activity in the countries

The survey would be structured using quantitative and semi-quantitative methods, allowing an estimation of the *relative importance of IUU issues by target species, gear, and vessel size*. These types of surveys, when combined with robust statistical methods to control for respondent bias and estimate IUU metrics and uncertainty, could provide a useful tool for establishing broad *baselines on IUU levels by country, gear, target species, and vessel characteristics* using a uniform method across all countries.

Activity 4 - Create an IUU spatial risk assessment framework applicable to the Mediterranean and Black Seas

There are a number of characteristics that could be used to estimate the likelihood of vessels fishing in a given location and thus predict IUU risk, even in the absence of information from GFCM member states:

- target species ranges
- relative species abundance
- locations of ports, coastal populations, vessel services, fish processors, and a variety of other spatial information
- governance quality, corruption levels, and other similar variables
- information contained in inspection databases

This spatial information can then be combined with information provided by littoral states on attempted and successful interdictions, vessel behavioural patterns inferred from VMS, spatial and temporal restrictions on fishing activities, and other relevant information for identifying high and low risk contexts for IUU. These data on behaviours can then be used to estimate statistical relationships between observed IUU events and the spatial variables available for all countries. In turn, thoe statistical relationships can be used to predict IUU events at times and locations where there is currently no data available (e.g. transshipment of fish between vessels; see Appendices C & D). This spatial analysis and the resulting risk assessment could be used to (i) evaluate regional progress in addressing IUU activities, based on integration country level reports on detections, (ii) answer questions about shifts in IUU effort as interdiction improves in some jurisdictions in the GFCM region.

Information from the surveys developed in activity 3, along with background data from activities 1 and 2 could also readily inform the risk assessment models developed in the framework.

Activity 5 – Obtaining an independent estimate of fishing vessel activity

Compilation of an independent estimate of fishing vessel activity at the regional scale using electronic monitoring (VMS and AIS) and remote sensing. VMS and AIS can be used to directly construct the at sea distribution of vessel fishing locations, transit routes, and ports utilized. A key issue in the Mediterranean and Black Seas however is the absence of either VMS or AIS in some countries, and the lack of coverage

for smaller vessels, in particular those under 12 meters. These shortcomings in coverage could be addressed via a remote sensing approach, using medium resolution satellite imagery. Satellite remote sensing is costly, but it would be possible to use the spatial database developed in activity 4 to design a stratified random sampling approach to target vessels operating on fishing grounds and in ports. Key variables to consider in stratification include target species distributions, distance from ports, intensity of MCS, proximity to borders, proximity to reserves and other areas with high catch rates. The challenge would be to be able to identify vessels and estimate their movement. Alternatively, for an easier solution, using paired sites inside and outside fishing grounds would allow estimation of fishing vessel densities. Similarly, temporal variation in vessels in ports and at landing sites can be used to estimate trip frequency and vessel latency. It would be possible to supplement the data using ground-based observations of vessel activities in ports and coastal regions, where available from port authorities or other sources, as has already been done in Chile. The output of the analysis would be a map of vessel density (and hence fishing effort) across the GFCM region, potentially with information on relative importance of ports and transit routes, which would include small-scale operators in a uniform manner across all countries.

Activity 6 – Case studies

Based on the survey method outlined in activity 3 and the risk model in activity 4, a number of key issues will likely be identified. These could form the basis for case studies, in which more detailed methods are applied to estimate IUU metrics such as expected catch, areas of high non-compliance, profiles for likely non-compliant operators, lost value to national governments, or other issues of interest. These case studies could be targeted to cover the diverse range of data quality and issue complexity in the GFCM fisheries, ranging from fully quantitative assessments using electronic monitoring data to semi-quantitative analyses based on projection from similar cases and/or elicitation techniques with industry or managers. This activity could provide two key outputs, 1) the development of analytic frameworks and supporting methods which can be transferred to other cases by GFCM parties, and 2) a vehicle for capacity building with the parties through participatory research with technical support from the GFCM as envisioned in Output 5 of the Mid-term Strategy.

Appendix 6/Annex 1

Survey towards facilitating the estimation of IUU fishing

Introduction

The General Fisheries Commission for the Mediterranean (GFCM) is assessing the quantity and magnitude of IUU fishing in its Area of Application according to Target 3 of its mid-term strategy. Given your experience as a representative of the national administration of a riparian country in the Area of Application, your input is very valuable to reach this target. This survey aims to synthesize your knowledge and perceptions about the problems of illegal fishing at the regional level. We hope to take no longer than 15 minutes of your time completing this online survey.

All respondents will remain anonymous, and your answers will be kept completely confidential. Only collective responses will be used by the GFCM Secretariat to help steer the implementation of a work plan for the estimation/quantification of illegal fishing. Our results will be disseminated back to all riparian countries.

The term "IUU Fishing" refers to illegal, unregulated and unreported fishing. This is hereby considered a fishing activity carried out in national jurisdiction waters by any national or international vessel that is in violation of the national laws, is devoid of a fishing license and/or undertakes activities that involve unreported or misreported captures to the authorities.

If you agree to take this survey, please click on the following link.

Geographical Rankings

1. You will be answering questions relevant to the area in which you work. Please choose the appropriate sub-region:
   - ○ Western Mediterranean sub-region (GSAs 1-11)
   - ○ Central Mediterranean sub-region (GSAs 12-16, 19-20):
   - ○ Adriatic Sea sub-region (GSAs 17-18):
   - ○ Eastern Mediterranean sub-region (GSAs 21-27):

2. For the following 39 seafood species, please advise your level of experience with each, and rate the amount of IUU fishing you believe has occurred in your country in the past twelve months.

		How much experience do you have regarding fishing for this species					**In your opinion, how much of the landings of this species do you believe involved IUU fishing practices in the past 12 months**					
		None	Less than 1 year	1-5 years	5-10 years	More than 10 years	None (1)	Some (2)	Less than half (3)	More than half (4)	Almost all (5)	All (6)
1	European anchovy (*Engraulis encrasicolus*)	O	O	O	O	O	O	O	O	O	O	O
2	European hake *(Merluccius merluccius)*	O	O	O	O	O	O	O	O	O	O	O
3	Red mullet (*Mullus barbatus)*	O	O	O	O	O	O	O	O	O	O	O
4	Blackspot sea-bream *(Pagellus bogaraveo)*	O	O	O	O	O	O	O	O	O	O	O
5	Atlantic bonito *(Sarda sarda)*	O	O	O	O	O	O	O	O	O	O	O
6	Round sardinella *(Sardinella aurita)*	O	O	O	O	O	O	O	O	O	O	O

		How much experience do you have regarding fishing for this species					In your opinion, how much of the landings of this species do you believe involved IUU fishing practices in the past 12 months					
		None	Less than 1 year	1-5 years	5-10 years	More than 10 years	None (1)	Some (2)	Less than half (3)	More than half (4)	Almost all (5)	All (6)
7	Horse mackerel, Scad (*Trachurus spp.)*	O	O	O	O	O	O	O	O	O	O	O
8	Bogue (*Boops boops*)	O	O	O	O	O	O	O	O	O	O	O
9	Common Pandora *(Pagellus erythrinus)*	O	O	O	O	O	O	O	O	O	O	O
10	Gilt-head sea bream (*Sparus aurata)*	O	O	O	O	O	O	O	O	O	O	O
11	Striped red mullet (*Mullus surmuletus)*	O	O	O	O	O	O	O	O	O	O	O
12	Common sole (*Solea solea)*	O	O	O	O	O	O	O	O	O	O	O
13	Common sea bream (*Pagrus pagrus)*	O	O	O	O	O	O	O	O	O	O	O
14	Dolphinfish *(Coryphaena hippurus)*	O	O	O	O	O	O	O	O	O	O	O
15	European whiting (*Merlangius merlangus)*	O	O	O	O	O	O	O	O	O	O	O
16	White sea-bream (*Diplodus sargus)*	O	O	O	O	O	O	O	O	O	O	O
17	Striped sea-bream *(Lithognathus mormyrus)*	O	O	O	O	O	O	O	O	O	O	O

		How much experience do you have regarding fishing for this species					In your opinion, how much of the landings of this species do you believe involved IUU fishing practices in the past 12 months					
		None	Less than 1 year	1-5 years	5-10 years	More than 10 years	None (1)	Some (2)	Less than half (3)	More than half (4)	Almost all (5)	All (6)
18	Seabass *(Dicentrarchus labrax)*	O	O	O	O	O	O	O	O	O	O	O
19	Groupers *(Epinephelus spp.)*	O	O	O	O	O	O	O	O	O	O	O
20	Spanish sea-bream (*Pagellus acarne)*	O	O	O	O	O	O	O	O	O	O	O
21	Annular sea-bream (*Diplodus annularis)*	O	O	O	O	O	O	O	O	O	O	O
22	Picarel *(Spicara smaris)*	O	O	O	O	O	O	O	O	O	O	O
23	European sprat (*Sprattus sprattus*)	O	O	O	O	O	O	O	O	O	O	O
24	Turbot (*Scophthalmus maximus)*	O	O	O	O	O	O	O	O	O	O	O
25	Two-banded sea bream (*Diplodus vulgaris)*	O	O	O	O	O	O	O	O	O	O	O
26	Sharpsnout sea-bream (*Diplodus puntazzo)*	O	O	O	O	O	O	O	O	O	O	O
27	Wreckfish *(Polyprion americanus)*	O	O	O	O	O	O	O	O	O	O	O
28	Mackerel *(Scomber spp.)*	O	O	O	O	O	O	O	O	O	O	O

		How much experience do you have regarding fishing for this species					**In your opinion, how much of the landings of this species do you believe involved IUU fishing practices in the past 12 months**					
		None	Less than 1 year	1-5 years	5-10 years	More than 10 years	None (1)	Some (2)	Less than half (3)	More than half (4)	Almost all (5)	All (6)
29	Piked dogfish (*Squalus acanthias*)	O	O	O	O	O	O	O	O	O	O	O
30	Venus clams (*Chamelea gallina)*	O	O	O	O	O	O	O	O	O	O	O
31	Octopus *(Octopodidae)*	O	O	O	O	O	O	O	O	O	O	O
32	Caramote prawns *(Penaeus kerathurus)*	O	O	O	O	O	O	O	O	O	O	O
33	Mantis shrimp *(Squilla mantis)*	O	O	O	O	O	O	O	O	O	O	O
34	Norway lobster *(Nephrops norvegicus)*	O	O	O	O	O	O	O	O	O	O	O
35	Red shrimp *(Aristeus antennatus*)	O	O	O	O	O	O	O	O	O	O	O
36	Giant red shrimp *(Aristaeomorpha foliacea)*	O	O	O	O	O	O	O	O	O	O	O
37	Crawfish *(Palinurus spp.)*	O	O	O	O	O	O	O	O	O	O	O
38	Lobster *(Homarus gammarus)*	O	O	O	O	O	O	O	O	O	O	O
39	Mediterranean slipper lobster *(Scyllarides latus)*	O	O	O	O	O	O	O	O	O	O	O

From this section onwards, the questionnaire will focus only on priority species.

(If respondent chooses the Western subregion (GSAs 1 - 11) in question one, question 3 looks like this:)

3. Blackspot sea bream (*Pagellus bogaraveo*), European hake (*Merluccius merluccius*), Deepwater rose shrimp (*Parapenaeus longirostris*), European anchovy (*Engraulis encrasicolus*), Sardine (*Sardina pilchardus*) and Red and blue shrimp (*Aristeus antennatus*) are considered relevant by the Regional Fisheries Management Organisation to IUU fishing in the GFCM Area of Application – Western subregion.

Which other species do you believe contributes the most to IUU fishing? Choose only one.

- ○ Red mullet (*Mullus barbatus)*
- ○ Atlantic bonito *(Sarda sarda)*
- ○ Round sardinella *(Sardinella aurita)*
- ○ Horse mackerel, Scad (*Trachurus spp.)*
- ○ Bogue (*Boops boops*)
- ○ Common Pandora *(Pagellus erythrinus)*
- ○ Gilt-head sea bream (*Sparus aurata)*
- ○ Striped red mullet (*Mullus surmuletus)*
- ○ *C*ommon sole (*Solea solea)*
- ○ Common sea bream (*Pagrus pagrus)*
- ○ Dolphinfish *(Coryphaena hippurus)*
- ○ European whiting (*Merlangius merlangus)*
- ○ White sea-bream (*Diplodus sargus)*
- ○ Striped sea-bream *(Lithognathus mormyrus)*
- ○ Seabass *(Dicentrarchus labrax)*
- ○ Groupers *(Epinephelus spp.)*

- ○ Spanish sea-bream (*Pagellus acarne)*
- ○ Annular sea-bream (*Diplodus annularis)*
- ○ Picarel *(Spicara smaris)*
- ○ European sprat (*Sprattus sprattus*)
- ○ Turbot (*Scophthalmus maximus)*
- ○ Two-banded sea bream (*Diplodus vulgaris)*
- ○ Sharpsnout sea-bream (*Diplodus puntazzo)*
- ○ Wreckfish *(Polyprion americanus)*
- ○ Mackerel *(Scomber spp.)*
- ○ Piked dogfish (*Squalus acanthias*)
- ○ Venus clams (*Chamelea gallina)*
- ○ Octopus *(Octopodidae)*
- ○ Caramote prawns *(Penaeus kerathurus)*
- ○ Mantis shrimp *(Squilla mantis)*
- ○ Norway lobster *(Nephrops norvegicus)*
- ○ Giant red shrimp *(Aristaeomorpha foliacea)*
- ○ Crawfish *(Palinurus spp.)*
- ○ Lobster *(Homarus gammarus)*
- ○ Mediterranean slipper lobster *(Scyllarides latus)*

(If respondent chooses the Central subregion species in question one, question 3 looks like this:)

3. European hake (*Merluccius merluccius*), Deepwater rose shrimp (*Parapenaeus longirostris*), European anchovy (*Engraulis encrasicolus*), Sardine (*Sardina pilchardus*), Giant red shrimp (*Aristaeomorpha foliacea*), and Red mullet (*Mullus barbatus*) are considered relevant by the Regional Fisheries Management Organisation to IUU fishing in the GFCM Area of Application – Central subregion.

Which other species do you believe contributes the most to IUU fishing? Choose only one.

- ○ Red sea-bream *(Pagellus bogaraveo)*
- ○ Atlantic bonito *(Sarda sarda)*
- ○ Round sardinella *(Sardinella aurita)*
- ○ Horse mackerel, Scad (*Trachurus spp.)*
- ○ Bogue (*Boops boops*)
- ○ Common Pandora *(Pagellus erythrinus)*
- ○ Gilt-head sea bream (*Sparus aurata)*
- ○ Striped red mullet (*Mullus surmuletus)*
- ○ *C*ommon sole (*Solea solea)*
- ○ Common sea bream (*Pagrus pagrus)*
- ○ Dolphinfish *(Coryphaena hippurus)*
- ○ European whiting (*Merlangius merlangus)*
- ○ White sea-bream (*Diplodus sargus)*
- ○ Striped sea-bream *(Lithognathus mormyrus)*
- ○ Seabass *(Dicentrarchus labrax)*
- ○ Groupers *(Epinephelus spp.)*
- ○ Spanish sea-bream (*Pagellus acarne)*

- ○ Annular sea-bream (*Diplodus annularis)*
- ○ Picarel *(Spicara smaris)*
- ○ European sprat (*Sprattus sprattus*)
- ○ Turbot (*Scophthalmus maximus)*
- ○ Two-banded sea bream (*Diplodus vulgaris)*
- ○ Sharpsnout sea-bream (*Diplodus puntazzo)*
- ○ Wreckfish *(Polyprion americanus)*
- ○ Mackerel *(Scomber spp.)*
- ○ Piked dogfish (*Squalus acanthias*)
- ○ Venus clams (*Chamelea gallina)*
- ○ Octopus *(Octopodidae)*
- ○ Caramote prawns *(Penaeus kerathurus)*
- ○ Mantis shrimp *(Squilla mantis)*
- ○ Norway lobster *(Nephrops norvegicus)*
- ○ Red shrimp *(Aristeus antennatus*)
- ○ Crawfish *(Palinurus spp.)*
- ○ Lobster *(Homarus gammarus)*
- ○ Mediterranean slipper lobster *(Scyllarides latus)*

(If respondent chooses the Adriatic Sea subregion species in question one, question 3 looks like this:)

3. European hake (*Merluccius merluccius*), Red mullet (*Mullus barbatus*), Deepwater rose shrimp (*Parapenaeus longirostris*), European anchovy (*Engraulis encrasicolus*), Sardine (*Sardina pilchardus*), and Common sole (*Solea solea*) are considered relevant by the Regional Fisheries Management Organisation to IUU fishing in the GFCM Area of Application – Adriatic Sea.

Which other species do you believe contributes the most to IUU fishing? Choose only one.

- ○ Red sea-bream *(Pagellus bogaraveo)*
- ○ Atlantic bonito *(Sarda sarda)*
- ○ Round sardinella *(Sardinella aurita)*
- ○ Horse mackerel, Scad (*Trachurus spp.)*
- ○ Bogue (*Boops boops*)
- ○ Common Pandora *(Pagellus erythrinus)*
- ○ Gilt-head sea bream (*Sparus aurata)*
- ○ Striped red mullet (*Mullus surmuletus)*
- ○ Common sea bream (*Pagrus pagrus)*
- ○ Dolphinfish *(Coryphaena hippurus)*
- ○ European whiting (*Merlangius merlangus)*
- ○ White sea-bream (*Diplodus sargus)*
- ○ Striped sea-bream *(Lithognathus mormyrus)*
- ○ Seabass *(Dicentrarchus labrax)*
- ○ Groupers *(Epinephelus spp.)*
- ○ Spanish sea-bream (*Pagellus acarne)*
- ○ Annular sea-bream (*Diplodus annularis)*

- ○ Picarel *(Spicara smaris)*
- ○ European sprat (*Sprattus sprattus*)
- ○ Turbot (*Scophthalmus maximus)*
- ○ Two-banded sea bream (*Diplodus vulgaris)*
- ○ Sharpsnout sea-bream (*Diplodus puntazzo)*
- ○ Wreckfish *(Polyprion americanus)*
- ○ Mackerel *(Scomber spp.)*
- ○ Piked dogfish (*Squalus acanthias*)
- ○ Venus clams (*Chamelea gallina)*
- ○ Octopus *(Octopodidae)*
- ○ Caramote prawns *(Penaeus kerathurus)*
- ○ Mantis shrimp *(Squilla mantis)*
- ○ Norway lobster *(Nephrops norvegicus)*
- ○ Red shrimp *(Aristeus antennatus*)
- ○ Giant red shrimp *(Aristaeomorpha foliacea)*
- ○ Crawfish *(Palinurus spp.)*
- ○ Lobster *(Homarus gammarus)*
- ○ Mediterranean slipper lobster *(Scyllarides latus)*

(If respondent chooses the Eastern subregion species in question one, question 3 looks like this:)

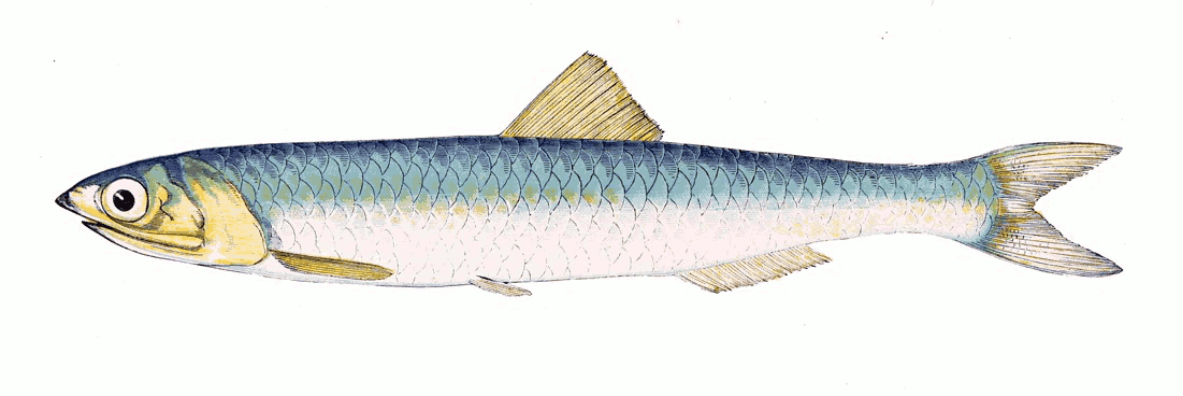
3. European hake (*Merluccius merluccius*), Red shrimp (*Aristaeomorpha foliacea*), Red mullet (*Mullus barbatus*), European anchovy (*Engraulis encrasicolus*), Sardine (*Sardina pilchardus*), and Round sardinella (*Sardinella aurita*), are considered relevant by the Regional Fisheries Management Organisation to IUU fishing in the GFCM Area of Application – Eastern subregion.

Which other species do you believe contributes the most to IUU fishing? Choose only one.

- ○ Red sea-bream *(Pagellus bogaraveo)*
- ○ Atlantic bonito *(Sarda sarda)*
- ○ Horse mackerel, Scad (*Trachurus spp.)*
- ○ Bogue (*Boops boops*)
- ○ Common Pandora *(Pagellus erythrinus)*
- ○ Gilt-head sea bream (*Sparus aurata)*
- ○ Striped red mullet (*Mullus surmuletus)*
- ○ *C*ommon sole (*Solea solea)*
- ○ Common sea bream (*Pagrus pagrus)*
- ○ Dolphinfish *(Coryphaena hippurus)*
- ○ European whiting (*Merlangius merlangus)*
- ○ White sea-bream (*Diplodus sargus)*
- ○ Striped sea-bream *(Lithognathus mormyrus)*
- ○ Seabass *(Dicentrarchus labrax)*
- ○ Groupers *(Epinephelus spp.)*
- ○ Spanish sea-bream (*Pagellus acarne)*
- ○ Annular sea-bream (*Diplodus annularis)*

- ○ Picarel *(Spicara smaris)*
- ○ European sprat (*Sprattus sprattus*)
- ○ Turbot (*Scophthalmus maximus)*
- ○ Two-banded sea bream (*Diplodus vulgaris)*
- ○ Sharpsnout sea-bream (*Diplodus puntazzo)*
- ○ Wreckfish *(Polyprion americanus)*
- ○ Mackerel *(Scomber spp.)*
- ○ Piked dogfish (*Squalus acanthias*)
- ○ Venus clams (*Chamelea gallina)*
- ○ Octopus *(Octopodidae)*
- ○ Caramote prawns *(Penaeus kerathurus)*
- ○ Mantis shrimp *(Squilla mantis)*
- ○ Norway lobster *(Nephrops norvegicus)*
- ○ Giant red shrimp *(Aristaeomorpha foliacea)*
- ○ Crawfish *(Palinurus spp.)*
- ○ Lobster *(Homarus gammarus)*
- ○ Mediterranean slipper lobster *(Scyllarides latus)*

Species X
[Questions 4 – 12 need to be completed for priority species and for the species selected in question 3]
Example: European anchovy (*Engraulis encrasicolus*)



4. Which of the options below best describes your experience with [selected species] fishing and related IUU activity?

- ○ Little or no experience
- ○ Second-hand indirect experience (e.g., somebody told you something that he heard)
- ○ Second-hand direct experience (e.g., somebody you know observed something)
- ○ Personal indirect experience (e.g., you saw reliable reports and other information)
- ○ Personal direct experience (e.g., you saw something or talked to someone)

5. In your opinion, illegal catches of [selected species] make up what percentage of annual landings in your country? Please slide the bar to indicate your best guess.

	0% 100%
Illegal catches as a percentage of annual landings	

6. In your opinion, what is the percentage of annual landings of the [selected species] that are harvested illegally by small-scale vs commercial fishing? For the purposes of this survey, we define *small scale fishing* as being boats no greater than 12m length, which are not using bottom trawl fishing techniques.

	50% 50%	
Small-scale fishing (1)		Commercial fishing (2)

7. In your opinion, please rank the frequency of the type of illegal activities below for the [selected species] both for small-scale and commercial fishing.

	Small-scale fishing				Commercial fishing			
	Never (1)	Sometimes (2)	Mostly (3)	Always (4)	Never (1)	Sometimes (2)	Mostly (3)	Always (4)
Illegal season	○	○	○	○	○	○	○	○
Prohibited fishing gear	○	○	○	○	○	○	○	○
Illegal landing size	○	○	○	○	○	○	○	○
Unauthorized landing port or location	○	○	○	○	○	○	○	○
Illegal transshipping	○	○	○	○	○	○	○	○
Illegal fishing location	○	○	○	○	○	○	○	○
Illegally discarding fish; or other selection	○	○	○	○	○	○	○	○

8. Which regulations do you believe are being breached? Select all that apply.

- ○ GFCM regulations
- ○ National regulations
- ○ Other (inc EU regulations) – please specify

9. In your opinion, which participants below are consciously participating in IUU fishing for the [selected species] (you may choose more than one answer).

- ○ Individual-fishermen
- ○ Organized-fishermen
- ○ Organized-fishermen through intermediaries
- ○ Fishermen-intermediary-exporter
- ○ I don’t know

10. In your opinion, please indicate the point(s) in the supply chain at which illegal fishing activities occur for [selected species]. Examples of such activities might include mislabeling products, using illegal transport routes, dealing with unauthorized processors, or directly illegal fishing activities.

	Never (1)	Sometimes (2)	Mostly (3)	Always (4)	I don't know (5)
Fishers	○	○	○	○	○
Purchaser	○	○	○	○	○
Processor	○	○	○	○	○
Wholesaler	○	○	○	○	○
Exporter	○	○	○	○	○
Restaurateur	○	○	○	○	○

11. In your opinion, please rank the infrastructures below according to the likelihood they are involved in IUU fishing activities for the [selected species]. Rank all from 1 to 7, with 1 being the most likely and 7 being the least likely.

Rank 1 to 7

- ○ Fishing boats
- ○ Refrigerated trucks
- ○ Processing plants
- ○ Markets
- ○ Restaurants
- ○ Transshipping boats
- ○ Exporters

12. Where do you believe the majority of illegally caught fish end up? Please rank in order, with 1 being most likely, 4 being least likely.

- ○ Local markets
- ○ National markets
- ○ International markets in neighbouring countries
- ○ International markets further afield
- ○ I don't know

End of Block

Thank you.

We are very grateful for your time to answer this online survey. Please add any additional information that was not considered in this survey about the IUU fishing, any species of interest or general comments.

All respondents will remain anonymous and all responses will remain confidential.

Appendix 7

Technical elements for the management of selected fisheries

Appendix 7/A

Technical elements for the management of European eel in the Mediterranean sea

1. Scope of the management plan

- The management plan should cover all med GSAs 1 – 27.
- The plan should address, possibly, all fishing activities, including recreational fisheries, carried out in all habitats inhabited by the species (sea, estuaries, coastal lagoons, lakes, rivers and reservoirs, etc.)
- The plan should include all life stages of eel
- The plan should envisage measures to be applied on a precautionary basis (based on the critical state recognized by the SAC in previous years) as well as other adaptive measures based on future advice on the evolution of the state of resources and fisheries.

2. Objectives

Following the GFCM guidelines on management plans (GFCM/36/2012), [and in line with the proposals of WKMEASURES_EEL], the regional plan should consider inter alia the following options:

- To counteract overfishing with a view to ensure the sustainable economic viability of fisheries;
- To establish measures towards the recovery of the stock, and the restoration, in the long term, the stock size to levels which can enable exploitation of the resource while ensuring its conservation

Operational objectives

On a precautionary basis:

- Minimize IUU, through an adequate governance system, including licensing system and an account of catches and discards.
- Reduce fishing pressure [effort , capacity , catches]
- Increase spatio-temporal protection measures
- Increase escapement rates (qualitatively, through gear restrictions or other optional measures e.g. release quotas)

Based on Scientific Advice (when available):

- Increase escapement rates (quantitatively, based on scientific assessment)
- To maintain the biomass above agreed precautionary targets (e.g. $B_{curr}/B_0 > 40\%$ for silver eel)
- To maintain indicators of stock status and fishing pressure at levels which allows the long term exploitation of the resource while ensuring its conservation.

3. Indicators and reference points

Indicators should contribute to assess the achievement of objectives. In order to analyse the trends, the management plan should include precise instructions of the periods of time used to analyse changes.

On a precautionary basis:

- Catches by life stage
- Fishing capacity (e.g. number of authorized vessels) and fishing effort.

Based on scientific advice:

- Escapement rates
- Recruitment
- Biomass ($B_{current}$, with reference points B_0 and B_{best})
- Fishing mortality
- Socio-economic indicators (e.g. price, total value, employment, revenue)

B_0 The amount of silver eel biomass that would have existed if no anthropogenic influences had impacted the stock;

$B_{current}$ The amount of silver eel biomass that currently escapes to the sea to spawn;

B_{best} The amount of silver eel biomass that would have existed if no anthropogenic influences had impacted the current stock, included re- stocking practices, hence only natural mortality operating on stock.

4. Fisheries management measures

In order to reach the objectives of the regional management plan, and without prejudice to stricter measures adopted nationally, countries should consider the adoption of the following management measures for European eel.

Management measures	Examples
Participatory restrictions	A specific fishing authorization to operate in this fishery should be implemented. This authorization should have requisites attached to it, including the type of gear used and specific requirements e.g. the number of cod-ends in, etc. Criteria for allocation of specific authorizations; e.g. maintaining capacity, possibly ensuring traditional rights, etc.
Reporting obligations	Establishment of a reporting protocol including: • catches • location of landing points • origin and destination of catches towards ensuring traceability

Management measures	Examples
Spatial restrictions	Establishment of closed areas (e.g. FRAs) Lagoons and lakes: • Reduce % area available for fishing Closure of fisheries in specific inland water habitats
Temporal restrictions	Closed seasons, by life stage, including a minimum of three months for the different life stages.
Gear restrictions	Authorised gear types, by life stage Traps and static nets, including fyke nets: • Minimum mesh size of cod-ends, and gathering panels • Gear dimensions • Number of fishing gears per fishing licence • Fishing operations (e.g. spacing between gear, number of cod-ends per fyke net) Longlines: • Number and size of hooks for longlines Fish barriers: • Management so to allow escapement of a % of silver eels Improve the selectivity of the gear to reduce the capture of immature individuals
Restocking	Amount and source of eels below 20cm used for restocking Aim and destination of restocking
Catch restrictions	Establishing catch restrictions for all life stages (glass eel, yellow eel and silver eel)

5. Decision rules

The management plan may include decision rules in case objectives are not met, including on the following:

On a precautionary basis:

- If IUU remains at similar levels
- If fishing pressure is not reduced

Based on scientific advice:

- If target escapement rates are not met
- If reference points are not met or been approached within the time limits expected

Decision rules should include automatic management measures (e.g. automatic reduction on catches, licenses, etc., see table in Section 4) to be applied when objectives are not met. Once decision rules are adopted, the application should be based on a technical advice carried out by SAC (see below).

6. Scientific monitoring

The Scientific Advisory Committee (SAC) of the GFCM should be responsible for advice on the status of the indicators described in point 3, including both on a precautionary approach and

towards a comprehensive scientific advice on the status of stocks and economic indicators of fisheries, including on the potential effect of alternative management measures.

Also, SAC should advice on appropriate measures towards the achievement of the long term management goals.

Monitoring should be ensured through adequate actions at national scale that allows to compile the information requested by the SAC, including through the DCRF.

The SAC and its subsidiary bodies (including WGEEL and if necessary dedicated expert meetings) should do assessment of the quality of information submitted to provide the required advice on a regular basis.

7. Research priorities to improve the assessment and management of fisheries

The research should focus on providing a comprehensive advice that allows to implement a fully science-based adaptive management plan.

The list of research priorities should be organized based on the measures imposed, including:

- Improve fisheries monitoring and data collection;
- Studies on migration routes and distribution patterns in the Med;
- Recruitment and escapement surveys;
- Carrying capacity and productivity in different habitats;
- Improve knowledge on mortality factors to prioritize management actions, including pathologies, predation, etc.;
- Assessing mortality in the context of restocking;
- Fishing technology and selectivity;
- Encourage research collaboration among countries;

SAC should discuss on a comprehensive research programme for European eel in the Mediterranean Sea, for example considering the research programme on red coral adopted recently.

8. Fisheries Monitoring, Control and Surveillance

Management plan should follow existing recommendations, in particular those included in Recommendation GFCM/41/2017/7 and take into consideration relevant aspects included in adopted resolutions related to MCS.

In particular, due to the need to reduce IUU, dedicated actions to curb IUU should be proposed, including through improved inspections, etc.

9. Review of the management plan

The contents of the management plans should be periodically reviewed in order to accommodate changes in the fisheries system. Comprehensive roadmaps will be provided by SAC for the assessment and management of the fishery.

Appendix 7/B

Technical elements for the protection of VMEs in the GFCM area of application

A – Technical elements for the establishment of a VME encounter reporting protocol in the GFCM area of application

1. Introduction

Resolutions of the United Nations General Assembly on sustainable fisheries of 2004[1], 2006[2] and 2009[3] call upon regional fisheries management organizations (RFMOs) to take urgent action to protect vulnerable marine ecosystems (VMEs) from significant adverse impact in areas beyond national jurisdiction.

2. Objective

Further implement the precautionary approach for managing deep-sea fisheries (DSF) with respect to VMEs, due to the difficulty in acquiring data on VMEs location and extent and with a view to avoiding the risk of significant adverse impacts (SAIs) by fisheries, GFCM should adopt a VME Encounter Protocol for the DSF operating in its area of application.

GFCM Contracting Party or Cooperating non-Contracting Party (CPCs) should consider, as necessary, applying additional management measures to their flagged vessels undertaking DSF to avoid overexploitation of resources and to avoid SAIs on VMEs.

3. Definitions

The list of VME Indicator Features, Habitats and Taxa for the Mediterranean Sea is given in Annex 1.

4. Scope

- *Geographical coverage:* Mediterranean Sea (GSAs 01 to 28)
- *Fisheries*

The following fisheries shall be considered:

i. all fishing vessels above 15 m (LOA) operating with bottom contact fishing gear fishing for *Aristaeomorpha foliacea*, *Aristeus antennatus*, or *Plesionika martia*

ii. all fishing vessels above 15 m (LOA) operating with bottom contact gears (bottom trawls, longlines, gillnets and pots and traps) at depths deeper than 300 m and all offshore seamounts;

For the purposes of these technical elements, the fisheries described above shall be referred to as "deep-sea fisheries" (DSFs).

5. Encounter protocol

- *Encounter:* an encounter with VME Indicator Taxa is defined as any catch of VME Indicator Taxa obtained by any DSF.

Encounter rule: following an encounter with VME Indicator Taxa during DSF, the vessel captain shall immediately report the encounter to the flag State, on the form provided in Annex 2, including the following information:

i. the position of the vessel, either by the start and end point of the tow or set, or by another position that is closest to the exact encounter location;

ii. the fishing characteristics of the vessel;

[1] A/RES/59/25
[2] A/RES/61/105
[3] A/RES/64/72

iii. the groups of the VME Indicator Taxa encountered and the best estimates of their live weight (kg).

6. Reporting to GFCM Secretariat

Upon notification by the vessel captain, as described above, relevant CPCs shall forward, within 30 days, the encounter information reported by the vessel captain, to the GFCM Secretariat, including by electronic means.

7. Review of the information gathered by mean of the VME Encounter Protocol

The GFCM Secretariat shall compile the data received with the encounter protocols and set up maps of the distribution of encounters with VME Indicator Taxa, including their abundance by group. The GFCM Secretariat shall regularly inform the SAC about the reported catches of VME Indicator Taxa in Mediterranean fisheries. The SAC shall review this information and, based upon the best scientific evidence available, evaluate the occurrence of VMEs and propose to the Commission, as appropriate, the establishment of new management measures, including FRAs, to ensure the protection of these ecosystems.

8. Observers

The use of scientific observers to assist the crew in data collection is encouraged in order to allow the identification of the VME Indicator Taxa to the lowest taxonomic level and to obtain information on bycatch composition.

9. CPCs responsibilities

CPCs should consider adopting temporary closures and apply these to their flagged vessels if they consider that the encounter has identified a VME. Any measure adopted in this sense should be reported to the GFCM Secretariat for further notification to the SAC.

Appendix 7(B) /Annex 1

Mediterranean VME indicator features, habitats and taxa

(a) Mediterranean VME indicator features

The following features potentially support VMEs:

Seamounts and volcanic ridges
Canyons and trenches
Steep slopes
Submarine reliefs (*slumped blocks, ridges, cobble fields, etc.*)
Cold seeps (*pockmarks, mud volcanoes, reducing sediment, anoxic pools, methanogenetic hard bottoms*)
Hydrothermal vents

(b) Mediterranean VME indicator habitats

The following habitats potentially support VMEs:

Cold-water coral reefs
Coral gardens
- Hard-bottom coral garden
- Soft-bottom coral gardens

Sea pen fields
Deep-sea sponge aggregations
- "Ostur" sponge aggregations
- Hard-bottom sponge gardens
- Glass sponge communities
- Soft-bottom sponge gardens

Tube-dwelling anemone patches
Crinoid fields
Oyster reefs and other giant bivalves
Seep and vent communities
Other dense emergent fauna

(c) Mediterranean VME indicator taxa

Phylum	Class	Subclass (Order)
Cnidaria	Anthozoa	Hexacorallia (Antipatharia, Scleractinia)
		Octocorallia (Alcyonacea, Pennatulacea)
		Ceriantharia
	Hydrozoa	Hydroidolina
Porifera (sponges)	Demospongiae	
	Hexactinellida	Amphidiscophora
		Hexasterophora
Bryozoa	Gymnolaemata	
	Stenolaemata	
Echinodermata	Crinoidea	Articulata
Mollusca	Bivalvia	Gryphaeidae (*Neopycnodonte cochlear, N. zibrowii*)
		Heterodonta* (Lucinoida) (e.g. *Lucinoma kazani*)
		Pteriomorphia* (Mytiloida) (e.g. *Idas modiolaeformis*)
Annelida*	Polychaeta	Sedentaria (Canalipalpata) (e.g. *Lamellibrachia anaximandri, Siboglinum* spp.)
Arthropoda*	Malacostraca	Eumalacostraca (Amphipoda) (e.g. *Haploops* spp.)

*only chemosynthetic species that indicate the presence of a cold seep or hydrothermal vent are considered

Appendix 7 (B) /Annex 2

VME encounter reporting in the GFCM area of application

Separate forms to be completed for each deployment of the fishing gear (haul/set) in which VME Indicator Taxa are caught.

A. Fishing Trip Information	
Country:	
Vessel name:	
Captain (name and last name):	
Date of encounter (dd/mm/yyyy):	
B. Fleet and gear information[4]	
Fleet segment:	
Fishing gear:	
C. VME Encounter coordinates	
GSA:	**Statistical grid:**
Point 1 (Start)	**Point 2 (End)**
Latitude:	Longitude:
Latitude:	Longitude:
Fishing depth (average or range, m):	
VME Feature and/or Habitat (Annex 1 a and b)	
D. VME Indicator Taxa catch information (Annex 1 c)	
Total live weight of **corals** in the haul/set (kg):	
Total live weight of **sponges** in the haul/set (kg):	
Total live weight of **other vulnerable benthic taxa** in the haul/set (kg):	
E. VME Indicator Taxa (by trained observers on board)	
Identify VME Taxa to lowest taxonomic level (species if possible) and provide comments.	
F. Pictures of VME Indicator Taxa (by fishers and/or observers on board)	
Take pictures of the different VME Indicator Taxa and submit them as an attachment to the current form.	

[4] Refer to: GFCM, 2016. GFCM Data Collection Reference Framework (DCRF) (http://www.fao.org/gfcm/data/dcrf/en/)

B - Technical elements for mapping existing deep-sea fishing areas in the GFCM area of application

1. Introduction

Resolutions of the United Nations General Assembly on sustainable fisheries of 2004[5], 2006[6] and 2009[7] call upon regional fisheries management organizations (RFMOs) to take urgent action to protect vulnerable marine ecosystems (VMEs) from significant adverse impact in areas beyond national jurisdiction.

2. Objectives

The deep-sea bottom fisheries of the Mediterranean target only a few species that are fished on specific habitats. In order to manage these fisheries sustainably, and prohibit any significant adverse impacts they may cause on non-target species and VMEs, it is necessary to map the distribution of the existing deep-sea bottom fishing areas.

3. Definitions

"Existing deep-sea bottom fishing areas", means that portion of the GFCM area of application where deep-sea bottom fishing has occurred according to the map adopted under Section B Paragraph 5..

"Exploratory (or new) deep-sea bottom fishing" occurs during the initial development phase of a DSF when the DSF operates in areas that have not been previously fished or in fished areas following significant changes in the gear or effort, as described in paragraphs 23, 55, 61 and 65 of the *FAO International Guidelines for the Management of Deep Sea Fisheries in the High Seas*.

4. Scope

- *Geographical coverage:* Mediterranean Sea (GSAs 01 to 28)
- *Fisheries*

The following fisheries shall be considered:

i. bottom trawlers above 15 m (LOA) fishing for *Aristaeomorpha foliacea, Aristeus antennatus,* or *Plesionika martia;*

ii. all fishing vessels above 15 m (LOA) operating with bottom contact gears (bottom trawls, longlines, gillnets and pots and traps) at depths deeper than 300 m and all offshore seamounts;

For the purposes of these technical elements, the fisheries described above shall be referred to as "deep-sea fisheries" (DSFs).

5. Management measure

GFCM Contracting Party or Cooperating non-Contracting Party (CPCs) with vessels involved in "deep-sea bottom fisheries" shall submit to the extent possible and no later than 31 December 20[20] comprehensive maps of existing deep-sea bottom fishing areas [during the five-year period of 2012-2016] to the GFCM Secretariat. Maps shall be based on VMS/AIS data and/or other available geo-reference data and be expressed in as precise spatial and temporal resolution as possible. The submission of the detailed gear deployment position information will facilitate the mapping process. Priorities should be given to bottom trawling below 300 m, but it is highly desirable to map other types of fishing gears that contact the seafloor during normal use, e.g. bottom set longlines, gillnets, trammel nets, and pots. Contracting Parties may, in the future, consider the possibility of refining these maps on the basis of haul-by-haul information, if available. GFCM Secretariat shall compile a composite map, preferably by gear type, of the existing deep-sea bottom fishing areas within the GFCM area of application. The

[5] A/RES/59/25
[6] A/RES/61/105
[7] A/RES/64/72

SAC shall review this information and based upon the scientific evidence available, adopt the map defining the existing bottom fishing areas in the GFCM area of application. The map shall be revised regularly to incorporate any new relevant information.

C - Technical elements for management elements for the establishment of an exploratory deep-sea bottom fishing reporting protocol in the GFCM area of application

1. Introduction

Resolutions of the United Nations General Assembly on sustainable fisheries of 2004[8], 2006[9] and 2009[10] call upon regional fisheries management organizations (RFMOs) to take urgent action to protect vulnerable marine ecosystems (VMEs) from significant adverse impact in areas beyond national jurisdiction.

2. Objectives

To ensure that exploratory or new deep-sea fishing activities are only allowed to expand at a rate consistent with the knowledge and management of that fishery. This will avoid overexploitation of targeted deep-sea fish stocks. Further, great care needs to be taken to ensure that VMEs are mapped and known, and suitable mitigation measures applied to ensure their protection from significant adverse impacts resulting from any new fishery.

3. Definitions

"Existing deep-sea bottom fishing areas", means that portion of the GFCM area of application where deep-sea bottom fishing has occurred according to the map adopted under Section B Paragraph 5.

"Exploratory (or new) deep-sea bottom fishing" occurs during the initial development phase of a DSF when the DSF operates in areas that have not been previously fished or in fished areas following significant changes in the gear or effort, as described in paragraphs 23, 55, 61 and 65 of the *FAO International Guidelines for the Management of Deep Sea Fisheries in the High Seas*.

4. Scope

- *Geographical coverage:* Mediterranean Sea (GSAs 01 to 28)
-
- *Fisheries:* All fishing vessels above 15 m (LOA) operating with bottom contact gears (bottom trawls, longlines, gillnets and pots and traps) are considered undertaking Exploratory (or new) deep-sea bottom fishing when operating:
  i. On VME Indicator Features (see Annex 1 a)
  ii. Outside of the existing bottom deep-sea fishing areas
  iii. Inside of existing bottom fishing areas with bottom-contact fishing gears not previously used or when significant increases of effort are planned or when a new fishery is developing

5. Management measure

GFCM Contracting Party or Cooperating non-Contracting Party (CPCs) of flagged fishing vessels undertaking exploratory (or new) deep-sea bottom fishing shall be required to complete the Exploratory deep-sea bottom fishing protocol provided in Annex 1, including the following information:

i. the start and end point of each tow or set;

ii. the fishing characteristics of the vessel including the gear used;

iii. the GSA area and the Statistical Grid where the exploratory deep-sea fishing occurred;

[8] A/RES/59/25
[9] A/RES/61/105
[10] A/RES/64/72

iv. the catch, the bycatch, the discards, and fishing effort;

v. VME Indicator Taxa (if any) through the VME Encounter Protocol.

6. Reporting to GFCM Secretariat

Upon notification by the vessel captain, as described above, relevant CPCs shall forward, within 30 days, the exploratory deep-sea bottom protocol form reported by the vessel captain, to the GFCM Secretariat, including by electronic means.

7. Review of the information gathered through the exploratory deep-sea bottom protocol

The GFCM Secretariat shall compile the data received with the exploratory deep-sea bottom protocol and shall regularly inform the SAC. The SAC shall review this information.

8. Observers

The use of scientific observers to assist in data collection and reporting is highly desirable according to the GFCM DCRF[11].

[11]Refer to: GFCM, 2016. GFCM Data Collection Reference Framework (DCRF) (http://www.fao.org/gfcm/data/dcrf/en/).

Appendix 7 (B) /Annex 3

Exploratory deep-sea fishing reporting in the GFCM area of application (Mediterranean Sea)
Separate forms must be completed for each new exploratory deep-sea fishing trip

A. Fishing Trip Information
Country:
Vessel name:
Captain (name and last name):
Dates of exploratory fishing trip (dd/mm/yyyy format):

B. Fleet and gear information[12]
Fleet segment:
Fishing gear:

Area information	
GSA:	**Statistical grid**[13]**:**
Area fished (coordinates-attach map):	
VME Indicator Feature (if any):	
Depth range fished (m):	
Fishing effort:	

C. Catch summary
List main commercial species and quantities caught during the exploratory deep-sea bottom fishing

D. Bycatch summary
Provide details of bycatch species

D. VME Indicator Taxa
Use the provided VME Encounter Protocol for any catch of VME Indicator Taxa

E. Comments (by fishing crew)

[12] Refer to: GFCM, 2016. GFCM Data Collection Reference Framework (DCRF) (http://www.fao.org/gfcm/data/dcrf/en)
[13] Refer to: Appendix M - Geographic statistical grid for red coral, DCRF. GFCM, 2016. GFCM Data Collection Reference Framework (DCRF)

Appendix 7/C

Technical elements for the management of fisheries for blackspot seabream (*Pagellus bogaraveo*) in the Strait of Gibraltar

1. Scope of the management plan

The management plan should address all fisheries targeting *Pagellus bogaraveo*, in GSA 01-03 including recreational fisheries. Adaptive management measures addressing the management unit of the Strait of Gibraltar (see figure) shall be based on a quantitative advice for this unit, to be provided by SAC by 2019, while precautionary measures in line with Recommendation GFCM/41/2017/2 shall be applied in the rest of the area mentioned in this scope.

2. Objectives

Improving the exploitation pattern of blackspot seabream fisheries

Operational objectives

To maintain fishing mortality for blackspot seabream within precautionary reference points and to achieve as soon as possible or maintain the maximum sustainable yield.
In order to do that, FMSY, Bpa and BLim should be established by 2019

3. Fisheries management measures

Recommendation GFCM/41/2017/2 request concerned CPCs to maintain the fishing fleet capacity or fishing effort at levels authorized and applied in recent years for the exploitation of blackspot seabream in the Alboran Sea.

In this respect, fishing capacity for longliners (including Spanish and Moroccan voraceras) as well as small scale vessels using mainly longlines and handlines, should be understood as the combination of a **unit of activity** (fishing days) and a **unit of capacity** (number of hooks).

The management plan could also consider the need to assess and minimize any potential impact of existing fishing gears on the seabed, including through the possibility of testing alternative gears/materials.

In addition to the above, the following management measures, including those proposed within Recomendation GFCM/41/2017/2 as well as additional potential management measures , could be considered, taking into account the comments provided by Morocco and Spain.

Management measures	Comments	Morocco	Spain
Spatial restrictions	Rec. GFCM/41/2017/2 request countries to consider this type of measures and inform on spatial closures	No available information on exact areas to be protected	No available information on exact areas to be protected The fishing grounds within the Strait of Gibraltar are reduced, difficult to impose spatial restriction. Juveniles are outside the Strait of Gibraltar and it could be important to establish some protection.
Temporal restrictions	Rec. GFCM/41/2017/2 request countries to consider this type of measures and inform on temporal restrictions	Wait for results on biological cycles in the area	Previous temporal restriction (2 months February and March – coincides with the spawning period) not active from 2016. Future management plan could agree on common temporal closure
Gear restrictions	Rec. GFCM/41/2017/2 request passive fishing gear, including markers and intermediary buoys, shall permanently display the registration letters and numbers reported on the hull of the fishing vessel to which they belong	Fishing gears used are not considered passive gears by Morocco.	Already included in EU regulation. The gear is linked in the boat and is therefore not considered a passive gear, no extra mark used.
Minimum size	Minimum conservation reference sizes should be defined and harmonized in the sub-region, based on the best scientific knowledge about maturity.	Currently 25cm Fork Length. Any revision pending future results of the biological sampling.	Currently 33cm Total Length, coming from a STECF scientific assessment, related to sex change, applicable both in the Atlantic and Mediterranean waters. As there are studies on high survival rate, alive release of below size individuals should be considered as a possibility

4. Decision rules

The management plan will include decision rules with pre-agreed measures to be adopted under different conditions of the stock in relation to agreed biological reference points. The specific technical measures to be adopted under each stock status scenarios are to be defined in appropriate national and sub-regional working groups, taking into account the socioecomic impacts of the proposed measures.

5. Scientific monitoring

The Scientific Advisory Committee (SAC) of the GFCM should be responsible for advice on status of stocks and economic indicators of fisheries.

Adequate and periodic scientific monitoring of fisheries (including socioeconomic indicators) and exploited stocks at national level should be ensured so that SAC is in a position to provide scientific advice.

Monitoring and reporting of the number of hooks used in a fishing operation will be desirable in order to have a precise estimate of effort.

6. Research priorities to improve the assessment and management of fisheries

The list of research priorities should be organized based on the measures proposed within the plan. As a first indication and based on the advice provided by the Working Groups on Stock assessment, potential research priorities could include:

- Continue the current monitoring on landings and length frequency distributions of landings;
- Start biological sampling in both countries (Morocco and Spain);
- Keep exploring analytical tools such as GADGET to assess the stock;
- Conduct a study on stock boundaries;
- Establish observers on board programmes for both the target fishery and the trawl fishery;
- Launch a survey to obtain a fishery-independent index;
- Standardize effort between countries;
- Collect relevant socio-economic data towards their future inclusion in a Management Strategy Evaluation framework;
- Collect data regarding recreational fisheries, and
- Understand interactions between the fishery and the environment.

7. Fisheries Monitoring

Management plan should follow existing recommendations, in particular those included in Recommendation GFCM/41/2017/2 in relation to the register of fishing authorizations, and take into consideration relevant aspects included in adopted resolutions related to MCS.

8. Review of the management plan

The contents of the management plans should be periodically reviewed in order to accommodate changes in the fisheries. Comprehensive roadmaps will be provided by SAC for the assessment and management of the fishery.

Appendix 7/D

Technical elements for the management of bottom trawling fisheries for deep-water red shrimps (*A. foliacea* and *A. antennatus*) in the central-eastern Mediterranean (GSAs 12 – 16; 19 -27)

Draft integrating the proposals from SRC-EM and SRC-CM

1. Scope of the management plan

The management plan should cover the central and eastern Mediterranean, corresponding to GSAs 12-16 and 19-27. The main species are *A. antennatus* and *A. foliacea*; however, for some countries catches from both species are recorded together as a single category of "shrimps".

2. Objectives

Following the GFCM guidelines on management plans (GFCM/36/2012), [and in line with the proposals of WGVME], the regional plan should consider inter alia the following options:

To counteract and/or to prevent overfishing with a view to ensure the sustainable economic viability of fisheries;

To establish measures that ensure sustainable exploitation of resources;

To maintain and/or to restore, to the extent possible, the stock size of harvested species at least at levels which can produce the maximum sustainable yield;

To guarantee a low risk of stocks falling outside safe biological limits;

To ensure protection of biodiversity to avoid undermining ecosystems' structure and functioning;

To estimate the effective fleet size and effort by country and determine a measure of technological creep

Operational objectives

The plan should define, for each agreed objective, specific operational objectives that have practical interpretation, can clearly describe expected outcomes and can be measured with indicators. For example, in relation to the objective of "guarantee a low risk of stocks falling outside safe biological limits" the following operational objectives could be applied:

- To maintain the biomass of target species above agreed precautionary biological reference points ($B > B_{pa}$ and $F<F_{0.1}$).
- To maintain indicators of stock status and fishing pressure (according to the Table on alternative indicators and reference points) at levels which ensure the sustainability of the fishery.

In relation to the objective of "ensuring protection of biodiversity to avoid undermining ecosystem's structure and functioning", the following operational objectives could be applied:

- To establish a fleet registry of active vessels.
- [To map historical fishing footprint following the recommendations of WGVME]
- To decrease discards of commercial and non-commercial species, by means of the use of technical measures to be taken if their catch goes over a certain threshold.
- To decrease the incidental catch of protected and endangered species, by means of the use of technical measures to be taken if their catch goes over a certain threshold.
- To prevent significant adverse impacts of bottom trawling fisheries by minimizing their overlap with sensitive habitats and vulnerable marine ecosystems.

However, these operative objectives can be adapted in the future to accommodate any additional scientific evidence provided.

3. Indicators and reference points

When the analytical assessments are available, in situations where stock biomass is used as indicator of status of the stock, the following reference points could be used:

- B_{lim}: a biomass level which is considered undesirable and which management actions should avoid with high probability.
- B_{pa}: a threshold level of biomass established to reduce the probability that the limit reference point will be exceeded.
- B_{msy}: as a possible target reference point.

In situations where fishing mortality is used as an indicator of fishing pressure, the following reference points could be used:

- $F_{0.1}$: The fishing mortality rate at which the slope of the yield-per-recruit curve is only one-tenth the slope of the curve at its origin.

Pending the availability of stock biomass and fishing mortality estimates and the identification of appropriate reference points, the following indicators and reference points could be used.

Indicator of stock abundance*	**Reference point**
Standardized index from scientific surveys (when available)	- Historical level - Trend (e.g. increase by x% per year)
Standardized catch-per-unit-of-effort (CPUE) data from the fishery, taking into account changes in exploitation pattern, in catchability and availability of the resource.	- Historical level - Trend (e.g. increase by x% per year)

Indicator of stock status	Reference point
Mean body size in the catch (CL), assuming that selectivity pattern is kept constant and data are comparable from year to year.	CL > CLm; CLm = minimum conservation size.
Indicator of fishing pressure	**Reference point**
Fleet size (by operational units as defined by GFCM Task 1)	- Historical level - Trend (e.g. decrease by x% per year)
Fishing effort (accounting for capacity and activity, including vessel tonnage, power and days at sea)	- Optimal Effort to reach MSY - Historical level - Trend (e.g. decrease by x% per year)

*In brackets the relative level of reliability of the indicators of stock abundance (1 lower level, 3 higher level).

Concerning the objective of ensure protection of biodiversity to avoid undermining ecosystem's structure and functioning, the following indicators and references points could be used:

Indicator	Reference point
Discard rate (%)	- Historical - Trend (% over time)
Bycatch of protected/endangered species	- Historical - Trend (% over time)
Area of sensitive habitats under protection	- Historical - Trend (% over time)

4. Fisheries management measures

In order to reach the objectives of the regional management plan, and without prejudice to stricter measures adopted nationally, countries should consider the adoption of the following minimum management measures for the bottom trawling fisheries targeting deep water red shrimp.

Management measures	Examples
Spatial restrictions	*Trawling is already forbidden below 1000m depth (recommendation GFCM 29/2005/01).* Prohibited fishing above already identified Vulnerable Marine Ecosystems (VME). Protection of nursery areas (likely lower effectiveness for the species). Consider additional measures, such as depth limits to the fishing operation. Trawling will be allowed in those fishing grounds previously established, based on the fishing footprint; fishing outside established fishing grounds would be subject to exploratory fishing protocols.
Temporal restrictions	Adopting common closed seasons for red shrimp and associated species by GSAs.
Gear restrictions	*Minimum 40 mm square mesh or a diamond mesh size of at least 50 mm in the codend (according to Recommendation GFCM/ /33/2009/2).* Propose maximum dimensions of the fishing gear Improve the selectivity of the gear to reduce the capture of immature individuals and bycatch (e.g. through the implementation of Bycatch Reduction Devices).
Minimum size	Minimum conservation reference sizes should be defined and harmonized in the sub-region, based on the best scientific knowledge about maturity**.
Habitat protection	Fishing outside the established fishing footprint should be subject to exploratory fishing protocols and the implementation of "move-on" rules (e.g. encounter protocols), in line with WGVME proposals
Participatory restrictions	Consider mechanisms to control access in order to adapt the fishing effort and fishing capacity according to the status of the resource. In view of the limited information about the stock and habitats in many GSAs, consider additional mechanisms that condition the development of fishing capacity to the acquisition of new knowledge. A specific fishing authorization to operate in this fishery should be implemented. This authorization should have requisites attached to it, which could be related to the obligation of reporting (like landing in designated landing points or allowing the presence of observers on board), fishing in authorized areas or the use of VMS.
Catch restrictions	The possibility of establishing catch restrictions at different levels should be analysed.

**See for instance: AAVV (2008). Status of deep-sea Red Shrimps in the Central and Eastern Mediterranean Sea, Final Report. Project Ref FISH/2004/03-32; Deval, M. C. (unpublished). Some useful information for the stock assessment of giant red shrimp (*Aristaemorpha foliacea*, Risso 1827) in the Golf

of Antalya, eastern Mediterranean; INTERREG II GREECE-ITALY project: New perspectives for the investigation and management of shared deep-water resources in the Ionian Sea.

5. Decision rules

The management plan will include decision rules with pre-agreed measures to be adopted under different conditions of the stock in relation to agreed biological reference points. The specific technical measures to be adopted under each stock status scenarios are to be defined in appropriate national and sub-regional working groups, taking into account the socioecomic impacts of the proposed measures.

6. Scientific monitoring

The Scientific Advisory Committee (SAC) of the GFCM should be responsible for advice on status of stocks and economic indicators of fisheries.

Adequate and periodic scientific monitoring of fisheries (including socioeconomic indicators) and exploited stocks at national level should be ensured so that SAC is in a position to provide scientific advice.

7. Research priorities to improve the assessment and management of fisheries

The list of research priorities should be organized based on the measures imposed:

- Mapping of the fishing footprint, based on the previously exploited areas.
- Assessment of bycatch and discards, including the establishment of ecological thresholds that would determine the application of certain management measures.
- Research on bycatch mitigation devices and other mitigation measures to reduce the impact on vulnerable species
- Collection of scientific background that would allow the determination of a minimum conservation reference size for each of the species.
- Identification of Vulnerable Marine Ecosystems (VME) that will need to be protected from the impact of bottom trawl gears. For this, the use of fishers knowledge should be used as a complementary tool to scientific knowledge.
- Assessment of socioeconomic impact of the management plan.

  (the assessment of socioeconomic impact of the proposed management measures should be carried out prior to and during the implementation of the management plan)
- Research on the valorisation of fish products through improvement in product quality (e.g. preservation techniques) and ecolabelling.
- Improvement of the knowledge on stock boundaries.
- Advance in the application of ecosystem/multispecies approaches.
- Improvement of the assessment of the status of associated species taking into account the multi-species characteristics of the fisheries.
- Advance in the application of bioeconomic analysis of fisheries.
- Research aimed at understanding the relationship between deep water corals and red shrimps.
- Research to improve knowledge on the relationship between habitat characteristics (depth, sea bottom morphology and other environmental factors) on resource availability.
- Studies on the effect of horsepower on trawling operation and selectivity.

8. Fisheries Monitoring, Control and Surveillance

To ensure compliance with the measures to be adopted in the management plan, the following actions are to be implemented:

- Concerned Parties should make efforts to implement GFCM recommendations related to MCS, including those listed below:
  - Vessel information submitted to GFCM Regional Fleet Register.
  - Record of fishing vessels larger than 15 metres authorized to fish in the GFCM Area.
  - Satellite-based VMS required for vessels >15 meters authorized to fish in the GFCM area.
  - Required submission of data on vessels engaged in IUU fishing (IUU Vessel List).
  - Required logbook for vessels exceeding 15 meters authorized to fish in GFCM area. Logbook shall register quantities of each species caught and kept on board, above 50 kg in live weight.
  - [Adoption of Port State measures to prevent, deter and eliminate IUU fishing.]
- Strengthen national capacities for fisheries monitoring, control and surveillance.
- Concerned Parties are responsible for implementing the adopted management measures in their jurisdictional waters and by vessels flying their flag beyond national jurisdiction.
- Development of a specific mechanism for MCS in areas beyond national jurisdictions covered by the management plan.
- Improve the collection of fisheries statistical data, including social and economic data.

9. Review of the management plan

The contents of the management plans should be periodically reviewed in order to accommodate changes in the fisheries system. Comprehensive roadmaps will be provided by SAC for the assessment and management of the fishery.

To be done by Concerned Parties:

Management action taken based on stock status and fishery conditions (socioeconomic indicators) and according to the decision rules and management tools described.

Appendix 8

Overview of the methodology for the assessment of the vulnerability of fisheries in the Mediterranean and the Black Sea to the effects of climate change

This Appendix summarizes the methodology proposed to be used in the assessment of the vulnerability of fisheries in the Mediterranean and Black Sea to the effects of climate change. The methodology was based on literature review and on inputs received during the expert meeting on the implications of climate change to fisheries in the Mediterranean and Black Sea, Rome, 4 – 6 December 2017. Consistent with the Ecosystem Approach to Fisheries, the methodology is based on the application of the precautionary principle through the use of best available knowledge and assumes a broad stakeholder participation throughout the assessment process.

Definitions

The methodology uses the following definitions adopted by the Intergovernmental Panel on Climate Change (IPCC). Although variations to these definitions have been put forward more recently (FAO, 2015), the conceptual model of vulnerability described below is valid and used widely in vulnerability assessments.

- *Vulnerability*: the degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude and rate of climate change and variation to which a system is *exposed*, its *sensitivity*, and its *adaptive capacity* (Figure 1).

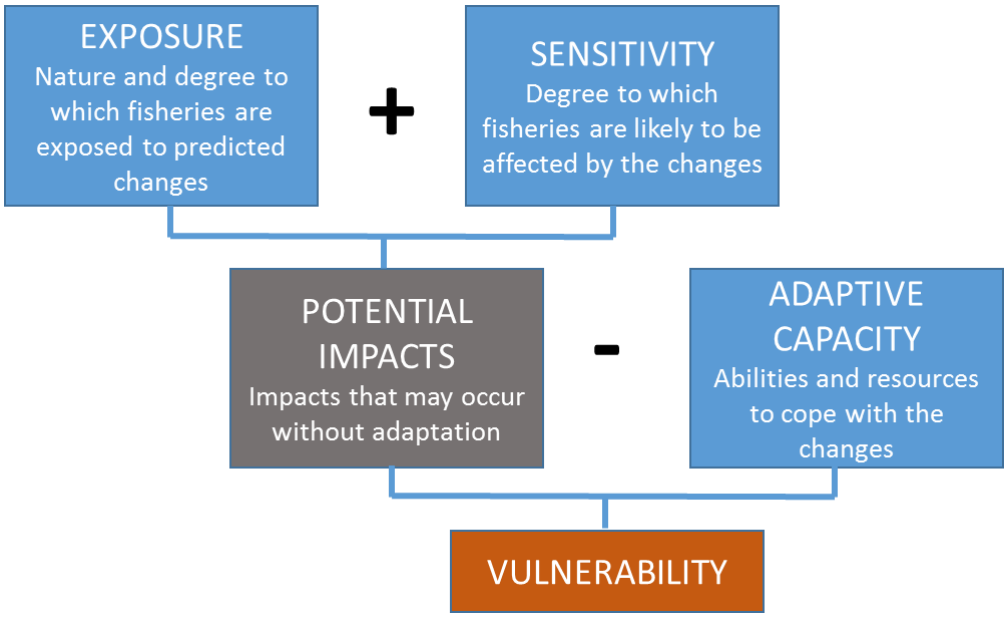


Figure 1. IPCC conceptual model of vulnerability.

- *Exposure*: the degree to which a system is stressed by climate, such as the magnitude, frequency and duration of a climatic event (e.g. temperature anomalies, extreme weather events). In a practical sense, exposure is the extent to which a region, resource or community experiences change. For fishing communities, exposure would relate, for instance, to how much the resource they depend on will be affected by environmental change.

- *Sensitivity*: the degree to which a system is affected, either adversely or beneficially, by climate-related stimuli. The effect may be direct (e.g. a change in yield in response to a change in the mean, range or variability of temperature) or indirect (e.g. damages caused by an increase in the frequency of coastal flooding due to sea-level rise). The sensitivity of social systems depends on economic, political, cultural and institutional factors that allow for buffering of change.

- *Adaptive capacity*: the ability of a system to adjust to climate change, to moderate potential damages, to take advantage of opportunities, or to cope with the consequences. For example, systems with low adaptive capacity may have difficulty adapting to change or taking advantage of the opportunities created by changes in the availability of ecosystem goods and services stimulated by climate change or changes in management. Social systems are more likely to be sensitive to climate change if they are highly dependent on a climate vulnerable natural resource. These factors can confound (or ameliorate) the social and economic effects of climate exposure.

Objectives of the Vulnerability Assessment

The assessment of the vulnerability of fisheries in the Mediterranean and Black Sea to the effects of climate change has the following objectives:

- To understand the potential risks to the fisheries sector in the Mediterranean and Black Sea of the ongoing and projected climate-driven environmental changes.
- To identify areas and/or sectors more vulnerable and in need of adaptation options.
- To contribute to a regional (GFCM) adaptation strategy to cope with the potential effects of climate change in the Mediterranean and Black Sea.

Scope of the Vulnerability Assessment

The focus of the vulnerability assessment is the fisheries production systems in the Mediterranean and Black Sea. Fisheries production systems are here understood as the coupled social-ecological systems composed of the resource base (stocks) and supporting ecosystems, the fishers, the fishing technologies and practices used in the capture production and the fisheries value chain.

The fisheries production systems are affected by different types of drivers (Figure 2). On the one hand, there are socioeconomic and institutional drivers that affect how fisheries operate and influence the sustainability and profitability of the activity. They include governance factors such as policies and regulatory frameworks that conditions where, what and how resources are harvested and by whom, cultural/traditional factors that condition the maintenance of fishing livelihoods and practices, and economic factors that define market opportunities and constrains and the dynamics of the value chain. On the other hand, the systems are influenced by anthropogenic drivers such as overfishing, habitat degradation and pollution that affect the productivity and resilience of the stocks and ecosystems. The systems are also affected by climate change drivers, such as changes in sea surface temperature, circulation, weather, etc. that can generate direct and indirect impacts on fisheries. The known direct effects of climate change include changes in the abundance and distribution of exploited species and the impacts of weather events on fishing operations and infrastructure. Indirect effects can include changes in other ecosystem components that interact with the fisheries resources, as well as environmental changes that affect other food production systems and people's health (Cochrane et al., 2009; Heenan et al., 2015).

The vulnerability of the fisheries production systems will depend on how they can cope with the impacts of climate change giving the conditions determined by the other drivers.

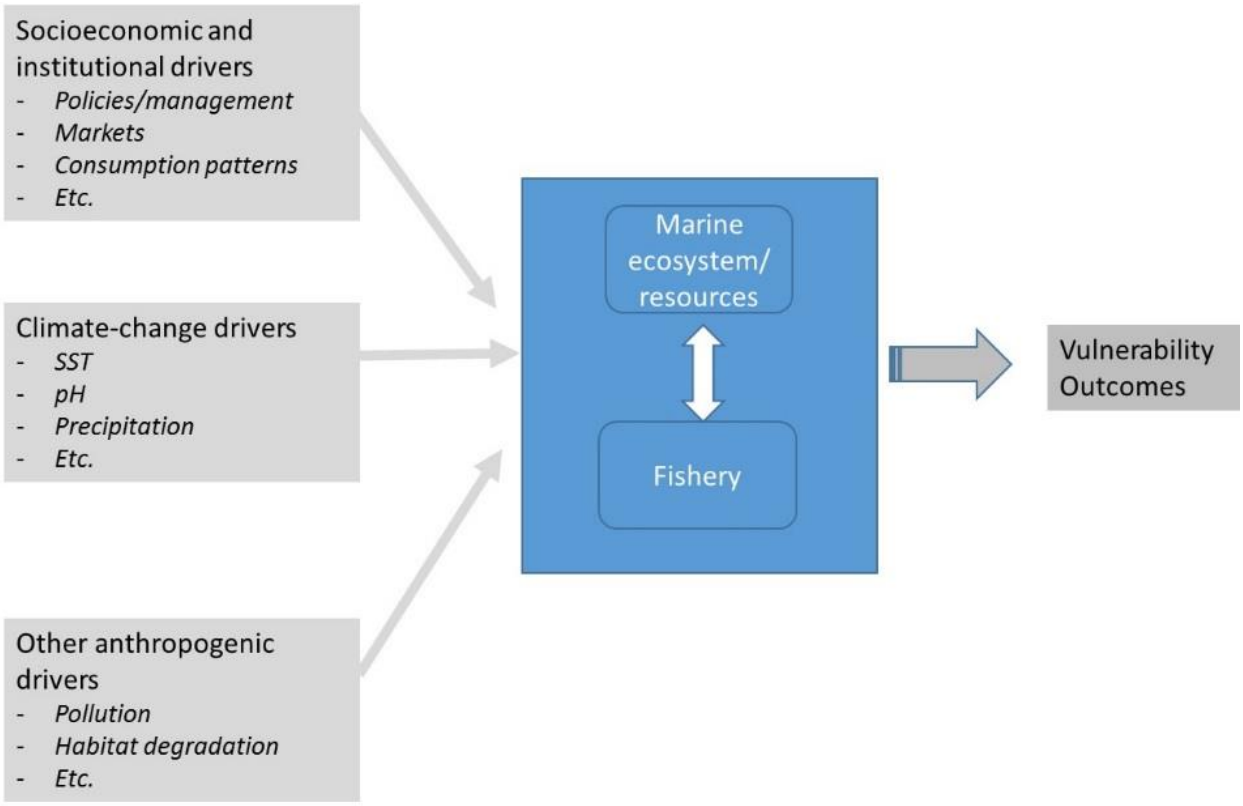


Figure 2. Conceptual model of the fisheries production system and the vulnerability to climate change.

The assessment of the vulnerability of the fisheries production systems could be focused on different spatial scales of analysis, e.g., at the level of the fishing unit (vessel), fleet segment, fishing community, country, sub-regions, etc. Considering the geographic, environmental and socioeconomic differences among sub-regions and fisheries across the Mediterranean and Black Sea, the expert meeting recommended the use of the following minimum level of stratification for a comprehensive view of the impacts and vulnerabilities of fisheries to climate change in the region:

Area	Sub-regions	Fisheries/resources
Mediterranean	Adriatic Sea, Western Mediterranean, Eastern Mediterranean	small-scale fisheries; small-pelagics; large pelagics; demersals; and benthic invertebrates.
Black Sea	Black Sea (as a whole)	anchovy, sprat, turbot, bonito, rapa whelk

Representative fisheries production system will need to be identified within each of the above strata to use as case studies for the vulnerability assessments.

In terms of the temporal scale of analysis, the expert meeting recommended that the assessment consider the projected changes and impacts on the mid-term (until 2050).

Baseline situation

The first step in the scoping analysis is to conduct a baseline assessment to describe the current situation of the fishery production systems. Table 1 list examples of variables that could be used to characterize the fishery production systems in the baseline report.

Table 1. Examples of variables to describe the baseline situation of a fishery production system.

Type	**Variables**
Ecological	- Area of operation - Target and bycatch species - **Status of stocks**
Technological	- Gear - Vessels - Equipment
Socioeconomic	- Landings - Revenue (and crew sharing system) - Economic dependency - Education - Social protection - Access to credit - Market - Level of organization (e.g. cooperatives, associations, etc)
Institutional	- Enabling policies - Management capacity - Management plans and contingency measures
Main drivers of change (non-climate related)	- Pollution - Habitat degradation - Overfishing, etc.

Climate change drivers and expected impacts

The second step in the scoping analysis is to understand the main pathways that climate change can potentially impact the fishery production systems. There are multiple pathways of potential impacts (Figure 3) and it is important to understand which pathways are likely to be relevant to the systems at stake. During the expert meeting participants elaborated generic matrices of drivers and impacts for each of the sub-regions in the Mediterranean and Black Sea (Appendixes IV and V of the report of the expert meeting on

climate change implications for the Mediterranean and Black Sea fisheries [GFCM headquarters, December 2017]). These matrices could be used as starting points for discussing and identifying potential pathways of impacts of climate change in specific fishery production systems case studies in each of the sub-regions.

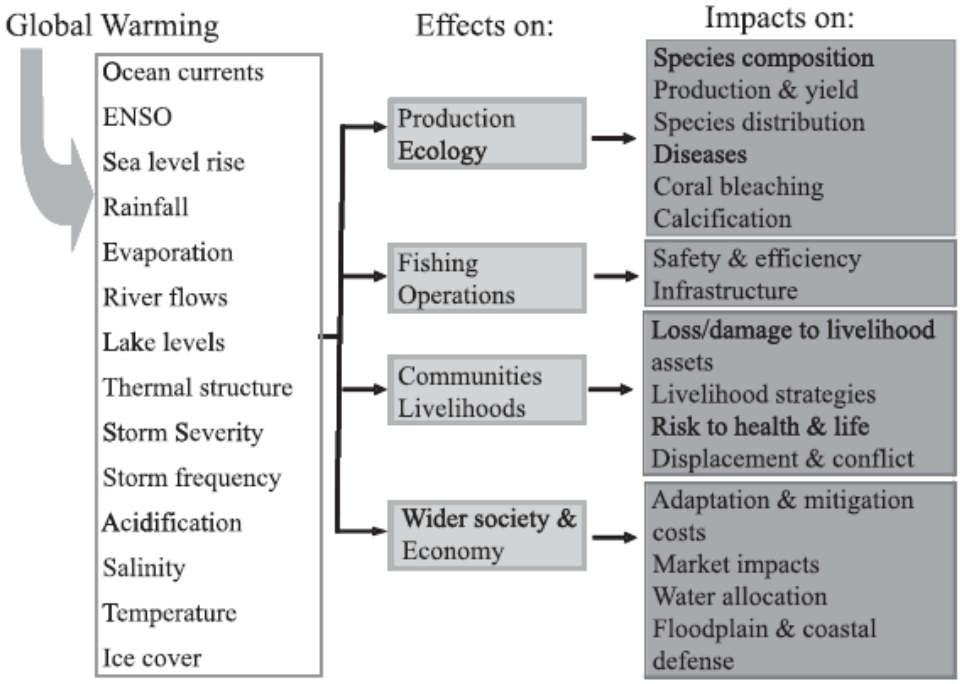


Figure 3. Generic examples of pathways of the impact of global warming on fisheries (Badjeck et al, 2010).

Framework of analysis

The vulnerability assessment is based on the IPCC conceptual model which considers vulnerability a function of the exposure, sensitivity and adaptive capacity of the system (Figure 1). A risk assessment approach is used in the assessment of the vulnerability.

The impacts of climate change can be negative or positive. Negative impacts represent threats – they need to be mitigated. Positive impacts represent opportunities – they need to be explored and benefited from. The importance of the negative or positive impacts can be measured in terms of: 1) the level of expected impact or consequences and 2) the likelihood of the impact occurring. The likelihood of given level of impact occurring is defined as a measure of risk. Therefore, the vulnerability of a system to a given driver/event can be measured in terms of risk levels. While the likelihood of an impact occurring can be interpreted as a measure of exposure of the system to a specific driver/event, the consequences of a driver/event can be linked to its sensitivity and adaptive capacity. FAO (2015) noted that a similar interpretation of the relationships between risk and vulnerability were proposed in the 5th Assessment Report of the IPCC.

For instance, consider two small-scale fisheries in a given sub-region of the Mediterranean, exposed to the same level of changes in the distribution of a target species. Both are exposed to an event that is very likely to occur (based on observed and/or projected changes). Consider further that one of the small-scale fisheries is more dependent on that target species than the other, which has a much more diverse livelihood "portfolio" that includes other species not directly affected by climate change and also activities outside of the fisheries sector. In addition, the system has a social-security mechanism in place to guarantee a minimal level of income during unfavourable situations. The two systems have different levels of sensitivity and

adaptive capacity to the climate change driver/event. The consequences of the event to one of the systems will be higher than to the other. Therefore, the two systems will have different levels of risk to the climate driver/event. The system with higher risk is the one more vulnerable to that particular driver. When analyzing positive impacts, the risk level becomes a measure of the expected capacity of the system to benefit from the opportunities associated with a given driver/event.

In lack of availability of fully quantitative methods to assess the risks associated with the different pathways of impacts, a qualitative risk assessment approach is suggested to be used (FAO, 2012). A similar qualitative approach was used in the FAO/WorldFish Workshop on "Adapting to climate change: the Ecosystem Approach to Fisheries and Aquaculture in the Near East and North Africa Region", when a preliminary list of issues and priorities concerning climate impacts on fisheries and aquaculture in the region was identified (Curtis et al., 2011)

An adaptation of the Consequence x Likelihood (C x L) matrix method is used (FAO, 2012). The method combines the scores from the qualitative or semi-quantitative ratings of consequence (levels of impact) and the likelihood (levels of probability) that a specific consequence will occur to generate a risk score and risk rating.

This C x L risk assessment process involves selecting the most appropriate combination of consequence and likelihood levels that fit the situation for a particular objective, based upon the information available and the collective knowledge of the group of stakeholders involved in the assessment process. These scores are multiplied to generate an overall risk score. To allow the assessment of positive impacts, a two-way scale of consequence levels is applied (Garret et al., 2015; Table 2).

Table 2. Generic consequence categories for the assessment of risks of climate-driven impacts on fisheries. Positive consequences are in italics.

Level		Description
1	Minor	Minimal impacts that are highly acceptable. *Few, small-scale impacts providing some minor opportunities across the fishing sector.*
2	Moderate	Maximum acceptable level of impact. *Many, small-scale impacts providing moderate opportunities across the fishing sector.*
3	Major	Above acceptable limit. Wide and long-term negative impacts. *Few, large-scale impacts providing some significant opportunities across the fishing sector.*
4	Extreme	Well above the acceptable limit. Very serious, likely to require long restoration time to undo. *Many, large-scale impacts providing major opportunities across the fishing sector.*

The consequences are assigned considering the expected sensitivity of the fishery system to a given pathway of impact and the adaptive capacity of the system. Different aspects could be considered in the evaluation of the sensitivity and adaptive capacity of a system. Table 3 provide some examples of variables that could be taken into account (Allison et al., 2009; Cinner et al., 2013; FAO, 2015; Whitney et al., 2017). Many of the variables should be part of the baseline assessment described before.

Table 3. Examples of generic social and ecological variables that could be used in the assessment of sensitivity and adaptive capacity of fishery systems.

Characteristics of adaptive capacity		**Characteristics of sensitivity**	
Category	**Indicators**	**Category**	**Indicators**
Diversity and flexibility	Livelihood and income diversity	*Fisheries sensitivity*	Landings (value) of the affected species as % of total landings (value)
	Economic opportunities		Gear sensitivity (which type of gear make fishery more or less sensitive to changes in species abundance)
	Level of dependence on natural resources		Nutritional dependence on the affected species
	Occupational mobility	*Diversity and flexibility*	Species diversity
	Place attachment		Species' life history traits (e.g. growth, fecundity, resilience)
	Migration patterns		Habitat range and tolerance
			Exploitation status
Access to assets	Household material assets (e.g. boats, gears)	*Habitats and interactions*	Habitat availability
	Community infrastructure		Habitat heterogeneity and diversity
	Levels of education		Habitat connectivity
	Financial status and access to sources of credit		Rate and magnitude of habitat disturbance
	Access to markets		Phenology
	Equity, rights and access to resources	*Capacity to adapt within species*	Behavioral changes and learning
	Access to public services (water, health, education)		Phenotypic plasticity
Learning and knowledge	Resource monitoring and feedback mechanisms		Tolerance limits
	Knowledge of disturbances (e.g. climate change)		Reproductive rate and capacity for dissemination

Characteristics of adaptive capacity		**Characteristics of sensitivity**	
Category	**Indicators**	**Category**	**Indicators**
	Perception of risk		Dispersal/Migration capacity
	Spaces and platforms for learning		
	Diversity of knowledge and information sources		
Governance and institutions	Levels of trust, social capital and networks		
	Gender and race relations		
	Levels of participation and quality of decision-making processes		
	Planning capacity		
	Presence of local environmental institutions and strength of social norms		
	Quality of governance and leadership in environmental policies and agencies		
	Accountability of managers and governance bodies		
	Active risk management and adaptive governance process		

The Likelihood Table defines the levels of likelihood of a particular consequence occurring within the time period of analysis (in this particular case until 2050). The assignment of likelihood levels can be informed by the results of oceanographic and biophysical models, which predicts the magnitude of changes in physical drivers according to different climate change scenarios. See Appendix III of the report of the expert meeting on climate change implications for the Mediterranean and Black Sea fisheries (GFCM headquarters, December 2017) for specific recommendations concerning climate projections and modelling approaches available for the Mediterranean and Black Sea region. Identifying the time to when consequences are likely to occur (proximity, as defined by Garret et al., 2015) could be also used as an additional information for assigning the likelihood levels (Table 4).

Table 4. Example of likelihood definitions.

Level	Description	Proximity (time to consequence(s) occurring)
1 - remote	Insignificant probability of the particular consequence occurring.	Over 50 years
2 – unlikely	Some evidence that the particular consequence level could occur.	Within next 50 years
3 – possible	The consequence level may occur but this is still not likely.	Within next 20 years
4 – likely	The particular consequence level is expected to occur.	Now

The resulting risk matrix and management response are described in Tables 5 and 6. Impacts with risk scores 6 or above should be further considered for the design of adaptive measures.

Table 5. Risk matrix used in the C x L risk assessment. Numbers in cells indicate risk value, the colors/shades indicate risk rankings (source FAO, 2012).

		Consequence Level			
		Minor	Moderate	Major	Extreme
Likelihood		1	2	3	4
Remote	1	1	2	3	4
Unlikely	2	2	4	6	8
Possible	3	3	6	9	12
Likely	4	4	8	12	16

Table 6. Risk/vulnerability levels and recommended management response (adapted from FAO, 2012)

Risk/Vulnerability Level	Risk Scores (C x L)	Management Response
Negligible	1-2	None
Low	3-4	No specific management response
Medium	6-8	Specific management (adaptation) needed
High	9-16	Increased management (adaptation) activities needed

Integration and analysis of results

By assessing the consequences and likelihoods of each of the identified relevant pathways of impacts of climate change to the specific fisheries, risk scores are assigned and the most important vulnerability factors identified. Table 7 illustrates the outcomes of the assessment on a single pathway for a pretended fishery.

The application of the methodology would allow the identification of specific vulnerability factors of importance to one or more fishery systems as well as the fishery systems more vulnerable to the impacts of climate change.

The next step in the process is the identification of potential adaptation measures for the identified high risk/vulnerability impacts, which should be done in consultation with all relevant stakeholders. Different types of measures could be envisaged, depending on the nature of the impact and the context of the fishery systems. Table 3 provides a list of types of adaptation measures to consider.

Expected outcomes

- Identification of main climate drivers of environmental changes affecting fisheries
- Evaluation of potential impacts (risks) of the drivers
- Identification of the most vulnerable fisheries
- Identification of the areas for adaptation capacity development
- Awareness raising regarding the need to be proactive and adopt measures that will increase the resilience of fisheries to the climate change.

Table 7. Example of risk assessment of a possible pathway of climate impact on a pretended fishery.

Driver	**Threat/ Impact**	**Sensitivity**	**Adaptive capacity**	**Consequence**	**Exposure**	**Likelihood**	**Risk Level (Vulnerability score)**
Increase in SST	Change in distribution of the target species	High dependency of the segment on the target species	Weak monitoring and control system; difficult access to credit to upgrade vessels	**Major (3)**	According to ongoing observations and model projections, the most valuable species will move to areas not accessible to the fleet. Changes are already being observed.	**Likely (4)**	**High (12)**
…	…	…	…	…	…	…	…

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Appendix 9

Proposal of a subregional monitoring plan on non-indigenous species in relation to fisheries

1. BACKGROUND

Among marine ecosystems altered by invasion, the Eastern Mediterranean Sea underwent the most intense and exceptionally rapid changes in terms of number of arrivals, number of established species and related impacts with respect to other Mediterranean subsectors. These profound alterations are today fostered by climatic changes and other anthropogenic drivers, which are rendering the EMED a more favourable environment to tropical invaders, at the expenses of their native analogues.

The guiding principles on invasive species adopted by key regional, international bodies/legislative frameworks, concerning species introduction and invasive species, such as by the Convention on Biological Diversity, UNEP-MAP and the EU (Regulation 1143/2014) reflect a hierarchical order in which prevention should be the priority, followed by early detection, rapid response and possible eradication when prevention fails.

Beside the fact that, eradication of invasive species in the marine environment is for the most of the cases considered as unfeasible, there is currently no comprehensive framework for tackling this emerging issue and monitoring efforts needs to be implemented in a comprehensive manner.

Inside the Mediterranean, present situation reveals that monitoring efforts and available knowledge is unevenly distributed across the region, especially in the Eastern Mediterranean (EMED) and that in EMED countries large gap in knowledge exists for large areas.

At the same time, NIS detection is often an empiric, not planned episode and improved coordination among countries is urgently needed to take action over large spatial and temporal scales. To overcome this gap, the application of harmonized standards and methodologies for monitoring NIS populations have been proposed at both the political and scientific level

In this, Regional Sea Conventions (RSCs) have been playing a key role in the sustainable management of marine (and in case of the Mediterranean, also coastal) resources and have lead the way towards the regional application of the ecosystem approach. These efforts would be however insufficient without the Regional Fisheries Management Organizations (RFMOs), as they are the other side of the coin- their primary aim is sustainable management of living marine resources.

As such, FAO administered RFMOs and UN Environment administered RSCs are working towards the same goals and cooperate as much as possible. The first formal, strengthened cooperation between them however is the Mediterranean experience, between the General Fisheries Commission for the Mediterranean (GFCM) and UN Environment/Mediterranean Action Plan (Memorandum of Understanding between GFCM and UN Environment/MAP, so called MoU). In line with their MoU, UN Environment/MAP and GFCM have effectively identified common areas of interest and as such areas, where parallel rules exist under the two regional organizations effecting the same area.

One area, which was found of special interest, was the interlinkage of Non-Indigenous Species (NIS) and Fisheries monitoring, where both UN Environment/MAP and GFCM rules aim to achieve more coordinated monitoring and assessment, both on regional and on sub-regional level.

The Contracting Parties to the Barcelona Convention have been also urging for more focus on sub-regional implementation of the Integrated Monitoring and Assessment Programme (IMAP[16]). With the support of the EcAp-MEDII EU funded project, the opportunity for a sub-regional pilot materialized and GFCM and

[16] Decision IG.22/7, Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria

UN Environment/MAP identified together an interesting pilot idea, a Sub-Regional Pilot Study for the Eastern Mediterranean on Non-Indigenous Species in Relation to Fisheries (the Sub-Regional Pilot).

In line with the above, a concept note for the Sub-Regional Pilot was developed by the two Secretariats and was presented and welcomed both by the GFCM Scientific Advisory Committee on Fisheries (SAC), with the support of its Sub-Regional Committee for Eastern Mediterranean and by the meeting of the Ecosystem Approach Correspondence Group on Monitoring (CORMON) Biodiversity and Fisheries of UN Environment/MAP.

The focus of the Sub-Regional Pilot was agreed to be the testing and the further development of the IMAP NIS Common Indicator: "Trends in abundance, temporal occurrence, and spatial distribution of non-indigenous species, particularly invasive, non-indigenous species, notably in risk areas (EO2, in relation to the main vectors and pathways of spreading of such species)", and identify specific monitoring needs to assess this indicator, towards the development of a sub-regional monitoring programme.

As such, the Sub-Regional Pilot envisaged the development of a sub-regional monitoring programme, both in line with IMAP and the GFCM Data Collection Reference Framework (DCRF), with a focus on the IMAP NIS Common Indicator, in relation to fisheries.

The first meeting of the pilot study, the Meting of the Joint GFCM-UN Environment/MAP Sub-Regional Pilot Study for the Eastern Mediterranean on Non-Indigenous Species in Relation to Fisheries took place in Athens, Greece, 20-21 September 2017 and it delivered important conclusions and recommendations on how to reach the objectives of the pilot study and established an online expert sub-regional NIS/Fisheries working group (hereafter referred as NIS/Fisheries Online Working Group), to continue discussions up until the next meeting of the pilot study (Chania, Greece, 5 March 2018).

The current draft sub-regional monitoring plan builds on the conclusions and recommendations of the above first meeting of the pilot study, which are also annexed to the current draft plan, as well as input, recommendations provided by the NIS/Fisheries Online Working Group members.

This draft sub-regional monitoring plan on NIS/Fisheries aims to be further discussed and developed during the Second Meeting of the Joint GFCM-UN Environment/MAP Sub-Regional Pilot Study for the Eastern Mediterranean on Non-Indigenous Species in Relation to Fisheries which will take place in Chania, Greece, 5 March 2018.

This second meeting will provide technical advice towards establishing a sub-regional monitoring plan and as such the output of the meeting will be a pilot sub-regional monitoring plan.

This pilot sub-regional monitoring plan on NIS/Fisheries, as an outcome of the second meeting, will be as a follow-up submitted for endorsement to the respective relevant bodies of GFCM and UN Environment/MAP and interested Contracting Parties of UNEP/MAP-Barcelona Convention/Members of the GFCM will be invited to test it.

2. PROPOSED OBJECTIVES OF THE PILOT SUB-REGIONAL MONITORING PLAN ON NIS FISH

The pilot sub-regional monitoring plan on NIS/Fisheries (here after referred as sub-regional monitoring plan) should facilitate the periodical collection of detailed information for a number of priority species while at the same time allow the early detection of new species and significant changes in abundance of NIS that could have biological or socio-economic impact on the sub-region. The general scope of the sub-regional monitoring plan is therefore to provide a common reference and a standard guidance to monitor NIS species in the EMED area.

The sub-regional monitoring plan will provide information in support of both UN Environment/MAP and GFCM objectives, reinforcing their cooperation towards the achievement of common objectives. Specifically, the sub-regional monitoring plan will:

- Provide information in line with the Common Indicator Guidance Fact Sheet on NIS ()
- Ensure the collection of information in support of the Mediterranean Quality Status Report 2023 in relation to NIS indicator of UNEP/MAP, as well as the Recommendation GFCM/41/2017/6 in relation to the submission of information on NIS

The possibility to expand the sub-regional monitoring plan to other areas in the Mediterranean and eventually to the whole basin will also be investigated, so to provide support to the implementation of the respective strategies of UNEP/MAP and GFCM.

Information compiled through the sub-regional monitoring plan could provide support to the GFCM mid-term strategy target 4 (*Minimize and mitigate unwanted interactions between fisheries and marine ecosystems and environment*), in relation to the preparation of an adaptation plan to climate change and NIS.

The outcomes of the pilot could be also used as a best practice to be mimicked during the implementation of IMAP in relation to other sub-regions and/or indicators, during 2018-2019, during which period sub-regional cooperation aimed to be strengthened in line with the UNEP/MAP Programme of Work 2018-2019.

The UNEP/MAP (SPA/RAC) developed Information system database on NIS, called MAMIAS serves as resource in developing a trends indicator and for reporting of the assessment at national and regional level. Substantial efforts were deployed to support the Action Plan on species introductions and invasive species, especially by initiating the development of the MAMIAS database, providing technical tools and educational documents, raising awareness on the risks associated with alien species, and funding research projects (i.e. ALBAMONTE, MedMPAnet).

The information gathered through the sub-regional monitoring plan should be sufficient and reliable enough to evaluate the status of the most invasive species in relation to fisheries, to assess their temporal and spatial trends and to provide scientific advice and recommendations on how to manage ecological and socio-economical related impacts.

3. GENERAL INFORMATION

General strategy

As already expressed by the GFCM Data Collection Reference Framework (GFCM 2017), and acknowledged by UNEP/MAP (see UNEP(DEPI)/MED WG.444/6/Rev), the rationale behind the design of common monitoring standards suggests to **reduce data requirements, conceive simple and easy-to-understand protocols and enhance public participation**. The sub-regional monitoring plan should be therefore carried out under the following principles:

Best available knowledge: The provision of advice, including on the status and trends of NIS, should be based on the best available knowledge, including scientific advice and relevant information emanating from a variety of sources and stakeholders;

Objectivity and transparency: The collection, analysis and dissemination of information should contribute to the transparent provision of the best scientific evidence available, while respecting any confidentiality requirements. Uncertainty associated with information on status and trends should be expressed, without detracting from the application of the precautionary approach, when data and information are incomplete;

Timeliness: The collection, analysis and dissemination of information should be provided in as timely a manner as possible;

Participation and cooperation: The collection, analysis and dissemination of information should account for all relevant participants in the preparation, analysis and presentation of scientific advice and conclusions;

Adaptability: The collection, analysis and dissemination of information should be adaptive enough to permit adjustments, as necessary, to ensure their effective support of fisheries management based on the most recent scientific advice available.

Finally, as recalled by the GFCM Data Collection Reference Framework (GFCM 2017), common principles must be set for data sharing and dissemination and to ensure confidentiality protection

Potential sources of data

Different sources of information can be considered to collect periodical data on abundance, occurrence, distribution and socio-ecological impacts of NIS and to provide early detection. These potential sources of information could include:

Literature: Both grey and key scientific literature will be periodically followed up to update the national list of NIS according to a common database

Expert knowledge: National expert knowledge can be elicited to periodically retrieve qualitative information on the status of target species in specific geographical sectors

Traditional surveys: Both fishery related (e.g. trawl) and non-destructive (e.g. visual census) surveys can be performed in specific monitoring areas in each country

Catch and landings: A periodical monitoring of the total landings, as reported either through the GFCM relevant decisions or through respective IMAP common indicators (especially common indicator 6) and be also considered following the guidelines provided by the GFCM DCRF and the indicators guidance factsheet. In addition to landings, additional information from catches (e.g. discards) can be obtained from the GFCM discard monitoring programme, launched within the framework of the GFCM mid-term strategy.

Local Ecological Knowledge (LEK): Interviews with Local Fishermen (both professional and recreational) can be performed according to standard techniques. This activity will capitalize the existence of existing experiences and protocols, which have been successfully tested at the Mediterranean level and used in several transnational programmes (e.g. MED MPA-ADAPT, FAO AdriAmed, FAO MedSudMEd, interreg BALMAS, CIESM Tropical signals).

Other sources of information: The occurrence of NIS is increasingly documented by citizens and observations are usually posted to social networks. Opportunities to monitor this information should be discussed

4. PRIORITY SPECIES AND SELECTED INDICATORS

Priority List of NIS to be monitored at sub-regional level

The following species have been selected after a careful examination of a first proposed list of (21) taxa. Both the first proposal and the subsequent evaluation have been carried out through discussion with experts participating in the NIS/Fisheries Online Working Group, and it is based on the criteria of commercial importance, existing and potential impacts, and potential data sources. The final Priority List of NIS to be monitored at sub-regional level consists of seven species of fish:

Saurida lessepsianus (Russell, Golani & Tikochinski, 2015)*[17]
Lagocephalus sceleratus (Gmelin, 1789) *
Pterois miles (Bennett, 1828) *

[17] Species already on the priority list of GFCM DCRF for monitoring purposes

Siganus rivulatus (Forsskål & Niebuhr, 1775)
Siganus luridus (Rüppell, 1829)
Fistularia commersonii (Rüppell, 1838)
Plotosus lineatus (Thunberg, 1787)

Indicators

The following indicators can be adopted to report the information compiled from the monitoring plan, including:

i. The ratio between non indigenous species and native species in the catch by métier (or in the assemblage by sampling method) expressed as either number of individuals, number of species and weight, when possible;

ii. The relative value of NIS (e.g. CPUE of all species aggregated) in the catch;

iii. The number of new NIS (as a result of both novel primary introductions and/or secondary spread) for assessment unit by year; and

iv. The relative changes in the abundance of priority species (ideally CPUE or another estimate of abundance, in line with IMAP NIS common indicator guidance as well as the GFCM DCRF).

In addition to the indicators above, it is suggested to regularly assess the appearance of emerging NIS, understood as species significantly increasing in abundance and/or expanding in distribution, as well as perform an assessment of the potential impacts of priority/emerging NIS species. This assessment would require further analysis and developments in the future, as well as the involvement of relevant experts.

5. POTENTIAL MONITORING APPROACHES

The monitoring programme could include one or a combination of the approaches listed below:

Method 1. Compilation of NIS information from existing data collection mechanisms

Source of data: Data submitted through Recommendation GFCM/41/2017/6 and IMAP monitoring in relation to Ecological Objective 2, Common Indicator Guidance on NIS Common Indicator (as described in UNEP(DEPI)/MED WG.444/6):

UNEP/MAP IMAP related data collection mechanism
In relation to IMAP monitoring, the Common Indicator 6 Monitoring Guidance is to be followed (Appendix 9/Annex 1), noting overall IMAP timeline, which foresees the establishment of national monitoring programmes, refinement of monitoring and assessment specifics between 2016-2019 (ongoing, with contribution of this pilot study) and the monitoring and data reporting from 2020 on, by all UNEP/MAP-Barcelona Convention Contracting Parties, following the Common Indicator Monitoring Guidance and the IMAP compatible Information and Data Sharing System[18].

GFCM/DCRF related data collection mechanism
Countries are requested to submit information emanating from fishing activities on a list of selected priority NIS species (i.e. *Saurida lessepsianus, Fistularia commersonii, Lagocephalus sceleratus, Siganus luridus, S. rivulatus, Marsupenaeus japonicus, Metapenaeus stebbingi, Scomberomorus commerson*) through Recommendation GFCM/41/2017/6. All species, based on criteria relevant to the objectives of the GFCM,

[18] IMAP compatible information and data sharing system is currently being developed, in line with the Common Indicator Guidance and country specific needs. The system is foreseen to be finalized by 2019.

such as development, conservation and management, have been separated in three different Groups: Group 1, Group 2 and Group 3. For all the identified species in each group, length data per fleet segment should be collected.

Other individual information on sex and length at maturity are mandatory only for species belonging to G1. This information should be submitted whenever catches of those species represent at least 2% of the total catch.

Data repository: GFCM database and IMAP compatible UNEP/MAP IMAP compatible Information and Data Sharing System

Main outcomes: State of the art, Trends of abundance

Protocols:
In line with Common Indicator Guidance on NIS Common Indicator (as described in UNEP(DEPI)/MED WG.444/6:

List of Guidance documents and protocols available
There are no established standard protocols for the monitoring of NIS. However, sampling methods are used by monitoring activities implemented in many Mediterranean countries, in particular in relation to the Ballast Water Convention, the EU Water Framework Directive, and the Marine Strategy Framework Directive. These methods may be useful for the estimation of Common Indicator 6. Some guidance on the monitoring of biodiversity (including non-indigenous species) for the needs of the MSFD is provided in: *Zampoukas et al. (2014) Technical guidance on monitoring for the Marine Stategy Framework Directive. JRC Scientific and Policy Reports (EUR collection), Publications Office of the European Union, EUR 25009 EN – Joint Research Centre, doi: 10.2788/70344, ISBN: 978-92-79-35426-7, 166p.* The EU Project BALMAS has provided guidelines for the monitoring of NIS in ballast water (https://www.balmas.eu/).

In relation to the GFCM, the protocols for collecting data are described in detail in the DCRF (http://www.fao.org/gfcm/data/dcrf/en/).

Source of data GFCM Discard monitoring programme

Brief description to implement/capitalize the GFCM framework for the sub-regional monitoring plan.

In the framework of the mid-term strategy (2017–2020), towards the sustainability of Mediterranean and Black Sea fisheries (adopted as Resolution GFCM/40/2016/2), the GFCM Secretariat has finalised a manual for the collection of harmonised data on discards. The main scope of this manual is to suggest appropriate discards sampling approaches and methods (e.g. data sources, selection of vessels, species, stratification, mandatory and optional variables) to collect fisheries data which meet requirements related to stock assessment and ecosystem approach. Furthermore, the on-board discards programmes offer also the opportunity to collect important data on the distribution and on the quantitative and qualitative impact of non-indigenous species. In this view, countries should collect and report information on the presence of NIS through an *ad hoc* template together with a minimum set of parameters, such as the number and the weight of individuals caught per fleet segment, gear and area (GSA).

Data repository GFCM database

Main outcomes Trends of abundance, spatial projections, early detection

Protocols: "Monitoring discards in Mediterranean and Black Sea fisheries: Guidelines and methodologies" (GFCM, 2018)

Method 3: Regular or ad-hoc surveys at sea

Source of data: scientific surveys at sea

Brief description: Scientific surveys at sea should be provided with a minimal manual to report information on NIS. This should include any survey that has the capability to sample NIS, including surveys done with the objective of analysing the abundance and distribution of commercially exploited species (e.g. GFCM surveys, but also national surveys) as well as biodiversity oriented surveys.

Comprehensive studies of the biological status of most of demersal and pelagic fish stocks in some Mediterranean areas are lacking and there is a need for survey data for tuning the application of analytical models for stock assessment. To address this issue, the GFCM within its mid-term strategy has promoted such studies and one way of doing so is by establishing international surveys covering the main demersal and pelagic stocks. The first step was to prepare a GFCM common protocols for the execution of regional pelagic/acoustic and demersal/trawl surveys. Through this protocol, countries are invited to collect and report also biological information (e.g. length, weight sex and maturity) on non-indigenous species using standard data entry sheets and reporting templates. Surveys information on non-indigenous species could contribute in understanding their roles in the benthic and pelagic ecosystems, the impacts on their new environment including restructuring established food webs, and competition with native organisms for food and space.

Data repository: GFCM database, national survey databases, UNEP/MAP Information platform (InfoMAP) and Data Sharing System (MAMIAS)

Main outcomes: Quantitative data on NIS abundance

Protocols: Surface visual census (Snorkelling) on standard transects, Trawls survey, Traps, Nets Scientific Surveys in the Mediterranean and Black Sea: Demersal and pelagic Acoustic protocol (GFCM, 2018)

Method 4. LEK periodical survey

Source of data local fishermen (both professional and recreational)

Brief description interviews with local fishermen, but also with recreational fishermen and divers, as appropriate. The full protocol is already available. This consists in 'LEK_2 protocol' (source INTERREG MED MPA-Adapt Project) for periodical monitoring. Note that, after cross-validation the LEK_2 protocol is expected to provide complementary data to commercial data sampling. Actions to ensure appropriate science-policy interface with the MPA-Adapt project and partners such as CIESM, FAO should be taken into account.

Data repository to be defined

Main outcomes Trends of abundance, time series, spatial projections, socio-ecological evaluation, early detection.

Protocols: LEK survey form

Method 5. Presence-only records

Source of data different sources, including social networks after appropriate validation.

Brief description searching, extracting, checking for validation and geo-referencing opportunistic observations of NIS. These data can be used to feed MAMIAS and other possible interested partners. The work can be manually done by contracted personnel, on a regular basis and in synergy with other databases and groups (e.g. 'Mediterranean Marine Life'; 'Lion Fish in Cyprus'; 'Oddfish'…) to be identified.

Data repository UNEP/MAP Information and Data Sharing System (MAMIAS),

Main outcomes database implementation with geo-referenced observations, early detection

PROTOCOLS: **UNDER DEVELOPMENT**

Method 6. National expert evaluation

Source of data: expert working group with experts of different countries/literature

Brief description: A permanent network of experts will be established to periodically provide expert evaluation on the status of target NIS in relation to fishery and update qualitative information on distribution and abundance at a given spatial resolution. It probably represents the most immediate way to combine information from different countries, which rely on different information sources. To be performed through scientifically recognized techniques (e.g. Delphi method) and cross checked with the available literature. Cost effective.

Data repository: UNEP/MAP Information and Data Sharing System (MAMIAS)

Main outcomes Trends of abundance (qualitative), trend in spatial distribution, socio-ecological evaluation, documentation of new and emerging bio-invasions.

Protocols: The Online questionnaire (Appendix 9/Annex 2) could be implemented and used as a periodical (once a year) tool to collect data from each participating country. The survey can be replicated within the country (more than one independent expert *per* country).

6. GENERAL SUGGESTIONS FOR IMPLEMENTATION

Required means

1. Scientific coordinator: to filter/validate the data, assist database implementation/elaborate periodical results following a reporting requirements/obligations.
2. Sub regional coordinator: to assist the organization of group activities and follow/stimulate data recovery and sharing…
3. IT tools (Web platform to facilitate the process of data input/recovery/elaboration)
4. Periodical (once/year) in person meeting of the group advisable

Possible constraints and solutions

CONSTRAINT	POSSIBLE SOLUTION
Low level of engagement and participation, scarce motivation, too ambitious targets	Engage motivated experts, simplify procedures; provide a minimum protocol to be followed by ALL the participants
Reluctance in data sharing	Provide a minimum protocol, request elaborated info (for example ranks of abundance through the geographical grid), promote collaborative scientific publications
Poor data interoperability due to the heterogeneity of data sources, methods and measures.	Standardize the data; use rank variables; focus on only few standard methodologies.

Appendix 9/Annex 1

Common Indicator Guidance on NIS Common Indicator (as described in UNEP(DEPI)/MED WG.444/6

<table>
<tr><td>Indicator Title</td><td colspan="2">Common Indicator 6: Trends in abundance, temporal occurrence, and spatial distribution of non-indigenous species (NIS)</td></tr>
<tr><td>Relevant GES definition</td><td>Related Operational Objective</td><td>Proposed Target(s)</td></tr>
<tr><td>Decreasing abundance of introduced NIS in risk areas</td><td>Invasive NIS introductions are minimized</td><td>Abundance of NIS introduced by human activities reduced to levels giving no detectable impact</td></tr>
<tr><td colspan="3">Indicator analysis methods</td></tr>
<tr><td colspan="3">General definitions (according to UNEP(DEPI)/MED WG.420/4)
‘Non-indigenous species’ (NIS; synonyms: alien, exotic, non-native, allochthonous) are species, subspecies or lower taxa introduced outside of their natural range (past or present) and outside of their natural dispersal potential. This includes any part, gamete or propagule of such species that might survive and subsequently reproduce. Their presence in the given region is due to intentional or unintentional introduction resulting from human activities. Natural shifts in distribution ranges (e.g. due to climate change or dispersal by ocean currents) do not qualify a species as a NIS. However, secondary introductions of NIS from the area(s) of their first arrival could occur without human involvement due to spread by natural means.
‘Invasive alien species’ (IAS) are a subset of established NIS which have spread, are spreading or have demonstrated their potential to spread elsewhere, and have an effect on biological diversity and ecosystem functioning (by competing with and on some occasions replacing native species), socioeconomic values and/or human health in invaded regions. Species of unknown origin which cannot be ascribed as being native or alien are termed cryptogenic species. They also may demonstrate invasive characteristics and should be included in IAS assessments.

Indicator Definition
For the needs of Common Indicator 6, the following definitions apply:
‘Trend in abundance’ is defined as the interannual change in the estimated total number of individuals of a non-indigenous species population in a specific marine area.
‘Trend in temporal occurrence’ is defined as the interannual change in the estimated number of new introductions and the total number of non-indigenous species in a specific country or preferably the national part of each subdivision, preferably disaggregated by pathway of introduction.
‘Trend in spatial distribution’ is defined as the interannual change of the total marine ‘area’ occupied by a non-indigenous species.</td></tr>
<tr><td colspan="3">Methodology for indicator calculation
To estimate Common Indicator 6, a trend analysis (time series analysis) of the available monitoring data needs to be performed, aiming to extract the underlying pattern, which may be hidden by noise. A formal regression analysis is the recommended approach to estimate such trends. This can be done by a simple linear regression analysis or by more complicated modelling tools (when rich datasets are available), such as generalized linear or additive models.
To monitor trends in temporal occurrence, two parameters [A] and [B] should be calculated on a yearly basis. Parameter [A] provides an indication of the introductions of “new” species (in comparison with the prior year), and parameter [B] gives an indication of the increase or decrease of the total number of non-indigenous species:
[A]: The number of non-indigenous species at T_n that was not present at T_{n-1}. To calculate this parameter the non-indigenous species lists of both years are compared to check which species were recorded in year n, but were not recorded in year n-1 regardless of whether or not these species was present in earlier years. To calculate this parameter the total number of non-indigenous species is used in the comparison.</td></tr>
</table>

Indicator Title	*Common Indicator 6: Trends in abundance, temporal occurrence, and spatial distribution of non-indigenous species (NIS)*

[B]: The total number of known non-indigenous species at T_n minus the corresponding number of non-indigenous species at T_{n-1}. Hereby T_n stands for the year of reporting.

Indicator units

'Trends in abundance': % change per year

'Trends in temporal occurrence': % change in new introductions or % change in the total number of alien species per year or per decade

'Trends in spatial distribution': % change in the total marine surface area occupied or % change in the length of the occupied coastline (in the case of shallow-water species that are present only in the coastal zone)

Methodology for monitoring, temporal and spatial scope

Available Methodologies for Monitoring and Monitoring Protocols

It is recommended to use standard monitoring methods traditionally being used for marine biological surveys, including, but not limited to plankton, benthic and fouling studies described in relevant guidelines and manuals. However, specific approaches may be required to ensure that alien species are likely to be found, e.g. in rocky shores, port areas and marinas, offshore areas and aquaculture areas.

As a complimentary measure and in the absence of an overall NIS targeted monitoring programme, rapid assessment studies may be undertaken, usually but not exclusively at marinas, jetties, and fish farms

(e.g. Pederson et al. 2003).

The compilation of citizen scientists input, validated by taxonomic experts, can be useful to assess the geographical ranges of established species or to early record new species.

For the estimation of Common Indicator 6, it is important that the same sites are surveyed each monitoring period, otherwise the estimation of the trend might be biased by differences among sites.

Standard methods for monitoring marine populations include plot sampling, distance sampling, mark-recapture, removal methods, and repetitive surveys for occupancy estimation (see Katsanevakis et al. 2012 for a review specifically for the marine environment).

Katsanevakis S, et al., 2012. Monitoring marine populations and communities: review of methods and tools dealing with imperfect detectability. Aquatic Biology 16: 31–52.

Pederson J, et al., 2003 Marine invaders in the northeast: Rapid assessment survey of non-native and native marine species of floating dock communities, August 2003 (available in https://dspace.mit.edu/bitstream/handle/1721.1/97032/MITSG_05-3.pdf?sequence=1*)*

Available data sources

Marine Mediterranean Invasive Alien Species database (MAMIAS) - http://www.mamias.org/

European Alien Species Information Network (EASIN) - http://easin.jrc.ec.europa.eu/

CIESM Atlas of Exotic Species in the Mediterranean - http://www.ciesm.org/online/atlas/

World Register of Introduced Marine Species (WRIMS) - http://www.marinespecies.org/introduced/

Spatial scope guidance and selection of monitoring stations

The monitoring of NIS generally should start on a localized scale, such as "hot-spots" and "stepping stone areas" for alien species introductions. Such areas include ports and their surrounding areas, docks, marinas, aquaculture installations, heated power plant effluents sites, offshore structures. Areas of special interest such as marine protected areas, lagoons etc. may be selected on a case by case basis, depending on the proximity to alien species introduction "hot spots". The selection of the monitoring sites should therefore be based on a previous analysis of the most likely "entry" points of introductions and "hot spots" expected to contain elevated numbers of alien species.

It is important to establish a network of monitoring sites at regional level in which common protocols are applied so that Common Indicator 6 can be assessed at both national and regional level.

Indicator Title	*Common Indicator 6: Trends in abundance, temporal occurrence, and spatial distribution of non-indigenous species (NIS)*

The use of Habitat Suitability Models and Ecological Niche Modelling (ENM) may be considered at a later stage of IMAP to identify priority monitoring sites and to predict the spread of NIS.

Temporal Scope guidance

Monitoring at "hot-spots" and "stepping stone areas" for alien species introductions would typically involve more intense monitoring effort, e.g. sampling at least once a year at ports and their wider area and once every two years in smaller harbours, marinas, and aquaculture sites.

Data analysis and assessment outputs

Statistical analysis and basis for aggregation

Standard statistics for regression analysis should be applied to estimate trends and their related uncertainties.

Expected assessments outputs

- Graphs of the time series of the calculated metrics (abundance, occurrence, etc), including confidence intervals
- Distribution maps of the selected species, depicting temporal changes in their spatial distribution
- National inventories (and also by the national part of each marine subdivision, if relevant) of non-indigenous species by year

Known gaps and uncertainties in the Mediterranean

NIS identification is of crucial importance, and the lack of taxonomical expertise has already resulted in several NIS having been overlooked for certain time periods. The use of molecular approaches including bar-coding are sometimes needed to confirm traditional species identification.

Sampling effort currently greatly varies among Mediterranean countries and thus on a regional basis current assessments and comparisons may be biased.

Contacts and version Date

Key contacts within UNEP for further information

Version No	Date	Author
V.1	20/07/2016	SPA/RAC
V.2	14/04/2017	SPA/RAC

Appendix 9/Annex 2

Online Questionnaire

COUNTRY		0	0	0	0	0	0
Reference Institute compiling the questionnaire	*S. lessepsianus*	*L. sceleratus*	*P. miles*	*S. rivulatus*	*S.luridus*	*F.commersonii*	*P. lineatus*
GENERAL INFO							
Is information on the presence and abundance of this species regularly collected?							
(If YES) Who collects the information?							
(If YES) Who gets regularly informed about the presence/abundance of this species?							
What is the current distribution within your country?							
ABUNDANCE AND IMPACTS	*If the species is present in your country compile the following:*						
Maximum abundances (for example exceptional day catches Tot Kg/boat) Open question							
Estimate Total Country catches in the last year (Tot Kg in your Country)							
HOTSPOTS: what are the geographical sectors and/or habitats in wich the abundance of the species is more relevant? open question							
Rank the current abundance in the hotspots							
General trend of abundance							
Negative impacts on fishery							
Negative impacts on environment							
Commercial relevance for fishery							
Average price to the local markets (in American $)							
FISHING GEARS							
Caught by set nets							
Caught by purse seine							
Caught by traps							
Caught by longlines							
Caught by angling							
Caught by trawl							
Caught by spearfishing							
Caught by other gears							
OTHER BIOLOGICAL RELEVANT INFORMATION							
Min size (LT) at sexual maturity (if known, in Cm)							
Spawning period (if known)							
	Souce of information used to compile the form: multiple answer can be provided, just put a cross (X) for each source of information you used						
Scientific papers							
Grey literature							
Scientific surveys							
Expert evaluation							
Fishermen interviews							
Other (specify)							

Please list all the existing sources of information on the abundance, distribution and fishery of the priority species on the national level

COUNTRY

	Data source	Authors (or Data owners)	Year	Title of the Paper, Report or Dataset	Institute owing the data	Contact person	Brief description	ABUN	DISTR	FISHE	*S. lessepsia*	*L. scelera*	*P. mil*	*S. rivula*	*S.luria*	*F.commers*	*P. linea*
3																	
4																	

Rationale: This questionnaire provides a basis to collect periodical (every 12 months) information from a permanent network of experts. It probably represents the most immediate way to combine information from different countries, which rely on different information sources. To be performed through scientifically recognized techniques (e.g. Delphi method) and cross checked with the available literature. Cost effective.
Objectives: Trends of abundance of NIS socio-ecological evaluation, documentation of new and emerging bio-invasions.

Appendix 10

Elements for the implementation of a research programme on red coral in the Mediterranean Sea

1. INTRODUCTION

This document includes proposed elements for the implementation of a research programme on red coral in the Mediterranean Sea, in the form of a draft call for tenders to implement the programme, as requested in *Recommendation GFCM/41/2017/5 on the establishment of a regional adaptive management plan for the exploitation of red coral in the Mediterranean Sea*.

The elements for this draft call for tenders are extracted from the red coral research programme concept note discussed in the Workshop on Red coral (Gammarth, Tunisia, 7–8 March 2017), and validated by the SAC at its 19th Session. The document includes indications on the Objectives of the programme, a detailed description of the main axis to be developed by interested tenders (*Data collection*, *Improvement of advice on status of red coral fisheries* and *Pilot studies on the recovery of red coral stocks*) as well as a description of what should be the programme functioning (*Partnership*, *Project coordination*, *Milestones and Deliverables*, and *Reporting*) and a number of conditions for the development of the project (*Validation of results* and *Communication and dissemination*).

The SAC is invited to provide comments on this draft call for tenders, including on priority activities. Based on the technical comments from the SAC, bilateral discussion with donors will be carried out in order to identify potential funds for the project execution, as well as the mechanism to launch the call for tender. As requested by *Recommendation GFCM/41/2017/5*, the call for tenders is expected to be launched in 2018.

2. OVERALL OBJECTIVE AND DURATION OF THE PROGRAMME

The overall focus of the programme is to promote the successful management of red coral fisheries in the Mediterranean Sea, by providing comprehensive advice in line with the requirements of *Recommendation GFCM/41/2017/5*, therefore facilitating the effective implementation of the measures included in the Recommendation as well as the discussion on additional measures at the Commission, when necessary.

The programme should be organized in three axis: *Data collection*, *Improvement of advice on status of red coral fisheries* and *Pilot studies on the recovery of red coral stocks*. The overall duration of the programme is expected to be three years (2019 – 2021).

3. DESCRIPTION OF MAIN REQUIREMENTS FOR THE PROGRAMME

3.1. Data collection

The programme should ensure the collection of fisheries dependent and fisheries independent data, ensuring the compilation of information in response to relevant GFCM Recommendations and in line with the GFCM Data Collection Reference Framework (DCRF). It should include activities towards consolidate a network of scientific observers on board with the aim to collect data on effort and yields in a coordinated way at the pan-Mediterranean level. Also, dedicated visual surveys performed with remote operated vehicles (ROVs), adapted for scientific research should be used. The ROV underwater videos obtained within the present project could represent a valid baseline information both for scientific and conservation purposes, for the updated mapping of commercial banks of red coral but also on a wider sense of the fragile coralligenous assemblages.

The programme should aim to compile information acquired during existing or planned activities on GFCM CPCs (e.g. existing programmes of observers on boards, as well as previous or planned surveys at sea using ROVs).

Apart from the *in situ* investigation, *ex situ* laboratory analyses are performed to acquire new biological, and ecological data, necessary for the proper management of the resource. Furthermore, the Mediterranean research programme aims also to provide guidelines and best practises for recovery of red corals and to facilitate the harmonization and the standardization of data collection protocols, as well as the coordination and comparison of results obtained by ongoing and future national, regional and international research programmes addressing red coral.

The programme should tackle the following aspects of data collection:

- Fisheries dependent
- Fisheries independent data
- Socioeconomic data: A detailed socio-economic analysis included the external aspects affecting the fishery will be realized, along with the development of bio-economic models and economic indicators for the sustainable management of the stocks.

3.2. Improvement of advice on status of fisheries

The programme should address the main requirements within Recommendation GFCM/41/2017/5 in relation to the advice of the SAC on the status of red coral fisheries, including on:

- adequate catch levels in accordance with the available scientific knowledge and with the objectives to ensure the sustainability of the exploitation
- updated status of the red coral populations of the main harvesting countries, including an updated advice on the conservation measures established as per Recommendation GFCM/41/2017/5
- Provide an advice on the usefulness of ROV

In order to do that, the programme should assess the adequacy of existing stock assessment methods as well as methods to assess the efficiency of existing management measures, and when necessary plan for the development of tailor made models for Mediterranean red coral populations.

The programme should tackle the following aspects of the advice:

- Stock Assessment
- Advice on the implementation of management measures
- Advice on potential management measures

3.3. Pilot studies on the recovery of red coral stocks

On the basis of previous discussions within the GFCM, and with the objective to facilitate the discussion on the sustainability of red coral exploitation taking into account adopted measures (see section 3.2 above), dedicated work on the recovery and restoration of red coral stocks under a variety of conditions (e.g. depth, ecosystem productivity, prevailing temperatures, etc.) should be included in the programme.

4. PROJECT FUNCTIONING

4.1. Partnership and coordination of activitities

The programme proposal should include at least all countries in which exploitation of red coral is currently ongoing, as well as those historically involved in red coral exploitation (see report of WKREDCORAL 2017). Research institutes in charge of data collection and/or stakeholders involved in the exploitation of red coral could be potential partners of the programme.

An agreement among partners should be established at the beginning of the project (within month 2) describing duties and responsibilities of all the parties involved in the project. The organizational chart will be completed with the indication of the names of the people within each partner involved on the various activities of the programme.

The programme should also anticipate mechanism in case of change of partnership during the project implementation, including:

- abandonment of partners with/without replacement;
- changes in personnel/organization/coordinator;
- problems with coordinator and/or with specific partners because of poor cooperation or lack of commitment;
- delays and difficulties in actions and deliverable completion because of external causes;
- financial issues and budgetary problems;
- authorship agreement among partners in case of publication of results in scientific journals.

4.2. Overall project coordination

Since the project is complex, coordination between partners, programme axes and tasks is essential. The programme should explicitly propose activities towards a successful accomplishment of the project goals. Monitoring of completion of milestones and deliverables will be pursued.

The following coordination activities should be explicitly developed:

- Co-ordination of the activities in collaboration with Task leaders;
- Co-ordination of the project meetings with project partners (month 1, month 15, month 33);
- Preparation and submission of minutes of the official meetings to the Funding Authority (kick-off, progress and final meetings);
- Preparation and submission of the reports to the Funding Authority (Inception, Interim, Draft Final, and Final Reports, at month 2, 16, 34 and 36).

A detailed operational work plan will be prepared at the beginning of the project (within month 2) to reconfirm:

- the actions to be performed
- the responsible partner for each action
- the tasks for each partner involved in each action
- the timing of execution for each action
- the costs for each action
- the milestone and deliverable deadlines for each action

- the deadline for reporting and the responsibilities of each partner in the writing and approval of reports

4.3. Project meetings

To ensure the coordination and progress of the project, at least three scientific meetings will be organised during the duration of the project:

Kick-off meeting will be organized within month 1 to discuss the preliminary draft of both the Consortium Agreement and the Operational work plan prepared by the Coordinator.

- All partners (coordinator and beneficiaries) are involved in the discussion, approval and signing of the consortium agreement and project operational workplan.

2nd project meeting, to be held within 15 months after the start of the project. The Progress meeting will be dedicated to assessing the progress of the project, update activities and tasks, and discuss the Interim Report.

3rd project meeting, to be held within 33 months after the start of the project. The progress of the project, deliverables and products will be discussed, in addition to the structure to be given to the draft of the Final Report.

- The project coordinator, representatives of all Partners will attend the project meetings, which will be held at GFCM Headquarters (if not otherwise decided). If necessary a representative of the administrative staff of each partner will be required to attend.

Budgets by partner take into account the expenses to attend these three project meetings.

4.4. Reporting

Four reports are expected as deliverables to be submitted to the SAC and the relevant donors:

The Inception Report will be submitted within two months after the start of the project. It will contain (i) the foreseen timetable, (ii) the team, (iii) the outline of the methods to be used.

The Interim Report, which will be delivered within 16 months after the start of the contract, will contain the first project results in accordance with the project time schedule. The report will also indicate problems that arose in the interim period and how these were addressed; mitigation measures and an adjustment resulting from unforeseeable events, and an updated timeline, if needed.

The Draft Final Report will be submitted no later than 33 months after the start of the contract. It will provide details of the implementation and results of the project. It will contain analysis and conclusions regarding all tasks.

The Final Report will be submitted no later than 36 months after the start of the contract. The report will be completed after the Draft Final Report has been reviewed by the Funding Authority. All the comments made to the Draft Final Report will be incorporated into the Final Report.

The Final Report will include a separate Executive Summary (including the main findings, conclusions and recommendations) written in the official languages of GFCM. This summary will also be included as a preface to the Final Report. The summary will be written in a clear, unambiguous and comprehensible style, in a way that will make possible to use it independently of the main report.

4.5. Milestones, deliverables and expected chronogram

The project should have a comprehensive list of milestones and deliverables within each of the tasks (*Data collection*; *Improvement of advice on status of red coral fisheries*; *Pilot studies on the recovery of red coral stocks*; *Overall coordination*). A chronogram indicating starting and ending deadlines for each milestone and deliverable should be included in the programme proposal.

An example list of milestones and deliverables with tentative deadlines is included in Annex 1.

5. VALIDATION OF RESULTS AND MODIFICATION OF PROGRAMME ACTIVITIES

The outcomes of the programme, including relevant milestones and deliverables, and especially those related to the requests included in *Recommendation GFCM/41/2017/5 on the establishment of a regional adaptive management plan for the exploitation of red coral in the Mediterranean Sea* shall be validated by the SAC. In this respect, dedicated SAC experts sessions on red coral will be organized in line with the above mentioned Recommendation (one session in 2019 a potential second session on 2020 – 2021). Results from the programme will be presented by the programme coordinator (or by a person nominated by him/her).

Comments from the expert meeting and from the SAC, as well as comments provided by the annual session of the GFCM should be incorporated in the programme, including when relevant through the modification of planned activities.

Any relevant change in programme activities should also be communicated to the SAC and to the Commission in advance for approval.

6. DISSEMINATION AND COMMUNICATION

The programme proposal should also include a dedicated communication and dissemination plan. Internal communication with partners and involved administration should be managed through the programme coordination tasks, while external dissemination and communication should target wider audiences, including the research community and the general public.

Appendix 10/Annex 1

Example list of Milestones and deadlines

Milestone 0.1 – Kick-off meeting (month 1)
Milestone 0.2 – Consortium agreement (month 2)
Milestone 2.1.1 – Biological studies Protocols and training course (month 4)
Milestone 2.2.1 – Ecological studies Protocols and training course (month 6)
Milestone 3.1.1 – Recovery Protocols (month 6)
Milestone 3.2.1 – Restoration Protocols (month 6)
Milestone 2.2.2 – first survey at sea (Ecological studies) (month 8)
Milestone 1.1.1 – Observers Protocol and training course (month 7)
Milestone 2.1.2 – first sampling at sea (Biological studies) (month 9)
Milestone 3.1.2 – first removal experiment at sea (Restoration) (month 9)
Milestone 3.1.2 – setting up of experiments at sea (Recovery) (month 10)
Milestone 1.1.2 – first survey at sea (Observers) (month 11)
Milestone 0.3 – 2nd Plenary meeting (month 15)
Milestone 1.2.1 – Stock assessment review (month 18)
Milestone 3.1.3 – second removal experiment at sea (Restoration) (month 18)
Milestone 2.2.3 – second survey at sea (Ecological studies) (month 19)
Milestone 2.1.3 – second sampling at sea (Biological studies) (month 21)
Milestone 1.1.3 – second survey at sea (Observers) (month 23)
Milestone 1.3.1 – Bio-economics review (month 24)
Milestone 3.1.4 – third removal experiment at sea (Restoration) (month 24)
Milestone 2.2.4 – third survey at sea (Ecological studies) (month 25)
Milestone 2.2.5 – accomplishment of analyses (Ecological studies) (month 26)
Milestone 3.1.3 – accomplishment of recovery experiments (month 26)
Milestone 2.1.4 – third sampling at sea (Biological studies) (month 28)
Milestone 1.1.4 – third survey at sea (Observers) (month 29)
Milestone 3.1.5 – accomplishment of restoration experiments (month 29)
Milestone 1.2.2 – Application of traditional methods (month 30)
Milestone 1.2.3 – Application of innovative methods (month 30)
Milestone 2.1.5 – accomplishment of analyses (Biological studies) (month 31)
Milestone 1.2.4 – Final stock assessment (month 32)
Milestone 0.4 – 3rd Plenary meeting (month 33)

Example list of Deliverables and deadlines
Deliverable 0.1 – Inception Report (month 2)
Deliverable 0.2 – Interim Report (month 16)
Deliverable 2.2 – Ecological studies Report (1st release month 15, 2nd update month 21, 2nd update and final month 27)
Deliverable 3.1 – Recovery Report (1st release month 12, 2nd update and final month 27)
Deliverable 3.2 – Restoration Report (1st release month 19, 2nd update month 25, 2nd update and final month 30)
Deliverable 1.1 – Observers Report (month 30)
Deliverable 2.1 – Biological studies Report (1st release month 12, 2nd update month 24 and 3rd update and final month 32)
Deliverable 1.2 – Stock assessment Report (month 32)
Deliverable 1.3 – Bio-economics Report (month 32)
Deliverable 0.3 – Draft Final Report (month 34)
Deliverable 0.4 – Final Report (month 36)

Appendix 11

Monitoring plan (2018-2020) for the Jabuka/Pomo Pit FRA

Introduction

During the 41st session of the GFCM (October 2017), Contracting Parties adopted Recommendation GFCM41/2017/3 on the establishment of a Fisheries Restricted Area (FRA) in the Jabuka/Pomo Pit. Within this Recommendation, paragraph 20 estates that "*The SAC [Scientific Advisory Committee on Fisheries] and the Compliance Committee (CoC) shall review its implementation on a yearly basis in order to issue recommendations where appropriate. Based on SAC advice, the management measures for the Jabuka/Pomo Pit shall be reviewed in 2020.*

In reaction to this Recommendation, interested Contracting Parties, within the context of the AdriaMed Project and in particular of a dedicated AdriaMed Study Group on Jabuka/Pomo Pit (22-23 February 2018), initiated discussion on the set up of a monitoring programme in the newly established FRA in the Jabuka/Pomo Pit area.

Based on the discussions, a draft workplan programme of work for the monitoring of the Jabuka/Pomo Pit was presented by AdriaMed and endorsed by the third session of the GFCM Subregional Committee for the Adriatic Sea (SRC-AS; 12-14 April 2018).

This document includes the proposed programme of work for the monitoring of the Jabuka/Pomo Pit with additional suggestions made by stakeholders, following the suggestions of the SRC-AS, and would be submitted to the 21st session of the SAC (26th – 29th June 2018) for validation.

Overall objective

This monitoring plan provides an outline for the collection of information required to assess the effectiveness of the FRA towards (i) contributing to the rebuilding of the stocks of the Adriatic Sea through the protection of EFH, (ii) protecting VMEs in the area and (iii) enhancing the densities of organisms in term of biomass and abundance within FRA. Results should be regularly reported and discussed within the relevant subsidiary bodies of the SAC (WGSAD, SRC-AS and WGVME), with the final aim, as stated in the GFCM Recommendation, to provide the SAC by 2020 of a detailed analysis of the biological and economical effects of the establishment of the Jabuka/Pomo Pit FRA.

Methods

Monitoring activities currently in place

1. Biological sampling of catches and discards from commercial fleets of *Nephrops* and *Merluccius* collected through EU Data Collection Framework (DCF) and currently required through the GFCM Data Collection Reference Framework (DCRF).
2. Landings, catches and discards for major species by gear in the area as collected through EU DCF and GFCM DCRF
3. MEDITS bottom trawl surveys covering the whole GSA 17 conducted every summer through EU Data Collection Framework.
4. Under Water TV surveys of whole Jabuka/Pomo area every spring linked with experimental bottom trawling with specific experimental a *Nephrops* net, conducted by CNR-ISMAR (Ancona) in collaboration with IOF (Split) under the framework of the FAO-AdriaMed project and funded by Italian Fishery Directorate of MIPAAF.
5. Bottom trawling on Western Jabuka/Pomo area every autumn done by experimental bottom trawling with a *Nephrops* net funded by Italian Fishery Directorate of MIPAAF.

6. VMS and AIS raw data for all fishing fleet segments operating in the area exploiting demersal resources.
7. Log-book data for all fishing fleet segments operating in the area exploiting demersal resources.
8. Economic data for all fishing fleet segments operating in the area exploiting demersal resources collected through EU DCF and the GFCM DCRF.

Existing historical datasets to be made available to the Jabuka/Pomo AdriaMed Study group

1. DCF/DCRF data on annual commercial catches by species, Length Frequency Distributions from biological sampling of commercial catches from 2006 for Italy and from 2013 Croatia (DEMON data for previous years)
2. GRUND scientific bottom trawl surveys covering the whole GSA 17: data on index of biomass and abundance of all species and population structure (LFD) for commercial species from 1982 to 2007 for Italian + International waters and since 1985 to 2007 (not every years) for Croatians territorial waters.
3. GRUND scientific bottom trawl surveys data on macrozoobenthos, partly published in Acta Adriatic, still to be digitized.
4. MEDITS scientific bottom trawl surveys covering the whole GSA 17: data on index of biomass and abundance of all species and population structure (LFD) for commercial species from 1994 for Italian + International waters and since 1996 for Croatian territorial waters. Data on macrozoobenthos collected by MEDITS from 2012 or, if available, from previous years (as per MEDITS-Handbook. Version n. 9, 2017, MEDITS Working Group : 106 pp)
5. Economic data on bottom trawl and bottom long line fisheries since 2006 for ITA and 2013 from Croatia.

Current scientific outputs

1. Annual analytical stock assessments of *Merluccius merluccius, Parapenaeus longirostris,* conducted annually in the framework of GFCM-SAC Working Group on Demersal Stock Assessment (WGSAD)
2. Annual biomass estimates, density indices and stock structure of *Nephrops norvegicus* obtained through UWTV and bottom trawl surveys; computation of a trend of harvest ratios
3. Annual indices of biomass of *Merluccius, Parapenaeus*, *Nephrops*, and *Lophius budegassa* plus a number of other species obtained by MEDITS surveys
4. Experimental application of multispecies ecological models on the area (e.g. MICE model in Angelini et al. 2016 An Ecosystem Model of Intermediate Complexity to test management options for fisheries: A case study. *Ecological Modelling 319: 218-232*)

Proposed Additional Monitoring

1. 10-15 additional trawl hauls to be conducted during summer MEDITS survey in Pomo/Jabuka area, to be discussed at the next MEDITS coordination meeting in April in Split, to refine the biomass indexes of commercial species and improve the monitoring of juveniles of *Merluccius merluccius* which specifically concentrate in the area.
2. An additional bottom trawl monitoring in winter limited to the Jabuka/Pomo, area using MEDITS methodology, to improve the monitoring of juveniles of *Merluccius merluccius* which specifically concentrate in the area.
3. Analysis of logbook data as well as VMS/AIS data for the authorized fleets, to monitor CPUE of trawlers and bottom long-liners, in order to quantify the eventual displacement of the fishing fleets in the neighboring areas as well as local changes in CPUE.

Proposed scientific analysis:

1. Significant efforts are required for the standardization of scientific survey data (MEDITS and GRUND) prior to their use, to be performed on the entire existing dataset.
2. Benchmark stock assessment for *Merluccius merluccius* in 2018 and *Parapenaeus* in 2019 to be performed in the framework of the WGSAD of SAC-GFCM, to consolidate the evaluation of these two main stocks in the area.
3. Development of an assessment for *Nephrops norvegicus* which takes into account different ecological characteristics of *Nephrops norvegicus* populations in the Adriatic. *Nephrops* is the main target species for trawlers in the area
4. Testing and application of spatial based assessment tools developed recently or under development (e.g. EU funded project *MANTIS: Marine protected Areas Network Towards Sustainable fisheries in the Central Mediterranean*)
5. Historical analysis of macrobenthic data available for the area including GRUND survey data (still to be digitalized), as well as MEDITS data more recently collected at least from 2012, to provide an estimate of the past and present situation of macrobenthic communities and monitor their reaction to the trawling ban.
6. Data limited stock assessments of *Lophius budegassa* and other commercially important species in the area based on trawl surveys and landing data, to increase the understanding of the multispecific fisheries exploiting the area and detect potential additional side effects of the establishment of the FRA.
7. Socioeconomic analysis of authorized fleets based in the authorized landing ports.

Development of the monitoring programme

Monitoring activities detailed above (surveys, collection of fisheries data, etc.) are expected to be carried out by the concerned countries, with the support of AdriaMed, GFCM and relevant Fisheries Administrations (Italy, Croatia and EU DGMARE).

Work will be coordinated by the AdriaMed Study Group on Jabuka/Pomo inside the AdriaMed WG on demersal resources, taking into account the suggestions received from the GFCM (SAC, SRC-AS and WGSAD).

Stock assessment work will be performed in the framework of the SAC-GFCM WGSAD

Overall reporting of the monitoring activities will be discussed annually in a dedicated session of the SRC-AS, and the results will be presented to the SAC.

Policy for exchange/sharing of data

Relevant information compiled as a result of existing GFCM Recommendations, and following existing GFCM data policies, should be made available for the purpose of the monitoring of Recommendation GFCM41/2017/3 as proposed in this document.

Agreement to be reached in the use of additional available data taking also into account existing limitations (e.g. VMS, individual log-books).

Budget

To be discussed with relevant Fisheries Administrations taking into account existing activities, man-power requirements for additional analysis etc. Contributions are expected both from AdriaMed and the GFCM in the framework of the Mid-Term Strategy.

Appendix 12

Proposed stock assessment work plan by priority species and GSAs, for 2018 – 2020, in support of the provision of advice

ADVICE ON PRIORITY SPECIES TO GFCM 42 (October 2019)

i. Benchmarks in 2018 to be held as dedicated sessions during WGSAs (November):
   - **Hake GSA 17-18**
   - **Red mullet GSA 12-14, 15-16, 19**

ii. Updated assessments during WGSAs: work prepared ahead with help of coordinator / Regional Projects / trainings, but less time for them during the meeting

iii. For selected fisheries, benchmark on second quarter of 2019
   - **Blackspot seabream (within SRC-WM, March-April)**
   - **Small pelagics Adriatic Sea: (within SRC-AS, April - June)**

ADVICE ON PRIORITY SPECIES TO GFCM 43 (2020)

i. Benchmarks in **2019** to be held as dedicated sessions during WGSAs:
   - **Sardine GSAs 1,3,4**
   - **Sardine GSAs 6-7, 9-11**
   - **Hake all GSAs except Adriatic**
   - **Red mullet 17-18**
   - **Solea GSA 17**
   - **Dolphinfish** (joint with COPEMED)
   - **Saurida GSAs 24, 26-27** (joint with EASTMED)

ii. Updated assessments during WGSAs

iii. For **selected fisheries**, benchmark in the second quarter of **2020**
   - **Deep-water rose shrimp GSAs 12-14, 15-16**
   - **Sardinella GSA 26 -27**

ADVICE ON PRIORITY SPECIES TO GFCM 44 (2021)

i. Benchmarks in 2020 to be held as dedicated sessions during WGSAs:
   - **Anchovy all GSAs except Adriatic**
   - **Sardine Eastern Mediterranean**
   - **Rose shrimp Western and Adriatic**
   - **Deep water red shrimps Central and Eastern Mediterranean**

ii. Updated assessments during WGSAs

iii. For selected fisheries, benchmark in the second quarter of 2021
   - **Red mullet Eastern Mediterranean**
   - **Sardine Central Mediterranean**

		Benchmarks	Western Mediterranean										Central Mediterranean								Adriatic		Eastern Mediterranean					
		Species	**1**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**19**	**20**	**21**	**17**	**18**	**22**	**23**	**24**	**25**	**26**	**27**
Priority species	Pelagic species	*Engraulis encrasicolus*	**2020**				**2020**			**2020**			**2020**								**2019**		**2020**				**2020**	
		Sardina pilchardus	**2019**				**2019**			**2019**			**2021**								**2019**		**2020**				**2020**	
		Sardinella aurita																									**2019**	
	Demersal species	*Merluccius merluccius*	**2019**							**2019**			**2019**								**2018**		**2019**				**2019**	
		Parapenaeus longirostris	**2020**							**2020**			**2020**								**2020**							
		Mullus barbatus											**2018**								**2019**		**2021**					
		Pagellus bogaraveo	**2019**																									
		Saurida lessepsianus																							**2019**		**2019**	
	New proposals	*Solea solea*																			**2019**							
		Squilla mantis																										
		Sepia officinalis																										
		Aristeus antennatus											**2020**										**2020**					
		Aristaeomorpha foliacea											**2020**										**2020**					
	Conservation	*Anguilla anguilla*																										
		Corallium rubrum	**2019**																									
		Coryphaena hippurus	**2019**																									

Appendix 13

Draft terms of reference for selected meetings

Generic ToRs for a benchmark assessment meeting

For the purpose of these ToRs, a benchmark assessment is defined as a full analysis and review of the information and methods used to provide advice on the status of a given stock, focusing on the consideration of old and new data sources as well as new or improved assessment models and assumptions. In particular, the benchmark process shall include:

- the identification of all problems associated to the assessment(s) of a resource (including on data, assumptions and methodologies),
- the identification and provision of extra data required to address the above problems
- the revision and agreement of data, assumptions (including all biological parameters) and assessment methods proposed for the assessment
- the performance of the assessment,
- the estimation of adequate reference point as well as their robustness
- the provision of advice on the status of the stocks based on the outcomes of the chosen models with respect to the estimated reference points

The benchmark session shall be attended by stock experts as well as methodological experts, both from the area/subregion and outside, thus providing a framework for ensuring the quality of the advice. Following the benchmark assessment, all historical data, assumptions and models will be fixed for the successive 3 – 4 years and assessments presented in this time period will simply provide updates incorporating data from the most recent year(s).

Working groups on stock assessment for demersal and small pelagic species (WGSAD and WGSASP)

The main objective of the annual meetings of the WGSAs is to provide advice on the main commercial stocks, as prioritized by the SAC and the Commission. Specifically, the WGSAs will, on a stock-by-stock basis:

1. Analyse the datasets provided by the participants, check model parameters, evaluate model performance through sensitivity tests and residuals analysis, run stock assessments on a practical session and agree on final stock assessment models;

2. When possible, estimate biological reference points (biomass and fishing mortality);

3. In cases where analytical BRP cannot be obtained, attempt to use an empirical approach based on standing stock as stock status indicator, the harvest ratio (catch/biomass from survey) as fishing impact, and some indicators (SST, chlorophyll, condition factor, etc.) of environmental stress;

4. Provide diagnosis and advice on the status of stocks as assessed by the WGSAs, and suggest management advice to the SAC;

5. Complete a stock assessment form detailing the input data, preliminary analysis and stock assessment model, including all assumptions, model runs and analysis of model uncertainty used for the provision of advice, on a stock-by-stock basis;

6. Present and discuss related scientific/technical information useful for the assessment of stock status in the GFCM area of application.

Terms of Reference for the proposed permanent Working Group on the assessment of alternative management measures (WGMSE)

The WGMSE will provide support to the SAC towards advice on the impacts of alternative measures for selected fisheries, in particular those for which the Commission has requested it, or for which the SAC has proposed to implement immediate management measures.

Terms of Reference

- Revise the state of the art of MSE processes both in the Mediterranean and Black Sea and in other contexts around the world, and propose advances towards robust advice on alternative management measures, including on data limited stocks
- For the selected fisheries and based on the management scenarios and reference points agreed in the context of the GFCM (i.e. as provided in the GFCM guidelines for management plans or as requested by the Commission or the SAC), assess the potential effects on stocks and fleets of the implementation of alternative scenarios, including:
    a) the identification of biological, stock assessment, pressure and socioeconomic data (time series) and parameters needed to run the model;
    b) the identification of components of the simulation model for which a sensitivity analysis coherent with the model assumptions should be run and review of the characteristics and the assumptions related to the different components of the simulation models used for the assessment of potential effects of management scenarios (e.g. biological, pressure and socioeconomic);
    c) running the simulation scenarios and providing comparative tables of the expected status of stocks and fleet indicators (e.g. catch, socioeconomic indicators, etc) in comparison with agreed reference points.

Expert composition and functioning

The WGMSE should be a year-round progressive process that should follow a phased approach, as follows:

1. Phase 1: the identification, discussion and agreement of the management scenarios to be tested should take place through an interaction between scientists, administrations and stakeholders.
2. Phase 2: development and running of models assessing the impact of the decided management scenarios.
3. Phase 3: the WKMSE should meet to discuss future methodologies to be used and present and discuss results obtained during the phased approach.

The presence of fisheries and technical experts, including external experts, is required in all phases of the process. This should be facilitated by the GFCM and the relevant FAO Regional projects.

Data preparation meeting for round sardinella

The data preparation meeting will be held over 3 – 5 days, before the 2018 WGSASP (November 2018), and will be organized in collaboration with FAO-EastMed regional project.

The aims of this meeting will be:

- CPCs will provide the data listed in the data table comprising Appendix 4 of the report of the second meeting of the Subregional Committee for the Eastern Mediterranean (SRC-EM) (Greece,

March 2018), at least one month in advance, and put them at the disposal of the meeting for analysis,

- Analyse, harmonize and aggregate as appropriate data from the main fleets exploiting the stock (Lebanon, Gaza strip and Egypt) as well as relevant additional data from other CPCs of the subregion, with the objective of facilitating the provision of advice at the subregional level,
- Compare the available data to the Data-Methods table comprising Appendix 6 of the report of the second meeting of the SRC-EM (Greece, March 2018) and identify and test-run a range of possible stock assessment methods that could be applied

This meeting is expected to be attended by experts of the subregion and complemented by external experts as necessary.

Roadmap for the assessment of deep-water red shrimps in the eastern-central Mediterranean including the terms of reference for the data preparation meeting

i. Data preparation meeting

The data preparation meeting will be held over 3 – 5 days, before the 2018 WGSAD (November 2018), and will be organized in collaboration with FAO-EastMed and FAO MedSudMed regional projects, covering all GSAs in the subregions (12-16, 19-27)

The aims of this meeting will be:

- CPCs will provide the data listed in the data table comprising Appendix 5 of the report of the second meeting of the SRC-EM (Greece, March 2018), at least one month in advance, and put them at the disposal of the meeting for analysis
- Analyze all information available on the distribution of fishing grounds and agree on the units for stock assessment
- Summarize the data available from each CPC for each management unit,
- Compare the available data to the Data-Methods table comprising Appendix 6 of the report of the second meeting of the SRC-EM (Greece, March 2018) and identify and, if possible test-run, a range of possible stock assessment methods that could be applied.

  This meeting is expected to be attended by experts of the subregion and complemented by external experts as necessary

ii. Advice on the status of the stock

As a result of the data preparation meeting, the identified assessments will be performed aiming at having at least a preliminary discussion of the work in progress at the 2018 WGSAD.

iii. Estimate reference points

Once initial assessments are achieved, the possibility of estimating reference points (empirical and/or analytical) should be evaluated.

It is expected that it may take 2–3 years to get robust quantitative assessments in most central-eastern Mediterranean management units.

Data preparation meeting for blackspot seabream (*Pagellus bogaraveo*) in the Alborán sea

The data preparation meeting will be held over 3 – 5 days, tentatively in September 2018 and anyway before WGSAD (November 2018), and will be organized in collaboration with FAO-CopeMed regional project, covering the area of the main fishery located in the Strait of Gibraltar and adjacent waters

Morocco and Spain will provide the data required for this meeting at least one month in advance, and put them at the disposal of the meeting for analysis. These data will include, inter alia:

- Fishery-dependent data
  - Available time series of activity of the fleet (number of days)
  - Available information on the capacity of the fleet (maximum number of hooks, estimates of number of hooks per fishing trip, etc.)
  - Other potential measures of effort (e.g. GT)
  - Total catch by fleet
  - Length composition of catch by fleet
  - Information on bycatch
  - Mean weight and length of catch
- Available historical and most recent biological/life-history data:
  - Size at maturity
  - Growth parameters
  - Length-weight relationship
  - Fecundity
  - Natural mortality
- Fishery-independent data
  - Densities/abundances of *P. bogaraveo* as observed from scientific surveys
  - Length composition and other biological information from scientific surveys

The aims of this meeting will be:

- Summarize and analyse the data available from each Country for the agreed identified management unit, including:
  - Standardization of effort between fleets/countries
  - Compilation of catch per unit effort including its standardization using the most updated methodologies available (e.g. Generalized Linear Models (GLM), Generalized Additive Models (GAM), or possibly geospatial Generalized Linear Mixed Models (GLMM))
  - Compilation of length composition of catches raised to the catches by fleet

- Available survey data, including their standardization if required

- Provide an idea of the goodness of each data set used
- Identify data gaps and agree on a workplan to bridge the gaps

This meeting is expected to be attended by experts of the subregion and complemented by external experts as necessary

Benchmark assessment for blackspot seabream (*Pagellus bogaraveo*)

For the purpose of these ToRs, a benchmark assessment is defined as a full analysis and review of the information and methods used to provide advice on the status of a given stock, focusing on the consideration of old and new data sources as well as new or improved assessment models and assumptions. In particular, the benchmark process shall include:

- the identification of all problems associated to the assessment(s) of a resource (including on data, assumptions and methodologies),
- the identification and provision of extra data required to address the above problems
- the revision and agreement of data, assumptions (including all biological parameters) and assessment methods proposed for the assessment
- the performance of the assessment,
- the estimation of adequate reference point as well as their robustness
- the provision of advice on the status of the stocks based on the outcomes of the chosen models with respect to the estimated reference points

The benchmark session shall be attended by stock experts as well as methodological experts, both from the area/subregion and outside, thus providing a framework for ensuring the quality of the advice. Following the benchmark assessment, all historical data, assumptions and models will be fixed for the successive 3 – 4 years and assessments presented in this time period will simply provide updates incorporating data from the most recent year(s).

In particular, the benchmark assessment of blackspot seabream (*Pagellus bogaraveo*) in the Alboran Sea will make use of the data emerging from the data preparation meeting and carry out the following tasks:

- Identify potential assessment models to be applied given the data at hand,
- Apply identified potential models, including GADGET
- Select the best final model to be used, based on a thorough analysis of model diagnostics and investigating, among other things, the consistency of results among tested models explaining, when necessary, any inconsistencies
- Calculate reference points, in particular FMSY, BPA and BLIM
- Test the robustness of calculated reference points
- Provide a quantitative advice on the status of the stocks based on the outcomes of the chosen models with respect to the calculated reference points

Following the recommendations of WGSAD, and in order to consolidate the benchmark, the work done during the meeting [could/should] be subject to an external expert review before been submitted to the SAC.

Working Group on Vulnerable Marine Ecosystems (WGVME)

VMEs

- Collect information and map the distribution of VMEs (annual update), based on the information presented through a standard template agreed during the intersession, and taking into account any other technical information provided by fishers and other institutions
- advise on new proposals for closures and on the enforcement of existing measures (efficiency of existing FRAs addressing VME protection);
- advise the SAC on any VME related matter and coordinate the elaboration of management tools (including future protocols)
- contribute to the design and management of the GFCM VME geodatabase
- contribute to the establishment of a close collaboration and proper communication channels with SAC subsidiary bodies (WGFiT), scientific bodies from other RFMOs (e.g. ICES working group on deep-water ecology), scientific national institutions and the FAO

Essential Fish Habitats

- Review the information available on Essential Fish Habitats (EFH) and Sensitive Habitats (SH) in the Mediterranean Sea (in particular in relation to, at least, priority species)
- Continue to identify priority EFH and SH by priority species
- Analyse connectivity between EFH in the life cycle of, at least, GFCM priority species
- Propose potential networks of FRAs, by, at least, species

Workshop on Red Coral (WKREDCORAL)

The Workshop on Red Coral will be held on June 2019 to address the requests of *Recommendation GFCM/41/2017/5 on the establishment of a regional adaptive management plan for the exploitation of red coral in the Mediterranean Sea,* in particular:

- provide adequate catch levels in accordance with the available scientific knowledge and with the objective to ensure a sustainable exploitation of the resource.
- provide an updated status of the red coral populations, in particular off the main harvesting countries, including an updated advice on the national conservation measures established
- assess the information received on the use of ROVs in Mediterranean countries

In order to perform these ToRs, information on red coral fisheries, including that requested by relevant Recommendations and detailed in the GFCM Data Collection Reference Framework (DCRF) should be made available at least one month in advance of the meeting:

Additional information required for the assessment of the status of red coral, such as information from national programs of observers onboard, as well as preliminary information that could be available as a result of the Research Programme for Red Coral, expected to be launched in 2019 shall also be made at disposal to the Workshop.

Draft TORs for SRC-AS and SAC for developing elements of a management plan for Adriatic demersal stocks

In line with the targets of the Mid-term strategy and the MedFish4Ever declaration and given the increased number of key priority demersal stocks in the Adriatic sea, management action needs to be put in place to improve the status of the stocks as well as the fisheries profitability.

CPC requests WKMSE to evaluate different management scenarios that would contribute to improve the overall status of the key priority stocks at Adriatic scale, while considering the current management framework (including Pomo/Jabuka FRA).

On the basis of the outcomes, SRC AS and SAC shall start in 2019 the preparation for the development of the elements of a management plan for the demersal stocks in the area in line with the GFCM guidelines on management plans (GFCM\36\2012).

Appendix 14

National reports

ALBANIA

Section 1 - Description of fisheries

A. Fishing grounds (GSAs): 18 – Southern Adriatic Sea

B. Total landings: 6282 tonnes (2017); 6196 tonnes (2016); 3808 tonnes (2015)

Main 10 species landed

Species	*Tons*
Parapenaeus longirostris	1473
Sardina pilchardus	1065
Merluccius merluccius	940
Mullus barbatus	470
Nephrops norvegicus	389
Engraulis encrasicolus	320
Octopus vulgaris	137
Loligo spp.	113
Trachurus spp.	105
Sepia officinalis	83

C. Fleet: 573 vessels (2017); 564 vessels (2016)
Total kW: 79587 (2017); 77024 (2016)
Total GT: 6953 (2017); 6841 (2016)
AVG LOA: 10.9 m (2017)
Min LOA: 2.5 m
Max LOA: 34.8 m
AVG LOA previous year: 10.7 m

Section 2 - Status of stocks of priority species

Species/Stock	Ref. year	Stock status	GSA	Presented to GFCM WGs?	Presented to any other forum?
Merluccius merluccius	2017	Overexploited	18	Y	N
Parapenaeus longirostris	2017	Sustainably exploited	18	Y	N
Engraulis encrasicolus	2017	Overexploited	18	Y	N
Sardina pilchardus	2017	Overexploited	18	Y	N
Mullus barbatus	2017	Sustainably exploited	18	Y	N

Section 3 - Status of statistics and information system

A. Description of the national system of fishery statistics and/or any improvement/change occurred

Albanian Fishing Fleet Register is an electronic register, update in 2017 with the support of AdriaMed project. The Fleet Register is kept in the Fisheries and Aquaculture Unit in the Ministry of Agriculture and Rural Development, where officer in charge enter, record and store all the datas of fishing vessels in database (Name of vessel, main port, kW,GT, fishing method and fishing gear, other technical elements ect). These datas are based on official documents issued by General Marittime Directorate, Albanian Shipping Register, Border Police ect. According to Law 64/2012 "On Fisheries", license holder of fishing vessel > 10 m in length, must keep and submit the logbook to the fishery Inspector, max 48 hours after their arrival in port. Average prices of fish species are calculated based on prices and quantities collected by sales notes.

Albania is updating and riestablishing VMS with a strong and effective technical support of GFCM and the new system will be able also for ERS transmission (electronic logbook). During 2017 we revised the landing datas of 2012-2016, cross checking logbooks of different fleet segments, first sales, datas of fish processing plants ect. and with the support of AdriaMed project we realized the socio-economic survey for all fleet segments as well as biological data for 15 species (6 species of group I and 9 species of group II). We are trying to collect and incorporate all technical, biological and socio-economic data in a central database, according to the National data collection programme. (DCM No 301, date 10.04.2013 "On the establishment of a National framework for the collection, management and use of data in the fisheries sector to support scientific advice according Albanian Fisheries Policy").

B. National entities or authorities in charge for the collection of data pertaining the GFCM DCRF Tasks

Task I - Global Figures of National Fisheries	Task II - Catch	Task III - Bycatch	Task IV - Fleet	Task V - Effort	Task VI – Socio-Economic Data	Task VII - Biological Information
Ministry of Agriculture and Rural Development, Fisheries Unit	MARD, Fisheries Unit, Directorate of Fisheries & Aquaculture Service	MARD, Fisheries Unit, Directorate of Fisheries & Aquaculture Service	MARD, Fisheries Unit	MARD, Fisheries Unit	MARD, Fisheries Unit, Scientific entities	MARD, Fisheries Unit, Scientific entities

Section 4 - Status of research in progress (or recently concluded)

Research or Project title	Subject	From	To
National programme for data collection in fisheries	Biological data	2017	2019
MEDIAS MEDITS	Stock assessment	2000	2019
MEDITS	Stock assessment	2000	2019

Section 5 - Involvement in activities of FAO regional projects

Activity	FAO regional project	Year	Type
Support the fisheries monitoring of Albania	ADRIAMED	2017	Data collection and statistics, Socio-economics, Stock assessment, Assessment of small scale fishing vessels in Albania, Distribution of fishing areas of small scale fishing vessels, Updated information on fisheries resources at sea (both demersal and small pelagics) in Albania

Section 6 - Management measures taken in direct response to GFCM decisions

Title/Reference to National Law	Related GFCM Decision(s)
Law 80/2017, "Amendments in the law 64/2012 On Fisheries"	REC.CM-GFCM/41/2017/5
Regulation No. 1 date 7/03/2014, amended 26/05/2017, article 18 and article 19	REC.CM-GFCM/40/2016/3

Section 7 - Environment protection measures

Section 8 - Recommendation GFCM/36/2012/2 on mitigation of incidental catches of cetaceans in the GFCM area By-catch events

Notes

No by-catch of cetaceans were recorded during 2017.

Section 9 - Recommendation GFCM/36/2012/3 on fisheries management measures for conservation of sharks and rays in the GFCM area

Notes

No recorded by-catch for sharks and rays during 2017. Article 37 of the Law 64/2012, "On Fisheries", ban to catch different species of sharks as *Cetorhinus maximus*, *Carcharodon carcharias* ect.

Section 10 - Recommendation GFCM/35/2011/4 on the incidental by-catch of sea turtles in fisheries in the GFCM competence area

Notes

There were no by-catch or accidental catch of sea turtles recorded or reported in 2017. Respective GFCM Recommendation and EU Regulation are incorporated in the Albanian legislation and the species are stricted protect.

Section 11 - Recommendation GFCM/35/2011/3 on reducing incidental by-catch of seabirds in fisheries in the GFCM Competence Area

Notes

There are no by-catch of seabirds reported in 2017. Respective GFCM Rec and EU Reg are incorporated in Albanian legislation (letter h of point 1, point 2, 3, 4 of article 37 of the Law 80/2017.)

Section 12 - Recommendation GFCM/35/2011/5 on fisheries measures for the conservation of the Mediterranean monk seal (*Monachus monachus*) in the GFCM Competence Area

Notes

There were not reported accidental catch of monk seal during 2017. The species is under strict protection by Albanian legislation.

Section 13 - Proposals for future research programmes

Fisheries research and management in GSA 18 with support from AdriaMed
Monitoring of small pelagic and demersal resources in Adriatic Sea GSA 18, with support and close collaboration of AdriaMed

ALGERIA

Section 1 - Description of fisheries

A. Fishing grounds (GSAs): 04 – Algeria

B. Total landings: 89200 tonnes (2017); 85536 tonnes (2016); 88420 tonnes (2015); 85234 tonnes (2014)

Main 10 species landed

Species	***Tons***
Sardina pilchardus	42590
Sardinella aurita	18103
Trachurus spp	6054
Boops boops	3567
Engraulis encrasicolus	3518
Parapenaeus longirostris	1229
Merluccius merluccius	949
Aristeus antennatus	896
Mullus spp	889
Octopodidae	690

C. Fleet: 5485 vessels (2017); 5323 vessels (2016); 5024 vessels (2015); 4777 (2014)
Total kW: 626760 (2017); 600827 (2016)
Total GT: 73575 (2017); 68107 (2016)
AVG LOA: 9.3 m (2017)
Min LOA: 3.3 m
Max LOA: 40 m
AVG LOA previous year: 9.3 m

Section 2 - Status of stocks of priority species

Species/Stock	Ref. year	Stock status	GSA	Presented to GFCM WGs?	Presented to any other forum?
Parapenaeus longirostris	2016	In sustainable exploitation	04	Y	
Merluccius merluccius	2016	In overexploitation	04	Y	
Aristeus antennatus	2016	In overexploitation	04	Y	
Sardina pilchardus	2016	In overexploitation	04	Y	
Sardinella aurita	2016	In overexploitation	04	N	

Section 3 - Status of statistics and information system

A. Description of the national system of fishery statistics and/or any improvement/change occurred

Le Dispositif statistique national :

Le dispositif de collecte de données statistiques, mis en place par l'Algérie date des années 1970s et a connu diverses modifications et adaptations depuis lors. Ce dispositif s'appuie sur des agents collecteurs au niveau des ports de pêche qui restituent les données statistiques à l'antenne de pêche dont ils relèvent. Les dites antennes relayent quotidiennement les données aux Directions de Wilaya (régionales) qui, à leur tour, les transmettent mensuellement à la Direction Centrale du MPRH pour consolidation, traitement et analyse des données statistiques transmises.

Le dispositif couvre les quatorze (14) wilayas de la façade maritimes dont cinq (05) pour l'Est, cinq (05) au Centre et quatre (04) à l'Ouest.

La donnée statistique des débarquements est collectée de manière exhaustive par les agents collecteurs selon deux méthodologies :

1. La méthode directe : L'agent assiste aux débarquements et relève les données directement sur le quai soit par :
   1.1. Recensement : Le collecteur qui assiste aux débarquements dénombre la totalité des prises, tel que c'est le cas pour les sardiniers.
   1.2. Echantillonnage : Le collecteur assiste à quelques débarquements et fait une extrapolation sur le reste de la flottille active (cas des chalutiers et petits métiers).
2. La méthode indirecte : Dans ce cas l'agent n'assiste pas directement aux débarquements mais obtient l'information par le biais d'intermédiaire et par recoupement. L'intermédiaire pouvant être des agents des gardes côtes, les mandataires ou des professionnels.

Le secteur de la pêche a connu une progression remarquable de son dispositif statistique, dont nous résumons ci-après les principales actions accomplies.

Sur le plan Juridique :

>Promulgation du décret exécutif N°04-186 du 12 Joumada El Oula 1425 correspondant au 30 juin 2004 ; fixant les conditions et modalités de collecte des informations et des données statistiques, portants sur:
-les modalités d'intervention des agents statisticiens ;
-les différentes catégories de documents et formulaires de collecte et de transmission des informations statistiques ainsi que la périodicité de leur établissement et de leur transmission.
>Publication de l'Arrêté du 05 Joumada Eloula correspondant au 12 juin 2005, relatif au permis et à l'autorisation de pêche.
>Publication de l'Arrêté du 31 Juillet 2007, Fixant les différentes catégories de documents et formulaires de collecte et de transmission des informations statistiques ainsi que la périodicité de leur établissement et de leur transmission
Sur le plan des documents statistiques:
Mise en place de nouveaux canevas cernant l'ensemble des aspects liés à l'activité de la pêche permettant ainsi le suivi rigoureux indispensable à l'élaboration des projections d'avenir (canevas décadaire, Mensuel et semestriel).

B. National entities or authorities in charge for the collection of data pertaining the GFCM DCRF Tasks

Task I - Global Figures of National Fisheries	Task II - Catch	Task III - Bycatch	Task IV - Fleet	Task V - Effort	Task VI – Socio-Economic Data	Task VII - Biological Information
Direction Générale de la Pêche et de l'Aquaculture (DGPA)	Direction Générale de la Pêche et de l'Aquaculture (DGPA)	Direction Générale de la Pêche et de l'Aquaculture (DGPA)	Direction Générale de la Pêche et de l'Aquaculture (DGPA) et Service des Gardes de Côtes (Ministère de la Défense Nationale)	Direction Générale de la Pêche et de l'Aquaculture (DGPA) et Service des Gardes de Côtes (Ministère de la Défense Nationale)	Direction Générale de la Pêche et de l'Aquaculture (DGPA) et CNRDPA (Centre Nationale de la Recherche et Développement de la Pêche et de l'Aquaculture)	CNRDPA (Centre Nationale de la Recherche et Développement de la Pêche et de l'Aquaculture)

Section 4 - Status of research in progress (or recently concluded)

Research or Project title	Subject	From	To
Evaluation des stocks des petits pélagiques par acoustique	Stock assessment	2013	2018
Estimation de la biomasse des petits pélagiques (sardine, allache, anchois) de la région ouest de la côte algérienne	Stock assessment	2016	2018
Evaluation du stock de la crevette blanche, du rouget de vase et du merlu de la mer d'Alboran	Stock assessment	2016	2018
Évaluation des stocks démersaux par chalutage expérimental	Stock assessment	2013	2018
Indicateurs socioéconomiques de la pêcherie algérienne	Stock assessment	2016	2017
Mise en place d'un système d'échantillonnage des débarquements des pêches	Data collection and statistics	2011	2018

Section 5 - Involvement in activities of FAO regional projects

Activity	FAO regional project	Year	Type
Evaluation des stocks de trois espèces la sardine, le merlu et la crevette blanche dans la mer d'Alboran entre l'Algérie, le Maroc et l'Espagne	COPEMED	2017	Stock assessment
Etude de la biologie des deux espèces Sardine (Sardina pilchardus) et Merlu (Meluccius merluccius) dans la région Est de la côte algérienne	COPEMED	2017	Stock assessment
Indicateurs socioéconomique de la pêcherie au niveau du port d'Annaba	COPEMED	2015	Socio-economics

Section 6 - Management measures taken in direct response to GFCM decisions

Title/Reference to National Law	Related GFCM Decision(s)
Décret exécutif n°15-231 du 26 août 2015	REC.CM-GFCM/41/2017/5
Décret exécutif n°15-231 du 26 août 2015	REC.CM-GFCM/36/2012/1
Arrêté du 13 janvier 2016	REC.CM-GFCM/36/2012/1

Décret exécutif du 18 mars 2004	REC.CM-GFCM/40/2016/5
Décrêt portant création, délimitation, déclaration et classement des Zones d'Activités Aquacoles	REC.DIR-GFCM/41/2017/1
Décret exécutif n°04-373 modifié et complété	RES-GFCM/41/2017/2
Décret exécutif n°15-231 du 26 août 2015	REC.CM-GFCM/35/2011/2
Texte fixant les conditions et les modalités d'utilisation de balise de positionnement des navires armés et équipements pour la pêche	RES-GFCM/38/2014/1

Section 7 - Environment protection measures

Name of the area	Type of spatial restriction	Year
Îles Habibas	Marine Protected Area (MPA)	2003

Section 8 - Recommendation GFCM/36/2012/2 on mitigation of incidental catches of cetaceans in the GFCM area

L'Algérie collabore avec le Secrétariat de l'ACCOBAMS et le Secrétariat de la Commission Générale des Pêches pour la Méditerranée (CGPM) sur un projet régional qui a pour but d'atténuer les impacts négatifs des interactions entres les activités de pêche et les espèces marines menacées, en particulier les cétacés.
Le projet intitulé "Atténuation des interactions négatives entre les espèces marines menacées et les activités de pêche" considère à la fois les problématiques de captures accidentelles et de déprédation.
Financé par la fondation MAVA (à hauteur de 75%) et d'une durée de deux années (2015-2016), ce projet a été mis en œuvre au travers de cas d'étude dans les pays impliqués.

Section 9 - Recommendation GFCM/36/2012/3 on fisheries management measures for conservation of sharks and rays in the GFCM area

Section 10 - Recommendation GFCM/35/2011/4 on the incidental catch of sea turtles in fisheries in the GFCM competence area

Section 11 - Recommendation GFCM/35/2011/3 on reducing incidental catch of seabirds in fisheries in the GFCM Competence Area

Section 12 - Recommendation GFCM/35/2011/5 on fisheries measures for the conservation of the Mediterranean monk seal (*Monachus monachus*) in the GFCM Competence Area

Section 13 - Proposals for future research programmes

Développement de protocole pour l'étude du Corail rouge
Les récifs artificiels et étude de leurs impacts sur la ressource halieutique et les économies locales
Socio-économie de la pêche artisanale : vulnérabilité et perspectives de développement intégré de l'activité de pêche la plus répandue en Algérie

CROATIA

Section 1 - Description of fisheries

A. Fishing grounds (GSAs): 17 - Northern Adriatic Sea

B. Total landings: 72326 tonnes (2016); 72914 tonnes (2015); 79396 tonnes (2014)

Main 10 species landed

Species	*Tons*
Sardina pilchardus	54368
Engraulis encrasicolus	8236
Scomber japonicus	1865
Trachurus spp	988
Mullus barbatus	973
Merluccius merluccius	753
Parapenaeus longirostris	655
Eledone spp	371
Ostrea edulis	327
Octopus vulgaris	255

C. Fleet: 7553 vessels (2018); 7494 vessels (2017); 7705 vessels (2016)
Total kW: 353586 (2018); 366110 (2017)
Total GT: 45274 (2018); 47076 (2017)
AVG LOA: 6.9 m (2018)
Min LOA: 2.4 m
Max LOA: 40 m
AVG LOA previous year: 7.1 m

Section 2 - Status of stocks of priority species

Species/Stock	Ref. year	Stock status	GSA	Presented to GFCM WGs?	Presented to any other forum?
Sardina pilchardus	2016	Overexploited	17-18	Y	Y - STEFC (EU)
Engraulis encrasicolus	2016	Overexploited	17-18	Y	Y - STEFC (EU)
Merluccius merluccius	2016	In overexploitation	17-18	Y	Y - STEFC (EU)
Mullus barbatus	2016	In overexploitation	17	Y	
Mullus barbatus	2016	In sustainable exploitation	17-18	Y	Y - STEFC (EU)
Parapenaeus longirostris	2016	In sustainable exploitation	17-18	Y	
Sepia officinalis	2016	In sustainable exploitation	17	Y	
Solea solea	2016	In overexploitation	17	Y	Y - STEFC (EU)

Section 3 - Status of statistics and information system

A. Description of the national system of fishery statistics and/or any improvement/change occurred

Croatian Fishing Fleet Register is an electronically-kept register, now web-based, in which relevant data on vessels and vessel activities are registered. The Fleet Register is a centralized structure, where field offices enter the data which are all immediately recorded and stored in a central database. Data on the vessels (GT, kW, technical elements) are obtained from official documents issued by other relevant institutions (Ministry of Maritime Affairs, Transport and Infrastructure - Croatian Register of Shipping and Croatian Register of Boats).

Republic of Croatia has established links between responsible authorities (Croatian Bureau of Statistics and the MoA) in order to meet the relevant requirement and secure the delivery of statistical data in a unified manner.

Croatia has since 2000 been implementing the obligation of all license holders to keep and submit the logbooks on fishing activities. According to the provisions of the national regulation, all license holders operating with fishing vessels equal to or longer than 10 m have to keep and submit the logbook. Logbook contains the data on catch and landing per species and quantity. Data on catches over 10 kg has to be entered into the logbook for all species. License holders of vessels below 10 m LoA are obliged by national regulation to submit monthly fishing reports of their fishing activities; therefore the entire commercial fleet is covered. Croatia has in 2011 embarked on installation of electronic logbooks on all its vessels over 15 m in length (since 1st January 2012 the system is operational on all vessels over 18 m LoA). The process is continuing. The electronic logbook was installed to all vessels above 12 m LoA by the end of 2014.

All sales data are reported via a web-based application in an electronic form. These data include relevant information on the vessel and the buyer, as well as on prices and quantities. Average prices of marine species are calculated using prices and quantities collected via sales notes.

For the purpose of reporting Croatia is developing a central DCF-GFCM database with information on technical and socio-economic data on all vessels included in the Fleet Register in each referent year. Biological data is stored at the Institute of Oceanography and Fisheries. Linking of databases with the Institute of Oceanography and Fisheries databases is underway in order to incorporate biological data in the central DCF-GFCM database kept by the Directorate of Fisheries. All relevant statistics in regards to DCF and GFCM requirements are incorporated within the central database in order to facilitate the preparation of reports. All data collection is implemented according to the National data collection programmer in accordance with the Data Collection Framework (DCF) as well as obligations under the GFCM and ICCAT. Reports are made using DCF data and according to procedures and methodologies set out by DCF, GFCM and ICCAT.

B. National entities or authorities in charge for the collection of data pertaining the GFCM DCRF Tasks

Task I - Global Figures of National Fisheries	Task II - Catch	Task III - Bycatch	Task IV - Fleet	Task V - Effort	Task VI – Socio-Economic Data	Task VII - Biological Information
Ministry of Agriculture/ Directorate of Fisheries	Ministry of Agriculture/ Directorate of Fisheries	Ministry of Agriculture/Directorate of Fisheries and Institute of Oceanography and Fisheries	Ministry of Agriculture/ Directorate of Fisheries	Ministry of Agriculture/ Directorate of Fisheries	Ministry of Agriculture/ Directorate of Fisheries	Ministry of Agriculture/Directorate of Fisheries and Institute of Oceanography and Fisheries

Section 4 - Status of research in progress (or recently concluded)

Research or Project title	Subject	From	To
National programme for data collection in fisheries	Data collection and statistics	2013	2019
MEDITS	Stock assessment, data collection and statistics	2013	2019
MEDIAS	Stock assessment, data collection and statistics	2013	2019
SOLEMON	Stock assessment, data collection and statistics	2016	2016

Section 5 - Involvement in activities of FAO regional projects

Activity	FAO regional project	Year	Type
FAO Adriamed activities	ADRIAMED	2017	Stock assessment, data collection and statistics, socio-economics

Section 6 - Management measures taken in direct response to GFCM decisions

Title/Reference to National Law	Related GFCM Decision(s)
Ordinance on special fishery management regime in the area of Jabuka pit	REC.CM-GFCM/41/2017/3
Ordinance on amendments of ordinance on fishing opportunities for fishing with purse seine "srdelara"	REC.CM-GFCM/40/2016/3
Ordinance on changes of ordinance on fishing opportunities for fishing with purse seine "srdelara"	REC.CM-GFCM/40/2016/3
Ordinance on amendments and changes of ordinance on fishing opportunities for fishing with purse seine "srdelara"	REC.CM-GFCM/40/2016/3
Ordinance on fishing opportunities for fishing with purse seine "srdelara"	REC.CM-GFCM/40/2016/3; REC.CM-GFCM/38/2014/1; REC.CM-GFCM/37/2013/1

Section 7 - Environment protection measures

Section 8 - Recommendation GFCM/36/2012/2 on mitigation of incidental catches of cetaceans in the GFCM area

During the monitoring of biological variables under Data Collection Framework in 2017 observers did not register any information about incidental catches of cetaceans species in Republic of Croatia

Section 9 - Recommendation GFCM/36/2012/3 on fisheries management measures for conservation of sharks and rays in the GFCM area

Species	N specimens	Weight (Kg)	Date	GSA	Fleet Segment	Fishing Gear	Main Target Species
Mustelus mustelus (Smooth-hound) [Annex III]	4	14	14/02/2017	17 - Northern Adriatic	[OLD TASK 1] E - Trawlers (12 - 24 metres)	Bottom otter trawls	
Mustelus mustelus (Smooth-hound) [Annex III]	2	3	13/06/2017	17 - Northern Adriatic	[OLD TASK 1] E - Trawlers (12 - 24 metres)	Bottom otter trawls	
Mustelus mustelus (Smooth-hound) [Annex III]	4	4	13/09/2017	17 - Northern Adriatic	[OLD TASK 1] D - Trawlers (<12 metres)	Bottom otter trawls	
Mustelus mustelus (Smooth-hound) [Annex III]	1	2	17/12/2017	17 - Northern Adriatic	[OLD TASK 1] E - Trawlers (12 - 24 metres)	Bottom otter trawls	
Mustelus punctulatus (Blackspotted smooth-hound) [Annex III]	1	4	20/02/2017	17 - Northern Adriatic	[OLD TASK 1] E - Trawlers (12 - 24 metres)	Bottom otter trawls	
Mustelus punctulatus (Blackspotted smooth-hound) [Annex III]	1	1	23/09/2017	17 - Northern Adriatic	[OLD TASK 1] E - Trawlers (12 - 24 metres)	Bottom otter trawls	
Squalus acanthias (Picked dogfish) [Annex III]	1	3	23/03/2017	17 - Northern Adriatic	[OLD TASK 1] E - Trawlers (12 - 24 metres)	Bottom otter trawls	

Section 10 - Recommendation GFCM/35/2011/4 on the incidental catch of sea turtles in fisheries in the GFCM competence area

During the monitoring of biological variables under Data Collection Framework in 2017 observers did not register any information about incidental catches of sea turtles in Republic of Croatia.

Section 11 - Recommendation GFCM/35/2011/3 on reducing incidental catch of seabirds in fisheries in the GFCM Competence Area

During the monitoring of biological variables under Data Collection Framework in 2017 observers did not register any information about incidental catches of sea birds in Republic of Croatia.

Section 12 - Recommendation GFCM/35/2011/5 on fisheries measures for the conservation of the Mediterranean monk seal (*Monachus monachus*) in the GFCM Competence Area

During the monitoring of biological variables under Data Collection Framework in 2017 observers did not register any information about incidental catches or any presence of Monk Seal in Republic of Croatia.

Section 13 - Proposals for future research programmes

CYPRUS

Section 1 - Description of fisheries

A. Fishing grounds (GSAs): 14 - Gulf of Gabes; 15 - Malta Island; 17 - Northern Adriatic; 20 – Eastern Ionian Sea; 21 - Southern Ionian Sea; 22 - Aegean Sea; 24 - North Levant; 25 - Cyprus Island; 26 - South Levant

B. Total landings: 1775 tonnes (2017); 1479 (2016); 1326 tonnes (2014)

Main 10 species landed

Species ***Tons***

C. Fleet: 786 vessels (2017); 768 vessels (2016); 840 vessels (2015)
Total kW: 36782 (2017); 33447 (2016)
Total GT: 3462 (2017); 3196 (2016)
AVG LOA: 7.2 m (2017)
Min LOA: 3.6 m
Max LOA: 27.8 m
AVG LOA previous year: 7.2 m

Section 2 - Status of stocks of priority species

Species/Stock	Ref. year	Stock status	GSA	Presented to GFCM WGs?	Presented to any other forum?
Mullus surmuletus	2016		25	Y	N
Boops boops	2016	In overexploitation	25	Y	N

Section 3 - Status of statistics and information system

A. Description of the national system of fishery statistics and/or any improvement/change occurred

The authority responsible for the collection and management of fishery statistics in Cyprus is the Department of Fisheries and Marine Research (DFMR) of the Ministry of Agriculture, Rural Development and Environment. The data collected by the fishery statistical system are used to fulfill the following objectives:

- To serve as a guide for management purposes, i.e. to direct the DFMR to decide on the introduction of measures and regulations for the fishery
- To provide statistical information to other bodies: The data are transmitted to the International Organizations and Agencies, where Cyprus has the legal obligation to send, i.e. FAO, GFCM, ICCAT and the European Union.
- To be analysed for scientific purposes: Along with biological data collected through sampling, the statistical data are used to evaluate the stocks of the most important commercial demersal fish species.

The current available database systems in the DFMR for recording and storing data related to fisheries include the following systems: i) the Electronic Reporting System (ERS), the Fishing Vessel Register (FVR), the Vessel Monitoring System (VMS), the Fisheries Resources Management System Database, and the Marine Environment Database.

The data stored under the database systems are dealt with confidence. Data access to the systems is limited to authorised personnel.

B. National entities or authorities in charge for the collection of data pertaining the GFCM DCRF Tasks

Task I - Global Figures of National Fisheries	Task II - Catch	Task III - Bycatch	Task IV - Fleet	Task V - Effort	Task VI – Socio-Economic Data	Task VII - Biological Information
Department of Fisheries and Marine Research	Department of Fisheries and Marine Research	Department of Fisheries and Marine Research	Department of Fisheries and Marine Research	Department of Fisheries and Marine Research	Department of Fisheries and Marine Research	Department of Fisheries and Marine Research

Section 4 - Status of research in progress (or recently concluded)

Research or Project title	Subject	From	To
National Work Plans for data collection in the fisheries and aquaculture sector	Data collection and statistics	2005	
Marine environmental studies in progress	Marine environment and conservation		

RELIONMED-LIFE - Preventing a LIONfish invasion in the MEDiterranean through early response and targeted Removal	Marine environment and conservation	2017	2021
LIFE EUROTURTLES	Marine environment and conservation	2016	2021
Interreg Balkan-Mediterranean MELTEMI	Marine environment and conservation	2017	2019
Interreg Balkan-Mediterranean RECONNECT	Marine environment and conservation	2017	2019
Strengthening Regional Cooperation in the area of large pelagic fisheries data collection (RECOLAPE)– MARE/2016/22	Data collection and statistics	2017	2019
STREAM - Strengthening regional cooperation in the area of fisheries biological data collection in the Mediterranean and Black Sea (MARE/2016/22)	Data collection and statistics	2017	2019
Recovery of Fisheries Historical Time Series for Mediterranean and Black Sea Stock Assessment (RECFISH) - Specific contract Nr. 01 TENDER EASME/EMFF/2016/032	Data collection and statistics	2017	2019
IDEM (Implementation of the MSFD to the DEep Mediterranean Sea) - Grant agreement No 11.0661 /2017/750680/SUB/EN V.C2	Marine environment and conservation	2017	2019
MARIABOX - FP7-Grant Agreement No: 614088	Marine environment and conservation	2014	2018

Section 5 - Involvement in activities of FAO regional projects

Activity	FAO regional project	Year	Type
Involvement in activities of FAO Regional Projects	EASTMED	2017	

Section 6 - Management measures taken in direct response to GFCM decisions

Title/Reference to National Law	Related GFCM Decision(s)
N. 117/2000 Ο περί υδατοκαλλιέργειας Νόμος του 2000	REC.DIR-GFCM/41/2017/1
Application of Community Decisions and Community Regulations that concern the fisheries sector, Law 134/2006 (17th Modification of Annexes of LAw - Decree 412/2008)	REC.DIR-GFCM/40/2016/2
Application of Community Decisions and Community Regulations that concern the fisheries sector, Law 134/2006 (1st Modification of Annexes of Law - Decree 126/2007)	REC.CM-GFCM/40/2016/5

Section 7 - Environment protection measures

Name of the area	Type of spatial restriction	Year
MPA PARALIMNIOU	Marine Protected Area (MPA)	2009
MPA AMATHOUNTAS	Marine Protected Area (MPA)	2014
MPA LEMESOU DASOUDI	Marine Protected Area (MPA)	2014
MPA MPANIA - PAFOS	Marine Protected Area (MPA)	2017

Section 8 - Recommendation GFCM/36/2012/2 on mitigation of incidental catches of cetaceans in the GFCM area

Section 9 - Recommendation GFCM/36/2012/3 on fisheries management measures for conservation of sharks and rays in the GFCM area

Species	N specimens	Weigh t (Kg)	Date	GSA	Fleet Segment	Fishing Gear	Main Target Species
Isurus oxyrinchus (Shortfin mako) [Annex II]	1		28/03/2017	25 - Cyprus Island	[OLD TASK 1] C - Polyvalent small-scale vessels with engine (6-12 metres)	Trammel nets	

Species	N specimens	Weigh t (Kg)	Date	GSA	Fleet Segment	Fishing Gear	Main Target Species
Rhinobatos rhinobatos (Common guitarfish) [Annex II]		10	03/04/2017	25 - Cyprus Island	[OLD TASK 1] B - Polyvalent small-scale vessels with engine (<6 metres)		
Prionace glauca (Blue shark) [Annex III]	1	55	20/05/2017	22 - Aegean Sea	[OLD TASK 1] M - Polyvalent vessels (> 12 metres)	Drifting longlines	Thunnus thynnus (Atlantic bluefin tuna); Xiphias gladius (Swordfish)
Prionace glauca (Blue shark) [Annex III]		57	15/06/2017	25 - Cyprus Island	[OLD TASK 1] M - Polyvalent vessels (> 12 metres)	Drifting longlines	Thunnus alalunga (Albacore)
Prionace glauca (Blue shark) [Annex III]	1	50	28/09/2017	25 - Cyprus Island	[OLD TASK 1] M - Polyvalent vessels (> 12 metres)	Drifting longlines	Xiphias gladius (Swordfish)
Prionace glauca (Blue shark) [Annex III]	2	115	07/11/2017	25 - Cyprus Island	[OLD TASK 1] M - Polyvalent vessels (> 12 metres)	Drifting longlines	Xiphias gladius (Swordfish)
Prionace glauca (Blue shark) [Annex III]	1	9	10/11/2017	25 - Cyprus Island	[OLD TASK 1] M - Polyvalent vessels (> 12 metres)	Drifting longlines	Xiphias gladius (Swordfish)
Prionace glauca (Blue shark) [Annex III]		77	24/11/2017	17 – Northern Adriatic	[OLD TASK 1] K - Tuna Seiners (> 12 metres)	Drifting longlines	Xiphias gladius (Swordfish)
Prionace glauca (Blue shark) [Annex III]	4	18	07/12/2017	17 – Northern Adriatic	[OLD TASK 1] K - Tuna Seiners (> 12 metres)	Drifting longlines	Xiphias gladius (Swordfish)
Prionace glauca (Blue shark) [Annex III]	1	55	10/12/2017	25 - Cyprus Island	[OLD TASK 1] M - Polyvalent vessels (> 12 metres)	Drifting longlines	Xiphias gladius (Swordfish)
Prionace glauca (Blue shark) [Annex III]	1	5	24/12/2017	17 – Northern Adriatic	[OLD TASK 1] K - Tuna Seiners (> 12 metres)	Drifting longlines	Xiphias gladius (Swordfish)

Section 10 - Recommendation GFCM/35/2011/4 on the incidental catch of sea turtles in fisheries in the GFCM competence area

Section 11 - Recommendation GFCM/35/2011/3 on reducing incidental catch of seabirds in fisheries in the GFCM Competence Area

Section 12 - Recommendation GFCM/35/2011/5 on fisheries measures for the conservation of the Mediterranean monk seal (*Monachus monachus*) in the GFCM Competence Area

Section 13 - Proposals for future research programmes

EGYPT[19]

Section 1 - Description of fisheries

A. Fishing grounds (GSAs): 26 – South Levant

B. Total landings: 53964 tonnes (2016); 57602 tonnes (2015)

Main 10 species landed

Species	*Tons*
Sardinella aurita	9147
Crustacea	6423
Brachyura	2790
Scombridae	2759
Boops boops	2150
Mugilidae	1767
Engraulis encrasicolus	1657
Loligo spp	1452
Mullus spp	881
Siganus spp	742

C. Fleet: 3087 vessels (2016); 2997 vessels (2015)
Total kW: 340526 (2016); 330425 (2015)
Total GT: 16003 (2016); 188967 (2015)
AVG LOA: 15.7 m (2016)
Min LOA: 3 m
Max LOA: 37.8 m
AVG LOA previous year: 15.9 m

Section 2 - Status of stocks of priority species

Species/Stock	Ref. year	Stock status	GSA	Presented to GFCM WGs?	Presented to any other forum?
Mullus surmuletus	2017	In overexplotation	26	Y	N
Metapenaeus stebbingi	2016	In overexplotation	26	Y	N

Section 3 - Status of statistics and information system

A. Description of the national system of fishery statistics and/or any improvement/change occurred

General Authority for fisheries Resources Development GAFRD collects fisheries data by two methods (Census and Sampling), the sampling data was submitted to SAMACWEB App. with the Support of the FAO EastMed project (computerized based system) which used for registering every fishing unit and recording the catch by fleet segment compatible with GFCM (FAO) Data Collection References Framework. Both data groups (Census and Sampling) are inspecting by the National fisheries Statistical committee. Members of this committee are appointing by the Minister of Agriculture and Land Reclamation. Currently the Committee consists of a representative from GAFRD (5 officers), representative from the Fisheries Recourses Union, an aquaculture scientist, and two scientists from the National Institute of Oceanography & fisheries (NIOF), and Arab Academy for Science &Technology (AAST).

B. National entities or authorities in charge for the collection of data pertaining the GFCM DCRF Tasks

Task I - Global Figures of National Fisheries	Task II - Catch	Task III - Bycatch	Task IV - Fleet	Task V - Effort	Task VI – Socio-Economic Data	Task VII - Biological Information
EGY	GAFRD	GAFRD + NIOF + AAST	GAFRD	GAFRD	GAFRD	NIOF & AAST

Section 4 - Status of research in progress (or recently concluded)

Research or Project title	Subject	From	To
Deep Sea Shrimp in Egypt	Data collection and statistics	2016	2018

[19]National Report submitted after the SAC

Research or Project title	Subject	From	To
Stock assessment of some priority species	Stock assessment	2016	2017

Section 5 - Involvement in activities of FAO regional projects

Activity	FAO regional project	Year	Type
Scientific and Institutional Cooperation to Support Responsible Fisheries in the Eastern Mediterranean	EastMed	2017	Stock assessment, Data collection and statistics, Socio-economics

Section 6 - Management measures taken in direct response to GFCM decisions

Section 7 - Environment protection measures

Section 8 - Recommendation GFCM/36/2012/2 on mitigation of incidental catches of cetaceans in the GFCM area
By-catch events

Notes

No data available

Section 9 - Recommendation GFCM/36/2012/3 on fisheries management measures for conservation of sharks and rays in the GFCM area

Section 10 - Recommendation GFCM/35/2011/4 on the incidental by-catch of sea turtles in fisheries in the GFCM competence area

Section 11 - Recommendation GFCM/35/2011/3 on reducing incidental by-catch of seabirds in fisheries in the GFCM Competence Area

Section 12 - Recommendation GFCM/35/2011/5 on fisheries measures for the conservation of the Mediterranean monk seal (*Monachus monachus*) in the GFCM Competence Area

Section 13 - Proposals for future research programmes

Spawning ground of Sardine in Egyptian coastal water

FRANCE

Section 1 - Description of fisheries

A. Fishing grounds (GSAs): 07 – Gulf of Lion; 08 – Corsica Island

B. Total landings: 13588 tonnes (2016); 12467 tonnes (2017)

Main 10 species landed

Species	*Tons*
Thunnus thynnus	3054
Octopus vulgaris	1480
Engraulis encrasicolus	1257
Sparus aurata	935
Merluccius merluccius	911
Sardina pilchardus	846
Lophius budegassa	453
Mullus barbatus	393
Solea solea	137
Dicentrarchus labrax	108

C. Fleet: 1489 vessels (2017); 1460 vessels (2016); 1455 vessels (2015)
Total kW: 144476 (2017)
Total GT: 1592667 (2017)
AVG LOA: 8.5 m (2017)
Min LOA: 2.9 m
Max LOA: 42 m
AVG LOA previous year:

Section 2 - Status of stocks of priority species

Species/Stock	Ref. year	Stock status	GSA	Presented to GFCM WGs?	Presented to any other forum?
Merluccius merluccius	2016	In overexploitation	07	Y	N
Mullus barbatus	2016	In overexploitation	07	Y	N
Engraulis encrasicolus	2017	Sustainably exploited	07	Y	N
Sardina pilchardus	2016	In sustainable exploitation	07	Y	N

Section 3 - Status of statistics and information system

A. Description of the national system of fishery statistics and/or any improvement/change occurred

Le Système d'Informations Halieutiques (SIH) :
Le Système d'Information Halieutique (SIH) de l'Ifremer constitue un réseau d'observation scientifique des ressources halieutiques et des usages associés (pêche professionnelle et progressivement pêche récréative) de l'Ifremer, sur l'ensemble des façades maritimes. Les objectifs du SIH s'inscrivent dans l'un des 10 axes stratégiques de l'Ifremer : contribuer à une pêche durable. Il s'agit de permettre à la pêche d'assurer, d'une manière durable, l'approvisionnement alimentaire en produits sains tout en répondant aux nouveaux défis de l'état de la ressource, de la hausse des prix de l'énergie, de la rentabilité des entreprises et de la protection des habitats. Il est le résultat de l'adaptation d'un système d'observation à des questions de recherche et d'expertise en réponse aux enjeux sociétaux :
• nécessité d'appréhender le « système pêche » dans son intégralité (y compris sa composante petite pêche côtière)
• question de l'adéquation entre les capacités de production et l'état des stocks (et donc de la régulation des usages)
• mise en place de l'approche écosystémique des pêches (couplage entre écologie, ressource, exploitation et économie)
Pour répondre aux missions de l'Ifremer, le SIH considère l'ensemble du système pêche, dans toutes ses composantes et sur l'ensemble des façades. Il s'appuie notamment sur l'échantillonnage des captures commerciales (à terre et en mer) dont les paramètres biologiques, les campagnes à la mer, les pêches récréatives, les statistiques de pêche, les enquêtes activités et économiques. Il est dépositaire des cahiers des charges et des spécifications techniques pour les plans d'échantillonnage, la collecte, le stockage, l'accès aux données halieutiques, les restitutions internes et externes. Il élabore des indicateurs intégrés sur les pêcheries et réalise des synthèses à destination des acteurs de la filière pêche et du grand public. Ces données sont intégrées dans la base HARMONIE et les protocoles sont disponibles sur un site web dédié (www.ifremer.fr/sih). La collecte des données de Méditerranée sur les ressources exploitées par la pêche professionnelle est réalisée dans le cadre de la DCF (Data Collection Framework). Elle repose sur différents programmes détaillés ci-dessous.

Programme d'échantillonnage biologique (OBSVENTES) et paramètres biologiques

Les actions « Echantillonnages biologiques des captures » et « paramètres biologiques », dans le golfe du Lion (GSA 7), visent à obtenir la structure en taille et/ou en âge des captures (apports commerciaux) des principales espèces exploitées par différents métiers, ainsi que les paramètres biologiques afférents, pour l'évaluation des stocks. L'échantillonnage des débarquements est réalisé sous criée ou sur les quais pour les navires >12 m. Depuis 2010, ces échantillonnages couvrent les navires <12 m (seulement 200 sorties/an). Les métiers identifiés ciblent préférentiellement daurade, loup, sole, merlu, rouget de vase et de roche, poulpe de roche, sardine, anchois et anguille. Des otolithes sont prélevés sur daurade, merlu, rouget de vase, anchois et sardine mais leur lecture exclut ceux du merlu liés à de trop fortes incertitudes. Maturité et condition sont suivies pour anchois et sardine. Ces échantillonnages visent à aborder les espèces exploitées, étant entendu que les espèces évaluées par les instances internationales comme la CGPM sont prioritaires.

Programme OBSDEB d'enquêtes d'activités et des débarquements des navires de moins de 12 m

L'objectif d'OBSDEB est d'améliorer la connaissance acquise sur les activités de la flotte de pêche professionnelle. Ce programme a été lancé par le Système d'Informations Halieutiques (SIH) de l'Ifremer, en collaboration avec la Direction des Pêches Maritimes en 2007. OBSDEB vise à estimer par échantillonnage les niveaux d'effort de pêche et de captures des "petits métiers", qui du fait de l'absence de flux déclaratifs, d'une forte inactivité des petites unités et de la très forte dispersion géographique de ces flottilles, sont aujourd'hui mal connus.

Programme OBSMER d'observation des captures en mer

L'objectif d'OBSMER est de permettre une meilleure compréhension de l'interaction entre les ecosystèmes marins et les activités de pêche. Le programme vise à observer la capture dans son ensemble et les activités de pêche, ainsi que l'environnement de la marée. Ces données servent notamment pour le calcul d'indicateurs de capture aux niveaux régional, national et européen, qui sont utilisées pour les évaluations de stocks. Le programme national prévoit pour la façade méditerranéenne (GSA 7), des observations sur les captures des chalutiers (fond et pélagique). Les débarquements d'espèces commercialisées, prises accessoires, rejets, et caractéristiques techniques de chaque trait sont collectés. En 2015, 29 chalutiers sur les 56 (soient 118 marées sur 10161) ont été échantillonnées dans le Golfe du Lion (GSA7).

Programme MEDITS-France (GSA 07 et 08)

La campagne française de chalutage annuelle d'évaluation des ressources démersales (MEDITS) se déroule sur la façade Est Corse (65 traits) et dans le golfe du Lion (23 traits), en fin de printemps. Elle a lieu à la même période en Méditerranée (France, Espagne, Italie, Grèce, Chypre, Malte, Slovénie, Croatie, Monténégro, Albanie) et mer Noire (Roumanie et Bulgarie). Le programme Medits, lancé en 1993 a permis de standardiser les modalités pratiques d'échantillonnage (période, échantillonnage biologique, engin de capture…) et ainsi de constituer une base de connaissances commune sur les ressources démersales exploitées. Les observations biologiques sont réalisées selon le protocole décrit dans la dernière version de "Instruction manual MEDITS" (8, Medits_Handbook_2016_version_8_042016,site du SIH-IFREMER). L'ensemble des espèces collectées dont le benthos sont triées, pesées et dénombrées. Pour 84 espèces, des mensurations sont réalisées en plus et sur 41 de ces espèces (32 sélaciens, 3 poissons osseux, 4 crustacés, 2 céphalopodes) sont collectés tous les paramètres individuels (pesée individuelle, sexe, maturité, taille, otolithes pour les deux rougets et le merlu et illicii pour les baudroies). Depuis 2015, des informations supplémentaires sont collectées pour la DCSMM, à savoir les gélatineux, les macrodéchets marins et pour certaines espèces (merlu, roussette, encornet rouge, merlan bleu, bucarde rouge, moule, pectinidae, ascidie rose, Microcosmus sp.) les isotopes, contenus stomacaux et contaminants. En 2016, 18 stations WP2 et CTD ont été réalisées (8 est-Corse et 10 Golfe du Lion).

Programme MEDIAS-France (GSA 07)

La campagne française de prospection acoustique et chalutage se déroule chaque année au mois de Juillet dans le Golfe du Lion (+ Nord Catalogne certaines années). Le protocole a été uniformisé avec les autres pays méditerranéens dans le cadre de MEDIAS depuis 2008. La prospection dans le Golfe s'effectue le long de 9 radiales perpendiculaires à la côte et distantes de 12 miles nautiques. Des chalutages d'identification des échos acoustiques sont ensuite effectués. L'ensemble des poissons collectés dans les chalutages est trié, pesé et dénombré. Les espèces cibles (anchois, sardines, sprats, maquereaux, chinchards et merlus) sont également mesurées et des paramètres biologiques (sexe, maturité, taux de gras, otolithes) sont récoltés. Enfin des paramètres physiques (température, salinité, chlorophylle) et des données concernant les autres compartiments biologiques sont également collectées à l'aide de CTD, filets à zooplancton, bouteille Niskin et de protocoles d'observation des prédateurs supérieurs.

B. National entities or authorities in charge for the collection of data pertaining the GFCM DCRF Tasks

Task I - Global Figures of National Fisheries	Task II - Catch	Task III - Bycatch	Task IV - Fleet	Task V - Effort	Task VI – Socio-Economic Data	Task VII - Biological Information
Direction des pêches maritimes et de l'aquaculture avec le soutien de l'IFREMER	Direction des pêches maritimes et de l'aquaculture avec le soutien de l'IFREMER	Direction des pêches maritimes et de l'aquaculture avec le soutien de l'IFREMER	Direction des pêches maritimes et de l'aquaculture	Direction des pêches maritimes et de l'aquaculture avec le soutien de l'IFREMER	Direction des pêches maritimes et de l'aquaculture avec le soutien de l'IFREMER	Direction des pêches maritimes et de l'aquaculture avec le soutien de l'IFREMER

Section 4 - Status of research in progress (or recently concluded)

Research or Project title	Subject	From	To
MONALISA	Fish ecology	2016	2018
IDEM (Implementation of MFSD (EU marine framework strategy directive) in deep Mediterranean water)	Marine environment and conservation	2018	2019
DISCARDLESS (Propose adaptive strategies to discard ban for the European fisheries)	Fisheries management	2015	2018
GALION (Gestion Alternative de la ressource du Golfe du Lion)	Fisheries management	2016	2018
SIGNAL	Fish biology	2017	2019
SB-TAG	Fish ecology	2016	2018

Section 5 - Involvement in activities of FAO regional projects

Section 6 - Management measures taken in direct response to GFCM decisions

Section 7 - Environment protection measures

Type of spatial restriction established	Name of the area	Year
National closure to fisheries (nFRA)	Zones de pêche à accès réglementé dans le golfe du Lion (GSA 7)	2018

Section 8 - Recommendation GFCM/36/2012/2 on mitigation of incidental catches of cetaceans in the GFCM area

Section 9 - Recommendation GFCM/36/2012/3 on fisheries management measures for conservation of sharks and rays in the GFCM area

Section 10 - Recommendation GFCM/35/2011/4 on the incidental catch of sea turtles in fisheries in the GFCM competence area

Species	N specimens	Date	GSA	Fleet Segment	Fishing Gear	Main Target Species	N discarded dead	N released alive
Caretta caretta (Loggerhead turtle)	2	01/06/2017	7 - Gulf of Lion		Trammel nets			2
Caretta caretta (Loggerhead turtle)	2	03/06/2017	7 - Gulf of Lion		Trammel nets			2
Caretta caretta (Loggerhead turtle)	2	28/10/2017	7 - Gulf of Lion		Trammel nets			2

Section 11 - Recommendation GFCM/35/2011/3 on reducing incidental catch of seabirds in fisheries in the GFCM Competence Area

Section 12 - Recommendation GFCM/35/2011/5 on fisheries measures for the conservation of the Mediterranean monk seal (*Monachus monachus*) in the GFCM Competence Area

Section 13 - Proposals for future research programmes

Dynamic of Coastal Resources
Restoration of benthic habitat after demersal fishery ban
Simulate the effect of the Gulf of Lions management plan and alternatives on demersal trawlers and exploited stocks

GREECE

Section 1 - Description of fisheries

A. Fishing grounds (GSAs): 20 – Eastern Ionian Sea; 23 – Crete Island; 22 – Aegean Sea

B. Total landings: 77000 tonnes (2017); 74588 tonnes (2016)

Main 10 species landed

Species	*Tons*

C. Fleet: 14977 vessels (2017); 15177 vessels (2016)
Total kW: 426601 (2017); 430698 (2016)
Total GT: 71100 (2017); 71729 (2016)
AVG LOA: 7.5 m
Min LOA: 2.6 m
Max LOA: 40 m
AVG LOA (previous year): 7.5 m

Section 2 - Status of stocks of priority species

Species/Stock	Ref. year	Stock status	GSA	Presented to GFCM WGs?	Presented to any other forum?
Mullus barbatus	2016	In sustainable exploitation	22	Y	Y - STECF
Merluccius merluccius	2016	In overexploitation	22	Y	Y - STECF

Section 3 - Status of statistics and information system

A. Description of the national system of fishery statistics and/or any improvement/change occurred

The official fishery statistics authority is the Hellenic Statistical Authority (http://www.statistics.gr/en/home/).
Also responsible for collection of fisheries data is the Hellenic DG Fisheries of the Ministry of Rural Development & Food, which operates the Integrated System for Monitoring Commercial Fisheries (OSPA) and is also in charge of the DCRF (fisheries data collection) in Greece.

B. National entities or authorities in charge for the collection of data pertaining the GFCM DCRF Tasks

Task I - Global Figures of National Fisheries	Task II - Catch	Task III - Bycatch	Task IV - Fleet	Task V - Effort	Task VI – Socio-Economic Data	Task VII - Biological Information
Hellenic DG Fisheries of the Ministry of Rural Development & Food	Hellenic DG Fisheries of the Ministry of Rural Developme nt & Food	Hellenic DG Fisheries of the Ministry of Rural Development & Food	Hellenic DG Fisheries of the Ministry of Rural Development & Food	Hellenic DG Fisheries of the Ministry of Rural Development & Food	Hellenic DG Fisheries of the Ministry of Rural Development & Food	Hellenic DG Fisheries of the Ministry of Rural Development & Food

Section 4 - Status of research in progress (or recently concluded)

Research or Project title	Subject	From	To
Climate change and European Aquatic Resources (CERES)	Marine environment and conservation	2016	2020
OPERATING A NETWORK OF INTEGRATED OBSERVATORY SYSTEMS IN THE MEDITERRANEAN SEA (ODYSSEA)	Marine environment and conservation	2017	2021
Biological data collection for fisheries on highly migratory species (RECOLAPE)	Data collection and statistics	2017	2019
Mediterranean International Bottom Trawl Survey in the marine area of Cyprus Republic	Stock assessment	2018	2019
Greek National Fisheries Data Collection Programme	Data collection and statistics	2018	2019
From myth to reason – Population structure and spawning areas of tropical eels (Anguilla marmorata, A.megastoma, A. obscura) in the western South Pacific	Marine environment and conservation	2018	2020
Implementation of the Marine Strategy Framework Directive in North Aegean Sea Acronym	Marine environment and conservation	2018	2024

PRIMA- Valorisation of grey mullets for tradition and innovation in the Mediterranean diet	Socio-economics		
PERICLES-PrEseRvIng and sustainably governing Cultural heritage and Landscapes in European coastal and maritime regions	Socio-economics	2018	2021
COST-ETN	Telemetry	2018	2023
Water Framework Directive – freshwater systems	Water Framework Directive	2018	2023
Water Framework Directive – transitional waters	Water Framework Directive	2018	2024
LIFE IP	Integrative Management plans for the protected area		
Melanosis inhibition in commercial shrimps: a case study in Hellenic fisheries	Seafood processing	2018	2021
Extending the commercial life of fresh anchovies to ice use of micro-nano-ozone bubbles	Seafood processing	2018	2021
Scientific monitoring of the Artificial reefs in Kitros	Marine environment and conservation	2015	2018

Section 5 - Involvement in activities of FAO regional projects

Activity	FAO regional project	Year	Type
Scientific and Institutional Cooperation to Support Responsible Fisheries in the Eastern Mediterranean	EASTMED	2017	Socio-economics, Education and training

Section 6 - Management measures taken in direct response to GFCM decisions

Title/Reference to National Law	Related GFCM Decision(s)
Ministerial Decision 9232.1/1/11/2011 (LGJ 136 B') Regulation of aquaculture licencing, Art.3 on aquaculture data	REC.DIR-GFCM/41/2017/1
Circular 633/49637/2014 (Online Publ. No: BIH5B-ΞΦΘ) on aquaculture data obligation	REC.DIR-GFCM/41/2017/1
Law 2040/1992 amending Law 1740/1987	REC.CM-GFCM/41/2017/5
Presidential decree 324/1994 (LGJ 174 A') art.3 Exploitation of coral formations	REC.CM-GFCM/41/2017/5
Law 4072/2012, Art. 205 on a National Program for Fisheries Data Collection	REC.DIR-GFCM/41/2017/6
Ministerial Decision 1750/32219/2015 (LGJ 475 B') Supplementary implementing measures for COM on the transportation and on the marketing of products in the sector	REC.MCS-GFCM/41/2017/7

Section 7 - Environment protection measures

Name of the area	Type of spatial restriction	Year
National Marine Park of Alonisson & North Sporades islands	Marine Protected Area (MPA)	1992
National Marine Park of Zakynthos	Marine Protected Area (MPA)	1999
South Coast of Thasos island	National closure to fisheries (nFRA)	2017

Section 8 - Recommendation GFCM/36/2012/2 on mitigation of incidental catches of cetaceans in the GFCM area

Section 9 - Recommendation GFCM/36/2012/3 on fisheries management measures for conservation of sharks and rays in the GFCM area

Species	N specimens	Weight (Kg)	Date	GSA	Fleet Segment	Fishing Gear	Main Target Species
Centrophorus granulosus (Gulper shark) [Annex III]	7	23	19/12/2017	22 - Aegean Sea	[OLD TASK 1] M - Polyvalent vessels (> 12 metres)	Trammel nets	
Centrophorus granulosus (Gulper shark) [Annex III]	6	18	29/12/2017	22 - Aegean Sea	[OLD TASK 1] M - Polyvalent vessels (> 12 metres)	Trammel nets	

Species	N specimens	Weight (Kg)	Date	GSA	Fleet Segment	Fishing Gear	Main Target Species
Mustelus mustelus (Smooth-hound) [Annex III]	2	5.9	04/12/2017	22 - Aegean Sea	[OLD TASK 1] I - Long liners (> 6 metres)	Set longlines	
Mustelus mustelus (Smooth-hound) [Annex III]	1	7.4	20/10/2017	22 - Aegean Sea	[OLD TASK 1] I - Long liners (> 6 metres)	Set longlines	
Mustelus mustelus (Smooth-hound) [Annex III]	1	1.3	22/11/2017	22 - Aegean Sea	[OLD TASK 1] F - Trawlers (> 24 metres)	Bottom otter trawls	
Mustelus mustelus (Smooth-hound) [Annex III]	1	1.1	26/11/2017	22 - Aegean Sea	[OLD TASK 1] C - Polyvalent small-scale vessels with engine (6-12 metres)	Trammel nets	
Mustelus mustelus (Smooth-hound) [Annex III]	1	1.2	12/10/2017	22 - Aegean Sea	[OLD TASK 1] I - Long liners (> 6 metres)	Set longlines	
Mustelus mustelus (Smooth-hound) [Annex III]	2	7.5	14/12/2017	22 - Aegean Sea	[OLD TASK 1] E - Trawlers (12 - 24 metres)	Bottom otter trawls	
Squalus acanthias (Picked dogfish) [Annex III]	43	24.5	01/11/2017	22 - Aegean Sea	[OLD TASK 1] I - Long liners (> 6 metres)	Set longlines	
Squalus acanthias (Picked dogfish) [Annex III]	5	300	24/02/2017	22 - Aegean Sea	[OLD TASK 1] F - Trawlers (> 24 metres)	Bottom otter trawls	
Squalus acanthias (Picked dogfish) [Annex III]	1	2.5	25/11/2017	22 - Aegean Sea	[OLD TASK 1] I - Long liners (> 6 metres)	Set longlines	
Squalus acanthias (Picked dogfish) [Annex III]	1	960	25/11/2017	22 - Aegean Sea	[OLD TASK 1] I - Long liners (> 6 metres)	Set longlines	
Squalus acanthias (Picked dogfish) [Annex III]	3	1.44	12/12/2017	22 - Aegean Sea	[OLD TASK 1] E - Trawlers (12 - 24 metres)	Bottom otter trawls	
Squalus acanthias (Picked dogfish) [Annex III]	32	24.4	12/12/2017	22 - Aegean Sea	[OLD TASK 1] M - Polyvalent vessels (> 12 metres)	Trammel nets	
Squalus acanthias (Picked dogfish) [Annex III]	1	4	13/12/2017	22 - Aegean Sea	[OLD TASK 1] F - Trawlers (> 24 metres)	Bottom otter trawls	
Squalus acanthias (Picked dogfish) [Annex III]	8	5,08	21/12/2017	22 - Aegean Sea	[OLD TASK 1] M - Polyvalent vessels (> 12 metres)	Trammel nets	

Section 10 - Recommendation GFCM/35/2011/4 on the incidental catch of sea turtles in fisheries in the GFCM competence area

Species	N specimens	Date	GSA	Fleet Segment	Fishing Gear	Main Target Species	N discarded dead	N released alive
Caretta caretta (Loggerhead turtle)	1	04/11/2017	22 – Aegean Sea	[OLD TASK 1] C - Polyvalent small-scale vessels with engine (6-12 metres)	Trammel nets			1

Section 11 - Recommendation GFCM/35/2011/3 on reducing incidental catch of seabirds in fisheries in the GFCM Competence Area

Section 12 - Recommendation GFCM/35/2011/5 on fisheries measures for the conservation of the Mediterranean monk seal (*Monachus monachus*) in the GFCM Competence Area

Section 13 - Proposals for future research programmes

Creating a Transnational Network for Improving Fish Value Chains in the BSB area
Creation of a genetic catalog of the aquatic flora and fauna of Tenagi Philippon and actions to raise awareness of local communities
Evaluating the impact of the environmental and trophic conditions on the nutritional value of two small pelagic fish (anchovy and sardine) from the North Aegean Sea
Lagoon rehabilitation and the establishment of a no take zone in Samothraki
Monitoring of elasmobranch biodiversity using environmental DNA metabarcoding
Optimization of the aquaculture conditions of the native oyster Ostrea edulis (Linnaeus, 1758) and evaluation of the genetic diversity in Thermaikos Gulf
Scientific monitoring of the Artificial Reef in Litochoro
Sustainable use of seafood by-products: collagen and hyaluronic acid production from fish trimmings

ITALY

Section 1 - Description of fisheries

A. Fishing grounds (GSAs): 9 - Ligurian and North Tirrenian Sea; 11.1 - Sardinia (west); 16 - South of Sicily; 18 - Southern Adriatic Sea

B. Total landings: 192356 tonnes (2016); 192212 tonnes (2015); 176778 tonnes (2014)

Main 10 species landed

Species	*Tons*
Engraulis encrasicolus	37969
Sardina pilchardus	28790
Chamelea gallina	16283
Parapenaeus longirostris	8833
Merluccius merluccius	8258
Mullus barbatus	5947
Sepia officinalis	5890
Squilla mantis	5278
Xiphias gladius	3945
Eledone moschata	2669

C. Fleet: 12310 vessels (2016); 12426 vessels (2015); 12681 vessels (2014)
Total kW: 994000 (2016); 10130000 (2015)
Total GT: 157700 (2017); 163000 (2016)
AVG LOA:
Min LOA:
Max LOA:
AVG LOA (previous year):

Section 2 - Status of stocks of priority species

Species/Stock	Ref. year	Stock status	GSA	Presented to GFCM WGs?	Presented to any other forum?
Aristaeomorpha foliacea	2016	In overexploitation	09	Y	
Aristeus antennatus	2016	In overexploitation	09	Y	
Engraulis encrasicolus	2016	In overexploitation	09-10-11.1-1.2	Y	Y - STEFC
Engraulis encrasicolus	2016	In overexploitation	17-18	Y	Y - STEFC
Merluccius merluccius	2016	In overexploitation	09	Y	
Merluccius merluccius	2016	In overexploitation	12-13-14-15-16	Y	
Merluccius merluccius	2016	In overexploitation	17-18	Y	
Merluccius merluccius	2016	In overexploitation	19	N	Y - STEFC
Mullus barbatus	2016	In overexploitation	10	Y	
Mullus barbatus	2016	In overexploitation	15-16	Y	
Mullus barbatus	2016	In overexploitation	17	Y	
Mullus barbatus	2016	In sustainable exploitation	18	Y	
Mullus barbatus	2016	In sustainable exploitation	17-18	Y	
Mullus barbatus	2016	In overexploitation	19	N	Y - STEFC
Nephrops norvegicus	2016	In overexploitation	17-18	N	Y - STEFC
Parapenaeus longirostris	2016	In sustainable exploitation	09	Y	
Parapenaeus longirostris	2016	In sustainable exploitation	10	Y	
Parapenaeus longirostris	2016	In overexploitation	12-13-14-15-16	Y	
Parapenaeus longirostris	2016	In sustainable exploitation	17-18	Y	
Parapenaeus longirostris	2016	In overexploitation	19	Y	
Parapenaeus longirostris	2016	In overexploitation	17-18-19	N	Y - STEFC

Sardina pilchardus	2016	In overexploitation	17-18	Y	Y - STEFC
Sepia officinalis	2016	In sustainable exploitation	17	Y	
Solea solea	2016	In overexploitation	17	Y	
Squilla mantis	2016	In overexploitation	17	Y	
Squilla mantis	2016	In overexploitation	17-18	N	Y - STEFC
Trachurus trachurus	2016	In overexploitation	09-10-11.1-11.2	Y	Y - STEFC

Section 3 - Status of statistics and information system

A. Description of the national system of fishery statistics and/or any improvement/change occurred

Fishery statistics are collected within the European Regulation on Data Collection (Reg. (UE) 1004/2017). Statistics are produced on the basis of a sample of national fishing fleet, yearly updated, and their reliability is guaranteed by specific validation software. Within the European Regulation on Data Collection (Reg. (UE) 1004/2017) a centralized database has been developed to store fishery statistics (capacity, effort and landings data), economic data of the fleet, economic data of the aquaculture sector, economic data of the processing industries, biological data (parameters of the population by species and surveys data), and ecosystem indicators. Fishery statistics are transferred to GFCM, to the European Commission, to Eurostat and to other RFMOs (like ICCAT). They are currently used by the national administration to support political decisions and to monitor the state of the fishing sector.

B. National entities or authorities in charge for the collection of data pertaining the GFCM DCRF Tasks

Task I - Global Figures of National Fisheries	Task II - Catch	Task III - Bycatch	Task IV - Fleet	Task V - Effort	Task VI – Socio-Economic Data	Task VII - Biological Information
Italian Ministry of Agricultural, Food and Forestry Policies - Directorate General for maritime Fisheries and Aquaculture	Italian Ministry of Agricultural, Food and Forestry Policies - Directorate General for maritime Fisheries and Aquaculture	Italian Ministry of Agricultural, Food and Forestry Policies - Directorate General for maritime Fisheries and Aquaculture	Italian Ministry of Agricultural, Food and Forestry Policies - Directorate General for maritime Fisheries and Aquaculture	Italian Ministry of Agricultural, Food and Forestry Policies - Directorate General for maritime Fisheries and Aquaculture	Italian Ministry of Agricultural, Food and Forestry Policies - Directorate General for maritime Fisheries and Aquaculture	Italian Ministry of Agricultural, Food and Forestry Policies - Directorate General for maritime Fisheries and Aquaculture

Section 4 - Status of research in progress (or recently concluded)

Section 5 - Involvement in activities of FAO regional projects

Activity	FAO regional project	Year	Type
Involvement in activities of FAO Regional Projects	ADRIAMED, EASTMED, MEDSUDMED		Stock assessment, data collection and statistics, socio-economics, marine environment and conservation

Section 6 - Management measures taken in direct response to GFCM decisions

Title/Reference to National Law	Related GFCM Decision(s)
D.M. 1 giugno 2017 e D.D. 21 luglio 2017 - Fossa di Pomo	REC.CM-GFCM/41/2017/3
DECRETO N. 1064/DecA/21 del 20 aprile 2018 - Regione Sardegna - pesca del corallo rosso	REC.CM-GFCM/41/2017/5; REC.CM-GFCM/40/2016/7
D.M. 10 agosto 2017 - Pesca Piccoli Pelagici Mar Adriatico	REC.CM-GFCM/40/2016/3
D.A. n. 54 del 07.08.2017 - Interruzione temporanea obbligatoria dell'attività di pesca nel mare territoriale della Regione Sicilia anno 2017	REC.CM-GFCM/39/2015/2

Section 7 - Environment protection measures

Section 8 - Recommendation GFCM/36/2012/2 on mitigation of incidental catches of cetaceans in the GFCM area

Species	N specimens	Date	GSA	Fleet Segment	Fishing Gear	Main Target Species	N discarded dead	N released alive
Tursiops truncatus (Bottlenose dolphin)	3		17 – Northern Adriatic					

Section 9 - Recommendation GFCM/36/2012/3 on fisheries management measures for conservation of sharks and rays in the GFCM area

Species	N specimens	Weight (Kg)	Date	GSA	Fleet Segment	Fishing Gear	Main Target Species
Mustelus punctulatus (Blackspotted smooth-hound) [Annex III]	5			17 – Northern Adriatic		Pair trawls	Engraulis encrasicolus
Mustelus mustelus (Smooth-hound) [Annex III]	20			17 – Northern Adriatic		Pair trawls	Engraulis encrasicolus
Prionace glauca (Blue shark) [Annex III]	1			17 – Northern Adriatic		Pair trawls	Engraulis encrasicolus
Squalus acanthias (Picked dogfish) [Annex III]	15			17 – Northern Adriatic		Pair trawls	Engraulis encrasicolus

Section 10 - Recommendation GFCM/35/2011/4 on the incidental catch of sea turtles in fisheries in the GFCM competence area

Species	N specimens	Date	GSA	Fleet Segment	Fishing Gear	Main Target Species	N discarded dead	N released alive
Caretta caretta (Loggerhead turtle)	3		17 – Northern Adriatic	Midwater trawls				

Section 11 - Recommendation GFCM/35/2011/3 on reducing incidental catch of seabirds in fisheries in the GFCM Competence Area

Section 12 - Recommendation GFCM/35/2011/5 on fisheries measures for the conservation of the Mediterranean monk seal (*Monachus monachus*) in the GFCM Competence Area

Section 13 - Proposals for future research programmes

Assessment of effects of management steps such as harvesting plans, use of non-damaging gear or spatial management (FRA, MPA, fishery rotational areas) in the view of marine spatial planning. Ecosystem effects of the fisheries , to be considered in spatial terms with the aim to reduce the impact on the sea bed and restore fishery sustainability
In the context of Ecosystem Approach, development of a common data base, shared by countries, using georeferentiation and reporting both bathymetric, substratum features and biocenoses, essential fish habitat and including inshore and offshore areas; Coupling of hydrological information with biological data should be improved at regional level.
Gear and operational technology - Investigate ways to make fishing gears and practices more efficient and able to reduce by-catch and discards, limiting habitat and ecosystem impacts, improving selectivity, while also improving fuel consumption when fishing.
Improved and automatized monitoring systems, delivering information required for the implementation of the MSY to relevant, timely assessments and predictions.
Ongoing investment in and coordination of marine infrastructure to be maintained and viewed in an international perspective in order to improve the quality and efficiency of data collection and monitoring.
Traceability - Address the scientific challenges necessary to allow for complete traceability of seafood (for underpinning consumer confidence that seafood is safe and is supplied from known and approved sources and harvesting/processing methods) also to facilitate full control through the supply chain.

Improving knowledge on the effect of fishery at ecosystem level, performing specific studies on discards and impact on the sea bottoms.
In special areas such as the Strait of Sicily and the Adriatic sea, where straddling and transboundary stocks are shared by fisheries of several countries, it is considered relevant: - improving knowledge on population biology and the identification of population units, including genetic approaches, to clarify relationships and connectivity among populations; - supporting a common collection of data on stocks and fisheries, based on both fishery independent and dependent approaches, within the framework of an international program; - assisting the develop of a common geo referred data base reporting both bathymetric, substratum features, biocenoses, and fishing grounds at regional level.

LEBANON

Section 1 - Description of fisheries

A. Fishing grounds (GSAs): 27 - Levant

B. Total landings: 3536 tonnes (2017); 4269 tonnes (2016); 3652 tonnes (2015)

Main 10 species landed

Species	*Tons*
Etrumeus teres	641
Engraulis encrasicolus	548
Boops boops	243
Pagellus acarne	219
Clupeoidei	191
Diplodus sargus	176
Signatus rivulatus	167
Euthynnus alletteratus	153
Pagellus erythrinus	117
Oblada melanaura	105

C. Fleet: 2193 (2017); 1963 vessels (2016); 2005 vessels (2015)
Total kW: 58666 (2017); 51045 (2016)
Total GT: 6663 (2017)
AVG LOA: 7.4 m (2017)
Min LOA 2.5 m
Max LOA 15 m
AVG LOA (previous year): 7.3 m (2016)

Section 2 - Status of stocks of priority species

Species/Stock	Ref. year	Stock status	GSA	Presented to GFCM WGs?	Presented to any other forum?
Pagellus erythrinus	2016	In overexploitation	27	Y	N
Sardinella aurita	2016	In overexploitation	27	Y	N
Lithognathus mormyrus	2016	In overexploitation	27	Y	N

Section 3 - Status of statistics and information system

A. Description of the national system of fishery statistics and/or any improvement/change occurred

Department of Fisheries & Wildlife-Ministry of Agriculture collects the following data:
- Catch & Effort: according to Flouca Web utility developed by FAO EastMed Project
- Socio-economic data: random sample according to methodology developed by FAO EastMed Project
- Fishing Licensing System: developed by FAO EastMed Project

Lebanese CNRS collects Biological Data according to methodology developed by FAO EastMed Project

B. National entities or authorities in charge for the collection of data pertaining the GFCM DCRF Tasks

Task I - Global Figures of National Fisheries	Task II - Catch	Task III - Bycatch	Task IV - Fleet	Task V - Effort	Task VI – Socio-Economic Data	Task VII - Biological Information
Department of Fisheries & Wildlife-Ministry of Agriculture	Department of Fisheries & Wildlife-Ministry of Agriculture	Department of Fisheries & Wildlife-Ministry of Agriculture	Department of Fisheries & Wildlife-Ministry of Agriculture	Department of Fisheries & Wildlife-Ministry of Agriculture	Department of Fisheries & Wildlife-Ministry of Agriculture	CNRS-Lebanon

Section 4 - Status of research in progress (or recently concluded)

Research or Project title	Subject	From	To
Biological Sampling	Stock assessment	2015	2017

Section 5 - Involvement in activities of FAO regional projects

Activity	FAO regional project	Year	Type
FAO EastMed Project	EASTMED	2017	Stock assessment Data collection and statistics Socio-economics

Section 6 - Management measures taken in direct response to GFCM decisions

Section 7 - Environment protection measures

Section 8 - Recommendation GFCM/36/2012/2 on mitigation of incidental catches of cetaceans in the GFCM area

Section 9 - Recommendation GFCM/36/2012/3 on fisheries management measures for conservation of sharks and rays in the GFCM area

Section 10 - Recommendation GFCM/35/2011/4 on the incidental catch of sea turtles in fisheries in the GFCM competence area

Section 11 - Recommendation GFCM/35/2011/3 on reducing incidental catch of seabirds in fisheries in the GFCM Competence Area

Section 12 - Recommendation GFCM/35/2011/5 on fisheries measures for the conservation of the Mediterranean monk seal (*Monachus monachus*) in the GFCM Competence Area

Section 13 - Proposals for future research programmes

LIBYA

Section 1 - Description of fisheries

A. Fishing grounds (GSAs): 21 – Southern Ionian Sea

B. Total landings: 5215 tonnes (2017); 9378 tonnes (2016); 15048 tonnes (2015)

Main 10 species landed

Species ***Tons***

C. Fleet: 3974 vessels (2018); 3962 vessels (2017); 3951 vessels (2016)
Total kW: 276552 (2018); 250619 (2017)
Total GT: 164928 (2018); 161246 (2016)
AVG LOA: 9.5 m (2018)
Min LOA: 3.5 m
Max LOA: 60 m
AVG LOA previous year: 9.4 m

Section 2 - Status of stocks of priority species

Section 3 - Status of statistics and information system

Section 4 - Status of research in progress (or recently concluded)

Research or Project title	Subject	From	To
MedSudMed acoustic survey: Libyan continental shelf-south-central Mediterranean Sea (14 August to 6 September 2008)	Stock assessment	2007	2008
MedSudMed acoustic survey	Stock assessment	2008	2010

Section 5 - Involvement in activities of FAO regional projects

Activity	FAO regional project	Year	Type
Working Group on Small pelagic data analysis meeting, Tunis 10-12 January 2017	MEDSUDMED	2017	
Working Group on Demersal Fisheries Resources, Palermo 24 - 28 October 2016	MEDSUDMED	2016	
Working Group on Small Pelagic Fisheries Resources, Capo Granitola 19 – 23 September 2016	MEDSUDMED	2016	
Management strategy evaluation, Rome, February 2017	MEDSUDMED	2017	
Training course on fish gonad investigations, Capo Granitola 4 - 7 October 2016	MEDSUDMED	2016	
Elasmobranchs age determination, IAMC-CNR Mazara del Vallo, 27-30 September 2016	MEDSUDMED	2016	
Training course on fish age determination by otolith reading, Capo Granitola 24 – 30 May 2016	MEDSUDMED	2016	
Working group on Demersal fisheries resources, Tunis 8-9 May 2017	MEDSUDMED	2017	
Working group on Small Pelagic Fisheries Resources, Tunis 5-7 July 2017	MEDSUDMED	2017	
Working group on Demersal fisheries resources, Rome 7-8 Nov. 2017	MEDSUDMED	2017	
Working group on Demersal Elasmobranchs fisheries, Rome 9-10 Nov. 2017	MEDSUDMED	2017	
Training course on satellite data in fishery research: linking environmental data and species distribution, Tunis 8-11 May 2017	MEDSUDMED	2017	
Training course on Growth parameters estimation for fishery resources, fish age and growth determination though otoliths reading, Palermo. Italy 17-21 July 2017	MEDSUDMED	2017	

Section 6 - Management measures taken in direct response to GFCM decisions

Section 7 - Environment protection measures

Section 8 - Recommendation GFCM/36/2012/2 on mitigation of incidental catches of cetaceans in the GFCM area

Section 9 - Recommendation GFCM/36/2012/3 on fisheries management measures for conservation of sharks and rays in the GFCM area

Section 10 - Recommendation GFCM/35/2011/4 on the incidental by-catch of sea turtles in fisheries in the GFCM competence area

Section 11 - Recommendation GFCM/35/2011/3 on reducing incidental by-catch of seabirds in fisheries in the GFCM Competence Area

Section 12 - Recommendation GFCM/35/2011/5 on fisheries measures for the conservation of the Mediterranean monk seal (*Monachus monachus*) in the GFCM Competence Area

Section 13 - Proposals for future research programmes

MALTA

Section 1 - Description of fisheries

A. Fishing grounds (GSAs): 15 – Malta Island

B. Total landings: 2169 tonnes (2017); 2307 tonnes (2016); 2437 tonnes (2015)

Main 10 species landed

Species	***Tons***
Scomber japonicus	514
Xiphias gladius	361
Thunnus thynnus	259
Coryphaena hippurus	243
Scomber scombrus	157
Lepidopus caudatus	133
Boops boops	69
Mullus surmuletus	31
Octopus vulgaris	28
Aristaeomorpha foliacea	27

C. Fleet: 935 (2017); 931 vessels (2016); 1001 vessels (2015)
Total kW: 69908 (2017); 67244 (2016)
Total GT: 6405 (2017); 6343 (2016)
AVG LOA: 7.2 m (2017)
Min LOA: 3 m
Max LOA: 35 m
AVG LOA previous year: 7.2 m

Section 2 - Status of stocks of priority species

Species/Stock	Ref. year	Stock status	GSA	Presented to GFCM WGs?	Presented to any other forum?
Merluccius merluccius	2016	In overexploitation	12-16	Y	N
Parapenaeus longirostris	2016	In overexploitation	12-16	Y	N
Mullus barbatus	2016	In overexploitation	15-16	Y	N

Section 3 - Status of statistics and information system

A. Description of the national system of fishery statistics and/or any improvement/change occurred

For all tasks, the 'Department of Fisheries and Aquaculture' is responsible for the data collection of the GFCM DCRF.
Malta collects data on catch and effort for each segment by species, by quarter and by geographical origin. Catch and effort figures are based on data reported in logbooks (for vessels over 10 m LOA) and by sampling the small-scale fishery (for vessels less than 10 m LOA) through an exhaustive sampling survey questionnaire, on sales notes from the official fish market and from direct sales data. The data collected in 2016 was in line with the EU Data Collection Multi-annual Programme (DC-MAP) Council Regulation EC 199/2008 and EC 93/2010.
In 2017, Malta was obliged to collect biological data by the DC-MAP for the following fishing gears:
- Bottom otter trawlers targeting mixed demersal and deep water species
- Drifting longlines targeting large pelagic fish
- Set longlines for demersal fish
- Trammel nets targeting demersal species
- Pots and traps for demersal species
- Bottom otter trawlers targeting demersal species
- Bottom otter trawlers targeting deep water species
- Purse seines targeting bluefin tuna (sampling at harvest)

Length data is collected for all Group 1, 2 and 3 species as outlined in the EU DCF. Biological parameters were also collected for blue fin tuna, swordfish and dolphin fish since catches generally constitute more than 200 tonnes annually and for some other Group 1, 2 and 3 species when possible. Such data is gathered to be utilised for analyses, such as for stock assessments. Fisheries-independent data for demersal resources in GSA 15 is collected through the MEDITS (Mediterranean International Bottom Trawl Survey) while MEDIAS (Mediterranean International Acoustic Survey) targets small pelagic fish. These surveys are performed with the aim to study the demographic and spatial distribution of resources in the Mediterranean, with a standardised protocol between different countries.

The fisheries statistics being collected have been submitted to international organisations for stock assessment purposes and scientific analysis. In 2016 Malta submitted data collected within the framework of the DCF to several international bodies / for use by several projects:
i) Joint Research Centre (JRC) of the European Commission
ii) International Commission for the Conservation of Atlantic Tunas (ICCAT) through Task I and Task II forms.
iii) General Fisheries Commission for the Mediterranean (GFCM) including dolphin fish annual reporting form and Task I statistical matrix.
iv) Working Group on Stock Assessment of Demersal Species (WGSAD)
Malta has developed and implemented a Fisheries Information System (FIS). The FIS has an integrated system whereby the databases related to the fleet register, sales and logbooks, are consolidated. For submission obligations in connection with GFCM, EC and ICCAT, the relevant data is exported from the FIS, manually processed for the end user's needs using either Excel or R. A copy of the data sent is stored on an online shared folder with restricted 'read/write' access.

B. National entities or authorities in charge for the collection of data pertaining the GFCM DCRF Tasks

Task I - Global Figures of National Fisheries	Task II - Catch	Task III - Bycatch	Task IV - Fleet	Task V - Effort	Task VI – Socio-Economic Data	Task VII - Biological Information
Department of Fisheries and Aquaculture, MSDEC	Department of Fisheries and Aquaculture, MSDEC	Department of Fisheries and Aquaculture, MSDEC	Department of Fisheries and Aquaculture, MSDEC	Department of Fisheries and Aquaculture, MSDEC	Department of Fisheries and Aquaculture, MSDEC	Department of Fisheries and Aquaculture, MSDEC

Section 4 - Status of research in progress (or recently concluded)

Research or Project title	Subject	From	To
LIFE + BAĦAR	Marine environment and conservation	2013	2018
A scientific study to improve trawl gear selectivity	Marine environment and conservation	2017	2019
Project HARMONY	Marine environment and conservation	2018	2020

Section 5 - Involvement in activities of FAO regional projects

Activity	FAO regional project	Year	Type
Stock assessments of Demersal species	MEDSUDMED	2017	Stock assessment
Pilot project on small scale fisheries and LEK	MEDSUDMED	2017	Data collection and statistics

Section 6 - Management measures taken in direct response to GFCM decisions

Title/Reference to National Law	Related GFCM Decision(s)
Establishing a multiannual plan for the fisheries exploiting European hake and deep-water rose shrimp in the Strait of Sicily (GSAs 12 to 16)	REC.CM-GFCM/40/2016/4

Section 7 - Environment protection measures

Name of the area	Type of spatial restriction	Year
	Natura 2000 site	2016

Section 8 - Recommendation GFCM/36/2012/2 on mitigation of incidental catches of cetaceans in the GFCM area

No data available

Section 9 - Recommendation GFCM/36/2012/3 on fisheries management measures for conservation of sharks and rays in the GFCM area

No data available

Section 10 - Recommendation GFCM/35/2011/4 on the incidental catch of sea turtles in fisheries in the GFCM competence area

No data available

Section 11 - Recommendation GFCM/35/2011/3 on reducing incidental catch of seabirds in fisheries in the GFCM Competence Area

No data available

Section 12 - Recommendation GFCM/35/2011/5 on fisheries measures for the conservation of the Mediterranean monk seal (*Monachus monachus*) in the GFCM Competence Area

Not applicable

Section 13 - Proposals for future research programmes

Improve Data Collection Programmes

MONTENEGRO

Section 1 - Description of fisheries

A. Fishing grounds (GSAs): 18 - Southern Adriatic Sea

B. Total landings: 563 tonnes (2016); 525 tonnes (2015); 603 tonnes (2014)

Main 10 species landed

Species	*Tons*
Sardina pilchardus	122
Engraulis encrasicolus	73
Boops boops	41
Mullus barbatus	34
Merluccius merluccius	33
Parapenaeus longirostris	31
Lophius budegassa	31
Diplodus spp.	28
Oblada melanura	27
Scomber japonicus	21

C. Fleet: 134 (2016); 134 (2015); 128 vessels (2014)
Total kW: 9723 (2016); 9723 (2015)
Total GT: 1517 (2016); 1517 (2015)
AVG LOA: 8.1 m (2016)
Min LOA: 3.6 m
Max LOA: 32.5 m
AVG LOA previous year: 8.1 m

Section 2 - Status of stocks of priority species

Species/Stock	Ref. year	Stock status	GSA	Presented to GFCM WGs?	Presented to any other forum?
Sardina pilchardus	2016	In overexploitation and overexploited	17-18	Y	STEFC (EU)
Engraulis encrasicolus	2016	In overexploitation and overexploited	17-18	Y	STEFC (EU)
Merluccius merluccius	2016	In overexploitation	17-18	Y	N
Mullus barbatus	2016	In sustainable exploitation	18	Y	N
Mullus barbatus	2016	In sustainable exploitation	17-18	Y	N
Parapenaeus longirostris	2016	In sustainable exploitation	17-18	Y	N

Section 3 - Status of statistics and information system

A. Description of the national system of fishery statistics and/or any improvement/change occurred

Since 1 April 2017, a new framework for data collection in marine fisheries has been established through the adoption of Montenegrin fisheries data collection programme (DCF-DCRF). This programme is in full compliance with CFP. Data for 2016 are still collected in accordance with the approximation method of Statistical Office of Montenegro, as many years ago. However, data for 2017 will represent preliminary results of the usage of mentioned programme, and they are expected to be much more accurate.

B. National entities or authorities in charge for the collection of data pertaining the GFCM DCRF Tasks

Task I - Global Figures of National Fisheries	Task II - Catch	Task III - Bycatch	Task IV - Fleet	Task V - Effort	Task VI – Socio-Economic Data	Task VII - Biological Information
Ministry of Agriculture and Rural Development	Ministry of Agriculture and Rural Development	Ministry of Agriculture and Rural Development	Ministry of Agriculture and Rural Development	Ministry of Agriculture and Rural Development	Ministry of Agriculture and Rural Development	Institute for Marine Biology

Section 4 - Status of research in progress (or recently concluded)

Research or Project title	Subject	From	To
BLUELAND - Participatory model for the sustainable management of marine and coastal resources and for cross border habitats, biodiversity and ecosystem services safeguard	Marine environment and conservation	2018	2020
ARIEL – Promoting small scale fisheries and aquaculture transnational networking in Adriatic-Ionian macroregion	Networking, capacity-building	2018	2020
ADRINET - Adriatic Network for Marine Ecosystem	Marine environment and conservation	2018	2020

Section 5 - Involvement in activities of FAO regional projects

Activity	FAO regional project	Year	Type
Scientific support to development responsible fisheries in Adriatic Sea	ADRIAMED	2016	Stock assessment Data collection and statistics Socio-economics Marine environment and conservation

Section 6 - Management measures taken in direct response to GFCM decisions

Section 7 - Environment protection measures

Section 8 - Recommendation GFCM/36/2012/2 on mitigation of incidental catches of cetaceans in the GFCM area

Section 9 - Recommendation GFCM/36/2012/3 on fisheries management measures for conservation of sharks and rays in the GFCM area

Section 10 - Recommendation GFCM/35/2011/4 on the incidental by-catch of sea turtles in fisheries in the GFCM competence area

Section 11 - Recommendation GFCM/35/2011/3 on reducing incidental by-catch of seabirds in fisheries in the GFCM Competence Area

Section 12 - Recommendation GFCM/35/2011/5 on fisheries measures for the conservation of the Mediterranean monk seal (*Monachus monachus*) in the GFCM Competence Area

Section 13 - Proposals for future research programmes

MOROCCO

Section 1 - Description of fisheries

A. Fishing grounds (GSAs): 03 – Southern Alboran Sea

B. Total landings: 24925 tonnes (2017); 22380 tonnes (2016)

Main 10 species landed[20]

Species	*Tons*
Cephalopodes	4157
Coquillages	826
Crustaces	535
Poissons pelagiques	15167
Poissons demersaux	4240

C. Fleet: 2981 vessels (2017); 3985 vessels (2016); 3383 vessels (2015)
Total kW: 107112 (2017); 218831 (2016)
Total GT: 20922 (2017); 26252 (2016)
AVG LOA: 12.49 m (2017)
Min LOA: 6.0 m
Max LOA: 27 m
AVG LOA previous year: 14.98 m

Section 2 - Status of stocks of priority species

Species/Stock	Ref. year	Stock status	GSA	Presented to GFCM WGs?	Presented to any other forum?
Sardina plichardus	2016	Overexploited	01-03	Y	N
Sardina plichardus	2016		01-03-04	Y	N
Parapenaeus longirostris	2016	In overexploitation	01-03-04	Y	N
Merluccius merluccius	2016	In overexploitation	01-03	Y	N

Section 3 - Status of statistics and information system

A. Description of the national system of fishery statistics and/or any improvement/change occurred

Un système statistique national marocain des pêches est instauré depuis 2001 par l'Office National des Pêches (ONP). Ce système de gestion des bases de données consiste à enregistrer régulièrement les informations relatives à l'activité de pêche. Il s'agit de la production (en poids et en valeur) par port, par jour, par bateau (nom et matricule), par type de pêche et par espèce ainsi que l'identité de l'acheteur. Les fichiers armement des unités de pêche sont disponibles auprès du Département des Pêche Maritime relatifs aux caractéristiques techniques tel que la Puissance Motrice, Tonnage Juge Brut, Longueur Hors Tout, date de construction; l'identité de l'armateur etc.

B. National entities or authorities in charge for the collection of data pertaining the GFCM DCRF Tasks

Task I - Global Figures of National Fisheries	Task II - Catch	Task III - Bycatch	Task IV - Fleet	Task V - Effort	Task VI – Socio-Economic Data	Task VII - Biological Information
Département des pêches Maritimes, Office National des Pêches	Département des pêches Maritimes, Office National des Pêches	Institut National de Recherche Halieutique	Département de la pêche Maritime, Office National des Pêches, Institut National de Recherche Halieutique	Institut National de Recherche Halieutique	Département des pêches Maritimes, Office National des Pêches, Institut National de Recherche Halieutique	Institut National de Recherche Halieutique

Section 4 - Status of research in progress (or recently concluded)

Research or Project title	Subject	From	To
Evaluation des stocks des principales espèces au niveau de la GSA03	Stock assessment	2017	2019

[20] Format provided by the Country

Etude des cycles de vie des espèces d'interêt commerciale (*Octopus vulgaris, Parapenaeus longirostris, Merluccius merluccius, Sardina pilchardus*)	Stock assessment	2014	2020
Etude du cycle de vie de *Pagellus bogaraveo*, stock du détroit de Gibraltar	Stock assessment	2018	2020
Etude du cycle de vie de l'anémone de mer *Anemonia sulcata*	Stock assessment	2018	2020
Etude des interactions entre le Grand Dauphin et la pêche à la senne au niveau de la GSA03	Marine environment and conservation	2017	2019
Etude de l'impact de la mise en place de nouvelles mesures de gestion, telle que l'implantation des aires marines protégées, l'immersion des récifs artificiels et autres.	Marine environment and conservation	2017	2020
Etude des fonctions des écosystèmes côtiers et lagunaire (Marchica)	Marine environment and conservation	2015	2020
Etude de l'impact des changements climatiques sur la distribution et l'abondance des petits pélagiques	Marine environment and conservation	2018	2022
Suivi et évaluation des rejets et prises accessoires en Méditerranée	Marine environment and conservation	2018	2020
Estimation des populations des cétacés en Méditerranée	Marine environment and conservation	2018	2020
Suivi des échouages des cétacés et des tortues marines	Marine environment and conservation	2018	2020

Section 5 - Involvement in activities of FAO regional projects

Activity	FAO regional project	Year	Type
Etude du cycle de vie de *Pagellus bogaraveo*, stock du détroit de Gibraltar	COPEMED	2018	Stock assessment, data collection and statistics, socio-economics
Analyse socioéconomique de la pêche en Méditerranée marocaine	COPEMED	2018	Stock assessment, data collection and statistics, socio-economics

Section 6 - Management measures taken in direct response to GFCM decisions

Title/Reference to National Law	Related GFCM Decision(s)
Dahir n°1-10-2011 du 18 février 2011 portant promulgation de la Loi n° 52-09	REC.DIR-GFCM/41/2017/1
Arrêté n° 2409-1 0 du 1 8 août 201 0 relatif à l'interdiction temporaire du corail rouge dans certaines zones maritimes de la Méditerranée remplaçant l'Arrêté n°1954-05 du 10 octobre 2005 relatif à l'interdiction temporaire de la pêche du corail rouge dan	REC.CM-GFCM/41/2017/5
Procédures de traçabilité informatisée et les textes d'application de la loi n° 15-12 INN en cours de publication	REC.DIR-GFCM/41/2017/6
Loi n° 15-12 relative à la prévention et la lutte contre la pêche INDNR 12-05-2014 et les arrêtés des plans d'aménagement	REC.MCS-GFCM/41/2017/7
Arrêté du ministre de l'agriculture et de la pêche maritime n° 4195-14 du 25 novembre 2014 réglementant la pêche de certaines espèces de merlu ;	REC.CM-GFCM/40/2016/5
Arrêté du ministre de l'agriculture et de la pêche maritime n° 1654-12 du 9 avril 2012 relatif à l'interdiction temporaire de pêche de certaines espèces de requins.	REC.CM-GFCM/36/2012/3
	REC.CM-GFCM/36/2012/2
Décret n°2-04-2 6 du 1 7 janvier 2005 fixant les modalités de pêche du corail	REC.CM-GFCM/36/2012/1
Loi n° 15-12 relative à la prévention et la lutte contre la pêche INDNR 12-05-2014 et les arrêtés des plans d'aménagement	RES-GFCM/35/2011/1
Loi 19-07 interdisant l'utilisation des filets maillants dérivants	REC.CM-GFCM/35/2011/5
Arrêté du ministre de l'agriculture et de la pêche maritime n°2806-09 du 10 novembre 2009	REC.CM-GFCM/35/2011/5

Section 7 - Environment protection measures

Name of the area	Type of spatial restriction	Year
Alboran	Marine Protected Area (MPA)	2014

Section 8 - Recommendation GFCM/36/2012/2 on mitigation of incidental catches of cetaceans in the GFCM area

Section 9 - Recommendation GFCM/36/2012/3 on fisheries management measures for conservation of sharks and rays in the GFCM area

Section 10 - Recommendation GFCM/35/2011/4 on the incidental catch of sea turtles in fisheries in the GFCM competence area

Section 11 - Recommendation GFCM/35/2011/3 on reducing incidental catch of seabirds in fisheries in the GFCM Competence Area

Section 12 - Recommendation GFCM/35/2011/5 on fisheries measures for the conservation of the Mediterranean monk seal (*Monachus monachus*) in the GFCM Competence Area

Section 13 - Proposals for future research programmes

Etude de la croissance journalière de la sardine et du poulpe en méditerranée marocaine
Identification, suivi des débarquements et évaluation des stocks des différentes éspèces de requins d'intérêt commerciale
L'étude de l'effet des changements climatiques sur l'écosystème marin et sur la biodiversité dans la GSA 03
L'identification et la cartographie des zones de ponte et de nourriceries des principales espèces exploitées.

SLOVENIA

Section 1 - Description of fisheries

A. Fishing grounds (GSAs): 17 - Northern Adriatic

B. Total landings: 128 tonnes (2017); 152 tonnes (2016); 195 tonnes (2015); 254 tonnes (2014)

Main 10 species landed

Species	*Tons*
Merlangius merlangius	21
Sparus aurata	19
Solea solea	13
Eledone moschata	12
Sardina pilchardus	7
Loligo vulgaris	7
Mugilidae	5
Pagellus erythrinus	4
Dicentrarchus labrax	4
Platichthys flesus	4
Scomber scombrus	3

C. Fleet: 171 vessels (2017); 171 vessels (2016)
Total kW: 8821 (2017); 8535 (2016)
Total GT: 603.98 (2017); 589.66 (2016)
AVG LOA: 7 m (2017)
Min LOA: 3.5 m
Max LOA: 18 m
AVG LOA previous year: 7 m

Section 2 - Status of stocks of priority species

Species/Stock	Ref. year	Stock status	GSA	Presented to GFCM WGs?	Presented to any other forum?
Sardina pilchardus	2017	In overexploitation	17-18	Y	-
Engraulis encrasicolus	2017	In overexploitation	17-18	Y	-

Section 3 - Status of statistics and information system

A. Description of the national system of fishery statistics and/or any improvement/change occurred

Data collection at the national level is organised by the Ministry of Agriculture, Forestry and Food. Specific data collection tasks in the context of the performance of a public fisheries service are performed by the Fisheries Research Institute of Slovenia in accordance with maritime fisheries legislation. In Slovenia there are five information systems in place. The InfoRib is and will remain the main system. It covers all the relevant fisheries data. The second is the VMS system which covers the VMS data. The third is the inspection information system Aquaspec, where all the inspection data are in place, the forth is ERS where all electronic reports and data from the electronic logbooks are stored and the fifth is biological data base BIOS. Some elements of the systems are already interconnected and in the future the interconnection between the systems will also improve in line with the requirements of the EU and other pertaining legislation in force and thus we will gain better control over fisheries activities. InfoRib is the centralized information system which contains all the relevant data on fisheries in Slovenia. In the system there are the following modules: Fleet vessel register, Logbooks, Fishing Permits, Socio-economic data, Reporting, Sampling, Technical indicators, Code lists, First sale, Aquaculture, Processing Industry and Meetings Module. Biological Sampling Module is stored in the Fisheries Research Institute database. InfoRib is interconnected with the VMS data base and with ESR data. It enables different crosschecking of the data, validation of the data and queries for end users. In the future we will improve interconnection with the Aquaspec system and with the central node for fisheries data at the European Commission. Biological data are stored at the Fisheries Research Institute of Slovenia in BIOS database. In the future also the interconnection between BIOS and InfoRib shall be established. The yearly maintenance of the systems is performed regularly. It includes also all the preparation work for different reports, for national and international end users.

B. National entities or authorities in charge for the collection of data pertaining the GFCM DCRF Tasks

Task I - Global Figures of National Fisheries	Task II - Catch	Task III - Bycatch	Task IV - Fleet	Task V - Effort	Task VI – Socio-Economic Data	Task VII - Biological Information
Ministry of Agriculture Forestry and Food, Fisheries Research Institute of Slovenia	Ministry of Agriculture Forestry and Food, Fisheries Research Institute of Slovenia	Ministry of Agriculture Forestry and Food, Fisheries Research Institute of Slovenia	Ministry of Agriculture Forestry and Food, Fisheries Research Institute of Slovenia	Ministry of Agriculture Forestry and Food, Fisheries Research Institute of Slovenia	Ministry of Agriculture Forestry and Food, Fisheries Research Institute of Slovenia	Ministry of Agriculture Forestry and Food, Fisheries Research Institute of Slovenia

Section 4 - Status of research in progress (or recently concluded)

Research or Project title	Subject	From	To
Socio-economics	Socio-economics	2008	2016
MEDIAS	Stock assessment	2007	2017
MEDITS	Stock assessment	1996	2017
SOLEMON	Stock assessment	2009	2017

Section 5 - Involvement in activities of FAO regional projects

Activity	FAO regional project	Year	Type
Regional stock assessment	ADRIAMED	2017	Stock assessment
Research survey	ADRIAMED	2017	Stock assessment

Section 6 - Management measures taken in direct response to GFCM decisions

Title/Reference to National Law	Related GFCM Decision(s)
Ministerial Decision issued in accordance with the Marine Fisheries Act (Official Gazette of the Republic of Slovenia, No 115/06 and 76/15)	REC.CM-GFCM/40/2016/3
Reporting obligation under paragraphs 22 and 24 of the concerned Recommendation	REC.CM-GFCM/37/2013/1

Section 7 - Environment protection measures

Section 8 - Recommendation GFCM/36/2012/2 on mitigation of incidental catches of cetaceans in the GFCM area

Section 9 - Recommendation GFCM/36/2012/3 on fisheries management measures for conservation of sharks and rays in the GFCM area

Section 10 - Recommendation GFCM/35/2011/4 on the incidental catch of sea turtles in fisheries in the GFCM competence area

Section 11 - Recommendation GFCM/35/2011/3 on reducing incidental catch of seabirds in fisheries in the GFCM Competence Area

Section 12 - Recommendation GFCM/35/2011/5 on fisheries measures for the conservation of the Mediterranean monk seal (*Monachus monachus*) in the GFCM Competence Area

Section 13 - Proposals for future research programmes

SPAIN

Section 1 - Description of fisheries

A. Fishing grounds (GSAs): 01 – Northern Alboran Sea; 02 – Alboran Island; 05 – Balearic Islands; 06 – Northern Spain; 07 – Gulf of Lion

B. Total landings: 79263 tonnes (2017); 75860 tonnes (2016); 59784 tonnes (2015); 68571 tonnes (2014)

Main 10 species landed

Species	*Tons*
Engraulis encrasicolus	21453
Sardina pilchardus	11120
Sardinella aurita	5010
Scomber spp	4919
Trachurus spp	3989
Mullus spp	2444
Octopus vulgaris	2430
Merluccius merluccius	2198
Thunnus thynnus	2078
Xiphias gladius	1207

C. Fleet: 2285 vessels (2017); 2287 vessels (2016); 2743 vessels (2014)
Total kW: 284044 (2017); 284793 (2016)
Total GT: 52732 (2017); 52575 (2016)
AVG LOA: 12.9 m (2017)
Min LOA: 3.6 m
Max LOA: 43.45 m
AVG LOA previous year: 18.71 m

Section 2 - Status of stocks of priority species

Species/Stock	Ref. year	Stock status	GSA	Presented to GFCM WGs?	Presented to any other forum?
Aristeus antennatus	2016	In overexploitation	05	Y	N
Aristeus antennatus	2016	In overexploitation	06	Y	N
Aristeus antennatus	2016	In overexploitation	03	Y	N
Engraulis encrasicolus	2016	In overexploitation	01	Y	N
Engraulis encrasicolus	2016	In overexploitation	06	Y	N
Merluccius merluccius	2016	In overexploitation	05	Y	N
Merluccius merluccius	2016	In overexploitation	07	Y	N
Merluccius merluccius	2016	In overexploitation	01	Y	N
Merluccius merluccius	2016	In overexploitation	03	Y	
Merluccius merluccius	2016	In overexploitation	06	Y	N
Mullus barbatus	2016	In overexploitation	07	Y	
Mullus barbatus	2016	In overexploitation	06	Y	N
Mullus surmuletus	2016	In overexploitation	05	Y	N

Pagellus bogaraveo	2016	In overexploitation	01	Y	N
Pagellus bogaraveo	2016	In overexploitation	03	Y	N
Parapenaeus longirostris	2016	In overexploitation	05	Y	N
Parapenaeus longirostris	2016	In overexploitation	06	Y	N
Sardina pilchardus	2016	In overexploitation	01	Y	N
Sardina pilchardus	2016	In overexploitation	06	Y	N

Section 3 - Status of statistics and information system

A. Description of the national system of fishery statistics and/or any improvement/change occurred

The Spanish fisheries statistics and information system is based on the data from different sources. All the variables are collected following the legislation that conforms the EU´s Data Collection Framework, as indicated in EU Regulation 1004/2017. The collection of variables included in the Spanish National Programme are fully compliant with the mentioned legislation. The Unit in the General Secretary for Fisheries in charge of the coordination of the programme is the Deputy General Directorate for the Protection of the Resources. Those considered as transversal variables come from the compliance with the EU legislation on the matter (Regulation CE 1224/09, known as the "Control Regulation" and EU Regulation 1380/2013, which establishes the Common Fisheries Policy), and mainly comprise sales notes, logbooks/ERS, landing declarations. Data from logbooks/ERS and landing declarations are collected by General Secretariat for Fisheries of the Spanish Ministry. Data from sale notes are primarily collected and processed by the fisheries offices of the regional governments, and recorded in the centralized database of General Secretariat for Fisheries, specifically in the Deputy General Directorate for the Fisheries Inspection and Control, in charge of collecting all the information related to fisheries and transmitting to the European Commission, Fisheries Organizations and any other national or international Institutions. As for the biological variables, the IEO collects length and biological data of main commercial species under the guidelines of the National Program supported by the EU for the collection and management of fisheries data in accordance with Community programmes. Data information is managed in the framework of the SIRENO database developed by the IEO. SIRENO moreover stores fish market information, observers on board information and research surveys data. Regarding the socioeconomic variables, the Deputy General Director for Statistics of the Ministry collects and processes this information as for the fisheries sector and processing industry. To appropriately manage this information, the General Secretariat for the Fisheries has developed a global tool to compile the different sources of information in a common database. The main purpose is to store and to export the data in the suitable format required by International bodies.

B. National entities or authorities in charge for the collection of data pertaining the GFCM DCRF Tasks

Task I - Global Figures of National Fisheries	Task II - Catch	Task III - Bycatch	Task IV - Fleet	Task V - Effort	Task VI – Socio-Economic Data	Task VII - Biological Information
General Secretary for Fisheries	General Secretary for Fisheries	Spanish Institute of Oceanography	General Secretary for Fisheries	General Secretary for Fisheries	Deputy General Director for Statistics	Spanish Institute of Oceanography

Section 4 - Status of research in progress (or recently concluded)

Research or Project title	Subject	From	To
SPELMED	Stock assessment	2017	2018
PELWEB	Marine environment and conservation	2018	2020
FEMP-AND	Stock assessment	2017	2020

Research or Project title	Subject	From	To
RECFISH	Stock assessment	2018	2019
STREAM	Data collection and statistics	2018	2019
DiscardLess	Marine environment and conservation	2015	2019
CLIFISH	Marine environment and conservation	2016	2019
INTEMARES_A22_B	Marine environment and conservation	2017	2022
EASME	Stock assessment	2018	2020
MEDCIS	Marine environment and conservation	2017	2019
SAFEWATERS II_8	Stock assessment	2017	2018
REDES GSA06	Stock assessment	2016	2018

Section 5 - Involvement in activities of FAO regional projects

Activity	FAO regional project	Year	Type
TRANSALBORAN	COPEMED	2018	Stock assessment

Section 6 - Management measures taken in direct response to GFCM decisions

Title/Reference to National Law	Related GFCM Decision(s)
Royal Decree 410/2016, of October 31st, which adopts National Plan on Statistics for the period 2017-2020	REC.DIR-GFCM/41/2017/1
Ministerial Order AAA/1589/2012, of 17th July, establishes a regulation for the fisheries of blackspot seabream (Pagellus bogaraveo) with the gear of "voracera" in the Strait of Gibraltar, amended by Ministerial Order AAA/55/2016, of 26th January	REC.CM-GFCM/41/2017/2
Royal Decree 629/2013	REC.CM-GFCM/41/2017/5
EU DCRF regulations	REC.DIR-GFCM/41/2017/6
EU Control and IUU Regulations	REC.MCS-GFCM/41/2017/7

Section 7 - Environment protection measures

Name of the area	Type of spatial restriction	Year
Cabo Tiñoso	Marine Reserve	2017
Closures for demersal targeting gears in Gulf of Lion	Fisheries closures	2018
Canal de Menorca	National Fisheries Restricted Area (nFRA)	2016
Oriental Strait	Spatial Area of Conservation (Natura 2000 Network)	2012
Plan for the Conservation of Orcas in the Strait and Gulf of Cadiz	Plan for conservation Orca	2017

Emile Baudot	National Fisheries Restricted Area (nFRA)	2014
Ausiâs March	National Fisheries Restricted Area (nFRA)	2014
Fort d´en Moreu	National Fisheries Restricted Area (nFRA)	2014

Section 8 - Recommendation GFCM/36/2012/2 on mitigation of incidental catches of cetaceans in the GFCM area

Section 9 - Recommendation GFCM/36/2012/3 on fisheries management measures for conservation of sharks and rays in the GFCM area

Species	N specimens	Weight (Kg)	Date[21]	GSA	Fleet[22] Segment	Fishing Gear	Main Target Species
Centrophorus granulosus (Gulper shark) [Annex III]		231.7	2017	1	L-09	LLS; LLD	various
Centrophorus granulosus (Gulper shark) [Annex III]		59.8	2017	5	L-09	LLS; LLD	various
Centrophorus granulosus (Gulper shark) [Annex III]		71.3	2017	6	P-24	GNS; GTR; FPO	various
Centrophorus granulosus (Gulper shark) [Annex III]		1747.3	2017	1	P-25	GNS; GTR; FPO; LA; LHP	various
Centrophorus granulosus (Gulper shark) [Annex III]		82.7	2017	5	P-25	GNS; GTR; FPO; LA; LHP	various
Centrophorus granulosus (Gulper shark) [Annex III]		35.5	2017	1	T-12	OTB	various
Centrophorus granulosus (Gulper shark) [Annex III]		55.7	2017	6	T-25	OTB	various
Centrophorus granulosus (Gulper shark) [Annex III]		3148.3	2017	1	T-26	OTB	various
Centrophorus granulosus (Gulper shark) [Annex III]		520.7	2017	2	T-28	OTB	various
Centrophorus granulosus (Gulper shark) [Annex III]		715.3	2017	5	T-28	OTB	various
Cetorhinus maximus (Basking shark) [Annex II]		146.2	2017	5	T-28	OTB	various
Galeorhinus galeus (Tope shark) [Annex II]		11.3	2017	6	P-24	GNS; GTR; FPO	various
Galeorhinus galeus (Tope shark) [Annex II]		45.4	2017	1	P-25	GNS; GTR; FPO; LA; LHP	various
Galeorhinus galeus (Tope shark) [Annex II]		121.0	2017	1	T-12	OTB	various
Galeorhinus galeus (Tope shark) [Annex II]		68.0	2017	6	T-25	OTB	various
Galeorhinus galeus (Tope shark) [Annex II]		118.7	2017	1	T-26	OTB	various
Galeorhinus galeus (Tope shark) [Annex II]		8.4	2017	5	T-28	OTB	various

[21] Information by date/single event was submitted by the country; for reporting purposed data are here aggregate by year, species, GSA and fleet segment.

[22] According to the GFCM DCRF

Species	N specimens	Weight (Kg)	Date[21]	GSA	Fleet[22] Segment	Fishing Gear	Main Target Species
Heptranchias perlo (Sharpnose sevengill shark) [Annex III]		155.2	2017	1	T-12	OTB	various
Heptranchias perlo (Sharpnose sevengill shark) [Annex III]		2755.9	2017	1	T-26	OTB	various
Heptranchias perlo (Sharpnose sevengill shark) [Annex III]		49.2	2017	2	T-28	OTB	various
Isurus oxyrinchus (Shortfin mako) [Annex II]		359.2	2017	1	L-09	LLS; LLD	various
Isurus oxyrinchus (Shortfin mako) [Annex II]		7.1	2017	6	T-25	OTB	various
Mustelus mustelus (Common smooth-hound) [Annex III]		184.8	2017	6	L-07	LLS	various
Mustelus mustelus (Common smooth-hound) [Annex III]		102.8	2017	6	L-08	LLD	various
Mustelus mustelus (Common smooth-hound) [Annex III]		15.0	2017	1	L-09	LLS; LLD	various
Mustelus mustelus (Common smooth-hound) [Annex III]		1068.1	2017	5	L-09	LLS; LLD	various
Mustelus mustelus (Common smooth-hound) [Annex III]		7511.2	2017	6	P-24	GNS; GTR; FPO	various
Mustelus mustelus (Common smooth-hound) [Annex III]		1783.2	2017	1	P-25	GNS; GTR; FPO; LA; LHP	various
Mustelus mustelus (Common smooth-hound) [Annex III]		3189.6	2017	5	P-25	GNS; GTR; FPO; LA; LHP	various
Mustelus mustelus (Common smooth-hound) [Annex III]		50.5	2017	1	T-12	OTB	various
Mustelus mustelus (Common smooth-hound) [Annex III]		11628.3	2017	6	T-25	OTB	various
Mustelus mustelus (Common smooth-hound) [Annex III]		337.4	2017	1	T-26	OTB	various
Mustelus mustelus (Common smooth-hound) [Annex III]		1705.2	2017	5	T-28	OTB	various
Prionace glauca (Blue shark) [Annex III]		4854.0	2017	6	L-08	LLD	various
Prionace glauca (Blue shark) [Annex III]		27245.7	2017	1	L-09	LLS; LLD	various
Prionace glauca (Blue shark) [Annex III]		1239.1	2017	5	L-09	LLS; LLD	various
Prionace glauca (Blue shark) [Annex III]		218.5	2017	6	P-24	GNS; GTR; FPO	various
Prionace glauca (Blue shark) [Annex III]		1059.7	2017	1	P-25	GNS; GTR; FPO; LA; LHP	various
Prionace glauca (Blue shark) [Annex III]		23.7	2017	5	P-25	GNS; GTR; FPO; LA; LHP	various
Prionace glauca (Blue shark) [Annex III]		163.3	2017	6	T-25	OTB	various

Species	N specimens	Weight (Kg)	Date[21]	GSA	Fleet[22] Segment	Fishing Gear	Main Target Species
Prionace glauca (Blue shark) [Annex III]		3.5	2017	1	T-26	OTB	various
Rostroraja alba (White skate) [Annex II]		6.8	2017	6	L-07	LLS	various
Rostroraja alba (White skate) [Annex II]		173.5	2017	6	P-24	GNS; GTR; FPO	various
Rostroraja alba (White skate) [Annex II]		1251.3	2017	6	T-25	OTB	various
Rostroraja alba (White skate) [Annex II]		14.2	2017	2	T-28	OTB	various
Rostroraja alba (White skate) [Annex II]		127.5	2017	5	T-28	OTB	various
Squatina squatina (Angelshark) [Annex II]		1.7	2017	6	P-24	GTR	various

Section 10 - Recommendation GFCM/35/2011/4 on the incidental catch of sea turtles in fisheries in the GFCM competence area

Species	N specimens	Date	GSA	Fleet Segment	Fishing Gear	Main Target Species	N discarded dead	N released alive
Caretta caretta (Loggerhead turtle)	10			Longlines		*Xiphias gladius* (Swordfish)		10
Dermochelys coriacea (Leatherback turtle)	1			Longlines		*Xiphias gladius* (Swordfish)		1

Section 11 - Recommendation GFCM/35/2011/3 on reducing incidental catch of seabirds in fisheries in the GFCM Competence Area

Species	N specimens	Date	GSA	Fleet Segment	Fishing Gear	Main Target Species	N discarded dead	N unknown status
Larus audouinii (Audouin's seagull)	5			Longlines		*Thunnus alalunga* (Albacore)		5
Puffinus yelkouan (Mediterranean shearwater)	3			Longlines		*Thunnus alalunga* (Albacore)		3
Puffinus muretanicus (Balearic shearwater)	2			Longlines		*Thunnus alalunga* (Albacore)		2

Section 12 - Recommendation GFCM/35/2011/5 on fisheries measures for the conservation of the Mediterranean monk seal (*Monachus monachus*) in the GFCM Competence Area

Section 13 - Proposals for future research programmes

Connectivity between N and S Alboran
Continuation of historical series of independent data from fisheries
Improving selectivity of gears and scientific base for technical measures
Scientific studies on ecosystem and environmental problems on pelagic stocks

TUNISIA

Section 1 - Description of fisheries

A. Fishing grounds (GSAs): 12 – Northern Tunisia; 13 – Gulf of Hammamet; 14 – Gulf of Gabes

B. Total landings: 126528 tonnes (2016); 131705 (2015); 126512 tonnes (2014)

Main 10 species landed

Species ***Tons***

C. Fleet: 13908 vessels (2016); 14099 vessels (2015)

Total kW:

Total GT:

AVG LOA:

Min LOA:

Max LOA:

AVG LOA (previous year):

Section 2 - Status of stocks of priority species

Species/Stock	Ref. year	Stock status	GSA	Presented to GFCM WGs?	Presented to any other forum?
Merluccius merluccius	2016	In overexploitation	12-13-14	Y	MedSudMed
Parapenaeus longirostris	2016	In overexploitation	12-13-14	Y	MedSudMed
Mullus barbatus	2016	In overexploitation	13-14	Y	MedSudMed

Section 3 - Status of statistics and information system

A. Description of the national system of fishery statistics and/or any improvement/change occurred

B. National entities or authorities in charge for the collection of data pertaining the GFCM DCRF Tasks

Task I - Global Figures of National Fisheries	Task II - Catch	Task III - Bycatch	Task IV - Fleet	Task V - Effort	Task VI – Socio-Economic Data	Task VII - Biological Information
Direction Générale de la Pêche et de l'Aquaculture (DGPA) est le responsable officiel de la collecte des données statistiques	DGPA	Institut National des Sciences et Technologies de la Mer (INSTM) en concertation avec la DGPA	DGPA	DGPA	INSTM en concertation avec la DGPA	INSTM en concertation avec la DGPA

Section 4 - Status of research in progress (or recently concluded)

Research or Project title	Subject	From	To
Ressources halieutiques benthiques tunisiennes: Evaluation des stocks et aménagement des pêcheries	Stock assessment	2016	2019
Ressources halieutiques pélagiques tunisiennes: Evaluation des stocks et aménagement des pêcheries	Stock assessment	2016	2019
Contribution au développement et à la rationalisation de la pêche artisanale et hauturière en Tunisie	Stock assessment, Technologie des engins de pêche et sélectivité	2016	2019
Autres Projets de l'INSTM	Biodiversité, Biotechnologie, Milieu Marin et Aquaculture	2016	2019

Section 5 - Involvement in activities of FAO regional projects

Activity	FAO regional project	Year	Type
Evaluation des stocks des 3 espèces prioritaires dans la région du Canal de Sicile: Merlu, Chevrette et Rouget blanc	MEDSUDMED	2017	Stock assessment, socio-economics

Implémentation de l'AEF comme outil de gestion des pêcheries de la lagune El Bibane	COPEMED	2017	Stock assessment, socio-economics, marine environment and conservation
Eel Fisheries monitoring and biological data collection in Tunisia	COPEMED	2017	Stock assessment, data collection and statistics
Etude socio-économique de la pêcherie du merlu et de la chevrette dans la région Nord de la Tunisie	MEDSUDMED	2017	Socio-economics

Section 6 - Management measures taken in direct response to GFCM decisions

Section 7 - Environment protection measures

Section 8 - Recommendation GFCM/36/2012/2 on mitigation of incidental catches of cetaceans in the GFCM area

Species	N specimens	Date	GSA	Fleet Segment	Fishing Gear	Main Target Species	N discarded dead	N released alive
Tursiops truncatus (Bottlenose dolphin)	2	10/08/2017	14 - Gulf of Gabes	[OLD TASK 1] I - Long liners (> 6 metres)	Longlines			2

Section 9 - Recommendation GFCM/36/2012/3 on fisheries management measures for conservation of sharks and rays in the GFCM area

Species	N specimens	Weight (Kg)	Date	GSA	Fleet Segment	Fishing Gear	Main Target Species
Carcharodon carcharias (Great white shark) [Annex II]	1		25/01/2017	14 - Gulf of Gabes	[OLD TASK 1] C - Polyvalent small-scale vessels with engine (6-12 metres)	Trammel nets	
Carcharhinus plumbeus (Sandbar shark) [Annex III]	11		03/07/2017	14 - Gulf of Gabes	[OLD TASK 1] C - Polyvalent small-scale vessels with engine (6-12 metres)	Drifting longlines	*Xiphias gladius* (Swordfish)
Isurus oxyrinchus (Shortfin mako) [Annex II]	9		03/07/2017	14 - Gulf of Gabes	[OLD TASK 1] C - Polyvalent small-scale vessels with engine (6-12 metres)	Drifting longlines	*Xiphias gladius* (Swordfish)
Carcharhinus plumbeus (Sandbar shark) [Annex III]	11		14/07/2017	14 - Gulf of Gabes	[OLD TASK 1] C - Polyvalent small-scale vessels with engine (6-12 metres)	Drifting longlines	*Xiphias gladius* (Swordfish)
Carcharhinus plumbeus (Sandbar shark) [Annex III]	47		27/07/2017	14 - Gulf of Gabes	[OLD TASK 1] C - Polyvalent small-scale vessels with engine (6-12 metres)	Drifting longlines	*Xiphias gladius* (Swordfish)
Isurus oxyrinchus (Shortfin mako) [Annex II]	10		27/07/2017	14 - Gulf of Gabes	[OLD TASK 1] C - Polyvalent small-scale vessels with engine (6-12 metres)	Drifting longlines	*Xiphias gladius* (Swordfish)

Species	N specimens	Weight (Kg)	Date	GSA	Fleet Segment	Fishing Gear	Main Target Species
Mustelus mustelus (Smooth-hound) [Annex III]	2		27/07/2017	14 - Gulf of Gabes	[OLD TASK 1] C - Polyvalent small-scale vessels with engine (6-12 metres)	Drifting longlines	*Xiphias gladius* (Swordfish)
Carcharhinus plumbeus (Sandbar shark) [Annex III]	15		23/08/2017	14 - Gulf of Gabes	[OLD TASK 1] C - Polyvalent small-scale vessels with engine (6-12 metres)	Drifting longlines	*Xiphias gladius* (Swordfish)
Carcharodon carcharias (Great white shark) [Annex II]	1		19/09/2017	13 - Gulf of Hammamet	[OLD TASK 1] H - Purse Seiners (>12 metres)	Without purse lines (lampara)	*Sardinella aurita* (Round sardinella)

Section 10 - Recommendation GFCM/35/2011/4 on the incidental by-catch of sea turtles in fisheries in the GFCM competence area

Species	N specimens	Date	GSA	Fleet Segment	Fishing Gear	Main Target Species	N discarded dead	N released alive
Caretta caretta (Loggerhead turtle)	1	03/07/2017	14 - Gulf of Gabes	[OLD TASK 1] C - Polyvalent small-scale vessels with engine (6-12 metres)	Drifting longlines	*Xiphias gladius* (Swordfish)		1
Caretta caretta (Loggerhead turtle)	10	07/08/2017	14 - Gulf of Gabes	[OLD TASK 1] C - Polyvalent small-scale vessels with engine (6-12 metres)	Longlines (not specified)			10
Caretta caretta (Loggerhead turtle)	1	14/07/2017	14 - Gulf of Gabes	[OLD TASK 1] C - Polyvalent small-scale vessels with engine (6-12 metres)	Drifting longlines	*Xiphias gladius* (Swordfish)		2
Dermochelys coriacea (Leatherback turtle)	1	14/07/2017	14 - Gulf of Gabes	[OLD TASK 1] C - Polyvalent small-scale vessels with engine (6-12 metres)	Drifting longlines	*Xiphias gladius* (Swordfish)		1
Caretta caretta (Loggerhead turtle)	2	15/07/2017	14 - Gulf of Gabes	[OLD TASK 1] C - Polyvalent small-scale vessels with engine (6-12 metres)	Drifting longlines	*Xiphias gladius* (Swordfish)		2
Caretta caretta (Loggerhead turtle)	1	27/07/2017	14 - Gulf of Gabes	[OLD TASK 1] C - Polyvalent small-scale vessels with engine (6-12 metres)	Drifting longlines	*Xiphias gladius* (Swordfish)		1
Caretta caretta (Loggerhead turtle)	7	08/08/2017	14 - Gulf of Gabes	[OLD TASK 1] C - Polyvalent small-scale vessels with engine (6-12 metres)	Longlines (not specified)			7

Species	N specimens	Date	GSA	Fleet Segment	Fishing Gear	Main Target Species	N discarded dead	N released alive
Caretta caretta (Loggerhead turtle)	15	09/08/2017	14 - Gulf of Gabes	[OLD TASK 1] C - Polyvalent small-scale vessels with engine (6-12 metres)	Longlines (not specified)			15
Dermochelys coriacea (Leatherback turtle)	1	09/08/2017	14 - Gulf of Gabes	[OLD TASK 1] I - Long liners (> 6 metres)	Hooks and lines (not specified)			1
Caretta caretta (Loggerhead turtle)	2	25/08/2017	14 - Gulf of Gabes	[OLD TASK 1] C - Polyvalent small-scale vessels with engine (6-12 metres)	Drifting longlines	*Xiphias gladius* (Swordfish)		2
Caretta caretta (Loggerhead turtle)	12	28/08/2017	14 - Gulf of Gabes	[OLD TASK 1] C - Polyvalent small-scale vessels with engine (6-12 metres)	Longlines (not specified)		1	11

Section 11 - Recommendation GFCM/35/2011/3 on reducing incidental catch of seabirds in fisheries in the GFCM Competence Area

Section 12 - Recommendation GFCM/35/2011/5 on fisheries measures for the conservation of the Mediterranean monk seal (*Monachus monachus*) in the GFCM Competence Area

Section 13 - Proposals for future research programmes

Amélioration des connaissances biologiques et écologiques sur élasmobranches
Evaluation des stocks et aménagement des principales pêcheries des eaux tunisiennes

TURKEY[23]

Section 1 - Description of fisheries

A. Fishing grounds (GSAs): 22 – Aegean Sea; 24 – North Levant

B. Total landings: 46414 tonnes (2016); 45383 tonnes (2015)

Main 10 species landed

Species	*Tons*
Sardina pilchardus	13852
Engraulis encrasicolus	9432
Boops boops	2722
Scomber japonicus	1374
Thunnus thynnus	1324
Sarda sarda	1263
Mugilidae	1122
Mullus barbatus	1104
Aristeidae	1065
Alosa spp	1035

C. Fleet: 5734 vessels (2017); 5889 vessels (2016)
Total kW: 316949 (2017); 305681 (2016)
Total GT: 36739 (2017); 36347 (2016)
AVG LOA: 8.3 m (2017)
Min LOA: 3.5 m
Max LOA: 49.3 m
AVG LOA (previous year): 8.3 m

Section 2 - Status of stocks of priority species

Section 3 - Status of statistics and information system

A. Description of the national system of fishery statistics and/or any improvement/change occurred

Fisheries data have been collected by collabration with Turkish Statistics Institute (TurkStat) and Ministry of Food Agriculture and Livestock (MoFAL).

B. National entities or authorities in charge for the collection of data pertaining the GFCM DCRF Tasks

Task I - Global Figures of National Fisheries	Task II - Catch	Task III - Bycatch	Task IV - Fleet	Task V - Effort	Task VI – Socio-Economic Data	Task VII - Biological Information
TurkStat (in collabration with MoFAL)	TurkStat (in collabration with MoFAL)	MoFAL	MoFAL	TurkStat and MoFAL	TurkStat	MoFAL

Section 4 - Status of research in progress (or recently concluded)

Section 5 - Involvement in activities of FAO regional projects

Activity	FAO regional project	Year	Type
Antalya bay, Turkey. 1st mission of the pilot study on the collection of fisheries data	EASTMED	2012	Data collection and statistics
Antalya bay, Turkey. Training course on catch, effort and biological sampling in connection with the pilot study on the collection of fisheries data	EASTMED	2012	Data collection and statistics
Follow up of the pilot study on data collection in Antalya Bay, including the	EASTMED	2013	Data collection and statistics

[23] Only information regarding Mediterranean fisheries and GSAs is submitted by Turkey to the SAC, where relevant.

addition of the socio-economic component, Turkey			
Training Workshop on the Ecosystem Approach to Fisheries	EASTMED	2014	Ecosystem Approach to Fisheries
Training course on stock assessment methods using catch and effort data	EASTMED	2014	Stock assessment
EastMed Working Group on Fisheries Data Analysis	EASTMED	2015	Data analysis
EAF management plan for the small-scale fishery in Gökova Bay	EASTMED	2016	Management plan

Section 6 - Management measures taken in direct response to GFCM decisions

Title/Reference to National Law	Related GFCM Decision(s)
Notification 4/1 Regulating Commercial Fishing	REC.CM-GFCM/40/2016/5

Section 7 - Environment protection measures

Section 8 - Recommendation GFCM/36/2012/2 on mitigation of incidental catches of cetaceans in the GFCM area

Section 9 - Recommendation GFCM/36/2012/3 on fisheries management measures for conservation of sharks and rays in the GFCM area

Section 10 - Recommendation GFCM/35/2011/4 on the incidental by-catch of sea turtles in fisheries in the GFCM competence area

Section 11 - Recommendation GFCM/35/2011/3 on reducing incidental catch of seabirds in fisheries in the GFCM Competence Area

Section 12 - Recommendation GFCM/35/2011/5 on fisheries measures for the conservation of the Mediterranean monk seal (*Monachus monachus*) in the GFCM Competence Area

Section 13 - Proposals for future research programmes

The Scientific Advisory Committee on Fisheries (SAC) of the General Fisheries Commission for the Mediterranean (GFCM) held its twentieth session in Tangiers, Morocco, from 26 to 29 June 2018. The session was attended by delegates from 14 Mediterranean contracting parties, seven observers, representatives of the FAO regional projects, the GFCM Secretariat and invited experts. The Committee reviewed the work carried out during the 2017–2018 intersession, including within its four subregional subsidiary bodies (Subregional Committee for the Adriatic Sea, Subregional Committee for the Central Mediterranean, Subregional Committee for the Eastern Mediterranean and Subregional Committee for the Western Mediterranean) which all met during the intersession. In relation to the mid-term strategy (2017–2020) towards the sustainability of Mediterranean and Black Sea fisheries, the Committee welcomed the progress in multiple priority activities as well as cooperation with partners. Issues in relation to fishery data quality, data collection needs and methodologies, estimation and quantification of illegal, unreported and unregulated fishing and formulation of advice on the status of fisheries were discussed. Recalling the need to improve knowledge on small-scale fisheries in the the Mediterranean and the Black Sea, the work underway to test a characterization matrix as well as the forthcoming Regional Plan of Action for Small-Scale Fisheries in the Mediterranean and Black Sea were tackled. Furthermore, the Committee formulated advice on the following aspects: i) overall status of Mediterranean stocks; ii) management of European eel; iii) management of deep-sea fisheries and identification of VMEs and iv) roadmap towards a network of essential fish habitats. In line with the subregional approach and based on the conclusions of the four subregional committees, the SAC also provided specific advice for each subregion. In particular, attention was paid to: i) blackspot seabream in the western Mediterranean; ii) demersal fisheries in the Strait of Sicily; iii) small pelagic fisheries in the Adriatic Sea; iv) demersal fisheries in the Adriatic Sea, including the monitoring of the Jabuka/Pomo Pit fisheries restricted area; and v) deep-water red shrimps in the central and eastern Mediterranean. In addition, the Committee also endorsed un updated table of priority species by subregion. Finally, the Committee agreed upon its work plan for 2018–2020 and elected its new Bureau.

Le Comité scientifique consultatif des pêches (CSC) de la Commission générale des pêches pour la Méditerranée (CGPM) a tenu sa vingtième session à Tanger, Maroc, du 26 au 29 juin 2018. Ont participé à la session les délégués de 14 parties contractantes de Méditerranée, sept observateurs, des représentants des projets régionaux de la FAO, le Secrétariat de la CGPM et des experts invités. Le Comité a passé en revue les travaux réalisés pendant la période intersessions 2017-2018, notamment dans le cadre de ses quatre organes subsidiaires sous-régionaux (Comité sous-régional pour la mer Adriatique, Comité sous-régional pour la Méditerranée centrale, Comité sous-régional pour la Méditerranée orientale et Comité sous-régional pour la Méditerranée occidentale) qui ont tous tenu des réunions durant la période intersessions. S'agissant de la stratégie à moyen terme (2017-2020) en faveur de la durabilité des pêches en Méditerranée et en mer Noire, le Comité s'est félicité des progrès réalisés dans le cadre de plusieurs activités prioritaires ainsi que de la coopération avec les partenaires. Il a en outre examiné des questions portant sur la qualité des données sur les pêches, les besoins et les méthodologies en matière de collecte de données, l'estimation et la quantification de la pêche illicite, non déclarée et non réglementée et la formulation d'avis sur l'état des pêches. Rappelant la nécessité d'améliorer les connaissances sur la pêche artisanale en Méditerranée et en mer Noire, le Comité s'est en outre penché sur les travaux en cours pour tester une matrice destinée à la caractérisation de la pêche artisanale ainsi que sur le futur Plan d'action régional pour la pêche artisanale en Méditerranée et en mer Noire. Par ailleurs, le Comité a formulé des avis portant sur les aspects suivants: i) état général des stocks en Méditerranée; ii) gestion de l'anguille européenne; iii) gestion de la pêche profonde en haute mer et identification des écosystèmes marins vulnérables; et iv) feuille de route en vue d'un réseau d'habitats halieutiques essentiels. collecte de données et indicateurs de qualité. Conformément à l'approche sous-régionale mise en œuvre et à partir des conclusions des quatre comités sous-régionaux, le CSC a également fourni des avis spécifiques à chaque sous-région. Une attention particulière a été accordée à: i) la dorade rose en Méditerranée occidentale; ii) les pêches démersales dans le canal de Sicile; iii) la pêche de petits pélagiques en mer Adriatique; iv) les pêches démersales en mer Adriatique, y compris le suivi de la zone de pêche réglementée de la fosse de Pomo/Jabuka; et v) les crevettes rouges du large en Méditerranée centrale et orientale. De plus, le Comité a approuvé un tableau actualisé des espèces prioritaires par sous-région. Enfin, le Comité est convenu de son programme de travail pour 2018-2020 et a procédé à l'élection de son nouveau bureau.

ISBN 978-92-5-131049-6 ISSN 2070-6987

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CA2091B/1/10.18