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Agenda Item 5: Conservation of Species and Habitats

5.1. Updating of the Action Plan for the conservation of cartilaginous fishes (Chondrichthyans) in the Mediterranean Sea

Draft updated Action Plan for the Conservation of Cartilaginous Fishes (Chondrichthyans) in the Mediterranean Sea

Note:

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Note by secretariat

1. The Action Plan for the Conservation of Cartilaginous Fishes (Chondrichthyans) in the Mediterranean Sea was initially adopted in 2003 within the framework of the Barcelona Convention CoP13.

2. It has been updated on three occasions: 2009, which concerned only the update of the timetable for the period (2008-2013) and was adopted by Decision IG.19/1; the second and third updates were carried out in 2013 and 2019 and were adopted by Decision IG.21/4 and IG.24/7, respectively.

3. This fourth revision of the Action Plan, requested by Decision IG.26/5 (CoP23), completed in 2025, and given in this document, introduces updates to both the main text of the Action Plan and its implementation timetable. These changes follow the review of the implementation of the previous version and consider input from the SPA/BD Focal Points, regional experts, and organizations, which appears in Annex I.

4. This draft is submitted to the 17th meeting of the SPA/BD Focal Points for review and for agreement on its submission as appropriate to the meeting of MAP Focal Points and Barcelona CoP 24 for adoption.

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FOREWORD

Chondrichthyan fishes constitute a class within the zoological classification, which includes cartilaginous fish commonly known as sharks, skates, rays, and chimaeras. The skates and rays, or batoids, are flattened, shark-like fish.

The Action Plan for the Conservation of Chondrichthyan Fishes in the Mediterranean Sea is in line with:

1. the Barcelona Convention which was adopted on 16 February 1976 in Barcelona by the Mediterranean countries and the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

2. the International Plan of Action for the Conservation and Management of Sharks (IPOA-Sharks) proposed by FAO and adopted by UN member states in 1999 [Note: in the FAO documents, the term 'sharks' is used to refer to all chondrichthyans].

3. the UN Fish Stocks Agreement (UN Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks) in effect since 11th December 2001.

4. paragraph 31 of the Implementation Plan of the Resolution of the World Summit for Sustainable Development adopted in Johannesburg in September 2002.

In the implementation of IPOA-Sharks, the Mediterranean Action Plan for the Conservation of Chondrichthyan Fishes constitutes a proposal for regional strategies, pointing out priorities and actions to be undertaken at national and regional levels, as regional coordination is needed to ensure the implementation of conservation measures. IPOA-Sharks suggests that FAO member states should develop national action plans when their fishing fleets conduct targeted fisheries for sharks or when sharks are taken as by-catch. Regarding this recommendation, the Contracting Parties to the Barcelona Convention are strongly urged to elaborate national action plans based on the priorities defined herein to ensure the conservation, management, and long-term sustainable use of chondrichthyan species in the Mediterranean Sea.

Twenty-four species are listed in Annex II (list of endangered or threatened species) of the SPA/BD Protocol are already protected, and more species have been proposed to be added through amendments to Annexes II and III. In addition, these species are protected based on following GFCM recommendations: Recommendation GFCM/36/2012/1 (now GFCM/42/2018/2), they cannot be retained on board, trans-shipped, landed, transferred, stored, sold, displayed, or offered for sale, and must be released unharmed and alive to the extent possible; Recommendation GFCM/44/2021/16 that address additional mitigation measures for the conservation of elasmobranchs in the Mediterranean Sea; and Resolution GFCM/46/2023/4 that address the regional plan of action to monitor and mitigate interactions between fisheries and vulnerable species in the Mediterranean and the Black Sea. Additionally, some Mediterranean countries have taken specific protection measures for these species to reinforce their conservation status. Many species on this list appear on the IUCN Red List, in the appendices of the Bern and Bonn Conventions, and some have been included in the CITES appendices. In addition, some Contracting Parties have also joined the Memorandum of Understanding on the Conservation of Migratory Sharks, which is an international instrument for the conservation of migratory species of sharks, under the auspices of the Convention on the Conservation of Migratory Species of Wild Animals (CMS; also known as the Bonn Convention), which aims to achieve and maintain a favorable conservation status for migratory sharks, rays and chimaeras. Some of the species listed in Annex 1 of the Sharks- MOU occur in the Mediterranean Sea. Although conservation measures focusing on particular species have proven useful at species level, they are not sufficient at the ecosystem level.

Therefore, habitat and environmental parameters related to the species' conservation should be included in the Action Plan. As a result, the guidelines for elaborating the Action Plan are as follows:

- species conservation
- biodiversity maintenance
- habitat protection
- management for sustainable use
- scientific research
- monitoring
- funding for research, implementation, and monitoring
- public awareness
- international cooperation for controls in the open sea.

Thus, implementing the Action Plan will involve a broad range of stakeholders, and its success requires increasing cooperation between different jurisdictions, professional fishers, conservation and environmental bodies, recreational and game fishing associations, scientific and research organizations, academic institutions, as well as administrative bodies at national, regional, and international levels.

INTRODUCTION

1. The chondrichthyan fish fauna of the Mediterranean is relatively diverse, with approximately 90 species; at least 48 species of sharks, 40 batoids and two chimaeras. All species are fished as bycatch. and many of them are sold at fish markets, among them some species which are very rare, endangered or protected and may never have been common. There is evidence of significant negative impacts of unmanaged and irresponsible fisheries on the populations of many chondrichthyan species.

2. Chondrichthyan fishes have specific biological characteristics, such as low reproduction productivity due to late sexual maturity and low fecundity, which make them vulnerable to fishing pressures and ecological disturbances, and populations are slow to recover once depleted.

3. For chondrichthyan fishes, there also exists a close relationship between the number of young produced and the size of the breeding biomass (stock-recruitment relationship) and complex spatial structures (size/sex segregation and seasonal migration) that contribute to their vulnerability to habitat deterioration, environmental pollution, and over-exploitation.

4. Most sharks and some skates and rays are apex predators that have an important trophic function in the marine ecosystem. Therefore, the ecosystem approach is particularly important to understand the role of these fishes in the structuring and functioning of this system. The integrated effects of irresponsible fishing, pollution, and habitat destruction can result in changes in abundance, size structure and biological features, and can lead to extinction. The indirect impacts include changes in species prey/predator composition, with species replacement, since fishing tends to remove larger species and larger individuals from ecosystems. Exploitation of chondrichthyans should respect the principles of sustainability and the precautionary principle as defined in the FAO Code of Conduct for Responsible Fisheries.

5. Elasmobranches are by far the most endangered group of marine fish in the Mediterranean Sea and worldwide. The IUCN Red List shows clearly the vulnerability of elasmobranchs and the lack of data; 39 species in 2016 (53% of 73 assessed species), and 47 species in 2020 (53% of 88 assessed species), are critically endangered, endangered, or vulnerable. Around 13 % are data deficient (DD).

6. The Contracting Parties to the Barcelona Convention, within the framework of the Action Plan for the Protection of the Marine Environment and the Sustainable Development of the Coastal Area of the Mediterranean (MAP Phase II), give priority to ensuring the protection of sensitive species, habitats and ecosystems in the Mediterranean Sea.

7. In line with the Post-2020 SAPBIO and its alignment with the CBD Global Biodiversity Framework and the UN Sustainable Development Goals, efforts to conserve cartilaginous fishes in the Mediterranean should emphasize harmonized regional actions, integrating habitat and species protection measures to achieve good conservation environmental status and ensure sustainable management of marine biodiversity.

8. The decline of some chondrichthyan populations has become a matter for international concern, and a growing number of organisations have expressed the need for urgent measures to be introduced for the conservation of these fish. To this end, SPA/RAC was entrusted (Monaco, November 2001) by the Contracting Parties to the Barcelona Convention with the task of elaborating an action plan for the conservation of the chondrichthyan populations of the Mediterranean. This action plan was adopted within the frame work of the Barcelona Convention for the protection of the marine environment and the coastal region of the Mediterranean in 2003.

9. Parties to Barcelona Convention requested SPA/RAC during the COP 23 (Portoroz, Slovenia, 5-8 December 2023) to update this Action Plan.

10. Today, the serious threats to the populations of chondrichthyan fishes are widely acknowledged: mainly unmanaged and irresponsible fishing, pollution and the negative aspects of some littoral development. These threats affect both chondrichthyan biodiversity and abundance. The Mediterranean Sea being a semi-enclosed sea with strongly populated coastal countries, critical habitats have been damaged by some littoral development and pollution. Pollution may harm the marine ecosystem because contaminants, concentrating along the food webs, can alter the physiology and good functioning of individuals and populations.

11. Although the Mediterranean chondrichthyan fish fauna have been studied for a long time, scientific research still needs to be undertaken to study the biology, ecology, population dynamics and status of stocks of most of the species. These studies are necessary to better understand their ecological role. The taxonomic status of several species is still uncertain. A few species are endemic to the Mediterranean. Some Red Sea species enter the eastern Mediterranean through the Suez Canal (Lessepsian migrants); the progression of the populations of these species, and the effect of these invaders on the Mediterranean ecology, should be carefully studied.

12. Since many chondrichthyans are wide-ranging and/or migratory, regional coordination isrequired for research, monitoring and enforcement. Also, information should be widely disseminated amongst the public to make it aware of the threats to chondrichthyans and the urgent need for their conservation and the management of their exploitation.

A. OBJECTIVES

13. The present Action Plan is aimed at promoting:

13.1. The general conservation of the endangered chondrichthyan populations of the Mediterranean Sea, including supporting and promoting national and regional programmes on reducing bycatch and all other kind of disturbance.

13.2. The protection of chondrichthyan species, mainly those which are vulnerable and endangered;

13.3. The identification, the protection and the restoration of critical habitats, such as mating, spawning and nursery grounds;

13.4. The improvement of scientific knowledge by research and scientific monitoring, including the creating of regional standardised databases;

13.5. The recovery of depleted chondrichthyan stocks;

13.6. Public awareness and capacity-building about conservation of chondrichthyans.

13.7. Compliance with provisions of Annex II listings and GFCM Recommendations through improved national legislation and effective national enforcement.

B. PRIORITIES

14. The following general priorities are recommended:

14.1. Urgent provision of legal protection status for the species enlisted in the Annex II (list of endangered or threatened species) of the SPA/BD Protocol, which based on Recommendation GFCM/36/2012/1 (now GFCM/42/2018/2) cannot be retained on board, trans-shipped, landed, transferred, stored, sold or displayed or offered for sale, and must be released unharmed and alive to the extent possible.

14.2. Urgent action is required to monitor and mitigate interactions between fisheries and vulnerable elasmobranch species in the Mediterranean Sea, in alignment with Resolution GFCM/46/2023/4 on a regional plan of action to monitor and mitigate interactions between fisheries and vulnerable species in the Mediterranean Sea.

14.3. Strengthened measures are needed to improve the conservation status of elasmobranch species listed in Annex II and III of the SPA/BD Protocol, and to mitigate or eliminate, where possible, the risk of incidental catch in fishing operations and associated mortality in the GFCM area of application, in line with Recommendation GFCM/44/2021/16 on additional mitigation measures for the conservation of elasmobranchs in the Mediterranean Sea.

14.4. Other species are currently data-deficient with inadequate information to assess extinction risk. Thus, there is an urgent need to assess the status in the Mediterranean Sea of the 12 species identified by IUCN as Data Deficient: Marbled stingray (*Dasyatis marmorata*), Lusitanian Cownose (*Rhinoptera marginata*), Round fantail stingray (*Taeniurops grabata*), Bignose shark (*Carcharhinus altimus*), Copper shark (*Carcharhinus brachyurus*), Blacktip shark (*Carcharhinus limbatus*), Dusky shark (*Carcharhinus obscurus*), Sharpnose sevengill shark (*Heptranchias perlo*), Longnose spurdog (*Squalus blainville*), Shortnose spurdog (*Squalus megalops*), Bigeyed sixgill shark (*Hexanchus nakamurai*) and Longfin mako (*Isurus paucus*). In addition, prioritize research and protection of deep-sea sharks, such as the Little Gulper Shark (*Centrophorus uyato*).

14.5. Identify further legislative, management and technical measures to protect species including minimizing bycatch and mortality of sharks, and develop management programmes for species currently marketed, which might include listing in Annex II of the SPA/BD Protocol.

14.5.1. Primarily for the endangered species: the dogfish (*Squalus acanthias*), the thresher sharks (*Alopias spp.),* the blue shark (*Prionace glauca*), sandbar shark (*Carcharhinus plumbeus*), gulper sharks (*Centrophorus* spp.), and Porbeagle (*Lamna nasus*).

14.5.2. Secondly, for the other commercially important species: the catsharks (*Scyliorhinus spp. and Galeus melastomus*), the hound sharks (*Mustelus spp*.), the requiem sharks (*Carcharhinus falciformis, C. limbatus, C. obscurus and*), the Mackerel sharks (Lamnidae), the skates (*Leucoraja spp., Raja spp*.), and the stingrays (*Dasyatis spp*.).

14.6. Ensure good practice for handling rays and sharks caught accidentally and encourage fishing practices that reduce chondrichthyan by-catch and/or facilitate live release.

14.7. Identify, protect, and restore critical habitats, especially mating areas, and spawning and nursery grounds, ensuring their sustained ecological function through regular monitoring and conservation efforts.

14.8. Develop research programmes on general biology (feeding, reproduction and growth parameters), taxonomy, ecology and population dynamics, with particular regard to genetic and migration studies. Additionally, establish programs for the development and transfer of technology and innovative measures in fishing activities.

14.9. Develop both systems for the monitoring of fisheries and fishery-independent monitoring programmes at both, national and regional level.

14.10. Develop research programmes to identify best practices for the reduction of the Chondrichthyes-fishery interactions

14.11. Develop training to ensure capacity-building at both the national and regional levels in a participatory approach, mainly in the following fields: taxonomy, biology, ecology, monitoring methods, stock assessment, and digital data collection tools.

14.12. Develop information, education and training programmes for professionals and public awareness.

C. IMPLEMENTATION MEASURES

In order to implement the above-mentioned general priorities, specific measures should be taken at national and regional level:

C.1. PROTECTION

15. Strict legal protection of elasmobranchs species under Annex II (list of endangered or threatened species) of the SPA/BD Protocol to the Barcelona Convention, which concerned by Recommendation GFCM/42/2018/2 on fisheries management measures for the conservation of sharks and rays in the GFCM area of application, amending Recommendation GFCM/36/2012/3 (cf. paragraphs 10.2 and 11.1), Recommendation GFCM/44/2021/16 on additional mitigation measures for the conservation of elasmobranchs in the Mediterranean Sea and Resolution GFCM/46/2023/4 on a regional plan of action to monitor and mitigate interactions between fisheries and vulnerable species in the Mediterranean and the Black Sea in accordance with national and international laws and conventions. The status of Mediterranean chondrichthyans should be regularly reviewed in order to recommend, when necessary, legal protection for threatened species.

16. Strengthen the legal framework for the conservation of elasmobranch species with consideration of amendments to Annexes II and III of the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean. Mediterranean chondrichthyan species should be regularly reviewed to recommend updates and enhance legal protections for those listed in Annexes II and III.

C.2. FISHERIES MANAGEMENT

17. According to the principles of the IPOA-Sharks and of the UN Straddling Fish Stocks Agreement, states that contribute to fishing mortality for a species or stocks should participate in their management.

18. Existing assessment reports and fisheries management programmes should be adjusted to chondrichthyan fishes or specific plans should be developed within the framework of the IPOA-Sharks and the GFCM recommendations GFCM/42/2018/2, GFCM/44/2021/16 and Resolution GFCM/46/2023/4.

19. It is urgent to collect and report precise fisheries statistics, mainly on catches and landings by species. For this purpose, field identification sheets should be published in appropriate languages with vernacular names, dispatched to fishery communities, digitized, and integrated into mobile platforms to enhance functionality and user-friendliness, designed to aid species identification, incorporated into regional policies to make it mandatory for fishers and conservation stakeholders. Additionally, data on fishing efforts should be collected and reported to GFCM, when possible.

20. bis. capacity building training of statistics collectors should be ensured and statistics categories defined.

21. Management programmes for chondrichthyan fishes should be based on studies of the assessment of stocks and populations. Management should be also based on by-catch and measures, including proven and efficiently tested innovative approaches to reduce incidental catches studies specifically threatened or endangered chondrichthyan species

22. Publish and disseminate guidelines on bycatch reduction and proper handling practices for protected species in relevant languages to ensure broad accessibility. Ensure the immediate and safe release of protected species, prioritizing their unharmed survival, whenever conditions allow.

23. Implementing a permanent monitoring, specifically scientific monitoring, of fisheries where chondrichthyans are impacted is a fundamental management measure, useful for the conservation of these species. This action would permit the timely detection of any decline in their biomasses that could be an unequivocal sign of over-fishing. This monitoring could be done through surveys, scientific obervation mainly on board, landing-site observation and the examining of logbooks. This action should also address sightings (strandings and observations at sea).

24. For most species, cooperative management is necessary at national, regional and international levels. The mechanisms for achieving a cooperative approach may consist of the following elements:

- information on existing exploited resources and management systems;
- the defining and provision of legal instruments;
- the use of a participatory planning approach;
- the defining of clear management agreements;
- the building and development of national groups.

25. Implement measures, including proven and efficiently tested innovative approaches, based on the assessment of fishing gear impacts and promote the adoption of alternative gear to minimize bycatch and enhance sustainable practices.

26. Mediterranean countries shall ban finning following GFCM recommendation GFCM/42/2018/2; it shall be prohibited to remove shark fins on board vessels and to retain, tranship or land shark fins.

C.3. CRITICAL HABITATS AND ENVIRONMENT

27. Field studies are needed to inventory and map critical habitats around the Mediterranean that are important for chondichtyans at all their life stage.

28. Legal protection should be given to these habitats, in conformity with the national and international laws and conventions on the subject, to prevent their deterioration due to the negative effects of human activity. When these habitats have deteriorated, restoration programmes should be undertaken. One example of legal protection is the creation, where possible, of marine protected areas in which human activity is regulated.

29. Such protection measures could be part of fishery management programmes as well as of integrated coastal zone management.

30. Habitat connectivity should be identified and preserved by mapping and protecting ecological corridors between critical habitats to ensure the movement, migration, and genetic exchange of sensitive species.

C.4. SCIENTIFIC RESEARCH AND MONITORING

31. Parallel to protection and conservation measures, properly funded and staffed scientific research programmes should be undertaken or developed, mainly on species biology and ecology, emphasising growth, reproduction, diet, geographical and bathymetric distribution, migration, ecological connectivity, population structure using molecular tools and dynamics, non-indigenous species interactions (including their role as hosts of pathogens) and risk assessment, specifically focusing on risks related to overfishing, habitat destruction, climate change, pollution, and invasive

species. Regional tagging (conventional, acoustic, pop-up and satellite tag) programmes should be developed for migratory species. Also, fishing efforts exploratory cruises and the status of species within the precautionary principle, should be assessed. In the same way, discard should be evaluated in terms of quantity and composition. Research on tools to avoid or reduce by-catch should be fostered. Evaluation of the outcomes of management measures should be considered, through the utilisation of the scientific monitoring programme and should be inclusive of all stages, in order to support and guide the development of effective managment measures.

32. For the scientific monitoring of fisheries, the standardised collection of data at landing places and fish markets should be supplemented and completed by on-board observation programmes to gather precise data on fisheries and on species biology. Also, logbooks adapted to chondrichthyan fisheries should be distributed to fishermen. The following set of data would be required:

- species composition of the catch with length frequency distribution by sex and maturity stage;
- retained catch by species in number and weight;
- discarded catch in number and weight (+ reasons for discard);
- released species in number (sex, length when possible);
- gear and vessel specifications and cruise characteristics;
- provide data on location and depth of fishing

Furthermore, samples (vertebrae, dorsal spines) should be taken and adequately preserved for age determination, and tissue samples for genetic analysis (DNA). Furthermore, data collection and monitoring should be improved by utilizing new technologies for more effective and accurate tracking.

33. Mediterranean countries should establish or expand monitoring programmes, specifically scientific monitoring, at both national and regional level, to cover the whole Mediterranean Sea, and to collect standardised quantitative data to estimate fish density (relative abundance). Also these programmes should leverage innovative tools such as environmental DNA (eDNA), baited remove underwater videos (BRUVs), citizen science, and local ecological knowledge (LEK), fostering a participatory approach that actively involves all stakeholders. This would help evaluate the risk status of the various species.

34. Assess the socioeconomic impacts of interactions between elasmobranch species and fisheries, including incidental catch-related damages, testing mitigation technologies, and identifying barriers to adoption while developing alternative solutions and compensation measures.

C.5. CAPACITY BUILDING/TRAINING

35. The Contracting Parties should promote the training of specialists, fisheries officers and managers in the study and conservation of chondrichthyan fishes. To this end, it is important to identify already existing initiatives and to give priority to taxonomy, conservation biology and techniques for monitoring research programmes (cf. above paragraph on scientific research).

36. Training programmes should also focus on methods of fisheries data collection and stock assessment, by-catch mitigation especially data analysis.

37. Promote capacity-building initiatives that foster inclusivity by engaging experts, academia, indigenous peoples and local communities, women and youth representatives, and other relevant stakeholders. These efforts should aim to ensure diverse perspectives, equitable participation, and the effective dissemination of knowledge across all sectors

38. Provide adequate institutional support and promote capacity buidling activities to Contracting parties according to their needs, specifically training programs and workshops, tehcnical assistance, and technical expertise and consultancy.

C.6. EDUCATION AND PUBLIC AWARENESS

39. For protection and conservation measures to be effective, public support should be obtained: In this respect, (1) information campaigns should be directed at national authorities, residents, teachers, visitors, recreational and professional fishermen, wholesale/market sector, sport anglers, divers and any other stakeholder; (2) Publication materials should be produced to present the life history, and vulnerability, of chondrichthyans; and (3) educational programme on the issue should be taught to school children (incluing new teaching approaches and technologies, such as virtual reality (3D-VR)).

40. Also, guidelines for chondrichthyan watching should be published and widely distributed to potential observers such as anglers, yachtsmen, divers, shark-fans, etc, in order to make them actively involved in the conservation of chondrichthyan fishes.

41. In this process of education and public awareness, the help of associations and other bodies involved in nature conservation should be solicited.

C.7. REGIONAL COORDINATING STRUCTURE

42. All the above-mentioned recommended actions related to the protection and the conservation of species and their habitats, and the research and educational programmes, should be monitored and implemented, with as much regional cooperation between all the countries operating in the Mediterranean basin.

43. These actions should be undertaken in cooperation with, and with the support of, other regional fisheries organisations (e.g. GFCM, ICCAT), through establishing MoUs where necessary. Non- governmental organisations, associations and national environmental bodies should also be involved, as well as other relevant MEA's such as CITES, CMS, Sharks-MOU, and the Bern Convention.

44. Implementation of the present Action Plan will be regionally coordinated by the Mediterranean Action Plan’s (MAP) Secretariat through the Regional Activity Centre for Specially Protected Areas (SPA/RAC). The main functions of the coordinating structure shall consist in:

- favouring and supporting the collection of data and publishing and circulating results at Mediterranean level;
- promoting the drawing up of inventories of species and areas of importance for the Mediterranean marine environment;
- promoting transboundary cooperation;
- preparing reports on progress in the implementation of the Action Plan, to be submitted to the Meeting of National Focal Points for SPAs/BD and to meetings of the Contracting Parties;
- organising meetings of experts on specific subjects relating to Mediterranean chondrichthyans, and training courses;
- promoting the review of status of species and fisheries by relevant organisations;
- One year after the adoption of the Action Plan, coordinating the organisation of a Mediterranean symposium aiming at defining the state of knowledge on chondrichthyan fishes and taking stock of the progress made in implementing the Action Plan;
  five years after the present updating of the Action Plan, organising a meeting to review the progress of the Action Plan and to propose a revision of the Action Plan if needed.

45. Complementary work done by other international organisations with the similar objectives shall be encouraged by SPA/RAC, promoting collaborative efforts and avoiding possible duplication.

46. Initiatives aiming at ensuring enforcement of the current Action Plan, particularly in international waters, should be promoted and aligned with the implementation of the Kunming-Montreal Global Biodiversity Framework, CBD modalities on ecologically or biologically significant marine areas (EBSA's), the United Nations Convention on the Law of the Sea (UNCLOS), and the Agreement under UNCLOS on the Conservation and Sustainable Use of Marine Biological Diversity of Areas beyond National Jurisdiction (BBNJ).

47. Establish or improve a network and continuously update the directory of national, regional, and international experts on chondrichthyan fishes.

48. Enhancing coordination and collaboration at national and regional levels, among Contracting Parties, regional institutions, Convention Secretariats, Convention's Secretariats, Associates and Partners of the Action Plans, indigenous peoples and local communities, women and youth representatives, and other relevant stakeholders, initiatives, networks, and partnerships, while addressing gaps in geographical and thematic coverage.

49. Enhance contribution to efforts in identifying and facilitating partnerships with potential funding bodies, including international financial institutions, donors, and other relevant organizations, by promoting existing and new research proposals developed in the framework of this Action Plan.

D. PARTICIPATION IN THE IMPLEMENTATION

50. Implementing the present Action Plan is the responsibility of the national authorities of the Contracting Parties. Parties should facilitate coordination between their national, environmental and fisheries departments to ensure implementation of activities directed at protected and non-protected chondrichthyan species. Organisations or bodies concerned are invited to associate themselves with the work of implementing the present Action Plan. At their ordinary meetings, the Contracting Parties may, at the suggestion of the Meeting of National Focal Points for SPAs/BD, grant the status of 'Action Plan Associate' to any organisation or laboratory which so requests and which carries out, or supports (financially or otherwise) the carrying out of, concrete actions (conservation, research, etc.) likely to facilitate the implementation of the present Action Plan, taking into account the priorities contained therein. NGOs can submit their applications directly to SPA/RAC.

51. The coordinating structure shall set up a mechanism for regular dialogue between the Action Plan Associates and, where necessary, organise meetings to this effect. Dialogue should be conducted mainly electronically, including virtual meetings and e-mail.

E. TITLE OF ACTION PLAN PARTNER

52. To encourage and reward outside contributions to the Action Plan, the Contracting Parties may at their ordinary meetings grant the title of 'Action Plan Partner' to any organisation (governmental, NGO, economic, academic etc.) that has to its credit concrete actions likely to help protect chondrichthyan fishes in the Mediterranean. During their ordinary meetings, the Contracting Parties may, upon the recommendation of the meeting of National Focal Points for SPAs/BD, grant the status of «Action Plan Partner» to any organization or laboratory that requests it. This status will be awarded to those that carry out, or support (financially or otherwise), concrete actions (such as conservation, research, etc.), that contribute to the implementation of the present action plan, in line with its priorities. The conditions and criteria for the award of the regional action plan partner title are outlined in Annex VI to the decision IG.26/5.

F. ASSESSING THE IMPLEMENTATION AND REVISION OF THE ACTION PLAN

53. At each of their Meetings, the National Focal Points for SPAs/BD will assess the progress made in implementing the Action Plan, on the basis of national reports and of a report made by the SPA/RAC on implementation at regional level. In the light of this assessment, the Meeting of the National Focal Points for SPAs/BD will suggest recommendations to be submitted to the Contracting Parties, and, if necessary, suggest adjustments to the timetable given in the Annex to the Action Plan.

IMPLEMENTATION TIMETABLE FOR THE PERIOD 2025-2030

ACTIONS	CALENDER	BY WHOM
Tools		
1. Establish or improve a network and continuously update the directory of national, regional, and international experts on chondrichthyan fishes. (cf. § 47 of C.7 "Regional coordinating structure")	(2025-2030)	SPA/RAC, CMS Shark MOU Secretariat, IUCN SSG, RFMO Shark Working Groups
2. Improve and promote the use of the existing Field identification sheets. (cf. § 19 of C.2. "Fisheries management")	(2025-2030)	Contracting Parties and RFMOs
3. Promote the use of the GFCM manual (2019) “Monitoring the incidental catch of vulnerable species in the Mediterranean and the Black Sea: methodology for data collection” (cf. § C.2. "Fisheries management")	(2025-2030)	Contracting Parties
4. Formalize/reinforce synchronous submission of catch, bycatch and discard data annually to the GFCM according to DCRF (Data Collection Reference Framework). (cf. § 32 of C.4. "Scientific research and monitoring")	Every year	Contracting Parties
5. Information campaigns and publishing materials for public awareness (cf. § 13.11. of B "Priorities" and cf. § 39 of "Education and public awareness")	(2025-2030)	SPA/RAC
6. Publish and disseminate guidelines for reducing the presence of sensitive species in by-catch and releasing them if caught, and promote them in relevant languages to ensure broad accessibility. (cf. § 22 of C.2 «Fisheries management")	(2025-2030)	SPA/RAC and RFMO

7.Update and promote protocols and programmes for improved compilation and analysis of data, for contribution to regional stock assessment initiatives. (cf. § C2 “Fisheries management” and 29 of C.4. "Scientific research and monitoring")	Continuous action (2025-2029)	National and regional agencies and advisory bodies, CMS, GFCM and FAO.
8. Training manual on cartilaginous fish eco-biology (Taxonomy, biological parameters determination, identification and monitoring of fisheries and critical habitats, conservation…) (cf. § 29 of C.6 "Education and public awareness")	ASAP	SPA/RAC
9. Capacity building and training programmes on cartilaginous fish biology (cf. § 14.11., and 14.12 of B "Priorities", cf. § 35, 36, 37, 38 of C.6 "Capacity building/training" and cf. § 39, 41 of C.6 "Education and public awareness")	ASAP	SPA/RAC, Contracting Parties, RFMOs, GFCM, FAO.
10. Symposium on Mediterranean chondrichthyan fishes (cf. § C.7 "Regional coordinating structure")	One year after adoption	SPA/RAC
11. Meeting to review progress made on the Action Plan (cf. § 52 of C.7 and § F "Assessing the implementation and revision of the Action Plan")	5 years after adoption	SPA/RAC
Legal processes		
12a. Legal protection established for endangered species, recommended in this Action Plan, identified by country (species enlisted in Annex II of the SPA/BD Protocol) 12b. Urgent assessment of the status of data deficient species, recommended in this Action Plan (assessed by IUCN) (cf. § 14.1. of B "Priorities"; C.1 "Protection")	ASAP	Contracting Parties
13. Legal protection for prohibiting "finning" according to the GFCM recommendation (GFCM/42/2018/2) (cf. § 14.1 of B "Priorities" and cf. § 26 of C.2 "Fisheries management")	ASAP	Contracting Parties

14. Legal protection that addresses additional mitigation measures for the conservation of elasmobranchs in the Mediterranean Sea, according to the GFCM recommendation (GFCM/44/2021/16) (cf. § 14.2 of B "Priorities")	ASAP	Contracting Parties
15. Legal protection that addresses the plan of action to monitor and mitigate interactions between fisheries and vulnerable species in the Mediterranean and the Black Sea according to the GFCM resolution (GFCM/46/2023/4) (cf. § 14.3 of B "Priorities")	ASAP	Contracting Parties
16. Critical habitats identified, legally protected, restored and monitored, as soon as they are identified. (cf. § 14.7. B "Priorities" and cf. § 27 and 28 C.3 "Critical habitats and environment")	ASAP	Contracting Parties
17. Implement measures based on the assessment of fishing gear impacts and promote the adoption of alternative gear to minimize bycatch and enhance sustainable practices. (cf. § 25 of C.2 "Fisheries management")	ASAP	Contracting Parties
18. Establish and promote national, sub-regional and regional plans or strategies for cartilaginous fish species (mainly listed in Annexes II and III). (cf. § C.2 "Fisheries management")	Continuous action (2025-2030)	Contracting Parties, SPA/RAC, GFCM, CMS
19. Facilitating the enforcement of legal measures aiming to set up a system for enforcement of monitoring fisheries in international waters such as extending MEDITS programme to all Mediterranean countries (Mediterranean International Trawl Survey). (cf. § 48 C. 7 "Regional coordinating structure")	(2025-2030)	Contracting Parties, SPA/RAC, GFCM, CMS and EU

20. Monitor and mitigate interactions between fisheries and vulnerable elasmobranch species in the Mediterranean Sea. (cf. § 14.2 of B "Priorities")	(2025-2030)	Contracting Parties, International organization, GFCM, FAO
Monitoring and data collection		
21. Establishing research programmes, specifically scientific programmes, mainly on the biology, ecology and population dynamics of the main species identified by the countries (cf. § C. 4 "Scientific research and monitoring")	(2025-2030)	Contracting Parties
22. Support the establishing of, or feed the existing, centralised databases (DCRF, MEDLEM…) (cf. § C.7 "Regional coordinating structure")	(2025-2030)	Contracting Parties and SPA/RAC
23. Inventory of critical habitats (mating, spawning and nursery grounds) (cf. § 14.7. B "Priorities" and cf. § 27 and 28 C.3 "Critical habitats and environment")	ASAP	Contracting Parties
24. Promote habitat connectivity and identify and protect ecological corridors between critical habitats. (cf. § 30 of C. 3 "Critical habitats and environment")	(2025-2030)	Contracting Parties and RFMOs
25. Promote existing and new research proposals developed under the SPA/RAC Action Plan to funding agencies (cf. § C. 4 "Scientific research and monitoring" and cf. § C.7 "Regional coordinating structure")	(2025-2030)	SPA/RAC, CPs, AP partners
26. Promote programme on citizen science and local ecological knowledge (LEK) in data collection and monitoring. (cf. § 33 of C. 4 "Scientific research and monitoring")	(2025-2030)	Contracting parties, RFMOs
27. Assess the socioeconomic impacts of interactions between elasmobranch species and fisheries. (cf. § 34 of C. 4 "Scientific research and monitoring")	(2025-2030)	Contracting parties, international organizations

28. Promote programs, specifically scientific programmes, on the status of bycatch to propose measures for attenuation of the phenomenon. Such programs should be developed with onboard observers and multispecies approach. (cf. § 32 of C. 4 "Scientific research and monitoring")	(2025-2030)	SPA/RAC, CPs, AP partners
29. Increase compliance with obligations to collect and submit species- specific commercial catch and bycatch data to FAO and GFCM, including through increased use of observers. (cf. § C. 7 "Regional coordinating structure")	(2025-2030)	Contracting Parties
30. Support expert participation in RFMO and other relevant meetings and workshops, to share expertise and build capacity for data collection, stock assessment and bycatch mitigation. (cf. § C.5 "Capacity building / Training")	ASAP	Contracting Parties, RFMO, SPA/RAC
Management and assessment procedures		
31. Continuously review data and undertake new studies to clarify the status of Mediterranean chondrichthyan species focusing on endemics and species assessed as Data Deficient or Near Threatened (cf. § 14.4 of B "Priorities"; 15 of C.1 ‘Protection’; 31 of C.4 "Scientific research and monitoring")	(2025-2030)	International organisations
32. Develop and adopt National Shark Plans where they do not yet exist. (cf. § C.1 ‘Protection’, C.2. "Fisheries management", & C.3 "Critical habitats and environment").	(2025-2030)	Contracting Parties
33. Identify further management and technical measures to minimize bycatch and mortality of sharks in fisheries impacting cartilaginous fishes. (cf. § 14.5 of B "Priorities"’)	(2025-2030)	Contracting Parties & RFMOs

34. Identify and address mitigation measures for the conservation of cartilaginous fishes in the Mediterranean Sea (cf. § 15 of C.1. "Protection"')	(2025-2030)	Contracting Parties
35. Assess the fishing gear impacts and promote the adoption of alternative gear to minimize bycatch and enhance sustainable practices. (cf. § 25 of C.2. "Fisheries management")	(2025-2030)	International organizations, RFMOs, GFCM, FAO

ANNEX I

Assessment report on the status of implementation of the Action Plan for the Conservation of Cartilaginous Fishes (Chondrichthyans) in the Mediterranean Sea (2019-2024)

I - INTRODUCTION

1. The Mediterranean Sea is home to a diverse species of elasmobranchs, including sharks, rays, and skates. Cartilaginous fish, known for their unique cartilaginous skeletons, play vital ecological roles in marine ecosystems. Unfortunately, many of these species are facing declining populations due to overfishing, habitat loss, and other human-induced pressures. Elasmobranchs (Class Chondrichthyes) are characterized by their slow growth, late maturation, and low reproductive rates, making them particularly vulnerable to population decline. As a result of these traits, they exhibit very low population growth rates and limited recovery potential from both direct and indirect pressure, as well as other threats stemming from human activities. Therefore, the conservation of elasmobranch species is crucial not only for maintaining biodiversity but also for the overall health of marine environments.

2. Up to now, the Action Plan for the conservation of chondrichthyan populations in the Mediterranean has been adopted by the Contracting Parties to the Barcelona Convention in 2003 and updated three times in 2009, 2013, and 2019.

3. The Action Plan for the conservation of cartilaginous fishes (Chondrichthyans) in the Mediterranean Sea serves as a mid-term regional strategy designed to be updated every five years. This update is based on evaluation of the plan's implementation at both regional and national levels. During the 20th Conference of the Parties (CoP 20) to the Barcelona Convention, held in Tirana, Albania, from December 17 to 20, 2017, the Contracting Parties request to update the Action Plan for the conservation of cartilaginous fishes in the Mediterranean Sea. The updated Action Plan reflects the latest advancements in our understanding of cartilaginous fish species, incorporating new scientific contributions regarding their ecology, biology, and systematics. With the updated Action Plan, the Parties to the Barcelona Convention demonstrate their commitment to protect these species and their habitats for future generations.

4. The Action Plan for the Conservation of Chondrichthyan Fishes in the Mediterranean Sea is in line with:

- the Barcelona Convention adopted by the Mediterranean countries and the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean;
- the International Plan of Action for the Conservation and Management of Sharks (IPOA-Sharks) proposed by FAO and adopted by the UN member states in 1999 [Note: in the FAO documents ‘sharks’ is used for chondrichthyans];
- the UN Fish Stocks Agreement (UN Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks) in effect since 11th December 2001;
- paragraph 31 of the Implementation Plan of the Resolution of the World Summit for Sustainable Development adopted in Johannesburg in September 2002.

5. *Referring to Decision IG.25/11* where parties of Convention request to adopt the Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO), as a Mediterranean action oriented marine and Coastal Biodiversity Conservation Policy aiming at contributing to the achievement of the good environmental status, to the Sustainable Development Goals and their respective targets, and the CBD Post-2020 Global Biodiversity Framework through the optic of the Mediterranean context.

6. The Vision for 2050 is to ensure that marine and coastal biodiversity in the Mediterranean is valued, conserved, restored, and wisely used. This approach aims to maintain ecosystem services, sustain a healthy Mediterranean Sea and coast, and deliver essential benefits for both nature and people

7. The Mission of the Post-2020 SAPBIO outlines the strategy's purpose and approach: by 2030, the goal is to begin reversing the loss of biodiversity and set the Mediterranean marine and coastal biodiversity on a path to recovery for the benefit of both nature and people. This strategic framework follows a hierarchical structure and terminology similar to that proposed by the CBD Framework, and include the Kunming-Montreal Global Biodiversity Framework. The Kunming-Montreal Global Biodiversity Framework (GBF), adopted at the fifteenth meeting of the Conference of the Parties (COP 15) in Canada, marks a historic milestone in global biodiversity conservation. This framework, built upon the achievements and lessons of the Strategic Plan for Biodiversity 2011–2020 and other multilateral environmental agreements, aims to halt and reverse the alarming global decline in biodiversity by 2030 and achieve a world living in harmony with nature by 2050. In light of this, all future efforts by Barcelona Convention member states are expected to follow the Post-2020 SAPBIO and implement activities in line with its objectives and measures, ensuring coordinated and effective action across the Mediterranean region.

8. The Decision IG.26/3 about the 2023 Mediterranean Quality Status Report and a Renewed Ecosystem Approach Policy in the Mediterranean, underscore that Mediterranean region is recognised as one of the most water-challenged regions in the world. The pre-existing water scarcity is being aggravated by population growth, urbanization, growing food and energy demands, pollution, and climate change. Climate change is exacerbating already existing vulnerabilities in the Mediterranean region. In its Sixth Assessment Report1, the IPCC concluded that “during the 21st century, climate change is projected to intensify throughout the region. Air and sea temperature and their extremes (notably heat waves) are likely to continue to increase more than the global average (high confidence)”. Over the last three decades, marine heatwaves (MHWs) in the Mediterranean Sea have caused mass-mortality events in various marine species, and critical losses for seafood industries. In the future, MHWs may undermine many benefits and services that Mediterranean ecosystems normally provide, such as food, maintenance of biodiversity, and regulation of air quality. Sea water acidification is another impact of Climate Change on the Mediterranean Sea where water surface pH has decreased by -0.08 units since the beginning of the 19th century, similar to the global ocean, with deep waters exhibiting a larger anthropogenic change in pH than the typical global ocean deep waters because ventilation is faster.

9. Marine pollution, especially from plastics and chemicals, has a profound effect on the health and reproductive success of marine species. Since marine pollution is recognized as a big threat to biodiversity, In March 2022, at the resumed fifth session of the UN Environment Assembly (UNEA-5.2), a historic resolution was adopted to develop an international legally binding instrument on plastic pollution, including in the marine environment. The resolution (5/14) requested the Executive Director of the UN Environment Programme (UNEP) to convene an Intergovernmental Negotiating Committee (INC) to develop the instrument that will address the plastic pollution.

10. This report provides vital information based on a desk review. It offers an overview of the current status and recommendations for the conservation of sharks, rays and skates in the Mediterranean Sea, highlighting key findings, actions taken, and identified gaps to enhance conservation efforts for these important marine species. Additionally, it highlights the targets and importance of the Post-2020 SAPBIO as an important tool to conserve chondrichthyans in Mediterranean region. Furthermore, it assesses the national reports on the implementation of the regional action plan, providing details on progress and gaps.

11. A questionnaire was developed for each Mediterranean country, regional institutions, and the Convention’s Secretariats, Associates, and Partners involved in the Action Plan. The SPA/RAC Secretariat distributed the questionnaire to SPA/BD Focal Points, regional institutions, Convention’s Secretariats, and Action Plan Associates and Partners. To ensure broad input, a similar questionnaire was also sent to the consultant’s expert mailing list, extending outreach to a wider network of professionals.

12. Upon completion, the returned questionnaires were collected by SPA/RAC, thoroughly analyzed, and used to draft an assessment report on the implementation status of the Action Plan for the conservation of cartilaginous fishes (Chondrichthyans) in the Mediterranean Sea at both national and regional levels.

13. Six responses were received from SPA/BD national focal points, namely Algeria, Bosnia and Herzegovina, Croatia, Cypris, Italy, and Lebanon; three responses from Partners, GFCM, WWF North Africa, and WWF Mediterranean; two from experts (Montenegro and Albania), while MedPAN provided recommendation on questionnaire improvement.

Overview on cartilaginous fish in the Mediterranean Sea

14. Cartilaginous fish play a crucial role in maintaining the balance of marine ecosystems. However, in the Mediterranean, elasmobranch species face significant threats that are driving their populations toward alarming declines.

15. Marine aquaculture and elasmobranch conservation in the Mediterranean present two contrasting yet interconnected dynamics within the region's marine environment. While marine aquaculture production has shown consistent growth, the populations of elasmobranchs continue to face significant declines due to various anthropogenic pressures. Total marine aquaculture production, including Türkiye's Black Sea output, approached one million tonnes (994,623) in 2020. This represents a remarkable average annual growth rate of 6.8%, with a cumulative increase of approximately 90% between 2010 and 2020. Notably, the COVID-19 pandemic did not negatively impact marine aquaculture; in fact, production increased by 13.2% in 2020 compared to the previous year.

16. Conversely, the Mediterranean is particularly affected, with overfishing, habitat degradation, bycatch, pollution, and climate change all contributing to the decline of these species. Overexploitation, through both targeted fishing and incidental bycatch, remains a critical threat, exacerbated by weak regulations and poor enforcement.

17. Elasmobranchs are often caught as bycatch, though in some cases, they are directly targeted by commercial fisheries. In the Mediterranean, elasmobranch catches make up only 1.22% of total landings (FAO Statistics 1970–2022). Despite this relatively small percentage, the decline in landings of cartilaginous species is evident, even as overall fishing efforts have increased. FAO statistics show a significant decline in elasmobranch catches from 1994 to 2003, dropping from 20,169 tonnes to 7,797 tonnes. A brief recovery occurred, with catches peaking at around 19,000 tonnes in 2009, before declining again to 12,565 tonnes by 2022 (Figure 1).

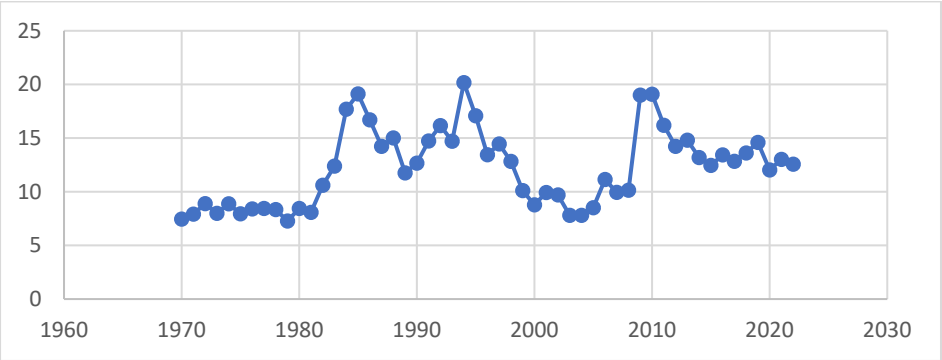

Figure 1. Trend of capture elasmobranch production (in tonnes) from 1970 to 2022

18. It's important to note that many countries did not provide data on elasmobranch catches prior to 1970, contributing to visual discrepancies in trend graphs. Libya, for example, only began submitting data to FAO's official statistics in 2009 but has since emerged as the Mediterranean's leading elasmobranch producer. From 2012 to 2022, FAO statistics highlight the significant contribution of Mediterranean countries to elasmobranch production, though this has decreased over time (Figure 2).

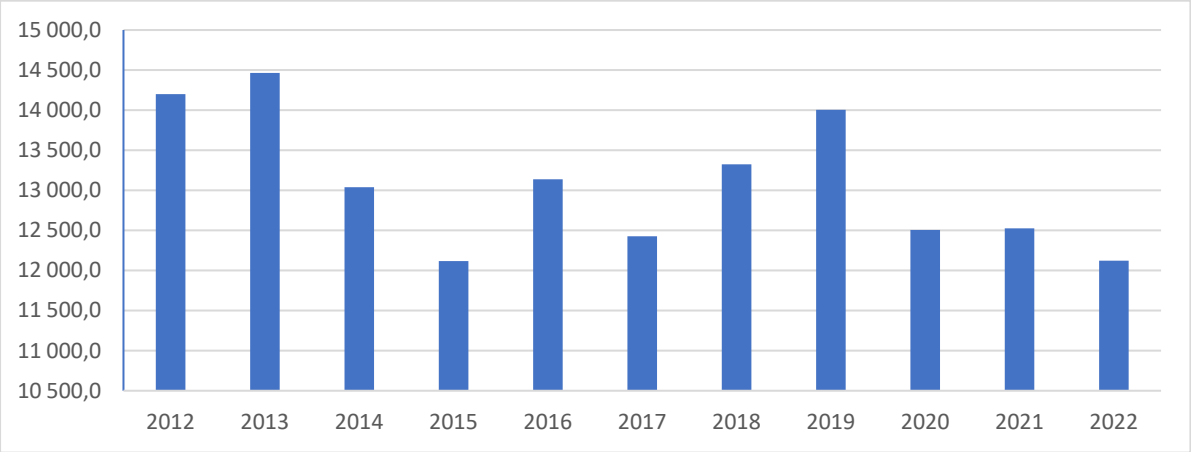

Figure 2. Contribution of Mediterranean countries in the elasmobranch production according to FAO statistics from 2012 to 2022

19. In the past decade, Libya has consistently held the highest production figures, followed by Tunisia and Egypt (Figure 3). These three countries collectively account for over 70% of the total elasmobranch catch in the Mediterranean.

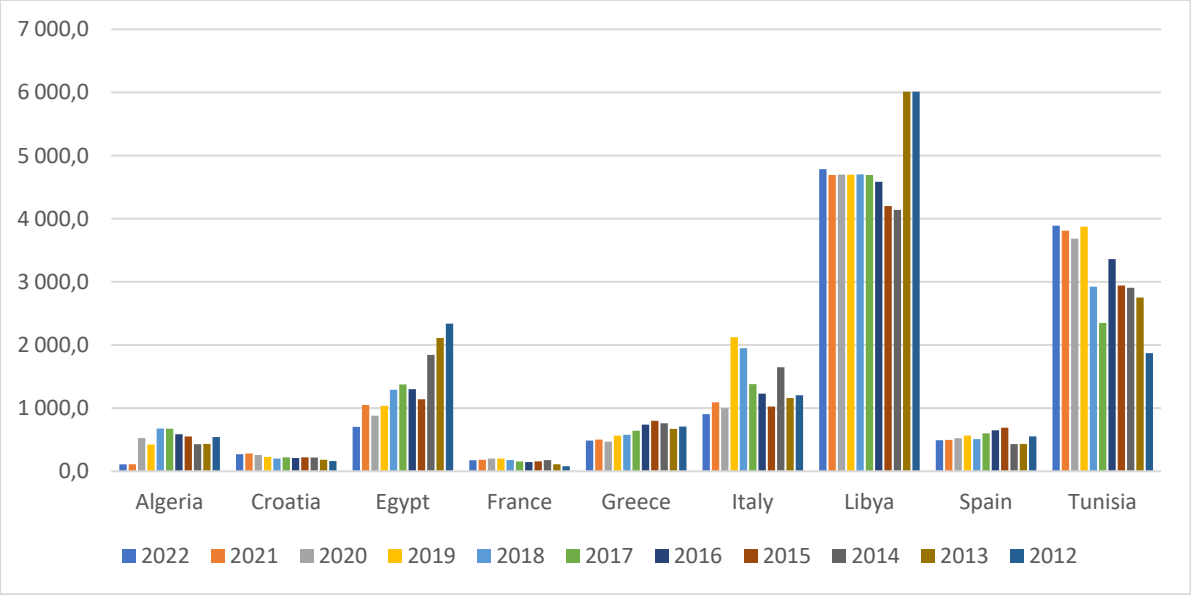

Figure 3. Contribution of Mediterranean countries with the high elasmobranch production according to FAO statistics from 2012 to 2022.

Conservation status of cartilaginous fish (Chondrictyens) in the Mediterranean Sea

20. In general, cartilaginous species, are endangered marine species, with the Mediterranean Sea being a biodiversity hotspot for them. However, as was mentioned, the region has the highest proportion of threatened species due to overfishing, non-selective fishing practices, and habitat degradation. Evidence shows a significant decline in their abundance, diversity, and range, with the Mediterranean losing over 97% of its elasmobranch population in the last 200 years. Historically, the western Mediterranean hadthe greatest species diversity, while recent years have seen a decline in species richness throughout the entire sea.

21. According to the Dulvy et al., 2016, an analysis of sharks, rays, and chimaeras in the Mediterranean Sea reveals it as a critical extinction hotspot, with 39 of 73 assessed species regionally threatened (Table 1). Of these, 20 are Critically Endangered and 11 Endangered, while three species—Maltese Skate, Rough Skate, and Speckled Skate—are endemic to the Mediterranean. The main threat driving this decline is overfishing, as many species are caught as bycatch in multispecies fisheries. Despite bans on harmful practices like driftnetting, illegal fishing persists, especially in Algeria, Italy, and Turkey. Species diversity was historically highest in the western Mediterranean, particularly along the coasts of Morocco, Algeria, and Tunisia, but 65% of species are now threatened. Moreover, no significant improvements in the conservation status of Mediterranean Chondrichthyans have been observed since their first Red List assessment in 2007.

22. The last Mediterranean-specific assessment of sharks, rays and skates was conducted in 2016, and since then, no assessment strictly focused on the Mediterranean region has been carried out. A global assessment, which includes species from the Mediterranean Sea, has been completed, but it does not exclusively address this region. In that assessment, 39 of 73 species were found to be regionally threatened, with 20 Critically Endangered and 11 Endangered. This trend has not significantly improved, primarily due to overfishing and illegal fishing practices, which continue to be key drivers of the decline in marine species in the Mediterranean.

Table 1. Summary of the Red List status of Chondrichthyans in the Mediterranean Sea (Dulvy et al., 2016)

IUCN Red List Category	Number of Species
Extinct (EX)	0
Regionally Extinct (RE)	0
Critically Endangered (CR)	20
Endangered (EN)	11
Vulnerable (VU)	8
Near Threatened (NT)	9
Least Concert (LC)	12
Data Deficient (DD)	13
Total number of assessed species	73

23. Comparing these findings to the first Mediterranean Sea Red List assessment in 2007 (Cavanagh and Gibson, 2007), there is no indication of improvement in the status of Mediterranean chondrichthyans; in fact, the situation appears increasingly concerning. However, it is crucial to acknowledge the growing threats to cartilaginous species and proceed with a new regional assessment to obtain accurate and up-to-date data on their current status, particularly for species at risk of local extinction. To address these challenges, it is important to conduct regular monitoring and research on chondrichthyan populations and their habitats. This includes targeted studies to provide detailed information on species distribution, population dynamics, and ecological requirements.

II - NATIONAL ASSESSMENTS

PROTECTION

Implementation of the assessment of the status of data deficient species

24. Given the declines in cartilaginous species populations, a detailed assessment of all species, including those classified as Data Deficient, is essential. Therefore, there is an urgent need to assess the status of these species: marbled Stingray (*Dasyatis marmorata),* Reticulate Whipray (*Himantura uarnak*), Lusitanian Cownose (*Rhinoptera marginata*), Round Fantail Stingray (*Taeniurops grabata*), bignose Shark (*Carcharhinus altimus*), copper Shark (*Carcharhinus brachyurus*), blacktip Shark (*Carcharhinus limbatus*), dusky Shark (*Carcharhinus obscurus*), spinner Shark (*Carcharhinus brevipinna*), sharpnose Sevengill Shark (*Heptranchias perlo*), longnose Spurdog (*Squalus blainville*), Shortnose Spurdog (*Squalus megalops*), Bigeyed Sixgill Shark (*Hexanchus nakamurai*) and Longfin Mako (*Isurus paucus*).

25. The implementation of the urgent assessment of data deficient species, as recommended in the Action Plan assessed by IUCN, varies across different countries, especially based on the delivered answers from six countries— with some fully implementing it (Cyprus and Italy), while others are still developing the framework (Croatia and Algeria) or have not started (Bosnia and Herzegovina and Lebanon). Each country faces distinct challenges in executing these assessments, with several commonalities, such as issues with data collection and administrative management, that hinder full compliance with the Action Plan's objectives.

26. Cyprus and Italy have been proactive in implementing the assessment of data-deficient species, fully complying with the Action Plan recommendations, while Croatia and Algeria are still in the development phase. For example, Algeria is currently developing assessments for two data-deficient species, the Longnose Spurdog (*Squalus blainvillei*) and Longfin Mako (*Isurus paucus*), though no progress has been made on other species. In addition, for Adriatic Sea countries, it is important to note that some species are absent from recent checklists of Adriatic Sea chondrichthyan species. Despite progress by all countries, including Cyprus and Italy, which are fully implementing the assessment of data-deficient species, significant challenges remain, particularly related to the quality of data collection. These challenges hinder the effectiveness of assessments and limit Italy's ability to conduct detailed evaluations of species status. To address these issues, Italy highlights the need to allocate adequate resources for the full implementation of monitoring programs. Securing these resources and improving data quality will be critical to enhancing compliance with IUCN recommendations. Croatia faces challenges related to administrative management, technical guidance, data collection, and interdisciplinary collaboration. Algeria identifies limited financial resources, insufficient technical capacities, and inadequate data collection as significant obstacles. Overcoming these difficulties requires financial assistance, technical expertise, capacity-building programs, and networking opportunities. Additionally, Algeria emphasizes that, although sharks are not targeted for fishing, bycatch is recorded. A 2019 ministerial decree prohibits silky shark fishing, and a draft regulatory text is being developed to establish a list of protected and endangered species.

27. Bosnia and Herzegovina and Lebanon have not yet implemented the assessment of data deficient species. Bosnia and Herzegovina efforts are limited by multiple factors, particularly a lack of financial resources, technical guidance, and data collection capabilities. Bosnia and Herzegovina also highlights the need for better integration of marine wildlife data into its national Red List, which is a critical gap for future conservation efforts, including the establishment of Marine Protected Areas (MPAs). To overcome these challenges, the country requires financial assistance, technical expertise, and capacity-building programs to develop and execute effective species assessments.

This support is crucial for ensuring that future conservation measures, particularly in the marine environment, are based on sound data. Lebanon has not yet begun implementing the assessment of data deficient species, largely due to weaknesses in the policy framework, data collection, and interdisciplinary collaboration. These challenges are compounded by Lebanon's need for financial assistance, capacity-building programs, and networking opportunities to strengthen the necessary collaboration between different sectors and improve data gathering processes.

Development and Adoption of National Action Plans

28. The development and adoption of National Shark Plans remain an unsolved challenge across the countries that delivered answers on questionnaires, including Cyprus, Bosnia and Herzegovina, Italy, Croatia, Lebanon and Algeria. Each country has expressed specific difficulties in implementing such plans, with common themes including administrative challenges, lack of financial resources, insufficient data, and the need for interdisciplinary collaboration. In summary, all six countries, Cyprus, Bosnia and Herzegovina, Italy, Croatia, Lebanon and Algeria - currently lack National Shark Plans, but they face distinct challenges in developing and adopting such plans. The common obstacles include interdisciplinary collaboration, administrative management, and financial and technical resources. The countries universally see value in external support, particularly through networking, financial assistance, technical expertise, and capacity-building programs. By addressing these needs, the respective governments can make significant progress in adopting and implementing effective National Shark Plans.

29. In Cyprus the main challenges in developing and adopting such a plan would be administrative management and the need for improved interdisciplinary collaboration. Cyprus believes that increased networking opportunities with other countries or organizations could help address these challenges by facilitating information sharing and fostering cooperative efforts.

30. The key challenges in Bosnia and Herzegovina and Croatia are similar, identified include a lack of financial resources, limited technical guidance, and capacities, as well as issues with data collection and quality. In order to move forward with the plan, Bosnia and Herzegovina would require financial assistance, technical expertise, and capacity-building programs while Croatia highlights the importance of technical expertise, capacity-building programs, and networking opportunities. These resources would help the country strengthen its ability to manage shark populations and develop a comprehensive plan for their protection.

31. Italy faces is a lack of interdisciplinary collaboration, which is necessary for the development and adoption of a cohesive and effective plan. To overcome this, Italy emphasizes the need for policy advocacy to ensure that shark conservation receives adequate attention and support across different sectors and disciplines. This approach would help to strengthen the cooperation needed to address the complexities of shark management.

32. Lebanon faces significant challenges in financial resources, technical guidance, data collection and quality, and communication barriers. To address these challenges, Lebanon requires financial assistance, capacity-building programs, and networking opportunities. These resources could help the country address its financial limitations and improve its technical capacity, while also fostering greater communication and collaboration among stakeholders.

33. Algeria identifies several challenges in developing and adopting such a plan, including limited financial resources, insufficient technical guidance and capacities, and issues related to data collection and quality. To address these challenges, Algeria emphasizes the need for financial assistance and capacity-building programs to support the development process. In addition, it is important to note that sharks are not targeted species in Algeria's fishing activities.

Establish the strict legal protection of elasmobranchs species under Annex II (list of endangered or threatened species) of the SPA/BD Protocol

34. The establishment of strict legal protection for elasmobranch species under Annex II of the SPA/BD Protocol has made varying progress among countries. While some countries have implemented legal protections, others are still developing their legislative frameworks, with shared challenges that revolve around financial resources, administrative management, and technical capacities.

35. In Cyprus and Italy, legal protection for elasmobranch species has been successfully established. Despite these protections being in place, Cyprus is not actively collaborating with other countries or international organizations to enhance the protection of elasmobranchs, while Italy has successfully established collaboration with EU CFP, ICCAT, GFCM, FAO, CMS which facilitate Italy's efforts to enhance the protection and conservation of elasmobranchs. Italy's involvement in international agreements and collaborations serves as a strong baseline for addressing these challenges, although further improvements in data quality and financial backing are needed to ensure effective enforcement. On the other side, Cyprus identifies financial assistance and technical expertise as key resources that would help strengthen the enforcement of legal protections.

36. In Croatia, Lebanon and Algeria the legal protection for elasmobranch species is still under development. Croatia is finalizing a new version of the Ordinance on Strictly Protected Species, which will soon provide legal protections for elasmobranchs. Croatia's current legislative framework, which includes the Nature Protection Act (OG No. 80/13, 15/18, 14/19, 127/19, 155/23 and Ordinances on Strictly Protected Species (OG No. 144/2013, 73/16), lays the groundwork for future protections. Croatia is also actively collaborating with international organizations and participates in international projects, meetings, and workshops aimed at the conservation of species and habitats.

37. Algeria is actively working on the development of a regulatory framework to establish legal protections for elasmobranch species listed under Annex II of the SPA/BD Protocol. Currently, no fisheries in Algeria are specifically targeting rays or sharks, and the regulations do not include provisions for specific fishing authorizations or incentives for fisheries targeting these species. This highlights a minimal direct threat from targeted fishing activities but underscores the need for clear and enforceable legal protections. In addition, Algeria collaborates with international organizations such as the GFCM and ICCAT. The country faces significant challenges in implementing and enforcing protection measures, particularly regarding data collection and quality. These obstacles impede the effective monitoring and management of elasmobranch populations. Algeria has identified financial assistance and capacity-building programs as critical needs to address these challenges and enhance its ability to protect vulnerable species effectively.

38. Lebanon demonstrates its commitment to regional conservation efforts through its collaboration with the Single Species Action Plan for the Angelshark in the Mediterranean Sea (SSAP Angelshark Med). This initiative focuses on the conservation of the critically endangered Angelshark, signaling Lebanon’s engagement with species-specific protection measures. Despite these efforts, Lebanon encounters several challenges in implementing legal protections for elasmobranch species. These include limitations in financial resources, administrative management, and data collection and quality. These challenges restrict the country’s ability to fully develop and enforce legal frameworks for elasmobranch protection. To overcome these obstacles, Lebanon has identified the need for financial assistance, capacity-building programs, and networking opportunities.

39. Bosnia and Herzegovina lack the legal protection for elasmobranch species. The country lacks specific legislative or regulatory measures to protect these species, largely due to the absence of marine species from the national Red List. This omission has left elasmobranch species unprotected and not prioritized for conservation. Bosnia and Herzegovina faces several obstacles, including issues with the regulatory framework, financial resources, and technical capacities. Despite these difficulties, the country collaborates with international organizations to some extent to improve the protection of elasmobranch species. Bosnia and Herzegovina would benefit from financial assistance, technical expertise, capacity-building programs, and policy advocacy to accelerate the development of its legal framework for elasmobranch protection.

40. Furthermore, many species listed under Annex II of the SPA/BD Protocol are absent from recent checklists of the Adriatic Sea. According to the *Updated Checklist of Chondrichthyan Species in Croatia (Central Mediterranean Sea)*, the current known range of *Sphyrna mokarran* (Rüppell, 1837) does not include the Adriatic Sea but is instead limited to the Aegean Sea, as well as areas around Sicily, Algeria, and Tunisia. Historically, this species was widely distributed across the Mediterranean Sea, although reports have been sparse. Given that both this specimen and the lost specimen from Zagreb are quite old, it confirms that *Sphyrna mokarran* had a historical presence in the Adriatic Sea. However, due to decades of overfishing, the species' current presence in the Adriatic is uncertain, and it is highly likely that it is now regionally extinct.

41. Currently, there is consideration to extend Annex II and III of the Protocol with new species, specifically:

a) Six species of cartilaginous fishes in Annex II “List of endangered or threatened species”:

Aetomylaeus bovinus (Geoffroy St. Hilaire, 1817), *Alopias superciliosus* (Lowe, 1841), *Bathytoshia lata* (Garman, 1880), *Dasyatis pastinaca* (Linnaeus, 1758), and *Rhinoptera marginata* (Geoffroy St. Hilaire, 1817), listed in the International Union for Conservation of Nature Red List as “critically endangered”, “endangered”, “vulnerable”, “vulnerable”, “vulnerable” and “critically endangered”, respectively. Currently, *Myliobatis aquila* (Linnaeus, 1758) has expressed an objection to its inclusion in Annex II, and this reservation has been duly considered."

b) Three species of cartilaginous fishes in Annex III “List of species whose exploitation is regulated”: *Dasyatis marmorata* (Steindachner, 1892), *Hexanchus griseus* (Bonnaterre,1788), and *Pteroplatytrygon violacea* (Bonaparte, 1832), listed in the International Union for Conservation of Nature Red List as “near threatened”.

42. Based on the above, it is evident that the urgency of protecting cartilaginous fish is critical, as well as conducting a more detailed assessment of their conservation status in order to update the species listed in the Annex II and III to the SPA/DB Protocol.

Establish and promote national, sub-regional and regional plans or strategies for cartilaginous fish species (mainly listed in Annexes II and III)

43. The conservation and management of cartilaginous fish species, particularly those listed in Annexes II and III, are critical for the ecological integrity of marine ecosystems. Below are presented strategies and challenges in establishing and promoting comprehensive plans for these species across national, sub-regional, and regional levels.

44. When it comes to approaches taken by countries such as Cyprus, Bosnia and Herzegovina, Italy, Croatia, Lebanon, and Algeria, each country has different levels of advancement in terms of management plans, data collection systems, legal frameworks, and the challenges they face.

45. Cyprus has established a solid foundation for the management of cartilaginous fish species. The country has developed and endorsed a national plan and has a system in place for collecting and analyzing data on these species. Legal instruments specific to the management of cartilaginous fish have also been implemented. Despite these advances, Cyprus faces challenges related to administrative management, data collection, and interdisciplinary collaboration. To address these issues, Cyprus seeks additional support in the form of technical expertise and networking opportunities to strengthen the implementation of its management strategies.

46. Italy and is in the process of developing a national plan or strategy for the management of cartilaginous fish species. While the plan is not yet finalized, Italy does have a system for data collection and analysis, and it has also implemented legal instruments for the management of these species. Italy's focus is on completing its management strategy and ensuring that legal measures are effectively enforced. As Italy continues to progress, further technical and collaborative support may help accelerate the development of its plan.

47. Algeria is currently developing a strategy for the management of cartilaginous fish species, particularly those listed under Annexes II and III of the SPA/BD Protocol. A key legislative step in this effort is the Order of June 3, 2019, which prohibits the fishing of silky sharks in waters under Algeria's jurisdiction. While this demonstrates a strong commitment to conservation, there is no dedicated fishery for cartilaginous fish in the country, and bycatch data are systematically recorded and reported. Efforts to enhance management are further supported by Algeria's work on developing a system for collecting and analyzing data on cartilaginous fish species. However, specific legal instruments for the management of these species have not yet been implemented, highlighting a critical area for improvement. Algeria faces several challenges in advancing management plans or strategies for cartilaginous fish species. These include gaps in the regulatory framework, limited financial resources, inadequate administrative management, and a lack of technical guidance and capacity. To address these challenges effectively, Algeria requires increased financial support and targeted capacity-building programs.

48. Croatia, Lebanon and Bosnia and Herzegovina have not yet developed or endorsed a national, sub-regional, or regional strategy for cartilaginous fish species management. However, Croatia has a data collection system in place, while Lebanon has defined and implemented legal instruments specific to the management of cartilaginous fish. Bosnia and Herzegovina, progress is much more limited, and there is no system for data collection and analysis, and no legal instruments have been implemented for managing these species. The key challenges for Bosnia and Herzegovina lie in its regulatory framework, lack of financial resources, technical guidance, and insufficient capacities for data collection. To move forward, Bosnia and Herzegovina would benefit from financial assistance, technical expertise, and capacity-building programs.

49. In conclusion, Cyprus and Italy have made notable advancements in the management of cartilaginous fish species, while Algeria is in the process of developing its framework. Conversely, Lebanon, Bosnia and Herzegovina, and Croatia face significant challenges, including the absence of robust regulatory frameworks, comprehensive data systems, and interdisciplinary collaboration. All five countries require enhanced technical expertise, financial resources, and capacity-building programs to strengthen their efforts in managing cartilaginous fish species and ensuring long-term sustainability.

FISHERIES MANAGEMENT

Legal protection for prohibiting "finning" according to the GFCM recommendation (GFCM/42/2018/2)

50. The legal protection for prohibiting the practice of "finning" (the removal of fins from sharks and discarding the rest of the carcass at sea) has been adopted by Mediterranean countries, following the GFCM recommendation GFCM/42/2018/2. However, the implementation and enforcement of these prohibitions face diverse challenges depending on the national context of each country.

51. The EU countries have legislation specifically prohibiting "finning" is in place. Italy implements Regulation (EU) 605/2013, which amends Regulation (EC) 1185/2003 on the removal of fins of sharks on board vessels. These regulations ensure that Italy complies with the GFCM recommendations and prevent "finning" within its fisheries sector. While Italy has successfully established a legal framework to address "finning," there are no specific details on the challenges it may face in enforcing these regulations. Croatia follows Council Regulation (EC) No 1185/2003 on the removal of fins of sharks on board vessels and has integrated these provisions into its Marine Fisheries Act (OG 62/17, 14/19, 30/23, 14/24). Despite the existence of a legal framework, Croatia faces challenges related to regulatory oversight and enforcement, particularly in ensuring sufficient capacity for inspection and control. The country also struggles with technical guidance and capacities, which are crucial for effectively monitoring and preventing "finning" activities. Cyprus has adopted measures to prevent this harmful practice, although further details on enforcement mechanisms or challenges faced are not provided. Cyprus appears to have successfully implemented the prohibition, ensuring compliance with the GFCM recommendations. As a member of the EU and various international organizations (e.g., ICCAT, GFCM, FAO, CMS), these countries are important in strengthening enforcement and ensuring compliance with international standards.

52. Algeria has established a robust legal framework to prohibit the practice of finning. Key legislative measures include Executive Decree No. 20-266 of September 22, 2020, which amends and supplements Executive Decree No. 04-86 of March 18, 2004, setting the minimum marketable sizes for biological resources. Additionally, the Order of April 29, 2020, amending the Order of April 24, 2004, imposes spatial and temporal restrictions on the use of pelagic, semi-pelagic, and bottom trawls. These restrictions were further reinforced by the Order of July 12, 2004, which complements the original decree by introducing stricter controls over trawl usage. These measures support the prohibition of finning by regulating fishing activities and minimizing shark bycatch. Notebly, Algeria does not have specific fisheries targeting sharks, and the practice of finning, as well as the trade in shark fins, is not conducted in its waters. By-catches are recorded and reported.

53. Lebanon has made significant strides in addressing "finning" by implementing Decision number 1/1045 from the Lebanese Ministry of Agriculture. This regulation prohibits finning within Lebanese waters, marking an important step toward marine conservation. However, Lebanon faces considerable challenges in administrative management, which affects the implementation and enforcement of the law. To strengthen its capacity, Lebanon needs technical expertise, capacity-building programs, and networking opportunities to enhance collaboration and ensure that its regulatory measures are effectively enforced.

54. Some countries, like Bosnia and Herzegovina, on the other hand, does not currently have specific legislation prohibiting "finning." The country faces significant challenges in adopting these measures due to gaps in both the policy and regulatory frameworks. The lack of clear legislation leaves a gap in protecting sharks from this harmful practice. Bosnia and Herzegovina has identified several areas where support would be beneficial, including financial assistance, technical expertise, and policy advocacy.

Strengthening these areas could aid in the development of regulations and ensure compliance with international standards for shark conservation.

CRITICAL HABITATS AND ENVIRONMENTS

Legally protection and monitoring of critical habitats

55. The identification, legal protection, and monitoring of critical habitats for cartilaginous fish species in Cyprus, Bosnia and Herzegovina, Lebanon, Italy, Croatia, and Algeria show varying levels of progress, with each country facing its own set of challenges. The countries have different stages of development in their systems, frameworks, and approaches to safeguarding these vital ecosystems. Cyprus and Bosnia and Herzegovina are in the early stages, with no systems in place for identifying or protecting critical habitats, while Lebanon is actively working on developing a system. Italy has identification mechanisms but lacks enforcement for protection and monitoring, and Croatia is progressing toward meeting EU obligations, though challenges in implementation persist. Across all countries, common challenges include regulatory frameworks, financial resources, and technical guidance, all of which are critical to advancing habitat protection and conservation for cartilaginous fish species.

56. Cyprus and Bosnia and Herzegovina do not currently have a system for identifying critical habitats. Since no habitats have been identified, there is no framework in place for legal protection or monitoring.

57. In Lebanon, efforts are underway to develop a system for identifying critical habitats, though it is still in progress. Since the system is not yet fully operational, legal protection and monitoring mechanisms are not currently applicable.

58. Croatia is in the process of developing a system for identifying critical habitats under the obligations of the EU's Nature Restoration Regulation, which includes a focus on the habitats of cartilaginous fish. However, legal protection for these habitats is delayed, with it typically taking more than six months, and in some cases, no protection is implemented. Croatia monitors critical habitats continuously once they are protected, but significant challenges remain, including financial resources, administrative management, technical capacities, data collection, and interdisciplinary collaboration.

59. Italy has a system for identifying critical habitats for cartilaginous fish species, but the protection and monitoring of these habitats are still not well established. While habitats may be identified, the process of legally protecting them has not yet been formalized. Italy does not have a structured monitoring system in place for critical habitats after their identification, which leaves a gap in ensuring long-term habitat preservation. The primary challenge faced by Italy is related to the policy framework, which needs to be further developed and strengthened to ensure effective protection and monitoring of critical habitats.

60. Algeria lacks a formal system for identifying critical habitats, which poses significant challenges to their effective conservation. The marine protected areas have been identified and are currently undergoing classification by the Ministry of the Environment and Renewable Energy (MERE). Among the key obstacles are gaps in the regulatory framework, limited technical guidance and capacities, issues with data collection and quality, and insufficient interdisciplinary collaboration. To address these challenges, Algeria has identified several areas where additional support would be beneficial, including financial assistance, capacity-building programs and networking opportuniti

Inventory of critical habitats (mating, spawning and nursery grounds) of cartilaginous species

61. The inventory and identification of critical habitats, including mating, spawning, and nursery grounds for cartilaginous species, present various stages of development and unique challenges across Mediterranean countries. Each country's approach reflects its specific environmental and regulatory contexts, which ultimately impact the effectiveness of their conservation efforts. Countries found significant challenges in identifying and protecting critical habitats for cartilaginous species. While some countries are beginning to develop systems for habitat identification, others remain hindered by a lack of resources, regulatory frameworks, and technical capacity. Enhancing collaboration and seeking targeted support will be essential for these countries to effectively inventory and protect crucial habitats that support the life cycles of cartilaginous species.

62. Cyprus and Bosnia and Herzegovina currently lack a system for identifying critical habitats, including those essential for mating, spawning, and nursery grounds. As a result, there is no established timeframe for legal protection after identification, nor a process for regularly reviewing or updating any inventories of such habitats for cartilaginous species. In order to address these challenges, it is important to strengthen these efforts and provide technical expertise and financial assistance which would support the establishment of a framework for habitat protection.

63. Algeria currently lacks information on the existing system for identifying critical habitats but faces significant challenges in their inventory process. These challenges include gaps in the regulatory framework, limited financial resources, insufficient technical guidance and capacities, issues with data collection quality, and inadequate interdisciplinary collaboration. To address these challenges, Algeria requires financial support, capacity-building programs, and networking opportunities.

64. The identification of critical habitats for cartilaginous species in Lebanon, Italy and Croatia is under development. While there is currently no established timeline for legal protection post-identification, Lebanon's situation is marked by significant challenges in its regulatory framework, financial resources, and technical guidance. Data collection and quality issues further complicate the inventory process, limiting the country's ability to effectively safeguard critical habitats. Italy does not have established legal protections or regular inventory updates in place, and they indicate an awareness of the need for protective measures and importance of the approval of the national elasmobranch plan. Among to other, Croatia anticipates that legal protection of these habitats will often take more than six months, indicating potential delays in conservation actions, adn that the inventory of critical habitats is reviewed infrequently, which can hinder timely conservation measures.

65. In general, all countries need a support to improve the inventory, and depends on their needs, but it includes greatly benefit from financial assistance, technical expertise, capacity-building programs to bolster its efforts in this critical area, policy advocacy, and networking opportunities.

SCIENTIFIC RESEARCH AND MONITORING

Formalize/reinforce synchronous submission of catch, bycatch and discard data annually to the GFCM according to DCRF (Data Collection Reference Framework)

66. The formalization and reinforcement of synchronous submission of catch, bycatch, and discard data to the GFCM according to the Data Collection Reference Framework (DCRF) is a critical step towards ensuring sustainable fisheries management in the Mediterranean region. Responses from Cyprus, Bosnia and Herzegovina, Italy, Croatia, Lebanon and Algeria illustrate a varied landscape of progress and challenges faced by these countries in implementing effective data collection processes. Some countries like Cyprus, Italy, Lebanon, and Croatia have made strides in establishing formalized processes for data submission to the GFCM, while in other countries challenges remain, particularly in Bosnia and Herzegovina, where no such system exists.

The effectiveness of these processes varies, underscoring the need for continued improvements in data collection quality, regulatory frameworks, and administrative management. Enhanced collaboration and support in the form of financial resources, technical expertise, and capacity-building initiatives will be crucial in strengthening the ability of these countries to provide accurate and timely data to the GFCM, ultimately contributing to the sustainable management of fisheries in the Mediterranean region. Cyprus, Italy, Lebanon, Croatia have successfully implemented a formalized process for the synchronous submission of catch, bycatch, and discard data to the GFCM in accordance with the DCRF where effectiveness of its current data submission process vary from "very effective" to "effective" indicating a well-established system that likely facilitates compliance with GFCM requirements. Some countries, like Croatia has a good framework for data collection, formally carried out by the Institute of Oceanography and Fisheries, which utilizes authorized scientific observers to monitor incidental catches of vulnerable species, including elasmobranchs. In addition to this, as EU member country, the technical challenges pertaining to the submission process are regularly communicated at the EU level and during dedicated meetings with the GFCM.

67. Algeria is in the process of developing to formalize this process. While the submission process has been deemed effective, it is still under development. One of the significant challenges Algeria faces in formalizing this process is the lack of sufficient financial resources, which limits its ability to fully implement and sustain data collection efforts. Additionally, there are ongoing issues with data collection quality and the need for better interdisciplinary collaboration to ensure that the data is accurate, comprehensive, and aligns with the DCRF standards. To address these challenges, Algeria has identified the need for additional financial assistance and capacity-building programs.

68. Bosnia and Herzegovina has not yet established a formalized process for submitting catch, bycatch, and discard data to the GFCM. The absence of such a system has resulted in the country rating its current data submission process as "ineffective." Key challenges in this area include inadequacies in the policy and regulatory frameworks, as well as a lack of financial resources and effective administrative management. To address these challenges, Bosnia and Herzegovina recognizes the need for financial assistance, technical expertise, capacity-building programs, and policy advocacy to foster the development of a functional data submission system.

CAPACITY BUILDING/TRAINING

Expert participation support in RFMO and other relevant meetings and workshops, to share expertise and build capacity for data collection, stock assessment and bycatch mitigation

69. The participation of experts in Regional Fisheries Management Organizations (RFMO) and relevant workshops is crucial for enhancing knowledge-sharing and building capacity in data collection, stock assessment, and bycatch mitigation among Mediterranean countries. Most countries demonstrate a proactive approach by involving experts in RFMO meetings and highlighting the need to focus on stock assessment methodologies and bycatch reduction strategies. However, in some countries like Lebanon, the involvement of experts in RFMO meetings is currently under development, indicating an emerging engagement in international fisheries discussions.

70. Some countries are aware of significant importance of RFMOs engagement, especially countries who are struggling with the policy framework to cartilaginous fish protection such as Bosnia and Herzegovina. They highlight that the engagement with RFMOs provides opportunities to collaborate with other countries and enhance its capacity to manage fishery resources sustainably. Each country recognizes the importance of discussing a range of topics that are essential for enhancing capacity in data collection, stock assessment, and bycatch mitigation. The emphasis on collaboration, stakeholder involvement, and the sharing of expertise will be crucial for sustainable fisheries management in the Mediterranean region, ultimately contributing to the conservation of marine biodiversity and the resilience of fishing communities.

71. Countries also highlights the significance of regional and global collaboration, climate change impacts, and community engagement as critical components of effective fisheries management. It has been emphasizing the necessity of including all relevant stakeholders and data end-users in these discussions, ensuring a comprehensive approach to addressing the multifaceted challenges in fisheries management, and to recognize the significance of including stock assessment methodologies, bycatch reduction strategies, regulatory and compliance issues, funding and resource allocation, and evaluation and monitoring systems in these meetings.

REGIONAL COORDINATING STRUCTURE

Support the establishing of, or feed the existing, centralised databases (DCRF, MEDLEM…)

72. The establishment and maintenance of centralized databases, such as the Data Collection Reference Framework (DCRF) and the Mediterranean Database for Fisheries (MEDLEM), are important for enhancing the management and sustainability of fishery resources in the Mediterranean region. Insights from responses collected from Mediterranean countries highlight the potential contributions and challenges each country faces in supporting these initiatives, illustrating a shared commitment to establishing and maintaining centralized databases crucial for fisheries management in the Mediterranean. While each country acknowledges the importance of enhancing technical expertise, facilitating international collaboration, and supporting research and innovation, they also face significant challenges related to financial resources, data collection quality, administrative management, and interdisciplinary collaboration.

73. Addressing these challenges requires a coordinated approach, with an emphasis on financial assistance and capacity-building initiatives to strengthen the data infrastructure necessary for sustainable fisheries management in the region. Bosnia and Herzegovina suggests a multifaceted approach as a demonstration of its strong commitment to improving data infrastructure, while also highlighting the urgent need for external support to address resource gaps.

74. Croatia emphasizes that the need for careful consideration for establishing additional databases, given that a national database is currently under development, alongside regional databases funded by the European Union (Mediterranean Sea and Black sea https://rdbfis.eu/**).** Furthermore, the GFCM has already introduced several tasks related to data submission within the DCRF and has established an additional database. In parallel, EU member states are required to submit data on incidental catch to the International Council for the Exploration of the Sea (ICES) as part of the annual WGBYC data call. These existing efforts underline the importance of optimizing current frameworks before considering new initiatives, and further emphasizing the importance of consolidating efforts to avoid duplication.

Facilitating the enforcement of legal measures aiming to set up a system for enforcement of monitoring fisheries in international waters such as extending MEDITS programme to all Mediterranean countries (Mediterranean International Trawl Survey)

75. Facilitating the enforcement of legal measures for monitoring fisheries in international waters is crucial for sustainable fishery management in the Mediterranean. In summary, the collected responses from Algeria, Cyprus, Bosnia and Herzegovina, Italy, Croatia, and Lebanon reflect a diverse landscape regarding the enforcement of legal measures for monitoring fisheries in international waters. While some countries like Algeria, Croatia and Italy actively engage in monitoring programs with established legal frameworks, others, such as Bosnia and Herzegovina, Cyprus, and Lebanon, lacking the implementation of the legal measure aimed at enforcing fisheries monitoring in international waters.

76. Italy has established legal measures for fisheries monitoring in international waters and actively participates in relevant programs. However, like many countries, it faces challenges primarily related to financial resources. Algeria has also taken steps to enforce these legal measures.

In Croatia, legal measures have been implemented concerning fisheries monitoring, particularly in the context of EEZ. The country actively participates in monitoring programs and has established a scientific monitoring framework in accordance with national legislation and regional requirements set by organizations such as the GFCM and ICCAT. Cyprus has not implemented specific legal measures for enforcing fisheries monitoring in international waters but is actively participating in monitoring programs such as the MEDITS. As an EU member state, Cyprus conducts the MEDITS survey under its National Data Collection Work Plan, financed by the EU. The country emphasizes its commitment to aligning with EU regulations, although it indicates some ambiguity regarding the challenges of enforcing legal measures and the support needed to address them. Cyprus's active participation in existing programs demonstrates a proactive approach to monitoring despite the absence of dedicated legal frameworks.

77. In Bosnia and Herzegovina and Lebanon no legal measures have been implemented to enforce fisheries monitoring in international waters, nor is the country participating in any related programs. This lack of involvement points to significant barriers, including deficiencies in the regulatory framework, financial resources, and technical guidance and capacities.

78. Overall, addressing financial constraints, enhancing technical capacities, and fostering international collaboration are crucial steps toward improving the enforcement of monitoring systems in the Mediterranean's international waters.

Increase compliance with obligations to collect and submit species-specific commercial catch and bycatch data to FAO and GFCM, including through increased use of observers.

79. The obligation to collect and submit species-specific commercial catch and bycatch data to the FAO and the GFCM is crucial for effective fisheries management. Mediterranean region reflects varying degrees of compliance and the challenges each country faces in enhancing data collection, particularly through the use of observers.

80. The EU countries, such as Cyprus, Italy and Croatia demonstrate strong compliance with obligations to collect species-specific commercial catch and bycatch data for both the FAO and GFCM. They utilize observers to enhance data collection efforts and has implemented training programs for these observers, thereby reinforcing the quality of data collected.

81. Algeria, like EU countries, demonstrates a commitment to fulfilling its obligations to collect and submit species-specific commercial catch and bycatch data to the FAO and GFCM. Observers are actively deployed on vessels, particularly in programs related to ICCAT fisheries, to enhance the accuracy and comprehensiveness of data collection efforts.

82. Bosnia and Herzegovina and Lebanon face significant challenges that require targeted support and resources, and are in the process of developing compliance with the obligations to collect species-specific commercial catch and bycatch data. However, enhancing the use of observers, providing training programs, and addressing administrative and regulatory barriers are critical steps toward improving data collection efforts and ensuring sustainable fisheries management in the Mediterranean region. In addition, the financial assistance is needed for all countries.

National Reports on RAP Implementation and Species Protection

83. The review of national reports concerning implementing the Regional Action Plan (RAP) and the measures for species protection reveals both achievements and significant challenges. The following points provide an overview of the current situation based on the submitted reports:

83.1. Reporting Issues

- Many countries have submitted reports with discrepancies, such as misdated or mislabelled documents. For instance, reports intended for 2018-2019 may contain data from earlier years, confusing the actual reporting period covered.
- Several reports report a notable lack of data on chondrichthyans. For example, countries such as Albania, Algeria, and others have not provided the required information or updates regarding these species for the 2016-2017 period and beyond.

83.2. Implementation of Regional Action Plans (RAP)

- Progress in implementing the RAP varies widely among countries. Some countries have reported significant advances in line with regional recommendations and action plans, while others have shown limited or non-existent progress.
- Some countries have made positive developments in implementing the RAP. For example, countries like Croatia and Lebanon have made strides in implementing RAP activities, demonstrating some success in advancing regional goals. Croatia, for example, has made improvements related to GFCM recommendations, and Lebanon has shown progress in regional activities and species protection.

83.3. Species Protection Measures

- A few countries, including Egypt, Israel, and Malta, have reported protection for all species within their jurisdictions. This reflects a strong commitment to conservation efforts and adherence to regional goals.
- Many reports do not detail specific measures for species protection, reflecting a gap in communicating the actual conservation actions undertaken. For example, countries like Greece and Spain have shown some progress in regional activities but have not highlighted specific species protection measures.

83.4. Missing and Unsubmitted Reports

- Countries like Tunisia and Libya have not submitted any reports, creating gaps in the assessment of regional conservation efforts. This lack of reporting hinders a comprehensive evaluation of the overall implementation of the RAP.
- There are issues with the accuracy of reported data. For example, documents covering the 2022-2023 period may pertain to earlier years, complicating the assessment of recent progress.

83.5. Overall Observations and Recommendations

- There is a clear need for improved accuracy and completeness in reporting. Timely and accurate submissions are crucial for assessing progress and addressing gaps in conservation efforts.

III - REGIONAL ASSESSMENT

84. Various regional organizations and experts have made significant contributions through their diverse activities and projects aimed at improving the protection and management of cartilaginous species in the Mediterranean Sea. Notable efforts have been undertaken by organizations such as SPA/RAC, GFCM, and WWF, along with specialists in cartilaginous fishes. Through collaboration and synergy with these international organizations, national conservation efforts are aligned with regional and global objectives, thus enhancing the overall impact and effectiveness of these initiatives.

85. Given the importance of regional cooperation, **SPA/RAC** plays a crucial role in coordinating efforts aimed at the conservation and sustainable management of cartilaginous species in the Mediterranean region. These efforts include:

86. *Development of the action plans for the conservation of cartilaginous fished in the Mediterranean sea:* SPA/RAC coordinates the implementation of regional action plans that outline measures for the protection and sustainable management of cartilaginous species. These plans establish priorities and ensure alignment between national and international conservation goals. Notably, the Action Plan for the Conservation of Chondrichthyan Populations in the Mediterranean was adopted by the Contracting Parties to the Barcelona Convention in 2003 and has been updated three times (in 2009, 2013, and 2019). The current plan in effect focuses on: general conservation of chondrichthyan populations by supporting national and regional programs to reduce bycatch and other disturbances (assist CPs to prepare their National Action Plan for the conservation of cartilaginous fishes) ; protection of vulnerable species; Identification, protection, and restoration of critical habitats such as mating, spawning, and nursery grounds; advancing scientific knowledge through research, scientific monitoring, and the creation of regional standardized databases; recovery of depleted chondrichthyan stocks; and raising public awareness and capacity-building for the conservation of chondrichthyan species. To achieve these objectives, SPA/RAC identifies priorities and defines measures for their effective implementation

87. Capacity building and raising awareness: SPA/RAC organizes workshops and training sessions to enhance the capacities of Mediterranean countries in protecting, monitoring, and managing cartilaginous species (exp: Sub-Regional Training Sessions on Monitoring and Identification Methodologies of the Cartilaginous Fishes (Chondrichthyans) in the Mediterranean.11-14 December 2023, Sfax, Tunisia; Sub-regional training on monitoring, identification and advanced research methodologies of the Cartilaginous Fishes (chondrichthyans) in the Adriatic Sea Vlorë, Albania, 21-23 Januray 2025)Additionally, educational materials, guide and guidelines are provided to raise awareness among stakeholders, fostering a deeper understanding of conservation needs.

88. . *Data collection, assessment and evaluation:* Efforts are supported to collect, analyze, and share data on cartilaginous species through surveys, meetings, collaborative initiatives and supporting scientific publication. These activities aim to evaluate the status and trends of these species across the region, providing a scientific foundation for conservation actions. SPA/RAC has coordinated The MedBycatch project, 'Understanding Mediterranean Multi-Taxa Bycatch of Vulnerable Species and Testing Mitigation - A Collaborative Approach', launched in 2017 and concluded in October 2022 with funding from MAVA. The project was a partnership between several organizations, including the Secretariat of the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic area (ACCOBAMS), the Secretariat of the General Fisheries Commission for the Mediterranean (GFCM) of the Food and Agriculture Organization of the United Nations (FAO), the International Union for Conservation of Nature - Centre for Mediterranean Cooperation (IUCN-Med), BirdLife Europe and Central Asia (BLI ECA), the Mediterranean Association to Save the Sea Turtles (MEDASSET) and the World Wildlife Fund (WWF)

89. *Strengthening regional cooperation:* SPA/RAC fosters collaboration among member states and partners to develop a unified regional response to conservation challenges. International Conferences such as the European elasmobranchs conference and Meetings, such as the SPA/BD NFP meetings , serve as platforms for: facilitating collaboration, exchanging information and best practices, and evaluating the progress of conservation initiatives. These gatherings play a crucial role in aligning national conservation efforts with regional action plans, including those focused on the protection and management of cartilaginous species in the Mediterranean.

90. In addition to these efforts, SPA/RAC contributes to regional assessments, such as the one presented here, by gathering up-to-date information on the current state of activities on chondrichthyan species through questionnaires sent to regional organizations. These assessments are essential for monitoring progress and identifying gaps in conservation efforts.

91. As part of this process, a questionnaire was distributed to institutions and organizations within the Mediterranean region to collect detailed information to cartilaginous fishes. Based on the analyzed responses, the following sections outline the key activities and information provided by the GFCM, WWF North Africa, WWF Mediterranean, and experts on chondrichthyan species. These sections specifically address the regional efforts in the conservation and management of cartilaginous fishes, focusing on protection measures, research initiatives, capacity-building efforts, and fostering regional cooperation.

PROTECTION

92. The protection of cartilaginous fishes in the Mediterranean region is a critical component of marine conservation efforts, given their ecological importance and vulnerability. Organizations such as the GFCM, WWF North Africa, and WWF Mediterranean are actively involved in protection initiatives through regional collaboration, sustainable management practices, and targeted conservation actions. The following sections outline the key activities undertaken by these organizations to enhance the protection of cartilaginous fish populations across the Mediterranean.

93. **GFCM** is implementing several programs (2024–2025) to monitor and reduce incidental catches of chondrichthyans in Mediterranean Sea, including:

- Monitoring and reducing the incidental catch of sharks and rays with gillnet and combined nets in GSA 17 (northern Adriatic, Croatia);
- Monitoring and reducing the incidental catch of sea turtles, sharks and rays with trawlers in GSA 24 (North Levant Sea);
- Monitoring and reducing the incidental catch of sharks and rays with trawlers, and dolphin depredation in purse seiners in GSA 3 (southern Alboran Sea);

94. The main objectives are to consolidate scientific assessments of marine living resources and to establish effective area-based conservation measures.

95. In their GFCM program activities, all the data collected on elasmobranchs, categorized by species and fishing gear, through the various research programs are systematically integrated into the DCRF. This framework ensures standardization, enabling effective monitoring, assessment, and trend analysis of shark and ray populations. Beyond research, GFCM engages in conservation initiatives, policy advocacy, and awareness campaigns to reduce bycatch and protection of cartilaginous species.

96. **WWF North Africa** is dedicated to conserving cartilaginous fish species through a combination of national and regional plans that prioritize research, monitoring, and community

engagement. These initiatives involve tracking bycatch rates, habitat use, and population trends, which are essential for deepening our understanding of these species and evaluating the effectiveness of conservation efforts. A central component of their work is the engagement of local fishing communities in implementing bycatch reduction measures and promoting sustainable fishing practices, which helps ensure long-term benefits for both the environment and local economies.

97. In addition to these efforts, WWF North Africa advocates for the creation of MPAs to protect critical habitats such as nurseries and breeding grounds. To raise awareness about the ecological significance of these species, the organization runs public campaigns that engage fishers, policymakers, and the general public. One of their key flagship projects, *Recovering Populations of Sharks and Rays in the Gulf of Gabes, Tunisia (2023–2025)*, exemplifies WWF North Africa's proactive approach. This project aims to reverse the population declines of critically endangered and endangered species in the Gulf of Gabes, one of the Mediterranean's most important elasmobranch areas. The project's objectives include: 1) implementing conservation measures to reverse the current declining trend of sharks and rays, and securing their long-term protection and recovery, and 2) enhancing the capacity and willingness of fishers, community members, authorities, and scientists to engage in shark and ray conservation, with a focus on compliance with legislation through a bottom-up, participatory approach.

98. In addition to these efforts, WWF North Africa has expanded its research to encompass endemic chondrichthyan species as well as Data Deficient and Near Threatened species. For endemic species, including *Rhinobatos cemiculus, Rhinobatos rhinobatos, Carcharhinus plumbeus*, and *Carcharodon carcharias*, the organization conducts studies on landings, genetics, and spatial distributions. Similarly, for Data Deficient and Near Threatened species, WWF North Africa focuses on spatial distribution and population genetics, particularly for the same species.

99. **WWF Mediterranean** integrates the protection of cartilaginous fish species into its regional and national strategies, focusing on research, practical management tools, and stakeholder engagement. They provide technical expertise and advisory services to support conservation strategies across the Mediterranean, alongside capacity-building initiatives such as training workshops to equip stakeholders with monitoring and management skills. The organization advocates for interdisciplinary collaboration to develop effective management plans and emphasizes fostering regional cooperation. By engaging international organizations, member states, and stakeholders, WWF Mediterranean addresses challenges like limited funding, communication barriers, and inconsistent participation. Additionally, WWF Mediterranean is involved in research, conservation efforts, policy advocacy, and awareness campaigns aimed at protecting sharks and rays.

100. In addition to the aforementioned activities, other ongoing initiatives by **other institutions** contribute to the conservation of cartilaginous fish species in the Mediterranean:

- Research on *Heptranchias perlo* and *Squalus blainville*: Recent studies provide updated data and new assessments on the status of these species in Albania, conducted by the Center for Marine and Freshwater Biology Sharklab ADRIA.
- Long-term monitoring in Montenegro: Since 2016, the Institute's Monitoring of Elasmobranch Observation in Montenegro has focused on collecting data on chondrichthyan catches,
- strandings, and sightings in Montenegrin waters, contributing to a deeper understanding of these species in the region

101. Despite the substantial efforts made by these organizations and institutions, in the protection of cartilaginous fish, several challenges persist, including:

101.1. *Limited funding:* Financial constraints restrict the ability to scale up conservation actions, expand research initiatives, and implement long-term monitoring programs.

101.2. *Data collection and quality issues:* Gaps in data collection, as well as inconsistencies in the quality and availability of data on cartilaginous fish populations and habitats, hinder effective conservation. To improve the accuracy and reliability of monitoring, stronger data-sharing platforms, along with improved data collection and analysis techniques, are necessary. Access to technical expertise is vital in ensuring better research and informed decision-making.

101.3. *Policy gaps and regulatory weaknesses:* Existing policy frameworks often lack the robustness needed to enforce protective measures at the national and regional levels.

101.4. *Insufficient Collaboration, networking and stakeholder engagement:* Fragmented efforts and limited coordination among governments, local communities, international bodies, and conservation organizations restrict the impact of conservation initiatives. Expanding these networks and facilitating better stakeholder engagement are crucial for improving the effectiveness of these efforts.

101.5. *Limited expert engagement:* Engaging experts across various fields is crucial for the success of conservation efforts. The success of conservation initiatives depends on effective collaboration between local communities, governments, and experts. To enhance the effectiveness of conservation initiatives, increased access to technical expertise, expanded networking opportunities, and the promotion of expert collaboration are essential. This will ensure that strategies are informed by the latest scientific findings and best practices, ultimately strengthening conservation outcomes.

102. By addressing these challenges through targeted actions, conservation efforts can be significantly strengthened, leading to more effective protection and recovery of endangered cartilaginous fish species in the Mediterranean and North African regions.

FISHERIES MANAGEMENT

103. The fisheries management at the regional level in the Mediterranean involves collaborative efforts to ensure sustainable practices and effective monitoring. Organizations such as the GFCM, WWF North Africa, and WWF Mediterranean play crucial roles in conducting these activities, improving data collection, and promoting coordinated policy actions. The following sections outline key activities undertaken by these organizations to advance fisheries management and address challenges in the Mediterranean region.

104. **The GFCM** develop GFCM recommendation (GFCM/42/2018/2) for legal protection for prohibiting "finning", helping countries and institution to protect and manage cartilaginous species in Mediterranean Sea. The GFCM actively contributes to minimizing shark by-catch and mortality by fostering formal agreements, establishing joint working groups, and providing technical assistance and capacity-building programs. Additionally, the organization supports informal cooperation and knowledge exchange to enhance regional capabilities in addressing this issue. GFCM also employs a combination of training workshops, regular updates, networking opportunities, and technical expertise to promote the use of Field Identification Sheets. These strategies have proven effective in fostering stakeholder engagement and utilization

105. GFCM facilitates the enforcement of legal measures aimed at establishing a system for monitoring fisheries in international waters, including extending the MEDITS programme to all Mediterranean countries. The GFCM is currently enhancing its support for the implementation of scientific surveys at sea, promoting sustainable fisheries and marine resource management in several non-EU countries across the Mediterranean and Black Sea. Through collaboration with these countries, GFCM works to improve data collection methodologies and promote the standardized GFCM survey protocol, which is based on the EU-MEDITS framework. This initiative helps gather reliable data on fish stocks, marine ecosystems, and vulnerable species, ensuring that effective management measures can be implemented for the sustainable use of marine resources.

106. **WWF North Africa** and **WWF Mediterranean**are supporting the prohibition of finning by GFCM recommendation through contributions to new regulations and guidelines, technical assistance, and awareness campaigns. The organizations partners with NGOs, international fishery bodies, local fishing communities, and national governments to promote and enforce anti-finning measures. Capacity-building initiatives include technical advisory services, training workshops, and seminars to equip stakeholders with the knowledge and tools necessary for effective implementation. To engage stakeholders, the two organisations organize outreach programs, participates in forums, publishes reports, and engages in media campaigns to foster awareness. They emphasize the need for collaboration with CITES management and enforcement authorities as a strategic step forward. Additonally, they had successfully promoted Field Identification Sheets through training workshops, networking opportunities, and technical expertise, with their efforts being evaluated as effective.

107. As mentioned above, each of the organizations has successfully promoted the Field Identification Sheets, which are widely used in the Mediterranean region. However, to further enhance their usability and accessibility, the following improvements and actions are proposed by these regional organizations:

107.1. *Digitalization and Mobile Integration*

- Digitalize the Field Identification Sheets and integrate them into mobile applications frequently used by conservationists, fishers, and scientists.
- Include QR codes on the sheets, linking to digital versions, instructional videos, or real-time updates on species information and behavior.

107.2. *Simplified Language and Accessibility*

- Simplify the language used in the sheets to ensure clarity and ease of understanding, especially for fishers and local communities.
- Develop materials in local languages where applicable to enhance accessibility for all stakeholders.

107.3. *Capacity Building through Training*

- Conduct regular training programs for fish guards, marine biologists, market authorities, and local communities.
- Use a "train-the-trainers" approach to ensure knowledge dissemination and sustainability.
- Organize hands-on regional workshops and exchange visits using existing platforms such as the GFCM SSF Forum.

107.4. *Enhanced Design and Functionality*

- Incorporate decision trees within the sheets to guide users effectively in identifying species.
- Develop collaborative approaches with market and customs authorities to ensure broad distribution and usage of identification guides.

107.5. *Integration into Regional Policies*

- Collaborate with regional governments and authorities to embed the use of FIS into fisheries management, marine conservation policies, and tourism regulations.
- Make the use of Field Identification Sheets mandatory for fishers and conservation stakeholders to ensure consistent application.

107.6. *Stakeholder Engagement and Feedback*

- Collect feedback from fishing cooperatives, marine institutes, and other stakeholders to refine and improve the sheets over time.
- Engage stakeholders through social media campaigns, marketing initiatives, and recognition programs to encourage broader adoption.

107.7. *Awareness Campaigns and Partnerships*

- Develop and implement awareness campaigns in collaboration with national marine institutes, CITES authorities, and NGOs.
- Partner with regional fisheries management organizations to promote the importance of FIS.

108. By addressing these proposed improvements, Field Identification Sheets can become more effective tools for sustainable fisheries management and marine conservation, benefiting both users and marine ecosystems in the Mediterranean region.

109. In addition to the concrete actions implemented by each organization, their efforts in fisheries management contribute to further activities. While each organization carries out these activities separately, together they enhance the status of fisheries and provide better management at the regional level. These additional activities include the following:

109.1. GFCM, WWF North Africa, and WWF Mediterranean work **to update and promote protocols and programs for improved data compilation and analysis to contribute to regional stock assessment initiatives.** Their efforts include hosting regional meetings, workshops, webinars, and collaborative working groups to disseminate updated protocols and ensure effective communication through email updates, social media, and intranet pages. Demonstration projects and pilot programs showcase practical applications, while public awareness campaigns engage stakeholders such as fishers, scientists, and conservationists. Capacity-building initiatives, including training workshops, technical assistance, and mentorship, aim to enhance stakeholder skills. To evaluate effectiveness, the organizations rely on feedback surveys, compliance monitoring, and real-time data analysis.

109.2. GFCM, WWF North Africa, and WWF Mediterranean actively **promote the use of existing guidelines to reduce the by-catch of sensitive species and ensure their release when caught**. Their efforts include conducting workshops, training sessions, and public awareness campaigns to disseminate these guidelines through publications, online platforms, and targeted outreach. Collaborations with fishing industry associations and local organizations strengthen stakeholder engagement, while capacity-building initiatives, such as in-person workshops and online training modules, ensure effective implementation. These organizations also work to integrate by-catch guidelines into national and regional policies, evaluate their effectiveness through feedback and monitoring.

109.3. GFCM, WWF North Africa, and WWF Mediterranean are actively **engaged in developing and implementing management and technical measures to minimize shark by-catch and mortality** in fisheries impacting cartilaginous fishes. These measures include: promoting the release of threatened elasmobranch species; strengthen the collaboration with RFMOs, member states, and other stakeholders; enhancing by-catch reporting at the local level through awareness campaigns; hosting regional meetings, collaborative working groups, webinars, and online training sessions; encouraging improved data collection on by-catch incidents; advancing the use of selective fishing gear to reduce unintentional shark catches; providing training and capacity-building programs for fishers; advocating for policy changes to support sustainable fishing practices, and fostering collaboration at the regional level through formal agreements, joint working groups, technical assistance, mentorship, and informal knowledge exchange.

110. Despite the significant contributions made by GFCM, WWF Mediterranean, and WWF North Africa in promoting and implementing regional fisheries management measures for the conservation of cartilaginous fishes, several challenges continue to impede progress. These include:

110.1. *Limited financial resources:* Financial constraints remain a major barrier, limiting the scope and scale of interventions, as well as the capacity to engage stakeholders effectively and implement conservation measures on a broader scale.

110.2. *Awareness and communication barriers:* There is a widespread lack of awareness about conservation issues among stakeholders, compounded by communication barriers that hinder effective information exchange and collaboration. This issue affects the adoption of conservation measures and the implementation of management strategies.

110.3. *Regulatory and policy frameworks:* Existing policy and regulatory frameworks are often slow to adapt to emerging conservation needs, delaying the implementation of crucial measures. These delays hinder timely actions needed to protect threatened species.

110.4. *Insufficient data collection and technical capacity:* Data collection practices remain limited, with challenges related to both the quality and accessibility of data. Additionally, technical capacity among stakeholders, particularly at the local level, is insufficient, making it difficult to effectively monitor and enforce conservation measures.

110.5. *Interdisciplinary collaboration:* Despite efforts to foster collaboration, there is a lack of effective interdisciplinary cooperation among different sectors, which weakens the overall impact of conservation initiatives.

110.6. *Member state cooperation:* A lack of consistent cooperation from some member states further limits the effectiveness of regional efforts. This lack of engagement undermines collective action and impedes the implementation of conservation strategies.

110.7. *Expert Engagement:* Experts, particularly those involved in local initiatives, have made significant contributions to shark conservation, such as raising awareness about the release of threatened species and promoting the reporting of shark by-catch. However, some experts do not currently engage in formal regional collaborations, limiting the broader impact of their efforts. Financial limitations and insufficient cooperation from member states are identified as major challenges to expanding expert involvement and maximizing the effectiveness of these contributions.

111. To address these challenges, the organizations are exploring several solutions, including strengthening formal agreements, enhancing data-sharing platforms, increasing funding, improving communication strategies, and providing capacity-building initiatives. They are also working towards the integration of conservation measures into regulatory frameworks to ensure long-term, sustainable outcomes. However, overcoming these barriers requires ongoing support and coordinated efforts at both regional, national and local levels.

SCIENTIFIC RESEARCH AND MONITORING

112. Scientific research and monitoring play a critical role in the protection of cartilaginous fish species. Organizations such as GFCM, WWF Mediterranean, and WWF North Africa implement various scientific activities, promote diverse programs, and engage experts through workshops and meetings to contribute to research and monitoring efforts. While each organization works independently, their collective actions align towards the same goal of advancing scientific understanding and enhancing conservation efforts. Below are the activities carried out by each organization, presented together due to their shared objectives and common contributions:

112.1. GFCM, WWF North Africa, WWF and Mediterranean **promote programs on the status of by-catch to propose measures for attenuation of the phenomenon.** These efforts involve deploying onboard observers to monitor by-catch events, collect species-specific data, document findings, and assist with species identification. Central to these initiatives is a multispecies approach, which focuses on adapting fishing gear, targeting multiple species for by-catch reduction, and monitoring and managing by-catch simultaneously. Depending on organizational priorities, this approach targets high-value commercial species, endangered or threatened species, and those with high by-catch rates. Proposed and implemented measures include gear modifications (e.g., adjusting mesh sizes, introducing escape devices), temporal or spatial closures to protect vulnerable species, deployment of by-catch reduction technologies, improved fishing practices and guidelines, and public awareness campaigns to promote sustainable fishing. Despite significant progress, challenges such as limited funding, inadequate observer training, restricted access to fishing vessels, and safety concerns persist. To enhance these programs' effectiveness, increased financial support, enhanced stakeholder collaboration, and improved data-sharing platforms are critical for ensuring the long-term success of by-catch mitigation efforts.

112.2. GFCM, WWF North Africa, WWF, and WWF Mediterranean **promote existing research proposals developed under the SPA/RAC Action Plan to funding agencies**, employing a range of strategies to secure the necessary support for marine conservation research. These efforts include outreach through direct communication, workshops, and social media to raise visibility and advocate for funding. Collaboration with stakeholders such as influencers, regional bodies, and funding agencies is emphasized to enhance proposal visibility and build stronger networks. Capacity-building initiatives and technical expertise are integral to improving the effectiveness of promotion efforts and addressing challenges. In addition to this, the experts underline the importance of organizing meetings, fostering stakeholder collaboration, and ensuring inclusive engagement in the promotion process to overcome barriers and advance the objectives of the SPA/RAC Action Plan.

112.3 GFCM, WWF North Africa, WWF, and WWF Mediterranean support **expert participation in RFMO and other relevant meetings and workshops to share expertise and build capacity for data collection, stock assessment, and bycatch mitigation.** These organizations provide critical financial assistance, including travel grants, accommodation support, and registration fee coverage, to ensure the active involvement of experts from member states, observer organizations, and local communities in key forums. By facilitating expert attendance, they enable knowledge exchange, collaboration, and the development of innovative solutions to pressing fisheries management challenges.
However, these efforts face challenges such as insufficient collaboration from member states, regulatory barriers, financial constraints, and inadequate institutional support for expert participation. Addressing these issues through enhanced coordination, stronger institutional backing, and increased funding is vital to advancing sustainable fisheries management and improving regional conservation outcomes.

REGIONAL COORDINATION STRUCTURE

113. GFCM, WWF North Africa, WWF, and WWF Mediterranean contribute to the establishment, enrichment, and updating of a network and directory of national, regional, and international experts on chondrichthyan fishes, which are essential for advancing research, conservation, and collaboration in the Mediterranean region. All these institutions are maintaining or improving their expert directories. WWF Mediterranean currently maintains a directory with approximately 25 experts. The institutions have identified the need to expand their networks and ensure broad inclusion of experts from diverse countries and backgrounds. Collaboration with other institutions is key to enhancing the expertise network, with partnerships enabling the pooling of resources, knowledge exchange, and a broader range of expertise. Despite progress, challenges remain, including financial constraints, geographic representation, gender balance or difficulties in including experts from all countries. In order to improve it, the institutions recommend increased collaboration, improved communication channels, the development of better IT infrastructure to support the directories and increased funding.

REFERENCES

Cavanagh, Rachel D. and Gibson, Claudine. 2007. *Overview of the Conservation Status of Cartilaginous Fishes (Chondrichthyans) in the Mediterranean Sea*. IUCN, Gland, Switzerland and Malaga, Spain. vi + 42 pp.

Dulvy, N.K., Allen, D.J., Ralph, G.M., Walls, R.H.L., 2016. The Conservation Status of Sharks, Rays and Chimaeras in the Mediterranean Sea [Brochure]. Malaga, Spain: IUCN

National reports on RAP implementation, 2016-2017, (Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, EU, Egypt, France, Greece, Israel, Italy, Lebanon, Lybia, Malta, Monaco, Montenegro, Morocco, Slovenia, Spain, Syria, Tunisia, Turkiye)

National reports on RAP implementation, 2018-2019, (Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, EU, Egypt, France, Greece, Israel, Italy, Lebanon, Lybia, Malta, Monaco, Montenegro, Morocco, Slovenia, Spain, Syria, Tunisia, Turkiye)

National reports on RAP implementation, 2020-2021, (Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, EU, Egypt, France, Greece, Israel, Italy, Lebanon, Lybia, Malta, Monaco, Montenegro, Morocco, Slovenia, Spain, Syria, Tunisia, Turkiye)

National reports on RAP implementation, 2022-2023, (Albania, Algeria, Bosnia and Herzegovina, Croatia, Cyprus, EU, Egypt, France, Greece, Israel, Italy, Lebanon, Lybia, Malta, Monaco, Montenegro, Morocco, Slovenia, Spain, Syria, Tunisia, Turkiye)

UNEP/MAP, 2019. Updating of the regional strategy and action plans for the conservation of the Mediterranean Monk Seal, Marine Turtles and Cartilaginous Fishes in the Mediterranean Sea, Fourteenth Meeting of SPA/BD Thematic Focal Points, Portorož, Slovenia.

CoP 23, 2023, Decision IG.26/3 The 2023 Mediterranean Quality Status Report and a Renewed Ecosystem Approach Policy in the Mediterranean.

CoP 15, 2022, Decision 15/4 Kunming-Montreal Global Biodiversity Framework

CoP 23, 2023, Decision IG.26/4 Amendments to annexes II and III to the Protocol concerning Specially Protected Areas and Biological Diversity in the mediterranean.

CoP 21, 2019, Decision IG.24/7: Strategies and Action Plans under the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean, including the Action Plans concerning Marine Turtles Cartilaginous Fishes and Marine Vegetation; Classification of Benthic Marine Habitat Types for the Mediterranean Region, and Reference List of Marine and Coastal Habitat Types in the Mediterranean

CoP 22, 2022, Decision IG.25/11 Post-2020 Strategic Action Programme for the Conservation of Biodiversity and Sustainable Management of Natural Resources in the Mediterranean Region (Post-2020 SAPBIO).

ANNEX 1
Implementation Timetable for the period 2020-2024

ACTIONS	CALENDER	BY WHOM
Tools		
1. Establish a network, enrich and update directory of national, regional and international experts on chondrichthyan fishes. (cf. § 33 of C.7 "Regional coordinating structure")	continuous action (2020-2024)	SPA/RAC, CMS Shark MOU Secretariat, IUCN SSG, RFMO Shark Working Groups
2. Promote the use of the existing Field identification sheets (cf. § 15 of C.2. "Fisheries management")	continuous action (2020-2024)	Contracting Parties & RFMOs
3. Promote the use of the GFCM manual (2019) “Monitoring the incidental catch of vulnerable species in the Mediterranean and the Black Sea: methodology for data collection” (cf. § C.2. "Fisheries management")	continuous action (2020-2024)	Contracting Parties
Formalize/reinforce synchronous submission of catch, bycatch and discard data annually to the GFCM according to DCRF (Data Collection Reference Framework). (cf. § 25 of C.4. "Scientific research and monitoring")	Every year	Contracting Parties
5. Information campaigns and publishing materials for public awareness (cf. § C. 6 "Education and public awareness")	continuous action (2020-2024)	SPA/RAC

6. Promote the use of existing guidelines for reducing the presence of sensitive species in by-catch and releasing them if caught. ~~,~~ (cf. § 16 of C.2 «Fisheries management")	continuous action (2020-2024)	SPA/RAC and RFMO
7.Update and promote protocols and programmes for improved compilation and analysis of data, for contribution to regional stock assessment initiatives. (cf. § 16 of C2 “Fisheries management” and 25 of C.4. "Scientific research and monitoring")	From 2020 to 2024	National and regional agencies and advisory bodies, CMS, GFCM and FAO.
8. Training manual on cartilaginous fish eco-biology (Taxonomy, biological parameters determination, identification and monitoring of fisheries	ASAP	SPA/RAC

ANNEX 2

Recommendation GFCM/42/2018/2 on fisheries management measures for the conservation of sharks and rays in the GFCM area of application, amending Recommendation GFCM/36/2012/3

The General Fisheries Commission for the Mediterranean (GFCM),

RECALLING that the objectives of the Agreement establishing the General Fisheries Commission for the Mediterranean are to promote the development, conservation, rational management and proper utilization of living marine resources;

RECALLING the Johannesburg Declaration on Sustainable Development of 2002 and in particular its Plan of Implementation;

RECALLING the Declaration of the Ministerial Conference for Sustainable Development of the Fisheries in the Mediterranean held in Venice on 2003;

REAFFIRMING the principles of the FAO Code of Conduct for Responsible Fisheries and recalling the precautionary and ecosystem approach to fishery management;

RECALLING the FAO International Plan of action for the Conservation and the management of Sharks (IPOA-sharks);

RECALLING the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention) and the listing of some sharks species in either Annex II or Annex III of its Protocol concerning the Specially Protected Areas and Biological Diversity in the Mediterranean (hereinafter SPA/BD Protocol);

NOTING the importance of harmonizing conservation and management measures with other international conventions responsible for the protection of these species;

TAKING INTO ACCOUNT the SAC advice and in particular the needs for species identification and to ensure better conservation status to sharks including protection of coastal areas from most active fishing gear;

ADOPTS in conformity with the provision of Article III paragraph 1 (b) and (h) and Article V of the GFCM Agreement that:

Part I
Scope

1. Contracting Parties and Cooperating non-contracting Parties of the GFCM (hereafter referred to as CPCs) shall ensure that sharks are kept on board, transshipped, landed and marketed at first sale in a way that species are recognizable and identifiable and catches, incidental takings and, whenever appropriate, releases by species can be monitored and recorded.

2. CPCs shall adopt fisheries management measures to ensure adequate conservation status to sharks.

Definitions

3. For the purposes of this Recommendation the following definitions shall apply:

‘Shark’ means any fish of the taxon *Elasmobranchii*
‘Shark fins’ means any fins of sharks including caudal fins, but excluding the pectoral fins of rays, which are a constituent part of ray wings;
‘trawl nets’ means nets which are actively towed by the main boat engine and consisting of a cone- or pyramid-shaped body (as trawl body) closed at the back by a cod-end and which can extend at the opening by the wings or can be mounted on a rigid frame. Horizontal opening is either obtained by otter boards or provided by a beam or frame of variable shape and size. Such nets can be towed either on the bottom (bottom trawl net) or in midwater (pelagic trawl net);

PART II
Fisheries management measures

4. CPCs shall ensure that:

- it shall be prohibited to remove shark fins on board vessels and to retain, tranship or land shark fins.

- in order to facilitate on-board storage, shark fins may be partially sliced through and folded against the carcass but shall not be removed from the carcass before landing.

- beheading and skinning of specimens on board and before landing shall be prohibited. Beheaded and skinned sharks cannot be marketed at the first sale markets after landing;

- It shall be prohibited to purchase, offer for sale or sell shark fins which have been removed, retained on board, transhipped or landed in contravention of this Recommendation.

5. Reduction of trawl fishing in coastal areas to enhance protection of coastal sharks

A. CPCs shall ensure that fishing activities carried out with trawl nets are prohibited within 3 nautical miles off the coast, provided that the 50 meters isobath is not reached, or within the 50 meters isobath where that depth is reached at a shorter distance from the coast.

B. Specific and spatially limited derogation may be granted by the Members on condition that affects a limited number of vessels and provided that such derogation:

a) is justified by particular geographical constraints, such as the limited size of continental shelf along the entire coastline of a Member State or the limited extent of trawlable fishing grounds due to different causes;

and/or

b) concerns small trawl vessels of less than or equal to 12 metres overall length and engine power of less than or equal to 85 kW traditionally carried out in coastal areas;

or

c) concerns a limited number of vessels during a seasonal fishing campaign;

and

d) has no significant impact on the marine environment.

C. CPCs shall inform the GFCM on the modalities of applying the derogation under point B) no later than 31 March. This notification shall include:

a) a list of authorized trawl fishing vessels with their characteristics,

b) zones as identified by geographic coordinates both on land and at sea and by GFCM statistical rectangles as defined in Recommendation GFCM/35/2011/1.

c) Measures taken to monitor and mitigate impact on marine environment

D. CPCs shall establish a specific monitoring plan for the trawl fisheries operating under derogation as stipulated by point B).

E. These provisions are without prejudice to more detailed or stricter rules implemented by Members.

Elasmobranchs species under Annex II (list of endangered or threatened species) and Annex III (list of species whose exploitation is regulated) of the SPA/BD Protocol to the Barcelona Convention

6. CPCs shall ensure a high protection from fishing activities to elasmobranches species listed in Annex II of the SPA/BD protocol of the Barcelona Convention that must be released unharmed and alive to the extent possible.

7. Specimens of sharks' species listed in Annex II of the SPA/BD Protocol cannot be retained on board, transshipped, landed, transferred, stored, sold or displayed or offered for sale.

8. CPCs shall ensure that catches of tope shark (Galeorhinus galeus) taken with bottom- set nets, longlines and in tuna traps shall be promptly released unharmed and alive to the extent possible.

PART III
Monitoring, data collection and research

9. CPCs shall ensure that:

a) information on fishing activities, catch data, incidental taking, release and/or discarding events for shark species listed either in Annex II or III of the SPA/BD Protocol, must be recorded by the shipowners in the logbook or equivalent document, in line with requirements of Recommendation GFCM/35/2011/1 establishing the GFCM logbook;

b) this information must be reported to the national authorities for notification to GFCM Secretariat within the annual national reporting to SAC and through the Task 1;

c) any other additional measures are taken to improve data gathering in view of scientific monitoring of the species.

10. As appropriate, the GFCM and its CPCs should, individually and collectively, engage in capacity building efforts and other research cooperative activities to improve knowledge on sharks and shark fisheries and to support the effective implementation of this recommendation, including entering into cooperative arrangements with other appropriate international bodies.

11. The provisions referred to in Paragraphs 4, 5, 6, 7, 8 and 9 are without prejudice to stricter rules implemented by the CPCs.

ANNEX II

Questionnaire on the implementation of the Action Plan for the Conservation of Cartilaginous Fishes (Chondrichthyans) in the Mediterranean Sea (2019-2024) - Contracting Parties

INFORMATION OF THE PARTY

Please provide information on the Party by completing the following table.

Contracting Party:
Name of the institution/s responsible for the SPA/BD Protocol:
Name of the officer who is the focal point for the SPA/BD Protocol:
Mailing address:
Tel.
Fax:
Email:
Contact point for the questionnaire:
Tel.
Fax:
Email:

SECTION A: PROTECTION

Implementation of the urgent assessment of the status of data deficient species, recommended in this Action Plan (assessed by IUCN)

Does your country implement the assessment of the status data deficient species, recommended in this Action Plan (assessed by IUCN)? Please tick the box that applies:

a) Yes
b) No
c) Under development
d) Not applicable

If your country is currently completing or implementing the assessment of data deficient species, please list these species.

a) Marbled Stingray (*Dasyatis marmorata*)

    a. Yes
    b. No
    c. Under development

b) Reticulate Whipray (*Himantura uarnak*)

    a. Yes
    b. No
    c. Under development

c) Lusitanian Cownose (*Rhinoptera marginata*)

    a. Yes
    b. No
    c. Under development

d) Round Fantail Stingray (*Taeniurops grabata*)

    a. Yes
    b. No
    c. Under development

e) Bignose Shark (*Carcharhinus altimus*)

    a. Yes
    b. No
    c. Under development

f) Copper Shark (*Carcharhinus brachyurus*)

   a. Yes
   b. No
   c. Under development

g) Blacktip Shark (*Carcharhinus limbatus*)

   a. Yes
   b. No
   c. Under development

h) Dusky Shark (*Carcharhinus obscurus*)

   a. Yes
   b. No
   c. Under development

i) Spinner Shark (*Carcharhinus brevipinna*)

   a. Yes
   b. No
   c. Under development

j) Sharpnose Sevengill Shark (*Heptranchias perlo*)

   a. Yes
   b. No
   c. Under development

k) Longnose Spurdog (*Squalus blainvillei*)

   a. Yes
   b. No
   c. Under development

l) Shortnose Spurdog (*Squalus megalops*)

   a. Yes
   b. No
   c. Under development

m) Bigeyed Sixgill Shark (*Hexanchus nakamurai*)

   a. Yes
   b. No
   c. Under development

n) Longfin Mako (*Isurus paucus*)

   a. Yes
   b. No
   c. Under development

What are the difficulties and challenges that your country is facing with assessment of the status data deficient species, recommended in this Action Plan (assessed by IUCN)? Please tick all that apply:

a) Policy framework
b) Regulatory framework
c) Financial resources
d) Administrative management
e) Technical guidance and capacities
f) Data collection and quality
g) Interdisciplinary collaboration
h) Communication barriers

What support or resources would be most helpful in overcoming these challenges? Please tick the box that applies:

a) Financial assistance
b) Technical expertise
c) Capacity building programs
d) Policy advocacy
e) Networking opportunities
f) Other:

Please provide any additional comments or information relevant to the implementation of legal protection for elasmobranch species under Annex II of the SPA/BD Protocol.

Development and Adoption of National Shark Plans

Does your country currently have a national Shark Plan in place?

a) Yes
b) No

What are the anticipated challenges in developing and adopting a national Shark Plan? Please tick the box that applies:

a) Policy framework
b) Regulatory framework
c) Financial resources
d) Administrative management
e) Technical guidance and capacities
f) Data collection and quality
g) Interdisciplinary collaboration
h) Communication barriers

What support or resources would be most helpful in overcoming these challenges? Please tick the box that applies:

a) Financial assistance
b) Technical expertise

c) Capacity building programs
d) Policy advocacy
e) Networking opportunities
f) Other:

Please provide any additional comments or suggestions related to the development and adoption of National Shark Plans.

Establish the strict legal protection of elasmobranchs species under Annex II (list of endangered or threatened species) of the SPA/BD Protocol

Has your country established legal protection for elasmobranch species under Annex II of the SPA/BD Protocol?

a) Yes
b) No
c) Under development

If "No" or "Under development" please provide what specific legislative or regulatory measures have been put in place to ensure the protection of elasmobranch species?

If your country has established or is in the process of establishing legal protection for elasmobranch species under Annex II of the SPA/BD Protocol, please list these species.

a) *Carcharias taurus* (Rafinesque, 1810)

   a. Yes
   b. No
   c. Under development

b) *Carcharodon carcharias* (Linnaeus, 1758)

   a. Yes
   b. No
   c. Under development

c) *Cetorhinus maximus* (Gunnerus, 1765)

   a. Yes
   b. No
   c. Under development

d) *Dipturus batis* (Linnaeus, 1758)

   a. Yes
   b. No
   c. Under development

e) *Galeorhinus galeus* (Linnaeus, 1758)

   a. Yes
   b. No
   c. Under development

f) *Gymnura altavela* (Linnaeus, 1758)

a. Yes
b. No
c. Under development

g) *Isurus oxyrinchus* (Rafinesque, 1810)

a. Yes
b. No
c. Under development

h) *Lamna nasus* (Bonnaterre, 1788)

a. Yes
b. No
c. Under development

i) *Leucoraja circularis* (Couch, 1838)

a. Yes
b. No
c. Under development

j) *Leucoraja melitensis* (Clark, 1926)

a. Yes
b. No
c. Under development

k) *Mobula mobular* (Bonnaterre, 1788)

a. Yes
b. No
c. Under development

l) *Odontaspis ferox* (Risso, 1810)

a. Yes
b. No
c. Under development

m) *Oxynotus centrina* (Linnaeus, 1758)

a. Yes
b. No
c. Under development

n) *Pristis pectinata* (Latham, 1794)

a. Yes
b. No
c. Under development

o) *Pristis pristis* (Linnaeus, 1758)

a. Yes
b. No
c. Under development

p) *Rhinobatos cemiculus* (E. Geoffroy Saint-Hilaire, 1817)

a. Yes
b. No
c. Under development

q) *Rhinobatos rhinobatos* (Linnaeus, 1758)

a. Yes
b. No
c. Under development

r) *Rostroraja alba* (Lacépède, 1803)

a. Yes
b. No
c. Under development

s) *Sphyrna lewini* (Griffith & Smith, 1834)

a. Yes
b. No
c. Under development

t) *Sphyrna mokarran* (Rüppell, 1837)

a. Yes
b. No
c. Under development

u) *Sphyrna zygaena* (Linnaeus, 1758)

a. Yes
b. No
c. Under development

v) *Squatina aculeata* (Dumeril, in Cuvier, 1817)

a. Yes
b. No
c. Under development

w) *Squatina oculata* (Bonaparte, 1840)

a. Yes
b. No
c. Under development

x) *Squatina squatina* (Linnaeus, 1758)

a. Yes
b. No
c. Under development
d.

Is your country collaborating with other countries or international organizations to enhance the protection of elasmobranch species?

a) Yes
b) No

If "Yes," please provide details on the nature of the collaboration:

_____

What challenges or obstacles has your country encountered in implementing and enforcing the protection measures for elasmobranch species? Please tick the box that applies:

a) Policy framework
b) Regulatory framework
c) Financial resources
d) Administrative management
e) Technical guidance and capacities
f) Data collection and quality
g) Interdisciplinary collaboration
h) Communication barriers

What support or resources would be most helpful in overcoming these challenges? Please tick the box that applies:

a) Financial assistance
b) Technical expertise
c) Capacity building programs
d) Policy advocacy
e) Networking opportunities
f) Other:

Please provide any additional comments or information relevant to the implementation of legal protection for elasmobranch species under Annex II of the SPA/BD Protocol.

SECTION B: FISHERIES MANAGEMENT

Legal protection for prohibiting "finning" according to the GFCM recommendation (GFCM/42/2018/2)

Does your country have specific legislation that prohibits "finning" (the practice of removing fins from sharks and discarding the rest of the carcass at sea)?

a) Yes
b) No
c) Under development

If "Yes", please provide details of the legislation or regulations that address "finning":

_____

What are the main challenges or barriers faced in the implementation of the prohibition against "finning"? Please tick the box that applies:

a) Policy framework
b) Regulatory framework
c) Financial resources
d) Administrative management
e) Technical guidance and capacities
f) Data collection and quality
g) Interdisciplinary collaboration
h) Communication barriers

What types of support or collaboration would be beneficial in strengthening the enforcement of "finning" prohibitions? Please tick the box that applies:

a) Financial assistance
b) Technical expertise
c) Capacity building programs
d) Policy advocacy
e) Networking opportunities
f) Other:

Please provide any additional comments or suggestions related to the prohibition of "finning" and the GFCM recommendation:

_____

<u>Establish and promote national, sub-regional and regional plans or strategies for cartilaginous fish species (mainly listed in Annexes II and III)</u>

Has your country developed or endorsed a national, sub-regional or regional plan od strategy for the management of cartilaginous fish species (listed in Annexes II and III)?

a) Yes
b) No
c) Under development

Does your country has system for collecting and analyzing data on cartilaginous fish species?

a) Yes
b) No
c) Under Development

Has your country defined or implemented any legal instruments specifically for the management of cartilaginous fish species?

a) Yes
b) No
c) Under development

What are the challenges has faced in developing and promoting management plans or strategies for cartilaginous fish species? Please tick the box that applies:

a) Policy framework
b) Regulatory framework
c) Financial resources
d) Administrative management
e) Technical guidance and capacities
f) Data collection and quality
g) Interdisciplinary collaboration
h) Communication barriers

What additional support or resources would be most helpful in overcoming these challenges? Please tick the box that applies :

a) Financial assistance
b) Technical expertise
c) Capacity building programs
d) Policy advocacy
e) Networking opportunities
f) Other :

Please provide any additional comments or suggestions relevant to the management and conservation of cartilaginous fish species.

SECTION C: CRITICAL HABITATS AND ENVIRONMENT

Critical habitats legally protected and monitored, as soon as they are identified

Does your country have a system for identifying critical habitats?

a) Yes
b) No
c) Under development

How long does it typically take for critical habitats to be legally protected after identification?

a) Immediately
b) 1-3 months
c) 3-6 months
d) More than 6 months
e) Not protected
f) Not applicable

How frequently are critical habitats monitored after protection is implemented?

a) Continuously
b) Annually
c) Biennially
d) Less frequently
e) No monitoring
f) Not applicable

What are the challenges in protecting and monitoring critical habitats as soon as they are identified? Please tick the box that applies:

a) Policy framework
b) Regulatory framework
c) Financial resources
d) Administrative management
e) Technical guidance and capacities
f) Data collection and quality
g) Interdisciplinary collaboration
h) Communication barriers

What additional support or resources would be most helpful in overcoming these challenges? Please tick the box that applies:

a) Financial assistance
b) Technical expertise
c) Capacity building programs
d) Policy advocacy
e) Networking opportunities
f) Other:

Please provide any additional comments or suggestions related to the protection and monitoring of critical habitats:

Inventory of critical habitats (mating, spawning and nursery grounds)

Does your country have a system for identifying critical habitats, including mating, spawning, and nursery grounds?

a) Yes
b) No
c) Under development

How long does it typically take for critical habitats to be legally protected after identification?

a) Immediately
b) 1-3 months
c) 3-6 months
d) More than 6 months
e) Not protectet
f) Not applicable

How frequently is the inventory of critical habitats reviewed and updated?

a) Annually
b) Every 2-3 years
c) Every 5 years
d) Less frequently
e) Not applicable

What are the challenges in invetory of critical habitats including mating, spawning, and nursery grounds? Please tick the box that applies:

a) Policy framework
b) Regulatory framework
c) Financial resources
d) Administrative management
e) Technical guidance and capacities
f) Data collection and quality
g) Interdisciplinary collaboration
h) Communication barriers

What additional support or resources would be most helpful in overcoming these challenges? Please tick the box that applies:

a) Financial assistance
b) Technical expertise
c) Capacity building programs
d) Policy advocacy
e) Networking opportunities
f) Other:

Please provide any additional comments or suggestions related to the inventory of critical habitats including mating, spawning, and nursery grounds.

SECTION D: SCIENTIFIC RESEARCH AND MONITORING

Formalize/reinforce synchronous submission of catch, bycatch and discard data annually to the GFCM according to DCRF (Data Collection Reference Framework).

Has your country implemented a formalized process for the synchronous submission of catch, bycatch, and discard data to the GFCM according to the DCRF (Data Collection Reference Framework)?

a) Yes
b) No
c) Under development

How would you rate the effectiveness of your current data submission process to the GFCM?

a) Very Effective
b) Effective
c) Neutral
d) Ineffective
e) Very Ineffective

What are the challenges in formalized process for the synchronous submission of catch, bycatch, and discard data to the GFCM according to the DCRF (Data Collection Reference Framework)? Please tick the box that applies:

a) Policy framework
b) Regulatory framework
c) Financial resources
d) Administrative management
e) Technical guidance and capacities
f) Data collection and quality
g) Interdisciplinary collaboration
h) Communication barriers

What additional support or resources would be most helpful in overcoming these challenges? Please tick the box that applies:

a) Financial assistance
b) Technical expertise
c) Capacity building programs
d) Policy advocacy
e) Networking opportunities
f) Other:

Please provide any additional comments or suggestions related to formalized process for the synchronous submission of catch, bycatch, and discard data to the GFCM according to the DCRF (Data Collection Reference Framework).

Establishing research programmes, mainly on the biology, ecology and population dynamics of the main species identified by the countries

Has your country established research programmes focusing on the biology, ecology and population dynamics of key chondrichthyan's species?

a) Yes
b) No
c) Under development

Are there collaborations with other countries or international organizations?

a) Yes
b) No
c) Under development

How are local communities and stakeholders involved in the research programmes?

a) Actively engaged
b) Consulted
c) Collaborators
d) Not involved
e) Not applicable

What are the challenges in establishing research programmes, mainly on the biology, ecology and population dynamics of key chondrichthyan's species? Please tick the box that applies:

a) Policy framework
b) Regulatory framework
c) Financial resources
d) Administrative management
e) Technical guidance and capacities
f) Data collection and quality
g) Interdisciplinary collaboration
h) Communication barriers

What additional support or resources would be most helpful in overcoming these challenges? Please tick the box that applies:

a) Financial assistance
b) Technical expertise
c) Capacity building programs
d) Policy advocacy
e) Networking opportunities
f) Other:

Please provide any additional comments or suggestions related to establishing research programmes, mainly on the biology, ecology and population dynamics of key chondrichthyan's species?

SECTION E: CAPACITY BUILDING/TRAINING

Support expert participation in RFMO and other relevant meetings and workshops, to share expertise and build capacity for data collection, stock assessment and bycatch mitigation.

Does your country involve experts in RFMO meetings and and other revelent workshops and meetings?

a) Yes
b) No
c) Under development

What are the relevant topics and needs that should be included in RFMO meetings and other revelent workshops and meetings to effectively share expertise and build capacity for data collection, stock assessment, and bycatch mitigation? Please tick the box that applies:

a) Advanced data collection techniques
b) Stock assessment methodologies
c) Bycatch reduction strategies
d) Regulatory and compliance issues
e) Funding and resource allocation
f) Technology and innovation in fisheries
g) Regional and global collaboration
h) Climate change impacts
i) Community engagement and stakeholder involvement
j) Evaluation and monitoring systems

Please provide any additional comments or suggestions relevent to expert participation in RFMO and other relevent meetings and workshops.

_____

SECTION F: REGIONAL COORDINATING STRUCTURE

Support the establishing of, or feed the existing, centralised databases (DCRF, MEDLEM…)

How can your country effectively support the development and maintenance of centralized databases?

a) Providing financial support
b) Implementing policy frameworks
c) Enhancing technical expertise and asistance
d) Supporting research and innovation
e) Facilitating international collaboration
f) Not applicable

What are the challenges in support the establishing of, or feed the existing, centralised databases? Please tick the box that applies:

a) Policy framework
b) Regulatory framework
c) Financial resources
d) Administrative management
e) Technical guidance and capacities
f) Data collection and quality
g) Interdisciplinary collaboration
h) Communication barriers

What additional support or resources would be most helpful in overcoming these challenges? Please tick the box that applies:

a) Financial assistance
b) Technical expertise
c) Capacity building programs
d) Policy advocacy
e) Networking opportunities
f) Other:

Please provide any additional comments or suggestions related to establishing of, or feed the existing, centralised databases?

_____

Facilitating the enforcement of legal measures aiming to set up a system for enforcement of monitoring fisheries in international waters such as extending MEDITS programme to all Mediterranean countries (Mediterranean International Trawl Survey).

Has your country implemented legal measures aimed at enforcing fisheries monitoring in international waters?

a) Yes
b) No
c) Under development

Is your country participating in some programmes for monitoring fisheries in international waters in the Mediterranean?

a) Yes
b) No
c) Under development

What are the challenges in facilitating the enforcement of legal measures aiming to set up a system for enforcement of monitoring fisheries in international waters? Please tick the box that applies:

a) Policy framework
b) Regulatory framework
c) Financial resources
d) Administrative management
e) Technical guidance and capacities
f) Data collection and quality
g) Interdisciplinary collaboration
h) Communication barriers

What additional support or resources would be most helpful in overcoming these challenges? Please tick the box that applies:

a) Financial assistance
b) Technical expertise
c) Capacity building programs
d) Policy advocacy
e) Networking opportunities
f) Other:

Please provide any additional comments or suggestions related to facilitating the enforcement of legal measures aiming to set up a system for enforcement of monitoring fisheries in international waters.

_____

Increase compliance with obligations to collect and submit species-specific commercial catch and bycatch data to FAO and GFCM, including through increased use of observers.

Is your country compliant with the obligation to collect species-specific commercial catch and bycatch data to FAO and GFCM?

a) Yes
b) No
c) Under development

Is your country compliant with the obligation to collect species-specific bycatch data?

a) Yes
b) No
c) In Progress
d) Partially Compliant

Does your country use observers to enhance data collection for commercial catch and bycatch?

a) Yes
b) No
c) Under development

Are there training programs in place for observers to ensure accurate data collection?

a) Yes
b) No
c) Under development

What are the challenges in meeting the obligation to collect species-specific commercial catch and bycatch data for the FAO and GFCM? Please tick the box that applies:

a) Policy framework
b) Regulatory framework
c) Financial resources
d) Administrative management
e) Technical guidance and capacities
f) Data collection and quality
g) Interdisciplinary collaboration
h) Communication barriers

What additional support or resources would be most helpful in overcoming these challenges? Please tick the box that applies:

a) Financial assistance
b) Technical expertise
c) Capacity building programs
d) Policy advocacy
e) Networking opportunities
f) Other:

Please provide any additional comments or suggestions related to the obligation to collect species-specific commercial catch and bycatch data for the FAO and GFCM.

_____

SECTION G: ADDITIONAL INPUT AND OBSERVATIONS

Are there any general comments or important issues that your country would like to raise regarding the Action Plan for the conservation of cartilaginous fishes (Chondrichthyans) in the Mediterranean Sea? Please provide details on any additional concerns, suggestions, or considerations that should be taken into account.

_____

ANNEX III

Questionnaire on the implementation of the Action Plan for the Conservation of Cartilaginous Fishes (Chondrichthyans) in the Mediterranean Sea (2019-2024) - Action Plan partners / Experts

CONTACT DETAILS

Please provide information on the institution by completing the following details.

Name of the institution:
Mailing address:
Tel.
Fax:
Email:

Contact point for the questionnaire:
Tel.
Fax:
Email:

SECTION A: PROTECTION

Continuously review data and undertake new studies to clarify the status of Mediterranean chondrichthyan species focusing on endemics and species assessed as Data Deficient or Near Threatened

Is your institution currently involved in any studies or monitoring programs related to Mediterranean chondrichthyan species?

a) Yes
b) No

If yes, please provide details on the studies or programs:

- **Study/Program Name:** _____
- **Objective:** _____
- **Duration:** _____

Does your institution have updated data on any endemic chondrichthyan species in the Mediterranean?

a) Yes
b) No

If yes, please specify the species and provide a brief summary of the data:

- **Species Name:** _____
- **Data Summary:** _____

Are there any Data Deficient or Near Threatened chondrichthyan species for which you have recent assessments or new information?

a) Yes
b) No

If yes, please list these species and provide the most recent assessment information:

- **Species Name:** _____
- **Assessment Details:** _____

What measures are currently being undertaken to study or protect Mediterranean chondrichthyan species within your institution? (please select all that apply)

a) Research studies
b) Conservation programs
c) Policy advocacy
d) Public awareness campaigns
e) Not applicable
f) Other (please specify): _____

What are the main challenges faced in monitoring and studying Mediterranean chondrichthyan species? (please select all that apply)

a) Policy framework
b) Regulatory framework
c) Financial resources
d) Insufficient research capacity
e) Data collection and quality
f) Interdisciplinary collaboration
g) Communication barriers
h) Other (please specify): _____

What additional support or resources would be beneficial for enhancing efforts to study and protect these species? (please select all that apply)

a) Increased funding
b) Data sharing platforms
c) Technical expertise
d) Policy support
e) Networking opportunities
f) Other (please specify): _____

Please provide any additional comments or suggestions related to the status and conservation of Mediterranean chondrichthyan species?

&&**SECTION B: FISHERIES MANAGEMENT**

Promote the use of the existing Field identification sheets

What strategies or methods have you employed to promote the use of Field identification sheets in the Mediterranean region? (please select all that apply)

a) Training workshops
b) Regular updates and reminders
c) Networking opportunities
d) Technical expertise
e) Not applicable
f) Other (Please specify): _____

How effective have these promotional strategies been in increasing the use of Field identification sheets?

a) Very ineffective
b) Ineffective
c) Neutral
d) Effective
e) Very effective

What are the main challenges or barriers in promoting the use of Field identification sheets at the regional level? (please select all that apply)

a) Lack of awareness
b) Financial resources
c) Technical guidance and capacities
d) Communication barriers
e) Not user-friendly
f) Other (please specify): _____

What methods do you think would be most effective in raising awareness and encouraging the use of Field identification sheets among stakeholders? (please provide details)

_____

What improvements or updates would you suggest for the Field identification sheets? (please provide details)

_____

What additional promotional activities or support would help increase the use of Field identification sheets at the regional level? (please provide details)

_____

Promote the use of existing guidelines for reducing the presence of sensitive species in by-catch and releasing them if caught

Does your institution promote the use of existing guidelines for reducing by-catch of sensitive species at the regional level? If yes, please provide how. (please select all that apply)

a) Workshops and training sessions
b) Dissemination of guidelines through publications
c) Regular meetings and briefings with stakeholders
d) Incorporation into national and regional policies
e) Online platforms and resources (e.g., website, social media)
f) Collaboration with fishing industry associations
g) Not applicable
h) Other (please specify): _____

What strategies are employed to promote the use of existing guidelines at the regional level? (please select all that apply)

a) Regional meetings and conferences
b) Collaborative working groups
c) Webinars and online training
d) Publication in regional reports
e) Demonstration projects and pilot program
f) Public awareness campaigns
g) Not applicable
h) Other (please specify): _____

How do you evaluate the effectiveness of your promotional efforts? (please select all that apply)

a) Surveys and feedback from stakeholders
b) Monitoring compliance rates
c) Analysis of by-catch data
d) Reviewing implementation reports
e) Conducting interviews with industry participants
f) Not applicable
g) Other (please specify): _____

What types of training or capacity-building activities does your institution offer to support the implementation of these guidelines at the regional level? (please select all that apply)

a) Workshops and seminars
b) Online training modules
c) Technical assistance and mentorship
d) Development of training materials and guides
e) Not applicable
f) Other (please specify): _____

How do you ensure that these training activities are effectively reaching and engaging the relevant stakeholders? (please select all that apply)

a) Targeted outreach and communication
b) Partnerships with local organisations
c) Customised training programs
d) Evaluation and feedback mechanisms
e) Accessibility of training materials (e.g., translation, online access)
f) Not applicable
g) Other (please specify): _____

What are the main challenges or barriers in promoting the use of these exicting guidelines at the regional level? (please select all that apply)

a) Lack of awareness
b) Financial resources
c) Technical guidance and capacities
d) Communication barriers
e) Other (please specify): _____

What additional support or resources would enhance the ability to promote and implement these guidelines at the regional level? (please select all that apply)

a) Financial support
b) Access to updated guidelines and best practices
c) Technical expertise and consultancy
d) Improved communication channels with stakeholders
e) Enhanced monitoring and evaluation tools

Please provide any additional comments or insights on promoting the use of guidelines for by-catch management and the release of sensitive species at the regional level.

<u>Update and promote protocols and programmes for improved compilation and analysis of data, for contribution to regional stock assessment initiatives</u>

How are the updated protocols and programs communicated to relevant stakeholders in the Mediterranean region?

a) Internal newsletters
b) Training sessions or workshops
c) Email updates
d) Dedicated intranet pages
e) Other (please specify): _____

What strategies are employed to promote these protocols and programs at the regional level?

a) Regional meetings and conferences
b) Collaborative working groups
c) Webinars and online training
d) Publication in regional reports
e) Demonstration projects and pilot program
f) Public awareness campaigns
g) Not applicable
h) Other (please specify): _____

How do you evaluate the effectiveness of your promotional efforts? (please select all that apply)

a) Surveys and feedback from stakeholders
b) Monitoring compliance rates
c) Analysis of by-catch data
d) Reviewing implementation reports
e) Conducting interviews with industry participants
f) Not applicable
g) Other (please specify): _____

What types of training or capacity-building activities does your institution offer to support and contribute to regional stock assessment? (please select all that apply)

a) Workshops and seminars
b) Online training modules
c) Technical assistance and mentorship
d) Development of training materials and guides
e) Not applicable
f) Other (please specify): _____

What are the main challenges or barriers in promoting and updating the protocols and programmes for improved compilation and analysis of data (please select all that apply)

a) Lack of awareness
b) Financial resources
c) Technical guidance and capacities
d) Communication barriers
e) Other (please specify): _____

What additional support or resources would enhance the ability to promote and update protocols and programmes for improved compilation and analysis of data? (please select all that apply)

a) Financial support
b) Technical expertise and consultancy
c) Improved communication channels with stakeholders
d) Enhanced monitoring and evaluation tools
e) Networking opportunities

Please provide any additional comments or insights on promoting and updating the protocols and programmes for improved compilation and analysis of data at the regional level.

Legal protection for prohibiting "finning" according to the GFCM recommendation (GFCM/42/2018/2)

What specific actions has your institution taken to support the implementation of the GFCM recommendation on prohibiting "finning" at the regional level?

a) Contributed in the development of new regulations or guidelines
b) Provided technical assistance or training
c) Implemented monitoring and enforcement measures
d) Engaged in awareness-raising campaigns
e) Not applicable
f) Other (please specify): _____

How does your institution collaborate with other organisations, stakeholders, or national authorities to promote and enforce the prohibition of "finning" at the regional level?

a) Partners with NGO`s and civil society organisations
b) Works with international fishery organisations
c) Engages with local fishing communities
d) Coordinates with national governments and enforcement bodies
e) Not applicable
f) Other (please specify): _____

What types of support or resources does your institution provide to member states or other entities to help them implement the prohibition effectively?

a) Financial assistance or grants
b) Technical expertise and advisory services
c) Supports capacity-building initiatives for member states
d) Training workshops and seminars
e) Tools and equipment for monitoring
f) Not applicable
g) Other (please specify):

What are the main challenges that your institution has encountered in promoting or enforcing the prohibition of "finning" at the regional level?

a) Policy framework
b) Regulatory framework
c) Financial resources
d) Insufficient research capacity
e) Data collection and quality
f) Interdisciplinary collaboration
g) Communication barriers
h) Lack of collaboration from member states
i) Other (Please specify): _____

How does your institution engage with stakeholders (e.g., fishery communities, NGOs) to raise awareness and foster support for the prohibition of "finning" at the regional level?

a) Organizes outreach and educational programs
b) Participates in stakeholder forums and meetings
c) Publishes informational materials and reports
d) Engages in media campaigns and public relations
e) Not applicable
f) Other (please specify): _____

What additional support or resources would be beneficial for enhancing efforts to support the prohibition of "finning" at the regional level?

a) Increased funding
b) Data sharing platforms
c) Technical expertise
d) Policy support
e) Networking opportunities
f) Other (please specify): _____

Please provide any additional comments or suggestions related to the legal protection for prohibiting "finning" according to the GFCM recommendation (GFCM/42/2018/2)?

_____

<u>Establish and promote national, sub-regional and regional plans or strategies for cartilaginous fish species (mainly listed in Annexes II and III)</u>

Does your institution have any specific plans or strategies for the conservation and management of cartilaginous fish species listed in Annexes II and III?

a) Yes
b) No

If yes, please provide details about these plans or strategies, including their names, objectives, and year of adoption.

How does your institution facilitate or coordinate cooperation between different countries in establishing and promoting national, sub-regional and regional plans or strategies for cartilaginous fish species?

a) Financial assistance or grants
b) Technical expertise and advisory services
c) Supports capacity-building initiatives
d) Training workshops and seminars
e) Not applicable
f) Other (please specify):

What are the main challenges that your institution has encountered in establishing and promoting national, sub-regional and regional plans or strategies for cartilaginous fish species?

a) Policy framework
b) Regulatory framework
c) Financial resources
d) Interdisciplinary collaboration
e) Communication barriers
f) Lack of collaboration from member states
g) Other (please specify): _____

Please provide any additional comments or suggestions related to establishing and promoting national, sub-regional and regional plans or strategies for cartilaginous fish species?

_____

Identify further management and technical measures to minimize by-catch and mortality of sharks in fisheries impacting cartilaginous fishes.

Does your institution contribute to any management and technical measures to minimize by-catch and mortality of sharks in fisheries at the regional level?

a) Yes
b) No
c) Not applicable

If yes, please provide details about these management and technical measures.

_____

How does your institution collaborate with other RFMOs, member states, or stakeholders to develop and implement measures to minimize shark by-catch and mortality at the regional level?

a) Through formal agreements and joint working groups
b) Through informal cooperation and knowledge exchange
c) Through technical assistance and capacity-building programs
d) No formal cooperation currently in place

What are the main challenges faced in engaging stakeholders or collaborating with other intitutions in developing and implementing these measures?

a) Policy framework
b) Regulatory framework
c) Financial resources
d) Interdisciplinary collaboration
e) Communication barriers
f) Lack of collaboration from member states
g) Other (Please specify): _____

What future actions does your institution plan to take to further minimize by-catch and mortality of sharks in fisheries at the regional level?_____

Please provide any additional comments or recommendations related to management and technical measures to minimize by-catch and mortality of sharks in fisheries at the regional level?

SECTION C: SCIENTIFIC RESEARCH AND MONITORING

Promote programs on the status of by-catch to propose measures for attenuation of the phenomenon. Such programs should be developed with onboard observers and multispecies approach.

Does your institution promote programs on the status of by-catch to propose measures for attenuation of the phenomenon?

a) Yes
b) No

Does your institution utilize onboard observers in bycatch monitoring?

a) Yes
b) No

If yes, what role do onboard observers play? (please select all that apply)

a) Data collection
b) Compliance monitoring
c) Species identification
d) Reporting and documentation
e) Other (please specify): _____

What are the main challenges faced by onboard observers in your programs?

a) Limited access to vessels
b) Inadequate training
c) Safety concerns
d) Data reliability issues
e) Communication barriers
f) Other (please specify): _____

Does your program incorporate a multispecies approach to by-catch mitigation?

a) Yes
b) No

If yes, how is this approach implemented? (please select all that apply)

a) Targeting multiple species in by-catch reduction efforts
b) Adapting gear to reduce by-catch across different species
c) Monitoring and managing by-catch of multiple species simultaneously
d) Collaborating with other programs focused on different species
e) Not applicable
f) Other (please specify): _____

Are there any specific species or groups prioritized in your multispecies approach?

a) High-value commercial species
b) Endangered or threatened species
c) Species with high by-catch rates
d) Not applicable
e) Other (please specify): _____

What measures have been proposed or implemented to reduce by-catch? (please select all that apply)

a) Gear modifications (e.g., mesh size, escape devices)
b) Temporal or spatial closures
c) By-catch reduction technologies
d) Fishing practices and guidelines
e) Public awareness and education
f) Not applicable
g) Other (please specify): _____

How effective do you consider these measures to be? (Please rate on a scale from 1 to 5, where 1 = Not effective and 5 = Very effective)

a) 1 - Not effective
b) 2 - Slightly effective
c) 3 - Moderately effective
d) 4 - Effective
e) 5 - Very effective

What types of support or resources would enhance your by-catch programs? (Please select all that apply)

a) Funding and financial support
b) Technical expertise and training
c) Improved data and monitoring tools
d) Enhanced stakeholder collaboration
e) Policy and regulatory support
f) Other (please specify): _____

Please provide any additional comments or suggestions related to the status of by-catch to propose measures for attenuation of the phenomenon?

_____

<u>Promote existing research proposals developed under the SPA/RAC Action Plan to funding agencies</u>

Does your institution promote the existing research proposals developed under the SPA/RAC Action Plan to funding agencies?

a) Yes
b) No

What methods do you currently use to promote research proposals to funding agencies? (please select all that apply)

a) Direct outreach
b) Conferences and workshops
c) Networking events
d) Social media
e) Publications
f) Not applicable
g) Other (please specify): _____

How effective do you find these methods in securing funding? (Please rate on a scale from 1 to 5, where 1 = Not effective and 5 = Very effective)

a) 1 - Not effective
b) 2 - Slightly effective
c) 3 - Moderately effective
d) 4 - Effective
e) 5 - Very effective

Are there additional promotion strategies you would recommend for enhancing visibility and attracting funding for these proposals?

_____

What additional support or resources would be most helpful in overcoming all challenges? (please select all that apply)

a) Technical expertise and training
b) Organizing meetings
c) Providing promotional materials
d) Enhanced stakeholder collaboration
e) Other (please specify): _____

Please provide any additional comments or suggestions related to the promotion of the existing research proposals developed under the SPA/RAC Action Plan to funding agencies

_____

SECTION D: CAPACITY BUILDING/TRAINING

Support expert participation in RFMO and other relevant meetings and workshops, to share expertise and build capacity for data collection, stock assessment and by-catch mitigation.

Does your institution actively support the participation of experts in RFMO and other relevant meetings and workshops?

a) Yes
b) No
c) Partially

What mechanisms or funding opportunities does your institution provide to facilitate expert participation? (please select all that apply)

a) Travel grants
b) Accommodation support
c) Registration fee coverage
d) Not applicable
e) Other (please specify): _____

Does your institution have specific initiatives aimed at building capacity for data collection, stock assessment and by-catch mitigation?

a) Yes
b) No
c) Partially

If yes, please provide details on the types of capacity-building activities undertaken. (please select all that apply)

a) Training programs and workshops
b) Technical assistance
c) Technical expertise and consultancy
d) Not applicable
e) Other (please specify): _____

Who are the primary beneficiaries of these capacity-building initiatives?

a) Member states
b) Observer organisations
c) Local communities
d) Other (please specify): _____

Please provide any additional comments or suggestions that could improve support for expert participation and capacity building in these areas.

SECTION E: REGIONAL COORDINATING STRUCTURE

Establish a network, enrich and update directory of national, regional and international experts on chondrichthyan fishes

Does your institution maintain a directory of experts on chondrichthyan fishes?

a) Yes
b) No

If yes, please provide number of experts listed in the directory:

_____

If no, are there plans to establish or update such a directory?

a) Yes
b) No
c) Under development

How would you describe the current status of efforts to network with experts on chondrichthyan fishes within your institution?

a) Under development
b) Completed
c) Not started

What challenges have you encountered in establishing or updating your network of experts?

a) Financial resources
b) Technical support
c) Difficulties in reaching experts from different countries
d) Difficulties to include experts from all countries
e) Gender balance
f) Interdisciplinary collaboration
g) Communication barriers
h) Other (please specify): _____

Has your institution collaborated with other institutions or groups to enhance the expertise network on chondrichthyan fishes?

a) Yes
b) No

What additional support or resources would assist in furthering your efforts to establish and maintain the network of experts?

a) Additional funding
b) Improved IT infrastructure for network
c) Increased collaboration opportunities
d) Enhanced stakeholder communication
e) Other (please specify): _____

How does your institution find and identify experts to include in the directory? Please describe your methods and sources. (please select all that apply)

a) Network recommendations
b) Professional conferences
c) Literature review
d) Academic and research institutions
e) Online platforms
f) Professional associations
g) Other (please specify) _____

Does your institution currently have an open or ongoing call for experts specializing in chondrichthyan fishes to join a national, regional, or international directory?

a) Yes
b) No
c) Under development

Please provide any additional comments or suggestions to establish a network, enrich and update directory of national, regional and international experts on chondrichthyan fishes.

<u>Facilitating the enforcement of legal measures aiming to set up a system for enforcement of monitoring fisheries in international waters such as extending MEDITS programme to all Mediterranean countries (Mediterranean International Trawl Survey).</u>

Is your institution currently involved in the MEDITS programme?

a) Yes
b) No
c) Considering participation

What are the main challenges your institution faces in enforcing monitoring measures in fisheries? (Select all that apply)

a) Financial resources
b) Technical support
c) Inadequate training and capacity building
d) Insufficient data sharing and coordination
e) Limited technological support
f) Political or jurisdictional conflicts
g) Interdisciplinary collaboration
h) Communication barriers
i) Other (please specify): _____

What level of support does your institution provide or plan to provide in enforcing the monitoring of fisheries in international waters such as extension of the MEDITS programme to all Mediterranean countries?

a) Strongly support
b) Support

c) Neutral
d) Oppose
e) Strongly oppose

What recommendations do you have for improving the enforcement of monitoring fisheries in international waters such as extension of the MEDITS programme to all Mediterranean countries? (please select all that apply)

a) Enhanced data sharing agreements
b) Increased funding
c) Greater international cooperation
d) Improved technological infrastructure
e) Capacity building and training programs
f) Other (please specify): _____

How does your institution collaborate with other stakeholders in the Mediterranean region to enhance fishery monitoring? (please select all that apply)

a) Joint working groups or committees
b) Shared research and data collection
c) Coordinated policy and management actions
d) Regular meetings and consultations
e) Collaborative technology development
f) Not applicable
g) Other (please specify): _____

What additional resources or support does your institution need to effectively enforce legal measures that aim to protect the monitoring of fisheries in international waters? (please select all that apply)

a) Additional funding
b) Technical equipment and tools
c) Enhanced training programs
d) Data management systems
e) Expert advisory support
f) International technical assistance
g) Other (please specify): _____

Please provide any additional comments or suggestions to enforcement of legal measures aiming to enforce the monitoring of fisheries in international waters?

_____

SECTION F: ADDITIONAL INPUT AND OBSERVATIONS

Are there any general comments or important issues that your country would like to raise regarding the Action Plan for the conservation of cartilaginous fishes (Chondrichthyans) in the Mediterranean Sea? Please provide details on any additional concerns, suggestions, or considerations that should be taken into account.

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