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## **Agenda Item 5: Conservation of Species and Habitats**

### **5.1. Updating of the Action Plan for the conservation of marine turtles in the Mediterranean**

#### **Draft updated Action Plan for the conservation of marine turtles in the Mediterranean**

**Note:**

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United Nations Environment Programme / Mediterranean Action Plan (UNEP/MAP)  
Specially Protected Areas Regional Activity Centre (SPA/RAC)  
Boulevard du Leader Yasser Arafat  
B.P. 337 - 1080 Tunis Cedex - Tunisia  
E-mail: [car-asp@spa-rac.org](mailto:car-asp@spa-rac.org)

### **Note by secretariat**

1. Since 1989, the Action Plan has been revised four times. The first review was in 1999, as adopted by the CoP11 to the Barcelona Convention. The second review was in 2007 and concerned only the update of the timetable for the period 2008-2013. The third revision occurred in 2013 where the timetable was updated for the period 2014-2019 and adopted by the Decision IG.21/4 (CoP 18). The fourth updated was carried out in 2019 and adopted by CoP 21.
2. This fifth revision of the Action Plan, completed in 2025, 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 considering input from the SPA/BD Focal Points and the national and regional experts.
3. The Assessment report on the status of implementation of the Action Plan for the conservation of Marine Turtles in the Mediterranean (2019-2024) appears in annexe 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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## 1. Introduction

1. The Parties to the Barcelona Convention included among their priority targets for the period 1985-1995 the protection of Mediterranean marine turtles (Genoa Declaration, September 1985). To this purpose and as a response to growing international concern about the status of Mediterranean marine turtles, which encounter various threats, including mortality in fishing gear and loss of vital habitats on land (nesting beaches), they adopted in 1989 the Action Plan for the Conservation of Mediterranean Marine Turtles. In 1996, the Parties confirmed their commitment to the conservation of marine turtles by including the 5 species of marine turtle recorded for the Mediterranean in the List of **Endangered** and Threatened Species annexed to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean (Barcelona, 1995). The Protocol calls on the Parties to continue to cooperate in implementing the Action Plans already adopted.

2. Since 1989, the Action Plan has been revised four times. The first review was in 1999, when the updated version of the Action Plan was adopted by the 11th Conference of the Contracting Parties to the Barcelona Convention (COP11 Malta). The second review was in 2007 and concerned only the update of the timetable for the period 2008-2013. The third and fourth revisions occurred in 2013 and 2019 where the timetable was updated respectively for the periods 2014-2019 and 2029-2025. This fifth revision of the Action Plan, completed in 2025, updates the main text of the Action Plan and the associated implementation timetable following a review of the implementation of the previous version involving input from national Focal Points and national and regional experts.

3. Two species of marine turtle nest in the Mediterranean, the Loggerhead turtle (*Caretta caretta*) and the Green turtle (*Chelonia mydas*). The Leatherback turtle (*Dermochelys coriacea*) is observed regularly, while the remaining two species (Hawksbill turtle *Eretmochelys imbricata* and Kemp's Ridley turtle *Lepidochelys kempii*) in the original listing are very rarely encountered vagrant species. A sixth species of marine turtle, the Olive Ridley (*Lepidochelys olivacea*) has also recently been recorded in the region. Both Loggerhead and Green turtles also enter the Mediterranean from the Atlantic as juveniles in their oceanic stage and generally return to the Atlantic at larger sizes.

4. Marine turtles are reptiles, and they need to utilise terrestrial habitats (sandy beaches) to lay their eggs and produce young. The intensive exploitation of turtles during much of last century has led to a virtual collapse of the turtle populations in the Mediterranean. The remaining populations face relatively new threats such as incidental catches and mortality in commercial fishing gear and degradation of nesting habitats, entanglement as well as plastic ingestion. The conservation of turtles requires that threats and issues both on land and in the sea are addressed. Marine turtles are long-lived reptiles, and the recovery of populations is therefore a protracted process. Their reproduction on land poses threats, but it also provides opportunities, in a practical way, to help the species recover, for example through reducing predation rates on eggs and hatchlings. Good knowledge of marine turtle population biology is essential if this opportunity is to be used properly. Turtles do not nest every year and significant fluctuations from year to year in nesting activity are common, especially in green turtles. Consequently, long-term data are needed to study populations and draw conclusions on their status.

5. The wider issues of biodiversity conservation need to be considered in conserving species, such as marine turtles. Threatened species are components of an ecosystem and the interdependence of the implementation of the various SPA/RAC Action Plans for endangered species and biodiversity conservation is stressed here.

6. There is clear evidence of important negative impacts on the populations of Mediterranean marine turtles by human activities. As indicated above, the most serious current threats to and impacts on marine turtles are:

- Deterioration of the critical habitats for their life cycle, such as nesting, feeding and wintering areas, and key migration routes.
- Direct impacts from incidental capture in fisheries, intentional killing, consumption, egg exploitation and boat strikes.
- Pollution, which can impact both habitats and the marine turtles at individual and population level.

7. Knowledge of the genetic units, status, biology and behaviour of marine turtles is increasing rapidly in the Mediterranean and, though gaps still exist, sufficient information is available for conservation purposes. This information has been used in updating and improving the provisions of the present MAP Action Plan for the Conservation of the Mediterranean Marine Turtles. Sufficient information is also available in most cases to draw up National Action Plans for the conservation of marine turtles.

8. Elaborating and implementing action plans to confront the threats to biological diversity is an effective way of guiding, coordinating and stepping up the efforts made by the Mediterranean countries to safeguard the region's natural heritage. The adopted Ecosystem Approach (EcAp) to management of human activities with a view to conserving natural marine heritage and protecting vital ecosystem services recognizes that to achieve Good Environmental Status "Biological diversity is maintained or enhanced". In this context, under the Barcelona Convention, three common indicators related to marine turtles have been elaborated within the 27 common indicators of the Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and related Assessment Criteria (IMAP):

- **COMMON INDICATOR 3:** Species distributional range (EO1 related to marine mammals, seabirds, marine reptiles)
- **COMMON INDICATOR 4:** Population abundance of selected species (EO1, related to marine mammals, seabirds, marine reptiles)
- **COMMON INDICATOR 5:** Population demographic characteristics (EO1, e.g. body size or age class structure, sex ratio, fecundity rates, survival/mortality rates related to marine mammals, seabirds, marine reptiles)

9. The 2017 Mediterranean Quality Status Report (2017 MED QSR), within the analysis conducted on Common Indicators 3 (Species distributional range), 4 (Population abundance of selected species) and 5 (Population demographic characteristics) related to EO1 on marine mammals, seabirds and marine reptiles, focused on the major existing gaps related to the current knowledge about the presence, distribution, habitat use and preferences of these marine species. It stressed the need to increase efforts on filling these gaps to predict with any certainty the future viability of marine turtle populations in the Mediterranean. Moreover, the 2023 MED QSR recalls that IMAP reporting framework, is a requirement of all riparian Mediterranean states, does not exist in isolation but coincides with other international reporting requirements such as those for the EU Habitats Directive and its Marine Strategy Framework Directive (MSFD). There is much overlap and synergy between these programs, which means data collected if collected in adequately rigorous manner can be used multiple times and not only for the IMAP.

10. Information from various sources has been considered in this updated Action Plan. Effective protection and management of nesting areas, practical measures to reduce turtle bycatch, as well as the management of feeding grounds, based on scientific information, are some of the key elements that can help to ensure the survival and the recovery of populations of marine turtles. These elements have been paid due attention. Scientific information on population dynamics, biology and physiology and the topics of public awareness and education etc have also been given due consideration in this plan. Especially noted was the nesting range expansion and increased use of previously marginal areas for nesting by Loggerhead turtles in the central and western Mediterranean.

11. The effective and sustainable protection of the Mediterranean marine turtles implies the need for management of the Mediterranean as a whole, taking into account the ecosystem approach, it should take advantage of the actions of all the concerned stakeholders and be carried out in cooperation with organisations, programmes and plans, at the supranational and national level such as the Mediterranean Action Plan (MAP); Fisheries Management Plans (FAO/GFCM); the Marine Turtle Specialist Group (IUCN/SSC); International Commission for the Conservation of Atlantic Tunas (ICCAT); International Commission for the Scientific Exploration of the Mediterranean Sea (CIESM); relevant NGOs, research institutions and universities etc.

12. This Action Plan outlines objectives, priorities, and implementation measures in different fields as well as their coordination. The different components of the Action Plan are mutually reinforcing and may act synergistically.

13. Progress in implementing the Action Plan will be reviewed at each meeting of the National Focal Points for SPA/BD, based on national reports and on reports by SPA/RAC on the regional aspects of the Action Plan. The Action Plan will be assessed and revised and updated every five years, unless the SPA Focal Point Meetings deem otherwise.

## **2. Objectives**

14. The objective of this Action Plan is to maintain the Good Environmental Status and to further recovery of the populations of Loggerhead turtles and Green turtles in the Mediterranean (with priority accorded to Green turtles, wherever appropriate, due to their more spatially and numerically smaller populations) through:

- Appropriate protection, conservation and management of marine turtles and their habitats, including nesting, feeding and wintering areas and key migration passages.
- Improved biological understanding of the status of marine turtle populations through scientific research and monitoring.

## **3. Priorities**

15. Acknowledging the progress achieved over the past years and the proliferation of projects, activities and actions in many countries in the region, it is considered an overarching priority action to continue and enhance such ongoing projects and activities related to marine turtle conservation, research and monitoring. The following priorities have been identified for each component of this Action Plan:

### **3.1. Protection and management of the species and their habitats**

16. Conservation should be fostered through the following actions:

- Development, implementation and enforcement of specific legislation on marine turtles.
- Reduction of incidental catches and elimination of intentional killings.
- Protection and effective management of nesting areas, including emerging nesting areas, and the adjacent mating and inter-nesting marine habitats.
- Protection and management of feeding, wintering and mating areas and key migration passages.
- Assessment of and improvement to the condition of degraded nesting beaches.
- Sharing and adopting standardised protocols for management and conservation.

### **3.2. Research and monitoring**

17. Knowledge needs to be improved in the following topics:

- Location of mating, feeding and wintering areas and key migration routes.
- Location of potential and new nesting areas with thermal conditions conducive to successful breeding.

- Biology of the species, in particular aspects related to life cycles, population dynamics and population trends and genetics.
- Rates of fisheries interactions (e.g. bycatch) and associated direct and post-release mortalities.
- Efficacy of modification of fishing practices, mitigation measures and related socioeconomic effects of implementing these measures.
- Efficacy of nesting beach management techniques that increase hatchling recruitment, especially for emerging nesting areas.
- Causes of injury and death that may be collected from stranded marine turtles through adoption of standardised protocols used by stranding networks and rescue centres.
- Impact of climate change on populations including habitat alteration, altering sex ratios to levels that could reduce population fitness, hatching success, changes in reproductive frequency and changes in feeding ecology that could affect reproduction and/or survival.
- Impact of pollution (including plastics) on the health of individuals and populations.
- Population status and trends through long-term monitoring programmes, both on nesting beaches and at sea, based on the IMAP developed within the framework of the EcAp process of the Barcelona Convention as well as the monitoring requirements set under the MSFD of the EU.

### **3.3. Public awareness and education**

18. For the implementation of this action plan, public support is needed. Information and education campaigns on relevant turtle conservation issues should target groups such as:

- Fishers and other stakeholders.
- Decision makers at national, regional and local levels.
- Local residents and visitors to nesting areas.
- Schoolchildren and teachers.
- Tourists and tourism-related organizations.

### **3.4. Capacity building/Training**

19. Training in standardised conservation and management techniques and protocols relating to conservation, research and monitoring of the priority issues covered by the Action Plan, and data required for the IMAP, should be delivered to managers, scientists, researchers and other relevant staff.

### **3.5. Coordination**

20. Promote and enhance cooperation and coordination among the Contracting Parties, the UNEP/MAP partners, relevant organizations and projects carried out in the field of marine turtle conservation. Promote intra-governmental coordination and communication for the enhancement of marine turtle conservation. Priority should be given to the regular assessment of the progress in the implementation of this Action Plan.



## 4. Implementation

21. The implementation of the measures recommended in this Action Plan will only be possible with the appropriate support of the Parties and by competent national and international organisations, particularly with regards to the provision of adequate financial support, through national and regional funding programmes and through applications to donors for specific projects. Much progress has been achieved over recent years, with the proliferation of projects, programmes, activities and actions in many countries around the Mediterranean. The implementation, coordination and strategic alignment of such ongoing activities related to marine turtle conservation, research and monitoring is expected to benefit from the provisions of this Action Plan.

### 4.1. Protection and management

22. Regarding protection and management, the following measures are recommended:

#### (a) Legislation

23. The Contracting Parties that have not yet extended legal protection to marine turtles should do so as soon as possible. Protection should be extended to *all* species of sea turtle as any turtle present in the Mediterranean is worthy of protection; however, management legislation can be limited to loggerhead and green turtles as the only two species with established breeding populations.

24. Each Contracting Party should develop and implement as soon as possible the necessary legislation for the protection, conservation and/or management of areas important for marine turtles, such as nesting (including the adjacent sea), feeding, wintering and mating areas and key migration passages.

25. In pursuing the above the Contracting Parties should consider the provisions of the relevant international conventions and supranational legislation as well as the SPA/RAC “Guidelines to Design Legislation and Regulations Relative to the Conservation and Management of Marine Turtles Populations and their Habitats”.

26. Legislation on deliberate killing must be enforced and/or updated in some countries and developed in others that lack this fundamental measure.

#### (b) Protection and management of habitats

27. Integrated management plans should be elaborated and implemented for terrestrial and marine areas critical for nesting, feeding, wintering and mating, as well as key migration routes.

28. Measures and management rules aimed at protecting critical habitats, on land and at sea, should be developed and implemented. In the case of nesting areas, such measures should cover issues such as public access, use of vehicles, use of artificial lights, nautical activities, minimization of predation, inundation, disturbance during nesting, disturbance in adjacent waters, etc. In the case of marine areas such measures should address boat traffic and fishing. Contracting Parties are encouraged to use the SPA/RAC “Guidelines for setting up and management of Specially Protected Areas for marine turtles in the Mediterranean”

29. Training of the staff involved in protection and management activities is a prerequisite to good management.

#### (c) Reduction of incidental catches and elimination of intentional killings

30. A reduction of incidental catches and mortality can be achieved by:

- Applying appropriate regulations concerning fishing depth, season, gear, etc, especially in areas with a high concentration of turtles.
- The modification of fishing gear, methods and strategies proven to be effective, and as appropriate, their introduction in fisheries legislation and fishing practices.

- Education/training of fishers to correctly haul, handle, release and record incidentally caught turtles. Use of appropriate methods are described *inter alia* in the SPA/RAC publication “Sea turtle handling guidebook for fishermen”.

31. Deliberate killing and exploitation of marine turtles can be practically eliminated by:

- Applying and enforcing appropriate legislation.
- Carrying out campaigns among fishers, to urge them to release unharmed any marine turtles caught incidentally and to participate in the information networks on turtles (report sightings of turtles, of tags, participation in tagging programmes, etc.).
- Carrying out campaigns for fishers and local populations to facilitate the implementation of legislation to ban the exploitation/consumption and trade/use of all products derived from marine turtles.

The above will help reduce mutilation and killing of turtles due to ignorance and/or prejudice.

(d) Other Measures to Reduce Mortality

32. The setting up and proper operation of Rescue Centres and First Aid Stations is suggested as an additional means to minimize individual turtle mortality. Rescue centres may also play an important role for the conservation of the populations by contributing to activities such as awareness, education, and data collection. The use of the SPA/RAC “Guidelines to Improve the Involvement of Marine Rescue Centres for Marine Turtles” is recommended.

33. There is a need to develop a common methodology for the management of rescue centres both for methods of collection and transfer of conservation relevant data and the improved welfare to individual turtles.

34. Staff involved at rescue and rehabilitation centres should all receive training to provide them with a certain level of competency. In addition, a Mediterranean-wide rescue network should be set up, to assist the exchange of knowledge and experience among those who work with turtles in facing difficulties. The network should include existing rescue centres and promote the establishment of new rescue centres in countries that are currently lacking adequate structures.

35. Through all work, standard protocols should be followed, which include good data collection and sharing for the general advancement of marine turtle welfare and generation of conservation-related information. Guidelines should be reviewed and updated where necessary.

## **4.2. Scientific Research and Monitoring**

36. The strategic development of research and monitoring programmes and the exchange of information should focus on the priority fields for the conservation of marine turtle populations. This can be achieved through adoption of various methods, such as beach surveys and (long-term) monitoring of nesting beaches, tagging (keeping in mind the provisions of the SPA/RAC tagging guidelines), data logging, satellite telemetry, Geographic Information Systems (GIS), genetics, fishery observers and modelling.

37. Priority should be afforded to robust scientific data collection that contributes to regional assessment programmes such as the EU MSFD and the Barcelona Convention IMAP, and to the fledgling identification of Important Marine Turtle Areas initiative of the IUCN Marine Turtle Specialist Group.

## (a) Scientific research

38. Research should cover *inter alia* the following (not in order of priority):

- Identification of mating, feeding and wintering areas and key migration passages.
- Identification of potential or new nesting areas with thermal conditions conducive to successful breeding.
- Deeper understanding of the biology of the species, in particular aspects related to life cycles, population dynamics and population trends and genetics. Contracting Parties are encouraged to use the “Guidelines to standardize methodologies to estimate demographic parameters for marine turtles [sic] populations in the Mediterranean”.
- The assessment of turtle bycatch and direct and post-release mortality rates from different fishing gears, including those used in small scale and artisanal fisheries.
- Gather data on the effects of gear modifications (new hooks etc.), other mitigation measures and fishing strategies to evaluate the effects of these on turtle mortality and catch rates as well as the effects on other species.
- The assessment of socio-economic effects of the implementation of turtle conservation measures that can impact fisheries to determine best course of action.
- Evaluation of the impact of different climate change scenarios on marine turtles; for example altered sex ratios (to levels that could reduce population fitness), behaviours and habitat use or shifted seasonality of nesting.
- Identification and quantification of new and emerging threats, whose impacts may be increasingly important at national to regional level.

## (b) Monitoring

39. For monitoring, programmes should follow the recommendation of the MAP ecological objectives, the IMAP and the relevant Protocol<sup>3</sup>. They should cover *inter alia* the following (not in order of priority):

- Long-term monitoring programmes for important nesting beaches and foraging areas. All Contracting Parties that have nesting beaches or foraging areas should encourage their uninterrupted and standardized monitoring considering any national monitoring programmes related to biodiversity. Where such programmes do not exist, the Parties should set up such programmes or encourage them.
- Surveys of nesting beaches of lower nest densities, and of scattered nesting at emerging sites need also to be undertaken regularly if possible, so that a more complete picture of populations can be formed. Contracting Parties are encouraged to use the SPA/RAC “Guidelines for the long-term Monitoring programmes for marine turtles nesting beaches and standardized monitoring methods for nesting beaches, feeding and wintering areas”.
- Cost-effective by-catch monitoring programmes, possibly using on-board observers (who could collect turtle tissue samples for genetic analyses) or cameras, to gather precise data on species biology and bycatch rates and outcomes should complement nesting beach and foraging area monitoring.
- Standard management techniques for nesting beaches within the scope of on-going monitoring programmes should be implemented
- Standard management techniques for foraging areas within the scope of on-going monitoring programmes, and for the establishment of new programmes should be developed and implemented.
- Data collection from stranded marine turtles through integrated stranding networks and rescue centres should be strengthened following standard protocols.
- Joint monitoring initiatives (possibly on a pilot basis) with the aim to share and exchange best practices, using harmonized methodologies, and ensuring cost efficiency. Contracting Parties, with the help of national, regional or international organisations, should undertake, when appropriate,

- Regional initiatives and projects led by competent partner organizations to strengthen strategic and operational regional synergies. Contracting Parties should support and take part in them to contribute to the implementation of the IMAP, and other international initiatives.
- Regular reporting of quality assured data, based on national and international reporting requirements. Contracting Parties should encourage this together with promoting publication of results as peer-reviewed articles in scientific journals.

40. For some Contracting Parties there is still little information on turtle nesting beaches and size of breeding populations. These Parties should undertake urgently more comprehensive surveys and encourage the setting up of long-term monitoring programmes considering their national monitoring programmes related to biodiversity.

#### **4.3. Public awareness and education**

41. Public-awareness programmes, including appropriate multiple information tools (special documentary information material, electronic media etc), should be developed for fishers, local residents, tourists and tourism-related organizations, to help reduce the mortality rates of marine turtles, to induce respect for nesting, feeding and wintering and mating areas, and to promote the reporting of any useful information concerning marine turtles. Appropriate training/education of stakeholders can be given (e.g. turtle handling to fishers and promotion of legitimate eco-touristic options to tourism businesses).

42. Information campaigns directed at local authorities, residents, teachers, visitors, fishers, decision makers at local, regional and national levels and other stakeholders, are urgently needed to enlist their participation in the efforts for the conservation of marine turtles and for their support for conservation measures.

43. Inclusion of marine turtle conservation in school education, potentially as part of the national curriculum, is strongly recommended.

#### **4.4. Capacity building/Training**

44. Existing training programmes should be continued, particularly for those Parties that need more expertise and/or experts with specialized knowledge of marine turtles, and for managers and other staff of protected areas, in the conservation and management techniques needed (these include *inter alia* beach management, tagging and monitoring).

45. Training programmes in the setting up and operation of Rescue Centres should be continued, with the aim of guaranteeing that these centres have skilled personnel, appropriate equipment and adopt best practice and common methodologies for necessary data collection. Training programmes to be elaborated for other fields, as needed, especially where fisheries managers are concerned. The dissemination of standardised protocols to all relevant parties is encouraged, to obtain comparable and scientifically robust data for conservation and management.

#### **4.5. National Action Plan**

46. Contracting Parties should establish National Action Plans for the conservation of marine turtles, in line with the requirements for the Post-2020 SAPBIO.

47. National Action Plans should address the current factors causing loss or decline of turtle population and their habitats, suggest appropriate subjects for legislation, give priority to the protection and management of coastal and marine areas, the regulation of fishing practices and ensure continued research and monitoring of populations and habitats as well as the training and refresher courses for specialists and the awareness-raising and education for the general public, actors and decision-makers.

48. Long established National Action Plans should be reviewed to confirm they still meet the national needs of the turtles and how well-established recommendations have been implemented.

49. The national plans must be brought to the attention of all concerned actors and, when possible, coordinated on a regional basis.

#### **4.6. Regional coordination structure**

50. It is necessary to further develop cooperation and exchange of information among the Contracting Parties for the implementation of the Action Plan and to improve the coordination of activities within the region.

51. SPA/RAC continues to be considered the most appropriate existing mechanism for this coordination. The implementation of the Action Plan may be carried out, in cooperation with other bodies concerned, through establishing Memoranda of Cooperation, as necessary. Sub-regional working groups of experts and NGOs, such as NAST-Net for the northern Africa region, are encouraged to be developed and become partners to the AP (see below). Such regions could include the Adriatic Sea and the northern Western Mediterranean.

52. The major function of the coordinating mechanism for the marine turtle AP would be to:

- Assess the progress achieved in implementing this Action Plan. SPA/RAC will request at regular intervals, not exceeding two years, update reports from the Parties and, based on these ongoing national reports and of its own assessment of the progress in the regional component of this Action Plan, prepare reports to be submitted to the SPA National Focal Point meetings, which will make follow-up suggestions to the Contracting Parties.
- Collect and evaluate the data at Mediterranean level.
- Prepare a timetable of activities and financing proposals for the Contracting Parties' meetings.
- Contribute to the dissemination and exchange of information and best practice standard protocols.
- Create more opportunities with relevant partner organizations, to strengthen technical support that countries might need to implement the IMAP in relation with marine turtles.
- Assist and/or organize expert meetings on specific topics regarding marine turtles.
- Continue to support the organisation of the Mediterranean Marine Turtle Conferences.
- Assisting and/or organising, training courses and support and catalyse the complementary work carried out by other international bodies, NGOs and UNEP/MAP partners aiming at the same objectives should be encouraged and capitalized to prevent possible overlapping and help disseminate their knowledge across the Mediterranean Community.
- Coordinate the activities needed for the revision/updating of this Action Plan every five years, or earlier, if this is deemed necessary by the SPA/DB National Focal Point meetings or based on important new information becoming available.
- Support data collection, compilation and analysis that will contribute towards the establishment of Important Marine Turtle Areas in the Mediterranean, which is a target of the IUCN-SSC Marine Turtle Specialist Group.

#### **4.7. Participation**

53. Any interested international and/or national organisation, qualified through sufficient expertise, is invited to participate in actions necessary for the implementation of this Action Plan.

54. Links with other bodies responsible for Action Plans dealing with one or more species of marine turtles, especially regarding fisheries related issues, should be made to strengthen co-operation and avoid duplication of effort.

55. The co-ordination structure shall set up a mechanism for regular dialogue between the participating organisations and is encouraged to organise regular meetings to this effect.

#### **4.8. Actions Plan Partners**

56. Implementing the present action plan is the province of the national authorities of the Contracting Parties. Relevant international organisations, NGOs, laboratories, and any other entities are invited to join in the efforts necessary for the successful implementation of the Action plan. 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.

#### 4.9. Implementation timetable

ACTION	Deadline/ periodicity	By whom
<b>A. PROTECTION AND MANAGEMENT</b>		
<b>A.1 Legislation</b>		
a. Protection of turtles – general species protection	As soon as possible	Contracting Parties
b. Enforce legislation to eliminate deliberate killing	As soon as possible	Contracting Parties
c. Habitat protection and management (nesting, mating, feeding, wintering and key migration passages)	As soon as possible	Contracting Parties
<b>A.2 Protection and management of habitats</b>		
a. Setting up and implementing management plans of key areas	Immediate and continuous	Contracting Parties
b. Mitigation measures in place at damaged nesting habitats	Immediate and continuous	Contracting Parties
<b>A.3 Minimisation of incidental catches</b>		
a. Fishing regulations (depth, season, gear, duration, dynamic spatial extents) in key areas	Immediate and continuous	Contracting Parties
b. Modification of gear, methods and strategies	Immediate and continuous	SPA/RAC, Partners & Contracting Parties
<b>A.4 Other measures to minimise individual mortality</b>		
a. Setting up and/or improving operation of Rescue and Rehabilitation Centres	Continuous	Contracting Parties
b. Elaborate guidelines for the management of rescue centres, including methods for data collection, which align with existing protocols	1 year after adoption	SPA/RAC

ACTION	Deadline/ periodicity	By whom
<b>B. SCIENTIFIC RESEARCH AND MONITORING</b>		
<b>B.1 Scientific research</b>		
a. Identification of new mating, feeding and wintering areas and key migration passages in order to generate data for establishing MTSG Important Marine Turtle Areas	Continuous	Contracting Parties and Partners
b. Assess the interaction between turtles and fisheries through elaboration and execution of cooperative research projects of regional importance	Continuous	SPA/RAC, Partners & Parties
c. Identify sub-regional management units through re-identification and tracking of individual marine turtles and through genetic analysis	Continuous	SPA/RAC and Contracting Parties and Partners
d. Exchange information and experience between managed and monitored nesting sites through networking and other means	Continuous	SPA/RAC
<b>B.2. Monitoring</b>		
a. Set up and/or improve long-term monitoring programmes for nesting beaches, feeding and wintering areas in order to generate data for establishing MTSG Important Marine Turtle Areas and other regional initiatives such as IMAP and MSFD	Continuous	Contracting Parties and SPA/RAC
b. Elaboration of protocols for data collection from stranded turtles, ensuring minimum data standards are adhered to	2 years from adoption	SPA/RAC
c. Encourage establishment of national stranding networks and communication between established networks	As soon as possible	Contracting Parties



<b>ACTION</b>	<b>Deadline/ periodicity</b>	<b>By whom</b>
<b>C. PUBLIC AWARENESS AND EDUCATION</b>		
Awareness raising and information campaigns directed at fishers, coastal populations, authorities and other stakeholders	Continuous	SPA/RAC, Partners and Contracting Parties
<b>D. CAPACITY BUILDING</b>		
Establish training courses on topics such as nesting and foraging area management, nest management techniques and in-water research techniques. To be carried out by recognised regional expert individuals and organisations.	Continuous	SPA/RAC and Partners
<b>E. NATIONAL ACTION PLANS</b>		
Elaboration of National Action Plans	Continuous	Contracting Parties
<b>F. COORDINATION</b>		
a. Assessment of progress in the Implementation of the Action Plan	Every Five years	SPA/RAC and Parties
b. Cooperation in organising the Mediterranean Conferences on marine turtles	Every three year	SPA/RAC
c. Updating the Action Plan on Marine Turtles	Five years from adoption	SPA/RAC

## **Annex I**

**Assessment report on the status of implementation of the Action Plan for the conservation of  
Marine Turtles in the Mediterranean (2019-2024)**

## Executive Summary

1. The Mediterranean Marine Turtle Action Plan was first established under the coordination of SPA/RAC in 1989. It was subsequently updated in 1999, 2007 and 2013. The most recent update of the Action Plan was accepted by contracting parties (CPs) to the Barcelona Convention in 2019 (Decision IG.24/07, COP 21). That iteration of the Action Plan was scheduled for review after 5 years, to determine how well the CPs are meeting the stipulations of the Action Plan and if it requires updating for any themes.

2. Feedback on the implementation of the Action Plan was sought from National Focal Points, Mediterranean marine turtle experts and several pan-national conservation organisations that have marine turtle protection as part of their scope. To this end, a questionnaire tailored to each CP, pre-filled with information gleaned from the Barcelona Convention Reporting System and relevant published literature, was distributed to the selected individuals and organisations. The feedback received was reviewed and synthesised and forms the basis of this report.

3. The questionnaire and this report replicated the main topics of the Action Plan:

1. Protection and Management
2. Scientific Research and Monitoring
3. Public Awareness and Education
4. Capacity Building/Training
5. National Action Plans (establishment of...)
6. Regional Coordination Structure
7. Participation
8. Partnering

4. We found variability in the extent of implementation of the Action Plan among Contracting Parties and this was generally related to the extent of marine and coastal habitats present in each Contracting Party's jurisdiction.

5. Marine turtles, and less-so their habitats, were found to be generally legally protected across the region though implementation and enforcement of protection measures are patchy. Scientific research and monitoring are generally mostly focussed on the nesting beaches which are by-and-large identified, even in countries where nesting is a newly emerging phenomenon. Research and monitoring at in-water sites and on fisheries interactions was indicated to be less prevalent, no doubt due to the increased logistical and financial resources required to complete such work. Most Contracting Parties still need to identify in-water sites at which research and monitoring should be focussed and they need to dedicate resources to assess and improve the status of marine turtles relating to bycatch and intentional injuries.

6. Public awareness and education activities are widespread but lacking in certain Contracting Parties. They should continue to be promoted within the Action Plan and closely tied to the expanding network of rescue centres and rehabilitation facilities. A concerted effort for raising awareness and lobbying authorities to establish and implement protection measures, such as integrated management plans for key marine turtle locations, should be encouraged and the few Contracting Parties lacking national action plans for the protection of marine turtles and their habitats should be supported to draft and implement them over the next five years.

7. Capacity building and training are vital components of ensuring each Contracting Party can protect its marine turtle populations and habitats effectively, whether it is nest management, fisheries monitoring or rehabilitation. Around half of the Contracting Parties indicated they have at least some

form of on-going training towards marine turtle conservation, which highlights the need for increased efforts across the region. As expected, resourcing for certain activities, such as trained fisheries monitoring personnel, is often limited and restricts what can be done by a CP. Increased allocation of resources for training components of marine turtle monitoring and conservation for both terrestrial and marine environments is another key take-home point for improvement based on the existing Action Plan.

8. SPA/RAC has coordinated the drafting and revision of the AP since its inception in the 1980s. All feedback on the role of SPA/RAC was positive. A common theme for coordination was to increase the inclusion of more individuals and organisations and to organise meetings to support researchers, such as establishing task forces on specific topics. Other comments included revising or extending the Focal Point paradigm to include technical Focal Points per CP that are more aware of and involved in marine turtle research and conservation.

9. National experts recommended marine turtle conservation NGOs from within their nations to participate in the Action Plan process, but one notably suggested that the inclusion of fisheries-focused groups would be beneficial. This is highly important as fisheries are the biggest threat to marine turtles but also the threat that we have the least knowledge about and is generally the most complicated issue to target. Several pan-national organisations were suggested to be linked to the marine turtle AP. These were, Fisheries management organisations (GFCM) and MPA manager network (MedPAN). These recommendations, especially regarding fisheries management, are worth exploring for synergies and complementary goals that may make progress towards meeting the requirements of the marine turtle AP more efficient. A simple summary of increased participation in the Action Plan involves the organisation of multistakeholder meetings and the facilitation of online and electronic communication and data sharing.

10. Lastly, on the theme of the possibility of individuals, organisations and institutions proposed by the NFPs partnering with the Action Plan drew only a few responses, but all were in favour.

## Introduction

11. The Mediterranean Marine Turtle Action Plan was first established under the coordination of SPARAC in 1989. It was subsequently updated in 1999, 2007 and 2013. The most recent update of the Action Plan was accepted by contracting parties (CPs) to the Barcelona Convention in 2019 (Decision IG.24/07, COP 21). That iteration of the Action Plan was scheduled for review after 5 years, to determine how well the CPs are meeting the stipulations of the Action Plan and if it requires updating for any themes.

12. A questionnaire to assess the implementation of the incumbent Marine Turtle Action Plan (MTAP) was pre-filled with responses previously provided within The Barcelona Convention Reporting System (BCRS) with additional details supplied that were derived from published literature (e.g. Casale *et al.* 2018; MTSG 2021) and web sites. This was distributed to each National Focal Point (NFP) in September 2024. The same questionnaire was also sent to national experts covering 18 riparian states and six pan-national organisations (MEDASSET, MedPAN, NAST-Net, WWF MMI, GFCM and STEG). Recipients of the questionnaire were requested to check the pre-filled content, correct it if necessary and add any further information that was known to them. The extended deadline for receiving completed questionnaires was set to October 7<sup>th</sup>, 2024. On 8 October 2024, 6 responses from NFPs, 13 from national experts and 2 from a pan-national organisation had been received. By the time this revised reviewed version of the report was compiled (10-12 December 2024) a further 4 responses had been received. Two (2) responses from NFPs, 1 additional response from a national expert and 1 from a pan-national organisation. It should be noted that the previous national reports that were used to pre-fill the questionnaire varied greatly in the quantity and quality of information they contained on the implementation of the MTAP, with some reports containing little to no information, whilst others were almost complete. Consequently, even though responses were not received from all nations during this exercise, information was available for all and contributed to the current assessment.

13. The questionnaires were built around the topics listed in the incumbent MTAP (See Appendix 1) and divided into eight areas; these were:

1. Protection and Management
2. Scientific Research and Monitoring
3. Public Awareness and Education
4. Capacity Building/Training
5. National Action Plans (establishment of...)
6. Regional Coordination Structure
7. Participation
8. Partnering

Each of these areas will be discussed in-turn below.

Nation	NFP	NE	PNO
Albania		Yes	
Algeria	Late	Yes	
Bosnia and Herzegovina	Yes	N/A	
Croatia	Yes	Yes	
Cyprus	Yes	Late	
Egypt	Late	Yes	
France		Yes	
Greece			Late
Israel			
Italy	Yes	Yes	
Lebanon	Yes		
Libya		Yes	
Malta	Late	Yes	
Monaco		N/A	
Montenegro		N/A	
Morocco			
Slovenia		Yes	
Spain			
Syria		Yes	
Tunisia		Yes	Yes
Turkey	Yes	Yes x2	
<b>Totals</b>	<b>9</b>	<b>14</b>	<b>4*</b>

**Table 1.** Responses to the distributed pre-filled questionnaires received by 8 October 2024 with additional, late, responses indicated. NFP – National Focal Point. NE – National Expert. PNO – Pan-national Organisation. N/A – Not Asked. \*One PNO gave a response that only covered Tunisia, one gave a response mainly related to Greece and two gave responses where answers were relevant at a pan-national level.

## 1. Protection and Management

### Legislation

14. Based on responses provided in the questionnaire and information presented in Casale *et al.* (2018) All CPs have either national laws or are party to international conventions or both, for the protection of marine turtles which is a tremendous basic attainment for the conservation of this taxon across the region.

15. Legal protection of marine turtle habitats is less widespread. Interpreting questionnaire responses and information provided in the BCRS suggests that there are an equal number of CPs with sufficient or partial legal protection for marine turtle habitats (8 each) and five (5) CPs with no legal protection. Four of the five CPs lacking habitat protection are nations with short Mediterranean coastlines and limited marine habitats (Bosnia, Monaco, Montenegro and Slovenia), suggesting that marine habitat protection is not a priority. The final CP (Israel), with ~270km of Mediterranean coastline, indicated that habitat protection is under development. Regionally, the Convention on Biological Diversity (CBD) offers an opportunity for a mechanism to protect marine turtle habitats. Provisions are also made within the Barcelona Convention. The EU countries have the Habitats Directive (92/43/EEC) where CPs can establish locations in the Natura 2000 network of protected areas. Lastly, the Bern Convention (applying mainly to EU countries) also requires declared marine turtle habitats be protected.

16. Regarding enforcement of protection laws to minimise killings, over half of the CPs reiterated that they have laws to protect the marine turtles and eight (8) gave no further indication whether these laws were enforced or required enforcement. Eleven (11) CPs indicated that enforcement was taking

place at least partially, while two (2) suggested such enforcement was not applicable in their circumstances. Although quantification of intentional killings appeared in the research priorities proposed by Casale *et al.* (2018), it appears that deliberate killing of turtles is not a major issue for most CPs, with only limited take occurring along the African coast. However, it should be noted that, for example, in Greece deliberate injury and killing of turtles by fishers, but not for consumption (Kopsida *et al.* 2002), is an established and common issue that requires attention.

### **Protection and management of habitats**

17. Regarding the elaboration of integrated management plans (IMPs) for key marine turtle habitats, 14 CPs indicated that these were in place or partially in place (7 each) and six (6) indicated that none had been elaborated. However, when it came to implementation only four (4) CPs indicated that IMPs were implemented and eight (8) partially implemented. The remaining nine (9) CPs either did not answer (2), indicated implementation was not in place (1), or indicated implementation was not applicable as no IMPs had been elaborated (6).

18. Part of the issue with elaboration of IMPs was that the key habitats were often not fully or officially identified by the CPs, which meant that there was a lack of areas for which to define IMPs. Again, there was a discrepancy between the number of CPs which had elaborated IMPs and the number that were enforcing them. It is clear that there is opportunity across the region to improve elaboration of IMPs where many CPs do not have them, and that prioritisation of implementation is required by the CPs to effectively manage their sites once established.

### **Minimisation of incidental catches and elimination of intentional killings**

19. The most common ‘management’ method used to reduce bycatch was utilising education and awareness campaigns, which were indicated by six (6) CPs. Promotion of gear modifications and bycatch reduction devices were the next most common category with four (4) CPs indicating they have worked on them. Fishing restrictions (gear type, spatial and temporal) each were employed by three (3) CPs. Seven (7) CPs indicated that no management to reduce marine turtle bycatch was in place. It should be noted that along with bycatch reduction, five (5) CPs indicated that actions to improve the outcome for bycaught marine turtles were used. This is an important consideration as post-catch mortality can vary greatly and efforts to reduce this will help marine turtle populations. Regionally, the General Fisheries Commission for the Mediterranean adopted management measures aimed at reducing turtle bycatch for purse seines and at improving outcomes for turtles bycaught on longlines and these measures should be applied by all CPs.

20. Awareness and education were the most common ‘management’ measures to reduce intentional killing (6 CPs). This question was not answered by eight (8) CPs and a further four (4) CPs indicated that management was not applicable, suggesting there is no intentional killing within their boundaries. Patrolling and surveillance were the second most utilised method to reduce killing with four (4) CPs indicating this. Three remaining methods: damage compensation incentives, legal punishment along with publicity of the prosecution and generation of alternative livelihood each were indicated by a single CP.

### **Other measures to minimise mortality**

21. For marine turtles encountered sick or injured, rehabilitation is undertaken to return them to health with the goal that the individual animals return to the population and fulfil their role within the ecosystem and have potential to contribute to the next generation. Whilst these actions are unlikely to have any impact at the population level, they have clear direct welfare benefits for the individual turtles and they can act as sensitising agents when raising awareness on the plight of sea turtles.

22. Rescue and rehabilitation facilities are established for 13 CPs, with an additional two (2) using other facilities on a less formal basis to aid marine turtles. The remaining six (6) CPs indicated they had no facilities with resourcing being the most common reason that they had not been established.

23. To ensure the best outcomes for the marine turtles, through knowledge exchange etc., all CPs that have facilities indicated they are well networked internationally and those CPs with more than one (1) facility all indicated that they were nationally networked. Within the responses it should be noted that international networking is limited for at least one (1) CP and in at least one other CP with multiple facilities, national networking could be improved as several organisations are running the different facilities, with no coordinating body.

## **2. Scientific Research and Monitoring**

### **Scientific research**

24. A key component of marine turtle conservation and the Action Plan is understanding where the marine turtles are so that their habitats can be protected. Five (5) CPs indicated that key in-water habitats had been identified in their territories and a further thirteen (13) indicated that progress had been made with some areas identified. Two (2) CPs indicated no key areas had been identified and one (1) CP did not have a response. Important marine turtle nesting areas have generally been established across the region for decades, but, with climate change, marine turtles are expanding their ranges to nest in regions where they previously had not, and they are utilising additional beaches in regions where nesting has been established. New nesting areas have recently been identified by seven (7) CPs and a further eight (8) CPs indicated some progress towards identifying new nesting areas, though surveys were incomplete. Three (3) CPs indicated there was no nesting in-country so new area identification is not applicable, and a response was lacking from one (1) CP. Given the vastly different areas of marine habitats and length of coastlines present in the different CPs, this variation in success of establishing the location of important habitats is understandable. Further emphasis should be made on consolidating the understanding of the key in-water habitats across the region using the full suite of data available, to ensure these habitats where marine turtles develop and spend the vast majority of their life cycle are protected. Part of this process can involve a taskforce of experts that combine marine turtle tracking data and use the enhanced dataset to identify key neritic and oceanic habitats acting as development/foraging sites or migratory corridors or funnels. Likewise, given the expansion of marine turtle nesting across the region, CPs that are not currently engaged in identifying nesting grounds are encouraged to do so and those CPs with established nesting areas, should not remain complacent that distributions will not change, and nesting will only occur at known sites.

25. To understand the status of marine turtle populations and sub-populations demographic data are required. These include topics such as annual recruitment and survivorship through different life stages. Such data are required to be reported by each CP under the Integrated Monitoring and Assessment Programme (IMAP) framework of the Barcelona Convention; UNEP/MED (2021). Consequently, research that generates data that fills in the blanks to these demographic parameters is a core component of any action plan. Responses suggest that 17 CPs are at least gathering some data towards our understanding of the demographic status of marine turtle populations with three (3) of the remaining four (4) indicating they are not or that this is not applicable to them. There was no indication of fulfilment of this requirement from the last CP.

26. Assessment of bycatch and mortality rates from small-scale and artisanal fisheries is a specific topic raised in the AP and is key to understanding the difficulty to determine the impact this



widespread fishing sector is having on the region's marine turtle populations. Addressing this issue is a key target for sustaining marine turtles at each in-water habitat. No CP indicated that it is fully examining bycatch rates in small scale and artisanal fisheries. Thirteen (13) CPs indicated they are at least partially doing this with most responses relating to recent international projects that examined bycatch, however these projects have finished. Seven (7) CPs indicated that they have not assessed bycatch. The situation is similar for the evaluation of the use of bycatch reduction initiatives across taxa, with one (1) CP indicating that it is in place and the ones indicating partial employment of this research generally refer to projects that are no longer active. The socioeconomic impact of measures to reduce impacts on marine turtles has received the least attention with only two (2) CPs indicating they had partially done so. The highest response was a 'no' to any investigation of socioeconomic studies (9 CPs) whilst no response to this question was obtained from eight (8) CPs. It should be noted that according to the GFCM, all CPs should be carrying out fisheries assessment programmes that include socioeconomic impacts of changing fisheries.

27. The determination of management techniques for nesting and in-water habitats are within the grasp of each CP, with manuals such as the Research and Management Techniques for the Conservation of Sea Turtles (MTSG, 1999) providing guidance. That said, the management of nesting areas has traditionally received the most attention due to the ease of access and known seasonality of use. It is not unexpected that more CPs have identified techniques for nesting habitats (6) than in-water habitats (4), despite several CPs not experiencing marine turtle nesting at all (4 CPs indicated management of nesting was not applicable), whereas all have marine turtles at sea. Lack of identified nesting management techniques is attributed to four (4) CPs but is double that number for in-water management. Lack of resources was a common reason for the non-determination of management measures. No response was indicated by four (4) CPs for either nesting or in-water management. Once locations used by marine turtles have been identified by a CP, given the availability of manuals and the known reporting requirements for frameworks, such as the EU MSFD (2008/56/EC) and Barcelona Convention IMAP, it should be relatively simple for CPs to identify the management techniques required of them and formally acknowledge them as components of their national action plans for the conservation of marine turtles.

28. As poikilotherms, marine turtles rely on suitable environmental temperatures to complete their life cycles, and nowhere is this more obvious than on nesting beaches where sand temperature affects the duration that eggs require to successfully incubate and more critically, the sex ratio of hatchlings produced from each clutch. Climate change is altering nesting beach temperatures, causing sea level rise and increased storminess. The three factors exert pressure on the persistence of nesting areas with some being more resilient than others, and in the case of increasing temperatures, drive the potential for new nesting areas opening-up across the region. Assessing how the likely effects of climate change will impact the marine turtles present in each CP is a concern at both national and regional scales. Only seven (7) CPs indicated specific research into the anticipated effects of climate change with monitoring beach temperatures to infer hatchling sex ratios being the most prevalent. Only one (1) CP indicated exploration of the effects of climate change on foraging marine turtles. There is obviously plenty of scope for more research on the potential impacts of climate change on marine turtle populations across the region. It should be noted that there have been several regionwide and sub-region-wide assessments on the effects of climate change on the suitability of coasts for nesting and in-water habitats that have utilised satellite remote-sensing data to characterise the region and model predicted futures under different climate change scenarios (e.g. Almpandou *et al.* 2019; Almpandou *et al.* 2022; Zampollo *et al.* 2022; Arslan *et al.* 2023; Mancino *et al.* 2023; Petsas *et al.* 2023). This work, though unable to identify precise locations important for marine turtles in a

changing Mediterranean environment, can be useful to highlight regions of importance and is a call to arms for localised management efforts and ground truthing.

### **Monitoring**

29. Monitoring populations and habitats is the best way to identify trends that can indicate positive outcomes for conservation programmes or the need for additional actions to mitigate threats. The IMAP framework suggests a certain number of nesting and in-water sites are established as regular monitoring sites per CP (UNEP/MED 2021). A pre-requisite of this, is the determination of key nesting and foraging sites per CP, which as we can see above has not been widely achieved. Consequently, the following responses highlight not only the need to establish monitoring programmes but also the need to establish where each should be undertaken.

30. All CPs with marine turtle nesting registered partial (6) or full (9) monitoring of nesting areas sufficient for IMAP or other frameworks. Six (6) CPs indicated they had no regular nesting and hence no need for on-going monitoring programmes. This level of effort is to be applauded, but those CPs with only partial monitoring programmes can be enhanced upon and there needs to be a concerted effort to improve reporting of the results of the monitoring. No CPs declared that they operated a suitable spread of in-water monitoring programmes however nine (9) CPs did indicate partial implementation, which were generally a combination of fewer than ideal number of field sites or reduced data gathering from the monitored sites. Around half of the CPs (11) indicated no in-water monitoring is underway, leaving a significant data gap as to the status of populations in their boundaries. One (1) CP did not supply a response.

31. Along with time-limited research projects on fisheries bycatch, the need for on-going monitoring using onboard observers is the only way to determine longitudinal bycatch rates and, when combined with fishing effort, quantify impacts on marine turtle populations. Five (5) CPs indicate that onboard observers are utilised in monitoring programmes and five (5) CPs indicated they had been used in the past – mainly for the Med Bycatch Project, that was coordinated by SPA/RAC and funded by the MAVA foundation. Ten (10) CPs, including the five (5) that indicated they had been in the past, indicated onboard observers are not currently used, whilst no information was obtained for four (4) CPs. One national expert, where there was no response from the NFP, indicated that there is a lack of transparency within that specific government on what actions are being undertaken relating to fisheries management. It is clear that more resources can and should be allocated to fisheries monitoring to meet the conservation and management needs of marine turtles and other protected marine fauna across the region.

32. The AP aims to have all CPs reach a desired level of competence to enable effective conservation and management of turtle populations across the region and to have reliable data shared to understand if the AP is reaching its goals. The following section highlights progress towards these targets; featuring collaborations, coordinated data collection and distribution of quality-assured data. The majority of CPs (14) indicated they have been involved in international collaborative projects sharing best practices and capacity building and coordinated regional initiatives contributing to IMAP. A further three (3) CPs indicated they have been involved in coordinated activities that did not lead to data for the IMAP. Multinational EU projects were indicated as the main source of funding for collaborative projects together with those funded by the MAVA Foundation in the past decade. SPA/RAC was identified as a critical facilitator coordinating actions between multiple CPs, generally from the southern Mediterranean, which lack simple direct access to EU funding. SPA/RAC's important role within the region is discussed further below. The Marine Turtle Specialist Group from the IUCN/SSC, was identified as a diverse active group of experts spanning the region from whom

advice could be sought for networking etc. Reporting on gathered data was less emphatic with eight (8) CPs indicating they report sufficient data and a further eight (8) indicating they report only some of the important data. Even within this list of CPs data, there was a mix of those that report to national authorities or international mechanisms and those that report data via peer-reviewed publications. Reporting to national authorities and international mechanisms is mandated for each CP or nation and should contribute to the conservation of marine turtles. However, publishing data in peer-reviewed scientific outlets adds layers of validation to the gathered data and make them accessible more widely to the conservation community. The thought of publishing the results of monitoring programmes and studies may be daunting for some of the researchers involved. In these circumstances, they could approach regional experts to support them through the publishing process. Additionally, researchers can consider publishing their work in the *MedTurtle Bulletin*, where articles are reviewed, but the review is entirely focused on improving the clarity of submissions with no submissions being rejected.

### **3. Public Awareness and Education**

33. Raising awareness and educational activities can change the opinions and mindsets of individuals, authorities and society in general. Results may not be immediately forthcoming, but building up a critical mass of concerned individuals can make a sea-change in behaviour and policy. It is encouraging to see that 16 CPs indicated that education and awareness activities aimed at the public and other stakeholders, are taking place in their territories, with a further three (3) indicating it has been carried out in the past and another one (1) indicating that some activity to this end is being undertaken.

34. Campaigns directed at authorities and change makers are less widespread. Only seven (7) CPs indicated that this is ongoing in their territory and one (1) additional CP indicated it is carried out to some degree. A further four (4) CPs indicated that such efforts have been carried out in the past, often in conjunction with large, international collaborative projects. In one (1) case, the response indicated that marine turtle conservation activities are carried out by the government and hence no lobbying or awareness efforts are needed. Five (5) CPs provided no response on this topic.

35. It is clear that more effort can be made to approach and lobby authorities for better protection for marine turtles and their habitats and this, in no small part, implies the government provides extra resources to ensure this happens.

### **4. Capacity Building/Training**

36. Capacity building and training are vital components of ensuring each CP is able to protect its marine turtle populations and habitats effectively, whether it is nest management, fisheries monitoring, or rehabilitation. These are never a one-time operation but require on-going or periodic support, to ensure knowledge and skills are maintained and passed on to the next generation of marine turtle researchers and conservationists.

37. Regarding training, eight (8) CPs indicated training activities are on-going, three (3) more indicated they are making some efforts towards training. Seven (7) CPs indicated that though there are no current training programmes, they have undertaken training in the past, as for awareness, these training events often were components of large, international collaborative projects. The general desire for additional training, collaboration and networking is further discussed below.

38. As expected, resourcing for certain activities is often limited and restricts what can be undertaken by a CP. The examples of levels of resourcing Rescue Centres and Fisheries Monitoring are specifically mentioned in the AP. In many cases facilities such as Rescue Centres or Fisheries

Monitoring programmes do not exist (7 CPs and 13 CPs respectively). Of the two examples, Rescue Centres are reported as better resourced with ten (10) CPs indicating they are fully or partially resourced whereas that number is only four (4) for Fisheries Monitoring. Increased allocation of resources for components of marine turtle monitoring and conservation for each CP is another key take-home point for improvement based on the existing AP.

## 5. National Action Plans

39. In addition to the regional AP, national APs precisely target the needs of each CP so that conservation can proceed in the most effective manner. National Action Plans were reportedly developed for 15 CPs, with most of the remaining countries that did not have them, hosting only small marine areas leading to marine turtle conservation not being a priority. In a couple of cases, it was unclear or specifically identified that though a national AP had been elaborated it may not have been adopted by the national authorities. Efforts should be made to ensure that these national APs are adopted and kept up to date, following the example of the Mediterranean-wide AP, which is reviewed on a five-yearly basis.

## 6. Regional Coordination Structure

40. SPA/RAC has coordinated the drafting and revision of the AP since its inception in the 1980s. Previously, AP reviews were undertaken during specially convened workshops attended by regional experts whereas this current round is taking place through on-line meetings and peer-review of the draft AP document. An open question for suggestions on possible improvements to the coordination structure was distributed. NFPs provided responses in only two (2) instances. Both were complementary of SPA/RACs efforts to date in coordinating the development and updating of the AP. Regional experts were more vocal with eight (8) responses to this question. The most common theme for coordination was to increase inclusion of more individuals and organisations and to organise meetings to support researchers, such as establishing taskforces on specific topics. Inclusion in the AP is a topic that is discussed next under *Participation*. Other comments included revising or extending the Focal Point paradigm to include technical Focal Points per CP that are more aware of and/or involved in marine turtle research and conservation. Increased financial support to the CPs was raised three (3) times, and is an established need for many CPs, however this does not fully fit under the discussion point of coordination structure.

## 7. Participation

41. No NFP suggested any organisations that could contribute to the implementation of the AP. Neither did they indicate which other Action Plan entities should be linked to the marine turtle AP and there was only one (1) response from an NFP for suggestions of methods to encourage dialogue between organisations and NFPs; this was to organise seminars or meetings between the two. Again, experts were more vocal with between six (6) and ten (10) comments and recommendations.

42. National experts recommended marine turtle conservation NGOs from within their nations to participate but one (1) notably suggested that inclusion fisheries focussed groups would be beneficial. This is highly important as fisheries are the biggest threat to turtles but also the threat that we have the least knowledge of and is generally the most complicated issue to target.

43. Several pan-national organisations and regional action plans were suggested to be linked to the marine turtle AP. These were the Action Plan for the Conservation of Cetaceans in the Mediterranean Sea, the Action Plan for the Conservation of Marine Vegetation in the Mediterranean Sea, Fisheries

management organisations (GFCM), MPA manager network (MedPAN), International coastal and marine protection programmes and regional authorities. These recommendations are worth exploring for synergies and complementary goals that may make progress towards meeting the requirements of the marine turtle AP more efficiently.

44. Lastly, methods to encourage dialogue between NFPs and organisations received the most responses from experts, suggesting there is a desire on the experts' side for increased communication. The most common recommendation was the organisation of (online) meetings that provide a regular pressure-free mechanism to discuss marine turtle conservation. Leading from the meetings there were suggestions for joint initiatives, working groups and training, where specific themes, such as rehabilitation, can be explored. Lastly several electronic methods of improving communication and dissemination were suggested, these being the less complex establishment of a newsletter and/or mailing list, and the more complex organisation of a collaborative online platform: a shared digital workspace where participants can communicate in real time, share documents and collaborate on project. From the above, it is clear that SPA/RAC could encourage its NFPs to hold regular meetings with national experts so that both parties may keep abreast of developments. The NFP can learn the latest findings from the NGOs and researchers and the researchers can learn the latest happenings and plans for turtles from the Barcelona Convention.

## **8. Partnering**

45. The proposition that NFPs can propose AP partners based on their active contribution to the AP drew four (4) responses from experts. All were in favour. One (1) of the longer considered responses is reproduced verbatim, here below.

46. "The NFPs must involve NGOs and universities for fruitful collaboration. The idea of National Focal Points (NFPs) proposing Action Plan (AP) partners based on their active contributions to AP objectives is a sound approach, but there are a few aspects that could be optimized to ensure the effectiveness and sustainability of these partnerships: NFPs should establish clear, transparent criteria for identifying AP partners. These criteria should be aligned with the specific conservation goals of the AP and could include factors such as: Proven expertise in marine turtle conservation or related areas (e.g., fisheries management, coastal zone protection). For NFPs to identify and propose the most effective partners, there must be a focus on capacity building. Many smaller or local organizations may have the will and community ties but lack technical expertise or resources to fully engage with the AP objectives. SPA/RAC and international organizations should offer training workshops, technical assistance, and financial support to potential partners."

## **Conclusion**

47. The fourth (4<sup>th</sup>) iteration of the Action Plan for the Conservation of Mediterranean Marine Turtles, established in 2019 and up for review in 2024 has continued to encourage CPs to strive to protect the species and their habitats in a changing environment during a time when the world was engulfed in a global pandemic and whilst turtle nesting distribution has been expanding valiantly northwards and westwards through the Mediterranean.

48. One constant is the vast difference in marine and coastal areas that fall under the jurisdiction of the different CPs, from countries such as Greece and Türkiye having thousands of kilometres of coast to Bosnia and Herzegovina and Monaco with 20 km or less. These differences drive perceptions of the importance of marine habitats to national environmental planning and legislative landscapes and reflect real differences in the different levels of importance to regional populations each CP may have.

Accordingly, in addition to the regional marine turtle AP it is important for each nation to develop its own national AP tailored to the needs of the marine turtles. Some countries may host critical nesting sites, whilst others possess critical foraging habitats and still others may be located along important seasonal breeding migratory routes. Each has its role to play in preserving the region's marine turtle populations. Each CP that lacks a national AP, no matter how small its marine and coastal area is, is encouraged to establish one so that marine turtle conservation is officially acknowledged as a requirement of the country. Through this, a sense of inclusion in the larger regional context is promoted and each nation can take ownership of the role it can play in safeguarding marine turtle populations, which migrate over long distances from feeding to breeding areas and back again and increasing our understanding of their ecology and threats.

49. Conservation legislation is prevalent across the region, rendering the majority of marine turtles protected at their various habitats, however responses suggest that more can be done to enforce this legislation to ensure that both the marine turtles and their habitats are free from harm. Further to national laws, each key marine turtle site, whether it is for nesting, foraging or migration, should have in place an individual integrated management plan, which is enforced by the national authorities. These plans are frequently lacking, and this should be addressed. Established plans should be widely shared so that they can act as templates for other locations to simplify the process and facilitate the increase of integrated management plans across the region.

50. Bycatch remains a considerable issue across the region but is still largely unquantified due to lack of current research and monitoring. Further emphasis and resources should be given to quantifying and minimising bycatch. Bycatch reduction can be achieved through utilising a range of means, such as gear modification, spatiotemporal fishing restrictions and modification of fishing methods. This should be undertaken together with programmes to sensitise fishers to the plight of marine turtles, which will lead to a reduction in marine turtles being intentionally harmed and killed.

51. Rescue and rehabilitation facilities are widespread but not homogeneously so across the region and communication between them is generally good, which should lead to the best outcomes for the marine turtles under care. Facilities tend to be sustained and expanded through sporadic injections of finances from international collaborative projects and lack of resourcing to establish or maintain such facilities was a common issue. Whilst the rehabilitation of individual marine turtles, even if the individuals sum to tens of marine turtles per year, is good for their welfare, it is unclear as to what direct conservation value it has. All rehabilitation centres should combine some form of education and awareness programme that can have a lasting impact on those who experience it, so that the mindset of the population is influenced towards conservation.

52. Scientific research on marine turtle populations at nesting beaches is well established across the region and should be maintained. CPs experiencing nesting where there previously were none or very few, e.g. Albania, Malta, Italy and Spain, appear to be meeting their research needs. Research on marine turtles at sea, in foraging areas, lags far behind that of nesting areas, no doubt because of the difficulty in identifying important marine areas, and in accessing the marine turtles in the marine habitat. Likewise, fisheries research appears to be lagging and sporadic; mainly limited to occasions when funded large-scale international projects are running. Priority should be given to improving the scope and coverage of in-water and fisheries research whilst maintaining the level of research undertaken at nesting areas.

53. Similar to the situation of marine turtle research, nesting beach monitoring is far more widespread and advanced than in-water and fisheries monitoring. The IMAP process recommends a certain number of beach and in-water sites is selected per CP for annual monitoring and each CP

should strive to identify relevant sites and commence monitoring them over the next five-year span of the revised AP. Likewise, increased efforts and resources directed to fisheries monitoring are required, not only to quantify the problem that marine turtles are facing, but also in terms of other taxa of conservation concern that are part of the bycatch issue. Here, multi-sectoral collaborations including actors such as the Action Plan for the Conservation of Cetaceans in the Mediterranean, can be of benefit to all partners. Stranding networks, that use the land to infer knowledge on marine turtles at sea through monitoring the distribution and causes of marine turtle strandings, are reasonably well established across the region, though there is scope for some improvements to coverage and intranational coordination/collaboration.

54. Marine turtle awareness and education programmes were indicated as in place for three quarters of the CPs, with most of the remaining ones saying they have been carried out in the past. This is vastly encouraging as it is through education and changing societal attitudes that long-term success for conservation initiatives can be achieved. Promotion of such programmes should remain in the forthcoming updated AP and sharing of experiences and materials between actors in this field should be encouraged and facilitated. CP results suggest there may be a lack of emphasis on lobbying and informing authorities for the needs of marine turtle populations and this could be another avenue for increased effort in the forthcoming AP.

55. All effective efforts towards marine turtle conservation require knowledgeable and competent proponents. Such knowledgeable experts are present across the region and should be used to increase capacity and facilitate training so that there is a levelling up for locations where capacity is lacking. Obviously capacity building, training programmes and employment of trained individuals require logistical and financial resources and to be effective at a regional level there should be some form of oversight and assessment of needs per CP. SPA/RAC currently acts in this capacity of coordinator/overseer and should continue to do so whilst maintaining good relations with national and regional experts. Establishing thematic working groups combining experienced practitioners and those new to the topic, where there is an open dialogue on issues and achievements, could be one cost-effective component of supporting and encouraging the less experienced.

56. Continuing the appraisal of SPA/RAC, feedback was positive on the current coordinating structure for the AP and the role SPA/RAC has steadfastly held for the past 30 years. Some recommendations for improvements were raised, most notably to include dedicated technical NFPs who have a greater understanding of the conservation needs of marine turtles, the context of their conservation and should hence have more insights and input into the process of achieving AP objectives. Other recommendations included the establishment of task forces and organisation of meetings in an inclusive manner so that subject experts from across the region have continual input to the AP.

57. On this point of participation in realising the goals of the AP and contributing to the process, national organisations and institutions were proposed for inclusion for several CPs and hence there is an appetite for this. There was a special mention of the inclusion of fisheries focused groups, which is highly pertinent as this theme is generally the least well covered, most concerning and in need of increased attention. There were also recommendations for several pan-national organisations to collaborate with the marine turtle AP to increase efficiency, these included the Action Plan for the Conservation of Cetaceans in the Mediterranean Sea and the similar Action Plan for the Conservation of Marine Vegetation in the Mediterranean Sea and other action plans under the Barcelona Convention umbrella. Regional fisheries management i.e. the GFCM is also recommended for

collaboration given the previously mentioned high importance of dealing with fisheries related threats to marine turtles and the expertise required to effectively elucidate and mitigate against them.

58. Finally, the possibility of organisations partnering with the AP as proposed and approved by the document “Conditions and criteria for the award of the Regional Action Plans Partner title” (UNEP/MED WG.548/9 ,2023) received little feedback, but feedback that was provided was positive towards inclusion of partnering organisations, if the organisations were truly active in the field. The possibility of partnering is therefore something that should be developed for the betterment of marine turtle conservation in the region.



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## **Annex II**

### **Questionnaire on the implementation of the Action Plan for the conservation of Marine Turtles in the Mediterranean (2019–2024)**

**Assessment of the implementation of the Med-Marine Turtles AP at national level Questionnaire**

The Mediterranean Marine Turtle Action Plan was first established under the coordination of SPARAC in 1989. It was subsequently updated in 1999, 2007 and 2013. The most recent update of the Action Plan (AP) was accepted by contracting parties to the Barcelona Convention in 2019 (Decision IG.24/07, COP 21). That iteration of the AP was scheduled for review after 5 years, to determine how well the CPs are meeting the stipulations of the AP and if the AP requires updating for any themes.

The following questionnaire, distributed to SPA/DB National Focal Points (NFPs) together with knowledgeable individuals of institutions and organisations from across the region, aims to acquire information that will inform the review of the implementation of the AP at national and regional levels and determine details of its next update.

The AP is divided into eight sections instructing action, namely:

1. Protection and Management
2. Scientific Research and Monitoring
3. Public Awareness and Education
4. Capacity Building/Training
5. National Action Plans (establishment of...)
6. Regional Coordination Structure
7. Participation
8. Partnering

This questionnaire is aligned with these eight sections to fully understand the extent of implementation of specific parts of the AP and determine where emphasis on action is required going forward.

The questionnaire respondent should initially familiarise themselves with the most recent AP update (Decision IG.24/07, COP 21) as published [here](#).

Each question should then be taken in turn.

Pre-filled answers, prepared mainly based on the data provided within The Barcelona Convention Reporting System (BCRS) for your country, should be checked that they are correct and complete. Questions with no response should be answered as fully as possible by each NFP. Complementary answers may be supplied by national and regional experts and organisations

## 1. Protection and Management

### Legislation

**Are marine turtles legally protected in your nation?**

Yes (details)

No (explain progress being made towards legal protection)

**Are key marine turtle habitats legally protected in your nation?**

Yes (details)

No (explain reasoning for lack of legislation for legal protection)

**If applicable, is legislation against illegal killing being enforced?**

Yes

Partially (reason(s) for only partial fulfilment)

No (explain reasoning for lack of legal enforcement)

Not applicable

### Protection and management of habitats

**Have integrated management plans been elaborated for key turtle habitats?**

Yes

Partially (reason(s) for only partial fulfilment)

No (explain reasons for delay in elaboration)

**Are management plans implemented at key turtle habitats, including adequate staff training?**

Yes

Partially (reason(s) for only partial fulfilment)

No (explain reasons for lack of implementation)

Minimisation of incidental catches and elimination of intentional killings

**What management actions have been taken to reduce marine turtle bycatch in fisheries?****What management actions have been taken to eliminate intentional killing of marine turtles?**

Other measures to minimise mortality

**Are there any facilities acting as marine turtle rescue centres in your country?**

Yes (how many, describe their geographic reach)

No (what has prevented the establishment of marine turtle rescue facilities)

**Are any marine turtle rescue facilities networked nationally and/or regionally?**

Yes (describe the network)

No (what has prevented the networking)

## 2. Scientific Research and Monitoring

Scientific research

**Have key in-water habitats been identified?**

Yes

Partially (reason(s) for only partial fulfilment)

No (what has prevented identification of key in-water habitats)

**Have potential and new nesting areas been identified?**

Yes

Partially (reason(s) for only partial fulfilment)

No (what has prevented identification of these areas)

**Are standard demographic data on marine turtles, as indicated here, being collected?**

Yes

Partially (reason(s) for only partial fulfilment)

No (what has prevented work to gather these data)

**Are bycatch and mortality rates from small-scale and artisanal fisheries being assessed?**

Yes

Partially (reason(s) for only partial fulfilment)

No (what has prevented work to gather these data)

**If applicable, are bycatch reducing initiatives being evaluated including regarding their effect on other species?**

Yes (details)

Partially (reason(s) for only partial fulfilment)

No (what has prevented work to undertake the evaluation)

Not applicable

**Have studies on the socioeconomic effects of conservation measures on fisheries been carried out?**

Yes (details)

Partially (reason(s) for only partial fulfilment)

No (what has prevented work to undertake the evaluation)

**Have management techniques for marine turtle nesting and foraging areas been determined?**

Yes

Partially (reason(s) for only partial fulfilment)

No (what has prevented work to identify appropriate techniques)

**Have the likely effects of climate change on marine turtles and their habitats been determined for your country?**

Yes (details)

Partially (reason(s) for only partial fulfilment)

No (what has prevented work to undertake the evaluation)

Monitoring

**On-going monitoring programs are established at key nesting sites with period monitoring of areas of lesser importance?**

Yes (details)

Partially (reason(s) for only partial fulfilment)

No (what has prevented work to establish the monitoring)

**On-going monitoring programs are established at key in-water sites with period monitoring of areas of lesser importance?**

Yes (details)

Partially (reason(s) for only partial fulfilment)

No (what has prevented work to establish the monitoring)

**Marine turtle bycatch is monitored using onboard observers on fishing vessels?**

Yes (details)

Partially (reason(s) for only partial fulfilment)

No (what has prevented work to establish the monitoring)

**National marine turtle stranding network is established and linked with rescue centres?**

Yes (details)

Partially (reason(s) for only partial fulfilment)

No (what has prevented work to establish the network)



**Collaborations both within and among countries to share best practices have or are occurring?**

Yes (details)

No (what has prevented work to collaborate and share best practices)

Collaboration was one of the components of the Life-MedTurtles project but has not continued to any great degree.

**Your country has and is involved in coordinated regional initiatives that support data gathering contributing to the IMAP?**

Yes (details)

No (what has prevented work to participate in regional initiatives)

**Are quality assured research and monitoring data being regularly reported?**

Yes (details)

Partially (reason(s) for only partial fulfilment)

No (what has prevented reporting of collected data)

### 3. Public Awareness and Education

**Are education activities directed at diverse stakeholders, with the aim to reduce mortality rates and increase respect for turtles and their habitats underway?**

Yes (details)

Partially (reason(s) for only partial fulfilment)

No (what has prevented any educational activities from being implemented)

**Are information campaigns directed at authorities, change makers and influencers underway?**

Yes (details)

Partially (reason(s) for only partial fulfilment)

No (what has prevented any information campaigns from being implemented)

### 4. Capacity Building/Training

**Have training programs for marine turtle management and monitoring been established or expanded?**

Yes (details)

Partially (reason(s) for only partial fulfilment)

No (what has prevented any training being implemented)

**Are rescue centres sufficiently resourced and rescue centre and fisheries monitoring staff suitably trained?**

Yes (details)

Partially (reason(s) for only partial fulfilment)

No (what has prevented resource deployment and training being implemented)

### 5. National Action Plans

**Has a national action plan for the conservation of marine turtles been established or recently updated for your country?** Action plans should address factors directly impacting turtles and their habitats including proposed subjects for legislation, protection and management and mandated training and education activities.

Yes (details)

Partially (reason(s) for only partial fulfilment)

No (what has prevented the development of a national action plan)

#### 6. Regional Coordination Structure

**SPARAC has acted as the lead for this initiative since the 1980s. Do you have any proposals or comments on how the coordination structure can be improved?**

(free text)

#### 7. Participation

**Do you have any comments on interested organisations participating towards the implementation of the Action Plan?**

(free text)

**Which other Action Plans entities should be linked to this marine turtle action plan, to increase efficiency?**

(free text)

**What methods can be used to encourage regular dialogue between organisations and NFPs involved in this AP?**

(free text)

#### 8. Partnering

**Do you have any comments on NFPs proposing AP partners based on their active contribution to AP objectives? See [here](#).**

(free text)