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**DRAFT REGIONAL STRATEGY FOR THE CONSERVATION
OF MONK SEALS IN THE MEDITERRANEAN
(2014-2019)**

Delegates are kindly requested to bring their documents to the meeting

Note:

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Executive Summary

The Mediterranean monk seal, one of the most endangered mammals in Europe and one of the world's most endangered marine mammals, has been classified as Critically Endangered in IUCN's Red List for the past 17 years. On the one hand this condition is of great concern, because it testifies to our evident inability of keeping the species away from under the Damocles' sword of imminent extinction, but on the other hand it is also good news, because the species in fact is not extinct yet, particularly as far as the eastern Mediterranean is concerned. Such status quo, however, cannot be taken as a reason for complacency. In spite of the species' dire conservation status, monk seal recovery in the Mediterranean is still possible, but success will demand uncompromising determination and greater commitment than in the past from the part of the concerned governments and civil societies.

Faced with the perspective of investing the considerable amount of time, effort and resources needed to reverse the critical conservation status of monk seals in the Mediterranean, many could find it legitimate to question the ethical aspects of dedicating to a single species far greater attention than to most of the region's other marine organisms. Indeed, dedicating to monk seal conservation extraordinary attention and resources is legitimate for a number of reasons: a) because the species is protected by legislation at all levels (national, regional, international, and where appropriate European); b) because the species has high intrinsic value under many respects; c) because conservation actions favouring monk seals are likely to extend their benefits to several other species and to the environment they are part of; and finally, d) because the extinction of this highly symbolic and charismatic animal would cause a devastating loss of credibility to Mediterranean institutions, national and supra-national. This is why a forceful and effective monk seal conservation strategy, embraced regionally as a best practice example, should become solidly integrated within a wider strategy for the conservation of the Mediterranean marine environment.

During the past decades, with few very localised exceptions no discernable progress was achieved in the effort of recovering monk seals in the Mediterranean, probably due to a combination of shortcomings which include the failure to implement their conservation commitments by many countries, lack of coordination and continuity in monk seal conservation action, and insufficient attention to the human component of the monk seal conservation problem. An Action Plan adopted two decades ago by the Contracting Parties to the Barcelona Convention, while still valid in terms of its general contents and stated principles, must urgently be replaced by a Strategy

based on a clear Vision, to be attained through interconnected Goals, Objectives and Actions which are specific, measurable, attainable, relevant, and time-bound.

This document proposes a draft Strategy, having the following Vision: *“Over the next two decades, the ecological recovery of monk seals in the Mediterranean will deem to have occurred, when multiple colonies have become established within all major habitats of their historic range, interacting in ecologically significant ways with the fullest possible set of other species, and inspiring and connecting human cultures”*.

The human threats that are jeopardising monk seal survival are many, however a few of these are overwhelmingly important, and addressing them with the greatest energy and determination is likely to create the greatest and fastest benefits. Accordingly, this draft Strategy recommends the adoption by Range States of a triaging approach, recognising that the two top-ranking threats to monk seals in the Mediterranean are the unchecked deterioration of the species' critical habitat (including disturbance), and deliberate killings. Here is where the greatest attention is urgently needed.

A second character of the draft Strategy derives from the need of tailoring action to geographical differences in the conservation status of monk seals across the region, and the consequent different priorities and responsibilities saddled onto the various monk seal Range States. To handle this challenge, Mediterranean countries were assigned to three groups: A: countries where monk seal breeding has been reported after year 2000; B: countries with evidence of monk seal presence, but with no breeding reported after year 2000; and C: countries where no monk seals have been reported since at least year 2000. Group A countries is where action is most urgent, because at the moment these countries offer the greatest hope for the survival of the species in the Mediterranean. Group B countries are also important, because they contain monk seal critical habitat which is likely to be re-colonised if conditions are favourable, particularly if actions in Group A countries are successful. Finally, Group C countries are important as well because they contain monk seal critical habitat, and because the return of monk seals there will become more likely if actions in Group B countries are successful.

To fulfil the Vision, the draft Strategy identifies four Goals. The first Goal relates to the creation of a solid, long-term conservation support structure at the international level, whereas the other three Goals relate to each of the three Groups the various countries have been assigned to. More specifically:

Goal 1. Mediterranean Range States implement this Strategy in pursuance of the Vision, through the expeditious development and adoption of appropriate national policies and administrative frameworks, and with the effective, coordinated support from relevant international organisations and civil society.

Goal 2. Monk seal breeding nuclei in sites located in “Group A” countries are effectively protected from deliberate killings and habitat degradation, so that seal numbers in such sites increase and seals are able to disperse to the surrounding areas.

Goal 3. Monk seal presence in sites where they are occasionally seen today in “Group B” countries is permanently established and breeding resumes. “Group B” countries are upgraded to “Group A”.

Goal 4. Monk seal presence is again reported in the species’ historical habitat in “Group C” countries, and these “Group C” countries are upgraded to “Group B”. Once all “Group C” countries are upgraded, Group C is deleted.

The suggested time horizon of the draft Strategy is six years: 2013-2019. A mid-term assessment in 2016 is also recommended.

2. Background

2.1. Introduction

Since 1985 the Mediterranean monk seal was recognised within the framework of the Barcelona Convention as a species to be protected as a matter of priority. In that year, during their fourth ordinary meeting, the Contracting Parties adopted a declaration – referred to as the Genoa Declaration – which included, amongst the priority targets to be achieved in the decade 1986-1995, the “protection of the endangered marine species” with a specific reference to the monk seal. Following the Genoa Declaration, an “Action Plan for the Management of the Mediterranean Monk Seal (*Monachus monachus*)” was adopted by the Convention’s Contracting Parties (UNEP-MAP-RAC/SPA & IUCN 1988, UNEP-MAP-RAC/SPA 2003a). The main aims of the Barcelona Convention’s Monk Seal Action Plan were: to reduce adult mortality; to promote the establishment of a network of marine reserves; to encourage research, data collection, and rehabilitation programmes; to implement information programmes targeting fishing communities and various other stakeholders; and to provide a framework for the coordination, review and financing of relevant activities.

The Regional Activity Centre for Specially Protected Areas (RAC/SPA) of Tunis is the body charged with facilitating the implementation of the species’ Action Plans within the Barcelona Convention context. Accordingly, in addition to assisting countries to carry out actions for the protection of monk seals through data collection, research, training and public awareness, during the past decades the RAC/SPA also organized meetings, produced documents on the status of the species, and promoted studies to identify potential monk seal critical habitat in so-called low-density areas (e.g., Albania, Algeria, Croatia, Cyprus, Libya, Morocco, Syria and Tunisia).

While all these efforts so far have served mostly the purpose of making progress in terms of greater knowledge and awareness, no discernable advance is yet apparent in the improvement of the species’ conservation status. As a consequence, the Mediterranean monk seal has continued to be listed as Critically Endangered in IUCN’s Red List since 1996 (Aguilar & Lowry 2008).

A strategy shift is clearly necessary if monk seals are to be saved from extinction in the Mediterranean. With this view, and with the aim of reinforcing the commitment of the Mediterranean countries and their active participation to the recovery of the species, in 2009 the Contracting Parties to the Barcelona Convention approved during their 16th Meeting in Marrakesh the proposal by the RAC/SPA of preparing a set of subregional¹ and national programmes for the conservation of monk seals in the Mediterranean. Such programmes are intended to promote and undertake concerted and effective actions at the local level to reverse the species’ critical status, and to encourage the concerned states to implement a

¹ Subregional = concerning a sub-set of the Mediterranean region.

series of joint measures aiming at re-establishing the favourable conservation status of monk seal populations and their natural habitat in the region.

While targeted actions that are locally grounded and tailored to specific peculiarities and needs are likely to be more effective than more general statements of purpose having a very wide horizon, a strong need remains of framing all these separate actions under the coordination of a regional umbrella. Monk seals are a highly mobile species, their habitat is shared by many nations, and includes international waters as well.

In this document a region-wide set of strategic actions is drafted to support monk seal conservation actions in the region, taking into account the shared character of monk seal ecology and its conservation concerns, at the same time allowing for the existing significant differences of the species' conservation status across the Mediterranean.

2.2. Summary of the status of and threats to monk seals in the Mediterranean

The Mediterranean monk seal, *Monachus monachus*, is classified as Critically Endangered in IUCN's Red List (Aguilar & Lowry 2008). It is considered one of the most endangered mammals in Europe and one of the world's most endangered marine mammal.

The species is present in the Mediterranean Sea, in the Marmara Sea (probably <10 individuals, C. Kiraç, pers. comm.) and in the North-eastern Atlantic Ocean, but is considered extinct in the Black Sea (Kiraç 2001)². Atlantic monk seals have been geographically separated from Mediterranean seals for sufficient time to develop noticeable morphological (Van Bree 1979) and genetic (Pastor et al. 2007) differences. Accordingly, in this document monk seals in the Mediterranean will be treated as an "evolutionarily significant unit" (ESU), whose conservation can be addressed independently from the population(s) living in the Atlantic.

This document will make no attempt at describing in detail the status of *Monachus monachus* throughout its Mediterranean range, because such descriptions already abound (e.g., Sergeant 1984, Sergeant et al. 1979, UNEP-MAP-RAC/SPA 1994, UNEP-MAP-RAC/SPA 2003b, UNEP-MAP-RAC/SPA 2006a, Aguilar & Lowry 2008), and it would now seem advisable to concentrate efforts on conservation action rather than on repetitive academic analyses (Notarbartolo di Sciara 2010).

What follows is a concise summary of the latest distributional knowledge which is instrumental to the construction of a meaningful region-wide conservation strategy. The treatment of locations where breeding nuclei of monk seals still persist is here separated from that of the rest of the Mediterranean, where individual seals have only episodically appeared in recent years.



² Although Güçlüsoy et al. (2004) hypothesized that 2-3 individuals might still be surviving there at the time of their writing.

Surviving breeding nuclei are the last remaining significant assets of the species in the Mediterranean and should be given the highest priority as far as conservation action is concerned. To the best of the currently available knowledge such nuclei can still be found in the following countries:

- **Greece.** Notable breeding concentrations of monk seals exist in the following locations (Notarbartolo di Sciara et al. 2009b, supplemented by more recent information where available):
 - Northern Sporades (52 individuals, with a mean annual pup production of >8);
 - North Karpathos and Saria (23 indiv., mean pups/year <4);
 - Kimolos and Polyaigos (49 indiv., mean pups/year <8);
 - Gyaros (60 indiv., mean pups/year 10: MOm, pers. comm.);
 - Ionian Islands: Kefallinia, Lefkada, Ithaca and Zakynthos (about 20 indiv. according to Panou 2009).

In addition to the above locations, monk seals are widely, albeit thinly distributed over the entire maritime territory of Greece, with occasional pupping occurring in many places. This makes it extremely hard, for the time being, to produce a realistic total population estimate of monk seals in Greece.

- **Turkey.** Monk seals are scattered along the Turkish Aegean and Mediterranean coasts, all the way from the Dardanelles to the border with Syria, with three main breeding concentrations (Güçlüsoy et al. 2004, UNEP-MAP-RAC/SPA 2011c):
 - Northern Aegean (35 indiv.);
 - Southern Aegean (28 indiv.);
 - Mediterranean coast (Levantine Sea)(42 indiv.: Gucu et al. 2009b).

Although no genetic proof is provided, evidence exists that due to habitat contiguity the seals found in Greek and Turkish Aegean waters are intermixing (Kıraç & Güçlüsoy, pers. comm.).

- **Cyprus.**
 - probably 6-7 individuals left; evidence of pupping still occurring, although solely based on the finding of one dead newborn in 2009 (UNEP-MAP-RAC/SPA 2011b);
 - from 3 to 17 individuals estimated in 2006-7; a young seal observed there was likely to have been born locally (Gucu et al. 2009a).

To conclude about locations where monk seal breeding still occurs, two countries (Greece and Turkey) stand out as the most important repositories for the species in the Mediterranean, where the greatest effort should be invested to ensure the survival of a critical mass, able to eventually support the future recolonisation of the entire region. Quite importantly, it must be noted that population estimates in Greece and Turkey, in spite of continuing high concern for the very low absolute numbers, have not significantly decreased during the last quarter of century (e.g., compare with Marchessaux 1989).

The recent (i.e., post-2000) evidence of breeding having occurred in Cyprus also requires the greatest attention, considering the very small and fast declining number of seals still present on that island



Evidence of monk seal episodic occurrence elsewhere in the Mediterranean - albeit with no conclusive sign of breeding success - was provided by a remarkable number of recent sightings. These are a powerful testimony of the species' potential for recolonising its former habitat in several countries, if only such countries were to give it a chance.

Notable appearances included (listed clockwise from the west):

- **Spain.** Reliable information exists of an individual photographed in 2008 at Isla del Toro, Mallorca, Balears, the first documented presence in European Spain in 50 years (Anon. 2008). More sightings in the area are reported by Font & Mayol (2009), summarised by Gazo & Mo (2012). By contrast, the small colony of seals known to have been surviving in the Chafarinas archipelago, along the African coast, is presumed extinct (Anon. 2004).
- **Italy.** Mo (2011) presents information on 81 observations documented between 1998 and 2010, corresponding to a minimum of 35 distinct sighting events. During the last decade monk seals made their appearance in Liguria, Tuscany, Sardinia, Latium, Sicily, Calabria and Apulia.
- **Croatia.** Antolovic et al. (2007), based on numerous sighting reports, considered that monk seals were still present in Croatian coastal waters during the 2000-2005 period, particularly around the offshore islands of the Dalmatian Archipelago. Gomerčić et al. (2011) list 31 sightings of monk seals in Croatia since 2005, including an adult female repeatedly photographed and filmed in the Kamenjak Natural Reserve, near the southern tip of the Istria peninsula.
- **Albania.** Although very little information exists about the status of monk seal habitat in the country (UNEP-MAP-RAC/SPA 2005c, UNEP-MAP-RAC/SPA 2012), a very recent documented sighting in the area south of Vlore on 4 August 2012 testifies to the presence of the species (Anon. 2012).
- **Syria.** The continued presence of the species is mentioned by Mo et al. (2003) and Gucu (2004). More recently, documented proof was provided by Jony & Ibrahim (2006), with a sighting 10 km north of Latakia in April 2005, combined with several reports by local fishermen.
- **Lebanon.** Two separate monk seal encounters were filmed underwater in Northern Lebanon, on 15 August and 4 September 2010, likely involving the same individual seal (Anon. 2010).
- **Israel.** After an absence from the country of more than 50 years, monk seals were reported along the Israeli coast 45 times between November 2009 and September 2010; one report included photographs of a young female resting inside the breakwater of Herzliya Marina (Scheinin et al. 2011). Although it is unclear whether

all the sightings mentioned above referred to only one individual or more, Scheinin et al. (2011) suggest that there likely were at least two.

- **Egypt.** Formerly considered as having disappeared from the country for about 20 years, the presence of at least one monk seal was documented from Marsa Matrouh, western Egypt, in March 2011 (UNEP-MAP-RAC/SPA 2011a, Notarbartolo di Sciara & Fouad 2011).
- **Libya,** particularly in Cyrenaica (the eastern-most portion of the coast), apparently had an estimated 20 individuals around the 1970s, as reported by Sergeant et al. (1979). Although current numbers are unknown, in spite of the considerable effort invested in finding out (Hamza et al. 2003), the recent finding (25 March 2012) of a dead young female in the area of Ain El Ghazala, near the Egyptian border, testifies to the continued presence of the species in that country (RAC/SPA 2012, Alfaghi et al. 2013).

Other Mediterranean countries where monk seals are presumed to still occasionally occur, although no recent sightings have been reported to our knowledge, include **Tunisia** (UNEP-MAP-RAC/SPA et al. 2001), **Algeria** (UNEP-MAP-RAC/SPA 2006b, UNEP-MAP-RAC/SPA 2012), and **Morocco** (Mo et al. 2011). However, and in stark contrast with the situation in the Eastern Mediterranean, the decline of the species has been particularly spectacular in north-west African countries, considering that only three decades ago estimates of monk seal numbers from that area probably exceeded 140 individuals, of which about 20 in Tunisia (Marchessaux 1986), 100 in Algeria (Marchessaux 1977), and 20 in Morocco (Avella & Gonzalez 1984, Marchessaux 1989).



Locations not listed above include those where monk seals are today sadly considered extinct (**France, Monaco, Malta**), as well as countries where the presence of monk seals has not been reported in recent years (**Slovenia, Bosnia Herzegovina, Montenegro**). However, the condition in the latter countries is likely more similar to that of neighbouring States (e.g., Croatia, Albania) than to that of the former countries, and could be explained in part by insufficient levels of sighting effort.



Threats to monk seal survival in the Mediterranean have been listed in minute detail by many authors (e.g., Ronald & Duguay 1979, Ronald 1984, UNEP-MAP-RAC/SPA 1994, UNEP-MAP-RAC/SPA 1998, Israëls 1999, UNEP-MAP-RAC/SPA 2003b, Aguilar & Lowry 2008). For example, an expert meeting held in Latakia, Syria, in September 2002 listed no less than 21 types of different threats to monk seals, grouped under four main headings: negative interactions with fishing activities, degradation and loss of habitat, disturbance, and pollution (UNEP-MAP-RAC/SPA 2003b).

While such exhaustive analyses might have been useful in past decades, when the conservation status of monk seals in the Mediterranean was not as dreadful as it has become lately, a strategic shift is recommended (Notarbartolo di Sciara 2010), with the

adoption of a **triaging approach** by the countries where monk seals are still present in substantive numbers and breeding. A triaging approach involves identifying and singling out the top-ranking threats acting in the different locations, and intervening upon these with the greatest energy and determination, thereby taking the maximum advantage of the limited resources that are customarily made available by most Mediterranean governments to the protection of their marine environment and biodiversity. Such strategy may not allow to address all the threats that monk seals are facing, but will help countries to concentrate efforts on the pressure factors which are creating the greatest problems, and are likely to be more cost-effective than squandering the scarce available resources in too many directions, some of which are likely to be of minor relevance to conservation.

As already recognised decades ago in the “Action Plan for the management of the Mediterranean monk seal (*Monachus monachus*)”, the two top-ranking threats to monk seals in the Mediterranean are a) **mortality from deliberate killings**, and b) the **deterioration of critical habitat (including disturbance)**. Here is where the greatest attention is urgently needed. A new strategy should recognise that the relative importance of such threats is not evenly distributed. For example, deliberate killings is one of the greatest problem in Greece (Androukaki et al. 1999); however, although this was also the case of Turkey decades ago (Berkes et al. 1979), the threat which ranks highest today in that country is habitat degradation, which takes many different forms (e.g., recreational boating, swimming, snorkelling and diving in prime habitat including caves, overfishing and intensive and illegal fishing such as with dynamite), but most importantly coastal development irreversibly destroying pristine coasts (Kıraç 2011). This reaffirms the need of tailoring strategic actions to local conditions, on the basis of a careful, location-specific threat analysis.

While the triaging strategy recommended above is intended for adoption by individual countries, actions having a wider, region-oriented scope (e.g., devising and implementing a contingency plan for single disastrous events such as a lethal epizootic outbreak or a massive oil spill within the species' critical habitat, or conditions which may derive from catastrophic environmental change; support to awareness campaigns; support to rescue and rehabilitation programmes; coordination of and support to research and monitoring, including monitoring of mortality causes and levels) should be best implemented within a wider, supra-national coordination framework, in which national responsibilities are supported by international conservation organisations.

Undeniably, other threats such as bycatch³, prey depletion due to overfishing, illegal fishing practices (e.g., with dynamite), and pollution, can and do take their toll on monk seals, however these are pressure factors that all countries are supposed to address anyway, within their clear duty of ensuring that human activities at sea be sustainably managed. Failure to effectively pursue the sustainability of fisheries and the good health of the seas is a serious flaw in Mediterranean marine governance having also dire socio-economic implications, and the loss of species, even charismatic ones such as monk seals, is just one of the many consequences of this malaise. Therefore, while combating overfishing, illegal fishing and marine pollution remain actions of paramount importance in terms of monk seal conservation concerns, these should be implemented as part of each nation's marine

³ A significant mortality factor in Greece and Turkey, although less relevant than deliberate killings in Greece, and mostly affecting juvenile seals (Ververi et al. 2001, Karamanlidis et al. 2008).

management and conservation policy rather than as part of a monk seal conservation strategy.

2.3. Why a change of strategy is needed if monk seals are to be saved from extinction

As noted above, Mediterranean monk seals have been listed in IUCN's Red List as *Critically Endangered* since 1996, i.e. now for 17 years. This is at the same time bad news, because it is a testimony of our evident inability of keeping the species away from under the Damocles' sword of imminent extinction. However, it is also good news, because the species in fact is not extinct yet, particularly as far as the eastern Mediterranean individuals are concerned. One factor that could have slowed down the disappearance of monk seals where pupping nuclei still exist today involves the geography of the Aegean Sea, where thousands of remote, uninhabited islets becoming particularly impervious during the windy Aegean summers, offer appropriate habitat to the seals, as well as partial refuge from human encroachment and disturbance. Another potential factor, which however should be subject to detailed socio-economic investigation, concerns the evolving and possibly declining importance of artisanal fishing in many small island economies in favour of tourism development, which undeniably impacts less on monk seal survival.

Such considerations, however, cannot be taken as a reason for complacency. In spite of the species' dire conservation status, monk seal survival in the Mediterranean can still be secured, but success will demand hard work and uncompromising determination from the part of the concerned governments and civil societies.



Past initiatives to save Mediterranean monk seals have clearly been inadequate, in spite of the impressive list of international meetings dedicated to the cause. These include:

- 1972: 18-19 August. Guelph, Canada. IUCN working meeting of seal specialists on threatened and depleted seals of the world (Israëls 1999);
- 1974: 5 October. London. Monk seal meeting ((Israëls 1999);
- 1976: May. Rome. Meeting "The monk seal along the Italian coasts: problems and perspectives for its positive protection" (Israëls 1999);
- 1978: 2-5 May. Rhodes. First International Conference on the Mediterranean monk seal (Ronald & Duguy 1979);
- 1979: 11-13 October. Conference on the protection of Greek flora – fauna biotypes (Israëls 1999);
- 1984: 5-6 October. La Rochelle. Second International Conference on the Mediterranean Monk Seal (Ronald & Duguy 1984);
- 1985: 13-14 June. Port-Cros, France. "Séminaire International sur la stratégie de conservation du phoque moine" (Israëls 1999);
- 1986: 15-16 September. Strasbourg. First meeting of the monk seal Expert Group convened by the Council of Europe.
- 1986: 30 October. Bruxelles. Meeting of experts on the Mediterranean monk seal held under the auspices of the Directorate of the Environment, Consumer Protection and Nuclear Safety Commission of the European Communities.

- 1987: 2-6 November. Antalya, Turkey. Third International Conference on the Mediterranean monk seal.
- 1988: 11-12 January. Athens. Joint expert consultation on the conservation of the Mediterranean monk seal, organised by UNEP/MAP in co-operation with IUCN (UNEP/MAP & IUCN 1988).
- 1988: 26 May. Port-Cros, France. Meeting of the International Scientific Committee on the monk seal (Israëls 1999);
- 1988: 30-31 May. Strasbourg. Second meeting of the monk seal Expert Group convened by the Council of Europe (Israëls 1999);
- 1989: 20-22 September. Madeira. Meeting of coordination of national and international programmes on the conservation of the Mediterranean monk seal. Organised by the Council of Europe in coordination with UNEP-MAP-RAC/SPA, IUCN, CMS, the Portuguese Government and the Regional Government of Madeira (Israëls 1999);
- 1990: 6 November. Bruxelles. Sixth Meeting of the monk seal Specialist Group (Israëls 1999);
- 1990: 10-11 December. Texel, The Netherlands. "Urgent action meeting for safeguarding the Mediterranean monk seal as a species" (Israëls 1999);
- 1991: 1-4 May. Antalya, Turkey. Seminar on the conservation of the Mediterranean monk seal (Council of Europe 1991);
- 1994: 7-9 October. Rabat, Morocco. Meeting of experts on the evaluation of the implementation of the Action plan for the management of Mediterranean monk seals (UNEP-MAP-RAC/SPA 1994);
- 1998: 19-20 January. Monaco. The World Marine Mammal Science Conference. Workshop on the biology and conservation of the world's endangered monk seals, Monaco, 19-20 January 1998. The Society for Marine Mammalogy & The European Cetacean Society;
- 1998: 29-31 October. Arta, Greece. Meeting of Experts on the Implementation of the Action Plans for Marine Mammals (monk seal and cetaceans) adopted within MAP (UNEP-MAP-RAC/SPA 1998);
- 2002: 29-30 September. Lattakia, Syria. Meeting of experts on the conservation of the Mediterranean monk seal: proposal of priority activities to be carried out in the Mediterranean Sea (UNEP-MAP-RAC/SPA 2003b);
- 2006: 17-19 September. Antalya, Turkey. International Conference on monk seal conservation (UNEP-MAP-RAC/SPA 2006a);
- 2008: 14 November. Monaco. First meeting of the Working Group: "Reintroduction of the monk seal to the Western Mediterranean", organised by the Foundation Albert II, Prince of Monaco.
- 2009: 30 January. Monaco. Second meeting of the Working Group: "Reintroduction of the monk seal to the Western Mediterranean", organised by the Foundation Albert II, Prince of Monaco.
- 2009: 28 February. Istanbul. "Who are our seals? Moving towards a standardised population estimate approach for *Monachus monachus*". Workshop conducted within the framework of the European Cetacean Society Annual Conference, sponsored by the RAC/SPA and the Principality of Monaco (UNEP-MAP-RAC/SPA 2009);

- 2009: 30 March – 3 April. Maui, Hawai'i. First International Conference on Marine Mammal Protected Areas. Workshop on MMPAs and MMPA networks for monk seal conservation (Reeves 2009);
- 2010: 10 June. Monaco. Third meeting of the Working Group: "Reintroduction of the monk seal to the Western Mediterranean", organised by the Foundation Albert II, Prince of Monaco.
- 2011: 9 November. Martinique, French Antilles. Second International Conference on Marine Mammal Protected Areas. Workshop on the conservation of monk seals (Hoyt 2012).

Many of the meetings listed above have produced declarations and action plans. All the recommendations that could be possibly excogitated have already been recommended. Many resolutions and recommendations concerning monk seal conservation have also been adopted in meetings not strictly dedicated to the species' survival (e.g., UNEP-MAP-RAC/SPA 2005a, UNEP-MAP-RAC/SPA 2009, IUCN 2009, GFCM 2011). Furthermore, in addition to international initiatives, monk seal conservation action plans and strategies have also been drafted and adopted at the national level, sometimes under the impetus of proposals from NGOs. Examples of such documents exist, amongst others, in Algeria (UNEP-MAP-RAC/SPA 2006b), Cyprus (UNEP-MAP-RAC/SPA 2011 b), Egypt (Notarbartolo di Sciara & Fouad 2011), Greece (Anon. 1996, superseded by Notarbartolo di Sciara et al. 2009a; Anon. 2009), and Turkey (Kıraç et al. 2011).

Unfortunately such declarations, action plans, resolutions and recommendations, year after year, are now collecting dust without the surviving monk seals being able to take much notice. Until there is a clear and unequivocal understanding of why meeting and resolutions do not produce intended action, and why conservation actions to counteract monk seal decline in the Mediterranean have consistently failed, there is little hope that things will change for the better.

Certainly, the old pretext of "not knowing enough" about the species' ecology no longer stands. Ecological and veterinary knowledge, although incomplete, is substantive and helpful. Threats are well identified, and the measures to address them straightforward. Not even regulatory insufficiency can be blamed, given that legal provisions at all possible levels (national, regional, European and international) could not be more adequate.



Three main reasons are envisaged below to explain such resounding failure in securing monk seal survival in the Mediterranean.

First, the difficulties encountered by many governments in implementing their commitments in terms of conservation and sustainable use of marine resources certainly remain at the forefront. Saying "sustainable" is easy, but bearing the short-term socio-economic and political costs that true sustainability involves is far more difficult, and therefore rarely done. This includes even simple and straight-forward actions such as enforcing the prohibition of carrying guns and/or dynamite aboard fishing vessels; such enforcement could certainly carry highly beneficial effects to monk seal conservation.

Second, efforts of conserving the Mediterranean monk seal, a natural asset which is uniquely shared by all the region's riparian states, have sorely lacked in coordination and continuity. Too many action plans have been produced that have remained on paper instead of becoming the backbone of a concerted effort, seeing the active involvement and cooperation of all the components of Mediterranean civil society at large, public and private, national and international. Funds for monk seal conservation have been allocated piecemeal instead of being invested to support a science-based, long-term, region-wide strategy. Although the greatest achievements in monk seal conservation in the Mediterranean during the past few decades were secured thanks to the laudable commitment of a handful of NGOs, in the end the lack of institutional interest, leadership and support from within the most concerned nations has resulted in the erosion of civil society's goodwill, and occasionally stimulated squabbling instead of constructive cooperation towards a shared goal. Quite regrettably, the commendable prescriptions by the Barcelona Convention Action Plan (UNEP/MAP/RAC/SPA 2003a), that: a) an expert be employed with the specific task of facilitating such coordination (Art. 30); and b) the status of monk seals be reviewed every two years, with a report submitted to the Contracting Parties of the Barcelona Convention for endorsement (Art. 31), were never implemented as stated. The need for coordination is particularly acute in an arena which sees so many players, as well as many major international bodies, taking interest in such highly mobile animals as monk seals, which are rarely confined to waters within the jurisdiction of any single nation. Monk seals offer an exemplary case in which conservation needs cooperation amongst range states and concerned international bodies, which include, in addition to the Barcelona Convention, the Convention on Migratory Species (which lists Mediterranean monk seals in its Appendix I), the General Fisheries Commission for the Mediterranean (e.g., GFCM 2011), the Bern Convention (Mediterranean monk seals listed in Appendix II), and the European Union (which lists Mediterranean monk seals as *priority species*⁴ in Annex II of Council Directive 92/43/EEC, known as the "Habitats Directive"). UNEP/MAP has the mandate of fulfilling in the best possible way the coordinating functions required by such a complex and challenging region-wide conservation strategy through its various regional bodies, and most notably the RAC/SPA.

Third, until now the overwhelming emphasis of monk seal conservation actions has been on the species rather than on the human beings who interact with it. However, the root of monk seal conservation has a social rather than an ecological nature, because problems to the species derive from its devastating interactions with people rather than from its intrinsic natural characteristics. Early players in the monk seal conservation arena - naturalists, biologist, ecologists and veterinarians – now urgently need to team up with social scientists, economists, as well as legal, media and education experts if actions are to become more incisive where the problems are most acute. Even merely advocating greater stakeholder participation may no longer be sufficient to achieve appreciable results. The solution of monk seal conservation problems must be perceived as residing in, and fully coinciding with, the solution of the wider environmental and socio-economic problems of the involved human communities. It is only from within such communities that the solution to monk seal conservation problems can originate.

⁴ "Species of Community interest which is endangered, for the conservation of which the Community has particular responsibility in view of the proportion of its natural range which falls within the European territory."

2.4. Monk seal functions and values in the Mediterranean

Faced with the perspective of investing the considerable amount of time, effort and resources needed to reverse the critical conservation status of monk seals in the Mediterranean, many could find it legitimate to question the ethical aspects of dedicating to a single species far greater attention than to most of the region's other marine organisms.

The reply to such question is that dedicating to monk seal conservation extraordinary attention and resources is indeed legitimate, for many reasons.

The first reason is legal: *Monachus monachus*, as mentioned previously, is protected by numerous national, regional, and international legislation, and failing to do so is against the law.

Second, the Mediterranean monk seal is a species that possesses intrinsic values under many aspects, such as: a) non-consumptive use value (e.g., as an apex predator in the maintenance of ecological balance; as a potential ally in combating the diffusion of noxious alien fish species; as a resource for ecotourism); b) option value (i.e., "a means of assigning a value to risk aversion in the face of uncertainty", McNeely 1988); and c) clearly perceived existence value (e.g., Langford et al. 2001).

Third, protecting monk seals is important not only because of their intrinsic values, but also because conservation actions favouring monk seals are likely to extend their benefits to other species and to the environment they are part of, given the monk seals' qualities of both umbrella and flagship species (Leader-Williams & Dublin 2000).

Finally, witnessing impotently the extinction in the Mediterranean of charismatic monk seals also carries political significance, because such extinction would create a devastating loss of institutional credibility. This is why a forceful monk seal conservation strategy, embraced regionally as a best practice example, should become solidly integrated within a wider strategy for the conservation of the Mediterranean marine environment.

Ultimately, the effort to conserve the marine environment and its biodiversity - and in particular monk seals that can be so easily identified as symbols of such effort - must be driven by values (Wilhere et al. 2012). While conserving monk seals and their habitat in the Mediterranean is an obligation that the region's nations have explicitly committed to, on the basis of a large number of national, regional, international and, where appropriate, European legal instruments, the species' future will be secured only if a) the region's civil society will attribute to the seals the value they deserve, and b) saving monk seals from extinction will be seen as the epitome of the effort of reversing the devastating trend of loss of naturalness which is plaguing the Mediterranean.

Ideally, monk seals should become the symbol of a renewed effort towards Mediterranean marine conservation. Therein lies the importance of implementing an effective and successful strategy for the conservation of this species.



3. A region-wide Strategy for the Conservation of Monk Seals in the Mediterranean

3.1. Rationale for the Strategy

The draft Strategy presented below (Section 3.2) differs from the Barcelona Convention's "Action plan for the management of the Mediterranean monk seal (*Monachus monachus*)" (UNEP-MAP-RAC/SPA 2003a) chiefly in terms of its method, considering that the old Action Plan continues to be valid as far as its contents and general principles are concerned⁵.

In structuring the draft Strategy, guidelines were followed which are detailed in the manual for the construction of Species Conservation Strategies (IUCN/SSC 2008). Accordingly, this draft Strategy is structured as follows:

- a. a Vision, with associated Goals and Goal Targets that are SMART⁶;
- b. the Objectives needed to achieve the Goal Targets within the stated time span, with associated SMART Objective Targets.

The definition of Actions to attain Objective Targets, i.e., the activities which need to be performed in order to achieve the Objectives, Goals, and ultimately the Vision, will be amongst the first tasks of the Monk Seal Task Force, as soon as it will start functioning.

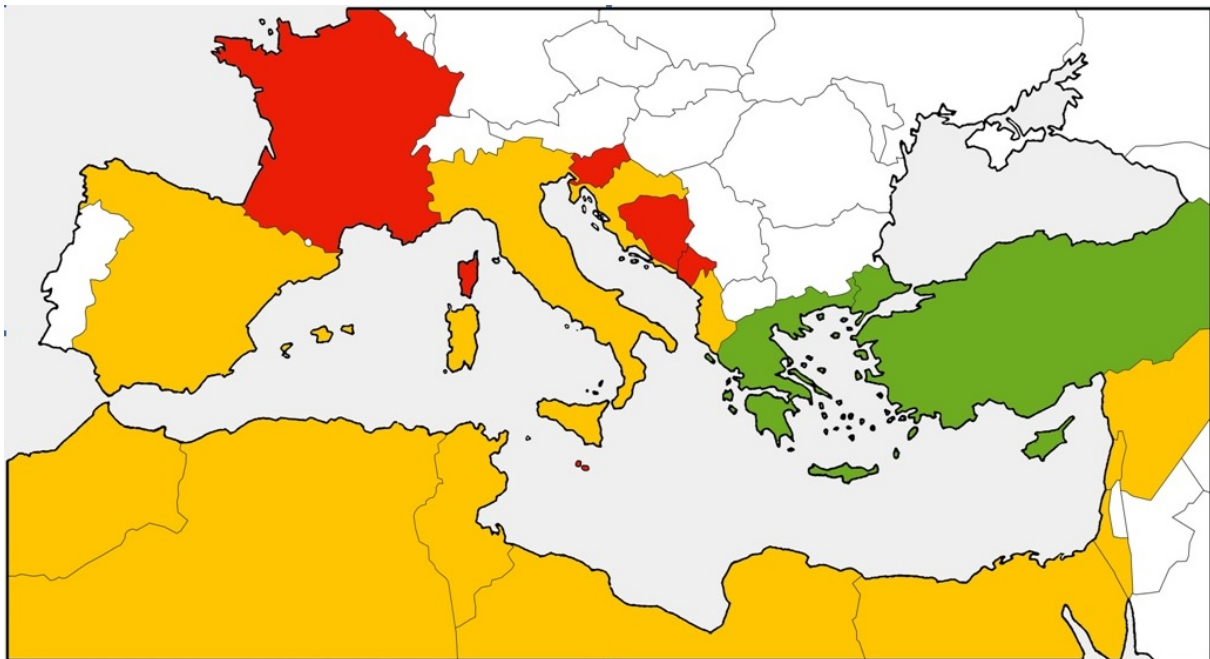


Figure 1. Monk seal conservation status by country in 2011. Green: "Group A" countries. Yellow: "Group B" countries. Red: "Group C" countries.

⁵ With few exceptions; e.g., concerning knowledge of the species, which is no longer as poor as it was in 1988 (Art. 3), and the fact that scientific opinion is no longer divided concerning conservation strategies (Art. 4).

⁶ Specific, Measurable, Achievable, Relevant, Time-bound.

The main problem encountered in envisaging a region-wide Strategy derives from the quite diverse conservation status of monk seals in the different portion of the Mediterranean, as clearly evident from the Section 2.2 in this document, and by consequence the quite different priorities and responsibilities saddled onto the various monk seal Range States.

To handle this challenge, it is here proposed to assign Mediterranean countries to three groups (Figure 1 and Table 1):

- A. Countries where monk seal breeding has been reported after year 2000⁷;
- B. Countries with evidence of monk seal presence, but with no breeding reported after year 2000;
- C. Countries where no monk seals have been reported since year 2000.

Group A countries is where action is most urgent, because at the moment these countries are our best hope for the survival of the species. Group B countries are also important, because they contain monk seal critical habitat which is likely to be re-colonised if conditions are favourable (as demonstrated by the frequent appearances of monk seals in many locations), particularly if actions in Group A countries are successful. Group C countries are also important because they contain monk seal critical habitat, and because the return of monk seals will become more likely if actions in Group B countries are successful.

To fulfil the Vision, this draft Strategy identifies four Goals. The first Goal relates to the creation of a conservation support structure at the international level, whereas the other three Goals relate to each of the three Groups the various countries have been assigned to.

Section 3.2 was drafted in a way to allow it to be eventually excerpted from this document and submitted for adoption as a separate document.

⁷ Year 2000 was arbitrarily selected as a criterion to separate present from past.

Country	Group A: Monk seals present, breeding occurring (reported after year 2000)	Group B: evidence of monk seal presence, but no breeding reported after year 2000	Group C: no monk seals reported since year 2000	References	Notes
Spain				Anon. 2008, Font & Mayol 2009	Individual sighted in 2008 Isla del Toro, Mallorca. More sightings in 2009.
France				UNEP-MAP-RAC/SPA 1994	No recent reports.
Monaco					No recent reports. Monk seal habitat no longer present.
Italy				Mo 2011	
Slovenia				UNEP-MAP-RAC/SPA 2003b	No recent reports.
Croatia				Antolovic et al. 2007, Gomercic et al. 2011	
Bosnia Herzegovina					No recent reports.
Montenegro					No recent reports.
Albania				UNEP-MAP-RAC/SPA 2003b, UNEP-MAP-RAC/SPA 2005c, Anon. 2012	
Greece				Notarbartolo di Sciara et al. 2009b, Panou 2009	
Turkey				Güçlüsoy et al. 2004, Gucu et al. 2009b	
Cyprus				Gucu et al. 2009a UNEP/MAP/RAC/SPA 2011b	Young of the year observed in 2006-7. Evidence of a newborn pup found dead in 2009.
Syria				Gucu 2004, Jony & Ibrahim 2006, Mo et al. 2003	
Lebanon				Anon. 2010	
Israel				Scheinin et al. 2011	
Egypt				Notarbartolo di Sciara & Fouad 2011	
Libya				Sergeant et al. 1979, Hamza et al. 2003, RAC/SPA 2012	
Malta				UNEP-MAP-RAC/SPA 2003b	No recent reports.
Tunisia				UNEP-MAP-RAC/SPA 2001 UNEP-MAP-RAC/SPA 2003b	
Algeria				UNEP-MAP-RAC/SPA 2006b	The seal pup reported in 2006 was not <i>M. monachus</i> (Bouderbala et al. 2007)
Morocco				UNEP-MAP-RAC/SPA 2003b, Mo et al. 2011	

Table 1. Summary of monk seal presence in the different Mediterranean countries (listed clockwise from the west).

3.2. The Strategy

3.2.1. Vision

“Over the next two decades, the ecological recovery of monk seals in the Mediterranean will deem to have occurred, when multiple colonies have become established within all major habitats of their historic range, interacting in ecologically significant ways with the fullest possible set of other species, and inspiring and connecting human cultures”.

3.2.2. Goals

Goal 1. Mediterranean Range States implement this Strategy in pursuance of the Vision, through the expeditious development and adoption of appropriate national policies and administrative frameworks, and with the effective, coordinated support from relevant international organisations and civil society.

Goal 2. Monk seal breeding nuclei in sites located in “Group A” countries are effectively protected from deliberate killings and habitat degradation, so that seal numbers in such sites increase and seals are able to disperse to and re-colonise the surrounding areas.

Goal 3. Monk seal presence in sites where they are occasionally seen today in “Group B” countries is permanently established, and breeding resumes. “Group B” countries are upgraded to “Group A”.

Goal 4. Monk seal presence is again reported in the species’ historical habitat in “Group C” countries, and these “Group C” countries are upgraded to “Group B”. Once all “Group C” countries are upgraded, Group C is deleted.



3.2.3. Goal Targets, Objectives and Objective Targets

Goal 1. Mediterranean Range States implement this Strategy in pursuance of the Vision, through the expeditious development and adoption of appropriate national policies and administrative frameworks, and with the effective, coordinated support from relevant international organisations and civil society.

Goal Target 1.1. A framework for the implementation of the Mediterranean Monk Seal Conservation Strategy is established by the Mediterranean Range States. The framework will include the establishment of a Monk Seal Task Force (MSTF) and the selection of a Monk Seal Conservation Officer (MSCO).

Objective 1.1.1. Mediterranean Range States establish a **Monk Seal Task Force (MSTF)** tasked to recommend actions a) for the implementation of the Strategy, and b) to update, adapt and improve the Strategy itself (e.g., by defining the Actions needed to attain the different Objective Targets). The MSTF is composed by a small (ideally, ≤ 10) group of monk seal conservation experts, whom the Range States designate, selected amongst national and international monk seal conservation experts. The MSTF will include ecological as well as social and economical expertise. The MSTF functioning is supported by the RAC/SPA, and may benefit from the technical support of IUCN's Pinniped Specialist Group, the GFCM and other relevant international organisations.

Objective Target 1.1.1.1. MSTF TOR adopted, Task Force established by March 2014. The Task Force meets at least once a year to review the status of monk seals in the region, and to support the implementation of the appropriate Actions foreseen in the Strategy.

Objective Target 1.1.1.2. First meeting of MSTF in June 2014. Recommendations adopted are submitted to Contracting Parties to the Barcelona Convention through the SPA Focal Points⁸.

Objective Target 1.1.1.3. MSTF activities are harmonised with efforts by UNEP-MAP within the Ecosystem Approach process for the attainment of Good Environmental Status in the Mediterranean, i.e., to attain Ecological Objective EO1 "Biodiversity" and Operational Objectives 1.1 ("Species distribution is maintained"), 1.2 ("Population size of selected species is maintained"), 1.3 ("Population condition of selected species is maintained"), 1.4 ("Key coastal and marine habitats are not being lost"), as far as monk seals are concerned.

⁸ As prescribed in Art. 31 of the Action Plan (UNEP-MAP-RAC/SPA, 2003a).

Objective 1.1.2. A **Monk Seal Conservation Officer (MSCO)** is selected by the Range States from within the MSTF, tasked of coordinating the MSTF work and of supporting the conservation activities implemented by Range States and concerned international organisations through the implementation of this Strategy⁹.

Objective Target 1.1.2.1. TOR for MSCO adopted, MSCO engaged by March 2014.

Objective 1.1.3. The Parties to the Barcelona Convention ensure that the MSTF and the activities it recommends are supported by adequate resources.

Objective Target 1.1.3.1. The Parties to the Barcelona Convention adopt a resolution to support the MSTF functioning.

Objective 1.1.4. The Parties to the Barcelona Convention ensure that the activities that the MSTF recommends, insofar as it is possible, are implemented.

Objective Target 1.1.4.1. The Parties to the Barcelona Convention adopt resolutions in support of specific MSTF recommendations concerning the implementation of this Strategy.

Goal Target 1.2. Based on this Strategy, the MSTF provides support to Mediterranean Range States in the development and implementation of specific conservation actions having a regional scope.

Objective 1.2.1. A contingency plan for single disastrous events (e.g., a lethal epizootic outbreak, a massive oil spill within monk seal critical habitat), and for emergency conditions which may derive from catastrophic environmental change, is developed by the MSTF in cooperation with equivalent bodies dealing with the conservation of Mediterranean monk seals in the Atlantic, with the conservation of cetaceans in the Mediterranean (i.e., within the ACCOBAMS framework), and with the appropriate bodies within the “Barcelona System” (e.g., REMPEC). The contingency plan will include the collection and safe storage of Mediterranean monk seal germplasm which may support in the future the recovery of the species should it become extinct.

Objective Target 1.2.1.1. Contingency plan developed by the MSTF in 2014, and adopted by the subsequent Barcelona Convention CoP.

Objective 1.2.2. Capacity building and awareness activities are planned by the MSTF, and promoted in monk seal Ranges States so that monk seal protection and recovery is effectively embraced at the national level. This will include the preparation of a dedicated

⁹ As prescribed in Art. 30 of the Action Plan (UNEP-MAP-RAC/SPA, 2003a).

web site and the regular issuing and widely distributed monk seal information newsletter in an adequate number of different languages.

Objective Target 1.2.2.1. Capacity building: the main groups of stakeholders in monk seal conservation are identified by the MSTF, tailored to each different monk seal Range State (with first priority given to “Group A Countries” and second priority given to “Group B Countries”), and training courses are prepared and planned (see Goal Targets 2.2. and 3.8). Preferably, training events will be developed *in situ* at selected locations having special relevance to monk seal conservation, in collaboration with the local groups, and will be followed by a constant “advice service” or accompanying process to ensure that full and long-lasting advantage derives from the effort.

Objective Target 1.2.2.2. In order to facilitate collaboration and communication amongst monk seal conservation experts throughout the region, the MSTF promotes periodical workshops on best practices of monk seal monitoring and conservation techniques, preferably taking advantage of other meetings being periodically organised (e.g., CIESM Congresses, ECS Annual meetings). Proceedings are edited and widely diffused (e.g., by pdf through the Internet) in formats that will serve as “best practice guidelines”.

Objective Target 1.2.2.3. Awareness actions are promoted by the MSTF, with first priority given to “Group A Countries” (with the exception of Greece) and second priority given to “Group B Countries”, in cooperation with local groups, targeting special-interest stakeholders such as fishermen and local coastal communities. Awareness actions, preferably supported through national fundraising efforts, could be modelled (*mutatis mutandis*) on the experience of the EC-funded “Thalassa” LIFE+ Information Communication project carried out in Greece in 2010-2013.

Objective Target 1.2.2.4. A website dedicated to monk seal conservation and information at the regional level is prepared by RAC/SPA in close collaboration with “The Monachus Guardian” and posted online by the end of 2014.

Objective Target 1.2.2.5. Monk seal newsletter issued twice a year by RAC/SPA in close collaboration with “The Monachus Guardian”, starting in 2014.

Objective 1.2.3. Monk seal rescue and rehabilitation programmes are planned by the MSTF and supported in Range States (with priority given to “Group A” countries) through capacity building and structural and operational funding.

Objective Target 1.2.3.1. The “National Rescue and Information Network” (RINT) in Greece is supported and strengthened. The construction and operation of a state-of-the-art rehabilitation facility (operational by 2015) is supported.

Objective Target 1.2.3.2. The national rescue and rehabilitation network called AFBKA, to be enhanced and further supported in Turkey, is operational by August 2014. Capacity building programmes with international expert support facilitated by the MSTF are implemented in 2015.

Objective Target 1.2.3.3. A national rescue and rehabilitation network is established and supported in Cyprus. Capacity building programmes with international expert support facilitated by the MSTF are implemented in 2015. Arrangements are made for a) the local rescue and release of seals in need of minor support, and b) the transfer of seals needing major support to the rehabilitation facility in Greece or in Turkey.

Objective 1.2.4. Monitoring of monk seal distribution and abundance, as well as advances in knowledge important for monk seal conservation, are promoted and supported by the MSTF through training, workshops and the facilitation of research and monitoring programmes. The monitoring process is made to coincide with the similar monitoring requirements within the framework of the Ecosystem Approach process by UNEP-MAP, and (where appropriate) with the Marine Framework Strategy Directive of the EC.

Objective Target 1.2.4.1. MSTF supports the completion of monk seal breeding site inventories in “Group A Countries” by 2016.

Objective Target 1.2.4.2. MSTF supports the yearly monitoring of monk seal population parameters (e.g., pup production) in breeding sites in “Group A Countries”, starting in 2014.

Objective Target 1.2.4.3. MSTF supports the regular monitoring of region-wide monk seal demographic parameters, such as mortality (levels and causes) and birth rates, starting in 2014.



Goal 2. Monk seal breeding nuclei in sites located in “Group A” countries are effectively protected from deliberate killings and habitat degradation, so that seal numbers in such sites increase and seals are able to disperse to and re-colonise the surrounding areas.

Goal Target 2.1. Maintain and secure monk seal presence in important monk seal locations, including: a) Greek Ionian islands (Lefkada, Kefallinia, Ithaca, Zakynthos, and surrounding islets and seas); b) Northern Sporades; c) Gyaros; d) Kimolos and Polyaiagos; e) Karpathos-Saria; f) Turkish Aegean and Mediterranean coasts; g) Cyprus. Breeding nuclei in the locations listed above are effectively protected from deliberate killings and habitat degradation, so that seal numbers in such sites increase and young seals are able to disperse and re-colonise the surrounding areas.

Objective 2.1.1. Current legislation prohibiting to carry firearms and explosives aboard fishing vessels in Greece, Turkey, Cyprus is enforced, with a special attention in locations listed in Goal Target 2.1.

Objective Target 2.1.1.1. Compliance with existing laws concerning firearms and explosives aboard fishing vessels in Greece, Turkey, Cyprus is routinely enforced everywhere, to come into effect with immediate urgency. Appropriate statistics of infringements are kept and publicized. Infringements are prosecuted with penalties appropriate to address the destruction of a critically endangered, specially protected species. Current illegal fishing practices are eradicated.

Objective 2.1.2. Locations listed in Goal Target 2.1, and other equally important locations that may be eventually discovered in the future, are geographically delimited and legally protected/managed.

Objective Target 2.1.2.1. A monk seal MPA (or an MPA network) encompassing the most important monk seal habitat in the area is formally established in the Greek Ionian islands by 2014.

Objective Target 2.1.2.2. The current Natura 2000 site around the island of Gyaros is formally established as a monk seal protected area by 2014.

Objective Target 2.1.2.3. A monk seal MPA is formally established in Kimolos - Polyaigos by 2013.

Objective Target 2.1.2.4. A monk seal MPA is formally established in Karpathos - Saria by 2013¹⁰.

Objective Target 2.1.2.5. Monk seal MPAs are designated along the Aegean and Mediterranean coastline of Turkey by 2014, to protect monk seal critical habitat as determined and mapped by the Turkish National Monk Seal Committee.

Objective Target 2.1.2.6. A monk seal MPA is designated in Cyprus where suitable critical monk seal critical habitat is identified, and established by 2015.

Objective 2.1.3. Areas in locations listed under Goal Target 2.1 are effectively protected through a) appropriate management actions, and b) the keen involvement of the local communities, which will both ensure the good conservation status of monk seals found there. A management framework is in place and implemented, defining the spatial, temporal and specific measures needed in the species' critical habitats (e.g., regulating access to caves), thereby affording effective protection to haul out and pupping sites.

Objective Target 2.1.3.1. Until formal protection of the areas listed under Goal Target 2.1 is established and enforced, patrolling of the most important haul out and

¹⁰ Greece has already established the protected area Management Body in Karpathos in 2007, however the MPA has not been legally declared yet.

pupping locations and caves is organised at least during the summer and breeding season, starting in 2014. Patrolling can be done by volunteers, well-trained and possibly local, who will be performing awareness actions *in situ*, as well as solicit the intervention of law enforcers in case of need.

Objective Target 2.1.3.2. All monk seal MPAs established under Objective 2.1.2, as well as the National Marine Park of Alonissos – Northern Sporades, are endowed with an operant Management Body and a management plan which is adaptive, ecosystem-based and fully implemented by 2014.

Objective Target 2.1.3.3. Management in monk seal MPAs established under Objective 2.1.2, as well as the National Marine Park of Alonissos – Northern Sporades, is conducted in a participatory fashion, with the full involvement of local artisanal fishermen and local communities at large, and in cooperation with the fisheries sectors (e.g., see GFCM 2011). All proposals and decisions aiming at establishing or modifying conservation and protection measures must be based on sound and indisputable scientific data and evidence. Elements of participatory approach will include awareness campaigns as well as the experimentation/adoption of innovative mechanisms to address opportunity costs, damage mitigation and the generation of alternative sources of income (e.g., ecotourism).

Goal Target 2.2. Implementation of Goal Target 2.1. is enabled through appropriate capacity building activities.

Objective 2.2.1. Training sessions are organised in areas relevant to locations listed in Goal Target 2.1, with the support of the MSTF (see Objective Target 1.2.2.1). Training will concentrate, at least initially, on mitigating the main threats to monk seals (deliberate killing, habitat degradation, and accidental entanglement), and will target stakeholders identified by the MSTF (e.g., fishermen, tourist operators, enforcement officers, judges). Training will be developed together with the local groups, and will be followed by a constant “advice service” or accompanying process to ensure that full advantage is taken from the effort.

Goal 3. Monk seal presence in sites where they are occasionally seen today in “Group B” countries is permanently established, and breeding resumes. “Group B” countries are upgraded to “Group A”.

Monk seal presence in “Group B” countries must be verified with appropriate methods so as to define the actual species’ use of the coastal seas and identify the areas in which priority monitoring, awareness and protection actions need to be carried out (see Objective 1.2.4). This implies that priority areas of usage be identified thorough sighting collection campaigns, habitat surveys in areas of hotspot sightings, and where the coastal habitat is most pristine (which implies analysis of coastal habitat characteristics and their distribution in each nation), followed by *in situ* monitoring to assess the eventual degree of habitat use by monk seals. Sites with repeated use and with highest numbers of monk seal sightings must be evaluated in terms of pressures and risks. Awareness activities to be carried out in each site will depend on the type of use of the coasts by the species, the degree of the pressures

impinging on each site, and the type of risks involved depending on what will appear to be the type of habitat use by the monk seals.

Goal Target 3.1. Monk seal presence in Italy, and in particular in the Egadi Islands, in locations around Sardinia, and in the Tuscan Archipelago, is permanently established, and monk seal breeding resumes.

Objective 3.1.1. Monitoring of monk seal distribution, abundance and behaviour (including eventual pup production) is continued in the Egadi islands.

Objective Target 3.1.1.1. Non-invasive and scientifically sound monitoring technologies, applied to caves in appropriate locations within the Egadi Islands MPA, is continued and enhanced.

Objective Target 3.1.1.2. A programme involving local fishermen in the monitoring programme around the Egadi Islands MPA (also targeted at increasing their awareness), is continued and enhanced.

Objective 3.1.2. Regular monitoring of monk seal presence and awareness actions are conducted in areas historically containing monk seal habitat in Sardinia.

Objective 3.1.3. Regular monitoring of monk seal presence and awareness actions are conducted in areas historically containing monk seal habitat in the Tuscan Archipelago.

Goal Target 3.2. Monk seal presence in Croatia, and in particular in specific localities of the Dalmatian archipelago and southern Istria, is permanently established, and monk seal breeding resumes.

Objective 3.1.3. Monk seal ecology and behaviour (including eventual pup production) is monitored in selected locations of the Dalmatian Archipelago and of the Istria Peninsula, and awareness action is conducted in the area.

Objective Target 3.1.3.1. Non-invasive and scientifically sound monitoring technologies are applied to caves in Istria and selected Dalmatian islands, starting in 2014.

Objective Target 3.1.3.2. Awareness actions are conducted in Croatia, targeting local residents and visitors.

Goal Target 3.3. Monk seal presence in Libya and nearby western Egypt is confirmed and permanently established, and monk seal breeding is reported.

Objective 3.3.1. Monk seal ecology and behaviour (including eventual pup production) is monitored in Libya (Cyrenaica) and nearby Egyptian coast (from the border, including Sallum MPA, to Marsa Matrouh).

Objective Target 3.3.1.1. Full survey of monk seal presence and awareness actions organised in Cyrenaica by 2015.

Objective Target 3.3.1.2. Full survey of monk seal presence and awareness actions organised in Egypt (from the border, including Sallum MPA, to Marsa Matrouh) by 2015.

Goal Target 3.4. Monk seal presence in the Balearic Islands, Spain, is confirmed and permanently established.

Objective 3.4.1. A reporting scheme to detect occasional monk seal presence and alert authorities is implemented; awareness actions are conducted around the Balearic Islands, Spain.

Goal Target 3.5. Monk seal presence in Albania is confirmed and permanently established.

Objective 3.5.1. A reporting scheme to detect occasional monk seal presence and alert authorities is implemented along the Albanian coastal zone; awareness actions are conducted in the concerned areas.

Goal Target 3.6. Monk seal presence in Syria, Lebanon and Israel is confirmed and permanently established.

Objective 3.6.1. A reporting scheme to detect occasional monk seal presence and alert authorities is implemented along the Syrian, Lebanese and Israeli coastal zone; awareness actions are conducted in the concerned areas.

Goal Target 3.7. Monk seal continued presence in locations of the Maghreb's Mediterranean coasts and annexed islands, in Tunisia, Algeria, Morocco, and the Chafarinas Islands (Spain) is confirmed and permanently established.

Objective 3.7.1. A reporting scheme to detect occasional monk seal presence and alert authorities is implemented along Maghreb's Mediterranean coasts and annexed islands, in Tunisia, Algeria, Morocco, and the Chafarinas Islands (Spain); awareness actions are conducted in the concerned areas.

Goal Target 3.8. Implementation of Goal Targets 3.1.-3.7. is enabled through appropriate capacity building activities.

Objective 3.8.1. Capacity building. Training sessions are organised in areas relevant to locations listed in Goal Target 3.1-3.7, with the support of the MSTF (see Objective Target 1.2.2.1). Training will concentrate, at least initially, on mitigating the main threats to monk seals (deliberate killing, habitat degradation, and accidental entanglements), and will target stakeholders identified by the MSTF (e.g., fishermen, tourist operators, enforcement officers, judges). Training will be developed together with the local groups, and will be followed by a constant “advice service” or accompanying process to ensure that full advantage is taken from the effort.



Goal 4. Monk seal presence is again reported in the species’ historical habitat in “Group C” countries, and these “Group C” countries are upgraded to “Group B”. Once all “Group C” countries are upgraded, Group C is deleted.

Goal Target 4.1. Monk seal presence is reported again from Corsica and continental France.

Objective 4.1.1. Regular monitoring of monk seal presence and awareness actions are conducted in the species’ historical habitat in Corsica and continental France.

Goal Target 4.2. Monk seal presence is reported from Montenegro, Bosnia Herzegovina and Slovenia.

Objective 4.2.1. Regular monitoring of monk seal presence and awareness actions are conducted in the species’ historical habitat in Montenegro, Bosnia Herzegovina and Slovenia.

Goal Target 4.3. Monk seal presence is reported from Malta.

Objective 4.3.1. Regular monitoring of monk seal presence and awareness actions are conducted in the species’ historical habitat in Malta.

Goal Target 4.4. Implementation of Goal Targets 4.1-4.3. is enabled through appropriate capacity building activities.

Objective 4.4.1. Capacity building: training courses are organised in locations listed in Goal Targets 4.1-4.3, with the support of the Monk Seal Task Force (see Objective Target 1.2.2.1).



3.2.4. Revision of the Strategy

The suggested time horizon of this Strategy is six years, to be concluded in 2018-2019, when a comprehensive review of the Strategy's accomplishments and failures, with a consideration for potential actions to be taken beyond 2019, should be conducted. Such timing also coincides with the process requiring EU Member States to report concerning the Habitats and Marine Strategy Framework Directives, thereby facilitating the implementation of the Strategy's actions by such States.

A mid-term assessment of the implementation results in 2016 is also recommended, to evaluate up-to-date attainment of Goals and Objectives within the Strategy's timeframe and to identify, if needed, moderate adjustments.



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