Decision IG.23/8

Updated Action Plan for the Conservation of Marine and Coastal Bird Species listed in annex II to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean

Updated Reference List of Marine and Coastal Habitat Types in the Mediterranean

The Contracting Parties to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean and its Protocols at its twentieth meeting,

Having regard to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean and in particular articles 11 and 12 thereof, addressing national and cooperative measures for the protection and conservation of species,

Recalling decision IG.22/7 on the Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria, adopted by the Contracting Parties at their nineteenth meeting (COP 19) (Athens, Greece, 9-12 February 2016),

Recalling also decision IG.22/20, adopted by the Contracting Parties at their nineteenth meeting, which mandated the updating of the Action Plan on Marine and Coastal Bird Species and the revision of the Reference List of Marine and Coastal Habitat Types in the Mediterranean,

Noting the progress of work on revising the Reference List of Marine and Coastal Habitat Types in the Mediterranean, and emphasizing the need to pursue consultations with Contracting Parties with a view to the finalizing thereof, thus adding a renewed tool in the Mediterranean region to foster the implementation of the Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria at the national and regional levels,

Concerned about the potential threats that the marine and coastal bird species recently added to the updated Action Plan face in the Mediterranean region, and conscious of the need to maintain or restore the population levels of such species to a favourable conservation status and ensure their long-term conservation,

Committed to further streamlining the Mediterranean Action Plan ecological objectives and associated Good Environmental Status and targets, as well as the Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria into the species and habitat actions plans adopted within the framework of the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean,

Having considered the report of the thirteenth meeting of the focal points for the Specially Protected Area Regional Activity Centre,

1. *Adopt* the updated Action Plan for the Conservation of Marine and Coastal Bird Species listed in annex II to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean, as set out in annex I to the present decision;

2. *Request* the Contracting Parties to take the necessary measures for the implementation of the updated Action Plan; and to report on its implementation in a timely manner, using the online Barcelona Convention reporting system;

3. *Take note* of the updated Reference List of Marine and Coastal Habitat Types in the Mediterranean, as contained in annex II to the present decision, so that it can be used, where necessary, as a first basis for identifying reference habitats to be monitored at the national level under the Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria;

4. *Request* the Specially Protected Areas Regional Activity Centre to finalize, in consultation with focal points, the classification of benthic marine habitat types for the Mediterranean region and the Reference List of Marine and Coastal Habitat Types in the Mediterranean, with a view to submitting them to the Contracting Parties at their twenty-first meeting.

Annex I

Updated Action Plan for the Conservation of Marine and Coastal Bird Species listed in Annex II of the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean

Foreword

In 1995, the Contracting Parties to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention) adopted a new Protocol concerning Specially Protected Areas and Biological Diversity (SPA/BD Protocol) in the Mediterranean. Annex II of this new protocol lists endangered or threatened species found in the Mediterranean. Subsequently a series of nine Action Plans were also adopted by the Parties to the Convention for the protection of the marine environment and the coastal region of the Mediterranean. These Action Plans, including the Action Plan (AP) for the conservation of bird species listed in the Annex II of the SPA/BD Protocol, identify and lay out priorities and activities that need to be undertaken to attain their specific objectives. They also urge and encourage co-ordination and co-operation amongst Mediterranean states to work towards the achievement of conservation of a species or a group of species within this region. Following the request made for SPA/RAC during the 19th Meeting of the Contracting Parties to the Barcelona Convention (UNEP(DEPI)/MED IG.22/28; Decision IG.22/12), the Action Plan for the conservation of bird species drafted in 2003 is updated during the biennium 2016-2017.

CONTENTS

1. INTRODUCTION

1.1. General overview of the avifauna of the Mediterranean

1. Birds have always fascinated and captivated people's imagination. Their beauty and their song, as well as their power of flight, have inspired humankind throughout the millennia. Their aesthetic, recreational, social and economic values are recognized worldwide. Birds know no boundaries and they play an important part in nature's ecosystems. They are also good indicators of the health of the environment. In spite of all this it has been the anthropogenic pressure that throughout the years has threatened the existence of several species, not only in the Mediterranean region.

2. The ornithological calendar of the Mediterranean is dominated by the seasonal migrations of birds from Europe to Africa in autumn and vice versa in spring, and several species which breed in Europe over-winter in the Mediterranean basin. Nonetheless, the Mediterranean is the home of several hundred bird species, some of which occur exclusively in this climatic zone. The seabirds found along the crowded coastal zone and the islands of this almost land-locked sea are quite resilient, including the comparatively rare and localised Audouin's Gull *Larus audouinii*.

3. Pelagic bird species in the Mediterranean are relatively few, but several fine breeding colonies of Scopoli's Shearwater *Calonectris diomedea*, Yelkouan Shearwater *Puffinus yelkouan*, and the subspecies of the European Storm-petrel *Hydrobates pelagicus melitensis* may be found along sea-cliffs or on small isolated rocky islands and islets.

4. Coastal seabirds, including the subspecies emigratus of the Lesser Crested Tern *Sterna bengalensis* with its breeding area restricted to Libya, are found in river deltas and inland saltwater lagoons. Many other coastal species, however, are found breeding in sub-optimal and man-modified habitats such as salinas, while others rely on municipal waste dumps and discards from fishing boats for their food.

5. The ten new species added to Annex II, include the critically endangered (CE) Balearic Shearwater *Puffinus mauretanicus* and the near threatened (NE) Armenian Gull *Larus armenicus*. The trend of both their populations has been assessed by IUCN as decreasing. Although the rest of the new species are regarded from a global point of view as least concern (LC), their breeding range in the Mediterranean is restricted to a few countries, particularly eastern ones. Furthermore, the population trend of some of them (e.g. Kentish Plover *Charadrius alexandrinus*, the Greater Sand Plover *Charadrius leschenaultii*, the Mediterranean Gull *Larus melanocephalus* and the Common Gull-billed *Tern Gelochelidon nilotica*) has also been assessed as decreasing globally.

1.2. Background information of the Action Plan for the conservation of the bird species listed in Annex II

6. In 1995 the Parties to the Barcelona Convention adopted a new protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean. After a lengthy process of consultation and consent among international organisations, NGOs and experts throughout the Mediterranean, the draft action plan was discussed at the sixth meeting of the National Focal Points for SPAs in Marseilles in June 2003 and then approved and adopted by the XIII Conference of the Contracting Parties to the Barcelona Convention at Catania, Sicily, in November 2003.

7. During their meeting in Monaco in November 2001 the Contracting Parties had asked SPA/RAC to draw up a draft action plan for the bird species appearing in Annex II, which listed 15 endangered or threatened bird species[1].Consequently, in 2003, the Parties to the Barcelona Convention

[1]The original number of species was 15, but two subspecies (*Puffinus yelkouan yelkouan* and *Puffinus yelkouan mauretanicus*) of one of the species (Mediterranean Shearwater *Puffinus yelkouan),* were given species status by

adopted an Action Plan for the conservation of the bird species listed in Annex II. The main purpose of the Action Plan was to maintain and/or restore their population levels to a favourable conservation status and to ensure their long-term conservation. The Action Plan also aimed to contribute to the sharing of knowledge and expertise between the Mediterranean countries and to co-ordinate efforts among the countries and other relevant initiatives and agreements. It also inspired a synergic approach among the Mediterranean countries in the protection of these bird species and their habitats and encouraged research to fill the many gaps in our knowledge concerning coastal and pelagic birds in the Mediterranean, particularly seabirds' distribution and their movements, as well as their feeding, moulting and wintering areas at sea.

8. The development of the Action Plan for the conservation of these species followed various initiatives taken by other organisations, such as BirdLife International partners in Mediterranean countries, WWF, IUCN, Medmaravis, and Tour du Valat, on the conservation of birds and their important sites and habitats. Various actions have been taken at national level by the competent authorities and at species level by several non-governmental organisations (particularly BirdLife International partners) in their respective countries, to counteract some of the threats, which were being faced by a number of the species covered by the Action Plan.

9. In 2005, the first Mediterranean Symposium on the ecology and conservation of the bird species listed in Annex II, was held in Villanova I la Geltrú (Spain) with the participation of 31 ornithologists and experts from 16 Mediterranean countries. The participants made several recommendations to SPA/RAC, including the addition of 10 new marine and coastal bird species to the list of Annex II[2]. In November 2009, the 16th Ordinary Meeting of the Contracting Parties to the Barcelona Convention, held in Marrakech (Morocco), adopted the addition of the 10 species of marine and coastal birds in Annex II, bringing up the total number of bird species to 25. Ten years after the Villanova Mediterranean Symposium it was appropriate to hold another symposium; (a) to update the knowledge on the status of marine and coastal birds; (b) to assess the effect of new regulations, conventions and research tools; and (c) to call for a closer cooperation among the countries that adopted the list of 25 bird species of Annex II of the SPA/BD Protocol. Hence SPA/RAC, in partnership with the Tunisian NGO Les Amis des Oiseaux (AAO/BirdLife Tunisia), Medmaravis, Tour du Valat Biological Station and the Conservatoire du Littoral, organised the 2nd Symposium on Marine and Coastal Birds in the Mediterranean in Hammamet, Tunisia, in February 2015[3].3 Subsequently, the 19th Conference of Parties to the Barcelona Convention, which was held in February 2016 in Athens, asked SPA/RAC, to update the Action Plan for the Conservation of Bird Species listed in Annex II to the SPA/BD Protocol to include the new added species (Decision IG22/12).

1.3. Bird Species listed in Annex II of the SPA/BD Protocol: List of Endangered or Threatened Species

The sequence and nomenclature follows del Hoyo, J. & Collar, N.J. (2014). HBW and BirdLife International Illustrated Checklist of the Birds of the World. Volume 1: Non-passerines. Lynx Edicions, Barcelona.

English Name	French Name	Scientific Name

taxonomists, namely Yelkouan Shearwater *Puffinus yelkouan* and Balearic Shearwater *Puffinus mauretanicus.* The latter is one of the 10 added bird species to Annex II in 2009

[2]UNEP/MAP- RAC/SPA. 2006. *Proceedings of the first symposium on the Mediterranean action plan for the conservation of marine and coastal birds.* Vilanova i la Geltrú, (Spain), 17-19 November 2005, (Ed. Aransay, N.) RAC/SPA, Tunis.

[3]Yesou, P., Sultana, J., Walmsley, J. & Azafzaf, H. (Eds.) 2016. *Conservation of Marine and Coastal Birds in the Mediterranean*. Proceedings of the UNEP-MAP-RAC/SPA Symposium, Hammamet 20-22 February 2015, Tunisia.

Greater Flamingo	Flamant rose	*Phoenicopterus roseus*
European Storm-petrel	Océanite tempête	*Hydrobates pelagicus* ssp. *melitensis*
Scopoli's Shearwater	Puffin de Scopoli	*Calonectris diomedea*
Yelkouan Shearwater	Puffin yelkouan	*Puffinus yelkouan*
Balearic Shearwater	Puffin des Baléares	*Puffinus mauretanicus*
Pygmy Cormorant	Cormoran pygmée	*Microcarbo pygmaeus*
European Shag	Cormoran huppé	*Phalacrocoraxaristotelis* ssp. *desmarestii*
Dalmatian Pelican	Pélican frisé	*Pelecanus crispus*
Great White Pelican	Pélican blanc	*Pelecanus onocrotalus*
Kentish Plover	Pluvier à collier interrompu	*Charadrius alexandrinus*
Greater Sand Plover	Pluvier de Leschenault	*Charadrius leschenaultii* ssp. *columbinus*
Slender-billed Curlew	Courlis à bec grêle	*Numenius tenuirostris*
Slender-billed Gull	Goéland railleur	*Larus genei*
Mediterranean Gull	Mouette mélanocéphale	*Larus melanocephalus*
Audouin's Gull	Goéland d'Audouin	*Larus audouinii*
Armenian Gull	Goéland d'Arménie	*Larus armenicus*
Little Tern	Sterne naine	*Sternula albifrons*
Common Gull-billed Tern	Sterne hansel	*Gelochelidon nilotica*
Caspian Tern	Sterne caspienne	*Hydroprogne caspia*
Lesser Crested Tern	Sterne voyageuse	*Thalasseus bengalensis*
Sandwich Tern	Sterne caugek	*Thalasseus sandvicensis*
Osprey	Balbuzard pêcheur	*Pandion haliaetus*
Pied Kingfisher	Martin-pêcheur pie	*Ceryle rudis*
White-breasted Kingfisher	Martin-chasseur de Smyrne	*Halcyon smyrnensis*
Eleonora's Falcon	Facoun d'Éléonore	*Falco eleonorae*

1.4. Overview of threats

10. In general, birds are threatened by habitat loss and disturbance and also from contamination by oil pollutants. Fish farms and wind farms close to seabird colonies, as well as intensive deep water fishing may constitute serious threats to some bird species.

11. Among the 25 species listed in Annex II as endangered or threatened one finds those:

- which are globally threatened;
- which are endemic to the region and have an unfavourable conservation status;
- whose populations are not concentrated in the Mediterranean but which have an unfavourable conservation status and/or a restricted range in the region;
- whose populations are not concentrated in the Mediterranean, have a healthy conservation status but are regarded as flagship species.

12. However, they all have something in common. They are all endangered by a number of threats, including:

- Contamination by oil pollutants
- Direct and indirect depletion of food resources
- Non-sustainable forms of tourism
- Disturbance
- Direct persecution including illegal hunting and the use of poison
- Mortality from bycatch
- Wind farms
- Loss of habitats
- Degradation of habitat, particularly wetlands and small islands of high biological importance
- Introduction of and predation by alien species
- Climate change

1.5. Ecology and status of the species

13. The biology, ecology, distribution and conservation status of the fifteen bird species in the original Action Plan (2003) had been presented in an information document entitled "List of Threatened Bird Species as Adopted by the Barcelona Convention". It was composed of an annotated List compiled by Medmaravis and edited by J. Criado, J. Walmsley and R. Zotier (April 1996) and gave the status, population size and trends, ecology, threats and conservation measures for each species. This was complemented by other national, regional and global contributions, particularly by BirdLife International.

14. The additional 10 species, which were originally proposed in 2005 during the first Mediterranean Symposium on the ecology and conservation of the bird species listed in Annex II, held in Villanova I la Geltrú (Spain), were presented by Xavier Monbailliu on behalf of Medmaravis, using a scientific criteria to screen possible candidate species. They are species of particular importance for coastal habitats in the Mediterranean. Their biology, ecology, distribution and conservation status was based on BirdLife International's publication Birds in Europe: Population estimates, Trends and Conservation status (2004). Their status in the Mediterranean has also been complemented by national experts' input in response to a questionnaire sent out by SPA/RAC to its National Focal Points. The questionnaire was sent out in October 2016 , after a roundtable discussion on the Action Plan for the conservation of bird species listed in Annex II, was organized at the 3rd African Congress for Conservation Biology held in September 2016 at El Jadida, Morocco.

15. Several ornithological studies have been carried out in the Mediterranean in the last twenty to thirty years, as can be noted particularly in the proceedings of various symposia including those organised by SPA/RAC, Medmaravis, Conservatoire du Littoral, Tour du Valat, and national NGOs in the Mediterranean countries. Despite all these studies, there are still many gaps in the knowledge of coastal and pelagic birds and their habitats in the Mediterranean, particularly seabird movements and their distribution at sea. There is an urgent need for mapping of breeding, feeding, moulting and wintering areas of pelagic birds in the whole region.

1.6. Geographical scope of the Action Plan

16. The geographical scope of the action plan is the entire semi-closed sea and the Mediterranean bio-climate parts of its bordering countries. Some of the species, such as Balearic Shearwater *Puffinus mauretanicus* and Yelkouan Shearwater *Puffinus yelkouan*, have a restricted breeding range in the Mediterranean. Others, such as Eleonora's Falcon *Falco eleonorae*, have migration routes and/or wintering areas outside the Mediterranean. Other species, such as White Pelican *Pelecanus onocrotalus*, Greater Flamingo *Phoenicopterus ruber*, Osprey *Pandion haliaetus*,

Sandwich Tern *Sterna sandvicensis* and Little Tern *Sterna albifrons*, are widespread elsewhere, but have a limited range and/or a small population in the Mediterranean. For Slender-billed Curlew *Numenius tenuirostris*, which is a globally Critically Endangered species, the Mediterranean used to be part of its wintering range, but now its population is estimated less than 50 according to BirdLife International species factsheet (2016) and there have been no recent confirmed records in the Mediterranean. Apart from the Armenian Gull *Larus armenicus*, which is Near Threatened, and the Balearic Shearwater, which is Critically Endangered, the other newly added species to Annex II are of Least Concern, according to BirdLife International. However their breeding population and/or range in the Mediterranean are quite restricted.

2. ACTION PLAN OBJECTIVES AND TARGETS

2.1. The main objective

17. The main purpose of the Action Plan is to maintain and/or restore the population levels of bird species listed in the Annex II of SPA/BD Protocol to a favourable conservation status and to ensure their long-term conservation.

2.2. Other objectives

- To share information, knowledge and expertise between Mediterranean countries and organisations dealing with the bird species listed in Annex II.
- To co-ordinate efforts among Mediterranean countries and other relevant organisations, initiatives and agreements, so as to ensure the implementation of this Action Plan.
- To encourage a synergetic approach among Mediterranean countries in the protection of the 25 listed bird species and their habitats.
- To encourage research to fill the many gaps which still exist in knowledge of coastal and pelagic birds in the Mediterranean, particularly of seabird distribution and movements, and of their feeding, moulting and wintering areas at sea.

3. STRATEGIC APPROACH

18. In the implementation of this Action Plan there are three levels of priority:

At Species level

- To implement this Action Plan for all species in Annex II of the SPA/BD Protocol.
- To consider the conservation of globally threatened species as one of the main priorities of the present Action Plan.
- To give priority to the conservation of other species, which have an unfavourable conservation status at regional level.

At National level

- To map the distribution of the species on land as well as at sea.
- To identify sea and coastal important bird areas, particularly for feeding and breeding.
- To identify and control threats for birds and their habitats.
- To protect and monitor Important Bird Areas (IBAs).
- To carry out proper Environment Impact Assessments for all proposed development where any of the species occur.
- To develop and implement appropriate legislation for the protection of birds and their habitats.
- To pursue the principles and adhere to the requirements of Agreements and Conventions related to bird conservation.

At Mediterranean level

- To strengthen co-operation and exchange of information and experience in research.

- To disseminate information.
- To promote and support the identification of coastal and sea areas which are important for birds.
- To promote the creation and monitoring of protected areas of coastal and marine important birds areas.
- To prevent and/or control the expansion of invasive species, particularly on small islands of high biological importance for birds.
- To identify and monitor migratory hotspots.
- To seek, whenever appropriate, collaboration at a broader international level with relevant Conventions/Agreements such as the Berne Convention, the Bonn Convention, and in particular with the Afro-Eurasian Water bird Agreement (AEWA).

4. ACTIONS TO ACHIEVE THE OBJECTIVES OF THE ACTION PLAN

4.1. Protected areas

- Important bird marine areas should be identified and given legal protection status.
- Breeding sites of all threatened species should be legally established as protected areas with an adequate management plan.
- Coastal and marine protected important bird areas should be continuously monitored and properly managed.

4.2. Legislation

- Throughout the Mediterranean, species should be afforded legal protection by the Contracting Parties in countries where they breed, winter or occur during migration, as per the guidelines provided by SPA/RAC (see para.5).
- Legislation should include dissuasive penalties.
- Assessment of environmental impact on these species and their habitats by any type of development should be legally obligatory.

4.3. Research

- In view of the existing gaps in knowledge of coastal and pelagic birds and their habitats in the Mediterranean, especially of their movements and distribution at sea, priority must be given to the mapping of breeding, feeding, moulting and wintering areas of the species concerned.
- Resources should be made available for researchers to fill the gaps in knowledge, such as for the establishment of a Mediterranean seabirds' atlas, and for monitoring population size and breeding success of less well-known species.

4.4. Monitoring Activities

19. In view of the adoption of the Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria (IMAP),

- Contracting Parties to the Barcelona Convention, with the support of the SPA/RAC Secretariat, should update their national monitoring programmes in light of the new elements of IMAP and report regularly quality assured data.
- Contracting Parties, with the help of national, regional or international organisations, should undertake, when appropriate, joint monitoring initiatives on a pilot basis, with the aim to share and exchange best practices, using harmonized methodologies, and ensuring cost efficiency.
- Contracting Parties should support and take part in regional initiatives and projects led by competent partner organizations that will contribute to the implementation of the initial phase of the IMAP in order to strengthen strategic and operational regional synergies.
- The SPA/RAC Secretariat should work further and create more opportunities with relevant partner organizations, in order to strengthen technical support that countries might need to implement the IMAP.

4.5. Awareness, Education & Training

- Contracting Parties should promulgate legislation concerning endangered bird species.
- Contracting Parties should seek and/or provide the training of personnel for monitoring, conserving and managing protected important bird areas.
- The organisation of ornithological training courses *in situ* for trainers, important bird areas staff and relevant personnel should supported by SPA/RAC and the partners of the Action Plan.
- Public awareness and education programmes and campaigns highlighting the vulnerability of threatened species, directed particularly at stakeholders and decision makers, should be planned and implemented in co-operation with non-governmental organisations.

4.6. National Action Plans

- Contracting Parties should formulate National Action Plans for the conservation of endangered and threatened bird species in the Mediterranean.
- National Action Plans should take into consideration the implementation of the specific actions relevant to the particular countries proposed in this Action Plan.
- New and updated National Action Plans should address the current factors causing loss or decline of the bird species in Annex II; suggest appropriate subjects for legislation; give priority to the protection and management of sites; and ensure continued research and monitoring of populations and sites.
- Contracting Parties should apply and implement their Action Plans.

5. IMPLEMENTATION

5.1. Regional co-ordination structure

20. Regional co-ordination of the implementation of the present Action Plan will be guaranteed by the Mediterranean Action Plan's (MAP) secretariat through the Regional Activity Centre for Specially Protected Areas (SPA/RAC).

21. The main functions of the co-ordinating structure shall consist in:

- Promoting co-operation among Contracting Parties in those actions executed in trans-boundary areas and at sea in national waters and beyond.
- Promoting the development of a regional network for monitoring populations and distribution of threatened Mediterranean bird species, in co-ordination with other organisations.
- Supporting and collaborating with Contracting Parties in the establishment of important bird areas at sea.
- Providing detailed guidelines to assist countries in their efforts to afford adequate legislative protection to endangered species.
- Elaborating guidelines for monitoring and management plans in collaboration with experts and other interested organisations.
- Urging and supporting the Contracting Parties to create and/or update their national monitoring programmes in light of the new elements of IMAP (Integrated Monitoring and Assessment Programme of the Mediterranean Sea and Coast and Related Assessment Criteria) and report regularly quality assured data.
- Assisting countries in the monitoring and conservation of the species listed in Annex II according to the proposed actions by this Action Plan.
- Organising meetings of experts on specific subjects relating to the ecology and conservation of the bird species found in Annex II.
- Preparing progress reports on the implementation of this Action Plan.
- Encouraging complementary work, done by other international organisations with the same objectives, and promoting co-ordination to avoid possible duplication of effort, such as the

CMS Secretariat[4], the Secretariat of AEWA, the Raptors MOU Coordinating Unit, the African-Eurasian Migratory Land birds Action Plan (AEMLAP) and Birdlife International.

5.2. Participation

22. Any interested international, regional and/or national organisation is invited to participate in actions necessary for the implementation of this Action Plan, while links with other bodies responsible for Action Plans dealing with one or more bird species listed in Annex II should be made, to strengthen co-operation and avoid duplication of work.

5.3. "Action Plan Partners"

23. To encourage and reward contributions to the work of applying the Action Plan, the Contracting Parties may at their ordinary meetings grant the title of "Action Plan Partner" to any organisation (governmental, nongovernmental, economic, etc.) that has to its credit concrete actions likely to help the conservation of birds in Annex II of the Protocol. Conditions for the awarding of the Partner title shall be adopted by the Contracting Parties following advice given by the meeting of National Focal Points for SPAs. The co-ordination structure shall set up a mechanism for regular dialogue between the participating organisations and where necessary, organise meetings to this effect. However any dialogue could also be done by mail/email and webinars (on line conferences).

5.4. Assessment and revision

24. National Focal Points for SPAs, in collaboration with national experts, will be expected to:

- Assess progress in implementing the Action Plan during their meetings.
- Suggest recommendations to be submitted to the Contracting Parties.
- Suggest adjustments to the implementation timetable.

5.5. Timing

25. The actions advocated by the present Action Plan have to be carried out over a three-year period, starting from when the Action Plan is adopted by the Contracting Parties. At the end of this period, SPA/RAC will prepare a report on the progress made so far in implementing the advocated actions, and will submit this to the National Focal Points for SPA, who will make follow-up suggestions to the Parties.

5.6. Timetable

Action	Deadline	By whom
1. Organisation of the third Mediterranean Symposium on ecology and conservation of the bird species in Annex II.	By beginning of the year 2023	SPA/RAC & Partners
2. Protect legally all bird species in Annex II	1 year after adoption	Contracting Parties

[4]including the Intergovernmental Task Force on Illegal Killing, Taking and Trade of Migratory Birds in the Mediterranean (MIKT) convened by the CMS Secretariat in conjunction with the Secretariat of AEWA, the Raptors MOU Coordinating Unit and the African-Eurasian Migratory Landbirds Action Plan (AEMLAP) Working Group.

3. Establishment/support of research and monitoring programmes to fill gaps in knowledge of threatened species in partnership with other organisations.	From 2018 to 2020	Contracting Parties, SPA/RAC, AP Partners, AEWA, BirdLife International
4. Revision of the directory of organisations and experts concerned with the threatened and endangered bird species in the Mediterranean.	By end of year 2020	SPA/RAC
5. Creation/update and implementation of National Action Plans for the conservation of endangered and threatened bird species in the Mediterranean.	From 2018 to 2020	Contracting Parties & SPA/RAC
6. Application and implementation of any Action Plans/monitoring activities already in existence for the conservation and monitoring the bird species listed in Annex II.	From 2018 to 2020	SPA/RAC & Contracting Parties
7. Participation in promotion of a regional network for monitoring populations and distribution of Mediterranean threatened bird species, in co-ordination with other organisations.	From 2018 to 2023	SPA/RAC , AP Partners, AEWA, BirdLife International
8. Legal establishment of protected areas important for bird species with adequate management plans at breeding sites.	By end of year 2020	Contracting Parties
9. Support Contracting Parties and Partners to produce and publish relevant scientific documentation contributing to update knowledge and enhance conservation action taken on the Annex II species.	From 2018 to 2020	SPA/RAC, AP Partners, AEWA, BirdLife International, ICCAT, GFCM
10. Identification of areas important for birds on land and at sea (mapping of breeding, feeding, molting and wintering areas.	From 2018 to 2023	Contracting Parties, AP Partners, AEWA, Birdlife International
11. Mapping of breeding, feeding, moulting and wintering areas of pelagic species.	From 2018 to 2023	Contracting Parties
12. Produce the third progress reports in the implementation of the Action Plan.	By end of year 2023	SPA/RAC
13. Organize specific training courses and workshops in coordination/synergy with international and/or national NGOs	From 2018 to 2023	SPA/RAC, Partners & Contracting Parties
14. Optimize synergies with international agreements and organisations dedicated tobird conservation	From 2018 to 2023	Contracting Parties
15. Target and lobby decision-making organisations and government bodies to stimulate the implementation of the Action Plan	From 2018 to 2023	Contracting Parties, SPA/RAC, AP Partner, ICCAT, GFCM

6. PROPOSED SPECIFIC PLANS

26. The hereafter listed Specific Action Plans for the 25 bird species listed in the Annex II of the SPA/BD Protocol should be implemented in all Mediterranean states where the species breed, winter or occur on migration. They should be reviewed and updated every three years. If sudden major environmental changes happen which may affect any of the species' populations in the Mediterranean, an emergency review should be immediately undertaken. The current status given below covers the countries that have a Mediterranean coast. Proposed actions, which apply to all species, should include inter alia the initiation of public awareness campaigns on the status of these species and the preparation of National Action Plans. Other on-going Action Plans, which have been developed by

other institutions, and which cover some of the species, are listed below, and should be taken in consideration and implemented where these species occur.

6.1. Greater Flamingo (*Phoenicopterus roseus*)

Current status

27. In the Mediterranean, it breeds in localised sites in suitable wetlands, mainly in Spain, France Turkey, Italy as well as in Algeria. Breeding colonies are established at sites free from human disturbance and secure from terrestrial predators. Breeding is irregular with numbers fluctuating from one season to another. Substantial numbers also occur in Tunisia, Greece and Cyprus but breed rarely. Mediterranean population seems to be separated from Asiatic populations, with minimal exchange and overlap in Libya and Egypt.

Current factors causing loss or decline

28. Urban development; habitat loss for tourism development; disturbance; and hunting.

Status under international instruments

Class A - African Convention on the Conservation and Natural Resources (1968).
Appendix II - Convention on the Conservation of European Wildlife and Natural Habitats (1979). Appendix II - Convention on the Conservation of Migratory Species of Wild Animals (1979).
DIRECTIVE 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds.
European Union Regulation laying down certain technical measures for the conservation of fishery resources in the Mediterranean (1626/94 (EC) 1994).
Listed in the AEWA Action Plan (Column B Category 2a)

Current Action Plans

None

Action Plan objectives and target

29. To maintain healthy breeding populations, and maintain wetlands where the species overwinter.

Proposed action

- Confer strictly protected status on the species.
- Prohibit all types of disturbance to breeding colonies.
- Monitor and warden breeding colonies.
- Create SPAs where breeding colonies exist.
- Plan, regulate and/or manage activities and processes of coastal and infrastructure development near to known colonies.
- Restore wetlands where the species used to breed.
- Maintain wetlands where the species over winter.

6.2. European Storm-petrel (*Hydrobates pelagicus ssp. Melitensis*)

Current status

30. This pelagic colonial species breeds in small to very large colonies mainly on islets and in caves along the coast. Subspecies melitensis is endemic to the Mediterranean. Important breeding colonies are found in Malta, Sardinia and Sicily. Breeding surveys are totally lacking for the Adriatic and eastern Mediterranean. A general decline has been recorded.

Current factors causing loss or decline

31. Loss of habitat; disturbance; predation by Rattus sp. and Yellow-legged Gull Larus cachinnans; possibly contamination by oil pollutants of the sea.

Status under international instruments

Appendix II - Convention on the Conservation of European Wildlife and Natural Habitats (1979).
DIRECTIVE 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds.
European Union Regulation laying down certain technical measures for the conservation of fishery resources in the Mediterranean (1626/94 (EC) 1994).

Current Action Plans

None

Action Plan objectives and target

32. To halt the decline and maintain healthy breeding colonies.

Proposed action

- Compile an inventory of breeding sites and map critical habitats supporting the colonies, particularly in the eastern part of the Mediterranean.
- Confer strictly protected status on the species.
- Prohibit all types of disturbance to the breeding colonies.
- Monitor and warden colonies under threat.
- Create SPAs where breeding colonies exist.
- Plan, regulate and/or manage activities and processes, which may result in loss of habitat and the introduction and/or spread of invasive species, particularly mammals and Yellow-legged Gull *Larus cachinnans*.
- Control and/or eradicate species that have become invasive.
- Prevent oil spills and chemical pollution of the sea.
- Identify areas at sea important for the species.

6.3. Scopoli's Shearwater (*Calonectris diomedea*)

Current status

33. This pelagic, colonial species is restricted to the Mediterranean, nesting in sea-cliffs, on rocky islands and islets. Breeds in Algeria, Croatia, France, Greece, Italy, Malta, Spain, Turkey and Tunisia where the breeding population has been recently estimated at 140,000 pairs. The majority of the population spends the non-breeding season in the Atlantic. Its recent conservation status according to IUCN is of Least Concern (LC) but its population is thought to be in slow decline overall, although more research is required particularly in the eastern part of the Mediterranean and in the Adriatic.

Current factors causing loss or decline

34. Introduced mammals, such as Rattus sp., which affect breeding success; illegal hunting; taking of eggs and/or chicks; mortality from bycatch (longlines); development close to colonies and disturbance, and possibly oil spills and chemical pollution of the sea.

Status under international instruments

DIRECTIVE 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds.

Appendix II - Convention on the Conservation of European Wildlife and Natural Habitats (1979). European Union Regulation laying down certain technical measures for the conservation of fishery resources in the Mediterranean (1626/94 (EC) 1994).

Current Action Plans

None

Action Plan objectives and target

35. To halt the decline of the population and maintain healthy colonies.

Proposed action

- Compile an inventory of breeding sites and map critical habitats supporting the colonies, particularly in the eastern part of the Mediterranean. Confer strictly protected status on the species.
- Prohibit all types of disturbance to breeding colonies, including the taking of eggs and young.
- Monitor and warden colonies under threat of disturbance.
- Create SPAs where breeding colonies exist.
- Plan, regulate and/or manage activities and processes of coastal and infrastructure development near to known colonies.
- Prevent oil spills and chemical pollution of the sea.
- Monitor levels of mercury and chlorinated hydrocarbons in populations.
- Develop and implement management projects targeting the conservation of the breeding habitat and strict control of introduced mammals, as well as preventing the introduction of alien predatory species.
- Identify important bird areas at sea for the species.
- Develop an Action Plan to reduce mortality at sea especially from bycatch.

6.4. Yelkouan Shearwater (*Puffinus yelkouan*)

Current status

36. This pelagic colonial species breeds on rocky islands and islets. Population estimated at less than 33,000 pairs, with 95% of the population breeding along the Mediterranean shores of South European countries, with main breeding colonies in Greece Italy and Malta. Some pairs breed along the North African coast. Breeding surveys in the eastern Mediterranean are lacking and for a number of countries the population is very poorly known.

Current factors causing loss or decline

37. Lack of food resources; lack of protection of breeding colonies; predation by *Rats Rattus sp*, Yellow- legged Gulls *Larus cachinnans*, and possibly feral cats and dogs; disturbance; some mortality from bycatch (nets); and possibly contamination by oil pollutants at sea.

Status under international instruments

DIRECTIVE 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds.
Appendix II - Convention on the Conservation of European Wildlife and Natural Habitats (1979).
EU European Union Regulation laying down certain technical measures for the conservation of fishery resources in the Mediterranean (1626/94 (EC)1994).

Current Action Plans

A European Action Plan for the Yelkouan Shearwater, led by the Ligue pour la Protection des Oiseaux (LPO), is being prepared by BirdLife International partners under a LIFE project EuroSPA. (http://www.birdlife.org/europe-and-central-asia/project/life-eurosap)

Action Plan objectives and target

38. To halt the decline of the species, to restore its numbers to former status and to increase the knowledge about its biology.

Proposed action

- Compile an inventory of breeding sites and map critical habitats supporting the colonies.
- Confer strictly protected status on the species.
- Prohibit all types of disturbance to the breeding colonies.
- Monitor the population dynamics of the species and warden colonies.
- Control and if possible eradicate rats in breeding colonies.
- Ensure the protection of the breeding habitat and create SPAs where breeding colonies exist.
- Plan, regulate and/or manage activities and processes of coastal and infrastructure development near to known colonies.
- Promote adequate fishing practices, which take into account the conservation of the species.
- Prevent oil spills and chemical pollution of the sea.
- Undertake surveys of colonies and research on the conservation biology of the species.
- Identify areas at sea important for the species.
- Develop an Action Plan to reduce mortality at sea especially from bycatch.

6.5. Balearic Shearwater (*Puffinus mauretanicus*)

Current status

39. This pelagic, colonial species is restricted to the Balearic Islands; breeding on rocky islands and islets. It is the most threatened species in Europe. Current official population is estimated at 1989-2883 breeding pairs, but recent research at sea shows a much larger population of individual birds.

Current factors causing loss or decline

40. Predation by introduced carnivores (Genet, Pine Marten and feral cats); bycatch; and possibly oil spills and chemical pollution of the sea.

Status under international instruments

DIRECTIVE 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds.
Appendix II - Convention on the Conservation of European Wildlife and Natural Habitats (1979).
European Union Regulation laying down certain technical measures for the conservation of fishery resources in the Mediterranean (1626/94 (EC) 1994).

Current Action Plans
International species action plan for the Balearic shearwater, *Puffinus mauretanicus* prepared by SEO/BirdLife & BirdLife International on behalf of the European Commission (Mars, 2011)

A national Action Plan is in place and is being implemented in Spain

There is a draft national action plan in France for the Atlantic coast and corresponding to the wintering areas of the species.

Action Plan objectives and target

41. To halt the decline of the species and restore its numbers to former status.

Proposed action

- Compile an inventory of breeding sites and map critical habitats supporting the colonies.
- Confer strictly protected status on the species.
- Prohibit all types of disturbance to the breeding colonies.
- Monitor the population dynamics of the species and warden colonies.
- Control and if possible eradicate rats and predators in the colonies and prevent any introduction of terrestrial mammals in breeding colonies.
- Ensure the protection of the breeding habitat and create SPAs where breeding colonies exist.
- Plan, regulate and/or manage activities and processes of coastal and infrastructure development near to known colonies.
- Promote adequate fishing practices, which take into account the conservation of the species.
- Prevent oil spills and chemical pollution of the sea.
- Undertake surveys of colonies and research on the conservation biology of the species.
- Identify the marine important areas for the species.
- Develop an Action Plan to reduce mortality at sea especially from bycatch.

6.6. Pygmy Cormorant (*Microcarbo pygmaeus*)

Current status

42. The main breeding populations in the Mediterranean of this globally threatened species are found in Montenegro, Serbia, Greece, and Turkey, with some pairs in Albania, Bosnia, Israel and Italy. It is restricted to lowland freshwater and brackish habitats, and in winter frequents coastal lagoons, deltas, rivers and riparian forests. The whole population of the Mediterranean countries probably numbers 11,000-13,000 breeding pairs.

Current factors causing loss or decline

43. Degradation and loss of wetland habitat; disturbance and hunting; destruction of breeding colonies.

Status under international instruments

DIRECTIVE 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds.
Appendix II - Convention on the Conservation of European Wildlife and Natural Habitats (1979). Appendix II - Convention on the Conservation of Migratory Species of Wild Animals (1979).
European Union Regulation laying down certain technical measures for the conservation of fishery resources in the Mediterranean (1626/94 (EC) 1994).
Listed in the AEWA Action Plan (Column B Category 1)

Current Action Plans

Action Plan for the Pygmy Cormorant *Phalacrocorax pygmeus* in Europe prepared by BirdLife International on behalf of the European Commission (February 1996).
Globally threatened birds in Europe Action Plans. Council of Europe – BirdLife International – EU Life-Nature (1996).
Italy has a national Action Plan.

Action Plan objectives and target

44. To maintain the recent increase of the species' population size and distribution.

Proposed action

- Afford strict protection to the species and its habitat, particularly from hunting, disturbance and development.
- Manage wintering and breeding sites in order to meet the species' requirements.
- Monitor breeding and wintering populations.
- Monitor water levels and quality at breeding sites.
- Create SPAs where breeding colonies exist.
- Research its feeding and dispersal ecology.
- Develop education campaigns for hunters.
- Restore degraded wetlands used by the species.

6.7. European Shag (*Phalacrocorax aristotelis ssp.desmarestii*)

Current status

45. This Mediterranean endemic subspecies of the European Shag Phalacrocorax aristotelis desmarestii is present in the western Mediterranean (Balearic Islands, Corsica and Sardinia), and the Adriatic, Aegean and Black Seas, breeding along the coast on rocky islands and islets. The Mediterranean population numbers less than 9,000 pairs.

Current factors causing loss or decline

46. Human disturbance; oil pollution; habitat loss; mortality from bycatch; Seine net fishing and long-line hauling close to colonies and moulting areas.

Status under international instruments

DIRECTIVE 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds.
Appendix II - Convention on the Conservation of European Wildlife and Natural Habitats (1979) (79/409/EEC/1979).
European Union Regulation laying down certain technical measures for the conservation of fishery resources in the Mediterranean (1626/94 (EC) 1994).

Current Action Plans

No national action plans, but a Species Action Plan for the Mediterranean Shag *Phalacrocorax aristotelis desmarestii* in Europe was prepared by BirdLife International on behalf of the European Commission (final draft December 1999).

Action Plan objectives and target

47. To ensure the survival of Mediterranean populations.

Proposed action

- Compile an inventory of breeding sites and map critical habitats.
- Confer strictly protected status on the species.
- Prohibit all types of disturbances to the breeding colonies.
- Carry out rat-eradication programmes at breeding colonies.
- Monitor populations.
- Create SPAs where the species breeds, and encourage buffer zones surrounding breeding areas including adjacent sea area.
- Plan, regulate and/or manage activities and processes of coastal and infrastructure development near to breeding sites.
- Take measures to influence fishing policies in order to avoid negative effects on food stocks and food availability, and to avoid mortality from bycatch.
- Prevent oil spills and chemical pollution of the sea.

- Identify important bird areas at sea for the species.

6.8. Dalmatian Pelican (*Pelecanus crispus*)

Current status

48. This species is vulnerable and globally threatened. In the Mediterranean, small populations (totalling 2500-2700 breeding pairs) are found mainly in Albania, Montenegro, Greece and Turkey. Breeds on inland and coastal wetlands and nests on floating islands of reeds and on bare ground on islands, isolated from mainland to be safe from mammalian predators. Up to about 3000 birds winter in Albania, Greece, Syria and Turkey.

Current factors causing loss or decline

49. Wetland drainage resulting in a sharp decline of available breeding sites; collisions with electric wires; persecution due to competition with commercial fisheries; and disturbance.

Status under international instruments

Class A - African Convention on Conservation and Natural Resources (1968).
DIRECTIVE 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds.
Appendix II - Convention on the Conservation of European Wildlife and Natural Habitats (1979).
Appendix I & II - Convention on the Conservation of Migratory Species of Wild Animals (1979).
Appendix I - Convention on International Trade in Endangered Species of Wild Fauna and Flora (1973). European Union Regulation laying down certain technical measures for the conservation of fishery resources in the Mediterranean (1626/94 (EC) 1994).
Listed in the AEWA Action Plan (Column A Category 1a/1c).

Current action plans

Action Plan for the Dalmatian Pelican *Pelecanus crispus* prepared by BirdLife International on behalf of the European Commission (April 1996).
Globally threatened birds in Europe Action Plans. Council of Europe – BirdLife International – EU Life-Nature (1996).
A new Species Action Plan is under development through EU funded LIFE Euro SAP Project 2014-2018.
Albania has a NAP, but it is only partly implemented, while a NAP is in preparation in Turkey.

Action plan objectives and target

50. To prevent any declines and to increase the population size to a level at which it can be regarded as safe.

Proposed action

- Confer strictly protected status on the species and its habitats during breeding and wintering periods in all range states.
- Establish supervised buffer zones around breeding colonies.
- Prohibit all types of disturbance to the breeding colonies.
- Create SPAs where breeding colonies exist.
- Plan, regulate and/or manage activities and processes of coastal and infrastructure development near to known colonies.
- Manage in a sustainable way or restore where necessary all wetlands where the species occurs.
- Replace overhead electricity wires by thick cables or lay them underground.
- Monitor continually the breeding and wintering populations.
- Develop education campaigns for local fishermen and hunters, and decision-makers.

6.9. Great White Pelican (*Pelecanus onocrotalus*)

Current status

51. In the Mediterranean this species breeds in Turkey and Greece. Numbers have declined in the last thirty years, and now the breeding population in the Mediterranean is down to less than 1000 pairs (810-940bp). It nests on the ground in large reed beds, bare earth or rocky islands, in isolation from the mainland to be safe from mammalian predators. The species was also recorded during its migration in other countries such as Israel and Egypt. The available data indicates that more than 75,000 white pelican have been observed in Israel.

Current factors causing loss or decline

52. Habitat loss and destruction; depletion of fish stocks; persecution and disturbance; pollution; flooding; disease; and collision with electric power lines.

Status under international instruments

Class A - African Convention on Conservation and Natural Resources.
DIRECTIVE 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds.
Appendix II - Convention on the Conservation of European Wildlife and Natural Habitats (1979).
Appendix I (Pal.) II (Western Pal.) - Convention on the Conservation of Migratory Species of Wild Animals (1979).
European Union Regulation laying down certain technical measures for the conservation of fishery resources in the Mediterranean Current Action Plans (1626/94 (EC) 1994).
Listed in the AEWA Action Plan (Column A Category 1a/3c).

Current Action Plans

53. National action plan is in place and is being implemented in Israel.

Action Plan objectives and target

54. To reverse the decline of the breeding populations in the Mediterranean.

Proposed action

- Confer strictly protected status on the species.
- Prohibit all types of disturbance to breeding colonies and their habitat.
- Prohibit all types of distribution to feeding areas during the species migration
- Monitor and supervise breeding colonies.
- Create SPAs where breeding colonies exist.
- Plan, regulate and/or manage activities and processes of (a) coastal development and infrastructure that impacts and/or fragments habitats; (b) pollution; and (c) overexploitation of fish stocks.
- Develop education campaigns aimed at local fishermen.
- Restore degraded wetlands used by the species.
- Create artificial nesting sites close to foraging sites.

6.10. Kentish Plover (*Charadrius alexandrines*)

Current status

55. This predominantly coastal small wader species has an extremely large global range and hence is evaluated by IUCN as of Least Concern. However, the overall population trend is decreasing. It prefers sparsely vegetated, sandy or dry mud areas when breeding. While some populations of this

species are sedentary or only disperse short distances, most inland and northern coastal populations have distinct separate breeding and wintering ranges. Small breeding populations breed in most Mediterranean countries with some 5000 pairs in Tunisia, up to nearly 2000 pairs in Spain, Greece, and Italy, and 'several thousands' in Morocco.

Current factors causing loss or decline

56. Disturbance of coastal habitats; degradation and loss of wetland habitat; land reclamation; declining river flows; urbanisation and predation by foxes, feral cats and dogs.

Status under international instruments

DIRECTIVE 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds.
Appendix II - Convention on the Conservation of European Wildlife and Natural Habitats (1979). Appendix II - Convention on the Conservation of Migratory Species of Wild Animals (1979).

Current Action Plans

57. National action plan is in place and is being implemented in Slovenia.

Action Plan objectives and target

58. To reverse the decline of the breeding populations and of the number of migrant birds in the Mediterranean.

Proposed action

- Control of recreation activities and human disturbance at breeding sites.
- Reverse the abandonment of saltpans.
- Stop pollution of wetland habitats, land reclamation, and infrastructure development at breeding sites.

6.11. Greater Sand Plover (*Charadrius leschenaultii ssp. Columbinus*)

Current status

59. This species has an extremely large global range and population size. According to IUCN criteria it is of Least Concern. However in the Mediterranean the subspecies columbinus is known to breed only in Turkey (probably 800-1200bp) and Syria (400-1000bp). As a migrant it is fairly common in Israel, and very scarce or vagrant in some other eastern Mediterranean countries. During the breeding season this species is predominantly found in open, dry, treeless areas and rocky plains. In Turkey the species frequents heavily grazed saline steppe and usually breeds near water but exceptionally also some kilometres away from it.

Current factors causing loss or decline

60. Hunting & disturbance.

Status under international instruments

Appendix II - Convention on the Conservation of European Wildlife and Natural Habitats (1979). Appendix II - Convention on the Conservation of Migratory Species of Wild Animals (1979).

Current Action Plans

None

Action Plan objectives and target

To ensure the safeguarding and to prompt an increase of the present few breeding populations in the Mediterranean, as well as to provide it with safe passage and wintering grounds where it occurs in other Mediterranean countries.

Proposed action

- Confer strictly protected status on the species and on its "lookalike" species, where it occurs on passage and during winter.
- Prohibit all types of disturbance to breeding areas and their surroundings.
- Monitor, warden and afford appropriate protection and management of all breeding, passage and wintering grounds.
- Instruct wardens, ornithologists and hunters in the identification of the species.
- Increase public awareness of the species' rare status in the Mediterranean.

6.12. Greater Sand Plover (*Charadrius leschenaultii ssp. Columbinus*)

Current status

61. This is a globally threatened species, which is possibly extinct. Once described as common in the Mediterranean region, it is now one of the rarest and least known species in the Western Palearctic. Used to migrate from Siberia across eastern and southern Europe to winter in North Africa. On passage, occurs in a wide range of habitats: salt marshes, saltpans, brackish lagoons, dry fishponds, steppe and freshwater marshes. Last confirmed documented record in the Mediterranean was in Greece in 1999

Current factors causing loss or decline

62. Habitat loss at migrating and wintering areas. Other factors unknown.

Status under international instruments
Appendix II - Convention on the Conservation of European Wildlife and Natural Habitats (1979). Appendix I - Convention on the Conservation of Migratory Species of Wild Animals (1979).
Appendix I - Convention on International Trade in Endangered Species of Wild Fauna and Flora (1973).
DIRECTIVE 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds.
European Union Regulation laying down certain technical measures for the conservation of fishery resources in the Mediterranean (1626/94 (EC) 1994).
Memorandum of Understanding concerning Conservation Measures for the Slender-billed Curlew under the Bonn Convention (CMS) (1994).
Listed in the AEWA Action Plan (Column B Category 1a/1b/1c).

Current Action Plans

International Action Plan for the Slender-billed Curlew prepared by BirdLife International on behalf of the European Commission (February1996).
Globally threatened birds in Europe Action Plans. Council of Europe – BirdLife International – EU Life-Nature (1996).
Italy has a national action plan.

Action Plan objectives and target

63. To provide safe passage and wintering grounds in the Mediterranean.

Proposed action

- Confer strictly protected status on the species and on its "lookalike" species, where it occurs on passage and during winter.
- Monitor and warden wintering sites
- Afford appropriate protection and management of all passage and wintering grounds.
- Plan, regulate and/or manage activities and processes of development near wintering sites.
- Train wardens, ornithologists and hunters in the identification of the species.
- Increase public awareness of the species' critically threatened status amongst politicians, decision- makers and hunters.
- Ratify the AEWA Agreement by those countries which have not yet done so.

6.13. Slender-billed Gull (*Larus genei*)

Current status

64. This gull is both resident and/or migratory in the Mediterranean. It breeds colonially on sandy islands in saltpans at the coastal zone but also (as in Tunisia) in inland wetlands including salt lakes. It is found breeding at widely isolated scattered localities in some countries. It is presently known to breed in Spain (1650-1950bp), France (ca.1000bp), Italy (3000-5000bp), Greece (100-130bp) and Turkey (2000-3000bp). In Tunisia, up to 4000bp have been recorded breeding in Thyna salt-pans, and 10,560bp have been recorded breeding in the Golfe of Bou Grara, apart from other scattered sites. It also breeds in Egypt but numbers are unknown; formerly bred in Morocco; and there is no evidence of breeding in Algeria. The European population seems to be decreasing.

Current factors causing loss or decline

65. Disturbance of coastal habitats; degradation and loss of wetland habitats; human disturbance; predation by feral dogs; eggs and chicks of this species are preyed upon by other gull species especially where colonies are frequently disturbed by humans; subsistence egg collecting by local people; pollution and flooding.

Status under international instruments

DIRECTIVE 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds.
Appendix II - Convention on the Conservation of European Wildlife and Natural Habitats (1979).
Appendix II of the Convention on Migratory Species and listed under the African Eurasian Water bird Agreement.

Current Action Plans

None. Regional management plans for seabirds including this species are in place and implemented in Spain.

Action Plan objectives and target

66. To maintain and increase a healthy breeding population and increase the number of its colonies.

Proposed action

- Compile an inventory of breeding sites and map critical habitats supporting the colonies, particularly in the North African Mediterranean countries.
- Increase management in breeding areas.
- Prevent disturbance from tourism and recreational activities.
- Confer strictly protected status on the species.
- Prohibit all types of disturbance to breeding colonies, including the taking of eggs and young.

- Monitor and supervise colonies under threat.
- Create SPAs where breeding colonies exist.
- Plan, regulate and/or manage activities and processes of coastal and infrastructure development near to known colonies.
- Control or eradicate invasive competitive species and terrestrial mammals at colonies.
- Prevent oil spills and chemical pollution of the sea.
- Identify marine important areas for the species.
- Develop an Action Plan to reduce mortality at sea especially from bycatch.

6.14. Mediterranean Gull (*Larus melanocephalus*)

Current status

67. This gull breeds in dense colonies at lagoons, estuaries, coastal as well as inland saltmarshes, and on large steppe lakes and marshes in open lowland areas. It breeds mainly on the Black Sea coast of Ukraine and at scattered localities throughout Europe. In the Mediterranean it breeds in Spain, southern France, Italy, Greece, and Turkey. The Mediterranean also hosts in winter a substantial number of the European population. The Mediterranean breeding population is estimated to be 9400-15,700 pairs

Current factors causing loss or decline

68. Tourist disturbance at breeding colonies; habitat loss resulting from development; possibly contamination by oil spill and chemical discharges at sea; bycatch from long-line fishing; and the taking of adults and eggs by fishermen.

Status under international instruments
DIRECTIVE 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds.
Appendix II - Convention on the Conservation of European Wildlife and Natural Habitats (1979).
Appendix II of the Convention on Migratory Species and listed under the African Eurasian Water bird Agreement.

Current Action Plans

None

Action Plan objectives and target

69. To maintain and increase a healthy breeding population; increase the number of its colonies; and give total protection to the wintering population

Proposed action

- Compile an inventory of breeding sites and map critical habitats supporting the colonies.
- Identify site based threats and necessary management actions of protected areas.
- Increase existing management in breeding areas.
- Prevent disturbance from tourism and recreational activities.
- Confer strictly protected status on the species.
- Prohibit all types of disturbance to breeding colonies, including the taking of eggs and young.
- Monitor and supervise colonies under threat.
- Create SPAs where breeding colonies exist.
- Plan, regulate and/or manage activities and processes of coastal and infrastructure development near to known colonies.
- Create where possible artificially constructed nesting sites in coastal locations.

6.15. Audouin's Gull (*Larus audouinii*)

Current status

70. This is an endemic Mediterranean species, with its main breeding populations occurring in the western Mediterranean in coastal and island sites; an average of 16,800 breeding birds in Spain in the years 2004-2016 being the largest. Other colonies occur in other parts of the Mediterranean including Greece, Turkey, Tunisia and Sardinia. It was close to extinction in the 1970s, but better enforcement of protection measures has resulted in an increase in the breeding population.

Current factors causing loss or decline

71. Habitat alterations at breeding sites; changes in fishing practices; competition mainly with the Yellow-legged Gull Larus cachinnans; egg collection; rat predation; human persecution and disturbance; and possibly depletion of food resources and contamination by oil pollutants.

Status under international instruments

Appendix II - Convention on the Conservation of European Wildlife and Natural Habitats (1979).
Appendix I & II -Convention on the Conservation of Migratory Species of Wild Animals (1979).
DIRECTIVE 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds.
European Union Regulation laying down certain technical measures for the conservation of fishery resources in the Mediterranean (1626/94 (EC) 1994).
Listed in the AEWA Action Plan (Column A Category 1a/3a).

Current Action Plans

International Action Plan for Audouin's Gull *Larus audouinii* prepared by BirdLife International on behalf of the European Commission (March 1996).
Globally threatened birds in Europe Action Plans. Council of Europe – BirdLife International –EU Life-Nature (1996).
Action Plan to restore the Audouin's Gull *Larus audouinii* by Government Committee of Palm Islands Nature Reserve in Lebanon.
Official Working Group in Spain (Ministry of Environment) to review status and propose conservation actions for *Larusaudouinii*
A national action plan is in place and implemented in Italy; another is in preparation in Turkey and regional implemented management plans are on-going for a number of colonies in Spain.
A national action plan exists in France.

Action Plan objectives and target

72. To maintain a healthy breeding population and increase the number of colonies.

Proposed action

- Compile an inventory of breeding sites and map critical habitats supporting the colonies, particularly in the eastern part of the Mediterranean.
- Confer strictly protected status on the species.
- Prohibit all types of disturbance to breeding colonies, particularly the taking of eggs and young.
- Monitor and supervise colonies under threat.
- Create SPAs where breeding colonies exist.
- Plan, regulate and/or manage activities and processes of coastal and infrastructure development near to known colonies.
- Control or eradicate invasive competitive species and terrestrial mammals at colonies.
- Prevent oil spills and chemical pollution of the sea.

- Identify marine important areas for the species.
- Develop an Action Plan to reduce mortality at sea especially from bycatch.

6.16. Armenian Gull (*Larus armenicus*)

Current status

73. This species nests colonially in huge aggregations. Its European population has declined rapidly and is listed by IUCN as Near Threatened. In the Mediterranean it breeds in western Turkey where it is resident, with a breeding population of 8000-10,000 pairs. In the Mediterranean it winters in the eastern part but numbers are not known. It is a common winter visitor and passage migrant to Israel where numbers have also decreased drastically. The species inhabits both coastal and inland waters, frequenting lakes, reservoirs, ponds and rivers. It breeds along the stony and grassy shores of mountain lakes, nesting and foraging in reed-beds and on beaches. In its winter range the species may also forage in agricultural fields and on fish-ponds.

Current factors causing loss or decline

74. Persecution (due to the damage it inflicted to fisheries); egg harvesting; and loss of habitat quality.

Status under international instruments

Appendix II of the Convention on Migratory Species and is covered by the African Eurasian Water bird Agreement.

Current Action Plans

None

Action Plan objectives and target

75. To halt the decline of the species and maintain a healthy breeding population.

Proposed action

- Identification and designation of important sites for these species.
- Education programmes to fishers to reduce persecution.
- Carry out studies to understand its ecology, including its diet and population trends.
- Compile an inventory of breeding sites and map critical habitats supporting the colonies, in the eastern part of the Mediterranean.
- Confer strictly protected status on the species.
- Prohibit all types of disturbance to breeding colonies, including the taking of eggs and young.
- Monitor and supervise colonies under threat.
- Create SPAs where breeding colonies exist.
- Plan, regulate and/or manage activities and processes of coastal and infrastructure development near to known colonies.
- Develop an Action Plan to halt the decline of the species and maintain a healthy breeding population.

6.17. Little Tern (*Sternula albifrons*)

Current status

76. This coastal seabird is a strongly migratory species which usually fishes in very shallow water. It has the most inshore distribution of all terns. It breeds in solitary pairs or in very small groups

sometimes amidst colonies of other terns. Its European breeding population is estimated at 36,000-53,000 pairs. However the breeding population in all the Mediterranean countries is estimated at 11,000-14,500 breeding pairs with the highest populations in Turkey (3000-5000bp), Spain 2641-2691bp), Italy (2000-3500bp), Greece (1500-2000bp), France (700bp), Albania (200-500bp), and Israel (300bp). The overall global population trend is decreasing.

Current factors causing loss or decline

77. Habitat loss and destruction of breeding sites; human disturbance; and predation (feral cats and dogs and foxes).

Status under international instruments

Appendix II - Convention on the Conservation of European Wildlife and Natural Habitats (1979). Appendix II - Convention on the Conservation of Migratory Species of Wild Animals (1979).
DIRECTIVE 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds.
European Union Regulation laying down certain technical measures for the conservation of fishery resources in the Mediterranean (1626/94 (EC) 1994).
Listed in the AEWA Action Plan (Column A Category 3/a).

Current Action Plans

None; but national implemented action plans exist in Israel & Slovenia.

Action Plan objectives and target

78. To maintain healthy breeding colonies and to fill the gaps of knowledge in quantitative data of breeding populations in a number of countries.

Proposed action

- Compile an inventory and map critical habitats supporting the colonies, particularly in the eastern Adriatic and eastern Mediterranean countries where quantitative data are lacking.
- Confer strictly protected status on the species.
- Prohibit all types of disturbance to the breeding colonies.
- Eliminate predation.
- Monitor and warden colonies under threat of disturbance.
- Create SPAs where breeding colonies exist.
- Plan, regulate and/or manage activities and processes of coastal and infrastructure development near to known colonies.
- Establish population size and trends.
- Restore wetlands where the species is known to breed.

6.18. Common Gull-billed Tern (*Gelochelidon nilotica*)

Current status

79. This species has an extremely large global range, but its breeding population in the Mediterranean is only 5800-7150 pairs: Spain (3185-3435bp), Turkey (1000-2000bp), France (873bp), Italy (550bp), Greece (180-280bp), Tunisia (150-350bp) and Libya (12bp). It breeds in a variety of locations not only in coastal areas, but also at inland lakes, rivers, marshes and swamps.

Current factors causing loss or decline

80. Deterioration and loss of habitat, e.g. through wetland drainage, agricultural intensification,

pesticide pollution and fluctuating water levels; Development close to breeding and/or at foraging sites; and human disturbance at breeding colonies.

Status under international instruments

DIRECTIVE 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds.
Appendix II - Convention on the Conservation of European Wildlife and Natural Habitats (1979). Appendix II -Convention on the Conservation of Migratory Species of Wild Animals (1979).

Current Action Plans

None

Action Plan objectives and target

To safeguard the breeding areas; maintain a healthy breeding population and possibly increase it.

Proposed action

- Compile an inventory and map critical habitats supporting the colonies.
- Ensure breeding sites protection from disturbance, development and modification.
- Confer strictly protected status on the species.
- Eliminate predation.
- Monitor and warden colonies under threat of disturbance.
- Prevent erosion of is let complexes,
- Create SPAs where breeding colonies exist.

6.19. Caspian Tern (*Hydroprogne caspia*)

Current status

81. This species has an extremely large cosmopolitan but scattered distribution. Some populations are sedentary while others are strongly migratory. It prefers nesting on sandy, shell-strewn or shingle beaches, sand-dunes, flat rock-surfaces, sheltered reefs or islands. In the Mediterranean the breeding population is less than 500 breeding pairs, and is restricted to a few countries in the eastern part: Turkey (150-300bp), Syria (100-200bp), Greece (up to 10bp). It is said that it breeds in Egypt, but no numbers are given.

Current factors causing loss or decline

82. Loss and deterioration of breeding habitat, human disturbance at nesting colonies, contamination by oil spills and marine pollution and bycatch in fishing gears.

Status under international instruments

Appendix II - Convention on the Conservation of European Wildlife and Natural Habitats (1979). Appendix II -Convention on the Conservation of Migratory Species of Wild Animals (1979).
DIRECTIVE 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds.

Current Action Plans

None, but it is listed in the AEWA Action Plan (Column A Category 1a/3a).

Action Plan objectives and target

83. To strictly protect the small breeding population and possibly to increase it.

Proposed action

- Compile an inventory and map critical habitats supporting the colonies.
- Ensure breeding sites protection from disturbance, development and modification.
- Confer strictly protected status on the species.
- Eliminate predation.
- Monitor and warden colonies under threat of disturbance.
- Prevent erosion of is let complexes,
- Create SPAs where breeding colonies exist.

6.20. Lesser Crested Tern (*Thalasseus bengalensis ssp. emigratus*)

Current status

This Mediterranean endemic subspecies is currently confined to Libya, at 4 colonies: Garah Island (2000 pairs), Ftiha Island (12 pairs) Ulbah Island (16 pairs) and Sabkhat Julyanah (70 pairs). Ocassional breeding was recorded in former years in France, Greece, Italy and Spain.

Current factors causing loss or decline

84. Occasional disturbance by fishermen; probably predation by Yellow-legged Gull *Larus cachinnans*; and possibly contamination by oil pollutants and toxic chemicals.

Status under international instruments

Appendix II - Convention on the Conservation of European Wildlife and Natural Habitats (1979).
Appendix II - (African pops.) Convention on the Conservation of Migratory Species of Wild Animals (1979).
European Union Regulation laying down certain technical measures for the conservation of fishery resources in the Mediterranean (1626/94 (EC) 1994).
Listed in the AEWA Action Plan (Column A Category 1/c).

Current Action Plans

None. However a national action plan is in place in Libya but it is not yet implemented.
Protocol on Monitoring Mediterranean lesser crested terns *Thalasseus bengalensis emigrates* is elaborated by SPA/RAC in 2012 within the implementation of MedMPAnet Project.

Action Plan objectives and target

85. To safeguard the breeding areas; maintain a healthy population; and possibly increase its population.

Proposed action

- Confer strictly protected status on the species.
- Prohibit all types of disturbance to breeding colonies, including the taking of eggs and young.
- Monitor and supervise colonies regularly.
- Create SPAs where the species' breeding colonies exist and prohibit access to known sites except for scientific purposes.
- Investigate whether local fisheries impact on breeding success.
- Prevent oil spills and chemical pollution of the sea.
- Establish population size and trends.
- Provide small artificial islands at Sabkhat Julyanah to encourage an increase of the colony size in the lake.

6.21. Sandwich Tern (*Thalasseus sandvicensis*)

Current status

86. This species can be found in Europe, Africa, western Asia, and the southern Americas. Whilst the European population is estimated at 79,900-148,000 pairs, the breeding population in the Mediterranean is estimated to be 6300-8800 pairs, nesting in colonies mainly in river deltas, on sandbanks and in salinas. Also migrates from elsewhere into the Mediterranean for wintering.

Current factors causing loss or decline

87. Degradation and loss of habitat mainly due to coastal development; disturbance by humans, animals predation and hunting; and possibly reduction of small pelagic fish abundance.

Status under international instruments

Appendix II - Convention on the Conservation of European Wildlife and Natural Habitats (1979). Appendix II - Convention on the Conservation of Migratory Species of Wild Animals (1979).
DIRECTIVE 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds.
Listed in the AEWA Action Plan (Column A Category 3a/3c).

Current Action Plans

None

Action Plan objectives and target

88. To maintain healthy breeding colonies and stop the loss of habitat.

Proposed action

- Compile an inventory and map critical habitats supporting the colonies, particularly in the eastern part of the Mediterranean, where breeding surveys are lacking.
- Confer strictly protected status on the species.
- Prohibit all types of disturbance to the breeding colonies.
- Monitor and supervise colonies under threat of disturbance.
- Create SPAs where breeding colonies exist.
- Plan, regulate and/or manage activities and processes of coastal and infrastructure development that impact on wetlands and other breeding habitats.
- Restore wetlands where the species breeds.

6.22. Osprey (*Pandion haliaetus*)

Current status

89. This is a cosmopolitan species, which is vulnerable in several regions. Whilst the European population is estimated at 8,400-12,300 pairs, less than 120 pairs breed in the Mediterranean (mainly Balearic Islands, Corsica, Morocco and Algeria). Some local small populations have disappeared from other islands (e.g. Ibiza, Sicily & Sardinia). The 5 pairs breeding presently in Italy have been introduced.

Current factors causing loss or decline

90. Habitat destruction and disturbance at breeding sites related to tourism. Mortality also occurs from illegal poaching and electrocution.

Status under international instruments

Class B - African Convention on Conservation and Natural Resources (1968).
Appendix II -Convention on the Conservation of European Wildlife and Natural Habitats (1979). Appendix II - Convention on the Conservation of Migratory Species of Wild Animals (1979).
DIRECTIVE 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds.
European Union Regulation laying down certain technical measures for the conservation of fishery resources in the Mediterranean (1626/94 (EC) 1994).

Current Action Plans

None; but a regional species action plan is in place in Spain and a national action plan existed in France between 2008 and 2012.

Action Plan objectives and target

91. Reverse the decline of the breeding population in the Mediterranean.

Proposed action

- Make an inventory and map critical habitats supporting the remaining breeding pairs.
- Confer strictly protected status on the species.
- Prohibit the destruction of its habitat, disturbance, and the taking or trade of the species.
- Use area-based measures to protect and restore its habitats.
- Create SPAs where it breeds.
- Plan, regulate and/or manage activities and processes of coastal and infrastructure development near to known breeding sites.
- Research the causes of the decline of the species.

6.23. Pied Kingfisher (*Ceryle rudis*)

Current status

92. This species has an extremely large range. However in the Mediterranean it is restricted to a few countries and is only known to breed in Israel (2500bp), Turkey (100-200bp) and in Syria and Egypt where breeding numbers are unknown. Decreases in populations have been noted in Syria, Israel, and Egypt. It inhabits small and large lakes, large rivers, estuaries, coastal lagoons and sandy and rocky coasts, dams and reservoirs with either fresh or brackish water with available waterside perches. It is generally sedentary with some local movements due to changes in the supply of food.

Current factors causing loss or decline

93. Use of poisons and pesticides; water storage developments; and bioaccumulation of pollution and toxins in the fish they eat.

Status under international instruments

Appendix II -Convention on the Conservation of European Wildlife and Natural Habitats (1979).

Current Action Plans

None

Action Plan objectives and target

94. Reverse the decline and maintain a healthy breeding population in the Mediterranean.

Proposed action

- Compile an inventory of the breeding areas and populations.
- Protect legally the species and all its key breeding sites.
- Carry out research on the species' range, ecology, habitat requirements and movements, to be used for the necessary conservation measures.
- Assess the potential threats and their impacts in order to develop appropriate response.
- Develop Regional Action Plans for the protection and management of the species' key sites.

6.24. White-breasted Kingfisher (*Halcyon smyrnensis*)

Current status

95. This kingfisher has a very large global range. However, in the Mediterranean it is restricted to a few countries, and is only known to breed in Israel (15,000bp), Turkey (170-250bp) and Egypt (> 10,000bp, but no proper estimates). It inhabits various habitats ranging from water bodies to farmland and palm plantations.

Current factors causing loss or decline

96. Use of pesticides; habitat degradation from various factors; gaps in knowledge of the species' ecology and behaviour and of the threats facing this species.

Status under international instruments

Appendix II -Convention on the Conservation of European Wildlife and Natural Habitats (1979).

Current Action Plans

None

Action Plan objectives and target

97. Reverse the decline and maintain a healthy breeding population in the Mediterranean.

Proposed action

- Compile an inventory of breeding areas and populations.
- All breeding sites should be strictly protected and supervised.
- Prohibit any development that would degrade the species' breeding sites.
- Carry out research on species ecology and habitat needs for future conservation measures.
- Assess the potential threats and their impacts in order to develop appropriate responses.
- Develop Regional Action Plans for the protection and management of the species' key sites.

6.25. Eleonora's Falcon Falco eleonorae

Current status

98. This falcon breeds in colonies along the coast of the mainland or on rocky islands, which are often uninhabited. In Europe, which covers >95% of the breeding range, the population has been estimated recently at 14,300-14,500 pairs – the largest number of breeding pairs are found in Greece (12,360), followed by Italy (638-704), Spain (655), Cyprus (90-145) and Turkey (35-50). The North African population has been estimated at approximately 250 pairs (ca.72% of which are found in Tunisia). The current population trend is increasing. Almost all the entire population breeds on rocky Mediterranean islands.

Current factors causing loss or decline

99. Predation by cats and rats; human disturbance in colonies; habitat degradation; taking of eggs and young; hunting; and accidental poisoning from pest control methods.

Status under international instruments

Class B - African Convention on Conservation and Natural Resources (1968).
Appendix II - Convention on the Conservation of European Wildlife and Natural Habitats (1979).
Appendix II - Convention on International Trade in Endangered Species of Wild Fauna and Flora (1973).
DIRECTIVE 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds.

Current Action Plans

International Species Action Plan Eleonora's Falcon *Falco eleonorae* prepared by BirdLife International on behalf of the European Commission (final draft December 1999).
A regional implemented species action plan for the Balearics, which host most of the breeding population in Spain, is in place.
A National Action Plan is in place and implemented in Italy.

Action Plan objectives and target

100. To safeguard the present colonies and encourage the increasing trend, through preserving the breeding sites particularly the uninhabited islands and eliminating any negative impacts on the species.

Proposed action

- Confer strictly protected status on the species.
- Prohibit all types of disturbance to the breeding colonies, including the taking of eggs and young.
- Monitor and warden colonies under threat.
- Create SPAs where breeding colonies exist.
- Plan, regulate and/or manage activities and processes, which may result in loss of habitat and the introduction/spread of invasive species.
- Control and/or eradicate species that have become invasive.
- Carry out breeding surveys in eastern Mediterranean countries.
- Prevent poisoning through awareness campaigns and cooperation with farmers.

Annex II

Updated Reference List of Marine and Coastal Habitat Types in the Mediterranean

Introduction

1. The Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean and the Action plan for the Protection of the Marine Environment and the Sustainable Development of the Coastal Areas of the Mediterranean (MAP Phase II), adopted by the Contracting Parties to the Barcelona Convention in 1995, contains provisions for the preparation of inventories of habitats at national as well as regional level.

2. In this context, and following a specific provision of MAP Phase II to prepare inventories according to common criteria, the Contracting Parties adopted at their 10th Ordinary Meeting (Tunis, 18-21 November 1997) criteria for the establishment of national inventories of natural sites of conservation interest. The criteria require that "Information concerning each inventoried site will be compiled according to a standard format, which will have to be agreed by the Parties upon a proposal from the Centre. Such information will include, but will not necessarily be limited to, the fields detailed in Appendix I to these criteria "(Art. 7)". To this end, a Standard Data-Entry Form (SDF) was conceived as an operational inventory tool made available to the relevant national authorities. It is designed to cover the fields of information detailed in the Appendix to the Criteria, and the specific criteria for the assessment of the importance of the site for habitats and species (Art. 4, 5 and 6 of the Criteria). The criteria provided also for the establishment of a reference list of marine and coastal natural habitat types, on the basis of a model classification. A model classification of marine habitat types for the Mediterranean region, as well as a reference list of habitat types were adopted in 1999.

3. During the last symposiums on the marine key habitats held in Portoroz from 27 to 31 October 2014, it was recommended to amend, discuss and propose new facies for integration within the Barcelona Convention's Habitats List.

4. The 19th Meeting of the Contracting Parties to the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (Barcelona Convention) requested SPA/RAC to revise the Reference List of Marine and Coastal Habitat Types in the Mediterranean for consideration by COP 20, taking in full account the biodiversity-related MAP Ecological Objectives, IMAP, and GES targets (Decision IG.22/12).

5. The Updated Reference List of Marine Habitat Types proposed hereinafter will be used for the Selection of Sites to be included in the National Inventories of Natural Sites of Conservation Interest in the Mediterranean. It will be also used to define the reference list of habitats types to be monitored within the framework of the Integrated Monitoring and Assessment Program (IMAP) in relation to the common indicator EO1.

Updated Reference List of Marine Habitat Types for the Selection of Sites to be included in the National Inventories of Natural Sites of Conservation Interest in the Mediterranean

6. In order to draw up the updated Reference List of Marine Habitat Types, an updated and more comprehensive draft classification of benthic marine habitat types for the Mediterranean region (UNEP(DEPI)/MED WG.431/Inf.17) was elaborated based on :

- Classification of benthic marine habitat types for the Mediterranean region of the Barcelona Convention (1998),
- the schemes of the new EUNIS classification system[5] (Table1),

[5] EUNIS is the European Nature Information System and brings together European data on habitat and species among others. It provides the reference information system to assist in the designation of Natura 2000 sites. It was submitted for EIONET consultation in 2015 and could be adopted in 2017.

- the List of French Mediterranean habitats (Michez et al, 2014),
- the Spanish inventory of marine habitats (Templado et al., 2012),
- the Croatian List of Marine Habitats (Bakran-Petricioli, 2011) and,
- new habitats based on the experts inputs.

7. Furthermore, the following lists were taken into account:

- the European Red list of marine Habitats in the Mediterranean
- the list compiled by OCEANA, with the contribution of experts on Mediterranean deep-sea habitats, in order to implement the UNGA Resolutions for the protection of Vulnerable Marine Ecosystems (VMEs)[6] in the GFCM context.

8. Given that the habitats that deserve specific attention are those displaying certain features that make them important for conservation and are vulnerable to disturbances, the criteria used for inclusion in the Reference List take into account a series of eights traits that define more accurately this "importance" and "vulnerability". While they are sometimes correlated, these traits account for different features of the habitats that make them worthy (or not) for protection.

9. They are partially based on those used in the last edition of the Mediterranean Reference List of marine habitat types (1999 and take into consideration the FAO's criteria[7] for identification of VMEs which were used by OCEANA in order to develop the list of VMEs in the GFCM context.

10. The eight traits are the following:

1) Fragility: Degree of susceptibility to degradation (i.e. maintaining its structure and functions) when faced to natural and anthropogenic disturbances.
2) Inability to recover quickly from a disturbance (resilience^{-1}). Usually related to life- history traits of component species that make recovery difficult (i.e. slow growth rates, late age of maturity, low or unpredictable recruitment, long-lived).
3) Uniqueness or rarity: Degree of rarity, i.e. unusual, very unfrequent, at the Mediterranean level.
4) Importance of the habitat for hosting rare, threatened, endangered or endemic species that occur only in discrete areas.
5) Species diversity: The number of species sheltered in the habitat.
6) Structural complexity: Degree of complexity of physical structures created by biotic and abiotic features.
7) Capacity of modifying the physical environment and the ecosystem processes (i.e. geomorphological traits, fluxes of matter and energy).
8) Significance of the habitat for the survival, spawning/reproduction of species not necessarily typical for the habitat during all their life cycle and other (ecosystem) services provided by the habitat.

[6] United Nations General Assembly (UNGA) Resolutions 59/25, 61/105 and 64/72.
[7] FAO (2009). International Guidelines for the Management of Deep-sea Fisheries in the High Seas.

11. Each habitat type has been rated from 1 (very low) to 5 (very high) in relation to each trait in relation to other habitats situated in the same bathymetric zone. Its inclusion in the list depends on the final rating adding the values of the eight traits altogether. The threshold used here for the inclusion of a habitat in the Reference List is of 22.

12. All habitats type having a rating of 5 in "Uniqueness" (i.e. those that are extremely rare) have been selected for the Reference List regardless of the final rating.

13. No water column habitats or habitats of anthropogenic origin have been considered for the inclusion in the Reference List.

14. When the main habitat-forming species is an alien, it has not been selected for the Reference List whatever it is the final rating.

15. The proposed Reference List of Mediterranean habitat types has been elaborated based on the discussions, comments and suggestions of the ad hoc group meeting held in Blanes, Spain, on 22-23 February 2017 in presence of a number of Mediterranean experts and regional partner organizations (GFCM, IUCN-Med, OCEANA and ETC/BD). The Focal Points for SPA will be invited to consider and review the proposed Reference List that should remain dynamic to ensure adequate harmonisation with other classifications defined in relevant frameworks, such as EUNIS, and according to the implementation inputs of the IMAP.

Updated reference list of marine habitat types[8]

MA1.5 Mediterranean littoral rock
MA1.51 Supralittoral rock

Wracks of dead seagrass

MA1.54 Lower mediolittoral rock

MA1.541 Facies with *Pollicipes pollicipes*

MA1.542 Belt of *Lithophyllum byssoides*

MA1.546 Belt of *Neogoniolithon brassica-florida*/*Dendropoma* spp. MA1.549 Belt of *Fucus virsoides*

Belt of *Palisada* spp.

Belt of *Titanoderma ramosissimum*

Anchialine environments MA1.54A
Mediolittoral rockpools

Deep mediolittoral rockpools with Fucales

MA2.55 Biogenic reef assemblages of the lower mediolittoral rock
MA2.551 Vermetid reefs (*Dendropoma* spp.)

MA2.552 Platforms with coralline algae (*Lithophyllum* concretions) MA2.561 Banks of dead leaves of *Posidonia oceanica* and other macrophytes Reefs of *Sabellaria alveolata*

[8] Final code will be harmonised once the final version of the new EUNIS classification is adopted.

MA3.5 Mediterranean littoral coarse sediment

MA3.51 Slowly drying wracks in supralittoral coarse sediment

MA4.5 Mediterranean littoral mixed sediment

MA4.51 Slowly drying wracks in supralittoral mixed sediment

MA5.5 Mediterranean littoral sand

MA5.51 Supralittoral sands

Supralittoral compacted terrigenous clays

MA5.52 Mediolittoral sands

Mediolittoral compacted terrigenous clays

Littoral sediments dominated by marine angiosperms

MB1.5 Mediterranean infralittoral rock

MB1.51 Infralittoral algae

Exposed to moderately exposed rocks, well illuminated, with Fucales Community of *Cystoseira mediterranea*

MB1.513 Community of *Cystoseira amentacea* var. *stricta*

MB1.512 Community of *Cystoseira tamariscifolia*

Community of *Cystoseira sedoides*

Community of *Cystoseira barbatula, C. crinitophylla, C. corniculata*

Exposed to moderately exposed rocks, well illuminated, without Fucales Community of *Titanoderma trochanter*

MA1.543 Community of *Tenarea tortuosa*

Exposed to moderately exposed rocks, shaded

MB.1.51O Exposed to moderately exposed and shaded upper infralittoral rock with *Astroides calycularis*

Sheltered upper infralittoral rock, well illuminated with Fucales MB1.51G with *Cystoseira crinita*

MB1.51F with *Cystoseira brachycarpa* var. *balearica*

with *Cystoseira spinosa* var. *tenuior*

with *Cystoseira algeriensis* with *Cystoseira caespitosa* with *Cystoseira foeniculacea*

MB1.51I with *Cystoseira sauvageauana*

MB1.51U with *Cystoseira compressa*

with *Cystoseira elegans*

with *Cystoseira compressa* var. *pustulata*
MB1.51H with *Cystoseira crinitophylla* MB1.51K with *Sargassum vulgare*

with *Cystoseira barbatula*

with *Cystoseira* spp.

with *Cystoseira barbata*/*C. foeniculacea f. tenuiramosa*

Sheltered upper infralittoral rock, well illuminated without Fucales

with Rhodomelaceae (*Halopithys incurva*/*Digenea simplex*/*Rytiphlaea tinctoria*/*Alsidium* spp.)

MB1.51E with *Cladocora caespitosa*

Sheltered, shaded, upper infralittoral rock
MB1.51Y Coralligenous (in enclave)

Lower infralittoral rock, moderately illuminated with Fucales
MB1.51J with *Cystoseira spinosa*

with *Cystoseira funkii*

with *Cystoseira dubia*

with *Cystoseira corniculata* with *Cystoseira usneoides* with *Cystoseira squarrosa*

with *Cystoseira foeniculacea f. latiramosa*

with *Sargassum acinarium*/*S. trichocarpum*

Lower infralittoral rock, moderately illuminated, without Fucales Kelp beds of *Laminaria ochroleuca*

Kelp beds of *Saccorhiza polyschides*/*Phyllariopsis* spp. with *Eunicella singularis*

with *Cladocora caespitosa*

Sheltered and shaded, invertebrate dominated infralittoral rock

with *Cladocora caespitosa*

with *Pourtalosmilia anthophyllites*

with *Corallium rubrum*

with *Astroides calycularis*

Infralittoral rock affected by sediments with
Eunicella singularis

with *Axinella* spp.

with *Eunicella gazella, E. labiata, E. singularis, Leptogorgia* spp.

Infralittoral rocky outcrops (“tègnue”)

with *Rhodymenia ardissonei* and encrusting *Peyssonnelia* spp. with *Cryptonemia lomation* and Ceramiales

with *Ulva laetevirens, U. linza, Radicilingua thysanorhizans*

MB1.52 Euryhaline and/or eurythermal lagoon biocoenosis on rock
MB1.524 with *Cystoseira barbata*

MB2.5 Mediterranean infralittoral biogenic habitat

MB2.51 Biogenic reef assemblages of the infralittoral algae biocoenosis
MB2.511 with *Dendropoma* spp.

MB2.52 Meadows of *Posidonia oceanica*

MB2.521 Superficial meadows
Striped meadows

Barrier reefs/Fringing reefs/Reef platforms Atolls

MB2.522 Meadows on well developed matte
Meadows on hard substrate Meadows on softsubstrate

MB2.524 Facies of dead "mattes" of *Posidonia oceanica* without much epiflora

MB2.525 Association with of dead “matte” of *Posidonia oceanica* with important epiflora (e.g. *Caulerpa prolifera, Penicillus capitatus* and *Cymodocea nodosa*)

MB2.54 Biogenic reefs on fine sands in very shallow waters

MB2.541 Infralittoral reefs by *Sabellaria alveolata*/*S. spinulosa*

MB5.5 Mediterranean infralittoral sand

MB5.53 Superficial muddy sands in sheltered waters
MB5.534 with *Cymodocea nodosa*

MB5.535 with *Zostera noltei*

MB5.537 Hydrothermal oozes with *Tritia neritea* and nematodes

MB5.54 Euryhaline and/or eurythermal lagoon biocoenosis on sand MB5.541
Association with *Ruppia cirrhosa* and/or *Ruppia maritima* MB5.542
Association with *Stuckenia pectinatus*

MB5.544 with *Zostera noltei*

MB5.545 with *Zostera marina*

with *Cymodocea nodosa*

MB6.52 Euryhaline and/or eurythermal lagoon biocoenosis on mud MB6.521
Association with *Ruppia cirrhosa* and/or *Ruppia maritima* MB6.522
Association with *Stuckenia pectinatus*

MB6.524 with *Zostera noltei*

MB6.525 with *Zostera marina*

MC1.5 Mediterranean circalittoral rock

Algal dominated circalittoral rock with Fucales

MC1.511 with *Cystoseira zosteroides*/*C. spinosa* var. *compressa*

MC1.512 with *Cystoseira usneoides*
MC1.513 with *Cystoseira dubia* MC1.514
with *Cystoseira corniculata* MC1.515
with *Sargassum* spp.

Algal dominated circalittoral rock with kelps
MC1.518 with *Laminaria ochroleuca*

with *Laminaria rodriguezii*

with *Phyllariopsis brevipes*/*P. purpurascens*

with *Saccorhiza polyschides*

Algal dominated circalittoral rock, without Fucales or kelps with
Osmundaria volubilis/*Phyllophora crispa*

Algal dominated coralligenous

with *Halimeda tuna* and *Mesophyllum* spp.

MC1.51D with laminar soft red algae
MC1.517 with *Lithophyllum* spp.

MC1.515 with *Mesophyllum* spp. with
Ptilophora mediterranea

Invertebrate-dominated circalittoral rock

MC1.51E with *Leptogorgia sarmentosa*/*Eunicella verrucosa*

MC1.51B with *Paramuricea clavata*
MC1.51A with *Eunicella singularis* MC1.519
with *Eunicella cavolini*

with *Eunicella verrucosa*

with big sponges (*Spongia lamella* and others)

with *Agelas oroides, Biemna* sp. and big Dictyoceratida (*Spongia* spp., *Ircinia*

spp., *Sarcotragus* spp.)

with big bryozoans (*Pentapora* spp., *Reteporella* spp., *Hornera frondiculata, Adeonella* spp.)

with *Corallium rubrum*

with *Ellisella paraplexauroides, Eunicella* spp., *Leptogorgia* spp. and

Paramuricea clavata

with *Dendrophyllia ramea*

with *Phakellia ventilabrum*/*Phakellia robusta* and axinellid sponges
with *Dendrophyllia cornigera*

with *Savalia savaglia* banks

with *Leptogorgia* spp.

Walls and slopes dominated by *Cladocora debilis*

Walls and rims with *Madracis asperula* Walls
and rims with *Leptopsammia pruvoti* with
Reteporella spp.

with *Dendrophyllia ramea* banks with
Ellisella paraplexauroides banks

with *Dendrophyllia cornigera* and sponge grounds made of*Phakellia ventilabrum*/*P. robusta* and *Poecillastra compressa* and *Pachastrella monilifera*

Circalittoral rock covered by sediments

Serpulid and/or Vermetid reefs, *Filograna implexa* included with
Neopycnodonte cochlear

with sponges (mainly *Axinella* spp.)
with *Dendrophyllia ramea*

with *Anomocora profunda* and *Anomocora* sp.
with *Cerianthus* sp.

with *Leptogorgia* spp.
with *Swiftia* spp.

Invertebrate-dominated coralligenous bioconstructions with *Paramuricea clavata*

with *Eunicella verrucosa* with *Alcyonium acaule* with *Leptopsammiapruvoti*

with tube-forming polychaetes (*Filograna implexa*, *Salmacina dysteri*) with *Astroides calycularis*

with *Corallium rubrum*
with *Agelas oroides* with *Axinella* spp.

with Erythraean aliens

MC1.52 Shelf edge rock with macroscopic vegetation

Circalittoral rock

with coralligenous outcrops

with coralligenous outcrops affected by sedimentation with *Paramuricea clavata*

with *Eunicella verrucosa*

with *Paralcyonium spinulosum*/*Alcyonium palmatum*/*Alcyonium coralloides*

dominated by Axinellida/Haplosclerida
dominated by Dictyoceratida/Hadromerida

dominated by bryozoans (*Myriapora truncata*, *Pentapora fascialis*, *Reteporella grimaldi*)

with *Antipathella subpinnata*

with alcyonarians

with various suspension feeders (sponges, hydrozoans, bryozoans, ascidians, and others)

with gorgonians (*Eunicella* spp., *Paramuricea clavata*)
with *Corallium rubrum*

with *Neopycnodonte cochlear* and/or polychaetes and/or brachiopods

Deep circalittoral banks

of *Astroides calycularis*
of *Dendrophyllia ramea*
of *Antipathellawollastoni*

MC1.521 of *Antipathella subpinnata*

of *Nidalia studeri* or *Chironephthya mediterranea*

MC1.53 Semi-dark caves and overhangs

Walls of infralittoral and circalittoral semi-dark caves and tunnels with *Phyllangia americana mouchezii*

with *Corallium rubrum*

with lithistid sponges (ex-"Lithistida in brackish-water caves or caves subjected to freshwater runoff

Walls of infralittoral and circalittoral semi-dark caves and tunnels affected by high hydrodynamism

with massive sponges

with *Paramuricea clavata* and *Eunicella* spp.
with *Corallium rubrum*

with *Astroides calycularis*

dominated by scleractinian corals (*Caryophyllia*, *Hoplangia*, *Paracyathus, Polycyathus,Phyllangia*)

Ceilings of infralittoral and circalittoral semi-dark caves and tunnels with *Schizoretepora serratimargo*

with *Corallium rubrum*

MC2.5 Mediterranean circalittoral biogenic habitat
MC2.51 Coralligenous platforms

MC3.5 Mediterranean circalittoral coarse sediment

MC3.51 Coastal detritic bottoms (without rhodoliths)

dominated by *Leptometra phalangium* or *Leptometra celtica*

MC3.513 with large bryozoa

with Pennatulaceans (*Pennatula, Pteroides, Virgularia*)
with *Eunicella filiformis*

with *Alcyonium palmatum*

with *Laminaria ochroleuca, Saccorhiza polyschides*, *Phyllariopsis* spp. MC3.515
with *Phyllophora crispa*/*Osmundaria volubilis*

MC3.521 with *Laminaria rodriguezii*

MC3.52 Coastal detritic bottoms with rhodoliths

MC3.523 Maërl beds dominated by *Phymatolithon calcareum*/*Lithothamnion corallioides*

Maërl beds dominated by *Lithothamnion corallioides*/*Lithothamnion crispatum*

Maërl beds dominated by *Lithothamnion corallioides*/*L. crispatum* and

Macrorhynchia philippina

Maërl beds dominated by *Lithothamnion minervae*

Maërl beds dominated by *Neogoniolithon* spp. Rhodolith beds dominated by *Lithothamnion minervae* Rhodolith beds dominated by *Lithophyllum racemus* Rhodolith beds dominated by *Lithothamnion valens* Rhodolith beds dominated by *Lithophyllum dentatum*

Rhodolith beds mainly composed of cobble-sized “boxwork” rhodoliths with sessile invertebrates

Rhodolith beds with mixed nodules and “boxwork” rhodoliths MC3.522 Rhodolith beds with *Peyssonnelia* spp.

Rhodolith beds with zoanthids

Rhodolith and cobble beds dominated by invertebrates, with *Alcyonium palmatum*

Rhodolith and cobble beds dominated by anthozoans (*Veretillum, Sarcodictyon catenatum, Epizoanthus arenaceus, Paralcyonium spinulosum*)

MC4.5 Mediterranean circalittoral mixed sediment MC4.51 Muddy detritic bottoms

with *Alcyonium palmatum, Pennatula rubra* and *Spinimuricea* spp.

MC6.5 Mediterranean circalittoral mud
MC6.51 Coastal terrigenous muds

MC6.513 Sticky muds with *Virgularia mirabilis* and *Pennatula phosphorea*

Circalittoral mud with Pennatulaceans and accompanying fauna

MD1.5 Mediterranean offshore circalittoral rock
MD1.51 Offshore circalittoral rock

Invertebrate-dominated circalittoral rock with *Leptogorgia sarmentosa*/*Eunicella verrucosa*

Invertebrate-dominated circalittoral rock with *Eunicella verrucosa* Invertebrate-dominated circalittoral rock with *Paramuricea clavata* Invertebrate-dominated circalittoral rock with *Eunicella cavolini* Invertebrate-dominated circalittoral rock with *Ellisella paraplexauroides, Eunicella* spp., *Leptogorgia* spp. and *Paramuricea clavata*

Circalittoral rock covered by sediments, with *Swiftia* spp. Circalittoral rock with *Savalia savaglia* banks Circalittoral rock dominated by *Leptogorgia* spp.

Circalittoral rock covered by sediments, with *Leptogorgia* spp. Invertebrate-dominated circalittoral rock with *Corallium rubrum*

Circalittoral rocks with *Paralcyonium spinulosum* and/or *Alcyonium palmatum* and/or *Alcyonium coralloides*

Deep circalittoral banks of *Nidalia studeri* or *Chironephthya mediterranea*

Deep circalittoral banks of *Antipathella subpinnata*

Deep circalittoral banks of *Antipathella wollastoni*

Invertebrate-dominated circalittoral rock with *Dendrophyllia ramea*
Circalittoral rock covered by sediments, with *Dendrophyllia ramea*
Deep circalittoral banks of *Dendrophyllia ramea*

Circalittoral rock dominated by *Dendrophyllia cornigera*

Circalittoral walls and slopes dominated by *Cladocora debilis*

Circalittoral rock covered by sediments with *Anomocora profunda* and *Anomocora* sp.

Circalittoral rock covered by sediments, with *Cerianthus* sp.

Invertebrate-dominated circalittoral rock with big sponges (*Spongia lamella* and others)

Deep circalittoral rock dominated by invertebrates with *Phakellia ventilabrum*/*Phakellia robusta* and axinellid sponges

Circalittoral rock dominated by *Dendrophyllia cornigera* and sponge grounds made of *Phakellia ventilabrum*/*P. robusta* and *Poecillastra compressa* and *Pachastrella monilifera*

Circalittoral rock covered by sediments, with sponges (mainly *Axinella* spp.)
Circalittoral rocks dominated by Axinellida /Haplosclerida

Circalittoral rocks dominated by Dictyoceratida/Hadromerida

Invertebrate-dominated circalittoral rock with big bryozoans (*Pentapora* spp., *Hornera frondiculata*, *Adeonella* spp., *Reteporella* spp.)

Circalittoral rocks dominated by bryozoans (*Myriapora truncata*, *Pentapora fascialis*, *Reteporella grimaldii*)

Circalittoral rock with *Neopycnodonte cochlear* and/or polychaetes and/or brachiopods

MD2.1 Mediterranean offshore circalittoral biogenic habitat Serpulid and Vermetid reefs, *Filograna implexa* included

MD4.5 Mediterranean offshore circalittoral mixed sediment MD4.51 Open sea detritic bottoms on shelf edge

MD4.512 with *Leptometra phalangium*

MD6.5 Mediterranean offshore circalittoral mud MD6.51
Coastal terrigenous muds

MD6.511 Sticky muds with *Virgularia mirabilis* and *Pennatula phosphorea*

ME1.5 Mediterranean upper bathyal rock
ME1.51 Upper bathyal rock

ME1.511 *Lophelia pertusa* reefs
ME1.521 *Madrepora oculata* reefs

ME1.513 *Madrepora oculata* and *Lophelia pertusa* reefs
Bathyal rocks with Scleractinia and Alcyonacea

with *Madrepora oculata* and/or *Lophelia pertusa* and *Corallium rubrum*

Bathyal rocks with Alcyonacea

Bathyal rocks with *Corallium rubrum*

Bathyal rocks with *Acanthogorgia hirsuta*/*A. armata*

Bathyal rock with *Paramuricea macrospina* and/or *Bebryce mollis*

and/or *Villogorgia bebrycoides*

Bathyal rock with *Viminella flagellum* and/or *V. furcata* and/or

Callogorgia verticillata

Bathyal rock with *Placogorgia massiliensis* and/or *Muriceides lepida*

Bathyal rock with *Nicella granifera*
Bathyal rock with *Swiftia pallida* Bathyal
rock with *Dendrobrachiabonsai*

Bathyal rocks with Antipatharia

Bathyal rocks with *Leiopathes glaberrima* and/or *Antipathes dichotoma*

and/or *Parantipathes larix*

Bathyal rock with Aphanipathidae

Bathyal rocks with Scleractinia

Bathyal rocks with *Dendrophyllia cornigera*
Bathyal rocks with *Desmophyllum dianthus*
Bathyal rocks with *Caryophyllia calveri*
Bathyal rocks with *Madracis pharensis*

Bathyal rocks with Scleractinia and Tetractinellida

Bathyal rocks with *Madrepora oculata* and/or *Lophelia pertusa* and/or *Desmophyllum dianthus* with *Pachastrella monilifera* and/or *Poecillastra compressa*

Bathyal rocks with Hexactinellida

Bathyal rocks with *Asconema setubalense* and/or *Tretodictyum tubulosum*

Bathyal rocks with Demospongiae
Bathyal rocks with Tetractinellida
Bathyal rocks with Geodiidae

Bathyal rocks with desma-bearing demosponges (ex-“Lithistida”)

Bathyal rocks with Crustacea Balanopmorpha Bathyal rocks with *Pachylasma giganteum*

Bathyal rocks with Echinodermata Antedonoidea

Bathyal rocks with *Leptometra phalangium* or *Leptometra celtica* and/or *Antedon mediterranea*

Bathyal rocks with Bivalvia

Bathyal rocks with *Neopycnodonte zibrowii*

ME1.52 Caves and ducts in total darkness (in enclave in upper zones) Muddy detritic bottoms

Walls and ceilings

with *Dendroxea lenis*/*Diplastrella bistellata*

with *Penares euastrum*/*Rhabderemia minutula*/*Myrmekioderma spelaeum*

Walls and ceilings in anchialine environments

ME2.1 Mediterranean upper bathyal biogenic habitat
Bathyal Anthozoa bioconstructions

Madrepora oculata/*Lophelia pertusa*/*Desmophyllum dianthus* reefs

Madrepora oculata and *Serpula vermicularis* reefs
Bathyal Bivalvia bioconstructions

Neopycnodonte zibrowii and/or *Neopycnodonte cochlear* reefs

Bathyal sponge bioconstructions

Leiodermatium reefs

ME3.5 Mediterranean upper bathyal coarse sediment
Bathyal coarse sediment with Alcyonacea

Bathyal coarse sediments with *Chironephthya mediterranea* and/or *Nidalia studeri* and/or *Paralcyonium spinulosum* and/or *Alcyonium palmatum* Bathyal coarse sediments with *Bebryce mollis* and/or *Villogorgiabebrycoides* and/or *Paramuricea macrospina* and/or *Muriceideslepida*

ME5.5 Mediterranean upper bathyal sand ME5.51
Upper bathyal detritic sands

Bathyal sands with Pennatulacea

Bathyal sands with *Pennatula* spp. and/or *Pteroeides spinosum*

Bathyal sands with Demospongiae

Bathyal sands with *Rhizaxinella* spp.

Bathyal sands with Antedonidae

Bathyal sands with *Leptometra phalangium* and/or *Antedon mediterranea*

ME6.5 Mediterranean upper bathyal muds Bathyal muds with Hexactinellida

ME6.514 Bathyal muds with *Pheronema carpenteri*

Bathyal muds with *Asconema setubalense*

Bathyal muds with Tetractinellida

ME6.511Bathyal muds with *Thenea muricata* and/or *Cladorhiza abyssicola*

Bathyal muds with Pennatulacea

ME6.513 Bathyal muds with *Funiculina quadrangularis* and/or *Protoptilum carpenteri*

Bathyal muds with *Kophobelemnon stelliferum*

Bathyal muds with *Pennatula* spp.

Bathyal muds with Alcyonacea

ME6.515 Bathyal muds with *Isidella elongata*

Bathyal muds with Scleractinia

Bathyal muds with *Madrepora oculata* and/or *Lophelia pertusa*

Bathyal muds with *Dendrophyllia cornigera*

Bathyal muds with *Dendrophyllia ramea*

Bathyal muds with Pennatulacea, Alcyonacea and Crustacea Decapoda

Bathyal muds with *Funiculina quadrangularis* and/or *Isidella elongata* with *Aristeus antennatus*, *Aristaeomorpha foliacea* and/or *Nephrops norvegicus*

Bathyal muds with Antedonidae

Bathyal muds dominated by *Leptometra phalangium* and/or *Antedon mediterranea*

MF1.5 Mediterranean lower bathyal rock

MF1.51 Lower bathyal rock

MF1.511 *Lophelia pertusa* reefs MF1.512 *Madrepora oculata* reefs

MF1.513 *Madrepora oculata* and *Lophelia pertusa* reefs

MF6.5 Mediterranean lower bathyal mud MF6.51 Lower bathyal muds

MF6.511 Sandy muds with *Thenea muricata*

MF6.513 Compact muds with *Isidella elongata*

MG1.1 Mediterranean abyssal rock

MG6.1 Mediterranean abyssal mud

Cold seeps and hydrothermal vents

Methane seeps

Sulfide vents

Table 1: Combinations are codes for marine EUNIS level 2

Combinations codes for marine EUNIS level 2

Zone		Substrate					
		Hard/firm		Soft			
		Rock*	Biogenic habitat*	Coarse	Mixed	Sand	Mud
Phytal gradient / hydrodynamic gradient	Littoral	MA1	MA2	MA3	MA4	MA5	MA6
	Infralittoral	MB1	MB2	MB3	MB4	MB5	MB6
	Circalittoral	MC1	MC2	MC3	MC4	MC5	MC6
Aphytal/ hydrodynamic gradient	Offshore circalittoral	MD1	MD2	MD3	MD4	MD5	MD6
	Upper bathyal	ME1	ME2	ME3	ME4	ME5	ME6
	Lower bathyal	MF1	MF2	MF3	MF4	MF5	MF6
	Abyssal	MG1	MG2	MG3	MG4	MG5	MG6

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