Project for the preparation of a Strategic Action Plan
for the Conservation of the Biodiversity in the Mediterranean Region
(SAP BIO)

Guidelines for the elaboration of national action plans for the conservation of marine and coastal birds

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Project for the Preparation of a Strategic Action Plan for the Conservation of Biological Diversity in the Mediterranean Region
(SAP BIO)

GUIDELINES FOR THE ELABORATION OF NATIONAL ACTION PLANS FOR THE CONSERVATION OF MARINE AND COASTAL BIRDS


RAC/SPA - Regional Activity Centre for Specially Protected Areas
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Foreword

The present document aims at giving guidelines for the elaboration of national action plans for the conservation of marine and coastal birds. While running independently, national processes had to follow common guidelines with a view to providing comparable, compatible inputs to the Strategic Action Plan for the Conservation of Biological Diversity in the Mediterranean Region (SAP BIO).
It's through this document, that such goal could be achieved for this important subject.

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GUIDELINES FOR THE ELABORATION OF NATIONAL ACTION PLANS FOR THE CONSERVATION OF MARINE AND COASTAL BIRDS

1. Introduction

The Regional Activity Centre for Specially Protected Areas (RAC/SPA) was designated as the Lead Agency for the SAP BIO project "Preparation of the Strategic Action Plan for the Conservation of marine and coastal biodiversity" in the Mediterranean.
SAP BIO Project aims at analysing negative factors affecting marine and coastal biodiversity and identifying concrete remedial actions.

One of the first steps for the development of the project was the preparation of National Reports aiming at identifying problems affecting biodiversity and their proximate/ultimate causes, assessing their relative importance, identifying national conservation priorities and remedial actions.

The National reports should be followed by the development of a series of **National Action Plans** on specific issues identified through the report. The actions plans can be oriented to not only remedy identified problems or fill the gaps in knowledge, but also to ensure a long-term monitoring and evaluation of the state of marine and coastal biodiversity in the Mediterranean at national level.

The present document aims at providing some elements for the elaboration of national action plans dealing with the conservation of marine and coastal birds

2. An assessment of the present situation: coastal and marine birds and their habitats

There are many gaps in our knowledge concerning coastal and marine (pelagic) birds and their habitats; especially seabird movements and their distribution at sea, and mapping of important breeding, feeding, moulting sites and wintering areas.

Coastal seabirds (mainly gulls and terns) occur in the Mediterranean river delta's (ex. Rhône, Po, Ebro, Nile, Evros & Menderes) and also on inland saltwater lagoons. Today however, many coastal species breed in sub-optimal and man-modified habitats such as industrial Salinas, and rely on municipal waste dumps and discards from fishing boats for their food. The increasing pressure of human activities around the Mediterranean coastline, in particular tourism, bears witness to the continued degradation and loss of natural habitats and biological diversity.
Pelagic bird species in the Mediterranean are relatively few and breeding colonies are scattered mainly on small isolated rocky islands and islets. Their principal food sources are pelagic fish.
Among the Mediterranean seabirds there are several endemic species and sub-species which include: Audouin's Gull *Larus audouinii*, Yelkouan Shearwater *Puffinus yelkouan*, the Balearic Shearwater *Puffinus mauritanicus*, Storm Petrel *Hydrobates pelagicus melitensis*, and the Shag *Phalacrocorax aristotelis desmaresti*. They are all of conservation concern and are included in the Annex II List of Threatned and Endangered Species of the Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean (Table 1).

Table 1. Threatened & Endangered species (Annex II, SPA Protocol)

Threatened & Endangered Species
Cory's Shearwater – *Calonectris diomedea*
*Yelkouan Shearwater – *Puffinus yelkouan*
Balearic Shearwater *Puffinus mauritanicus*
Storm Petrel – *Hydrobates pelagicus*
Shag – *Phalacrocorax aristotelis desmarestii*
Pygmy Cormorant – *Phalacrocorax pygmeus*
White Pelican – *Pelecanus onocrotalus*
Damatian Pelican – *Pelecanus crispus*
Greater Flamingo – *Phoenicpterus ruber*
Osprey – *Pandion haliaetus*
Eleonora's Falcon – *Falco eleonorae*
Slender-billed Curlew – *Numenius tenuirostris*
Audouin's Gull – *Larus audouinii*
Lesser Crested Tern – *Sterna bengalensis*
Sandwich Tern – *Sterna sandvicensis*
Little Tern – *Sterna albifrons*

* includes also the Balearic Shearwater Puffinus mauritanicus, now considered a separate species. Age and sex ratios of species should not be taken into consideration when preparing tables.

In addition to the species listed in the annex of the Protocol there are other specific coastal species occurring in the Mediterranean in significant numbers during the migration periods and in winter.
Many other significant rare bird populations use small islands and coastal habitats as essential stopover and breeding sites in the Mediterranean (e.g. shorebirds, herons, raptors, shrikes and small warblers) (Table 2).

Table 2. Specific coastal bird species to the Mediterranean region in significant numbers during the migration periods and in winter

Species
Great Crested Grebe – *Podiceps cristatus*
Black-necked Grebe – *Podiceps nigricollis*
Shelduck – *Tadorna tadorna*
Common Scoter – *Melanitta nigra*
Velvet Scoter- *Melanittafusca*
Demoiselle Crane – *Anthropoides virgo*
Black-winged Stilt – *Himantopus himantopus*
Avocet – *Recurvirostra avocetta*
Kentish Plover – *Charadrius alexandrinus*
Great Black-headed Gull – *Larus ichthyaetus*
Mediterranean Gull – *Larus melanocephalus*
Little Gull – *Larus minuts*
Slender-billed Gull – *Larus genei*
Armenian Gull – *Larus armenicus*
Gull-billed Tern – *Sterna nilotica*
Common Tern – *Sterna hirundo*
Whiskered Tern – *Chlidonias hybridus*
Black Tern - *Chlidonias niger*
White-winged Black Tern – *Chlidonias leucopterus*

The new SPA protocol which entered into force on 12 Dec. 1999, replacing the Protocol Concerning Mediterranean Specially Protected Areas, has extended its geographical coverage to include the international waters of the Mediterranean. Accordingly only Mediterranean bird populations are considered in this assessment (the Atlantic coasts of

Morocco, Portugal, Spain and France are excluded, as well as the Black Sea & Red Sea populations).

3. Hazards to marine and coastal birds

In identifying the hazards to marine and coastal birds, the most important are the increasing pressures from tourism and the immediate threat of serious oil pollution in the Mediterranean region (see tables 3 and 4). Other significant impacts are created by :

- Urban expansion and industrial development on coastal and infralittoral habitats
- Infil or landfill causing the destruction of natural habitats and biodiversity
- Infrastructure, construction and/or extension of airports and runways, marine harbours, linear networks such as highways, canals power lines etc.
- Cumulative impacts by tourism, urban and industrial development, global warming leading to coastal erosion:
    - ✍ Water reservoirs and dams
    - ✍ Hydro-electric power plants
    - ✍ Diverting and canalisation of rivers
    - ✍ Wind farming structures
    - ✍ Agricultural drainage and restructuring
    - ✍ Inshore and offshore fishing methods (drift-nets, long lines)
    - ✍ Sand and gravel extraction and dredging

Table 3. Identification of major impacts from tourism development on coastal and marine birds and their habitats

Tourism Development	**Threats**	**Causes**	**Impacts**	**Significance**	**Examples**
1) Infrastructure	Destruction of Bird Habitats	Development on or close to breeding sites Disposal of rough sewage & waste	Critical	Disappearance of breeding habitats	Osprey & Peregrine and seabird colonies
2) Recreational Activities	Disturbance of breeding birds on land	Visitors & Pets (Dogs) in bird colonies	High	Colony desertification & poor breeding success	Audouin's Gull & Storm Petrel colonies
	Disturbance of birds at sea (feeding & rafting)	Pleasure boats & water scooters	Medium to High	Colony desertification & poor breeding success	Feeding Shags & Shearwater rafts
	Illegal Hunting & Poaching of protected species	Hunting parties Egg & Bird collectors	Medium	Indiscriminate shooting and collecting of protected species	Migrants species Peregrine & Eleonora's Falcon chicks
3) Increase of invasive & predatory species and / or introductions	Predation on breeding birds and other endangered wildlife	Introduction of alien species (rats, cats, mongoose) Domestic waste	High to Critical	Poor breeding success & desertification of breeding sites	Little Tern, Lesser Crested Tern & Storm Petrel colonies

Table 4. Identification of major impacts from oil pollution on coastal and marine birds and their habitats

Issue/Problems	**Threats**	**Causes**	**Impacts**	**Significance**	**Examples**
Oil Pollution					
Accidental - maritime - shipwrecks and intentional deballasting	Seabirds & other marine wildlife	Non-implementation of international agreements and regulations: (IMO, EU, Paris Protocol, Dumping Protocol, RAMOGE, etc…)	High	Significant reduction of breeding seabird populations, migrating & overwintering species	Shearwaters, Shags, Alcidae, Gannets & Sea-ducks

4. For action

4.1. Provision for data collection based on the assessment of the knowledge status

To improve the assessment of the present situation the following suggested methodology of collection of data can be utilised.

Tables with population data for the following categories can be prepared:

- a) The breeding and wintering populations of the Threatened and Endangered species listed in Annex II of the Protocol (Table 5).
  b) Specific coastal bird species occurring in the Mediterranean in significant numbers on migration and in winter during the last 5 years (Table 6)
  c) Any other significant rare bird populations using islands and coastal habitats (Table 7)

Table 5. Threatened & Endangered species (Annex II, SPA Protocol)

Threatened & Endangered Species	**Breeding populations (in pairs)**	**Winter populations (individuals)**
Cory's Shearwater – *Calonectris diomedea*		
Yelkouan Shearwater – *Puffinus yelkouan*		
Balearic Shearwater *Puffinus mauritanicus*		
Storm Petrel – *Hydrobates pelagicus*		
Shag – *Phalacrocorax aristotelis desmaresti*		
Pygmy Cormorant – *Phalacrocorax pygmeus*		
White Pelican – *Pelecanus onocrotalus*		
Damatian Pelican – *Pelecanus crispus*		
Greater Flamingo – *Phoenicopterus ruber*		
Osprey – *Pandion haliaetus*		
Eleonora's Falcon – *Falco eleonorae*		
Slender-billed Curlew – *Numenius tenuirostris*		
Audouin's Gull – *Larus audouinii*		
Lesser Crested Tern – *Sterna bengalensis*		
Sandwich Tern – *Sterna sandvicensis*		
Little Tern – *Sterna albifrons*		

Table 6. Specific coastal bird species to the Mediterranean region in significant numbers during the migration periods and in winter

Species	**Migration**	**Winter**
Great crested Grebe – *Podiceps cristatus*		
Black-necked Grebe – *Podiceps nigricollis*		
Shelduck – *Tadorna tadorna*		
Common Scoter – *Melanitta nigra*		
Velvet Scoter- *Melanitta fusca*		
Demoiselle Crane – *Anthropoides virgo*		
Black-winged Stilt – *Himantopus himantopus*		
Avocet – *Recurvirostra avocetta*		
Kentish Plover – *Charadrius alexandrinus*		
Great Black-headed Gull – *Larus ichthyaetus*		
Mediterranean Gull – *Larus melanocephalus*		
Little Gull – *Larus minuts*		
Slender-billed Gull – *Larus genei*		
Armenian Gull – *Larus armenicus*		
Gull-billed Tern – *Sterna nilotica*		
Common Tern – *Sterna hirundo*		
Whiskered Tern – *Chlidonias hybridus*		
Black Tern - *Chlidonias niger*		
White-winged Black Tern – *Chlidonias leucopterus*		

Table 7. Any other significant rare and long distance migrant bird populations using islands and coastal habitats in spring.

Species	Spring migration
See species representation for the study period mid-April to mid-May 1988-1994* F. Spina et al. (eds.) 1994.	

* Publication of the Istituto Nazionale per la Fauna Sevatica, Via Ca'Fornacetta, 9-Ozzano dell'Emilia (Bologna) Italy. This publication also contains important data on species occurring on coastal and island sites in the Mediterranean region.

- List all the major breeding and wintering sites by Commune/Province and the coordinates for all marine areas, including the count dates, month and year and provide a list of published and unpublished references. Indicate also the % coverage of each site where counts are incomplete.
  There will inevitably be gaps in the data collection, so please indicate a list of sites of ornithological interest that need to be surveyed, also sites that need further surveys.
  For those countries where recent data are not available for the past 5 years, should be better to undertake regular census work and monitoring.

- A standardisation of the field methodology and collected count data over the same period is desirable. Methods range from single visits to systematic surveys during the breeding season and in winter.
  A standardized data form produced by the Dutch Central Bureau of Statistics was used successfully to compile data for the European Atlas of Breeding Birds (1999). General information requested in this form may be considered when compiling data.

This includes:

1. Census period: the year, or sequence of years from which the data originate
2. Survey completeness: indicate the % coverage made for each site
3. Observers or coordinator(s): provide names and addresses in case of any queries
4. Allow for additional information that will better explain the data
5. Give a short description on the different habitats within a site.

The species listed follow the systematic list by Voous (1977). There are 16 codes supplied, sub-divided into 3 categories: Confirmed breeding, probable breeding and possible breeding, column 3 is an estimate of the number of breeding pairs (Table 8).

Table 8. Breeding categories and codes

A: Possible breeding

1. Species observed in the breeding season in possible nesting habitat
2. Singing male(s) present (or breeding calls heard) in the breeding season

B: Probable breeding

3. Pairs(s) observed in suitable nesting habitat in the breeding season
4. Permanent territory (presumed territorial behaviour)
5. Courtship and display
6. Visiting probable nest site
7. Agitated behaviour or anxiety calls from adult birds
8. Brood patch on adult birds examined in the hand
9. Nest building or excavating nest-hole.

C: Confirmed breeding

10. Distraction display or injury feigning
11. Used nests found containing egg-shells (nests occupied during survey period)
12. Signs of recently fledged young (nidifugous) or downy young in nest (nidicolous)
13. Adult birds entering or leaving nest site indicating occupied nest
14. Adult birds carrying faecal sac or food to young
15. Nest containing eggs
16. nest with young seen or heard

For large sited that need to be split into sub-sections it is advisable to record the date for each sub-section on a separate entry form. State also population sizes (in pairs) as minimum or maximum.

Table 9. Standardized data entry form for Mediterranean bird populations

Name of site:	Country:

01. Year:		02. Coordinates of site:
03. Completeness of survey		04. Altitude
High:		Max:
Low:		Min:

05. Name of observer
Address
Code
Country

06. Habitat Description

01 Open sea		19 Calcareous grassland	
02 Islets		20 Acid grassland	
03 Sea Inlets		21 Woodland (unspecified)	
04 Sea cliffs and rocky coasts, grottos		22 Broad – leaved deciduous woods	
05 Boulder scree		23 Coniferous woods	
06 Rocky habitats (unspecified)		24 Mixed woodland	
07 Shingle beaches (stones & gravel)		25 Alluvial forest	
08 Sand-dunes and sand beaches		26 Broad-leaved evergreen woods	
09 Mud flats and sand flats		27 Peatlands (unspecified)	
10 Salt marsh, salt pastures		28 Marsh, fen, water fringe vegetation	
11 Salinas and Chotts (Sebkhas)		29 Reedbeds	
12 Brackish lagoons		30 Exposed bedrock, inland cliffs	
13 Sclerop.scrub (maquis, garrigue, phrygana)		31 Agricultural land & artificial landscape	
14 Standing water (brackish)		32 Crops, including fertilized grassland	
15 Standing water (fresh)		33 Orchards, vineyards, plantations	
16 Running water		34 Shelterbelts, small woods, hedges	
17 Scrub/grass (unspecified)		35 Urban parks and large gardens	
18 Neutral grassland		36 Urbanized and industrial	

Table 10. Species list. The data format is in 5 columns: col. 0: species (scientific name given in full), col.1: the Euring code of each species (e.g. 00360 for Calonectris diomedea), col. 2: the breeding evidence and its code (Table 5), col. 3: estimate of breeding pairs, col. 4: non-breeding populations (individuals).

Col.0 Species	Col.1	Col. 2	Col. 3	Col. 4
Calonectris diomedea	00360			
Puffinus yelkouan	00462			
Puffinus mauritanicus	00463			
Hydrobates pelagicus	00520			
Phal.aristotelis desmaresti	00800			
Phalacrocrorax pygmeus	00820			
Pelecanus onocrotallus	00880			
Pelacanus crispus	00890			
Phoenicpterus ruber	01470			
Pandion haliaetus	03010			
Falco eleonorae	03110			
Num. Tenuirostris	?			
Larus audouinii	05880			
Sterna bengalensis	06090			
Sterna sandvicensis	06110			
Sterna albifrons	06240			
Podiceps cristatus	00090			
Podiceps nigricollis	00120			
Tadorna tadorna	01730			
Melanitta nigra	02130			
Melanitta fusca	02150			
Anthropoides virgo	04410			
Himantopus himantopus	04550			
Recurvirostra avocetta	04560			
Charadrius alexandrinus	04770			
Larus ichthyaetus	05730			
Larus melanocephalus	05750			
Larus minutus	05780			
Larus genei	05850			
Larus armenicus	05929			
Sterna nilotica	06050			
Sterna hirundo	06150			
Chlidonias hybridus	06260			
Chlidonias niger	06270			
Chlidonias leucopterus	06280			

4.2. Provision aiming the legal protection and technical impact reduction measures

The following impact reduction/mitigation measures suggested here should be adhered to during the successive stages of development:
1/ Planning and site location
2/ Management and implementation
3/ Monitoring

1) At the planning level we need to restrict in rural and natural areas, all constructions within at least 100 metres of the coastline, thus maintaining conservation and biodiversity. At the same time intensive development constructions should be avoided and planned in

such a way as to promote low density design and development. Coastal and marine sites of special interest for biodiversity should be designated for long term conservation.

2) Management plans should be prepared for the shore frontage and any other area of biological interest, aiming at the prevention of soil and coastal erosion and the conservation of biodiversity. Where possible investigate ways and means of creating new coastal and land habitats (lagoons, marshes, artificial islets, recreate dune systems) and avoid tourist impact from motor cycles and four wheel drive vehicles in areas of scientific interest. Marine control measures should also be imposed on visitors using pleasure boats and water scooters on islands sheltering seabird colonies
3) Monitoring and censusing provide the most essential data about the state of the environment, the evolution of beach profiles and the long term effects on coastal wildlife and biodiversity. Regular censuses of coastal and pelagic bird colonies and their habitats will also provide vital information on other coastal and marine wildlife.

4.3 Enforcement at National Level of International agreement

The following International agreements deal with endangered species of birds listed in the Annex II of the SPA Procotol (table 1 of the present document):

Abbreviation	Treaty name, date and species	Relevance
Algiers (A/B)	African Convention on the Conservation of Nature and Natural Resources (1968) *Panidion haliaetus* (B); *Falco eleonorae* (B); *Pelecanus onocrotalus* (A); *Pelecanus crispus* (A); *Phenicopterus ruber* (A)	Class A (Appendix) lists strictly protected species: hunting, taking, capture or collection to be prohibited and derogations only in the national interest/for scientific reasons. Class B lists species for which such activities are subject to permit.
Bern (I/II/III)	Convention on the Conservation of European Wildlife and Natural Habitats (1979) http://nature.coe.int/english/cadres/bern.htm *Panidion haliaetus* (II); *Falco eleonorae* (II); *Numenius tenuirostris* (II); *Hydrobates pelagicus* (II); *Larus audouinii* (II); *Phalacrocorax aristotelis* (II); *Phalacrocorax pigmeus* (II); *Pelecanus onocrotalus* (II); *Pelecanus crispus* (II); *Phenicopterus ruber* (II); *Puffinus yelkouan* (II); *Sterna albifrons* (II); *Sterna bengalensis* (II); *Sterna sandvicensis* (II)	Mandates species and habitat conservation, management and cooperation adapted to species with varying conservation status: App.I: strictly protected plant species App.II: strictly protected animal species App.III: protected animal species. Decisions of Standing Committee often species/site-specific and provide practical guidance and indicators for implementation.
CITES (I/II/III)	Convention on International Trade in Endangered Species of Wild Fauna and Flora (1973) http://www.cites.org/ NB CITES is implemented in the EU by Council Regulation (EC) No. 338/97 and Commission Regulation (EC) No.	Establishes control framework for international trade in specimens of selected species (live, dead, parts and derivatives): App.I (species threatened with extinction): trade permitted only in exceptional circumstances. Both import and export permits required.

	939/97 as amended. These provide for equivalent or stricter control of trade than CITES. For further details and species listing, see http://www.europa.eu.int/comm/environment/cites/legislation_en.htm *Falco eleonorae* (II); *Numenius tenuirostris* (I); *Pelecanus crispus* (I);	App.II (species not necessarily threatened with extinction, but trade to be controlled to avoid utilisation incompatible with their survival). Exports/re-exports need permit. App.III (species protected in at least one country, which has asked other CITES Parties for assistance in controlling the trade). Controls on exports and re-exports.
CMS (I/II)	Convention on the Conservation of Migratory Species of Wild Animals (1979) http://www.unep-wcmc.org/cms *Panidion haliaetus* (II); *Larus audouinii* (I & II); *Numenius tenuirostris* (I); *Phalacrocorax pigmeus* (II); *Pelecanus onocrotalus* (I Pal or II Western Pal); *Pelecanus crispus* (I & II); *Phenicopterus ruber* (II); *Sterna albifrons (II) Sterna bengalensis* (II) *(*African pops); *Sterna sandvicensis* (II)	Mandates species/habitat measures and cooperation for: App.I (endangered migratory species). Detailed protection measures specified; App.II (species with unfavourable conservation status and/or which would benefit from Range States concluding international agreements for their conservation and management). Guidelines for Agreements provided.
MoU 1994	Memorandum of Understanding concerning Conservation Measures for the Slender-billed Curlew (1994). http://www.unep-wcmc.org/cms/sbc_bkrd.htm *Numenius tenuirostris;*	Non-binding agreement concluded under CMS (see above). Signatories include Range States and NGOs. Mandates conservation/management measures and a comprehensive long-term Action Plan

European Community legislation

Four Mediterranean States (Spain, France, Italy, Greece) are currently members of the European Community. Others (including Croatia, Cyprus, Malta, Slovenia and Turkey) have begun pre-accession talks with the EC. Candidate States will need to take progressive steps to bring their legal frameworks into compliance with European norms.

EU Birds	Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds http://www.europa.eu.int/comm/environment/nature/legis.htm *Panidion haliaetus* (I); *Calonectris diomedea* (I); *Falco eleonorae* (I); *Hydrobates pelagicus* (II); *Larus audouinii* (II);*Phoenicopterus rubber* (I); *Sterna albifrons (I); Sterna sandvicensis* (I)	Establishes protection/management rules for all species of birds naturally occurring on European territory of Member States. States to prohibit taking and trade in all but specially listed species. Bird habitats are to be preserved and reestablished. Annex I lists species for which special habitat conservation measures must be taken to ensure their survival and reproduction in area of distribution: Specially Protected Areas (SPAs) to be created.

EU Fish (I)	Council Regulation (EC) No 1626/94 of 27 June 1994, laying down certain technical measures for the conservation of fishery resources in the Mediterranean amended on several occasions http://www.europa.eu.int/eur-lex/en/search/search_lif.html *Panidion haliaetus; Falco eleonorae*; *Hydrobates pelagicus; Larus audouinii; Numenius tenuirostris; Phalacrocorax aristotelis; Phalacrocorax pigmeus; Pelecanus onocrotalus*; *Pelecanus crispus; Phoenicopterus rubber; Puffinus yelkouan; Sterna albifrons; Sterna bengalensis*	Regulates fisheries practices to protect fragile and endangered species and environments in the Mediterranean. Prohibits specified fishing methods, sets out minimum rules for fishing gear, provides for creation of no-fishing zones for biological reasons. States must pay special attention, when developing national fisheries measures, to habitats and species listed in Annex I: ?? coastal wetlands; ?? beds of marine phanerogams; ?? fish, reptiles, birds and mammals listed in CMS I/II or Bern (II).

4.4 Strengthening of the institutional framework

The reinforcing of the existing institutional bodies dealing with the conservation of birds and, if necessary the setting up of new ad hoc structure, could be included in the action plans.

4.5 Training and Education and public awareness

Training courses targeted at scientists and voluntaries involved in the collecting of data and monitoring programmes can be included in the action plans.

Education and public awareness should be addressed to:
Local communities/affected stakeholders. Active communication is particularly important where conservation is seen as a threat to economic interests. The common aim should be to encourage active participation in conservation efforts, but this may need to be backed up by some kind of incentives or new opportunities for those most affected (incentives for community management of biodiversity, financial and technical support etc.).
Political, administrative and professional bodies (agencies, local authorities, planners, enforcement personnel, etc.). These bodies and individuals need to receive targeted information and advice on the importance of the species/habitats concerned, which activities may be damaging, the actions they can take to prevent or minimise such damage and the partners with whom they can work. Proactive education and public awareness can make it easier to develop voluntary codes and best practice guidelines with key sectoral actors.
General public.

5. Selected list of References:

Aguilar. J.S. Monbailliu, X., y A.M.Paterson (eds) 1993. Estatus y Conservacion de Aves Marinas, Actas del II Simposio MEDMARAVIS. SEO, Madrid, Espana : 1-386.

MEDMARAVIS & Monbailliu, X. (eds) 1986. Mediterranean Marine Avifauna, Population Studies and Conservation. NATO ASI Series, Proceedings of the NATO Advanced Workshop on Population Dynamics and Conservation of the Mediterranean Marine Avifauna. Springer-Verlag, Berlin, Heidelberg, New York Tokyo. 1-536.

Monbailliu, X, e A. Torre (eds) 1994. La gestione degli ambienti costieri e insulari del Mediterraneo. Edizioni del Sole, Collana Mediterranea, Alghero : 1-430.

Spina, F. A. Montemaggiori, A. Massi (eds) 1994. Progetto Piccole Isole : risultati generali e resoconto del VII anno di acttività. Suppl. Al n.5 Boll. Attività Inanellamento: 1-155, INFS. Ozzano, Italy

Walmsley, J.G., V.Goutner, A. HILI & J. Sultana (eds) 1998. Ecologie des oiseaux marins et gestion intégrée du littoral en Méditerranée. Proceedings du Quatrième Symposium Méditerranéen des Oiseaux Marins. Arcs Editions, tunis : 1-304.

Yésou, P., & J. Sultana (eds) 2000. Monitoring and Conservation of birds, Mammals and Sea Turtles of the Mediterranean and Black Seas. Proceedings of the 5th MEDMARAVIS Symposium. Published by Environment protection Departement, Malta: 1-320.

MEDMARAVIS, 1996. Convenzione di Alghero 1995 Sulla Biodiversità Costiera e marina del Mediterraneo. Edizioni del Sole, Collana Mediterranean Alghero, Sardegna : 1-190.

E.J.M., Hegemeijer, & M.J Blair 1997. EBCC Atlas of European Breeding Birds, their distribution and abundance. T. Poyser, London: 1-903.

The Regional Activity Centre for Specially Protected Areas (RAC/SPA) constitutes one of the institutional components of the Mediterranean Action Plan (MAP) of the United Nations Environment Programme (UNEP), co-ordinated under the supervision of the MAP Co-ordinating Unit. The Centre was set up in 1985 to assist Mediterranean countries in implementing the Protocol on specially protected areas and biological diversity. The Centre aims at assisting Mediterranean countries to establish and manage marine and coastal protected areas and to conserve biological diversity.

Among the Centre's activities is a project for preparing a **Strategic Action Plan for the Conservation of Marine and Coastal Biological Diversity in the Mediterranean Region** -SAP BIO Project - (1 January 2001 - 31 December 2003).
Starting from an assessment at national and regional level of the state of marine and coastal biodiversity, based on existing scientific data, and taking into account the Jakarta Mandate (developed within the framework of the Convention on Biological Diversity) and the Protocol on Specially Protected Areas and Biological Diversity, the SAP BIO Project aims at analysing the negative factors that affect marine and coastal biodiversity, or the lack of information, and identifying concrete remedial action. Integration of the actions decided on at national, sub-regional and regional level, along with detailed investment portfolios, involvement of stakeholders, and the development of approaches and principles, will become the Strategic Action Plan for Biodiversity. In addition to this strategy, which is the final document of the processes, within the framework of the SAP BIO Project, a series of national and regional reports is being prepared.
The present document is part of this series.

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