

United Nations Environment Programme  
Mediterranean Action Plan  
Regional Activity Center for Specially Protected Areas



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# 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



SEO/BirdLife



MEDMARAVIS



Generalitat  
de Catalunya



October 2006

United Nations Environment Programme  
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## FOREWORD

The Mediterranean is the home of several hundred bird species, some of which occur exclusively in this climatic zone. In 1995 the Parties to the Barcelona Convention adopted a new Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean. The Annex II of this new protocol lists endangered or threatened species found in this region, including 15 marine and coastal bird species. An Action Plan for the Conservation of these bird species was elaborated and adopted in 2003.

The action plan has the overall objective of maintaining or restoring the population levels of these species to a favourable conservation status, and of ensuring their long-term conservation, to achieve this objective, the Action Plan introduces practical conservation measures in the field together with administrative, legislative, scientific and educational measures, while urging for coordination and cooperation amongst Mediterranean states and international organisations in this endeavour.

The First Symposium on the Mediterranean Action Plan for the conservation of marine and coastal birds is the starting point for better knowledge of the fifteen species. Therefore, a large part of the present Proceedings focuses on the presentation of basic information on these bird species, and of the conservation actions undertaken at national and regional levels for their conservation.

RAC/SPA Director

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# FIRST SYMPOSIUM ON THE MEDITERRANEAN ACTION PLAN FOR THE CONSERVATION OF MARINE AND COASTAL BIRDS

Vilanova i la Geltrú, Barcelona, 17-19 November 2005

## PROGRAMME

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**thursday 17 november 2005**

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WELCOMING

### 0. INTRODUCTION

- 0.1.** "The action plan for the conservation of birds listed in Annex II of the SPA/BD Protocol". Lobna Ben Nakhla
- 0.2.** "Objectives of the Symposium". Lobna Ben Nakhla
- 0.3.** "The roles of RAC/SPA, SEO/BirdLife and MedMarAvis".  
Lobna Ben Nakhla, Carles Carboneras, Xaver Monbailliu

### 1. WORKING SESSION 1: STATE OF KNOWLEDGE AND IDENTIFICATION OF GAPS

Chair: Joe Sultana

- 1.1.** Introduction. Joe Sultana
- 1.2.** "Identifying weaknesses and strengths on the knowledge of the Mediterranean seabird avifauna: implications for its conservation" Alejandro Martínez Abrain
- 1.3.** Presentation of species:
  - 1.3.1.** *Calonectris diomedea*. Joe Sultana & John J. Borg
  - 1.3.2.** *Hydrobates pelagicus*. Joe Sultana & John J. Borg
  - 1.3.3.** *Puffinus yelkouan*. Joe Sultana & John J. Borg
  - 1.3.4.** *Puffinus mauretanicus*. Miguel McMinn
  - 1.3.5.** *Falco eleonora*. Danae Portolou
  - 1.3.6.** *Phalacrocorax aristotelis*. Jean Michel Culioli
  - 1.3.7.** *Sterna sandvicensis*. Nicola Baccetti
  - 1.3.8.** *Sterna albifrons*. Monica Calado
  - 1.3.9.** *Sterna bengalensis*. Hichem Azafzaf
  - 1.3.10.** *Numenius tenuirostris*. Xaver Monbailliu
  - 1.3.11.** *Larus audouinii*. Joan Mayol

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**FRIDAY 18 NOVEMBER 2005**

### 2. WORKING SESSION 2: ACTION PLANS AND RELATED INFORMATION

Chair: Nicola Baccetti

- 2.1.** Introduction. Nicola Baccetti

**2.2.** "BirdLife Action Plans". Carlota Viada

**2.3.** By-country presentation of action plans and other relevant information:

2.3.1. France. Jean Michel Culioli & Pierre Yésou

2.3.2. Malta. Joe Sultana & John J. Borg

2.3.3. Slovenia. Al Vrezec

2.3.4. Bosnia Herzegovina. Dražen Kotrošan

2.3.5. Croatia. Luka Jurinovic

2.3.6. Montenegro. Darko Saveljic

2.3.7. Albania. Klodian Aliu

2.3.8. Greece. Danae Portolou

2.3.9. Turkey. Ortaç Onmus

2.3.10. Lebanon. Ghassan Ramadan-Jaradi

2.3.11. Israel. Zev Labinger

2.3.12. Libya. Abdulmaula Hamza

2.3.13. Tunisia. Hichem Azafaf

### **3. WORKING SESSION 3: IMPORTANT BIRD AREAS AT SEA**

Chair: Carles Carboneras

3.1. Introduction. Carles Carboneras

3.2. "Preliminary results of SEO/BirdLife's LIFE project on marine IBAs".  
Carles Carboneras & Susana Requena

3.3. Open debate: analysis of the existence and necessity for similar projects  
in the Mediterranean

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## **SATURDAY 19 NOVEMBER 2005**

### **4. WORKING SESSION 4: THE MEDITERRANEAN SEABIRD MONITORING NETWORK**

Chair: John J. Borg

4.1. Introduction. John J. Borg

4.2. "Presentation of the results of the monitoring questionnaire". Nacho Aransay

4.3. "Presentation of RAC/SPA's Standard Data Entry Forms". Lobna Ben Nakhla

4.4. Open debate: towards a Mediterranean Monitoring Network

### **5. WORKING SESSION 5: EXPANDING THE SCOPE**

Chair: Xaver Monbailliu

5.1. Introduction. Xaver Monbailliu

5.2. "The migration of seabirds beyond the Mediterranean". Pierre Yésou

5.3. Open debate: the need for extra-Mediterranean international cooperation

5.4. "The MedMarAvis's proposition for new inclusions  
in the Annex II of the SPA/BD Protocol". Xaver Monbailliu

5.5. Open debate about the proposal

### **6. OPEN PLENARY SESSION**

### **7. CONCLUSIONS AND RECOMMENDATIONS**

### **8. CLOSURE**



# REPORT ON THE FIRST SYMPOSIUM ON THE MEDITERRANEAN ACTION PLAN FOR THE CONSERVATION OF MARINE AND COASTAL BIRDS

## BACKGROUND

The Action Plan for the Conservation of Bird Species listed in Annex II of the Specially Protected Areas and Biological Diversity Protocol was approved at the XIII Conference of Contracting Parties to the Barcelona Convention at Catania, Sicily, in November 2003. It devotes particular attention to fifteen threatened Mediterranean bird species, some of which are seabirds or water birds nesting on Mediterranean islands and coasts, while others are species wintering in the Mediterranean.

The First Symposium on the Mediterranean Action Plan for the conservation of marine and coastal birds represents the first action advocated by the "MAP Bird Action Plan", being indeed the starting-point for better knowledge and conservation of the fifteen species listed in Annex II of the SPA/BD Protocol.

## OBJECTIVES OF THE SYMPOSIUM

The overall objective of the Symposium was to enhance the implementation of this Action Plan, analysing its present situation and planning future steps, and more precisely to:

1. Foster the accomplishment of the objectives of the plan:
  - 1.1 To share knowledge and expertise between Mediterranean countries.
  - 1.2 To co-ordinate efforts among Mediterranean countries and other relevant initiatives and agreements, so as to ensure the implementation of these activities
  - 1.3 To encourage a synergetic approach among Mediterranean countries in the protection of these bird species and their habitats
  - 1.4 To encourage research to fill the many gaps 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
2. Accomplish the first task scheduled in the timetable of the Action Plan
3. Propagate the Action Plan among the scientific and conservation community in the Mediterranean and enhance their cooperation on this purpose
4. Update the knowledge of the status of these species in the Mediterranean marine and coastal regions
5. Harmonize the Mediterranean Action Plans with other similar conservation tools in force in the Mediterranean Region
6. Set the basis for an efficient regional monitoring network for these species.

## ORGANIZERS

RAC/SPA entrusted the organisation of the symposium to SEO/BirdLife, counting as well on the collaboration of MedMarAvis on scientific issues. It was held on November 17-19, 2005, at the ancient mansion of Molí del Mar, at Vilanova i la Geltrú, Barcelona (Spain). The venue was kindly provided by the municipality of Vilanova i la Geltrú, and the Regional Government of Catalonia (Generalitat de Catalunya) also collaborated in the implementation of the meeting.

The Symposium was attended by 31 ornithologists and conservation experts of 16 Mediterranean countries (Albania, Croatia, Cyprus, France, Greece, Israel, Italy, Lebanon, Libya, Malta, Montenegro, Slovenia, Spain, Syria, Tunisia and Turkey).

The proceedings of the First Mediterranean Symposium on the Action Plan for the conservation of marine and coastal birds have been compiled by SEO/BirdLife on behalf of UNEP-MAP-RAC/SPA.

### **United Nations Environmental Programme - Mediterranean Action Plan The Regional Activity Centre for Specially Protected Areas**

The Regional Activity Centre for Specially Protected Areas (UNEP-MAP-RAC/SPA) was established in 1985 by the Contracting Parties to the Barcelona Convention<sup>(1)</sup> with the aim of assisting and helping the Mediterranean countries in the implementation of the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean (*SPA/BD protocol*) and its related action plans. RAC/SPA is based in Tunis as part of a host agreement signed in 1991 between Tunisia and the UNEP, and it has currently a staff of 11 professionals.

In compliance with the SPA/BD Protocol, RAC/SPA is responsible for carrying out the functions entrusted to it by the Parties, as well as the following functions:

- Helping the Parties, in cooperation with the competent international organisations, IGOs and NGOs, to set up and manage Specially Protected Areas, to successfully complete scientific and technical research programmes and the exchange of such information between the Parties, and to prepare educational material designed for various publics.
- Making recommendations concerning guidelines and common criteria and preparing reports and technical studies that may be necessary for implementing the SPA/BD Protocol.
- Establishing and updating databases on Specially Protected Areas, protected species and other subjects that come under the SPA/BD Protocol.
- Elaborating and implementing training programmes.
- Successfully carrying out the functions entrusted to it by the Actions Plans adopted as part of the SPA/BD Protocol.

(1) The "Barcelona Convention" is the *Convention for the protection of the marine environment and the coastal region of the Mediterranean*.

## **SEO/BirdLife (Sociedad Española de Ornitología)**

SEO/BirdLife works for the conservation of birds and nature since 1954. It is the oldest environmental NGO in Spain and the most important in its area at the moment. More than 9,000 members support its work and contribute to it in many different ways. SEO/BirdLife is a partner of BirdLife International, a worldwide federation of environmental associations.

Over 70 professionals work for SEO/BirdLife at several delegations spread through most of Spain (Catalonia, Valencia, Aragon, Andalucía, Cantabria, the Canaries, Madrid), and at conservation offices in Doñana, Extremadura and the Ebro Delta. SEO/BirdLife also comprises a net of 29 local groups, plus four working groups of specialized scientists dealing with specific aspects of bird conservation (these are: the Rarities Committee, the Bird Migration Centre, the Iberian Seabird Group, and the Exotic Birds Group).

SEO/BirdLife believes that the conservation of birds and its habitats requires both the amateur's effort and the scientist's rigour. In consequence, it seeks to involve the maximum number of people in its struggle, while at the same time developing research projects in order to assess the conservation status of bird species in Spain. It also gives great importance to the cooperation with public environmental institutions, and urges them to work more efficiently when necessary.

SEO/BirdLife's strategy is based in the protection of sites with the purpose of protecting globally threatened species, together with the preservation of important areas for the conservation of birds. Additionally it promotes viable alternatives of action, founded on thorough economical analysis, that guarantee the socio-economic cost-effectiveness of certain forms of management (in agricultural, livestock farming, forestry, and tourist sectors). This, in turn, helps to preserve land uses that ensure the conservation of birds (and therefore of biodiversity in the long run).

SEO/BirdLife is leading a very relevant role in BirdLife International's Global Seabird Programme, in particular in the extension of the Important Bird Areas Programme to truly marine sites.

## **MedMarAvis (The Mediterranean Marine Bird Association)**

MedMarAvis is a non profit scientific association created in 1984 that deals with research and conservation of coastal ecosystems in the Mediterranean. It has a network of more than 500 marine biologists, ornithologists and conservationists; organises a major conference every 3 years and publishes a quarterly Newsletter sent free to all networkers. The aim of MedMarAvis is the study and conservation of Mediterranean avifauna. It propagates the importance of the role of seabird in the ecosystem.

<b>Organising committee:</b>	Nacho Aransay	(SEO/BirdLife)
	Lobna Ben Nakhla	(RAC/SPA)
	Ana Iñigo	(SEO/BirdLife)
	Susana Requena	(SEO/BirdLife)
<b>Scientific committee:</b>	Nacho Aransay	(SEO/BirdLife)
	Carles Carboneras	(SEO/BirdLife)
	Xaver Monbailliu	(MedMarAvis)
	Joe Sultana	(MedMarAvis)

## PROGRESS OF WORK

The Symposium started with an opening session, with speeches of welcome to the participants and explanations of the role of their respective organisations made by Mr. Aransay and Mr. Carboneras (SEO/BirdLife), Miss Ben Nakhla (RAC/SPA) and Mr. Monbailliu (MedMarAvis).

During this session, Miss L. Ben Nakhla presented the "Mediterranean Action Plan for the Conservation of marine and coastal birds" and the objectives of the Symposium. In turn, Mr. Aransay presented the programme of the Symposium.

This programme was organised around five sessions which dealt with the following issues:

- *State of knowledge and identification of gaps*
- *Action Plans and related information*
- *Important Bird Areas at sea*
- *The Mediterranean seabird monitoring network*
- *Expanding the scope*

The two first sessions were in form of oral presentations of the information of each participating country, while the three last consisted of a series of lectures and open debates on the topics presented. In addition, four introductory lectures were presented by Mr. Martínez-Abraín, Miss Viada, Mr. Carboneras & Miss Requena, and Mr. Yésou, Mr. Monbailliu, on behalf of MedMarAvis, presented a complementary list of bird species that should ideally be added to the Annex 2 of the Barcelona Convention, a list that was extendedly debated among all participants. The Symposium finalized with an open plenary session and the presentation of the recommendations.

## RECOMMENDATIONS

**1.** Considering that many knowledge gaps persist on the ecology of birds listed in Annex II of the SPA/BD Protocol, the participants propose to the UNEP-MAP-RAC/SPA to implement the following in synergy with other ongoing ornithological programmes and initiatives:

- \* To establish a network of institutions, NGO's and concerned individuals with a scientific knowledge of the species in the Action Plan.
- \* To organize specific workshops in order to set up standardized methods for breeding and wintering census surveys and monitoring programmes.
- \* To set up a Pan-Mediterranean Ornithological Observatory and an Ornithological Mediterranean Database (including complete published and unpublished literature and reports dealing with these species and RAC/SPA's Standard Data-Entry Forms).
- \* To organize regular symposia on the "Mediterranean Action Plan for the conservation of sea and coastal birds" every two years.

**2.** Considering that some coastal bird species threatened in the Mediterranean are omitted in Annex II of the SPA/BD Protocol, the participants urge UNEP-MAP-RAC/SPA to submit to the meeting of National Focal Points a complementary list of 7-10 species (to be determined after further consultations) of marine and coastal birds species in need of protection in the Mediterranean. These species are the following:

- Balearic Shearwater *Puffinus mauretanicus*
- Gull-billed Tern *Sterna nilotica*
- Caspian Tern *Sterna caspia*
- Slender-billed Gull *Larus genei*
- Armenian Gull *Larus armenicus*
- Mediterranean Gull *Larus melanocephalus*
- Kentish Plover *Charadrius alexandrinus*

The need for including the following three species needs to be explored:

- Pied Kingfisher *Ceryle rudis*
- White-throated Kingfisher *Halcyon smyrnensis*
- Greater Sand-Plover *Charadrius leschenaultii*

**3.** Realizing that most bird species listed under Annex of the SPA/BD Protocol migrate out of the Mediterranean Region during part of their annual cycle, the participants of the Symposium propose to National Focal Points, scientists and NGO's to contemplate in all national and international action plans cooperation efforts with the Non-Mediterranean countries visited by these species.

**4.** Considering that within this Action Plan there are a numbers of actions that fall under the direct responsibility of the Contracting Parties, the participants recommend UNEP-MAP-RAC/SPA to urge the Contracting Parties to fulfil their obligations related to:

- \* Launching procedures for the legal protection of species.
- \* Establishing research programmes to fill gaps in knowledge of threatened species.
- \* Establishing National Action Plans for the conservation of endangered and threatened bird species in the Mediterranean.
- \* Legally establishing protected areas with adequate management plans.
- \* Identifying Important Bird Areas at Sea.
- \* Mapping of breeding, feeding, moulting and wintering areas of pelagic species.

**5.** The participants:

- Recognising the importance of having information flows for birds and other taxa in our region,
- Recalling the goals and objectives of this Action Plan and of the SPA/BD Protocol,
- Noting the importance of compiling information by all stakeholders on sites of conservation interest,
- Welcoming the adoption of Standard Data-Entry Forms by the Conference of the Parties,

Invite UNEP-MAP-RAC/SPA to consider the following:

- \* To concentrate its efforts for the next biennium on fostering application of Standard Data-Entry Forms, in particular in Southern and Eastern Mediterranean and Adriatic Sea Countries.
- \* To enhance the engaging of NGO's as Action Plan Partners and so contribute more

effectively in providing UNEP-MAP-RAC/SPA with more information on natural sites of conservation interest.

\* To find a mechanism to ensure the exchange of the information collected in Standard Data-Entry Forms between NGO's in each Party and the National Focal Points.

## **THANKS**

The participants, SEO/BirdLife and MedMarAvis wish to express their gratefulness to UNEP-MAP-RAC/SPA for undertaking this Symposium and for giving us the opportunity to participate in it.

The RAC/SPA will like to thank all the participants at this Symposium, the Organising Committee and the Scientific Committee for their fruitful collaboration, SEO/BirdLife and MedMarAvis, and also thanks the municipality of Vilanova i la Geltrú, and the Regional Government of Catalonia for its support (the Departament de Medi Ambient i Habitatge of the Government of Catalonia partially funded this event) for its support.

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Mediterranean Action Plan  
Regional Activity Centre for Specially Protected Areas

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# **KEY-NOTE ADDRESSES**

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# THE MEDITERRANEAN “ACTION PLAN FOR BIRDS”

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## ABSTRACT

The UNEP Mediterranean Action Plan (MAP) brings together 21 countries round the Mediterranean, operating within the framework of the Barcelona Convention for the Protection of the marine environment and the coastal region of the Mediterranean. The Contracting Parties adopted in 1995 a “Protocol concerning Specially Protected Areas (SPAs) and Biological Diversity in the Mediterranean” which includes in its Annex II a “List of Endangered or Threatened Species”, with fifteen species of birds on it. In the thirteenth Conference of the Parties (November 2003), the Action Plan for the conservation of these species was adopted, following similar plans for monk seal, marine turtles, cetaceans and marine vegetation. The Action Plan for Birds notes initiatives taken by bodies such as BirdLife International and its partners in Mediterranean countries, WWF, IUCN, Medmaravis and Tour du Valat, which contributed to the development of the text.

**KEYWORDS:** Barcelona convention, Action plan, threatened bird species

The main purpose of the Mediterranean Action Plan for the conservation of marine and coastal birds is to maintain and/or restore the population levels of bird species to a favourable conservation status and to ensure their long-term conservation.

The fifteen species concerned by the Action Plan include a variety of birds of differing status, some globally endangered, some whose breeding area is concentrated on rocky Mediterranean islands, some found mostly in beaches and coastal lagoons, as follows: Cory’s Shearwater *Calonectris diomedea*, Yelkouan Shearwater *Puffinus yelkouan* (note that it includes the Balearic Shearwater *P. mauretanicus*), European Storm-petrel *Hydrobates pelagicus*, Mediterranean Shag *Phalacrocorax aristotelis*, Pygmy Cormorant *Phalacrocorax pygmeus*, White Pelican *Pelecanus onocrotalus*, Dalmatian Pelican *Pelecanus crispus*, Greater Flamingo *Phoenicopterus ruber*, Osprey *Pandion haliaetus*, Eleonora’s Falcon *Falco eleonora*, Slender-billed Curlew *Numenius tenuirostris*, Audouin’s Gull *Larus audouinii*, Lesser Crested Tern *Sterna bengalensis*, Sandwich Tern *Sterna sandvicensis*, and Little Tern *Sterna albifrons*. The geographical scope of the plan is the countries with a Mediterranean coastline, excluding the parts of these countries which are not of a Mediterranean bio-climate.

The action plans elaborated within the SPAs/BD protocol identify and lay out priorities and



activities that need to be undertaken to attain their specific objectives. They also urge and encourage coordination and cooperation amongst Mediterranean states to work towards the achievement of conservation of a species or a group of species within this region.

The action plan proposes practical conservation measures in the field, but also administrative, legislative and scientific measures. These measures recommend a numbers of actions related to the following issues:

- identification of important areas for bird species,
- development or implementation of appropriate legislation for the threatened species and their relevant habitats,
- filling the gaps in knowledge of coastal and pelagic birds and their habitats,
- public awareness and education programmes and campaigns highlighting the vulnerability of threatened species.
- Elaboration and/or implementation of national action plans

The implementation of the identified actions follows a strategic approach through three levels of priority focused on (1) the species, (2) national, and (3) regional levels of management efforts.

The actions advocated by the action plan are to be carried out over a three year period, by the Regional Activity Centre for the Specially Protected Areas, in collaboration with the Contracting Parties to the Barcelona Convention. However, all interested international or national organisations are invited to participate in the implementation of these actions, for what they may be granted the title of "Action Plan Partner" by the Contracting Parties.

Among the main functions of the regional coordination structure (RAC/SPA) are:

- Promoting cooperation among Contracting Parties,
- Promoting the development of a regional network for monitoring populations and distribution of threatened Mediterranean bird species, in coordination with other organisations, and
- Providing detailed guidelines to assist countries in their effort to afford adequate legislative protection to endangered species.

At the end of the execution period, RAC/SPA will prepare a report on progress made so far in implementing the advocated actions and will submit it to the National Focal Points for SPAs, who will make follow-up suggestions to the Parties.

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## REFERENCES

UNEP-MAP-RAC/SPA (2003) - Action Plan for the conservation of bird species listed in annex II of the Protocol concerning specially protected areas and biological diversity in the Mediterranean.

# IDENTIFYING WEAKNESSES AND STRENGTHS ON THE KNOWLEDGE OF THE MEDITERRANEAN MARINE AVIFAUNA

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## ABSTRACT

The main aims of this study included (a) finding out what research topics regarding the Mediterranean marine avifauna have been most commonly approached by researchers and what topics need further effort, (b) identifying what species are better known and what are poorly known, from an applied (conservation) perspective, (c) finding out what features make a species a well-known or a poorly-known species and (d) suggest main priorities for a future conservation-based research on Mediterranean seabirds.

**KEYWORDS:** Mediterranean, seabirds, knowledge status, literature review, hierarchical index.

We performed a literature search on 19 Mediterranean seabird species, including all 16 species listed in Annex II of the BCN convention, and classified studies recorded in 11 major topics for each species. Based on this information we developed a hierarchical index of scientific knowledge by assigning different weights to topics (topics more directly related to conservation scored double than less related topics). Finally we modelled the determinants of species knowledge (index score), considering as possible explanatory variables taxonomy, breeding habitat, abundance, status, latitude and longitude.

A large proportion of studies dealt just with the local status and trends of seabird species and only a low proportion of studies dealt with population dynamics. Only a small group of species (4/19) turned out to be relatively well known (Audouin's gull *Larus audouinii*, Flamingo *Phoenicopterus ruber roseus*, Balearic shearwater *Puffinus mauretanicus* and Little tern *Sterna albifrons*) from a conservation perspective.

Only longitude (East/West) had a statistically significant effect on the variability of index scores. Seabirds from the western basin are seemingly better known than those from the Eastern basin or alternatively that a larger number of scientific publications is available for western seabirds.

Our major recommendations to improve the knowledge of Mediterranean seabirds include the following points: (1) research on eastern Mediterranean countries should be promoted (often through international funding e.g. with the excuse of implementing action plans).

As a collective enterprise an atlas of Mediterranean seabirds could be developed in the future; (2) the study of seabird population dynamics should be enhanced throughout the Mediterranean by means of *ad hoc* marking programs as a fundamental conservation tool because information on metapopulation dynamics (dispersal among patches with differential quality, ecological traps, buffer effects on populations, etc.) is essential; (3) research on sources of mortality should have priority (introduction of alien predators, long-line by-catch, culling of specialists, climatic effects); (4) the application of future EU fishing policies should be closely monitored as big changes will likely come associated and (5) effort should be devoted to improving our ability to monitor the trends of Procellariiformes, as this group remains rather obscure and too dependent on sampling effort annually.

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# EUROPEAN SPECIES ACTION PLANS FOR BIRDS: A STRATEGIC FRAMEWORK FOR SPECIES RECOVERY

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## ABSTRACT

As part of the Threatened Species Programme of BirdLife International, the Species Action Plans (SAPs) for most threatened birds in Europe aim to halt their decline and to restore their populations. Although these plans are not legally binding, the fact that BirdLife seeks as much as supporters and endorsements as possible amongst key stakeholders ensures the implementation of the concerted measures proposed by the SAPs. 53 SAPs have been elaborated, seven of them for species listed in the Barcelona Convention. A framework of the SAPs Programme is established by BirdLife to promote their implementation. At the moment, two reviews on the implementation level of SAPs have been carried out (2001 and 2004).

**KEYWORDS:** Birds, species, conservation, plans, Europe.

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The Species Action Plans (SAPs) are a part of BirdLife International's Threatened Species Programme for bird conservation at European level, aiming to halt the decline and restore the populations of Europe's most endangered bird species. Although they are not legally binding, SAPs are useful tools to set conservation priorities and to define actions.

## Setting priorities

The main documents for identifying priority species are the lists of threatened birds at global and European level. The Threatened Birds of the World (BirdLife International, 2004) concluded that from 9,917 birds assessed, 12% qualify under IUCN criteria. In Europe, Birds in Europe (Tucker & Heath, 1994) stated that from 511 species assessed 38% had an Unfavourable Status. But ten years later the status of Europe avifauna is worse: from 524 species 43% have an Unfavourable Status (BirdLife International, 2004b).

## Planning actions

Since 1994 BirdLife International promotes the elaboration of SAPs for the most threatened species in Europe. The aim is to stimulate concerted actions towards their recovery through involving key stakeholders, summarizing knowledge and identifying and prioritising conservation measures. 53 SAPs have been elaborated up to now, that can be downloaded at: [www.birdlife.org/action/science/species/species\\_action\\_plans/europe/index.html](http://www.birdlife.org/action/science/species/species_action_plans/europe/index.html).

Seven species listed in the Barcelona Convention have SAP: *Puffinus mauretanicus*, *Phalacrocorax aristotelis desmarestii*, *Phalacrocorax pygmeus*, *Pelecanus crispus*, *Falco eleonora*, *Numenius tenuirostris* and *Larus audouinii*.

The key elements of SAPs are (1) Background information about status, ecology, threats and current conservation measures, (2) Aims, objectives and actions related to policy and legislation, species and habitat protection, monitoring and research and public awareness, and (3) Priority actions for countries, to act as a guide for the preparation of national action plans.

## **Supporters and endorsements**

BirdLife International makes an effort to seek supporters and endorsements to SAPs, to involve them in their implementation: the European Commission (providing economical support, approving SAPs at Ornithological Committee, co-financing actions, promoting monitoring of implementation level of the SAPs), the Bern Convention of the Council of Europe (endorsing the plans, supporting their publication, producing recommendations, creating a 'Group of Experts on Conservation of Birds'), the Bonn Convention and AEWA (endorsing SAPs dealing with migratory species, creating working groups and preparing MoU) and the national Governments, essential to achieve several objectives set out in the SAPs (involved during the compilation and monitoring and also through their representatives on the international treaty committees).

## **Taking actions**

The SAPs require competent authorities to designate sites, to integrate species requirements into sectoral policies and plans, to take legal actions and other species and habitat measures. These plans also set priority for funding, assist the development of project proposals and encourage setting up species working groups to carry out research and conservation measures on the field. To achieve all this, a framework of the SAP Programme is established by BirdLife to promote the implementation of the measures defined in the plans.

The European Division of BirdLife International coordinates the elaboration, the publication and the reviews of the implementation of the SAPs. It also has contacts with relevant conventions and institutions about SAPs. BirdLife partners are responsible for lobbying at a national level for the implementation and promotion of the SAPs. For some species, there are working groups or conservation teams (at international and national levels).

## **Monitoring implementation**

Two reviews on the implementation level of SAPs have been carried out. In 2001 (Gallo-Orsi, 2001), it concluded that significant goals have been achieved, but there is still a lot to do; a common monitoring and updating system has to be developed and that the establishment of networks result in better exchange of experiences making activities more effective.

The second review (Nagy and Crockford, 2004) involved 23 species (within the 25 EU countries).

It was supported by European Commission and lead at national level by BirdLife Partners, with collaboration of other NGOs and involvement of governments. It concluded that the conservation status of the species has generally improved, although six species have worsened. Overall there has been significant progress with plan implementation, the most advanced are *Pterodroma madeira*, *Numenius tenuirostris* and *Pelecanus crispus*. For most species, new targets for the Action Plan need to be set.

## Lessons learnt

The major achievements at the moment are that SAPs have highlighted the importance of the most threatened bird species in Europe, several working groups have been created, more funding has been raised and we have also improved the knowledge and the conservation status of most of the focus species. On the other hand, the weaknesses of the programme that have been identified are that there are difficulties with the monitoring methodology, there is a need for an up-date of the information on much of the SAPs, more working groups/leaders are needed and, finally, that there is an unequal implementation of the plans in different countries.

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# IMPORTANT BIRD AREAS AT SEA (MARINE IBAs) – WHERE WE ARE & NEXT STEPS

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## ABSTRACT

BirdLife International, through its Global Seabird Programme, is promoting the extension of its IBA programme to include truly marine sites. To achieve this, it is developing objective, scientifically-sound criteria and several of its partners are undertaking specific projects at the national level. 4 types of marine IBAs are recognised: a) seaward extensions of breeding colonies; b) coastal concentrations of non-breeding species; c) migration bottlenecks, and d) non-contiguous foraging areas. The suggested approach is somewhat predictive and is based on the area, as defined by its habitat (oceanographic) characteristics. Bird data are required to judge its value as an IBA. In the next step, threats to the IBA are identified and legal protection status is sought (in the European Union, this implies its listing as Special Protection Area under the Birds Directive). A management plan will be required for each area.

**KEYWORDS:** IBA, marine, protection, area, BirdLife

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The Important Bird Area (IBA) programme of BirdLife International was initiated in the 1980s and has successfully identified and listed over 7500 sites worldwide. Listing of a site as an IBA and subsequent lobbying work by national partners has secured effective legal protection for many of those sites, thus providing a network of key areas that birds use during the different parts of their life cycle. The conditions for this are particularly favourable in the context of the European Union, where the Birds Directive calls for the protection as Special Protection Areas of the key sites for the conservation of the species listed in its Annex I. These should include not only the breeding sites but also the foraging areas, wintering haunts and migration stopovers.

Virtually no truly marine sites are listed in any of the current IBA inventories, so BirdLife International included this task in the work of its Global Seabird Programme. The starting point was to agree on a set of criteria which any potential areas would be screened against. IBA criteria need to be objective and standardised, quantitative and scientifically defensible. There is no preconception on maximum or minimum size of marine IBAs: like all IBAs, they should be of the adequate size to support self-sustaining populations (often in conjunction with other sites, forming a network).

4 types of marine IBAs are currently recognised (BirdLife International 2004, 2006):

- a)** Seaward extensions of [IBAs identified for seabird] breeding colonies. These can now be defined with reasonable confidence, providing that appropriate data for the species involved (or for similar species) are available. Extensions are drawn based on species-specific radii around the breeding colony in order to include foraging areas. 5-, 15- and 40-km radii have already been formulated for most species nesting in Europe and in the Mediterranean.
- b)** Coastal concentrations of non-breeding [waterbird] species is a marine IBA category more appropriate for northern latitudes where seaduck, grebes, loons and other birds form large concentrations on marine waters. Their relative importance can be evaluated through linear or transect censusing methods (ship-based or aerial), as a considerable amount of data are required.
- c)** Migration bottlenecks. Very few sites worldwide will probably qualify under this criterion but the Straits of Gibraltar - the main gateway for seabirds moving between the Mediterranean Sea and the Atlantic Ocean - undoubtedly has key importance for the conservation of many threatened and near-threatened seabird species (e.g., *Puffinus mauretanicus*, *Larus audouinii*, *Calonectris diomedea diomedea*, etc.).
- d)** Non-contiguous foraging areas; those that may be separated from the breeding colonies by hundreds or even thousands of kilometres of non- particularly rich habitat. This category offers the biggest challenge and may still need considerable work. It is based on a good knowledge (or, when possible, modelling) of the habitat so that its limits can be inferred. Several projects currently run by BirdLife International national partners (notably in Spain and Portugal, and possibly in Malta in the future) will provide the first experiences in our latitudes.

A systematic approach would thus start with gathering data on local knowledge of the area and its oceanographic characteristics, so that it can be defined with enough level of precision. Areas with a potential to qualify as IBAs can be initially identified at this stage, since Important Bird Areas often coincide with 'Key Biodiversity Areas' (KBAs): areas of known value in terms of marine biodiversity (marine mammals, turtles, sharks, invertebrates). Bird data need to be collected systematically (through censuses, telemetry or other methods) and used to compare the value of each given area against other areas and against a theoretical site consisting of plain, standard habitat. Only the areas with outstanding bird densities will qualify as IBAs. To identify these, the current (i.e., terrestrial) IBA numerical criteria can equally be used in the marine environment, although some adjustments may be needed in a few cases.

Once an IBA has been identified and enough is known of its ornithological value, conservation interest should be directed towards identifying the facts and processes that might pose as threat to the ecosystem and its bird components. A comprehensive list of threats should be drawn, and complemented with proposals to prevent or counteract them. This will form the basis of the management plan, an essential tool for the role of every site as a contribution to global biodiversity conservation.



IBA is not a synonym of protected area but of an area worthy of some legal protection because of its outstanding natural values. Therefore, all IBAs should be afforded an adequate legal status that will guarantee the preservation of its qualities and of the essential biological processes. The Birds Directive provides a particularly useful tool in the context of the European Union, since it calls for the designation as Special Protection Areas (SPAs) of all key sites for the conservation of all species listed in its Annex I. Except for the commonest gulls, this includes all seabirds nesting and occurring in Europe regularly.

SPAMIs, under the Barcelona Convention, and national legislation also provide a useful tool for the long-term conservation of marine IBAs. These opportunities should be explored and practical examples should be put into practice before long. Experience has shown that effective site conservation for bird purposes can contribute significantly to the conservation of many other taxa and of the habitat on which they all depend.

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# THE STANDARD DATA - ENTRY FORM (SDF) FOR NATIONAL INVENTORIES OF NATURAL SITES OF CONSERVATION INTEREST

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## ABSTRACT

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, contain provisions for the preparation of inventories at national as well as regional level, according to common criteria. In this context, 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. During that Meeting, the Regional Activity Centre for Specially Protected Areas (RAC/SPA) was invited to work on elaborating these tools, including a Standard Data Form (SDF) to compile information concerning the sites included in the national inventories of sites of conservation interest.

**KEYWORDS:** Barcelona Convention, national inventory, SDF

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Following the elaboration a reference list of types of habitat and a reference list of species for selecting the sites to be included in the national inventories, a draft Standard Data Form was elaborated and adopted at the Eleventh Ordinary Meeting of the Contracting Parties (Malta, 27-30 October 1999). The Standard Data Form for the national inventories of natural sites of conservation interest was finalized in March 2000 in Rome at a Meeting of Experts. The Standard Data-Entry Form (SDF) is conceived as an operational tool made available to the relevant national authorities for the implementation of this provision. 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).

From a technical point of view, the SDF is an adaptation to the specificity of the Mediterranean of the SDFs developed within the NATURA 2000 and EMERALD networks of sites, in the process of being established within the European Union (Council Directives 79/409/EEC and 92/43/EEC) and the Council of Europe (Resolution No. 3 (1996) of the Standing Committee of the Bern Convention) respectively.

This is made with the main objective of ensuring the fullest compatibility possible and thus facilitate the flow of data and information with the database systems established under those initiatives.

In conformity with the general objectives of the inventories, the present Form is conceived with the main objectives of:

- assisting decision making concerning the management and, where appropriate, the protection of the described sites;
- providing a tool for the long-term monitoring of the sites.

The form is being designed with a view to paper records and computerized entry and transfer of data.

In conformity with the general principles for the preparation of inventories of the elements of biological diversity in the Mediterranean region (doc. UNEP(OCA)/MED IG.11/10, Annex IV, Appendix IV), which provide that «*To conveniently meet conservation purposes, the inventories shall:*

- *be regularly updated;*
- *contain for each listed element the information useful for its conservation and monitoring.*»,

the SDF requests for each site to be inventoried a detailed and sometimes complex information, notably concerning the habitats and species of interest present on the site. In particular, the assessment of the importance of the site for a given habitat or species on the basis of the adopted criteria requires by the compiler(s) a good knowledge of the concerned habitat/species characteristics, as well as of its status inside and outside the site. It is clear that it would be difficult for a single person to conveniently fill in the Form. The filling in of a SDF is to be better regarded as the work of a team, even where a single responsible person was identified to carry out the task.

A second aspect concerns the actual availability, for a given site, of the information necessary to fill the form in all its parties. This concern seems to be valid in particular for the sections of the SDF relevant to the assessment of the importance of the site for the habitats and the species included in the reference lists. There is no doubt that, for a number of these habitats and species, and notably for the marine ones, the information currently available would not allow a sufficiently reliable assessment on the basis of the adopted criteria. The lack of information and the difficulties in evaluating criteria are likely to delay the filling in of fields such as representativity and relative surface of a given habitat type or population size (density) of species and the degree of conservation of different habitat types. In such cases, it would seem preferable not to fill in the sections for which information turned out to be insufficient and what would constitute at the level of the Form an indication of gaps in information. In order not to delay the elaboration of inventories and considering that periodical updating is expected, the complete filling in of the Form is not obligatory. However, due to the importance of the above information for the conservation of habitats and species, studies and research should be undertaken in order to collect the due data as soon as possible.

In compiling the inventories priority should be given to the most threatened sites in order to ensure their efficient management.

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# RARE COASTAL BIRD SPECIES THREATENED IN THE MEDITERRANEAN REGION COMPLEMENTARY TO ANNEX 2 OF THE PROTOCOL CONCERNING SPECIALLY PROTECTED AREAS AND BIOLOGICAL DIVERSITY IN THE MEDITERRANEAN

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## ABSTRACT

A complementary list of 10 rare marine or coastal bird species is proposed to be added to the Annex 2 of the "Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean" (Barcelona Convention). These 10 bird species have been selected on the following criteria: degree of littorality, importance of the breeding and/or wintering populations in the Mediterranean, endemic specificity and population status. This additional list has been approved unanimously by the participants at the Villanova y Geltru symposium (2005) and has been presented for ratification to the RAC-SPA Secretariat of the Mediterranean Action Plan.

**KEYWORDS:** marine and coastal birds, protection, Barcelona Convention

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## Introduction

At the meeting of experts organized in 1995 at Montpellier (France) by RAC-SPA (Regional Activity Centre for Specially Protected Areas), various infralittoral biota as well as 15 marine bird species were proposed to become protected in the framework of the Barcelona Convention. These 15 bird species, listed currently in Annex 2 of the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean, are among the most threatened animal species in the Mediterranean region. Yet, although compiled by general consensus, this list does not reflect the present situation of all endangered coastal bird species in the Mediterranean. Some rare species living in the eastern Mediterranean, such as the Armenian Gull *Larus armenicus*, the Greater Sand Plover *Charadrius leschenaultii* and two rare species of Kingfishers (*Ceryle rudis* and *Halcyon smymensis*) were not included. Others, such as the Slender-billed Gull *Larus genei* and the Gull-billed Tern *Sterna nilotica*, were overlooked. In order to complete the list of endangered birds listed in Annex 2 of the Protocol, MEDMARAVIS contacted various ornithologists throughout the Mediterranean inquiring about the need to compile a complementary list of rare marine or coastal bird species breeding or wintering in the Mediterranean region and needing protection. Consequently, during the Symposium at Villanova y la Geltru, it was suggested to evaluate the eventual inclusion of another 26 rare coastal bird species which spend an essential part of their life cycle in Mediterranean coastal zones.

## Criteria

In order to qualify for inclusion the following scientific criteria have been applied for screening possible candidate species:

### 1. *Degree of Littorality:*

As the Barcelona Convention deals directly with the marine environment and the coastal region of the Mediterranean, it was proposed that, for the time being, all threatened bird species should either be marine or spend an essential part of their life cycle (breeding, wintering, migration) in the coastal zone.

Candidate species were qualified according to the following scale:

- x** within the coastal zone (including freshwater lakes)
- xx** along the coastline (including saltwater lagoons)
- xxx** pelagic: breeding on islets and foraging at sea

### 2. *Importance of populations in the Mediterranean:*

A percentage was calculated for bird populations either breeding or wintering in the Mediterranean region as compared to their total populations in the Western Palearctic. The following scale was used to assess the Mediterranean importance of bird populations:

- x** 15 to 25% of Western Palearctic Population
- xx** 25 to 50% of Western Palearctic population
- xxx** over 50%

### 3. *Endemic Specificity of Mediterranean population:*

Where applicable, bird species are evaluated according to the following three categories:

- GS** Subpopulation Geographically Separated
- END-SUB** Endemic Sub-species population
- END** Endemic Species population

### 4. *Population Status:*

Candidate species were earmarked by a conventional scale of vulnerability according to BirdLife International (2004):

- L** Localized
- V** Vulnerable (high risk of extinction)
- E** Endangered (very high risk of extinction)
- CE** Critically Endangered (extremely high risk of extinction)
- SPEC 1** Species of Global Conservation Concern

## Discussion

Table 1 identifies the conservation status of 26 rare coastal bird species not included in Annex 2 of the Protocol.

Table 1 - Taxa initially considered for the proposal for a list of rare coastal bird species threatened in the Mediterranean region complementary to the list of birds protected by the Barcelona Convention (Annex 2 of the SPA/BD Protocol).

	Littorality		Importance		Specific Mediterranean Subpopulation	Population Status	Proposed Status
	Coastal Breeding Species	Coastal Wintering Species	Breeding Population in Mediterranean	Wintering Population in Mediterranean			
<i>Puffinus mauretanicus</i>	XXX	XXX	XXX	XX	END <sup>(1)</sup>	CE/SPEC	A
<i>Podiceps nigricollis</i>	-	XX	-	XX	-	L	D
<i>Tadorna ferruginea</i>	-	-	XX	XX	-	L	D
<i>Marmaronetta angustirostris</i>	X	X	X	X	G.S. <sup>(2)</sup>	V/SPEC	B
<i>Oxyura leucocephala</i>	X	X	X	XX	G.S. <sup>(3)</sup>	V/SPEC	C
<i>Haliaeetus albicilla</i>	-	-	-	-	G.S.	L/SPEC	D
<i>Fulica cristata</i>	X	X	-	-	G.S. <sup>(2)</sup>	CE	B
<i>Glareola pratincola</i>	X	-	XXX	-	-	L	B
<i>Sterna nilotica</i>	X	-	XXX	-	-	L	B
<i>Sterna caspia</i>	XX	X	-	-	-	L	B
<i>Larus genei</i>	XX	XX	XX	X	-	L	B
<i>Larus armenicus</i>	-	XX	-	XXX	END	L	B
<i>Charadrius leschenaultii</i>	-	XX	XXX	-	ENDSUB <sup>(4)</sup>	E	B
<i>Charadrius alexandrinus</i>	XX	XX	XX	XXX	-	L	C
<i>Vanellus spinosus</i>	-	-	X	X	-	V	D
<i>Ceryle rudis</i>	X	X	?	?	G.S.	CE	C
<i>Halcyon smyrnensis</i>	XX	XX	?	?	G.S. <sup>(5)</sup>	E	B
<i>Melanitta nigra</i> -	XXX	-	-	-	-	D	
<i>Melanitta fusca</i> -	XXX	-	-	-	-	D	
<i>Stercorarius parasiticus</i>	-	XXX	-	-	-	-	D
<i>Catharacta skua</i>	-	-	XXX	-	-	-	D
<i>Larus melanocephalus</i>	XX	XX	X	XX	-	-	C
<i>Larus minutus</i>	-	XX	-	-	-	-	D
<i>Alca torda</i>	-	XXX	-	-	-	-	D
<i>Fratercula artica</i>	-	XXX	-	-	-	-	D
<i>Morus bassanus</i>	-	XXX	-	4%	-	-	D

(1) Formerly regarded as subspecies of *P. yelkouan*

(2) Subpopulation in extreme western Mediterranean

(3) Subpopulation in western Mediterranean and eastern Mediterranean

(4) Subpopulation of race «Columbinus»

(5) Subpopulation in eastern Mediterranean concerning probably a subspecies

Their proposed status with regard to Annex 2 of the SPA/BD Protocol, based on the above criteria, is summarized according to 4 categories:

A = Confirmed inclusion in Annex 2: solely applicable to the Balearic Shearwater *Puffinus mauretanicus*, formerly considered a subspecies of the Mediterranean Shearwater *Puffinus yelkouan* which is listed in Annex 2 of the Protocol

B = Inclusion in Annex 2 needed

C = Inclusion in Annex 2 desired

D = Not of particular importance for coastal habitats in the Mediterranean

Bird species belonging to the latter category are either not specifically coastal in the Mediterranean region (for ex. *Vanellus spinosus* and *Haliaeetus albicilla*) or not specifically Mediterranean as their populations are marginal in the Mediterranean region (it is the case of various Atlantic seabirds wintering in small numbers in the Mediterranean). Accordingly, it was generally accepted during discussions at the symposium of Villanova i la Geltru to exclude birds belonging to the latter category. Thus the principal selection of candidate species relates to birds classified in the B and C categories. Two of them classified in the B category (conservation status needed) were excluded by participants of the Villanova Symposium as it was felt that their preferred habitat in the Mediterranean region corresponds to freshwater lakes not always situated nearby the coast (*Fulica cristata*, *Marmaronetta angustirostris*). For similar reasons *Oxyura leucocephala* (C category) was also excluded. A fourth species, *Glareola pratincola* (B category), an increasingly rare and typical Mediterranean species, didn't qualify as its habitat range includes semi-desert terrain, saline or alkaline steppes and inland dried-out floodlands.

## Results

After having omitted all bird species not of particular importance for coastal habitats in the Mediterranean (category D) as well as the four above mentioned species belonging to the B and C categories, the participants at the Villanova i la Geltru Symposium proposed unanimously to add the following 10 threatened coastal bird species listed in Table 2, to Annex 2 of the Biodiversity Protocol of the Barcelona Convention. At the request of the conference participants, the population status of 3 species breeding mainly in Turkey (*Charadrius leschenaultii*, *Ceryle rudis*, *Halcyon smyrnensis*) has been verified by Turkish expert ornithologists. This additional list was presented for ratification to the secretariat of RAC/SPA.

Table 2 - List of rare coastal bird species proposed to be added to Annex 2 of the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean

Scientific name	English name	French name
<i>Puffinus mauretanicus</i>	Balearic Shearwater	Puffin des Baléares
<i>Sterna nilotica</i>	Gull-billed Tern	Sterne hansel
<i>Sterna caspia</i>	Caspian Tern	Sterne caspienne
<i>Larus genei</i>	Slender-billed Gull	Goéland railleur
<i>Larus armenicus</i>	Armenian Gull	Goéland d'Arménie
<i>Larus melanocephalus</i>	Mediterranean Gull	Mouette mélanocéphale
<i>Charadrius alexandrinus</i>	Kentish Plover	Gravelot à collier interrompu
<i>Charadrius leschenaultii</i>	Greater Sand Plover	Gravelot de Leschenault
<i>Ceryle rudis</i>	Pied Kingfisher	Alcyon Pie
<i>Halcyon smyrnensis</i>	White-breasted Kingfisher	Martin-Pêcheur de Smyrne

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# THE MIGRATION OF SEABIRDS AND COASTAL BIRD SPECIES OUTSIDE THE MEDITERRANEAN BASIN: CO-OPERATION IS NEEDED

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## ABSTRACT

Only two species included in Annex II of the *Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean* stay within the Mediterranean all year round, while 10 species in Annex II are long distance migrants which spend part of their annual cycle as far as the Black Sea, the Atlantic, or South-eastern Africa and Madagascar. All these species are facing threats in the areas where they migrate; furthermore, there are cases where threats outside the Mediterranean are greater than threats faced on Mediterranean breeding grounds. Such a situation implies that the conservation of such migratory species cannot efficiently rely on actions carried out *only* in the Mediterranean. It is thus recommended that International Action Plans are fulfilled for all species listed under Annex II, as to cover both their Mediterranean range and the non-Mediterranean countries visited by Mediterranean populations.

**KEYWORDS:** Seabird, Mediterranean, migration, conservation, co-operation

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The species included in Annex II of the *Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean* include 9 true seabird species and 7 coastal species. According to present knowledge, two of them never leave the Mediterranean Sea: i.e., the endemic subspecies of European Storm-petrel (*Hydrobates pelagicus melitensis*) and Mediterranean Shag (*Phalacrocorax aristotelis desmarestii*). The 7 other seabird species regularly migrate out of the Mediterranean during the non-breeding part of their annual cycle and at least 3 out of the 7 coastal species are long distance migrants for which a significant part of the population spends part of the year outside the Mediterranean (Table 1), visiting areas where they are directly facing lethal threats from human activities and/or degradation of their habitats. The conservation of such migratory species cannot be efficiently founded on actions carried out *only* in the Mediterranean.

Table 1 - Migration status of MAP bird species

Common Name ( <i>Latin Name</i> )	Migration Status <sup>1</sup>	Areas Visited Away From the Mediterranean	Main Threats in these Areas <sup>2</sup>
Cory's Shearwater ( <i>Calonectris diomedea</i> )	+++	Whole Atlantic Ocean	F
Yelkouan Shearwater ( <i>Puffinus yelkouan</i> )	++	Black Sea	F
Balearic Shearwater ( <i>Puffinus mauretanicus</i> )	++	Atlantic from Morocco to Scotland, North Sea	F
Pygmy Cormorant ( <i>Phalacrocorax pygmeus</i> )	(+)	Middle East (continental wetlands)	HD
White Pelican ( <i>Pelecanus onocrotalus</i> )	(++)	Middle East (continental wetlands)	HD
Dalmatian Pelican ( <i>Pelecanus crispus</i> )	(+)	Middle East (continental wetlands)	HD
Greater Flamingo ( <i>Phoenicopterus ruber</i> )	++	Middle East and West Africa (south to Senegambia)	HD
Osprey ( <i>Pandion haliaetus</i> )	(+)	South to Tropical Africa	?
Eleonora's Falcon ( <i>Falco eleonora</i> )	+++	South-Eastern Africa and Madagascar	HD
Slender-billed Curlew ( <i>Numenius tenuirostris</i> )	+++	breeding in ex-USSR may over winter in Africa	HD, H
Audouin's Gull ( <i>Larus audouinii</i> )	+++	Coastal West Africa (south to Senegambia)	F
Lesser Crested Tern ( <i>Sterna bengalensis</i> )	+++	Coastal West Africa (south to Senegambia)	F
Sandwich Tern ( <i>Sterna sandvicensis</i> )	++	Coastal West Africa (south to Gulf of Guinea)	F
Little Tern ( <i>Sterna albibrons</i> )	++	Coastal West Africa (south to Gulf of Guinea)	F

(1) Proportion of the population migrating out off the Mediterranean:

+++ over 90%; ++ 30-90%; + small proportion (brackets: not well known).

(2) F: threats linked to commercial fisheries (accidental catch in nets and longlines; depletion of fish stocks);

HD: degradation of habitats

H: indiscriminate hunting

?: no major threat is identified.

## An example: the Balearic Shearwater

The Balearic Shearwater is considered as Critically Endangered by IUCN due to its very small and decreasing population (2,000-2,400 pairs in 2005; Rodriguez-Molina & McMinn, 2005) limited to the Balearic Islands when breeding. After breeding, most of this population migrates to the Atlantic where it used to disperse in coastal waters from Morocco to Western France. Since the mid 1990's however, the species' non-breeding distribution is extending northward: Balearic Shearwaters are now occurring in significant number around Britain and are increasingly reaching the North Sea. Their extended journey forces the birds to extra energetic costs, and they are facing various hazards (e.g., oil pollution and wind farms at sea) over increasingly large areas where their presence should be taken into account.

Although this northward shift is seemingly linked to increased sea surface temperatures, changing fishing practices, and the resulting impact on the shearwaters' prey species abundance and distribution (Yésou, 2003; Wynn & Yésou, in prep.), the situation is not completely understood and co-operation is needed at two levels: (1) a better knowledge of

the species' changing status would benefit from co-operation of ornithologists in countries visited by these shearwaters in significant numbers, i.e. Spain, Morocco, Portugal, France and United Kingdom; and (2) a better understanding of what is controlling their changing situation would imply that inter-disciplinary research is developed, where ornithologists would co-operate with specialists in fisheries and oceanography.

In this context, a *Life* project has been supported by the European Union to help to identify the threats the species is facing and to develop conservation measures in the breeding areas (Ruiz & Martí, 2004). In addition to this, at the request of the Spanish Government the Balearic Shearwater has been listed under the Annex I (Species designated for concerted action) of the UNEP Convention on the Conservation of Migratory Species (CMS) during the 8<sup>th</sup> meeting of the Conference of the Parties to CMS, held in November 2005. Within this new framework, international co-operation should rapidly move from the present state of co-ordinated international surveys to the development of conservation measures in all countries visited by the Balearic Shearwater.

### The other species

The other species included in Annex II and showing a fair degree of "extra-Mediterraneity" markedly differ in range and in conservation requirements. To summarize:

- One species, the Yelkouan Shearwater, migrates in huge number through the Bosphorus to the Black Sea where its whole status (range, threats) remains insufficiently known.
- The Cory's Shearwater wanders all over the Atlantic Ocean; it tends to stay well offshore on prey-rich areas where additional mortality is expected from incidental catch in fisheries.
- Four species (Audouin's Gull, Lesser Crested Tern, Sandwich Tern and Little Tern) overwinter mostly on the coast of West Africa, where their relationships to fisheries are poorly known.
- The Eleonora's Falcon migrates to southeastern Africa and mainly Madagascar, where its conservation requirements are not evaluated but might include habitat conservation.
- The Flamingo forms a "metapopulation" which is depending upon the conservation of identified favourable sites from Asia Minor to North and West Africa.
- The Slender-billed Curlew is very poorly known and even its breeding grounds are ignored.

On behalf of the Council of Europe and the European Commission, International Action Plans have been written up for some of the above species (Eleonora's Falcon: Ristow 1999; Slender-billed Curlew: Gretton 1996; Audouin's Gull: Lambertini 1996; as for shorter migrants, see also Pygmy Cormorant: Crivelli *et al.* 1996; Dalmatian Pelican: Crivelli 1996). These International Action Plans, prepared and put forward by BirdLife International, include detailed "Recommended conservation actions by country" which are progressively implemented in most European countries and in North Africa, particularly where the birds are breeding. However, such "Recommended actions" are not given for countries outside the Mediterranean range; and very often they are lacking for North African countries.

## Recommendation

The national and expert contributions to this workshop have shown that, even if a minority of species included in Annex II of the *Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean* are benefiting from a specific International Action Plan, an increasingly large set of actions is hopefully set up in their breeding areas to ensure the conservation of all 16 species. The conservation of most Annex II species cannot rely only on efforts developed in the Mediterranean, however, as these birds are also facing threats during their migration outside the Mediterranean boundaries; furthermore, there are cases (e.g., the Eleonora's Falcon) where threats are greater when the birds are outside the Mediterranean. This shows that International Actions Plans should be either developed or completed for any species, as to effectively cope with each species' whole annual cycle and range. The implementation of such Action Plans would greatly benefit from international co-operation when monitoring the species' status, identifying the threats they are facing, and undertaking the necessary action each time a problem is identified.

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United Nations Environment Programme  
Mediterranean Action Plan  
Regional Activity Centre for Specially Protected Areas

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# **STATES OF KNOWLEDGE**

**BY SPECIES**

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Octobre 2006

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# POPULATION ECOLOGY AND CONSERVATION OF THE CORY'S SHEARWATER *CALONECTRIS DIOMEDEA*

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## ABSTRACT

The nominate race *diomedea* is restricted to the Mediterranean Sea and breeds in sea-cliffs, and on rocky islands and islets. It has a long breeding season and the majority of the population, which is estimated at less than 76,000 pairs, migrates outside the Mediterranean. Its distribution and status are given in Table 1. It has declined throughout the Mediterranean due to various threats.

**KEYWORDS:** Cory's Shearwater, Mediterranean, population, distribution, threats.

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The Cory's Shearwater *Calonectris diomedea* is separated into two races, the Mediterranean *C. d. diomedea* and the Atlantic *C. d. borealis* (Snow and Perrins, 1998).

The nominate race *diomedea* is restricted to the Mediterranean Sea. It breeds in sea-cliffs, and on rocky islands and islets, nesting in natural crevices, amongst boulders, screes, as well as under vegetation; in caves, and also in rabbit and self-excavated burrows.

The first birds arrive at the breeding colonies by end of February and egg-laying takes place in the third week of May. Incubation lasts up to 52 days with both parents taking part in incubation spells of up to 9 days, averaging 4.5 days. The downy chick hatches in mid-July and after the first couple of days it is left on its own by the parents. The young bird then is visited by the adults during the night to feed it. In early October the young birds start to leave the nest and by the third week of the month the colonies are deserted. Site tenacity is very high in this species with some birds using the same nesting site for over 15 consecutive years. (Borg and Sultana, 2000).

The Mediterranean population has been estimated at less than 76,000 pairs, but surveys in the eastern part of the Mediterranean and in the Adriatic are lacking. The birds leave their breeding grounds in the latter half of October, rapidly reaching the Atlantic Ocean through the Straits of Gibraltar from mid-October to mid-November (Telleria, 1980). An unknown number of them, which may total several hundreds, winter mainly off the Tunisian coast (Borg *et al.*, 1999)

Population distribution and status of the nominate race where available are given for the Mediterranean citing figures and references in Table 1.

Table 1 - Population distribution

Country	Population (breeding pairs)	Source
Algeria	ca. 1070	Isenmann & Moali 2000
Croatia	800 – 1000	BirdLife International 2004
France (Med. coast & Corsica)	970 – 1200	Cadiou <i>et al.</i> 2004
Greece	5000	BirdLife International 2004
Italy	15000 – 18000	Brichetti & Fracasso. 2003
Malta	6900 – 7130	Borg & Sultana 2002
Spain (Med. Coast, Chafarinas & the Balearics)	12,180 – 14,180	Zotier <i>et al.</i> 1992
Tunisia	20,020 – 25,100	Zotier <i>et al.</i> 1992
Turkey	< 200	BirdLife International 2004

There has been a considerable decline of the species throughout the Mediterranean although in a few cases where rats were controlled or eliminated a positive trend has been noted. The current factors causing loss or decline result from the introduction of mammals, such as *Rattus sp.*, which affect breeding success; illegal hunting; taking of eggs and/or chicks; mortality from by-catch, development close to colonies and disturbance, and possibly oil spills and chemical pollution of the sea (UNEP-MAP- RAC/SPA, 2003).

The species is included in Annex I of the European Union Directive on the conservation of wild birds (79/409/EEC/1979), in Annex III (Protected Fauna Species) of the Bern Convention and is covered by the European Union Regulation laying down certain technical measures for the conservation of fishery resources in the Mediterranean (1626/94 (EC) 1994) (UNEP-MAP RAC/SPA, 2003).

In spite of being legally protected in most countries, national conservation action plans are inexistent except for one country (Italy - N. Baccetti pers. comm.), while monitoring projects are being undertaken in very few countries.

National conservation action plans for the species are necessary to halt the decline of the population and maintain healthy colonies. All type of disturbances to the breeding colonies, including the taking of eggs and young, should be prohibited, while a programme for the eradication of predators should be developed. Monitoring and wardening of colonies, particularly those, which are under the threat of disturbance, is indispensable and proposed actions such as the initiation of public awareness campaigns of the threats faced by this species are to be encouraged.

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# POPULATION ECOLOGY AND CONSERVATION OF THE YELKOUAN SHEARWATER *PUFFINUS YELKOUAN*

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## ABSTRACT

*Puffinus yelkouan* and *P. mauretanicus* have been recently separated in two distinct species. *Puffinus yelkouan* is restricted mainly to central and eastern Mediterranean with >95% of its population occurring in Europe. The population has been estimated from 13,000 to 33,000 pairs, but for a number of countries the population is poorly known. Predation, disturbance and loss of habitat are some of the main threats.

**KEYWORDS:** Yelkouan Shearwater, Mediterranean, population, distribution, threats.

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The Yelkouan Shearwater *Puffinus yelkouan* was previously included in *Puffinus puffinus* together with *Puffinus mauretanicus*. After being combined with *P. mauretanicus* to form a Mediterranean species, they have recently been separated and are now both considered as different species (Bourne et al., 1988 ; Yesou and Paterson, 1999).

*Puffinus yelkouan* is restricted mainly to central and eastern Mediterranean with >95% of its population occurring in Europe. Its main breeding colonies are found in Greece, Italy and Malta. It breeds in caves, crevices and burrows in sea cliffs and on offshore islands. The population has been estimated at approximately from 13,000 to 33,000 pairs, but for a number of countries (particularly Turkey) the population is poorly known, with no quantitative data available (BirdLife International, 2004).

The first birds arrive at the colonies in October, but egg laying starts in the last week of February and continues until the first ten days of March. A single egg is laid inside a deep crevice and incubation lasts about 50-52 days with both partners alternating in brooding. The chick is ready to fledge by the last week of June or the first ten days of July. Little is known on the post fledging movements but the very limited ringing data indicates that some first year birds of the central Mediterranean population disperse into the Aegean and the Black Sea after fledging. Young birds return to the colonies when they are at least two years old and start to breed in their fourth year. Male birds show a high degree of philopatry to nesting sites, but this appears to be less evident with the females. The adult birds moult offshore in August and September (Borg and Sultana, 2002; Borg et al., 2002).

Population distribution and status where available are given citing figures and source in Table 1. Other than these only two sites along the North African coast (in Algeria and Tunisia respectively) are known to hold some breeding pairs (Zotier *et al.*, 1992).

**Table1 - Suspected breeding areas**

Country	Population (breeding pairs)	Source
Albania	1 – 10	BirdLife International 2004
Algeria	8 – 12	Zotier <i>et al.</i> 1992
Croatia	50 – 100	BirdLife International 2004
France (Med. coast & Corsica)	292 – 414	Cadiou <i>et al.</i> 2004
Greece	4,000 – 7,000	BirdLife International 2004
Italy (inc. Sicily & Sardegna)	7,000 – 14,000	Brichetti & Fracasso. 2003
Malta	1,400 – 1,560	Borg & Sultana 2002
Tunisia	Current status unknown	Ilsenmann <i>et al.</i> 2005
Turkey	0-10,000	BirdLife International 2004

The main threats in the Mediterranean are predation by rats and cats; loss of breeding habitat; human disturbance, leading to collection of adults and chicks or breeding failure; ferreting, leading to death of chicks and adults; accidental by-catch in fisheries; light and sound pollution both onshore and offshore from the colonies; and possibly oil spills and chemical pollution of the sea (UNEP-MAP-RAC/SPA, 2003).

The species is included in Annex I of the European Union Directive on the conservation of wild birds (79/409/EEC/1979), in Annex II (Strictly Protected Species) of the Convention on the Conservation of European Wildlife and Natural Habitats (1979), and is covered by the European Union Regulation laying down certain technical measures for the conservation of fishery resources in the Mediterranean (1626/94 (EC) 1994) (UNEP-MAP-RAC/SPA, 2003).

Monitoring projects are being undertaken in very few countries. It is not known whether there are any national conservation action plans for the species, but EU funded Life projects for the conservation of the species are in progress at least in France. Malta has applied also for a similar EU funded project.

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# POPULATION ECOLOGY AND CONSERVATION OF THE EUROPEAN STORM-PETREL *HYDROBATES PELAGICUS* IN THE MEDITERRANEAN

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## ABSTRACT

The population breeding in the Mediterranean belongs to a distinct subspecies *Hydrobates pelagicus melitensis*. It breeds on rocky islands and islets. The Mediterranean population has been estimated at less than 16,000 pairs, however breeding surveys are totally lacking for the Adriatic, along the southern coast and in the eastern part of the Mediterranean. In some colonies a decline has been recorded, but reliable data on trends are not available. Loss or decline of colonies result from loss of habitat; disturbance; predation by *Rattus* sp. and Yellow-legged Gull *Larus michahellis*; and possibly oil spills and chemical pollution of the sea.

**KEYWORDS:** European Storm-petrel, Mediterranean, population, distribution, threats.

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The breeding range of the European Storm-petrel is confined to the west Palearctic. It has been recently confirmed that the population breeding in the Mediterranean belongs to a distinct subspecies *Hydrobates pelagicus melitensis* (Hemery and d'Elbee, 1985).

The first birds start visiting the breeding colonies from the end of February. This species is asynchronous in its breeding behavior. The egg-laying period spans a period of four months, from April to July. The single white egg is laid in a fissure, under a boulder, or deep among the stones. Incubation is carried out by both sexes and it lasts about 40 days. The young is also fed by both parents and after a period of about 70 days it is ready to fledge. Downy chicks may still be present in September and the late birds fledge in early October (Borg and Sultana, 2002).

It breeds on rocky islands and islets and nests in natural crevices, fissures in rocks and cliff faces, amongst and under stones and boulders, in burrows, and in caves. Important breeding colonies are found in the western and central parts of the Mediterranean particularly in Malta, the Balearics, Sardinia and Sicily. However breeding surveys are totally lacking for the Adriatic, along the southern coast and in the eastern part of the Mediterranean. One assumes that there are still several colonies yet to be discovered. In some colonies a decline has been recorded, but reliable data on trends are not available. The Mediterranean population in the surveyed colonies has been estimated at less than 16,000 pairs (Massa and Sultana, 1989).

Population distribution and status where available are given citing figures and source in Table 1. Breeding is suspected in Habibas Islands, Algeria (Isenmann and Moali, 2000) and in at least in four localities in Morocco (Thevenot *et al.*, 2003) and has been known to breed in La Galite Archipelago, Tunisia (Isenmann *et al.*, 2005);

Table 1 - Suspected breeding areas

Country	Population (breeding pairs)	Source
Croatia	1 – 10	BirdLife International 2004
France (Med. coast & Corsica)	Ca. 185	Cadiou <i>et al.</i> 2004
Greece	10 – 30	BirdLife International 2004
Italy (Sicily & Sardegna)	1700-2500	Brichetti & Fracasso. 2003
Malta	5025 – 8025	Borg & Sultana 2002
Spain (Med. Coast & the Balearics)	3850 – 4100	Patterson 1997

The current factors causing loss or decline result from loss of habitat; disturbance; predation by *Rattus* sp. and Yellow-legged Gull *Larus michahellis*; and possibly oil spills and chemical pollution of the sea (UNEP-MAP-RAC/SPA, 2003). Genetic deficiency had also been formerly suggested as a cause for decline but in recent years ringed-recoveries have shown that birds move from one colony to another (BirdLife Malta Ringing Scheme data).

The species is included in Annex I of the European Union Directive on the conservation of wild birds (79/409/EEC/1979), in Annex II (Strictly Protected Species) of the Convention on the Conservation of European Wildlife and Natural Habitats (1979), and is covered by the European Union Regulation laying down certain technical measures for the conservation of fishery resources in the Mediterranean (1626/94 (EC) 1994) (UNEP-MAP-RAC/SPA, 2003).

National conservation action plans are inexistent, while monitoring projects are being undertaken in very few countries. Action plans should focus on the recreation of nesting sites where the loss of habitat through erosion has occurred, and on the control of predatory gulls breeding in the colonies.

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# STATUS OF THE BREEDING POPULATION OF ELEONORA'S FALCON (*FALCO ELEONORAE*)

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## ABSTRACT

*Falco eleonorae* is a colonial raptor breeding mainly within the Mediterranean basin, currently classified as Declining at European level. It nests mostly on uninhabited islets, but also on rocky coasts of larger islands and the mainland. Recent data suggest a global population estimate of 12,500-14,000 pairs, twice as much what was previously recorded. As the species' breeding period coincides with the tourist season, and thus disturbance from tourist activities poses a serious threat to breeding colonies, conservation measures for the species must be compatible with sustainable coastal management. Knowledge of the actual population status of the species, its migration patterns, as well as the distribution and threats in its wintering grounds are considered a pre-requisite for co-ordinated and effective conservation actions.

**KEYWORDS:** Eleonora's Falcon; *Falco eleonorae*; population status; raptors

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The Eleonora's Falcon is a medium-sized falcon, previously classified as Rare at European level while presently considered as Declining (BirdLife International, 2004). It is also identified as a Species of European Conservation Concern (SPEC 2; Tucker and Heath, 1994). An Action Plan has been compiled by BirdLife International on behalf of the European Commission (BirdLife International, 1999).

It is a summer visitor of the Mediterranean and NW Africa, being present from April till October. Its breeding range coincides almost entirely with the Mediterranean basin extending westwards from Cyprus to the Balearics and Algeria but also in the Atlantic coast of Morocco and the Canary Islands (Walter, 1979a & b; Figure 1). The centre of its breeding range is located in the Aegean Sea. Southern France, Corsica, Malta and Albania and to a lesser degree Portugal and Bulgaria are visited regularly during April-October but no breeding colonies have been recorded. It is a colonial breeder, nesting under rocks or bushes mainly on small, uninhabited islets and steep island and mainland coastal cliffs. Its wintering grounds are located mainly in Madagascar (70% of population), and to a lesser extent in E. Africa, Tanzania, Comoros, Mauritius and Reunion. Migration occurs from West to East through the Mediterranean and down the Red Sea, returning by reverse route, although more information is needed.

Approximately, 50% of the population is on average 8.7 years old (max 16 years) (Ristow *et. al.*, 1989) and age at first breeding has been calculated at 2-3 years. Colonies typically



consist of 10-300 pairs, spaced approximately 20-50 m apart, but cases of only 0.5 m nest distance are known (Morocco). 1-3 eggs are laid per nest during late July and the chicks hatch 28-30 days later (average 15 August). Fledging takes place in late September and by mid October-early November colonies are deserted.

The distribution and size of the known Eleonora's Falcon populations are shown in Figure 1 and Table 1. The world population of the species had been estimated in 1999 at 6,250 pairs (BirdLife International, 1999). Since then, population census data have been updated in most breeding colonies during 2004-05 (except Algeria, Morocco, Canaries and Ionian Sea which will be completed in 2006) through the implementation of the first global population census for the species, in the framework of the LIFE-Nature project 'Conservation Measures for *Falco eleonora*\* in Greece' (HOS/BirdLife-Greece, unpublished data; Table 1). In Greece alone, more than 15,800 individuals (estimation of >10,500 pairs) were counted during the population census of the Aegean and Crete. Thus, estimates of the global population are expected to reach 12,500-14,000 pairs. The noted increase in population numbers in Greece and Morocco is a result of better coverage of breeding sites, whereas the moderate increase in Spain and Italy probably reflects an actual increase of these populations.



Figure 1: Breeding distribution and population size of Eleonora's Falcon.

The Action Plan for the species identified the following main threats:

- Disturbance at breeding colonies, mostly by human activities, rated high mainly due to the strong site tenacity exhibited by the species.
- Habitat loss and persecution in its wintering grounds rated unknown, but probably of high importance
- Habitat degradation and agrochemical bio-accumulation in the species' tissues rated unknown, but probably medium and
- Reduced breeding success due to predation by introduced species (mainly rats, cats) is rated medium, locally high



Table 1 - Estimate of the world population of Eleonora's Falcons (in breeding pairs) 1999-2005.

Country	Region	Breeding Pairs		
		1999 (SAP)	2000-5 (min)	2000-5 (max)
Spain	Canary Islands	100	200	200
	Columbretes	30	32	45
	Balearic Islands	600	549	836
Italy	Sardinia	300	330	500
	Sicily	100	138	204
Croatia		40	59	71
Greece	Ionian Sea	50		
	Aegean Sea	3,000	9,653	9,653
	Crete	1,500	899	899
Cyprus		60	75	191
Turkey		20	7	7
Morocco		232	483	718
Algeria		120		
Tunisia	Galite islets	80	112	112
	Fratelli islets	15	8	8
Total		6,247	12,545	13,444

Gaps in our knowledge recognized through recent research relate to the following fields:

- Distribution, threats and location of sites in need of protection in the wintering grounds
- Migration routes followed
- Impact of agrochemical bioaccumulation in the species tissues and
- Impact of climatic changes on the period of migration and volume of migratory flow and the effect of these on the distribution and breeding success of the species

The species is included in Annex 1 of the European Union's Wild Birds Directive, Appendix II of the Bern and Bonn Conventions and Appendix II of CITES.

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# THE MEDITERRANEAN SHAG *PHALACROCORAX ARISTOTELIS DESMARESTII* IN THE MEDITERRANEAN SEA

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## ABSTRACT

*Phalacrocorax aristotelis desmarestii* is the endemic subspecies of the Mediterranean and the Black Sea. Its biology and population figures are not well studied. It nests on rocky coasts and islets feeding on coastal fish. The species breeding range includes all EU Member States along the Mediterranean coast, Gibraltar (UK), Croatia, Albania, Bulgaria, Ukraine, Turkey, Cyprus, Egypt, Libya, Tunisia and Algeria. All experts agree on the fact that its population (estimated at less than 10,000 pairs) has undergone a decrease in numbers.

**KEYWORDS:** Mediterranean Shag, threatened species, conservation, action plan.

The *desmarestii* subspecies is endemic to the Mediterranean and Black Seas. The other subspecies are *Ph. a. aristotelis*, inhabiting the Atlantic Ocean, and *Ph. a. riggenbachi*, inhabiting the Atlantic coast of Morocco.

The species has a strong preference for rocky coasts and islands. It is not normally found far from land. It roosts always in the seashore on rocks and poles. During the breeding season it forms sparse colonies, nesting in crevices or caves, on ledges or amongst boulders, often a few meters above the sea level. The nest is built with a variety of vegetal materials, and is frequently reused in successive seasons. It nests primarily in winter, although the timing of breeding may variate interannually to a great extent (Guyot and Thibault, 1996). Laying dates range from November to March depending on the region, younger birds breeding later on the year, occupying sub-optimal nest sites and with lower breeding success. The commonest clutch size is three eggs and incubation lasts 30 days. The fledging of the chicks lasts for about 53 days. The species is sedentary and partially dispersive, but generally philopatric.

The Mediterranean Shag feeds mainly on coastal fishes, in bottom or mid water over rocky or sandy seabeds; it feeds mainly by pursuit-diving, and usually alone. Fish of economical importance seem to form a very small part of its diet.

The total population of *Phalacrocorax a. desmarestii* is estimated to number less than 10,000 pairs (Guyot and Thibault, 1996), half of them breeding in the EU (Eastern coast of Spain, Balears, Corsica, Sardinia, Tuscany archipelago, Lampedusa, Crete and islets of

the Ionian sea). Very significant fluctuations in breeding numbers have been noted from year to year in several Mediterranean colonies. Censuses are quite difficult and need to be co-ordinated for all the colonies in a given region.

Table 1 - Population figures in the Mediterranean basin. Source Aguilar & Fernandez (2001 modified).

Country	Number of pairs	Number of colonies	Country	Number of pairs	Number of colonies
Albania	5-10	?	Greece	1000 ca.	>55
Algeria	40	5	Italy	1600 – 2000	>30
Bulgaria	80 (50 - 100)	2	Libya	50	?
Croatia	250-300		Morocco	0?	?
Cyprus	80 – 120	8	Spain	1.250	>30
Egypt	Tens	2-3	Tunisia	50	2
France	780-800	25	Turkey	820 – 2000	?
Former Yugoslavia	1.500-2.000	>30	Ukraine	250 – 400	5
Gibraltar	5-10	1	<b>Total</b>	<b>±10.000</b>	<b>&gt; 195</b>

The Mediterranean Shag is a bird which is severely affected by frequent visits to the colony and the roosting places (Gallo-Orsi, 2003). The high level of pollution recorded in the Mediterranean from incidental oil spills or illegal washing of tanks could have lethal and sublethal effects on adults and eggs. An accidental oil spill could be disastrous for the Shag metapopulation of one region. Birdwatching and research activities can also cause serious disturbance. These threats are not only limited to the colonies but also to roosting places. Some fishing methods such as gill nets and fish traps, particularly when permanently located close to the sea shore, are responsible for the killing of significant numbers of Shags, as it has been reported in the Balearic islands (Aguilar, 1991) and in southern Corsica when fishermen used the combined trammel and gillnet (>55 mm) near colonies in spring (Culioli, 1995). Overfishing, competition with Yellow-legged Gull (*Larus michahellis*), predation by introduced animals and chemical pollution have not been studied.

The Mediterranean Action Plan (UNEP-MAP-RAC/SPA, 2003) for the Mediterranean Shag proposes to make an inventory and map critical habitats, confer strictly protected status on the species, prohibit all types of disturbances to the breeding colonies, monitor populations, create SPAs where the species breeds, and encourage buffer zones surrounding breeding areas including adjacent sea area. In addition, it proposes to plan, regulate and/or manage activities and processes of coastal and infrastructure development near to breeding sites, and take measures to influence fishing policies in order to avoid negative effects on food stocks and food availability. The Plan finally recommends to reduce mortality from bycatch, to prevent oil spills and chemical pollution of the sea, and identify important bird areas (IBA) at sea for the species.

The Mediterranean population of the species is included in Appendix II of the Bern Convention, and the subspecies is listed in Annex I of the European Bird Directive (79/409/EEC/1979). It is also listed in Annex II of the Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean (UNEP/MAP). European Union Regulation lay down certain technical measures for the conservation of fishery resources in the Mediterranean (1626/94 (EC) 1994). IUCN catalogues the subspecies as Least Concern (LC) (IUCN, 2004).

Aguilar and Fernandez (2001) recommend special effort to identify all breeding sites, important roosting sites and areas of post-breeding concentration. Monitoring programs must be achieved with an adequate periodicity and integrate multi-disciplinary monitoring and management programs into the protected areas (Culioli, 2004).

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# POPULATION STATUS OF SLENDER-BILLED CURLEW *NUMENIUS TENUIROSTRIS* IN THE MEDITERRANEAN REGION

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## ABSTRACT

The total population estimate of the Slender-billed Curlew amounts to max. 270 birds. It is the rarest bird species in the Western Palearctic. Its breeding grounds are unknown since 1924. The principal wintering sites are situated in Ukraine, Greece, Italy and Morocco. The protection of the known wintering sites and further monitoring are necessary to protect this critically endangered species. A management plan needs to be implemented for all post-nuptial key sites in the Mediterranean region.

**KEYWORDS:** Wintering populations. Slender-billed Curlew. Conservation.

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## Location of wintering populations

The Slender-billed Curlew is the rarest bird species in the Western Palearctic. Despite major gaps in our knowledge of the species distribution (the breeding grounds are unknown) since 1924, when breeding was confirmed North of Omsk in Siberia, some coastal areas in the Mediterranean region are known to host various individuals during migration. A major migration route is directed WSW, from the northern Caspian to the Black Sea, southern Europe and the wintering grounds in North-West Africa. Another route seems to be situated in the Middle East (Iran, Iraq) but needs to be confirmed. At present, only a few wintering areas are identified such as Merja Zerga, a coastal wetland surrounded by sandy farmland South of Larache (Morocco), where a few individuals were seen irregularly up to 1993 (see Table 1).

It is important to underline that the annual wintering numbers of Slender-billed Curlew identified in Morocco over the last 4 decades do not exceed 9 individuals (9 birds seen at Merja Zerga during winter 1988). Yet, a flock ranging between 500 - 800 birds was seen at Knifiss lagoon in 1964. Very few individuals have been observed in Morocco over the last 12 years.

Other irregular wintering areas include some tidal mudflats in Tunisia (Kairouan, Gulf of Gabès), temporary brackish wetlands (sebkhet) in Algeria, coastal estuaries in Greece (Evros and Axios deltas, Porto Lagos), the Coto Donana in Spain as well as a few areas in Turkey (Göksu delta, Tuz Gölü, Seyfe Gölü). Various stop-over sites have been identified in Italy such as the Ofanto estuary (Margherita di Savoia) along the southern Adriatic coast East of Foggia and the Comacchio wetlands close to Ravenna (northern Adriatic). A flock

of 19 birds overwintered during 72 days (January - March 1995) at Frattarolo (Baccetti *et al.*, 2002). 14 individuals were identified in April 1997 at Diaccia Botrona. The most recent Italian observation dates back to December 2000 when 3 birds were seen at Margherita di Savoia (see Table 2).

**Table 1 - Observations of Slender-billed Curlew in Morocco, according to Thévenot M., 1989.**

Year	Number	Locality	Year	Number	Locality
1958	1	Oued Moulouya	1977	1	Tifnit
1964	1	Daya El Kahla	1978	1	Souira Kdima
	2	Merja Daoura	1983	4	Oued Tahadart
	500-800	Khnfiss lagoon (Blondel J.)		1	Oued Smir, Tanger
	50-100	Merja Daoura + Merjas of Rharb (Blondel J.)	1984	4	Oued Loukkos, Larache
	10	Merja Zerga (Blondel J.)	1986	1	Casablanca
	30-50	Sidi Moussa (Blondel J.)		3	Sidi Moussa
1972	2	Sebkh Bou Areg, vicinity of Melilla		2	Oued Massa
	2	Merja Sidi	1987	1	Merja Bokka
1974	1	Merja Haloufa	1988	1	Dayet Sghira
1975	2	Oualidia		1	Merja Olulad Khallouf
	1	Oued Chebeika		9	Merja Zerga
1976	1	Oued Yquem	1993	1	Merja Zerga

**Table 2 - Recent Observations of Slender-billed Curlew in Italy, after Zenatello M. & Baccetti N., 2001**

Number	Date	Place	Number	Date	Place
1 C	02/71	Saline di Priolo	1 P	12/91 - 01/92 (52 days)	Lago di Pergusa
2 P	08/73	Sant' Antioco	2 P	12/92	Margherita di Savoia
1 P	04/78	Diaccia Botrona	1 P	01/93	Margherita di Savoia
3 C	04/80	Orbetello	1 C	05/93	Margherita di Savoia
4 C	12/80 - 01/81 (51 days)	Laghi Pontini	19 C	01/95 - 03/95 (72 days)	Frattarolo
1 P	01/82	Foce Crati	1 P	04/95	Potenza Picena
2 C	01/84	Diaccia Botrona	1 P	09/95	Laghi Pontini
1 C	02/86	Lame del Sesia	3 P	12/95 - 01/96 (2 days)	Comacchio
2 C	08/88	Margherita di Savoia	1 C	03/06	Invaso di Lentini
2 P	01/89	Lago di Lesina	14 P	04/97	Diaccia Botrona
1 C	02/89	Laghi Pontini	3 P	? /97	Diaccia Botrona
1 C	03/89	Frattarolo	3 P	12/00	Margherita di Savoia
8 P	05/89	Marina di Torre del Lago			

The most recent observations of Slender-billed Curlews occurred in the northern Danube delta, Ukraine, where a few individuals are regularly observed during late summer (Zhmud M., 2005). A flock of 9 birds was also seen during autumn 2001 at the Lebyazhy Islands Nature Reserve (Ukraine) among 5000 Eurasian Curlews *Numenius arquata* and Whimbrels *Numenius phaeopus* (see Table 3).

**Table 3 - Recent observations of Slender-billed Curlew in Ukraine (2001 - 2004), according to Zhmud (2005).**

<b>Locality</b>	Northern Danube delta, near Vilково;		
<b>Habitats</b>	sand-spits, low islets, <i>Salicornia</i> vegetation.		
<b>Date and number of birds seen according to Popenko et al., Azov Black Sea Ornithological Station (<a href="http://www.unep-aewa.org">http://www.unep-aewa.org</a>)</b>	20.10.85 (1)	16.10.96 (1)	11.08.04 (2)
	18.08.94 (1)	25.07.03 (4)	11.08.04 (4)
	17.09.96 (1)	21.08.03 (4)	12.08.04 (1)

Autumn 2001 at Lebyazhy Islands Reserve: 9 Slender-billed Curlews among groups of 4944 Curlews and 136 Whimbrels. Habitats : sand-spits covered by *Salicornia* vegetation.

## Knowledge gaps

Contemporary data is lacking in Albania, Bosnia-Herzegovina, Croatia and Serbia-Montenegro (see Table 4). Other stop-over sites exist in Bulgaria, Hungary, Romania and Russia.

**Table 4 - Observations of Slender-billed Curlew by country, according to Gretton (1991) (maximum number of birds per observation).**

<b>Mediterranean</b>	<b>Other countries</b>
Albania: 2 observations in 1992-93 (5 birds)	Bulgaria: 19 records 1903-93 (7)
Algeria: 7 records 1977 - 90 (37)	Hungary: 85 records 1903-91 (36)
Croatia: 5 confirmed records 1970 - 87 (2)	Iran: 6 records 1963-73 (7) + 35 unconfirmed records
Greece: 70 records 1918-93 (150)	Iraq: 3 records 1917-79 (6)
Italy: 76 records 1900-93 (19)	Romania: 16 records 1966-89 (30)
Morocco: 53 records 1939-94 (500-800)	Russia: 9 records 1908-91 (3)
Serbia - M: 38 records 1900-84 (50)	Ukraine: 15 records 1908-93 (48) + 18 unconfirmed records + recent observations
Spain: 6 records 1962-80 (13) + 35 unconfirmed observations	
Tunisia: 26 records 1915-92 (32)	
Turkey: 29 records 1946-90 (4)	

## Threats

The current world population estimate is in the range of 50 - 270 birds. It's the rarest and least known bird species in the Western Palearctic. Its breeding sites are unknown for the last 80 years. Hunting and habitat loss in the wintering and stop-over sites constitute a

major threat to the species. Large scale drainage in the agricultural belt of the Rharb (NW Morocco) and the construction of dams (e.g. at Kairouan in Tunisia and Constantine in Algeria) have led to the loss of vital habitats for this species.

### **Protection agreements**

Various actions have been undertaken to census the current status and to protect the species: a Memorandum of Understanding issued by the secretariat of the Bonn Convention, a Bird Action Plan of BirdLife International, expeditions led by WIWO (International Working Group on Waterbird & Wetland Research) and various national ornithological societies, as well as the Italian Slender-billed Curlew Action Plan.

### **Monitoring**

The protection and management of the known key sites, the enforcement of legislation and further monitoring are necessary to protect this critically endangered bird species. Field research needs to be carried out urgently to identify the breeding sites and wintering areas. A management plan needs to be implemented for all post-nuptial key sites in the Mediterranean region.

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United Nations Environment Programme  
Mediterranean Action Plan  
Regional Activity Centre for Specially Protected Areas

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# **STATES OF KNOWLEDGE**

**BY COUNTRY**

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# STATUS OF MAP BIRD SPECIES IN BOSNIA AND HERZEGOVINA

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## ABSTRACT

Regarding MAP birds in Bosnia and Herzegovina, the Submediterranean swamp of Hutovo Blato is considered as the most important habitat. This area is especially important for protection of populations of Pygmy Cormorant (*Phalacrocorax pygmeus*). In Bosnia and Herzegovina this species only nests in the mentioned area. Therefore, a cross-border cooperation with Croatia is considered as a priority for the future protection of the Neretva basin area, where significant and protected bird sites are situated.

**KEYWORDS:** MAP birds, Hutovo Blato, Bosnia and Herzegovina

## Introduction

Bosnia and Herzegovina, with 20 km of coastline, that is the narrow area of Neum and immediate surroundings, does not enjoy an exceptionally high level of marine fauna diversity (including birds). On the other hand, diversity of fauna increases in sub-mediterranean areas, which are geographically closely connected with the mentioned area of Neum. Accordingly, the area of the sub-mediterranean marsh Hutovo Blato is considered very important for birds. This area, one of the two IBAs in Bosnia and Herzegovina, represents a very important point for many birds during migration and wintering.

## MAP birds in Bosnia and Herzegovina

In total, 9 species of those listed in Annex II of the SPA/BD Protocol have been registered in Bosnia and Herzegovina. However, some of these species have been rarely registered, or only observed in flight over the area (e.g. *Phoenicopterus ruber*), while some others have already been noted as "vanished" (e.g. *Pelecanus crispus*), and only a few species are regularly seen in small numbers (e.g. *Phalacrocorax pygmeus*).

The Mediterranean Shag (*Phalacrocorax aristotelis desmarestii*) was recorded in Bosnia and Herzegovina only once (16 January 1902) in the area of Hutovo Blato (Obratil, 1967, 1969). The Pygmy Cormorant (*Phalacrocorax pygmeus*) has been recorded in all seasons, and in a wider area of the country (Obratil, 1967). It nests only in Hutovo Blato (40-50 pairs; Obratil, 2001), where it is regularly observed in winter in flocks of up to 60 individuals

as well (op. cit.). In the proposal for the B&H Red List, which considers only breeding species (Obratil and Matvejev, 1989) ) this species is marked as “endangered” as a result of a significant reduction of the nesting population with respect to the situation in the end of the 19<sup>th</sup> century (Obratil, 1969).

The White Pelican (*Pelecanus onocrotalus*) was recorded only once, in 1898, near Rudo (Obratil, 1978). The presence and nesting of the Dalmatian Pelican (*Pelecanus crispus*) were noted until the end of the 19<sup>th</sup> century in the areas of Hutovo Blato (where it nested in the mid 19<sup>th</sup> century), Mostarsko blato and Bileca (Obratil, 1967; 1969). In the proposal for the B&H Red List this species is marked as “extinct”.

The Osprey (*Pandion haliaetus*) has mainly been occurring in the periods April-June and August-November (Obratil, 1971). By the end of the 19<sup>th</sup> and beginning of the 20<sup>th</sup> centuries it was registered as an irregular and scarce “wintering bird” in the area of Hutovo Blato (Obratil, 1969). In recent times the species occurred in Hutovo Blato during spring and autumn migrations (Obratil, 2001). It is now considered to be “extinct” (Obratil and Matvejev, 1989). The Greater Flamingo (*Phoenicopterus ruber*) was recorded flying over only once while the Slender Billed Curlew (*Numenius tenuirostris*) was observed a few times at the end of the 19<sup>th</sup> and the beginning of the 20<sup>th</sup> centuries (Obratil, 1976). The species was recorded in the beginning of the 20<sup>th</sup> century in Hutovo blato (Obratil, 1969).

The Sandwich Tern (*Sterna sandvicensis*) was registered once: in winter 1893-1895, at Mostar (Obratil, 1976), while the Little Tern (*Sterna albifrons*) is known from several localities (Obratil, 1976). According to the data from the end of the 19<sup>th</sup> and beginning of the 20<sup>th</sup> centuries, the latter species might have even nested in Hutovo Blato (Obratil, 1969), but none were recorded since the construction of the Capljina Power Plant (Obratil, 1996; 2001).

## Missing data

In Bosnia and Herzegovina, investigations of sea and coastal bird fauna have not been extensively conducted. However ornithofauna investigations were conducted on a larger scale in some sub-mediterranean areas (especially in the Hutovo Blato marsh). The proposed Red List (Obratil and Matvejev, 1989), which was presented in 1989 but is not yet validated,, should be updated. Considering the state of knowledge of sea and coastal birds, one of the first tasks should be to compile an inventory of the ornithofauna in the narrow belt of Neum, Hutovo Blato, and the areas in the Neretva and Trebišnjica basins, where a project on the “Integrated Management of Ecosystems” is currently running (see <http://www.unece.org>).

## Action plans

There is a National Environmental Action Plan - NEAP (<http://www.neap.bih.ba>), and the National Action Plan (for Mediterranean areas in Bosnia and Herzegovina) - NAP (<http://www.mapbih.ba>), which form part of the MAP. NEAP, whose basic programme document was created in 2003, is the first inter-entity plan on the state level, aiming at identification of short- and long-term priority activities, including the creation of a basis for a long-term strategy of environmental protection in accordance with the economic development of Bosnia and Herzegovina, and its social and political structure. On the other hand, NAP

(National Action Plan for Mediterranean areas in Bosnia and Herzegovina for reduction of pollution caused by land-based activities) covers the south part of B&H, e.g. Adriatic river basins (basins of the rivers Neretva, Trebi\_njica, and Cetina). This plan, whose final document was made in 2005, has a goal in providing guide-lines for attaining a sustainable development of the mediterranean area in Bosnia and Herzegovina. B&H has signed only one international convention so far (RAMSAR), while preparations for signing the Convention on Biodiversity are in course. All other conventions, including those important for birds, have not been signed yet.

### **Main important sites**

Within the mediterranean and sub-mediterranean areas of Bosnia and Herzegovina, the upper course of the Neretva basin, known as the Nature Park of Hutovo Blato, is considered as the most important site. This is the area of the Hutovo Blato swamp, which is the only breeding site of the Pygmy Cormorant (*Phalacrocorax pygmeus*) in the country.

### **Existence of protected areas**

The Park of Nature Hutovo Blato is the only protected area in the mediterranean part of Bosnia and Herzegovina. The area of this sub-mediterranean swamp has been listed as RAMSAR site no. 1105 (<http://www.ramsar.org>) and an IBA (Heat and Evans, 2000).

### **Monitoring schemes and activities**

Among the species listed in Annex II, only the Pygmy Cormorant is presently monitored in the area of Hutovo Blato. Furthermore, progress on the RANSMO Project (development of the national system of monitoring) was accomplished in 2005, but this still awaits validation.

### **International cooperation**

It is essential that future plans take in consideration the protection of the Hutovo Blato area. Protection of this area should partly be realised in the framework of B&H and Croatia state co-operation, which should extend to a wider area of the Neretva basin. The area encompasses the protected site of Hutovo Blato in Bosnia and Herzegovina, and the Neretva mouth in Croatia. Special attention should be paid to the protection of Pygmy Cormorant (*Phalacrocorax pygmeus*) populations. These processes should involve the respective ministries in Bosnia and Herzegovina and Croatia, as well as some specialized institutions such as the National Museum of Bosnia and Herzegovina, which is the central B&H institution in the field of ornithological research), and some NGOs (e.g. Ornithological Society "Naše ptice", Sarajevo, and "Mocvare", Capljina, both from B&H).

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# STATUS OF MAP BIRD SPECIES IN CROATIA

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## ABSTRACT

In Croatia there are eleven marine and coastal areas important for birds where fourteen MAP species have been recorded. Seven of them are breeders, two winter visitors, two are extinct breeders and two are rare species for the country. One species was seen on few occasions, with no indications of breeding and one occurred in the past on migration. Monitoring activities cover most of the breeding populations of MAP species, with the exception of the Procellariidae.

**KEYWORDS:** Croatia, MAP, seabirds, status

Croatia is situated in the SE of Europe. It covers 56,542 sq km of land and 31,067 sq km of territorial sea. The Croatian coastline is highly differentiated with 1,107 islands and islets. The total length of the Croatian coast is 5,835 km, of which islands account for 4,057 km and the mainland 1,778 km (Bertic, 1993).

There are 39 areas important for birds in Croatia identified by Radovic *et al.* (2005). 11 of them are situated in the coastal and marine part of Croatia and they cover 42% of territorial sea. Three of them are partially or totally protected as National Parks: NP Kornati, NP Mljet, Aquatorium of Western Istria with NP Brijuni. Two of them are Nature Parks: NP Telascica and Vransko Lake. Lastovo and surrounding islets are planned to become a Nature Park. There is one Ramsar site - Neretva Delta. The other five sites: Quarner archipelago, Northern part of Zadar archipelago, NW Dalmatia with Island of Pag, Offshore islands (Vis, Bisevo, Sveti Andrija, Brusnik, Jabuka and Palagruza) and Islands of Central Dalmatia with Peljesac peninsula, are still unprotected.

Fourteen out of sixteen MAP species can be found in Croatia (Radovic *et al.*, 2003). Seven of them are breeders (Cory's Shearwater *Calonectris diomedea*, Yelkouan Shearwater *Puffinus yelkouan*, Mediterranean Shag *Phalacrocorax aristotelis desmarestii*, Pygmy Cormorant *Phalacrocorax pygmeus*, Eleonora's Falcon *Falco eleonora*, Audouin's Gull *Larus audouinii* and Little Tern *Sterna albifrons*), two are winter visitors (Sandwich Tern *Sterna sandvicensis* and Pygmy Cormorant), two are extinct breeders (Osprey *Pandion haliaetus* and Dalmatian Pelican *Pelecanus crispus*), and finally, two are vagrants with less than 10 sightings in the last 50 years (Greater Flamingo *Phoenicopterus ruber roseus* and White Pelican *Pelecanus onocrotalus*). Slender-billed Curlew (*Numenius tenuirostris*) was seen on migration in the past and European Storm-Petrel (*Hydrobates pelagicus melitensis*) was seen only on a few occasions, but there were never any indications of breeding (see details in Table 1).

Table 1 - Status of MAP species in Croatia

Species	Status	Population estimate*	Year of estimate
<i>Calonectris d. diomedea</i>	Breeding	1200 bp	2005
<i>Puffinus yelkouan</i>	Breeding	< 100 bp	2005
<i>Hydrobates pelagicus melitensis</i>	few sightings in S Adriatic		
<i>Phalacrocorax aristotelis desmarestii</i>	Breeding	2000 bp	2005
<i>Phalacrocorax pygmeus</i>	Breeding	<25 bp	2005
<i>Phalacrocorax pygmeus</i>	Wintering	2500 i	2005
<i>Pelecanus onocrotalus</i>	Rare		
<i>Pelecanus crispus</i>	Breeding	extinct	
<i>Phoenicopterus ruber roseus</i>	Rare		
<i>Pandion haliaetus</i>	Breeding	extinct	
<i>Falco eleonora</i>	Breeding	60-70 bp	2005
<i>Numenius tenuirostris</i>	Flyway		
<i>Larus audouinii</i>	Breeding	60-70 bp	2005
<i>Sterna sandvicensis</i>	Wintering	500-800 i	1997/1998
<i>Sterna albifrons</i>	Breeding	60-75 bp	2005

\* bp – breeding pairs

i – individual birds

There are currently no action plans in Croatia for MAP species, although an Action Plan for Eleonora's Falcon is in preparation. Monitoring of certain species in Croatia started 2 to 5 years ago. There are regular monitoring of breeding populations of Eleonora's Falcon, Pygmy Cormorant, Audouin's Gull, Little Tern (continental part of breeding population) and Mediterranean Shag (N Adriatic part of breeding population). The principal deficiencies of knowledge about MAP species is the breeding population size and distribution of the Procellariidae colonies in the Croatian part of the Adriatic. During the last two years efforts have been made to address the problem and plans are being envisaged to acquire the necessary data in the next few years.

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# STATUS OF THE MEDITERRANEAN ACTION PLAN BIRD SPECIES IN FRANCE

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## ABSTRACT

The species included in Annex II of the *Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean* all occur in southern France and Corsica. A presentation is made of their status, the conservation status of their breeding habitats, and the fields of study where more research is needed to cover their conservation needs.

**KEYWORDS:** Mediterranean Action Plan, Birds, France, seabirds, coastal

All the species included in Annex II of the MAP for the conservation of sea and coastal birds occur in France, although five of them have been recorded only as vagrants: Pygmy Cormorant (*Phalacrocorax pygmaeus*), White Pelican (*Pelecanus onocrotalus*), Dalmatian Pelican (*Pelecanus crispus*), Slender-billed Curlew (*Numenius tenuirostris*) and Lesser Crested Tern (*Sterna bengalensis*). The status and population estimates are listed in Table 1 for the 11 species of regular occurrence.

The Cory's Shearwater breeds in Marseille archipelago (270-325 breeding pairs), Hyères archipelago (180-255 bp) and in Corsica (600-720 bp) and the species is occasionally recorded in winter in small numbers. The Yelkouan Shearwater breeds in the same places -although perhaps not regularly in Corsica- and is abundant at sea particularly in Gulf of Lion. Population size and status of the European Storm-Petrel are very poorly known and possibly underestimated. The Mediterranean Shag, which until recently was breeding only in Corsica, is now settled in Marseille archipelago (less than 10 bp). The Greater Flamingo breeds only in the industrial salinas of the Camargue, numbers showing high between-year variability. The Osprey breeds on the rocky coasts of Corsica, where its recent increase is now halted due to the saturation of undisturbed areas. Audouin's Gull is a regular breeder in Corsica in variable numbers, although seeming stable on the long term. The Sandwich Tern breeds mostly in the Camargue, where numbers appear to be stable at 1,100 - 1,200 bp after a peak at 1,450 bp in 1997. Little Terns are breeding in seemingly increasing numbers (c. 640-750 in 1982-1997, 930-1,030 in 1998) at lagunas along the mainland coast, and is a non-breeding migrant in Corsica.



Table 1 - Population data for MAP bird species occurring in France on a regular basis

Common Name ( <i>Latin Name</i> )	Breeding Population (pairs) <sup>1,2,3</sup>	Non-breeding Species (individuals)	Population Trend in France <sup>5</sup>	French RDB <sup>6</sup>	Presence in France <sup>7</sup>
Cory's Shearwater ( <i>Calonectris diomedea</i> )	<b>1050-1300</b>		(0)	R	SV (WV)
Yelkouan Shearwater ( <i>Puffinus yelkouan</i> )	300-450		(0)	R	SV
Balearic Shearwater ( <i>Puffinus mauretanicus</i> )		(100s)	(0)	I	SV
European Storm-Petrel ( <i>Hydrobates pelagicus</i> )	(200-300)		<b>D</b>	V	R
Mediterranean Shag ( <i>Phalacrocorax aristotelis desmarestii</i> )	<b>800-1000</b>		<b>F</b>	I	R
Greater Flamingo ( <i>Phoenicopterus ruber</i> )	10100-22200		<b>F</b>	L	SV/R
Osprey ( <i>Pandion haliaetus</i> )	<b>c.30</b>		<b>I</b>	V	SV/R
Eleonora's Falcon ( <i>Falco eleonorae</i> )		<100 <sup>2,4</sup>	<b>I</b>	I	PM
Audouin's Gull ( <i>Larus audouinii</i> )	<b>60-110</b>		<b>F/0</b>	V	SV
Sandwich Tern ( <i>Sterna sandvicensis</i> )	<b>1200-1450</b>		<b>0</b>	L	SV+WV
Little Tern ( <i>Sterna albifrons</i> )	<b>930-1100</b>		<b>I</b>	R	SV

Data quality: **Bold**: reliable, Normal: generally well known, (Bracketed): poorly known

(1) Cadiou *et al.*, 2004.

(2) Dubois *et al.*, 2000.

(3) Sériot *et al.*, 2004.

(4) Zucca *et al.*, 2004.

(5) Trends (1990-2000), mainly from Dubois *et al.*, 2000 and Cadiou *et al.*, 2004.

Stable, I: Increasing, D: Decreasing, F: Fluctuating

(6) Red Data Book, Rocamora & Yeatman-Berthelot, 1999. E= Endangered, V= Vulnerable, R= Rare, L= Localised, SS= Stable or increasing, I= Indeterminate conservation status.

(7) Dubois *et al.*, 2000. R= resident, SV= summer visitor (breeding),

WV= winter visitor, PM= passing migrant, V= vagrant, E=possibly escaped from captivity.

Overall, breeding species listed in Annex II of the MAP for the conservation of sea and coastal birds are regularly surveyed in France. Particularly, the French seabird group GISOM (Groupement d'intérêt scientifique oiseaux marins) is co-ordinating the census of all colonies for all seabird species every ten years, and most species under Annex II are benefiting from more frequent surveys (often on a yearly basis) in the course of schemes developed locally by conservation bodies. Furthermore, national committees devoted to rare birds and scarce migrants are collecting data for non breeding (uncommon) species on a yearly basis. Detailed studies have been developed on the biology, population dynamics and dispersal of the most endangered breeding species (e.g., European-funded *Life* programmes have benefited the shearwaters and Little Tern), and various surveys are carried out at sea, particularly in Gulf of Lion and in the 'Cetacean Sanctuary' of the Ligurian Sea.

## Missing data

For all seabirds more detailed information is needed on their movements and wintering areas, and on the status of populations migrating in French waters. This is particularly im-

portant regarding the Balearic Shearwater, which is considered as Critically Endangered under IUCN criteria. The knowledge of breeding distribution and numbers also need to be improved for the difficult-to-census shearwaters and Storm-Petrel. Additional studies should focus on population dynamics, feeding biology and identification of the foraging areas each species is depending upon, and evaluation of adverse parameters (particularly the effects of accidental catch in fisheries, pollutants, and predation by introduced species such as rats and cats).

## Action plans

Among the MAP species, a National Action Plan has been compiled only for the Audouin's Gull (Beaubrun, 2004).

## Main important sites and existence of protected areas

Most of the sites of importance for both seabirds and other coastal species are included in protected areas, within the National Park of Port-Cros (Hyères archipelago), two Regional Nature Parks (Camargue, Corsica) and five National Nature Reserve (Camargue, Marseille archipelago, Cap Corse, Scandola-Porto and Bouches de Bonifacio, the latter three in Corsica). Strong protection status is still lacking for Little Tern habitat west of the Camargue, and protection measures are still to be improved at various Corsican sites (Sanguinaires archipelago, designated as a SPA, Giraglia and Capense in Cap Corse), on most cliffs and in some salinas.

## Conservation at sea

Although not specifically designated for them, the conservation measures aiming at water quality and limited disturbance within the 'Cetacean Sanctuary' on the Ligurian Sea can benefit seabirds. Moreover, particular regulations for the prevention of oil spills are applicable over the whole marine area under French responsibility.

## International cooperation

Dating back to 1977, the Greater Flamingo ringing scheme run by *Station Biologique Tour-du-Valat* is probably the longest-lasting specific cooperative programme in international bird study within the Mediterranean. International cooperation has also been developed by Tour-du-Valat regarding the pelicans and the Pygmy Cormorant. More recently, intense contacts have been developed between ornithologists and conservationists on both sides of the Straits of Bonifacio (Corsica and Sardinia), where an International Park has been established.

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# STATUS OF THE MEDITERRANEAN ACTION PLAN BIRD SPECIES IN GREECE

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## ABSTRACT

The status of the fourteen species occurring in Greece included in Annex II of the *Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean* is presented. Reference is made to the fields of study where more research is needed to cover their conservation needs. Progress in the compilation of National MAPs has been slow in Greece, as is the designation of SPAMIs. Although, designation of SPAs is adequate, management and protection is insufficient. Monitoring schemes are satisfactory for the pelicans, Pygmy Cormorant and recently the Eleonora's Falcon, however seabird population census and monitoring of breeding sites should be undertaken more systematically.

**KEYWORDS:** Mediterranean Action Plan, Birds, Greece, seabirds, coastal

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Although Greece is one of the smallest countries of the Mediterranean (132,000 sq km), it possesses the greatest length of coastline in the region (16,600 km) with more than 2,000 islands and islets. Of the 15 species included in Annex II of the MAP for the conservation of sea and coastal birds, 14 occur in Greece. Their status and population estimates are listed in Table 1.

The Cory's Shearwater is common in both Aegean and Ionian regions with a minimum of 13 known colonies, whereas the Yelkouan Shearwater breeds mainly in the Aegean. Population size and status of the European Storm-Petrel are mostly unknown and probably seriously underestimated. The Mediterranean Shag holds at least 50 breeding sites, mainly on islands and islets of the Aegean. Audouin's Gulls have bred on more than 60 islets and a minimum of 28 colonies occur in the Aegean. The Greek population of Eleonora's Falcon, previously estimated at 4,550 pairs has recently been updated to 10,500 pairs. For all the above species, population estimates show an increase over the last decade reflecting better coverage of their breeding areas.

The Pygmy Cormorant breeds in four wetlands in northern Greece. The breeding population in Lake Kerkini has declined recently due to reduced availability of nesting sites, while in Lake Prespa it is increasing. A new colony has been established in Lake Kastoria during the last few years. The breeding population of the Dalmatian Pelican has increased

recently in both colonies of the species (Lake Prespa and Amvrakikos Gulf). A new colony was established in 2004 in Lake Kerkini, on artificial platforms. The White Pelican breeds only in Lake Prespa, where its population is increasing. The Osprey is a passage migrant mainly along western Greece, where it also overwinters in very small numbers. Flamingos are present in increasing numbers all year round but until now all breeding attempts have been unsuccessful.

Table 1 - Population data for all MAP bird species in Greece

Common Name (Latin Name)	Breeding Population (pairs) <sup>1</sup>	Wintering Species (individuals) <sup>1</sup>	Population Trend in Greece <sup>5</sup> (br/wint) <sup>1</sup>	Greek RDB <sup>2</sup>	Presence in Greece <sup>3</sup>
Cory's Shearwater ( <i>Calonectris diomedea</i> )	5,000		(0)	-	SV
Yelkouan Shearwater ( <i>Puffinus yelkouan</i> )	4,000-7,000		(0)	-	R
European Storm-Petrel ( <i>Hydrobates pelagicus</i> )	(10-30)		(0)	R	sv
Mediterranean Shag ( <i>Phalacrocorax aristotelis desmarestii</i> )	1,000-1,200	(1,500-3,000)	(0) / (0)	V	R
Pygmy Cormorant ( <i>Phalacrocorax pygmeus</i> )	>800 <sup>4</sup>	<b>34,500</b>	+ / F	E2	WV-r
White Pelican ( <i>Pelecanus onocrotalus</i> )	>150 <sup>5</sup>	<b>1-20</b>	F / 0	E1	sv-pm
Dalmatian Pelican ( <i>Pelecanus crispus</i> )	>1,100 <sup>6</sup>	<b>930-1,700</b>	+ / +	E1	R
Greater Flamingo ( <i>Phoenicopterus ruber</i> )		<b>5,800-11,200</b>	+	R	NBV-r?
Osprey ( <i>Pandion haliaetus</i> )				I	PM
Eleonora's Falcon ( <i>Falco eleonora</i> )	<b>10,500</b> <sup>7</sup>		-*	K	SV
Slender-billed Curlew ( <i>Numenius tenuirostris</i> )			No evaluation	E1	pm-ww
Audouin's Gull ( <i>Larus audouinii</i> )	<b>750-900</b>	(200-1,000)	0 / (0)	E2	r
Sandwich Tern ( <i>Sterna sandvicensis</i> )	(30-50)	<b>1,000-2,000</b>	(F) / 0	I	WV-PM-r
Little Tern ( <i>Sterna albibrons</i> )	1,000 - 2,000		(F)		SV-PM

Data quality: **Bold**: reliable, Normal: generally well known, (Bracketed): poorly known

- (1) BirdLife International, 2004; Trends (1990-2000): 0: Stable, +: Increasing, -: Decreasing, F: Fluctuating
  - (2) Handrinos, 1992; E= Endangered, V= Vulnerable, R= Rare, I= Indeterminate, K= Insufficiently known
  - (3) Handrinos & Akriotis, 1997; R= resident, SV= summer visitor (breeding), WV= winter visitor, PM= passing migrant, NBV= non-breeding visitor (uppercase signifies that the species is common, lowercase that it is scarce)
  - (4) Unpublished data: Society for the Protection of Prespa, S. Kazantzidis and T. Nazirides (2004-5)
  - (5), (6) A. J. Crivelli (pers. comm.)
  - (7) Hellenic Ornithological Society: Unpublished data 2004-05;
- \* Despite increased population estimates throughout Greece (2004-5), trend of few monitored sites has been recorded as decreasing (BirdLife International, 2004; trends 1990-2000)

## Missing data

For all seabirds more detailed information is needed on their breeding distribution, movements and wintering areas. In addition, studies should focus on prey species, foraging area identification, evaluation of marine ecosystems, effects of fisheries accidental catch and by-catch, pollutants and rat predation. For the Pygmy Cormorant, research is needed on prey species and foraging areas used throughout the year, and for the Little Tern studies should focus on breeding and feeding ecology. Use of the wintering areas of the Osprey and Flamingo should also be studied. Ringing schemes should be continued where these exist.

## Action plans

From the MAP species, a National Action Plan has been compiled only for the Pygmy Cormorant (Kazantzidis and Nazirides, 1999), while a draft exists for the Audouin's Gull. No MAPs have been developed and no SPAMIs have been designated in Greece.

## Main important sites

For seabird species, sites of importance include island IBAs, mainly those with small islets (c. 46), while for wetland species the 11 Ramsar sites cover their occurrence. Some additional wetlands include Strymonas Delta, Lake Doirani, River Axios, Gallikos Estuary and Kalochori Lagoon, Alyki Angelochoriou Lagoon, Agios Mamas Marsh, Lake Vegoritis and Lake Petron, Lake Chimaditis and Lake Zazaris, Lake Kastoria, Pinios Delta, Kalamas Estuary, Lagoons of Kerkyra, Sperchios Delta, Lakes Chortaro and Alyki, etc. and Kalonis Gulf.

## Existence of protected areas

HOS has identified 196 IBAs (no Marine IBAs). Greece has 151 designated SPAs (Special Protected Areas, European Birds Directive), some of which include marine regions. Two National Marine Parks exist (Zakynthos, N. Sporades). Apart from the Audouin's Gull, whose colonies are sufficiently protected (c. 90% are SPAs), designation of more SPAs are necessary in order to include colonies of the remaining seabirds. Although 27 Management Bodies have been set up, their operation has been problematic. A National Contingency Plan was developed in 2000 by the Ministry of Commercial Shipping under the MARPOL Protocol but no specific Plan has been formulated for protected areas and pollution protection measures are not implemented.

## Monitoring schemes or activities

With the exception of the Audouin's Gull and the largest colony of Cory's Shearwater (900 pairs; Ristow et al., 1991), seabird species population census and monitoring of breeding sites have not been systematic in Greece. Data on Audouin's Gull include population census, monitoring of breeding colonies and ringing (1997-99; LIFE96 NAT/GR/003221). Pelican populations have been studied in both breeding and wintering sites since the 1980's including monitoring and censuses of breeding populations, ringing, studies on survival, foraging, site use, movements etc. Counts of the breeding populations of Pygmy Cormorant in Lakes Prespa and Kerkini are undertaken annually, and occasionally in other sites, while ringing

schemes are irregular (LIFE96 NAT/GR/003217). During the IBA review in 2000, breeding populations of terns were censused, while their populations are occasionally monitored in certain wetlands during other projects. Occasional ringing schemes of Little Terns have taken place. Mid-winter counts started in 1968 and have taken place annually since 1982 in most wetlands, covering Flamingos among other species. The breeding distribution of the Eleonora's Falcon is currently studied, as well as monitoring of its main breeding colonies, ringing and pilot rat eradication from breeding islets (LIFE03 NAT/GR/000091). Data on the occurrence and habitat availability of the Slender-billed Curlew have been collected during the LIFE95 NAT/GR/001111. Many of the above species have benefited by site-specific projects.

## International cooperation

Greece would benefit from expertise on satellite tracking techniques and identification of foraging areas and Marine IBAs. Training of local port and forestry authorities is envisaged as the only realistic option to maximize wardening on islets. Through the Eleonora's Falcon LIFE-Nature project, HOS has acquired considerable know-how on rat eradication techniques on islets.

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# STATUS OF MARINE AND COASTAL BIRD SPECIES IN LEBANON

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## ABSTRACT

Bird studies in Lebanon have been carried out since 1824 when W. F. Hemprich and C. G. Ehrenberg collected birds and other wildlife in the country. Since then 31 scientists published a limited number of papers on the avifauna of Lebanon. These studies were scattered and incomplete to the extent that they became extremely rare during the turmoil period, which prevailed in Lebanon between 1975 and 1991. Only in recent years the ornithology in Lebanon flourished with 24 publications, covering all birds and habitats of the country. Based on those few works, we attempt to highlight the present status and distribution of 13 out of the 16 threatened or endangered bird species that are listed in Annex II of the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean. Thus our present contribution is one among other steps to improve the knowledge and the conservation of the 16 marine and coastal species, which constitute the target of the relevant Mediterranean Action Plan.

**KEYWORDS:** Birds, Mediterranean, Threatened, Lebanon, Action plan

## Introduction

Lebanon is a small country of 10,451 sq km of mountainous territory and very densely populated (c. 3.5 million). The Lebanese coast expands over 210 km in length. It is depicted by the narrowness of the coastal plain except to the north and the south. The coastal area, which constitutes around 8% of the total area of the country, comprises 33% of the total built-up area in the country and hosts 55% of the total population (Dar Al-Handasah and IAURIF, 2003). Beaches and dunes cover only 49 km of the coastline (21%), while bare rocky outcrops about 11 km (4.7%). Lebanon has only one SPA, the Palm Islands Nature Reserve, which is a Ramsar Site and an Important Bird area at the same time. Within the framework of the Coastal Areas Management Programme (CAMP)-Lebanon Project, the thematic activity for «Marine Conservation Areas» is implemented, awaiting for the elaboration of the technical, administrative and legal documents for the declaration of Naqoura Beach and Damour River Basin as specially protected areas at national and Mediterranean levels. The avifauna of Lebanon comprises among others seven seabird species (shearwaters, petrels and gannet) and 145 waterbird species (Ramadan-Jaradi and Ramadan-Jaradi, 1999). From the list of 16 species found in Annex II only 3 (Balearic Shearwater, Mediterranean Shag and Slender-billed Curlew) do not occur in Lebanon.



## Systematic List

**Cory's Shearwater (*Calonectris diomedea diomedea*):** Fairly common on passage March–April and mid-August–late September and recorded irregularly during winter in large flocks offshore and near Palm Islands in January–February. Observed in two localities: Beirut and Palm Islands (Van Dyck, 1895 in Kumerloeve, 1962; Kumerloeve, 1962; MacFarlane, 1978; Kirwan, 1997; Busuttill *et al.*, 1998; Ramadan-Jaradi and Ramadan-Jaradi, 1999; 2001).

**Yelkouan Shearwater (*Puffinus yelkouan*):** Common on passage, usually in small numbers from early August–early September (200 reported off Tripoli in late September) and March–April. Few winter records, November–February. Recorded only in three localities: Beirut, Tripoli and Palm Islands (Van Dyck, 1895; Hardy, 1946; Kumerloeve, 1962; Busuttill *et al.*, 1998; Ramadan-Jaradi and Ramadan-Jaradi, 1999; 2001).

**European Storm-Petrel (*Hydrobates pelagicus*):** First recorded in September 1996 by Ramadan-Jaradi and Ramadan-Jaradi (1999). Later recorded in April 1997 (Busuttill and Flumm, 1998) and December 2003 (Ramadan-Jaradi *in* Balmer and Betton, 2004) in Beirut.

**Pygmy Cormorant (*Phalacrocorax pygmeus*):** First observed by Tristram (1864). Then only recorded by Nevins (1960), Kumerloeve (1962) and Ramadan-Jaradi and Ramadan-Jaradi (1999, 2001). It occurs occasionally on passage in November and March, and a scarce winter visitor, December–February, principally in the south of the country and at Aammiq. Three records off Tripoli, in June, July and September 1997; thus, observed only in three localities (Aammiq, Palm Islands and Tripoli).

**White Pelican (*Pelecanus onocrotalus*):** Tristram (1882) noted it at Tyre and then it was observed by Van Dyck (1895), Nevins (1960), Kumerloeve (1962), Tohmé and Neushwander (1974), Macfarlane (1978), Ramadan-Jaradi and Ramadan-Jaradi (1999, 2001), Beale & Springer (2001) and Balmer and Betton (2004). It is fairly common and regular passage migrant at both seasons with flocks of up to 400 birds offshore, near coasts, at Aammiq, Qaraoun, Palm Islands and several other localities as well as over mountains up to 1800 meters. Occurs mid-February–early June and early September–late November.

**Dalmatian Pelican (*Pelecanus crispus*):** Tristram (1882) saw it with White Pelican near Tyre. Very scarce: small flocks principally in March–April and November, in the Beqaa Valley, Aammiq, Qaraoun, Tripoli and Tyre (Tohmé and Neushwander, 1974; Macfarlane, 1978; Ramadan-Jaradi and Ramadan-Jaradi, 1999; 2001; Beale and Springer, 2001).

**Greater Flamingo (*Phoenicopterus ruber*):** Status prior to 1999 is unclear whereas the recent sightings suggest rather a rare passage migrant than vagrant species and probably a rare winter visitor. Recorded in Cheikh Zennad, Khaldeh, Palm Islands, Batroun, Byblos, Nahr El Kalb and Aammiq (Van Dyck 1895; Kumerloeve, 1962; Ramadan-Jaradi and Ramadan-Jaradi, 1999, 2001; Beale and Springer 2001; Ramadan-Jaradi *et al.*, 2004; Balmer and Betton, 2004).

**Osprey (*Pandion haliaetus*):** Uncommon passage migrant throughout the country from late March to early May and early September to early November. Sighted at Aammiq, Beirut, Cheikh Zennad, Dalhoun, Faqra, Hermel, Qaa, Qbeya, Qleiaat and Tanayel (Tristram,

1865; Deetjen 1969 in Kumerloeve, 1972; Tohmé and Neushwander, 1974; Ramadan-Jaradi and Ramadan-Jaradi, 1999; Beale and Springer, 2001).

**Eleonora's Falcon (*Falco eleonora*):** Although Tristram (1865) noted a pair breeding in the Beqaa near Zebdany, later noted it only as a scarce migrant with few spring records during April and May, and in September and October in many localities (Bourne, 1957; Nevins, 1960; Kumerloeve, 1962; Ramadan-Jaradi and Ramadan-Jaradi, 1999; Beale and Springer, 2001).

**Sandwich Tern (*Sterna sandvicensis*):** Extremely rare passage migrant and winter visitor in early August to mid-April along coasts. One specimen ringed at its breeding place on the northern coast of the Black Sea, was recovered on the shore of Beirut (Müller, 1959, in Kumerloeve, 1962). Reported from three localities only: Beirut, Byblos and Palm Islands (Van Dyck, 1895; Kumerloeve, 1962; Macfarlane, 1978; Busuttill et al., 1998; Ramadan-Jaradi and Ramadan-Jaradi, 1999; 2001).

**Audouin's Gull (*Larus audouini*):** In 1895 Stenhouse (1904) found about 15 pairs and saw many young gulls almost ready to fly on Palm Islands. Once observed in Beirut (Flach, 1959) and once at Cheikh Zennad (Bara, 1998); all other records (Hollom, 1959; Kumerloeve, 1962; Tohmé and Neushwander, 1974; Ramadan-Jaradi and Ramadan-Jaradi, 1999; 2001) suggest an extremely rare passage on Palm Islands where it was only sighted in April, July, August and September.

**Lesser Crested Tern (*Sterna bengalensis*):** Stenhouse (1904) saw two pairs and two nests (each with one egg) on Palm Islands on 20 June 1895. Currently considered extinct in Lebanon (Hollom, 1959; Ramadan-Jaradi and Ramadan-Jaradi, 1999; 2001).

**Little Tern (*Sterna albifrons*):** First recorded by Van Dyck (1895) in 1877 but Stenhouse (1904) found it exceedingly abundant and breeding on Palm Islands in 1893. No subsequent records from Lebanon until 11 at Cheikh Zennad on 14 June 1996, three there on 8 September 1996 and eight on 16 May 1997, and one at Sanani island on 4 April 1998 (Bara and Ramadan-Jaradi in Ramadan-Jaradi and Ramadan-Jaradi, 1999). Two individuals at Qaraoun Lake on 27 September 2003 were the sixth record since 1996 and the first in autumn (Ramadan-Jaradi in Balmer and Betton, 2004).

## Conclusion

The Eleonora's Falcon, Audouin's Gull, Lesser Crested Tern and Little Tern appear to be former breeders. Further field research is required to ascertain the reasons behind the negative change of their status. The recently increased effort of observation, especially in offshore areas and in artificial coastal ponds, has revealed that the two Shearwater species, the White Pelican and the Greater Flamingo are much more common than it was believed before. Hence there is a need to conduct surveys covering more habitats at different times evenly distributed over the year. The rarity of the remaining five species also poses a question about the insufficiency of the data collected as well as about the threats, which may be causing their scarcity. Furthermore, there are no species action plans developed in Lebanon neither for the fauna nor for the flora. In addition there is no conservation status assessed for the above listed species, which are legally protected from hunting.

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# STATUS OF MAP SPECIES IN MALTA

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## ABSTRACT

The Maltese archipelago consists of a small group of low-lying, mostly limestone islands, situated right in the central part of the Mediterranean Sea. They lie approximately 95 km south of Sicily and 290 km north of the Libyan coast. The total surface area of the Islands is approximately 322 sq. km. The climate is a typical, moderate, Mediterranean one, with mild, wet winters and hot, dry summers. The Islands are geologically young; their oldest sedimentary rock, the lower Coralline limestone, was formed between 25 and 30 million years ago. There are three main inhabited islands, Malta, Gozo and Comino, and a number of uninhabited islets, the most ecologically important being Kemmunett, Filfla, St. Paul's Islands and Fungus Rock.

**KEYWORDS:** Birds, Mediterranean, Threatened, Malta, Action plan

The total length of the shoreline of the Maltese Islands is about 190 km. Mainland Malta has 17% of its coast made up of slopes with boulder scree and 22% consisting of cliffs. Gozo's coastline, which is about 40 km in length, has 14.5% composed of scree and 62% of cliffs.

The main important sites are the south and south-western cliffs of Malta and Gozo and the north-east cliffs of Malta. All these sites support colonies of *Calonectris diomedea* and *Puffinus yelkouan*. The colonies of *Hydrobates pelagicus* are found on the island of Filfla (5-8,000bp) and in a cave at Ta' Cenc cliffs (>25bp). All the breeding colonies have been identified as Important Bird Areas (IBAs). Filfla, Ta' Cenc, Rdum tal-Madonna and Comino Island are IBAs of international importance while all the other sites are IBAs of European Union Importance (Borg and Sultana, 2004).

## Existence of Protected areas

Filfla Islet is a strict Nature Reserve where landing on the island is also prohibited without a permit, which may only be given for scientific and/or educational purposes. The coastal cliffs, many of which hold the seabird colonies, which appear in Table 2, have been scheduled by the Malta Environment and Planning Authority (MEPA) and are protected from any form of development. Furthermore Comino Island, and a substantial part of Ta' Cenc Cliffs are bird sanctuaries where all forms of hunting and trapping are prohibited. A number of these sites are candidates for Natura 2000.

**Table 1 - The Status, Population and Conservation of the MAP species in Malta**

Species	Status	Population (breeding pairs)	Protection	Action Plans	Monitoring
<i>Calonectris diomedea</i>	breeding	6900-7130	Sites of colonies legally protected = SPAs	None	yes
<i>Hydrobates pelagicus melitensis</i>	breeding	5025-8025	Sites of colonies legally protected = SPAs	None	yes
<i>Puffinus yelkouan</i>	breeding	1400-1560	Sites of colonies legally protected = SPAs	None	yes
<i>Puffinus mauretanicus</i>	possibly vagrant (No official records)	none	legally protected	Not applicable	Not applicable
<i>Phalacrocorax aristotelis desmarestii</i>	vagrant	none	legally protected	Not applicable	Not applicable
<i>Phalacrocorax pygmeus</i>	No substantiated record to date	none	legally protected	Not applicable	not applicable
<i>Pandion haliaetus</i>	scarce passage migrant	none	legally protected	Not applicable	not applicable
<i>Falco eleonorae</i>	scarce passage migrant	none	legally protected	Not applicable	not applicable
<i>Larus audouinii</i>	very scarce but occurs regulary	none	legally protected	Not applicable	not applicable
<i>Numenius tenuirostris</i>	no observations in recent years	none	legally protected	Not applicable	not applicable
<i>Pelecanus onocrotalus</i>	vagrant	none	legally protected	Not applicable	not applicable
<i>Pelecanus crispus</i>	does not occur	none	legally protected	Not applicable	not applicable
<i>Phoenicopterus ruber</i>	scarce passage migrant	none	legally protected	Not applicable	not applicable
<i>Sterna albifrons</i>	scarce passage migrant	none	legally protected	Not applicable	not applicable
<i>Sterna bengalensis</i>	does not occur	none	legally protected	Not applicable	not applicable
<i>Sterna sandvicensis</i>	passage migrant	none	legally protected	Not applicable	not applicable

Table 2 - The main important sites for the MAP breeding species in Malta

Site	Species	Population minimum	Population maximum
Ta'Cenc cliffs	<i>Calonectris diomedea</i>	800	1000
	<i>Puffinus yelkouan</i>	50	100
	<i>Hydrobates pelagicus</i>	15	>25
Comino Island	<i>Calonectris diomedea</i>	10	25
	<i>Puffinus yelkouan</i>	50	80
Rdum Tal-Madonna	<i>Calonectris diomedea</i>	10	15
	<i>Puffinus yelkouan</i>	500	500
Filfla islet	<i>Calonectris diomedea</i>	100	200
	<i>Hydrobates pelagicus</i>	5000	8000
West of Wied ix-Xaqqa	<i>Calonectris diomedea</i>	500	800
to Wied Maqbul cliffs	<i>Puffinus yelkouan</i>	100	150
West of il-Hagra Sewda	<i>Calonectris diomedea</i>	150	200
to ix-Xaqqa cliffs	<i>Puffinus yelkouan</i>	80	100
Il-Kullana to ta' Gfien cliffs	<i>Calonectris diomedea</i>	200	300
	<i>Puffinus yelkouan</i>	100	200
Migra Ferha cliffs	<i>Calonectris diomedea</i>	200	250
Ic-Cnus to tal Bardan cliffs	<i>Calonectris diomedea</i>	100	300
	<i>Puffinus yelkouan</i>	30	30+
Xlendi Bay to Wardija Pt cliffs	<i>Calonectris diomedea</i>	300	350
	<i>Puffinus yelkouan</i>	30	50
Dwejra Bay to San Dimitri Cliffs	<i>Calonectris diomedea</i>	100	300
	<i>Puffinus yelkouan</i>	30	50

## Monitoring schemes

BirdLife Malta (NGO) continuously monitors the seabird colonies mentioned above.

## International cooperation

BirdLife Malta has applied for an EU Life project for the conservation, monitoring and enhancing the largest colony in Malta of the Yelkouan Shearwater *Puffinus Yelkouan* which is found at L-Ahrax tal-Mellieha.

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# STATUS OF MARINE AND COASTAL BIRDS IN MONTENEGRO

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## ABSTRACT

Twelve MAP species have been recorded in Montenegro: four are breeders, for two only old data exist in the literature, while six others have been noted as vagrants or on migration.

**KEYWORDS:** Montenegro, bird status, population

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## Montenegro and Montenegrin coast

Montenegro has a surface of 13,852 sq km, with 292.3 km of coastline in the Adriatic Sea. The longest beach is 12 km. In the hinterland of the sea, there are several wetlands: salt pans comprising 15 sq km, the Skadar (300 sq km) and Sasko (6 sq km) lakes, the Tivat salt pans (1.5 sq km), the Buljarica wetland (2 sq km), and the delta of the Bojana river (approx. 20 sq km). The coast is under great tourism pressure during summer.

## Status and population size of MAP species in Montenegro

Twelve MAP species have been recorded in Montenegro (Tab 1).

The presence of *Pelecanus onocrotalus* in Montenegro has been cited in the literature (Reiser and Führer, 1896). *Numenius tenuirostris* has been recorded only once (Reiser and Führer, 1896). *Pelecanus crispus* nests periodically at Skadar lake (Saveljic et al., 2004) with big variations in the number of pairs (11 pairs in 2005). After the successful banning of hunting in Ulcinj salt pans in 2004, the wintering population has increased to 56 individuals (Saveljic and Rubinic, 2005), and a maximum of 96 in 2005. (Saveljic, 2005). *Phalacrocorax pygmeus* nests at Skadar Lake and there are two additional small colonies along the river Bojana, 5 km away from the sea. The total number of nesting pairs in Montenegro is about 2,500. The colony at Skadar Lake is the biggest worldwide, with around 2,200 pairs (Saveljic and Stumberger, 2006, in press). *Hydrobates pelagicus* and *Larus audouinii* may occur in Montenegro but have never been recorded due to lack of monitoring at sea. Small numbers of *Calonectris diomedea* and *Puffinus yelkouan*, and of *Phalacrocorax aristotelis desmarestii* occur in summer (Štumberger et al., 2005). *Falco eleonora* is present in the breeding season on the coast, and probably 2 pairs nest on the island of Sveti Nikola; the species is regular on migration. *Phoenicopterus ruber* occurs every year with a maximum of 6 individuals on Ulcinj salt pans (Saveljic, 2004), and in Tivat salt pans (Saveljic and Rubinic, 2005). It is also a rare winter visitor to Ulcinj salt pans. *Pandion*



*haliaetus* is a regular and rare summer visitor Up to 180 individuals of *Sterna sandvicensis* occur regularly throughout the year at the mouth of the Bojana river in the Adriatic sea, *Sterna albifrons* nests at Ulcinj salt pans in variable numbers from year to year (Saveljic, 2002; 2 to 90 pairs).

**Table 1 - List of marine and coastal species featured in the Mediterranean Action Plan (MAP) that have been recorded in Montenegro**

MAP species	Breeding pairs	Summer - ind.	Winter - ind.
<i>Calonectris diomedea</i>	-	10	-
<i>Puffinus yelkouan</i>	-	12	-
<i>Hydrobates pelagicus</i>	-	-	-
<i>Phalacrocorax aristotelis desmarestii</i>	-	small numbers	8
<i>Phalacrocorax pygmeus</i>	2500 (2005)	5000	7000
<i>Pelecanus crispus</i>	11 (2005)	25	131
<i>Pelecanus onocrotalus</i>	-	-	-
<i>Phoenicopterus rubber</i>	-	6	4
<i>Pandion haliaetus</i>	-	10	-
<i>Falco eleonora</i>	2? (2005)	4	-
<i>Numenius tenuirostris</i>	-	-	-
<i>Larus audouinii</i>	-	-	-
<i>Sterna bengalensis</i>	-	-	-
<i>Sterna sandvicensis</i>	-	60	180
<i>Sterna albifrons</i>	90 (2005)	-	-

## Missing data and Action plan

The lack of data on some bird species featured in the MAP Action Plan is very evident; it responds mainly to the insufficient monitoring and to a deficit of research in this area. Montenegro has only one action plan for the protection of animal species: the Action Plan for the protection of *Pelecanus crispus*, a 5-year plan covering all the areas where pelicans have been recorded (Skadar Lake and Ulcinj salt pans in particular). Special measures of monitoring and protection are proposed for these areas, complete with zoning schemes, considering the fact that these habitats are under great tourism pressure, especially in summer.

## Conservation and monitoring

Most MAP species have been legally protected in Montenegro since 1981. The list is being revised in order to include all MAP species and will soon be completed. As for habitats, Skadar Lake is the only one protected as national park, and it is listed as an IBA and Ramsar site. Other areas are not protected in the national framework. Sasko lake and Ulcinj salt pans have been listed as IBAs. The protection of Ulcinj salt pans and their listing as an IBA has been ongoing for several areas on the coast, but the procedure is rather slow at the national level and faces many obstructions from some stakeholders.

State institutions and the non-governmental Centre for the Protection and Research of Birds are undertaking ornithological research in Montenegro. The Centre for the Protection and Research of Birds cooperates intensively with Euronatur, Germany and DOPPS BirdLife Slovenia. The strategic objective of the Centre is its eventual affiliation to BirdLife International.



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# MARINE AND COASTAL BIRDS OF SLOVENIA: STATUS, POPULATION SIZE AND CONSERVATION OF MEDITERRANEAN ACTION PLAN SPECIES

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## ABSTRACT

Slovenian coastline is 46.6 km long, and the sea, part of the Trieste Gulf in the north Adriatic, is very shallow (average depth 16.4 m). In Slovenia fourteen MAP species have been recorded. The most important regular summer visitors are Yelkouan Shearwater *Puffinus yelkouan* with rafts of up to 1,000 individuals, and Mediterranean Shag *Phalacrocorax aristotelis desmarestii* with an estimated summer population of 1,500 to 2,000 individuals in the Trieste Gulf, what represents 11.4% of the total Mediterranean population. The only breeder is the Little Tern *Sterna albifrons*, which breeds in Secovlje Salina Natural Park. Serious monitoring and conservation management is conducted at two Natura 2000 sites. The other regular bird monitoring effort is the winter waterfowl census (IWC) conducted annually since 1997. Monitoring of marine birds is nonexistent. A new marine international SPA is proposed in the Trieste Gulf for Yelkouan Shearwater and Mediterranean Shag.

**KEYWORDS:** Mediterranean Shag, Slovenia, Trieste Gulf, bird status, population

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## Slovenia and its coast

Although Slovenia is a small European country (20,260 sq km) its surface is very diverse, divided in at least four biogeographical regions. In the submediterranean part it reaches the sea coast in the very northern part of the Adriatic Sea. The Slovenian coastline is 46.6 km long. It lies in the northernmost part of the Adriatic Sea named as Trieste Gulf, which is shared between Slovenia and Italy. Part of the Slovenian coast is urbanized, with some larger towns as Portorož, Piran, Izola, Koper and Ankaran. The second part of the coast presents very steep cliffs. The third part hosts coastal wetlands, which are also of conservation importance. Two wetlands are salt pans: Secovlje salt pans at the southern border with Croatia (1020 ha), and the Strunjan salt pans (650 ha). The third wetland -Škočjanski zatok- is the smallest one (120 ha), but it is very important for bird conservation and the area has been renaturated over the last few years. At the seacoast the mussel farms should be mentioned, especially those at Secovlje and Strunjan salt pans and the large mussel farm at Debeli Rtic near Ankaran by the northern border with Italy. The sea of the Trieste Gulf is very shallow; in Slovenian territory its average depth is 16.4 m, but the maximal depth reaches around 35 m only.

## Status and population size of Mediterranean Action Plan species occurring in Slovenia

In Slovenia fourteen MAP species have been registered; seven species are only rare vagrants (Table 1). Only White Pelican *Pelecanus onocrotalus* and Slender-billed Curlew *Numenius tenuirostris* were not found at the coast, but in marshlands and lakes of inland Slovenia (Anonymous, 1993; Vogrin and Vogrin, 1995). There are no recent data of the occurrence of Cory's Shearwater *Calonectris diomedea*, European Storm-Petrel *Hydrobates pelagicus* and Audouin's Gull *Larus audouinii*; the last observations of these species on the Slovenian coast date back to the 18<sup>th</sup> and 19<sup>th</sup> century (Scopoli, 1769; Freyer, 1842; Gregori, 1992; Kralj, 1997). Breeding of Audouin's Gull has recently been confirmed in the Adriatic Sea in Croatia (Rubinic and Vrezec, 2000), but previously only two old records from Trieste Gulf existed in the Adriatic, i.e. at Piran on the Slovenian coast and at Trieste on the Italian coast (Kralj, 1997). Eleonora's Falcon *Falco eleonora* has been recorded twice in Slovenia, always in August in Secovlje salt pans (Perusek, 1987; Sovinc, 1995). In the autumn of 2005 at least two Greater Flamingos *Phoenicopterus ruber* were observed in the natural reserves of Secovlje salt pans and Škocjanski zatok (B. Mozetic pers. comm., PORTAL IXOBRYCHUS: <http://www.ixobrychus-drustvo.si/portal/html/>, date of consultation 7 Apr 2006). The birds were juveniles and one was ringed, originating from Turkey. The Lesser Crested Tern *Sterna bengalensis*, with only one record from inland Slovenia, can be considered as a vagrant (Denac, 1995). However, in 2004 and 2005 at least two birds regularly occurred at Secovlje salt pans during summer (PORTAL IXOBRYCHUS: <http://www.ixobrychus-drustvo.si/portal/html/>, date of consultation 7 Apr 2006).

Rare but regular summer visitors to the Slovenian coast are the Osprey *Pandion haliaetus* and Pygmy Cormorant *Phalacrocorax pygmeus*. The Osprey is more frequent at inland lakes on migration, but on the coast its occurrence is confined to marshlands, Secovlje salt pans and Škocjanski zatok. Numbers of Pygmy Cormorants are increasing in Slovenia; small groups even over wintering, but only in larger numbers at inland lakes (Bozic, 2005).

The Slovenian coast, as well as the rest of the Trieste Gulf, is a very important feeding area for Yelkouan Shearwater and Mediterranean Shag. Both species are very abundant regular summer visitors to the area. Yelkouan Shearwater occurs from June to November, sometimes in large rafts of up to 1,000 birds, the largest aggregations recorded in the Adriatic Sea (Makovec, 1995; Stipcevic and Lukac, 2001). Shearwaters feed mainly at the open sea (Makovec, 1995), but Shags are more abundant along the coast, especially around mussel farms. An estimated 1,500 to 2,000 birds feed in the area of the Trieste Gulf in summer (Benussi, in press). Shags stay almost all year around, but highest numbers are recorded between June and September (K. Kravos unpubl.). In winter up to 8 individuals are noted along the Slovenian coast (Štumberger, 2005). Summer populations of Yelkouan Shearwater and Shag in the Trieste Gulf are internationally important as aggregations can reach up to 1.5% of the European population of Shearwater and up to 11.4% of the Mediterranean Shag population (data compared to Burfield and Van Bommel, 2004). In winter the Sandwich Tern *Sterna sandvicensis* is common and regular along the Slovenian coast with up to 34 individuals recorded every year (Štumberger, 2000), but in summer numbers fluctuate between 15 and 20 individuals (B. Rubinic pers. comm.).

Among MAP species, the only breeder on the Slovenian coast is the Little Tern, which breeds at Secovlje salt pans. However, until recently the most important breeding population of Little Tern bred on the river Drava in inland Slovenia (Štumberger, 1982). This disappeared due to loss of habitat, and now only some small breeding colonies remain downstream of Drava river on the Croatian-Hungarian border (Mohl, 2001). On the contrary, the coastal breeding population increased remarkably in the period 2003-2005, from only 2–4 pairs to 26 pairs in 2005 (Makovec et al., 1998; B. Rubinic pers. comm.).

**Table 1 - List of marine and coastal species listed in Mediterranean Action Plan (MAP) recorded regularly in Slovenia in certain seasons and its estimated population sizes.**

MAP species	Breeding	Summer	Winter
<i>Calonectris diomedea</i>	-	-	-
<i>Puffinus yelkouan</i>	-	max. 1000 ind.	-
<i>Hydrobates pelagicus</i>	-	-	-
<i>Phalacrocorax aristotelis desmarestii</i>	-	1500 - 2000 ind.	8 ind.
<i>Phalacrocorax pygmeus</i>	-	max. 23 ind.	1 - 2 ind.
<i>Pelecanus onocrotalus</i>	-	-	-
<i>Phoenicopterus roseus</i>	-	-	-
<i>Pandion haliaetus</i>	-	1 - 2 ind.	-
<i>Falco eleonorae</i>	-	-	-
<i>Numenius tenuirostris</i>	-	-	-
<i>Larus audouinii</i>	-	-	-
<i>Sterna bengalensis</i>	-	2 ind.*	-
<i>Sterna sandvicensis</i>	-	15 - 20 ind.	max. 34 ind.
<i>Sternula albifrons</i>	26 pairs	-	-

\* regular occurrence in the last two years (2004, 2005)

## Conservation and monitoring

In the Slovenian coast two wetlands are listed as Specially Protected Areas (SPA), and also as Natura 2000 sites (Bozic, 2003): Secovlje salt pans (Nature Park) and Škocjanski zatok (Natural Reserve). In both of them the most important qualifying species is the Kentish Plover *Charadrius alexandrinus*. Bird monitoring is conducted in both sites. The conservation management of Škocjanski zatok Natural Reserve is currently led by DOPPS-BirdLife Slovenia, and a lot of extensive restoration work has been done so far under LIFE and other projects (Koren and Mozetic, 2002). Since 1999 monitoring of bird populations in the Natural Reserve is conducted weekly, and breeders are additionally counted every year. Bird monitoring at Secovlje salt pans is led by the Natural Park administration. The International Waterbird Census (IWC) has been conducted annually in January since 1997 (see e.g. Štumberger, 2000; 2005, Bozic, 2005). Monitoring of Yelkouan Shearwaters at the open sea does not exist, neither of Mediterranean Shags at mussel farms; both activities should be developed in the future.

So far there is no marine SPA/IBA declared at the open sea in the Trieste Gulf, although it would be essential because of the existence of large populations of Yelkouan Shearwaters and Shags feeding there in summer. The whole area of open sea in the Trieste Gulf should be taken into account, requiring the close cooperation of Slovenian and Italian ornithologists. The proposed international marine SPA/IBA of the Trieste Gulf should then include territories of the two countries.

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# STATUS OF MAP BIRD SPECIES IN SPAIN

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## ABSTRACT

The status of the 10 Mediterranean Action Plan bird species regularly occurring in Spain is presented; 6 of these species show an unfavourable status and the other 4 are "nearly threatened". Spain has the biggest Mediterranean populations of *Calonectris d. diomedea*, *Puffinus mauretanicus* and *Larus audouinii*, and a very important population of *Phoebastria immutabilis*. Most breeding colonies of all species are conveniently protected under international, national and regional regulations. More effort is needed in the elaboration of national action plans (lacking for most species), and in international cooperation for research and monitoring. The Spanish Society for Ornithology (SEO/BirdLife) is currently leading the research on important areas for birds at sea in the Mediterranean region.

**KEYWORDS:** Mediterranean Action Plan, Spain, seabirds

Spain has over 3,000 km of coastline (1,663 in the Mediterranean and 1,481 in the Atlantic), including one big archipelago (Balearic Islands) and two main small ones (Columbretes and Chafarinas) in the Mediterranean, plus another big archipelago in the Atlantic (Canary Islands). Of the 16 species included in Annex II of the MAP for the conservation of sea and coastal birds, 10 occur regularly in Spain. Their status and population estimates are listed in Table 1.

Table 1 - Population data for all MAP bird species in Spain (CE: critically endangered; EN: endangered; VU: vulnerable; NT: near threatened) (sources: Madroño *et al.*, 2004; Martí & Del Moral, 2003).

Common Name (Latin Name)	Breeding Population (pairs)	Population Trend	Status in Spain	% in SPAs
Cory's Shearwater ( <i>Calonectris diomedea diomedea</i> )	<10,000	Declining	EN	90%
Balearic Shearwater ( <i>Puffinus mauretanicus</i> )	2,000-2,400	Declining	CE	100%
European Storm-petrel ( <i>Hydrobates pelagicus</i> )	c. 5,000 <sup>1</sup>	Declining	VU	?(>60%)
Mediterranean Shag ( <i>Phalacrocorax aristotelis desmarestii</i> )	1,380	Prob. Declining	VU	80%
Greater Flamingo ( <i>Phoenicopterus ruber roseus</i> )	26,000	Increasing	NT	>90%
Osprey ( <i>Pandion haliaetus</i> )	16-18 <sup>(1)</sup>	Recovering	CE	>90%
Eleonora's Falcon ( <i>Falco eleonorae</i> )	<1,500 ind.	Stable	NT	>90%
Audouin's Gull ( <i>Larus audouinii</i> )	17,000	Increasing	VU	>90%
Sandwich Tern ( <i>Sterna sandvicensis</i> )	3,000	Increasing	NT	>90%
Little Tern ( <i>Sterna albifrons</i> )	5,500-6,000	Unknown	NT	>90%

<sup>(1)</sup> Mediterranean population



The following information is taken from the *Spanish Red Data Book of Birds* (Madroño et al., 2004) and the *Atlas of Breeding Birds in Spain* (Martí & Del Moral, 2003). Breeding Cory's Shearwater - the third biggest population of the Mediterranean subspecies - are mainly found in the Balearic and Chafarinas Islands, with smaller numbers on islets off the south eastern coast. The Balearic Shearwater is an endemic breeder of the Balearic Islands (24 colonies). European Storm-petrel has also its bigger colonies in the Balearic Islands, occupying some islets off the central- and southeastern coast too. The Mediterranean Shag occurs mainly also in the Balearic Islands. Spain holds up to 30% of the total Mediterranean population of Greater Flamingos, with three permanent reproductive colonies (two in Andalusia and one in Catalonia), and in recent years it has bred occasionally at three additional sites in the Eastern coast (Comunidad Valenciana) and in inland SE Spain. The main colony (Fuentedepiedra, Andalusia) holds 64-100% of the Spanish breeding population and together with the colony of La Camargue (France) is the most important in the Mediterranean region. The Mediterranean population of Ospreys in Spain is restricted to the Balearic (15-17 pp. in 2002) and Chafarinas Islands (1 pp.), having disappeared from the mainland in 1981; in the Atlantic, 15-20 pp. breed in the Canary Islands. The Eleonora's Falcon breeds only in the Balearic (min. 450-500 pp.) and Columbretes (Comunidad Valenciana) Islands (35 pp.), with a further 200 pp. in the Canary Islands in the Atlantic. Colonies of Audouin's Gull, representing 95% of the world population, are scattered among Catalonia (Ebro Delta, 11,000 pp.), Chafarinas, Balearic and Columbretes Islands, and some other islets off the Mediterranean coast. The Sandwich Tern, a recent breeder in Spain, is constrained to two colonies at Catalonia (Ebro Delta, 1,500-2,000 pp.) and Valencia (>1,300 pp.). The Spanish population of Little Tern is spread along the Mediterranean and Atlantic coasts (main populations in Atlantic south-western Andalusia), with several inland colonies as well.

1-2 pairs of Lesser-crested Terns (*Sterna bengalensis*) have bred in some years in Ebro Delta (Catalonia, starting in 1978) and Valencia, sometimes hybridizing with Sandwich Terns. It has also been noted on migration in the Canary Islands and in Southern peninsular Spain. There are no recent confirmed sightings of Slender-billed Curlew (*Numenius tenuirostris*) in Spain, and only occasional sightings of White Pelicans (*Pelecanus onocrotalus*).

## Missing data

Coordinated national censuses are lacking for several species (at least for Cory's Shearwater, European Storm-Petrel, Mediterranean Shag, and Little Tern), although these are programmed for the next years (see below); in some cases, the methodology of census must be further developed for the Procelariiformes and the Mediterranean Shag. Within Spain, additional data is needed for certain species to determine population trends, juvenile survival rates, threats in stop-over and wintering areas, fishery-related mortality competence with other species, identification of important feeding areas at sea, amongst other investigations. Details of specific needs can be found in Madroño *et al.* (2004).

## Action plans (AP)

Following is a list of the action plans which have been developed in Spain:

Balearic Shearwater: European AP (1999); Spain: 1<sup>st</sup> and 2<sup>nd</sup> AP in the Balearics (1991 & 2004); Recovery Strategy (1991-2001), National AP (Ministry of Environment, 2005); Specific National Working Group.



Mediterranean Shag: International AP (1999); Spain: Draft for a Conservation Plan (Balearic Islands).

Eleonora's Falcon: International Action Plan (1999);

Audouin's Gull: International AP (1996); Spain: 3 Recovery Plans (Comunidad Valenciana, Catalonia, Balears); National Coordinated Conservation Plan (1987); Specific National Working Group (1998);

Slender-billed Curlew: International AP (1996); CMS Memorandum of Understanding (1994).

## Main important sites

The main important land sites for these species are the whole of the Balearic archipelago (for Cory's and Balearic Shearwater, European Storm-petrel, Mediterranean Shag, Osprey and Eleonora's Falcon), Ebro Delta (for Audouin's Gull and Sandwich Tern), and the Fuentedepiedra lagoon (for Greater Flamingo), followed by Columbretes and Chafarinas archipelagos, and the Albufera de Valencia.

## Existence of protected areas

(relevant to MAP species, along the Mediterranean coast alone)

Following is a list of protected areas according to their designation:

*SPAMIs*: 9 (*Andalucia*: Maro-Cerro Gordo, Alboran, Almeria sea-bottom, Cape Gata;

*Baleares*: Cabrera; *Catalonia*: Medas Islands-Cape Creus; *Comunidad Valenciana*:

Columbretes; *Murcia*: Mar Menor-eastern coast).

*RAMSAR*: 13 Ramsar Sites, covering 641 sq-km.

*IBAs*: at least 39 IBAs, covering 2,850 sq-km, SEO/BirdLife is currently working towards the identification of marine IBAs through the project LIFE 04 NAT/ES/000049 (2004-2008).

Special Protected Areas (SPAs) (Natura 2000): at least 64 with presence of MAP species, covering more than 1700 sq-km.

*MAB Biosphere Reserves*: 2 (Menorca and Cape Gata).

*National Network of Protected Sites*: all together, there are at least 61 Mediterranean coastal and marine SPAs (National, Natural and Regional Parks, Reserves, etc.), covering a minimum of 1,660 sq-km in land and some 600 sq-km at sea. In addition, there are networks of Marine Reserves for Fisheries Purposes, at national and regional levels.

## Monitoring schemes or activities

Most MAP species are regularly counted and/or monitored, at least in the breeding season, and coordinated full national censuses are programmed for the following years: 2007: Cory's Shearwater, Shag; 2008: Audouin's Gull, Sandwich Tern, Little Tern; 2010: Eleonora's Falcon; 2012: Osprey, European Storm-petrel.

SEO/BirdLife is developing a project aiming to identify Important Birds Areas at Sea (Marine IBAs). This is a LIFE Project, co-financed by the European Commission, with the support of the Spanish Government and some regional governments. Research on the use of off shore marine habitats by most of the species of Annex I of the Birds Directive is currently ongoing, both in the Mediterranean and the Atlantic waters. The project will conclude with a proposal of Marine IBAs candidate to become Special Protected Areas (SPAs) under the Natura 2000 Network.

Cory's Shearwater is regularly counted (and ringed) in Columbretes and Chafarinas, and more sporadically in the Balearics (but regularly in some colonies such as Cabrera National Park and Pantaleu islet); other regions (Murcia, Andalucia) have received little coverage so far. Balearic Shearwater is subject to extended monitoring efforts and some research. European Storm-petrels are only well covered in Valencia and Murcia (Mediterranean coast) and Asturias (Atlantic coast). There has not been an appropriate coordinated monitoring scheme for the Mediterranean Shag so far, specially of its main Balearic colonies, although some colonies are well covered (some Balearic Islands, Catalonia, Valencia and Gibraltar). Greater Flamingos are subject to long-term monitoring and ringing schemes framed in international research efforts. A coordinated monitoring and conservation plan for the Audouin's Gull has been running since 1987, including ringing. As for the Eleonora's Falcon, a global census was carried out in 2004-2005 (in the frame of a Greek LIFE project), although the Canaries population was not included. Breeding and wintering Sandwich Terns are annually counted and monitored in their two colonies (Ebro Delta and Albufera de Valencia), and surveillance, management and educational programmes are carried out in the latter site at least. There has been no coordinated censuses of the Little Tern in Spain to this date.

MAP species in Spain have benefited directly or indirectly by 16 LIFE projects so far (1 *Puffinus mauretanicus*, 4 *Larus audouinii*, 13 multispecific or indirect projects) through EU funded projects.

### International cooperation

Some examples of this essential cooperation in Spain are:

- to study the distribution of Balearic Shearwaters at sea, and out of the breeding period,
- to identify important feeding and concentration areas of European Storm-petrel,
- to carry out internationally coordinated censuses of Mediterranean Shag,
- to study the dispersion of young Ospreys,
- to identify critically important wintering areas for Audouin's Gull in North Africa,
- to study the populations of Sandwich Tern in North African coasts.

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# STATUS OF THE MEDITERRANEAN ACTION PLAN BIRD SPECIES IN ITALY

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## ABSTRACT

The Italian status of the 16 species included in Annex II of the *Protocol Concerning Specially Protected Areas and Biological Diversity in the Mediterranean* and some seabird conservation issues are briefly commented. Country-wide bird monitoring and research projects have been in a sort of 'frozen' condition during the last decade (with a few exceptions). An update of available information is now badly needed for several marine birds.

**KEYWORDS:** Mediterranean Action Plan, Birds, Italy, seabirds

## Introduction

Within the Mediterranean, Italy is only second to Greece in length of coastline (nearly 9000 km) and number of islands and islets (roughly 500). It also holds the peculiarity, together with Tunisia and no other Mediterranean countries, of having huge coastal wetlands in the north of the Adriatic that are deeply affected by tidal movements, with up to 1.5 m of daily variation on spring tides. All 16 species included in Annex II of the MAP for the conservation of sea and coastal birds occur in Italy. Five of them as non-breeding and/or rare visitors (*Pandion haliaetus*, *Pelecanus onocrotalus*, *Puffinus mauretanicus*, *Pelecanus crispus* and *Numenius tenuirostris*, the former two species being also extinct breeders) and the rest as regularly breeding species, with populations ranging from 1 pair (*Sterna bengalensis*) to 15-18,000 pairs (*Calonectris diomedea*).

## Species overview

***Calonectris diomedea*:** a widespread breeder on many rocky islands off the southern and western coasts, breeding also on the mainland coast of Sardinia in at least two sites. All the largest colonies are located on islands of the Sicilian and Sardinian Channels, where the nutrient-rich waters coming from Gibraltar provide better foraging conditions (Zotier *et al.*, 1999): on the three Pelagie islands (most notably Linosa), as well as Pantelleria, Toro and Pan di Zuccheru. Population size and trend: 15-18,000 pairs, apparently stable (Brichetti *et al.*, 1992; Brichetti & Fracasso, 2003-2006).

***Puffinus yelkouan*:** the Tavolara archipelago in NE Sardinia hosts the largest fraction of the global population, with colonies on Tavolara, Molaru and Figarolo that are all heavily affected

by Black Rat predation and apparently decreasing (Spano, pers. com.). Other important colonies at Lampedusa and Montecristo islands and probably on the mainland coast of Sardinia (Orosei Gulf). Population size and trend: current estimate of 7-14,000 (Brichetti & Fracasso, 2003-2006), lowered from the previous one (11-18,000) (Brichetti *et al.*, 1992) for unknown reasons; data quality of the available information is very rough, but an overall decline is highly probable.

***Puffinus mauretanicus***: possibly an irregular migrant, with at least 8 records and one ring recovery (Brichetti & Fracasso, 2003-2006). Status inadequately known.

***Hydrobates pelagicus melitensis***: breeding has been proven on 3 Sicilian and 3 Sardinian islands, with large colonies in coastal caverns of two of them. Population size and trend: 1700-2500 pairs, apparently stable (Brichetti & Fracasso, 2003-2006) (a strong decline had probably occurred earlier).

***Phalacrocorax aristotelis desmarestii***: breeds mainly around Sardinia, with minor settlements on the Tuscan islands (notably Capraia and Pianosa), the Pontine islands and Lampedusa. Post breeding movements lead some Tuscan breeders toward Corsica and Sardinia, as well as Croatian breeders to the NW Adriatic coasts, mainly in the Trieste Gulf but as far south as the Po delta. Population size and trend: 1600-2200 pairs, fluctuating (Brichetti & Fracasso, 2003-2006).

***Phalacrocorax pygmeus***: has recently settled at a small number of already existing mixed colonies along the Adriatic (southern Po delta and Venice Lagoon), undergoing a fast increase. Consequently large winter figures (up to 1000), especially in the northern Po delta after year 2002 (Baccetti *et al.*, 1991-2000; Borgo *et al.*, 2003). Traditional influx of Balkan birds in the SE (Apulia) still shows no increasing signs. Population size and trend: 2 pairs in 1981, 42-52 in 2000, 118-128 in 2001 (Brichetti & Fracasso, 2003-2006), with further increases (e.g. 649 pairs at Ravenna alone in 2004, <http://www.parcodeltapo.it/er/info/dati-avifauna.html>).

***Pelecanus onocrotalus***: used to breed at least in the southern Po Delta more than 200 years ago (Brichetti & Fracasso, 2003-2006; Dal Pozzo, 1635). Regular passage of flocks no longer observed after early 20<sup>th</sup> century (Brichetti *et al.*, 1992), due to local extinctions in the N part of the European range. Single birds are observed in recent years, also at dates that suggest a captive origin.

***Pelecanus crispus***: vagrant, with 9 accepted records (Brichetti *et al.*, 1992); nothing suggests that this species has ever bred in Italy, despite the proximity of the Albanian breeding sites.

***Phoenicopterus roseus***: has successfully bred at 5 coastal wetlands since 1993 (Molentargius, Santa Gilla, Orbetello, Comacchio, Margherita di Savoia). Population size and trend: c. 9500 pairs at 3 sites in 2005 (Béchet & Germain, 2005), increasing. The wintering population now exceeds 30,000 inds.

***Pandion haliaetus***: an extinct breeder in Sardinia (as late as 1969), Sicily, Tuscany and Apulia (Brichetti *et al.*, 1992). Important passage of N European breeders; wintering population (mainly Corsican breeders) c. 30 inds. (Baccetti *et al.*, 1992), apparently increasing.

***Falco eleonora***: breeds at c. 10 colonies on small islands and in the Baunei cliffs in Sardinia. Population size and trend: 400-500 pairs, stable or slightly increasing (Brichetti *et al.*, 1992; Brichetti & Fracasso, 2003-2006).

***Numenius tenuirostris***: this critically endangered species was a regular passage migrant until c. 1930, with wintering sites all across the south of the country. A wintering flock was last observed in 1995 at one of the former keysites, on the Gulf of Manfredonia in Apulia (Zenatello & Baccetti, 2001).

***Larus audouinii***: breeds at 10-15 sites in Sardinia, Tuscany, Apulia and Campania (latter region not occupied in 2004-2006). Important fluctuations in breeding success and colony desertion heavily affect the data on population size, because most counts are carried out in early June. Two of the largest colonies are in wetlands. Small wintering population (c. 100-200 inds) (Baccetti *et al.*). Population size and trend: ca. 1300 pairs bred in 2005 at 12 sites (Sardinia: 1012 pairs at 8 sites); no clear trend detectable.

***Sterna bengalensis emigrata***: 1 pair (2 in 1999) has regularly bred in the sandvicensis colony of Comacchio Lagoon in 1985-2002 (moved to Lagoon of Venice only in 1999), with an additional pair in 1994 and a mixed bengalensis x sandvicensis pair in three more years (Brichetti & Fracasso, 2003-2006).

***Sterna sandvicensis***: localized breeder, occurring only on the Adriatic at 4 main coastal wetlands (Comacchio, Venice, Po Delta and Margherita di Savoia), since 1979. Around 1000 inds are present in winter (Baccetti *et al.*). Population size and trend: 600-1400 pairs in 2000-2004 (Brichetti & Fracasso, 2003-2006), not clear whether the trend is still increasing.

***Sternula albifrons***: a widespread breeder along nearly all coasts, though very scarce on the Tyrrhenian, also breeding inland in the Po Plain. In the early eighties complete counts indicated the presence of 6000 pairs, representing 30% of the W Palearctic population (Fasola, 1986). An important moulting site in the Lagoon of Venice is used every year by more than 10.000 inds. originating from the entire Adriatic (Cherubini *et al.*, 1996), as well as from inner Danube breeding sites, is now threatened by engineering projects. Main colonies are threatened by summer tourists and gull predation. Population size and trend: 2000-3500 pairs estimated for 2004 (Brichetti & Fracasso, 2003-2006), with a >50% decrease especially dramatic at N Adriatic sites.

## **Main strategic issues**

**Monitoring:** After a number of good projects were carried out in the eighties and early nineties (on larks, Cory's Shearwater, etc.), data collection even simply on population size has apparently slowed down in recent years. This represents an obvious limit for conservation. Moreover, information is almost totally missing for most seabirds on seasonal movements, diet, home range etc.

**Action plans:** From the MAP species, the Italian Ministry for the Environment has published a National Action Plan for *Numenius tenuirostris* (Zenatello & Baccetti, 2001) and *Larus audouinii* (Serra *et al.*, 2001), while another on *Falco eleonora* is in preparation. Hardly any of the existing action plans' recommendations have been put into practice so far, unless at a very local level.

Site designation and conservation. Despite many coastal breeding sites are protected in the country, also by SPA designation, there are many local gaps to fill and protected areas at sea (for birds) are still inexistent. Some most meaningful negative, current examples are: the failure of the Ramsar designation of the Lagoon of Venice (2005, despite coordinated local, national and international efforts (Smart & Vinals, 2004)); the engineering works to limit the tidal movements being carried out at the same lagoon without an EIA; the small number of SPAs in Sardinia and the inadequate protection locally afforded even to flagship species such as the Audouin's Gull (e.g. only 3 out of the 8 colonies of 2005 fell inside protected areas); the advent of motorized clam fishery (of the exotic *Tapes philippinarum*) destroying the benthos of all the N Adriatic lagoons; and numerous and recent cases of reclamation of coastal wetlands (in Sardinia, Marche, Apulia) mainly for industry and tourist settlement.

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# STATUS REPORT OF SEA AND COASTAL AVIAN SPECIES RECORDED IN CYPRUS

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**ABSTRACT:** The Game Fund service, Cyprus Ministry of Interior is responsible for bird conservation in Cyprus. All the following species that have been recorded in Cyprus are legally protected (Law 152(I) 2003, Annex VI). The two major wetlands of Cyprus, Akrotiri and Larnaca salt lakes and all dams (areas frequented by Ospreys and White Pelicans) are designated as wildlife conservation areas. Akrotiri salt lake, in the southern tip of Cyprus, lies within a British Base and it has been designated as a RAMSAR site in 2003. A large part of Larnaca salt lake has been designated as a RAMSAR site (2001) and listed as a Specially Protected Area (2005). The largest Eleonora's Falcon colony lies within Cape Aspro, a designated Specially Protected Area. Where bird numbers are mentioned, these do not include information from the occupied part of Cyprus.

**KEYWORDS:** conservation, osprey, pelican, Eleonora's falcon

## Status of MAP bird species in Cyprus

Cyprus is the third largest island in the Mediterranean with an area of 9,250 sq km. The coastline is 735 km in length. Since 1974, 37% of the island's territory is being occupied by Turkey. Table 1 summarizes the available information on MAP bird species that occur regularly in Cyprus.

Table 1 - Status and population of regular MAP species occurring in Cyprus.

Common Name ( <i>Latin Name</i> )	Breeding Population (pairs)	Wintering Population (individuals)	Migratory population	Status
Cory's Shearwater ( <i>Calonectris diomedea</i> )			Scarce	Passage migrant
Mediterranean Shag ( <i>Phalacrocorax aristotelis desmarestii</i> )	< 30			Resident breeder
White Pelican ( <i>Pelecanus onocrotalus</i> )		< 20	Scarce	Passage migrant
Greater Flamingo ( <i>Phoenicopterus ruber</i> )		6 - 10,000		Wintering
Osprey ( <i>Pandion haliaetus</i> )		<10		Wintering
Eleonora's Falcon ( <i>Falco eleonora</i> )	108-160			Summer breeder
Sandwich Tern ( <i>Sterna sandvicensis</i> )		Scarce	Scarce	Migrant/wintering
Little Tern ( <i>Sterna albifrons</i> )	< 10		Scarce	Migrant /summer breeder

Cory's Shearwater is a scarce (off-shore) passage migrant that is most probably overlooked. Spring migration occurs mainly off the south and east coast, while fall migration takes place mainly along the north coast (Flint and Stewart, 1992). There were 11 sightings of a total of 30 birds between 2001 and 2004 (Miltiadous, pers. com.). Yelkouan (*Puffinus yelkouan*) and Balearic (*P. mauretanicus*) Shearwaters have not been recorded in Cyprus. The European Storm-Petrel (*Hydrobates pelagicus*) is an accidental visitor with only 2 records during the last 100 years (Bannerman and Bannerman, 1971).

The Mediterranean Shag is a scarce resident that breeds in the southern coastal cliffs of Cyprus. It has also been seen at Petra tou Romiou, Cape Aspro, Episkopi cliffs, Akrotiri cliffs, and Ayios Georgios Alamanos, but breeding has not been confirmed. There are unconfirmed records also for Klidhes islands, historically the largest Shag colony on the island, off the Karpassia peninsula in the occupied northern Cyprus. Total nesting population is estimated at <30 pairs (Game Fund water bird counts 1995-2005). The Pygmy Cormorant (*Phalacrocorax pygmeus*) is a very scarce irregular passage migrant, with about 10 records in the last 23 years. In the winter of 1982-3, 2-3 birds wintered in dams (Flint and Stewart, 1992).

The White Pelican is a passage migrant in small numbers. It is seen in October-November, usually in Larnaca and Akrotiri salt lakes and in reservoirs, sometimes in large groups of up to 19 individuals (Game Fund water bird counts 1995-2005). The Dalmatian Pelican (*Pelecanus crispus*) is a very scarce and irregular visitor with no recent records during the last 5 years. Greater Flamingos are winter visitors in large numbers (6-10 thousands/year) in the island's two major wetlands, Akrotiri and Larnaca salt lakes. Some flamingos remain during the whole year, mainly in Akrotiri, depending on the water level. Three failed breeding attempts were recorded, twice in Akrotiri (2003 and 2005) and once in Larnaca (2001).

The Osprey is a passage migrant, mainly in autumn (Bannerman and Bannerman, 1971). Usually 4-10 annual sightings of singles are recorded at reservoirs in the autumn migration. Eleonora's Falcon is a migrant breeder that returns to Cyprus by mid to late April. During May-June they are observed hunting for flying insects inland, even in open forest areas, away from their nesting cliffs in the southern coast of Cyprus. Their breeding habitat ranges from Cape Gata westwards, just east of Petra tou Romiou. Eight colonies have been identified, the largest being at Cape Aspro. An annual boat survey has been carried out since September 2002, and the breeding population is estimated between 108 and 160 pairs. (Birdlife International, 2004). In 2004 and 2005 a second survey was conducted in late September-early October to monitor breeding success. The increase in numbers compared to the early September survey (+34%) represented a crude estimate of the breeding success with the surplus of fledglings included within the population.

The Slender-billed Curlew (*Numenius tenuirostris*) is an accidental visitor with only 3 old records (4/1958, 12/1964, 4/1972) (Flint and Stewart, 1992).

The only confirmed nesting colony of Audouin's Gull (*Larus audouinii*) is located at one of the islets of the Kleides islands (off Cape Apostolos Andreas), in northern Cyprus. The last known breeding census was performed in 1987, recording 36 adults and 15 occupied nests on the main island (Flint and Stewart, 1992). Its present breeding status is unknown as access to the islands is prohibited. A large population of Yellow-legged Gulls (*Larus michahellis*)



has bred on the islets in recent years and there is a risk that it may compete or even prey on the Audouin's nesting colony. The Lesser Crested Tern (*Sterna bengalensis*) has not been recorded in Cyprus, while the Sandwich Tern is a scarce winter visitor and passage migrant, noted annually along the past 25 years but often overlooked. The Little Tern is a scarce passage migrant in spring and autumn but in recent years some breeding attempts have been noted at Larnaca Salt Lake area (2002-2005 8 pairs / 4 successfully hatched/ fledged young) (Miltiadous, pers. com.).

## **Existence of Action Plans**

There are no national action plan for these species.

## **Main Important Sites**

1. Larnaca salt lake (SPA/RAMSAR site);
2. Akrotiri salt lake (RAMSAR site);
3. Southern rocky coastal area (Cape Gata - Petra tou Romiou)  
Major breeding site for Eleonora's Falcon (designated SPA);
4. Artificial wetlands (Achna, Kalavassos, Evretou, Asprogremmos dams)  
All wetlands are wildlife conservation areas (where hunting is prohibited).  
Achna dam is currently considered for SPA designation;
5. Klidhes islands - Cape Apostolos Andreas (occupied northern Cyprus).

## **Monitoring Activities**

All wetlands are surveyed at least once a month; an Eleonora's Falcon breeding survey is conducted every August and September. Finally, a detailed waterbird breeding survey is carried out.

## **International Cooperation**

There is a need for closer international cooperation for a similar monitoring scheme.

## **Acknowledgements**

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# A SUMMARY OF THE ISRAEL ACTION PLAN FOR THE CONSERVATION OF MARINE AND COASTAL BIRDS

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## ABSTRACT

The Nature and Parks Authority completed the Israeli Action Plan for the Conservation of Marine and Coastal Bird Species in 2002. The plan is one of the first country plans to be published according to the guidelines set forth by RAC/SPA. The Society for the Protection of Nature in Israel (SPNI) presented up-to-date information for the Vilanova Symposium regarding the concerned species. All of the 16 marine and coastal species of concern listed by RAC/SPA have been observed in Israel. However, only two species breed in Israel: Pygmy Cormorant (*Phalacrocorax pygmeus*), and Little Tern (*Sterna albifrons*). In addition, the entire European population of White Pelican (*Pelecanus onocrotalus*) migrates through Israel and depends on wetland habitats that are located here at the northern edge of the large arid zone that extends down to southern Egypt and Sudan.

**KEYWORDS:** Israel, Pygmy Cormorant, Little Tern, White Pelican.

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Israel is a small country (22,000 sq. km) with 188 km of Mediterranean coastline. The coastal habitat includes mostly sandy shores, low cliffs in the north, dunes to the south, and several small islands along the northern coast. Forty-three kilometres are protected as nature reserves, national parks, and protected areas. The Palestinian section of the coast along the Gaza strip is not included here, although future cooperation and inclusion of a Palestinian NGO should be encouraged.

The two most common of these species are Pygmy Cormorants and White Pelicans. Approximately 150 pairs of Pygmy Cormorants now breed in Israel and are increasing annually. Since 2003, they began breeding at a coastal reserve, Ain Afek, and in 2005 at least 10 pairs were found. Approximately 50 km inland, at least three breeding colonies occur: Beit Shean (10-20 pairs), Sea of Galilee (100+ pairs) and the Hula Valley (10-20 pairs). Numbers increase in winter, especially along the coast where over 100 birds have been counted.

The following table (table1) summarizes the information on the status of MAP species in Israel.

Table 1: Mediterranean marine and coastal threatened and endangered species (Annex II, SPA/BD Protocol) that use habitats along the Israeli Mediterranean shore (data from Shirihai 1996, Granit pers. comm. 2006; PM-passage migrant, WV-winter visitor, SB-summer breeder, SV-non-breeder summer visitor, RB-resident breeder, DV-dispersive visitor throughout the year, AV-accidental visitor, FB-former breeder, RD-resident and dispersive).

Species	PM	WV	SB	SV	RB	DV	AV	Remarks/other status
<i>Calonectris diomedea</i>	+	+						In Med. sea mainly during autumn. Tens observed annually.
<i>Puffinus yelkouan</i>	+	+						Uncommon to quite common in autumn & winter, scarce in spring
<i>Puffinus mauretanicus</i>							+	Accidental- 1 confirmed sighting
<i>Hydrobates pelagicus</i>							+	Accidental in 1982-1992
<i>Phalacrocorax aristotelis</i>							+	2 sightings. Recently 1 over wintered (2006)
<i>Phalacrocorax pygmeus</i>		+	+		+			Uncommon along the coast with up to 10 pairs breeding (recent) and over 100 wintering. 150 pairs inland.
<i>Pelecanus onocrotalus</i>	+	+		+				Scarce SV. Entire European population passes (ca. 70,000)
<i>Pelecanus crispus</i>							+	Several sightings, some over winter.
<i>Phoenicopterus ruber</i>	+	+						Mostly at salt ponds near the sea shore. Up to 50 individuals.
<i>Pandion haliaetus</i>	+	+						Scarce migrant; also along the coast.
<i>Falco eleonora</i>	+							Quite rare
<i>Numenius tenuirostris</i>							+	Known from 1917 specimen.
<i>Larus audouinii</i>							+	Occasional, mainly Jan. to April
<i>Sterna bengalensis</i>				+			+	Accidental to Med. shores
<i>Sterna sandvicensis</i>	+	+		+				Uncommon PM, WV & rare SV, nonbreeder
<i>Sterna albifrons</i>	+	+	+	+				Scarce SB, uncommon SV, straggler WV

The entire European population of White Pelicans migrates over Israel twice a year (approximately 70,000). The main stopover areas for this species are at the Hula Valley and along the northern coast from Akko down to Ma'agan Mikhael. Many of these birds attempt to land and feed at fish farming ponds causing a major conflict and conservation issue. Over the past 6 years the SPNI together with the Nature and Parks Authority and local farmers have implemented a program to stock fish at the Hula wetlands and along the coast to provide an alternative feeding area critical to the survival of this species.

## Missing data

The only two species that are regularly monitored are the Pygmy Cormorant and White Pelican. More detailed information is needed about cormorant distribution and seasonal fluctuations. A better management scheme is required for migrating White Pelicans and should include more detailed information about energy requirements and stopover behaviour during the autumn migration. A standard monitoring scheme is required for Little Terns and other breeding shorebirds along the coast and near shore islands. Research into the breeding ecology of Little Terns and their conservation requirements is also needed.

## Action plans

An action plan was published in 2002 by the Nature and Parks Authority (Shai, 2002). The plan has not been implemented due to budget constraints and lack of public awareness.

## Main important sites

Important sites are located along the northern coastline where the two breeding species are found. The Pygmy Cormorant relies heavily on local fish farming ponds, which causes conflicts with farmers. The main area along the coast is found between Akko and Haifa (Haifa Bay). Within this area the only protected region is within the Afek Reserve where some breeding has occurred. Little Terns breed along the central coast from Atlit down to Ma'agan Mikhael. Two coastal reserves are found here (Bonim Coast, and Nahak Tananim); however, the main tern breeding sites are within the private property of Kibbutz Ma'agan Mikhael.

## Existence of protected areas

Forty-three kilometres of coast are protected as nature reserves, national parks, and protected areas. The Afek Reserve is a Ramsar site as well as an IBA. The entire coastline from Atlit down to Ma'agan Mikhael is also listed as an IBA.

## Monitoring schemes or activities

The Nature and Parks Authority operates a regular year round monitoring scheme for Pygmy Cormorants throughout their range. No other consistent monitoring is conducted along the coast. Intermittent surveys and bird ringing are conducted by the SPNI and individual birdwatchers.

## International cooperation

The SPNI cooperates with the Wildlife Palestine Society on several projects. However, no projects have been initiated regarding coastal species.

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