

# CONSERVATION OF MARINE AND COASTAL BIRDS IN THE MEDITERRANEAN

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## Seabirds of the Balearic Islands: status and recent changes (1987-2014)

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### ABSTRACT

The breeding seabirds in the Balearic Islands are the Mediterranean Storm-petrel *Hydrobates pelagicus melitensis*, the Balearic Shearwater *Puffinus mauretanicus*, the Scopoli's Shearwater *Calonectris diomedea*, the Mediterranean Shag *Phalacrocorax aristotelis desmarestii*, the Audouin's Gull *Larus audouinii* and the Yellow-legged Gull *Larus michahellis*. Other species occur in winter or during migration, such as the Northern Gannet *Morus bassanus*, various skuas *Stercorarius* sp. and terns *Sterna* sp., the Black-headed Gull *Larus ridibundus* and the Lesser Black-backed Gull *L. fuscus*. We present here some information on these species and the conservation factors that affect them. We also include data for two raptor species breeding along the Islands' coast-line: the Osprey *Pandion haliaetus* and the Eleonora's Falcon *Falco eleonora*. Changes in their conservation status since the first Medmaravis Symposium (Mayol 1986) are summarized here.

#### Mediterranean Storm Petrel

*Hydrobates pelagicus melitensis*

Presently seventeen colonies are found mostly around Ibiza and Formentera. In

1987 only three colonies were known. Habitat choice by the species and the calcareous rocky nature of the Balearics make quantitative surveys impossible. The total population size is unknown, but it is at least over one thousand pairs. In recent decades, the intense dedication of one ringer, E. Ramos, resulted in ringing over 15,000 birds (using mist-nets and vocalization play-back outside the colonies) and some recoveries or controls in colonies of Benidorm, Murcia and the Costa Brava, as well as at Marettimo (Sicily) and in the NW of Morocco. A standardized procedure for monitoring the most important colony, the Espartar islet in Ibiza, has been recently adopted (Minguez *et al.* 2005). The species is stable or growing, mainly thanks to eradication of rats at favourable islets.

#### Balearic Shearwater

*Puffinus mauretanicus*

The Islands hold 25 colonies with a population of probably 3,200 breeding pairs, but the whole population is larger. Counts of 25,000 to 30,000 birds have been registered in winter and during migration in Gibraltar or Atlantic waters. Great efforts (Project Life-Puffinus, eradication of rats, protection of colonies, etc.) have been carried out to conserve the

species. Intensive scientific monitoring is carried out at some colonies, while an effective protection of colonies is planned at three sites: La Mola of Maó, Tagomago Island and Punta Prima (Formentera).

#### **Scopoli's Shearwater**

*Calonectris diomedea*

The Islands host at least 4,500-5,200 pairs. A limited demographic decrease is suggested, although available data are inconclusive. Some colonies are being monitored accurately and the information on the species' post-breeding movements has increased significantly. In winter, movements are quite spread out in the Atlantic Ocean, with birds undertaking several ocean-crossings. During the breeding season, many birds are continually moving to the Iberian mainland coast in order to feed on fish as well as on discards. The main local problem is the accidental capture in March and April by surface longline fishing.

#### **Mediterranean Shag**

*Phalacrocorax aristotelis desmarestii*

This species breeds along almost all the rocky coast of the Balearics, and the protection of the species and its main colonies has considerably improved their conservation status. The population increased from 1,450 pairs in 1983 to 2,000 pairs in the 2010s, with a particularly marked increase in Ibiza and Formentera (Álvarez & Velando 2007, Ramos *et al.* 2011). A conservation plan is properly implemented.

#### **Audouin's Gull**

*Larus audouinii*

A significant percentage of the western Mediterranean population is breeding in the Balearics: around 1,000 pairs, although

numbers are fluctuating from year to year (Muntaner 2003). The conservation status evolved very positively. The species' dependence on trawling is obvious, as evidenced by the establishment of some small colonies next to some fishing ports, and the decrease in the breeding population at Cabrera national park in the years where trawling was prohibited. There is a correlation between the breeding population size and the volume of fish landed by fishermen.

#### **Yellow-legged Gull**

*Larus michahellis*

The species increased dramatically in the 1980s but now it is stable or decreasing due to intensive culling efforts (more than 43,000 individuals were killed and 80,000 eggs sterilized between 1988 and 2004) and to an improved waste management (closure of landfills everywhere, except in Ibiza). A wide-ranging population census was carried out in 2015, resulting in 7,500 breeding pairs (half of the maximum number, counted in 2001). From 2003 to 2010, 2,041 birds have been marked with colour rings, revealing movements to the NW and NE (1,266 controls in S France, 915 in Catalonia, 168 in the Basque Country) as well as dispersive movements up to the Netherlands, Great Britain, Galicia and Portugal.

#### **Osprey**

*Pandion haliaetus*

This species is slowly and constantly improving its conservation status (Thibault *et al.* 1996, 2012, Triay & Siveri 2008). In 2014 there have been 23-25 breeding pairs, including the spontaneous re-colonization of Ibiza where breeding had ceased forty years ago (one young fledged in 2015). Protection of wetlands and the elimination of danger from electrocution are the most important factors explaining this favourable development. Radio-



monitoring has shown that the juveniles of the local population mainly move to Iberia and North Africa, with some individuals undertaking more distant dispersion flights.

#### **Eleonora's Falcon** *Falco eleonora*

The Eleonora's Falcon breeding population has increased from 500 pairs in 1976 to over 1,100 in recent years (Mayol 1996, Del Moral 2008, Mas & Muntaner 2015b), through the legal protection of all the colonies and the declaration as parks, nature reserves or ZEPAS (Special areas for the protection of birds). Some birds have been tagged with satellite transmitters, which have revealed that the autumn migration occurs through the Sahara, while the pre-breeding return varies from East Africa (mainly in adults) to some dispersal to the west of the continent in the case of immature birds.

### **THE EVOLUTION OF THE LIMITING FACTORS**

Ten categories of threats to seabirds have been identified in the Balearics (Mayol 1986). Significant changes have occurred in the last 28 years. Some risk factors that were identified in 1986 no longer exist today, namely direct destruction, collection of eggs and chicks, military activities and destruction of nesting sites due to building development. Although such risk factors may still occur occasionally, they are no longer of demographical significance.

Other risk factors identified in 1986 however still persist (e.g. Mayol *et al.* 2000). A major threat to seabirds is accidental fishing by-catch. This factor can be detrimental around the Balearics for the Shag, which gets caught in fixed nets and shearwaters particularly during March and April, which get hooked by

long-line fishing. The local fishing fleet is undergoing a marked recession, and there are various restrictions in the protected areas that partially benefit the birds. However, we now realize that during the breeding season both shearwater species and the Audouin's Gulls feed along the mainland coasts, where the risk of by-catch is larger. A priority in the next years would be to quantify their mortality and to eliminate this risk factor.

Introduced species (rats and carnivores) remain another serious threat. Since 1987, successful eradication actions have been carried out on eleven small islands, and there have been several projects to reduce the number of cats and genets near colonies. However, socio-economic changes have led to a proliferation of poorly controlled cats which can be a factor of increased mortality in certain colonies of Balearic Shearwater at least in Menorca and Formentera.

The limitation of trophic resources is likely to limit the population level and the productivity at colonies. The new European policy of limiting discards at sea is a factor to be considered, although the Balearic fisheries have benefited from a system of exceptions. Reducing the fishing fleet may also damage the commensal species, such as Audouin's Gull and the shearwaters.

Two risk factors identified in 1986 are presently of unknown significance. Pollution affecting birds has not been properly studied and continues to be a potential threat although there is no evidence at the present time that it is relevant for any species. There has been no relevant case of oil discharge at sea. However, the 'Prestige' accident in Galicia, which occurred a few weeks from the migration peak of the Balearic Shearwaters there, demonstrates the possibility of such risk even when occurring far away from the breeding area. Protocols and infrastructures for recovery

of oiled birds have been improved, but it is doubtful that the existing response capacity would be adequate in a critical situation.

## CONCLUSION

Great attention has been devoted to birds by ornithologists and birdwatchers over the past three decades, with relevant yearly publications on status (GOB 1988-2015), many specific articles and notes as quoted above, and important surveys in protected areas such as the Cabrera national park (Pons 2000). This helped in taking efficient conservation measures.

Consequently the conservation status of seabirds in the Balearic Islands has improved for most species, or remained stable for the others. Reducing the Yellow-legged Gull breeding population should be considered positive for the conservation of the other species.

A successful network of parks and reserves has been created and consolidated, and most of the negative factors limiting bird populations have been corrected or better controlled. The conservation priorities for seabirds are the protection and management of certain areas (especially Tagomago Island), the total control of introduced species (rodents and carnivores) and addressing the problem of by-catch.

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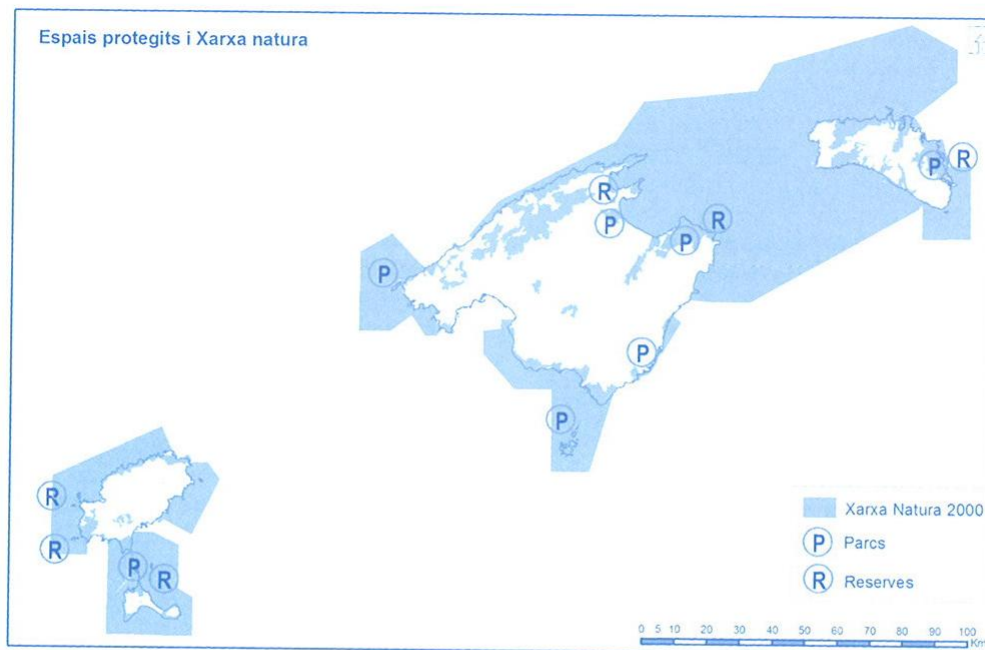
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**Figure 1.** Protected areas for seabirds and coastal birds of prey in the Balearic Islands: N2000 network, parks and reserves.