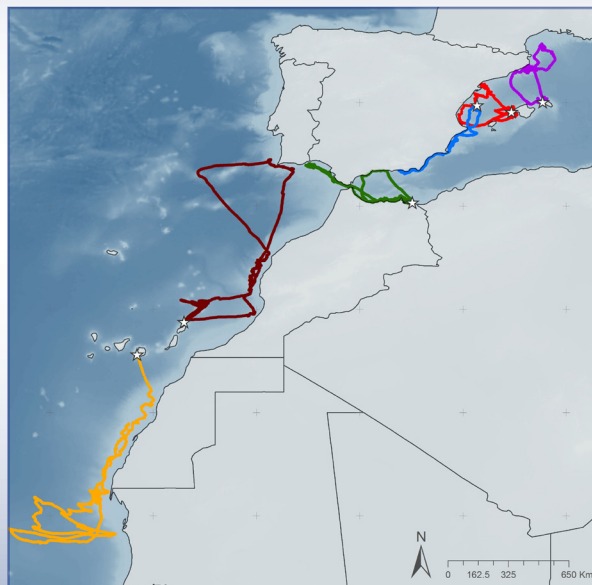


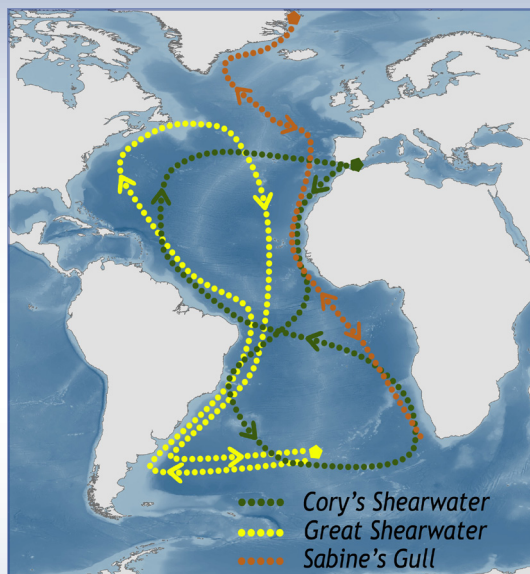
Spain: a seabird hotspot

Spain is the country with the greatest diversity of seabirds in Europe: from the small storm-petrels (25 g) to the large gannets (over 3 kg and almost 2 m wingspan), from the most accomplished divers (auks and cormorants) to the most skilful gliders (shearwaters), about 40 species are found regularly in Spain and more than 20 nest there.

Seabirds are very long-lived species – they can live over sixty years! – that reproduce very slowly (many species lay only one egg per year). Therefore, they also react slowly to changes in the environment, which can cause drastic declines in their populations.



Map 1. GPS data have revealed the enormous distances that some seabirds cover to commute between their breeding colonies (located in quiet and inaccessible places, free of terrestrial predators, such as islets) and their foraging grounds (often in highly productive marine areas, either coastal or well offshore depending on the species). This type of information is key to address the conservation of these sensitive seabirds. The figure shows examples of foraging trips by Cory's shearwaters tagged with GPS-loggers in different Spanish colonies during INDEMARES.



Map 2. After breeding, several Northern Hemisphere species move to Southern Hemisphere waters, richer in food during our winter months (austral summer). For the same reason, some of the Southern Hemisphere seabirds travel to the north after breeding, visiting our waters during the boreal summer. The map shows the migration routes of three seabird species, as inferred from remote tracking data (light-sensitive geolocation loggers).

Seabirds usually breed in colonies that can hold up to several hundred thousand pairs, and are often located in inaccessible sites such as remote islands and seacliffs. But they spend most of their lives at sea, where they find their food.

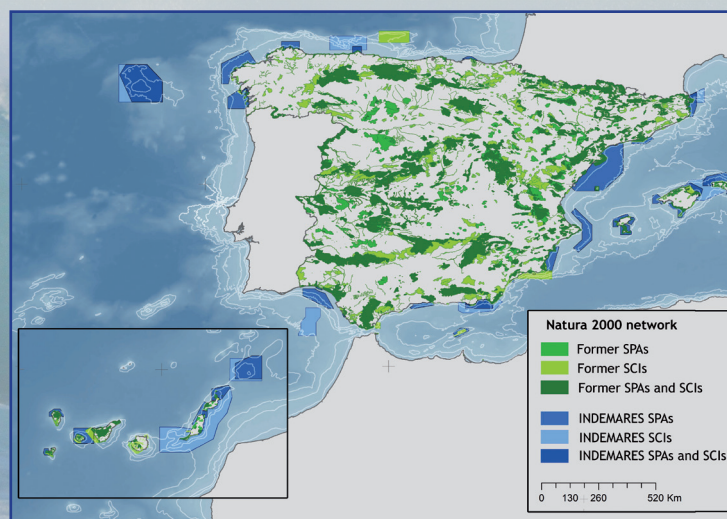
Often the best feeding areas are far from the breeding grounds, so many species are adapted to travel long distances, up to hundreds or even thousands of miles, to provide food to their chicks (Map 1). Even more spectacular are the trips undertaken after breeding, which can lead from one end of the globe to the other (Map 2)

What should we do?

We must be aware of the increasing deterioration of our seas, and take steps to reverse this trend. Among them:

- Create marine protected areas (MPAs) to allow preserving the best biodiversity hotspots. This doesn't necessarily imply prohibition of human activities. Indeed, many MPAs seek to find the compatibility of human uses with the preservation of biodiversity and the environment, through well designed management plans.
- Develop and implement recovery and conservation plans for endangered species.
- Promote integrated and coordinated management of the marine environment, seeking the sustainability of resources for the benefit of all.

Within this context, the project LIFE+ INDEMARES (LIFE07NAT/ E/ 000732) joined the efforts of 10 partner institutions (administrations, research centres and NGOs) with the aim of extending the Spanish Natura 2000 network in the marine environment, on a scientific basis and looking for the implication of all stakeholders. The project added 49 new sites and over 70,000 km², representing an 8-fold increase in coverage. This way, Spain becomes an example for other countries in terms of MPA designation.



INDEMARES



In danger: between land and sea

By alternating between the land and the sea, seabirds face a wide array of threats, that make of them the most threatened group of birds in the world: over a third of the 346 known species are threatened globally, several of them to the brink of extinction. Spain is no exception, and hosts 16 breeding species listed as sensitive at European level (Annex I of the Birds Directive), as well as other non-breeding species also included in that list or covered by other international conventions. The Balearic Shearwater (*Puffinus mauretanicus*) is on top of the list, as it is regarded as the most endangered bird in Europe.

At sea

- Fisheries can benefit seabirds by providing extra food (discards), but also contribute to the reduction of their natural prey. And, more directly, seabird bycatch (the accidental capture of seabirds in some fishing gear types) is one of the major threats to many species, while it also represent a nuisance for fishermen, and can even cause economic losses. Fortunately, there are simple ways to minimise bycatch, such as the use of "tori-lines" to keep the birds away from the vessels, which benefit both birds and fishermen.



- New uses of the sea, such as windfarm development, may pose new threats to seabirds. And ultimately, the accelerated pace of global change alters an environment to which seabirds have adapted over millennia, thus posing a threat both to their populations and to the entire marine ecosystem.

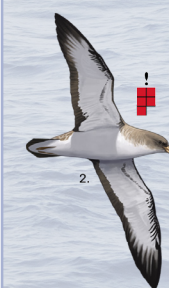


- Pollution is one of the most serious threats to seabirds. It is particularly striking in the case of oil spills, which often cause the simultaneous death of thousands of birds, but "background" pollution can have an even greater impact, although it is harder to perceive.

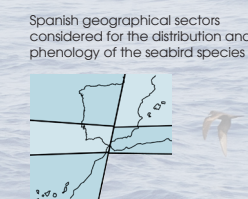
On land

- Terrestrial predators (such as cats and rats) introduced by humans into seabird breeding grounds have caused and still cause severe damage to many populations.
- Coastal development has reduced the availability of suitable breeding sites.
- Light pollution related to coastal development poses a further threat, as birds (particularly fledglings) can get disoriented and end up stranded inland.

Legend for the seabirds' plate



2. Cory's shearwater
Calonectris diomedea



Spanish geographic sectors outlined schematically

- !! Globally threatened (IUCN)
- ! EU threatened (Annex I Birds Directive)
- Present all year round
- Winter
- Summer
- Migration
- The white dot denotes that the species is scarce



Illustrations: Marti Franch