

## THE MARINE PROTECTED AREAS OF THE BALEARIC SEA

### A brief introduction



#### What are marine protected areas?

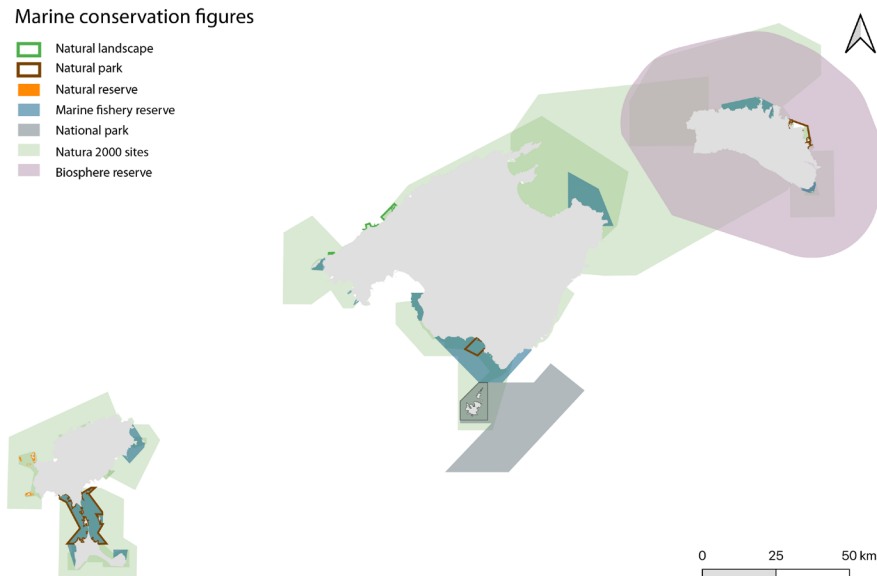
Marine Protected Areas (MPAs) are portions of the marine environment, sometimes connected to the coast, under some form of legal protection. MPAs are used globally as tools for the regeneration of marine ecosystems, with the dual objective of increasing the productivity of fisheries resources and conserving marine habitats and species.

We define MPAs as those where industrial or semi-industrial fisheries (trawling, purse seining and surface longlining) are prohibited or severely regulated, and where artisanal and recreational fisheries are subject to regulation.

The level of protection of the Balearic Islands' MPAs varies depending on the legal status and the corresponding administrations. In the Balearic Islands we find MPAs in inland waters that are the responsibility of the Balearic Islands government and island governments (Consells), and in external waters that depend on the Spanish government. Inland waters are those that remain within the polygon marked by the drawing of straight lines between the capes of each island. External waters are those outside.

#### Marine conservation figures

- Natural landscape
- Natural park
- Natural reserve
- Marine fishery reserve
- National park
- Natura 2000 sites
- Biosphere reserve



**Figure 1.** Map of the Balearic Islands showing the location of the marine protection designations. In this study we consider all of them as marine protected areas except for the Natura 2000 Network and Biosphere Reserve areas. Note: the geographical areas of some protection designations overlap.

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Marine Protected Area (MPA) category	Name	Year	MPA area (km <sup>2</sup> )	No-take zone area (km <sup>2</sup> )	Area forbidden to recreational fishing (km <sup>2</sup> )	Area forbidden to spear fishing (km <sup>2</sup> )	Overlap with other MPAs
Marine reserve	Badia de Palma	1982	23,94	2	2	2	
National park	Parc Nacional de Cabrera	1991	86,78	2,15	86,78	86,78	
Marine reserve	Nord de Menorca	1999	50,85	11,11	11,11	50,85	
Marine reserve	Freus d'Eivissa i Formentera	1999	136,17	4,27	4,27	136,17	
Natural park	ses Salines d'Eivissa i Formentera	2001	136,12	–	–	–	Freus d'Eivissa i Formentera
Marine reserve	Migjorn de Mallorca	2002	223,23	2,93	19,65	42,92	
Natural reserve	es Vedrà, es Vedranell i illots de Ponent	2002	5,65	–	–	–	
Natural park	Albufera d'es Grau	2003	17,36	–	–	–	
Marine reserve	illa del Toro	2004	1,5	–	/	1,50	
Marine reserve	illes Malgrats	2004	0,89	–	/	0,89	
<i>Paratge natural</i>	Serra de Tramuntana	2007	11,23	–	–	–	
Marine reserve	Llevant de Mallorca	2007	112,86	20,05	20,05	112,86	
Marine reserve	Freu de sa Dragonera	2016	9,12	–	/	9,12	
Natural park	Es Trenc-Salobrar de Campos	2017	23,27	–	–	–	Migjorn de Mallorca
Marine reserve	Punta de sa Creu	2018	10,59	–	/	10,59	
Marine reserve	Nord-est d'Eivissa-Tagomago	2018	37,38	2,28	2,28	37,38	
National park	Extensió P. N. Cabrera	2019	908	–	908	908	
Marine reserve	Illa de l'Aire	2019	7,19	–	2,52	7,19	
<b>TOTAL (km<sup>2</sup>)</b>			<b>1642,74</b>	<b>44,79</b>	<b>1056,66</b>	<b>1406,25</b>	
<b>Percentage inside Balearic Sea (28293 km<sup>2</sup>) (%)</b>			21,46	0,16	3,73	4,97	

**Table 1.** Description of the different marine protected areas of the Balearic Islands and their fishing restrictions.

### What kind of protection designations are there in the Balearic Sea?

There are seven marine conservation designations in the Balearic Sea (Fig. 1, Table 1):

- 1) **National Park** (Cabrera Archipelago): only traditional, professional fishing is permitted;
- 2) **Natural Park** (s'Albufera des Grau, ses Salines de Ibiza y Formentera, Es Trenc-Salobrar de Campos): artisanal and recreational fishing is allowed without restrictions. Spearfishing is not allowed at Es Trenc-Salobrar de Campos or at ses Salines de Ibiza and Formentera, as they overlap with marine fisheries reserve areas that are more restrictive in terms of fishing; spearfishing is allowed at s'Albufera des Grau with restrictions (park authorisation, payment of a fee, obligation to declare catches, size limitations, only one piece per species);
- 3) **Natural Site of National Interest** (Serra de Tramuntana): includes three Marine Sites of Community Importance (SCI) where artisanal and recreational fishing is allowed, as well as spearfishing with a permit;
- 4) **Nature Reserve** (nature reserves of Es Vedrà, Es Vedranell and the Illots de Ponent): artisanal and recreational fishing is allowed without restrictions. Spearfishing may be carried out with permission subject to a fee, with limitations (Tuesdays, Thursdays and public holidays) and the obligation to report catches;
- 5) **Marine Fisheries Reserve** (Palma Bay, North of Minorca, Freus of Ibiza and Formentera, Migjorn of Mallorca, Isla

del Toro, Malgrats Islands, Llevant of Mallorca, Freu de sa Dragonera, Punta de sa Creu, Northeast of Ibiza-Tagomago, Illa de l'Aire): fishing protection zones have been created with the aim of increasing the biomass of commercial fish. Artisanal fishing is allowed. Recreational fishing is permitted with limitations, while spearfishing is prohibited in all (Law 7/2013 on Fishing in the Balearic Islands) but two marine reserves (Palma Bay and Migjorn de Mallorca) where authorisation is required from the Directorate General for Fisheries and the Marine Environment, because the law came after these reserves had been declared;

6) **Natura 2000**: are those designated under the European Directives Habitats (1992) and Birds (2009). Includes Sites of Community Importance (SCI) and/or Special Protection Areas for Birds (SPA). This figure occupies the largest area of all, despite the fact that many of its areas still do not have a management plan;

7) **Marine Biosphere Reserve**: designated in 2019 by UNESCO, Menorca is the largest Marine Biosphere Reserve in the Mediterranean, extending up to 12 miles from the coast. It is an international recognition on which projects are carried out around sustainability. The permitted actions are not subject to compulsory legislation, but rather the commitment of each territory to develop sustainability policies described by UNESCO.

## What has been the evolution of MPAs in the Balearic Islands?

Since 1982, MPAs have accumulated a total surface area, without counting overlaps, of 1,642.74 km<sup>2</sup> (Fig. 2, Table 1); 21.5% of the Balearic Sea). In 2019, the extension of MPAs increased by 44%, from 727.55 km<sup>2</sup> in 2018 to 1,642.74 km<sup>2</sup>. This increase was mainly due to the extension of the Cabrera National Park with 908 km<sup>2</sup>.

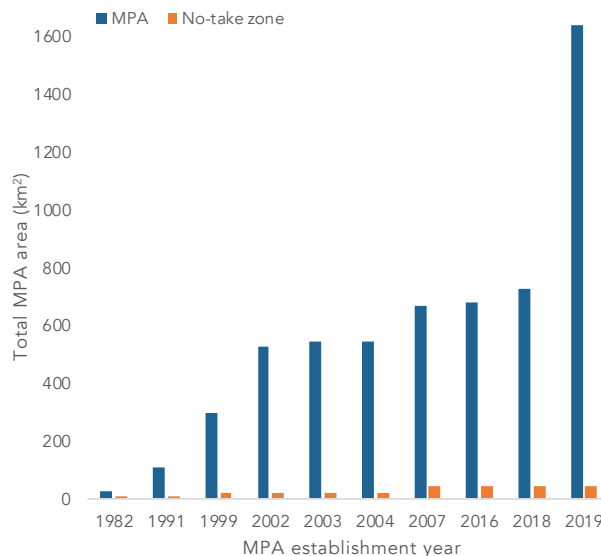
Of all the conservation designations mentioned, only the National Park of Cabrera and the marine reserves include areas totally closed to fishing, which is called an integral or no-take zone.

The surface area completely closed to fishing has reached 44.8 km<sup>2</sup> in 40 years, equivalent to 0.16 % of the Balearic Sea and 0.9 % of the coastal waters (Table 1, Fig. 2).

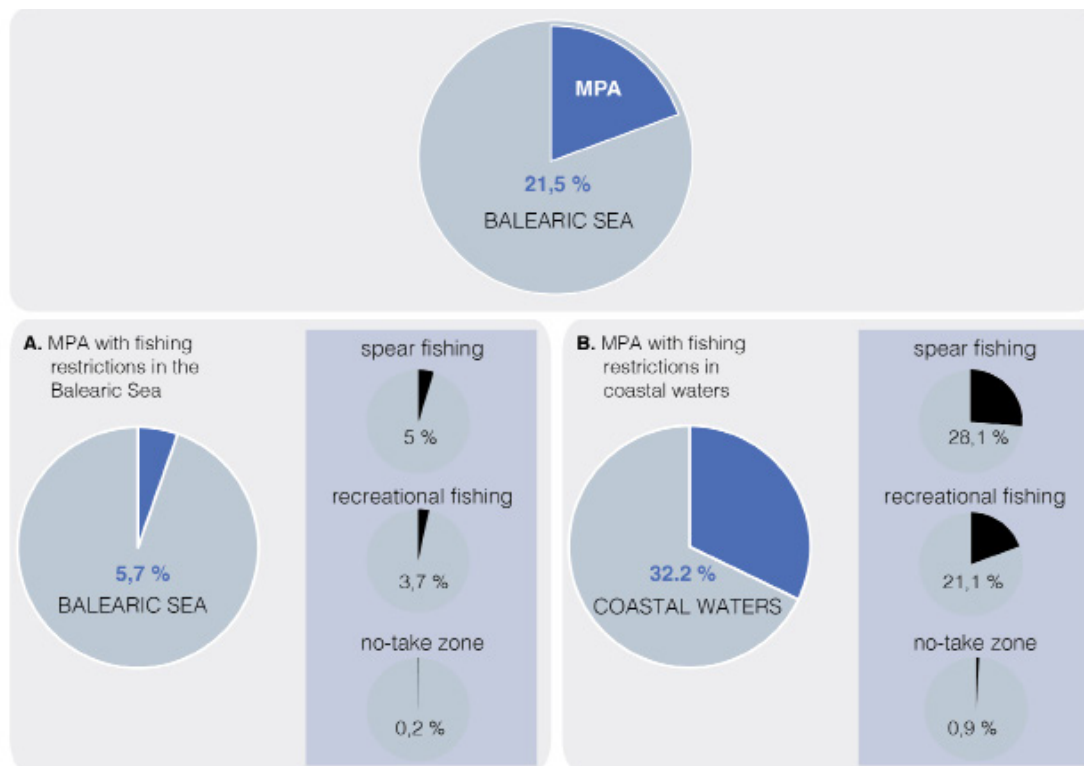
To put into perspective the total protected area, and what type of fishing restrictions apply, we compare the data with reference to:

1. The whole Balearic Sea, defined as the contour of the submerged Balearic promontory up to the isobath of 1000 m depth. It assumes a total area of 28290 km<sup>2</sup> (Fig. 3A);
2. Balearic Coastal waters, which we estimate at approximately 5000 km<sup>2</sup> (Fig. 3B).

The results show that the total protected area with recreational fishing restrictions (individual and boat) is banned over 1,056.66 km<sup>2</sup>; equivalent to 3.7% of the Balearic Sea and 21.1% of the coastal waters. The area closed to spear-fishing is 1,406.25 km<sup>2</sup>, equivalent to 5% of the Balearic Sea and 28.1% of the coastal waters.



**Figure 2.** Bar chart indicating the cumulative surface evolution of MPAs and no-take zones (not counting overlaps). Note: Natura 2000 and Biosphere Reserve areas are not included.

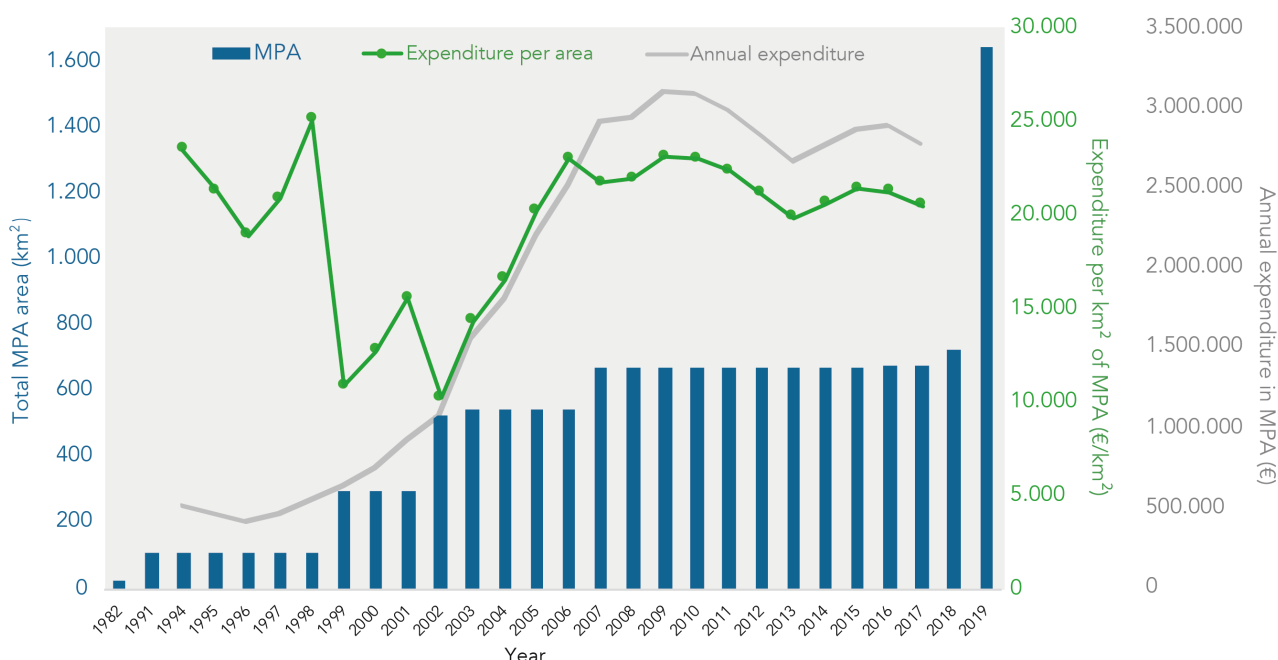


**Figure 3.** Percentage of MPAs with respect to the Balearic Sea and description of the fishing restriction (underwater fishing, recreational fishing - individual and boat - and no-take zone) reference to (A) the Balearic Sea = 28,290 km<sup>2</sup> and (B) the estimated coastal waters ≈ 5,000 km<sup>2</sup>. Note: Natura 2000 and Biosphere Reserve areas are not included.

## How much do we invest in MPAs?

A study carried out in 2018 (Font, 2018; <https://marilles.org/es/project/estudio-de-gasto-en-areas-marinas-protegidas>) estimates the total investment in MPAs in the Balearic Islands over the last few years at between 0.5 and 3 million euros per year (Fig.4).

From the beginning of 2000 until 2007, investment increased linearly but stabilized during the last decade at approximately 2.9m euros. Although the graph does not show it, the investment per km<sup>2</sup> of MPAs has been reduced in 2018-2019 as the protected marine area has grown significantly during the same period.



**Figure 4.** Temporal evolution of marine protected areas (MPAs) since 1982 compared to expenditure per km<sup>2</sup> of MPAs during the years 1994-2017. Note: Natura 2000 and Biosphere Reserve areas are not included in the MPAs -blue bars-.

## RESULTS

- In the Balearic Sea there are 7 designations of marine protection: natural site, nature park, nature reserve, marine reserve, national park, Natura 2000 and biosphere reserve. Of these, all except Natura 2000 and Biosphere Reserve are considered MPAs in this study (as they are the ones with some kind of fishing restrictions).
- 21.5% of the Balearic Sea is designated as an MPA.
- The MPAs of the Balearic Islands have gradually increased over the last four decades to 1,642.74 km<sup>2</sup>. Only 0.16% of this area, equivalent to 45 km<sup>2</sup> of the Balearic Sea, is closed to fishing. Therefore, the growth rate of MPAs in 40 years is 135 times higher than that of the no-take zone.
- The enlargement of Cabrera NP in 2019 doubled the total marine protected area from 728 to 1,643 km<sup>2</sup>.
- Recreational fishing by individuals or boats is restricted in 3.7% of the Balearic Sea (21.1% of coastal waters), and spearfishing is not allowed in 5% of the Balearic Sea (28.1% of coastal waters).
- Expenditure on MPAs has remained at approximately 3 million euros per year from 2007 to 2017.
- The expenditure per km<sup>2</sup> of MPAs has decreased over the years from 23,500 euros in 1994 to 20,500 euros in 2017 due to the fact that during this same period the surface area in MPAs increases.



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