

An underwater photograph showing a large school of small, silvery fish swimming in clear blue water above a dark, rocky seabed. Sunlight rays filter down from the surface, creating a bright, shimmering effect at the top of the frame.

GLOBAL CHANGE ECOLOGY AND SUSTAINABILITY
a.a. 2023-2024

Conservation and Management of Marine Ecosystems
Prof. Stanislao Bevilacqua (sbevilacqua@units.it)

**MPAs in EU, Mediterranean Sea
and Italy**

The European Seas



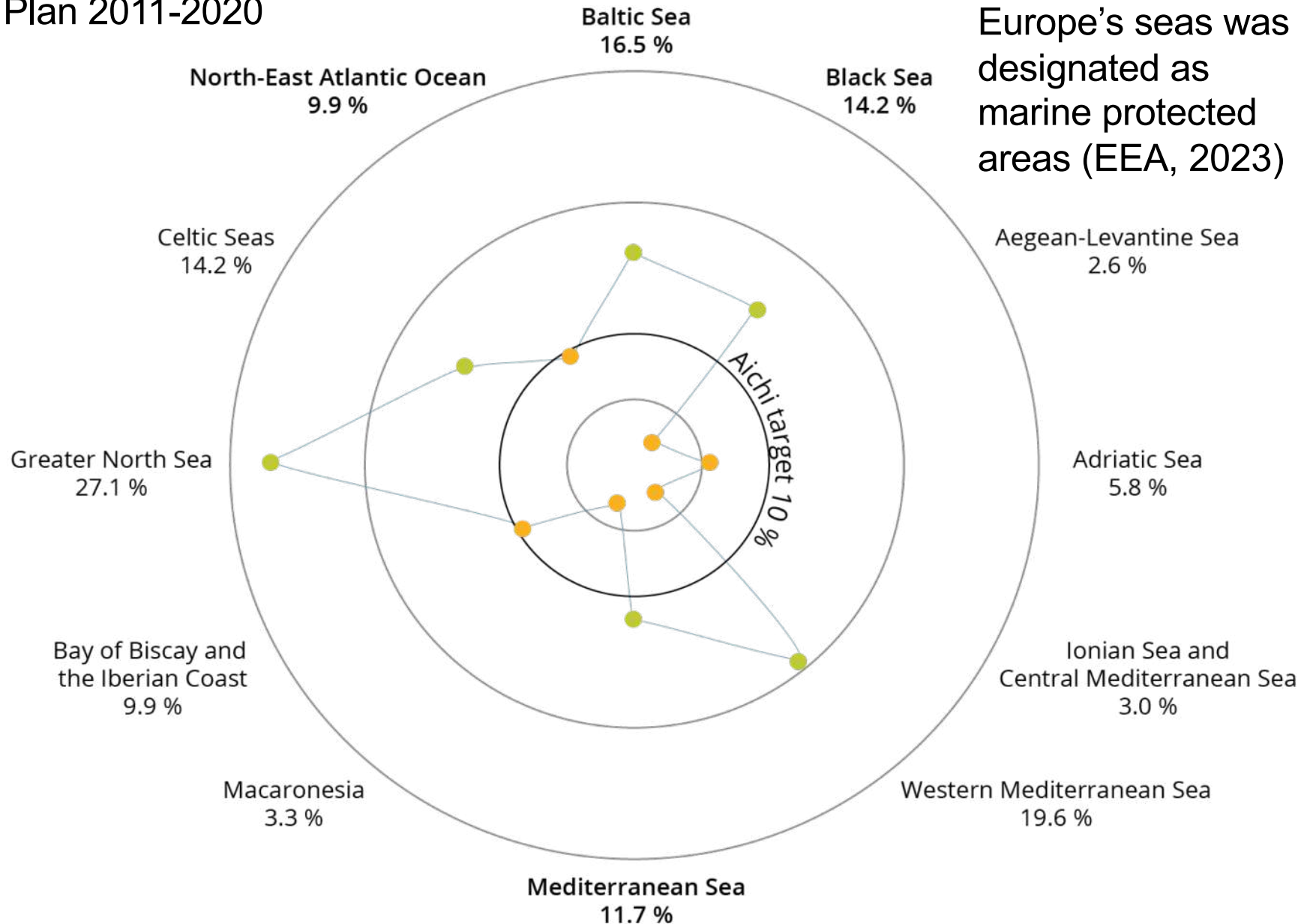
Mediterranean Sea
Black Sea
Macaronesia
North East Atlantic
Baltic Sea
Arctic Ocean



Marine conservation targets

Distance of Europe's seas to Aichi target 11, 2016
Convention on Biological Diversity
Strategic Plan 2011-2020

A total of 12.1 % of the surface of Europe's seas was designated as marine protected areas (EEA, 2023)



EU MPAs in a nutshell



Near shore (0-1 NM)

44.3 %

(165 301 km²)



Territorial (1-12 NM)

8.6 %

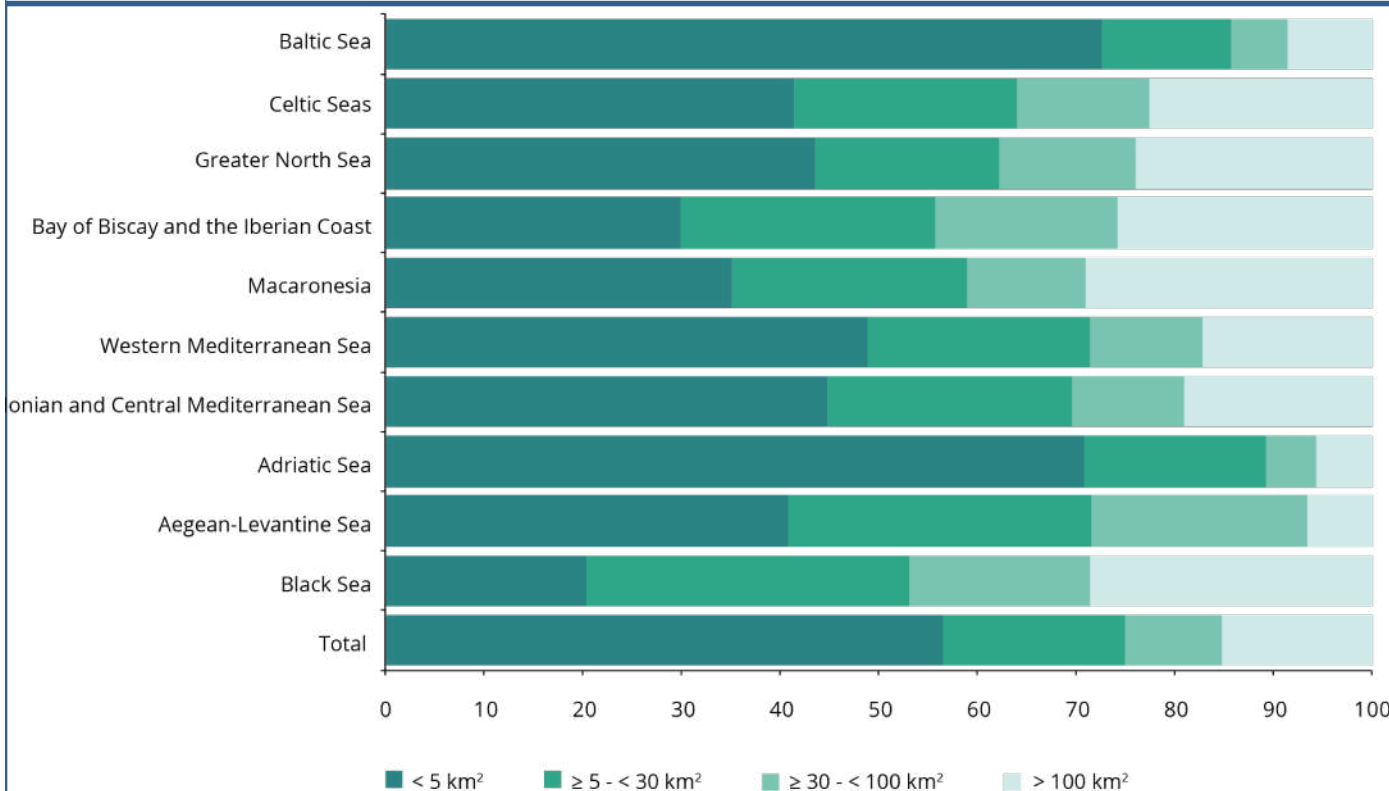
(856 125 km²)



Offshore (12 NM-END)

7.2 %

(4 769 289 km²)



Most of protected surface is in coastal areas, whereas territorial waters and offshore areas are poorly covered. Most of MPAs extend for less than 5 km²

Natura 2000 Sites

Sites of Community Importance (SCI) – marine SCI are basically *Posidonia oceanica* meadows ('SIC')

Specially Protected Areas (SPA) – related to birds (mostly transitional environments) ('ZPS')

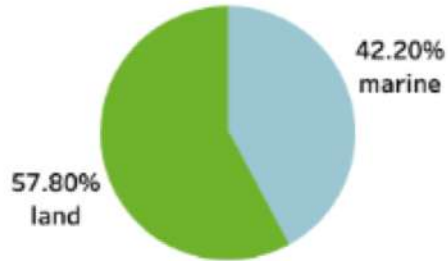
Special Areas of Conservation (SAC) – species or habitats ('ZSC')

SPAMI: areas of importance for conserving the components of biological diversity in the Mediterranean Sea; contain ecosystems specific of the Mediterranean area or habitats of endangered species; areas of special interest at the scientific, aesthetic, cultural or educational levels.

Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean (SPA/BD Protocol), the Contracting Parties to the Barcelona Convention established the List of Specially Protected Areas of Mediterranean Importance (RAC/SPA)

Natura 2000 Sites

Natura 2000 area - Tutti

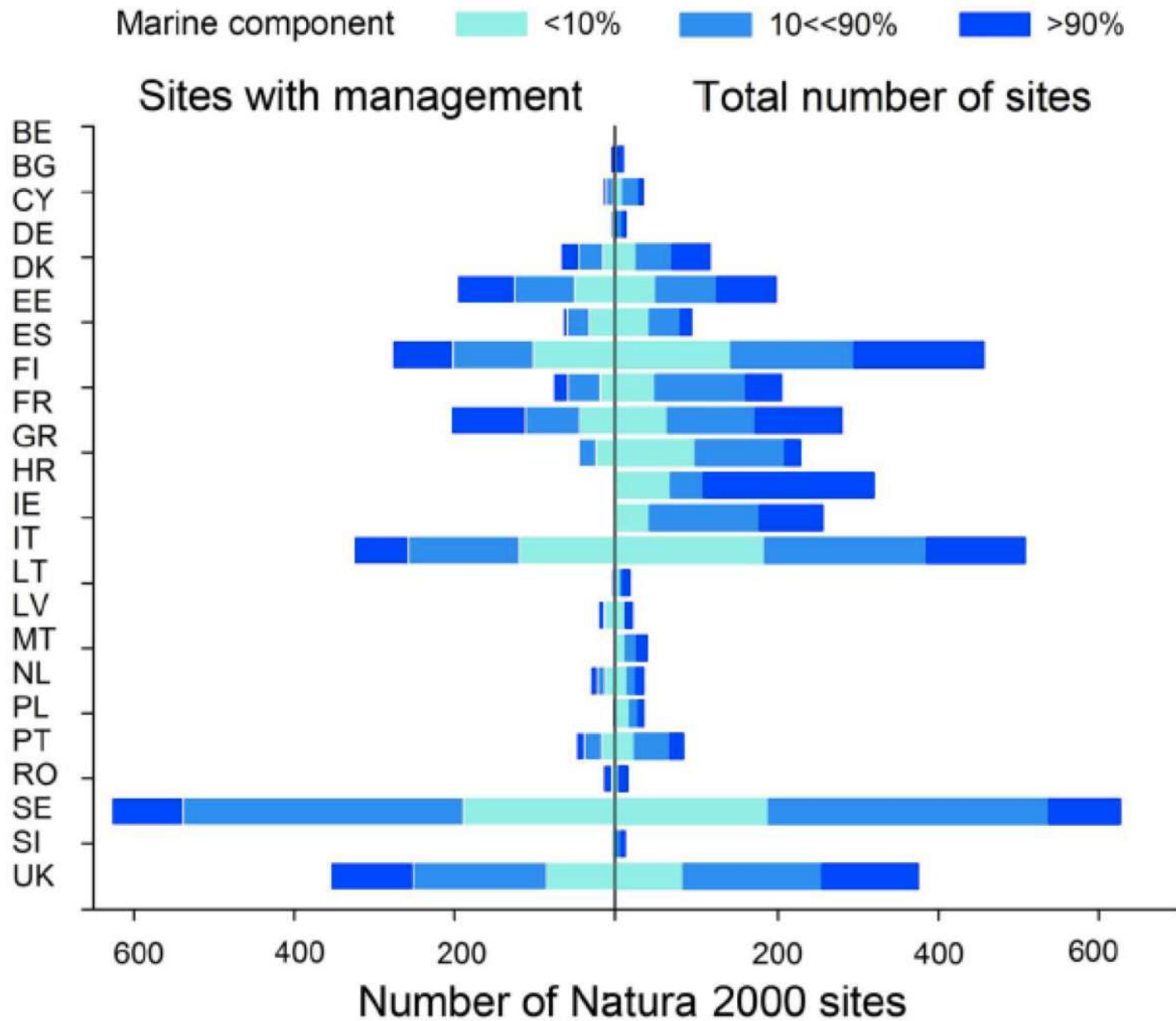


Natura 2000 marine area (km ²)	573,131
Natura 2000 land area (km ²)	784,994
EU land area (km ²)	4,376,978
Natura 2000 land area (%)	17.9

Marine Natura 2000 sites covered about 573 000 km² or 9% of Europe's seas, although they are mainly in near-shore and coastal waters



Natura 2000 Sites



Management

MISURE DI CONSERVAZIONE DEI SITI MARINI DEL FRIULI VENEZIA GIULIA

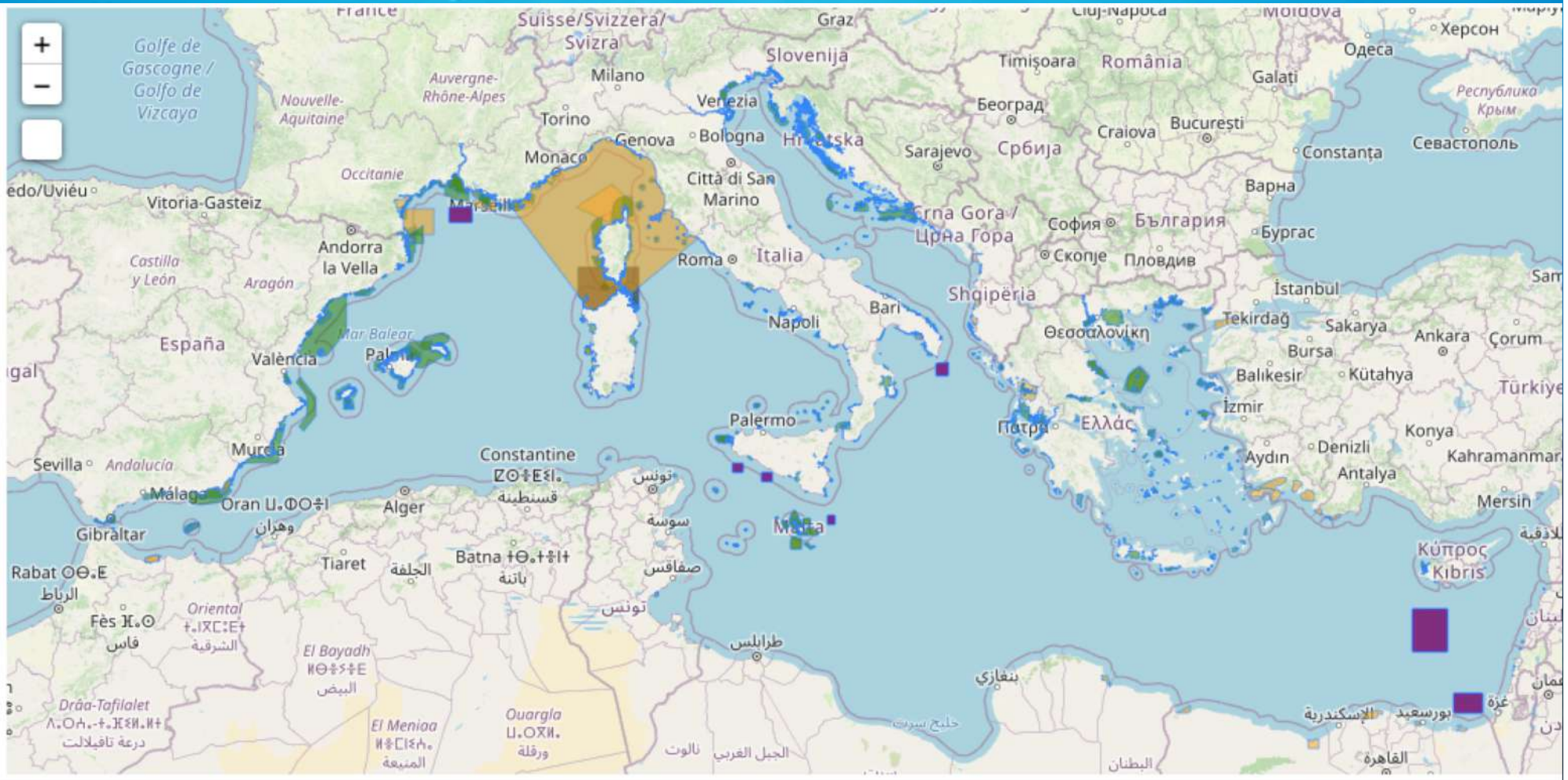
Allegato 5

Misure sito-specifiche del sito

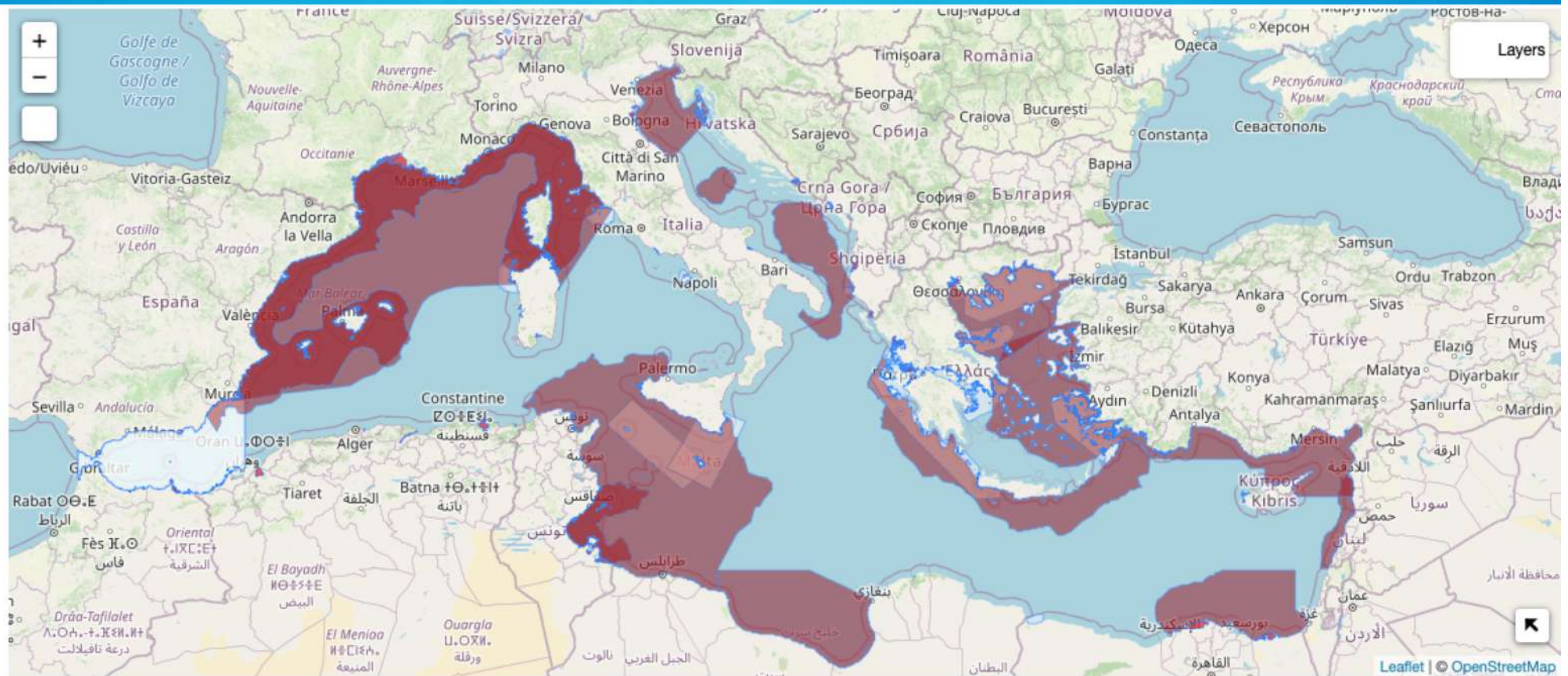
"IT3330009 - Trezze San Pietro e Bardelli"

descrizione dell'azione	Predisposizione di boe a basso impatto o segnalazione dei siti sulla carta nautica al fine di individuare agevolmente sul territorio i siti Natura 2000 e le aree delle misure REF26.0 REF27.0
descrizione dell'azione	Divieto di realizzazione di opere costiere, trivellazioni e di posa di cavi e condotte sottomarini
descrizione dell'azione	Divieto di esercitare la pesca professionale con reti da traino (incluse quelle denominate tratte), draghe, ciancioli, sciabiche da natante, sciabiche da spiaggia e reti analoghe sulle praterie di fanerogame marine e sull'habitat coralligeno e nelle aree indicate in cartografia
descrizione dell'azione	Divieto di pesca professionale per molluschi (Turbosoffianti per fasolari, vongole e cappelunghe) nelle aree indicate in cartografia
descrizione dell'azione	Divieto di raccolta, asportazione, danneggiamento di formazioni rocciose e minerali. Divieto di alterazione dell'ambiente geofisico. Il prelievo di campioni è consentito solo per finalità scientifiche previa autorizzazione del soggetto gestore.
descrizione dell'azione	Divieto di ancoraggio sull'affioramento roccioso (evitando quindi di intaccare la parte rocciosa)
descrizione dell'azione	Monitoraggio delle specie di allegato II, IV e V della Direttiva Habitat e specie della Direttiva Uccelli e degli impatti su di esse secondo modalità e criteri definiti dal MATTM.
modalità attuazione	Intervento pubblico
soggetto attuatore	Regione FVG ARPA FVG Università degli studi
stato di avanzamento e/o attuazione	Misura da attivare

The Mediterranean Sea: all protection



The Mediterranean Sea: EBSA



Ecologically or biologically significant area

Ecologically or biologically significant areas

What is an ecologically or biologically significant area (EBSA)?

An EBSA is an area of the ocean that has special importance in terms of its ecological and biological characteristics: for example, by providing essential habitats, food sources or breeding grounds for particular species. In 2008, a process to recognise these special areas was put in place by the United Nations Convention on Biological Diversity (CBD). Based on a set of seven scientific criteria, this process provides a framework to methodically and objectively describe those areas of the ocean that are crucial to the healthy functioning of the global marine ecosystem. EBSAs are areas of the ocean that are judged – through a technical process – to meet one or more of the following seven scientific criteria:

Uniqueness or rarity

Special importance for life stages of species

Importance for threatened, endangered, or declining species or habitats

Vulnerability, fragility or slow recovery

Biological productivity/diversity

Naturalness

The Mediterranean Sea

There are 1,087 officially designated MPAs in the Mediterranean covering 209,303 km², plus OECMs for a total of >1300 protected areas, which places a surface of 8.4% under a legal designation

About 900 sites are covered mostly due to the Natura 2000 at sea network which rarely affords strict restrictive measures and 186 are true MPAs.

Mostly shallow waters

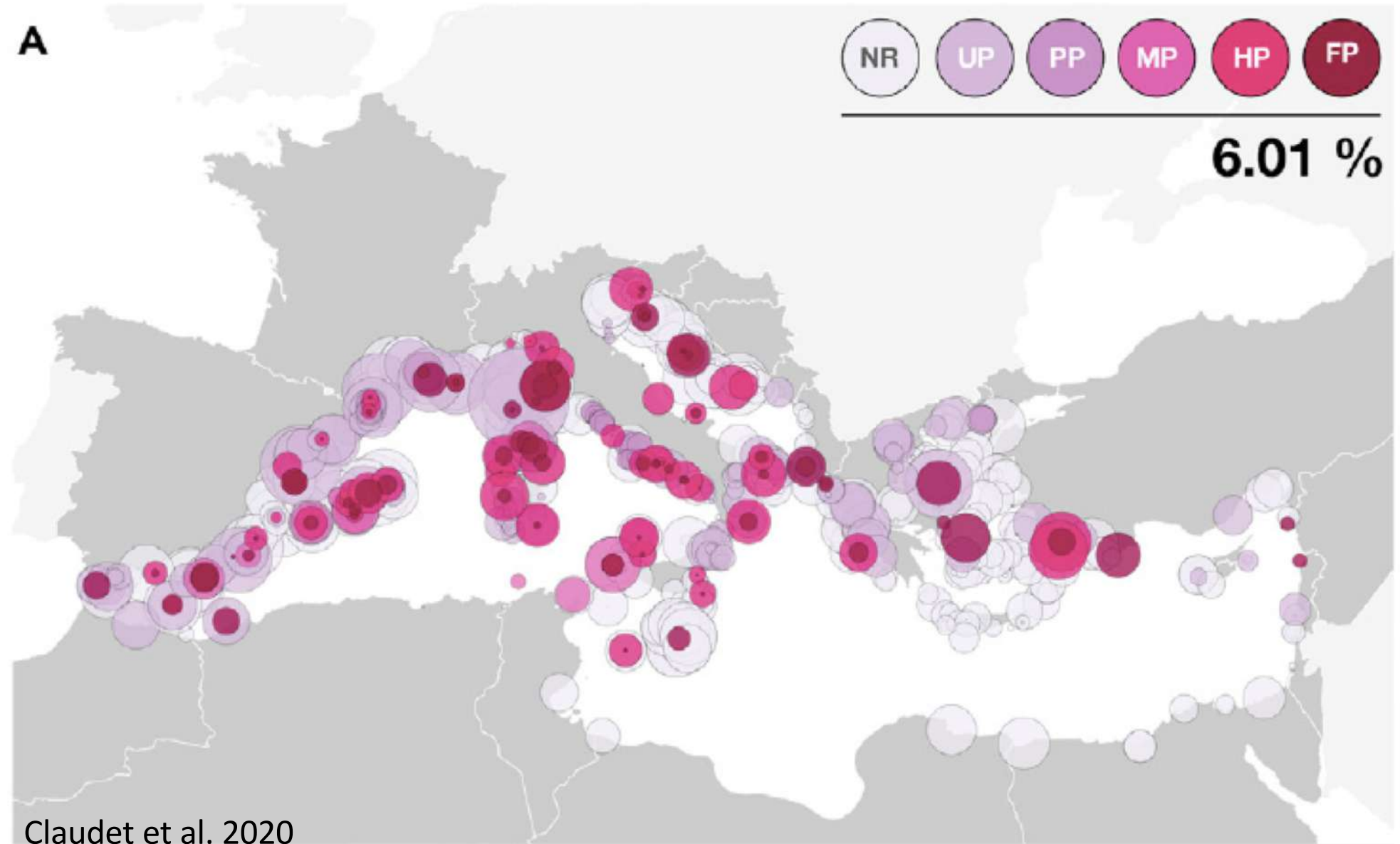
39.77% of *Posidonia* meadows and 32.78% of Mediterranean coralligenous communities are covered.

65.05% of MPAs of national designations have a marine surface of less than 50 km² (77.17% of all MPAs and OECMs), 69 nationally designated sites have a marine area smaller than 10 km² and 46 are larger than 100 km².

78% of nationally designated MPAs are over 10 years old, which is considered the minimum age for an MPA to reach a certain maturity (even though the time required for an MPA to be effective varies greatly from one area to another) and 46 sites are over 20 years old.

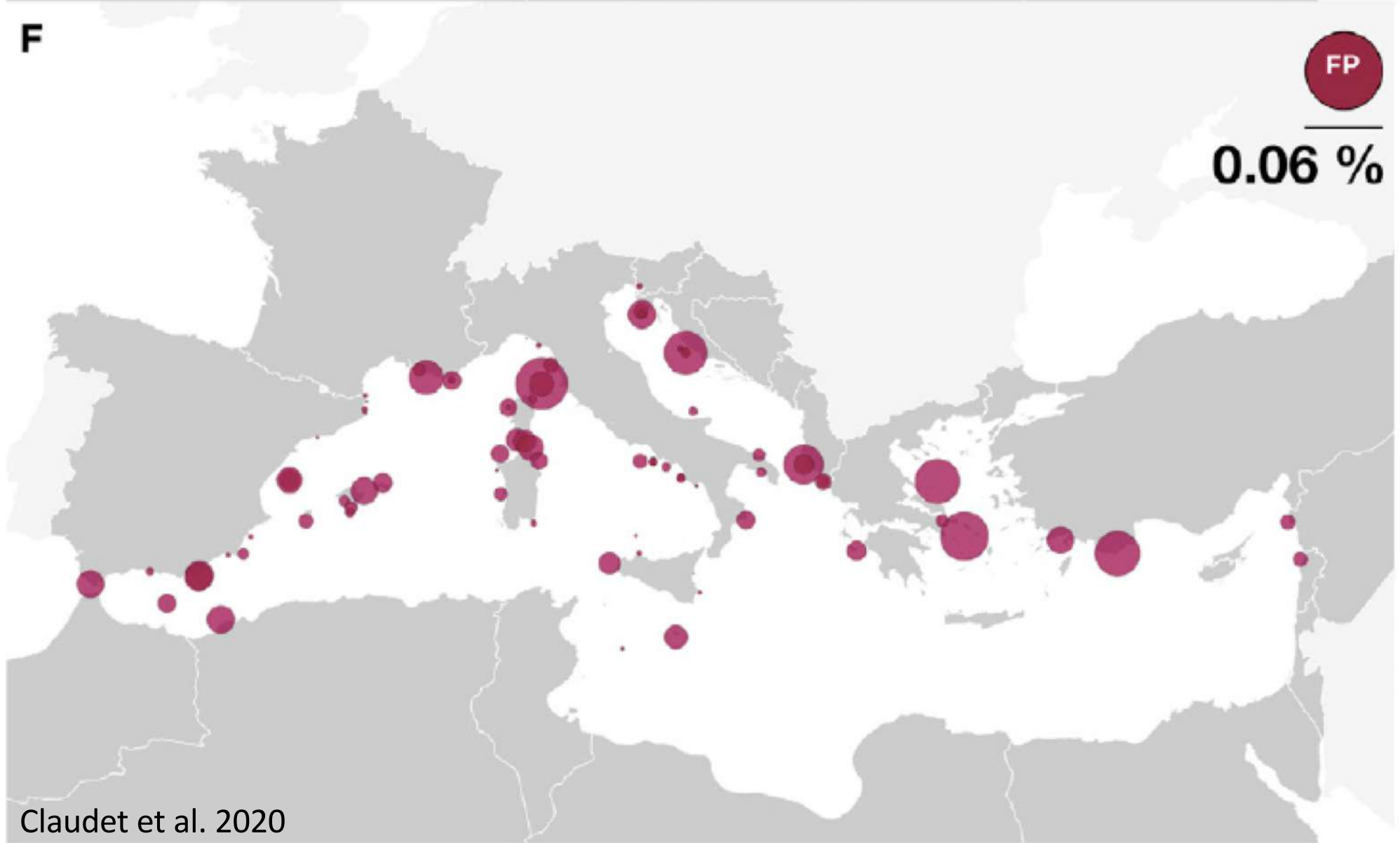
Mediterranean MPAs

A

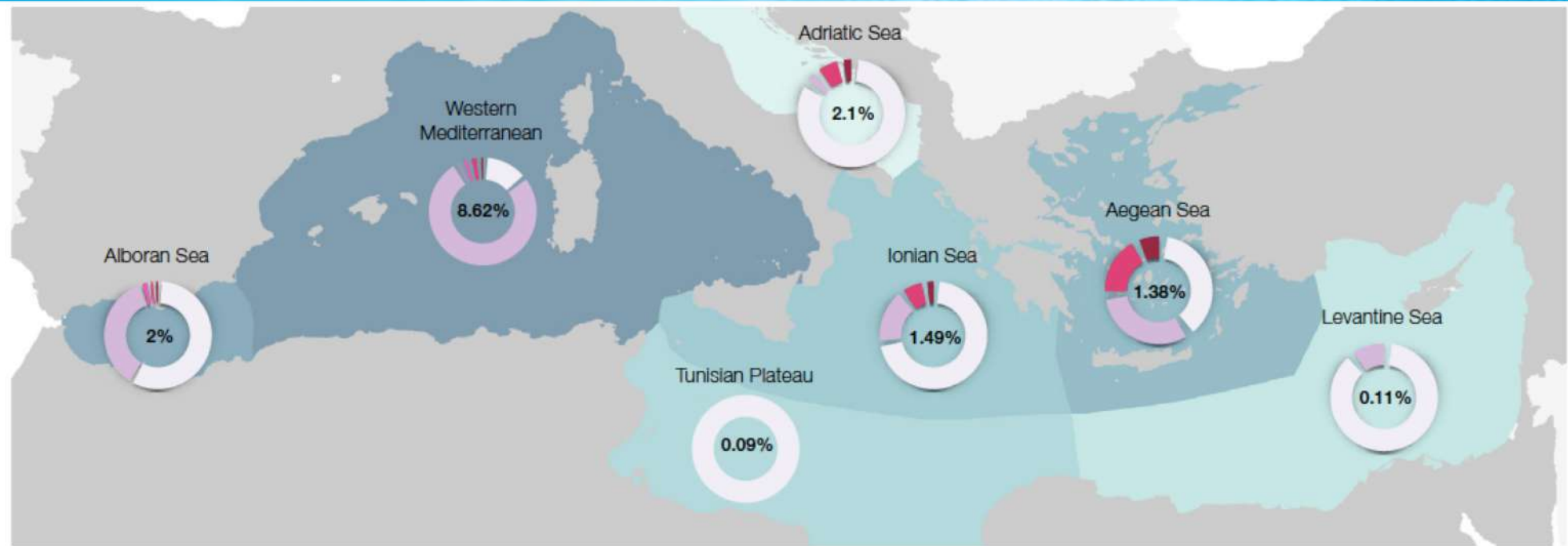


Mediterranean MPAs: full/high protection level

F



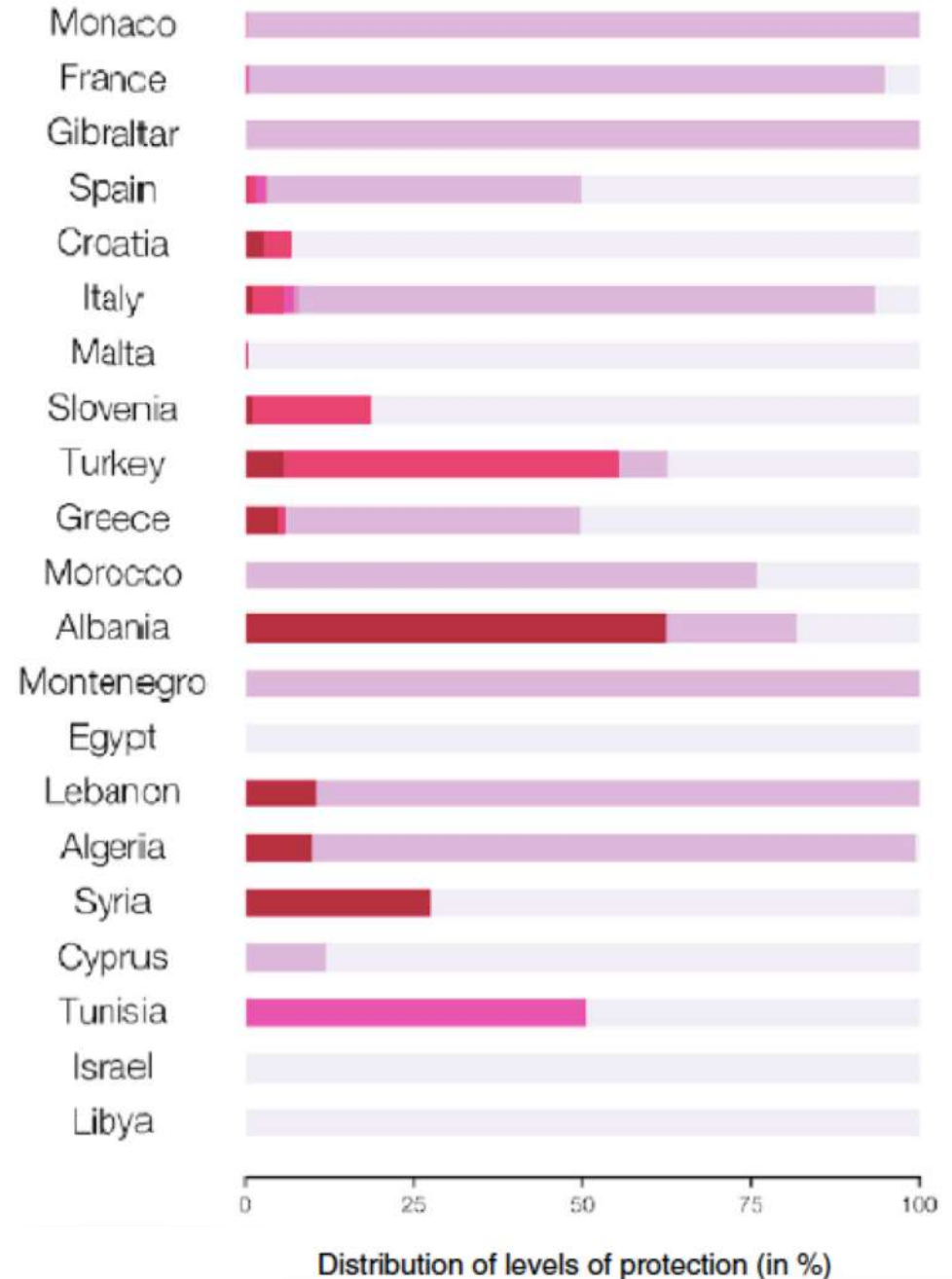
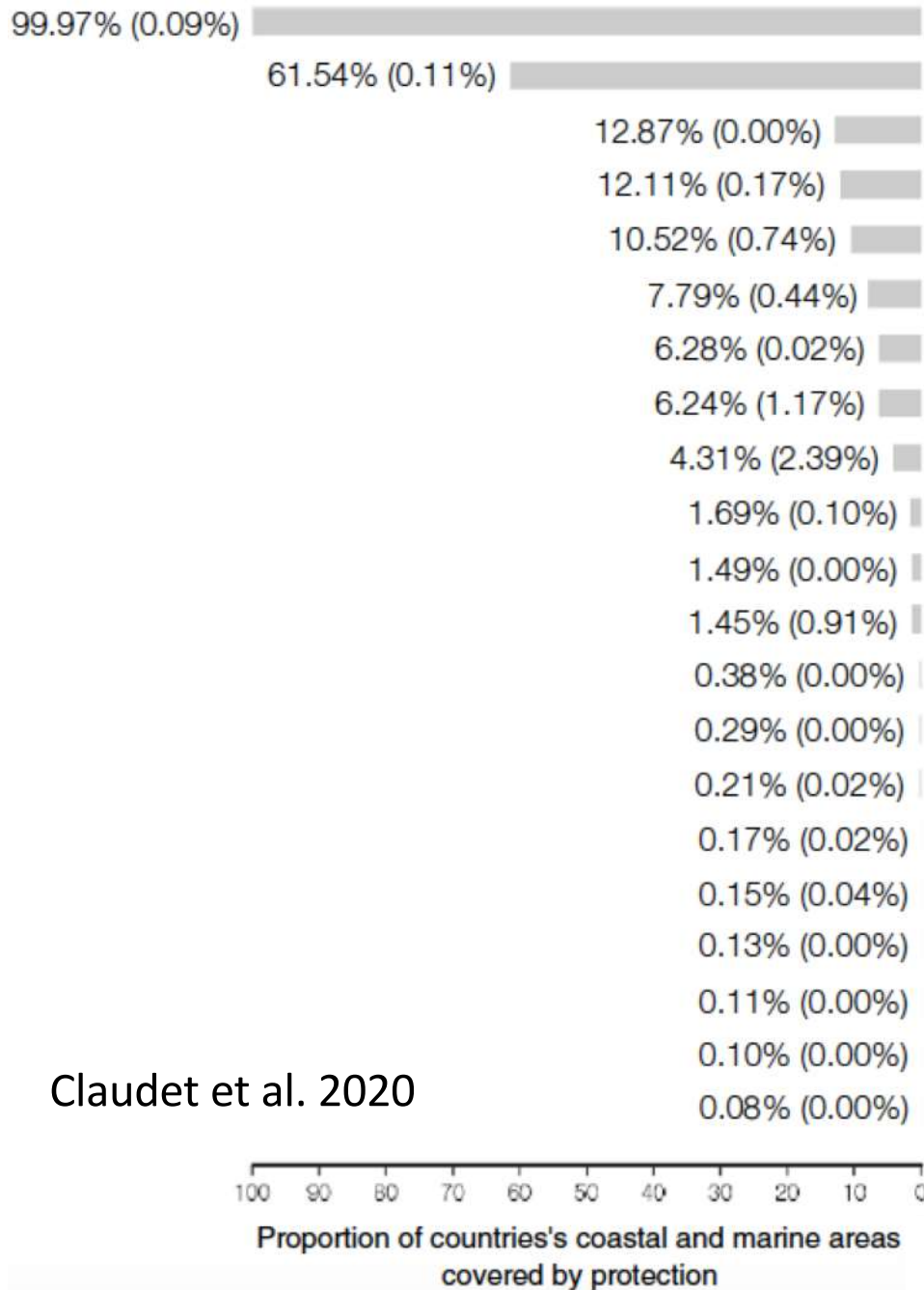
Mediterranean MPAs: protection in sub-basins



Levels of protection | Not regulated | Unprotected | Poorly Protected | Moderately Protected | Highly Protected | Fully Protected





Over **72.77%** of the surface covered is located in the **Western Mediterranean**, **90.05%** of the total surface covered by MPAs and OECMs are found in EU waters.

Mediterranean MPAs: countries








Claudet et al. 2020

The Italian coasts

	Porto Cesareo
	Capo Rizzuto
	Isola di Ustica
	Capo Gallo



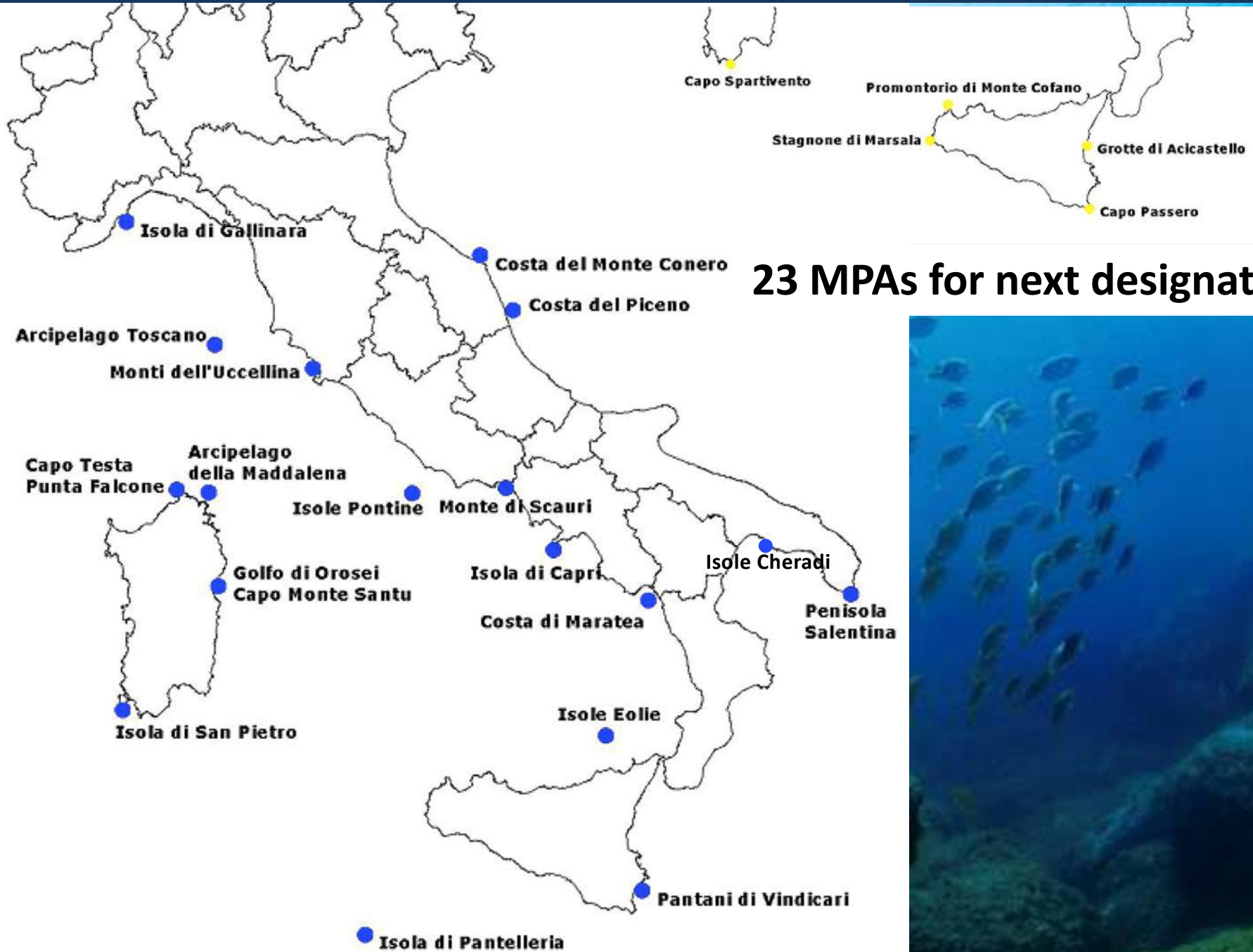
	Isole Egadi
	Isole Ciclopi
	Plemmirio
	Messina Capo Milazzo
	Isole Pelagie



29 MPAs
2 parks
Pelagos Sanctuary

	La Spezia	Cinque Terre AMP
		Miramare
		Isola Bergeggi
		Portofino
		Secche della Meloria
		Santuario Mammiferi Marini
		Torre Cerrano
		Isole Tremiti
		Secche di Tor Paterno
		Isole di Ventotene e Santo Stefano
		Parco Sommerso di Baia
		Regno di Nettuno
		Parco Sommerso di Gaiola
		Punta Campanella
		Santa Maria di Castellabate
		Costa Infreschi Masseta
		Isola dell'Asinara
		Tavolara
		Capo Caccia - Isola Piana
		Capo Testa - Punta Falcone
		Penisola del Sinis - Isola di Mal di Ventre
		Capo Carbonara
		Torre Guaceto

The Italian coasts: next designation



23 MPAs for next designation



Legal framework

Laws for protection of nature at national (e.g. L. 394/91), international and EU level

Data on environmental, biological, socio-economic context and peculiarities

Proposal for zonation, boundaries, protection levels, aims of conservation, after further studies

Involvement of local bodies and stakeholders

Institution

