THE STATUS OF MARINE PROTECTED AREAS IN THE MEDITERRANEAN SEA

2016 EDITION

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MedPAN

The network exists since 1990 and is led by the MedPAN organization since 2008. It is now composed of nearly 100 organizations that either have direct management of MPAs, or are involved in the development and management of MPAs in the Mediterranean. These players manage over 110 Marine Protected Areas in 18 Mediterranean countries. The mission of MedPAN is to actively contribute to the achievement of a representative, connected, integrated and effectively managed system of Mediterranean MPAs, through a strong and active networking of MPA managers and other actors at all levels that increases knowledge and capacities of MPAs while improves awareness, MPA policy implementation and funding.

> ***www.medpan.org*** *: Mediterranean Protected Areas Network.*

UN Environment/MAP - SPA/RAC

The Specially Protected Areas Regional Activity Centre (SPA/RAC) was established in Tunis in 1985 by a decision of the Contracting Parties to the Barcelona Convention. It aims to contribute to the protection and sustainable management of marine and coastal areas of particular natural and cultural value and threatened species and ecosystems.

The mission of SPA/RAC is to provide assistance to the Contracting Parties in meeting their obligations under the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean (SPA/BD Protocol). In this context, the main activities of SPA/RAC include the establishment and management of marine and coastal protected areas, conducting scientific and technical research, preparing educational material, creating and updating databases, elaborating guidelines and studies, implementing training programmes, exchanging information, and cooperating with regional and international governmental and non-governmental organizations.

> ***www.spa-rac.org*** *: SPA/RAC, The Mediterranean Biodiversity Centre of UN Environment/Mediterranean Action Plan.*

MAIN AUTHORS

Meola Bruno and Webster Chloë (MedPAN Secretariat)

WITH CONTRIBUTIONS FROM

Agardy T., Bernal M., Borg J., Calò A., Cebrian D., Claudet J., Daméry C., David L., Davis J., El Asmi S., Giakoumi S., Gomei M., Guidetti P., Hoyt E., Jeudy de Grissac A., Kizilkaya Z., Mazaris A., Notarbartolo di Sciara G., Ody D., Otero del Mar M., Ouerghi A., Piante C., Rais C., Ramos A., Romani M., Salivas M., Sostres M., Tetley M.J., Thomas H. and Tunesi L.

ERRATUM

The 2016 status data has been corrected in this report (MAPAMED 2017 version) following the identification of errors in the 2016 dataset (MAPAMED 2016 version). These corrections concern the surface and number values of MPAs previously indicated in the 2016 brochure and poster. It is important to note that the 2016 official figures are now: a total MPA coverage of 6.81% of the Mediterranean and a total number of 1215 MPAs (all designations combined).

EDITORIAL NOTE

MedPAN and SPA/RAC are working alongside their partners (IUCN, WWF, local NGOs, research organization, etc.) to establish an ecological network of MPA to protect at least 10% of the marine and coastal waters which is representative of the Mediterranean's diversity and made up of ecologically interconnected and well managed MPAs, in accordance with the latest guidelines from the Convention on Biological Diversity and the Barcelona Convention.

Every 4 years, MedPAN and SPA/RAC carry out the status of Mediterranean MPA to evaluate the progress that has been made, since the first inventory done in 2008, on the Mediterranean system of MPAs in view of the above mentioned objectives: does the network cover 10% of the Mediterranean, is it representative of the Mediterranean diversity, are MPAs well-connected and well managed?

The main findings of the 2012 status of Marine Protected Areas in the Mediterranean Sea were that the target of 10% protection was far from being achieved, that the network was not yet coherent and that MPA management was still insufficient.

This 2016 report has used the 2015-2016 inventory made on MPAs (MAPAMED) and a survey questionnaire sent to managers not only to assess the progress made since 2012 but also to identify the remaining steps needed to achieve by 2020, the objectives set for the network of MPAs by the Convention on Biological Diversity and the Barcelona Convention.

FINANCIAL & TECHNICAL PARTNERS

ACCOBAMS

The ACCOBAMS (Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and Contiguous Atlantic Area) is a cooperative tool for the conservation of marine biodiversity in the Mediterranean and Black Sea. Its purpose is to reduce threats to cetaceans in Mediterranean and Black Sea waters and improve our knowledge of these animals.

> *www.accobams.org*

French Agency for Biodiversity

The French Agency for Biodiversity is a public institution dedicated to the protection of marine environment placed under the umbrella of the Ministry of Environment, Energy and the Sea. The main assignments of the Agency are supporting public policies for the creation and management of marine protected areas in the entirety of French maritime waters, running the MPA network, technical and financial support of Natural Marine Parks, reinforcing French potential in international negotiations concerning the sea.

> *www.aires-marines.com*

Conservatoire du Littoral

Drawing on its experience as a public agency committed to the long-term protection of natural areas locate on seascapes and lake shores in mainland France and overseas, the Conservatoire du Littoral has been involved since the early 1990s in a number of international actions for global coastal conservation, especially in countries in the Mediterranean basin. Since 2006, the Conservatoire has been coordinating the PIM Initiative, whose aim is to promote and assist in the management of small Mediterranean islands, through the implementation of concrete actions in the field, the promotion of exchanges and the sharing of knowledge and expertise among managers and experts from across the Mediterranean basin.

> *www.conservatoire-du-littoral.fr*
> *www.initiative-pim.org*

General Fisheries Commission for the Mediterranean

The Agreement for the establishment of the General Fisheries Commission for the Mediterranean (GFCM) was established under the provisions of Article XIV of the Food and Agriculture Organization of the United Nations (FAO) Constitution and started its activities in 1952. Composed of 23 member countries along with the European Union, the objectives of GFCM are to ensure the development, conservation, rational management and best utilization of marine living resources, as well as the sustainable development of aquaculture in the Mediterranean, Black Sea and connecting waters. The GFCM plays a critical role in fisheries governance in the Mediterranean and the Black Sea, as it has the authority to adopt binding recommendations for fisheries conservation and management.

> *www.fao.org/gfcm*

IUCN Centre for Mediterranean Cooperation

The IUCN Centre for Mediterranean Cooperation was inaugurated in 2000. The goal of the IUCN Centre for Mediterranean Cooperation is "to influence, encourage and assist Mediterranean societies in achieving both the conservation and sustainable use of natural resources, and sustainable development." The aim of the IUCN Mediterranean Marine Programme is to implement a coherent network of marine protected areas that ecologically and socially represents the Mediterranean Sea and its people.

> www.iucn.org/regions/mediterranean

WWF Mediterranean

WWF's mission is to stop the degradation of our planet's natural environment, and build a future in which humans live in harmony with nature. Through its Mediterranean Initiative, WWF has been actively involved in promoting the establishment and effective management of marine protected areas in the Mediterranean for many years.

> www.mediterranean.panda.org

FINANCIAL CONTRIBUTORS

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FOREWORD

Khalil ATTIA, SPA/RAC Director

Human activities, climate change and the invasion of alien species are threatening the rich marine life of the Mediterranean Sea more than any other sea or ocean.

Marine and coastal protected areas are an essential tool for reversing the degradation of marine life in our region. Hence, it is important to know which types of marine protected areas are established, which are effective, under which conditions, and many other parameters…

This status report that SPA/RAC and MedPAN elaborate every four years at the occasion of the Mediterranean forum of MPAs, aims to take stock of the progress made by the Mediterranean countries in achieving the Aichi Target 11, Sustainable Development Goal 14 and other important global and regional commitments.

Significant progress has been made by Mediterranean countries since 2010, in terms of improvement of legal and institutional frameworks, development of national strategies and action plans, declaration of new marine protected areas and other area-based effective conservation measures, and the extension of existent ones.

This still hides many weaknesses like inexistent or weak management and enforcement which is mainly due to the lack of human and financial means.

Furthermore, the very low proportion of no-take marine reserves in the region cannot allow an effective restoration and preservation of Mediterranean unique biodiversity features.

We hope that this 2016 report will help the various stakeholders of the regional marine protected area community to identify the main hindrances and increase efforts to tackle them. Co-management practices, voluntary initiatives by stakeholder groups - such as fishermen or local populations -, innovative financing mechanisms, and other coordinated, and inclusive approaches to planning and management are encouraged to boost the Mediterranean network of marine and coastal protected areas.

Let's act together towards achieving the global conservation objectives through a comprehensive coherent network of well-managed marine protected areas in the Mediterranean!

Purificació Canals, President of MedPAN

Marine environments are experiencing growing pressure from the combined impacts of overexploitation, pollution and climate change. In this context, Marine Protected Areas (MPAs) ranging from locally managed marine coastal areas through to large scale oceanic MPAs have a critical role to play in protecting species and ecosystems, as well as mitigating climate change.

Since 2012, progress has been made in marine conservation in the Mediterranean. Policymakers at all levels have shown that they are firmly committed to creating new MPA and giving support to existing sites. New laws and international agreements have also been approved to that effect.

Together with its regional partners, MedPAN has accomplished important goals, including hosting the Mediterranean MPA Forum as a major event every four years, and producing the MPA Mediterranean Roadmap that envisions a comprehensive, representative, connected, and well-managed network of MPAs by 2020. The roadmap has been officially adopted by the Barcelona Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean.

However, there is still much to be done to achieve effective management in all the existing Marine Protected Areas in the Mediterranean and for the current network to be representative of the Mediterranean's marine biodiversity. One must be assiduous and adopt concrete measures to reinforce the MPAs management and governance capacity, ensure their financial sustainability, enforce regulations and controls in these sites and build up exchanges of experience.

This will only be possible, in the short and medium term, if there is a renewed, stronger and coherent commitment from all stakeholders (international organisations, conventions, agreements), riparian states, NGOs, the scientific community, national institutions, MPA managers, the private sector, local populations/communities, etc., and on every geographic scale (local, national, Mediterranean, European and international).

In this context, marine protected areas managers networks play a key role in building «marine protected areas community» at all levels (national/regional/global) and are facilitators to gather and connect together managers, management authorities, stakeholders, as well as scientists, decision-makers and donors, towards the same overall goal for a well-connected and efficiently managed network of marine protected areas.

Regional MPA manager networks support and accelerate MPA policy implementation and their central role in consolidating national efforts to protect marine biodiversity is increasingly being considered. MedPAN has brought the voice of the Mediterranean and its human networks to marine international fora, joining efforts with other regional MPA networks around the world in support of more effective MPA management.

MPA networks also directly contribute to enhance the capacity of MPA managers, an enabling condition to ensure the success of area-based conservation measures. MedPAN will thus carry on its action strategy in the years to come to provide capacity-building, experience and sharing of best practices to improve practical skills of protected areas managers in the Mediterranean.

In the current context of economic crisis and political upheaval, the preservation of the Mediterranean Sea's natural, cultural and social heritage will only be possible if all the riparian countries and stakeholders are mobilised, committed and follow a common vision to reinforce the network of marine protected areas for the benefit of the Mediterranean society, especially those living in fragile and vulnerable ecosystems.

Marine Protected Areas are everyone's business!

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ABNJ:	Area Beyond National Jurisdiction
ACCOBAMS:	Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous AtlanticArea
CBD:	Convention on Biological Diversity
CCH:	Cetacean Critical Habitats (ACCOBAMS)
CDDA:	Common Database on Designated Areas (EEA and ETCBD)
CITES:	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMS:	Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention)
EBSA:	Ecologically or Biologically Significant Marine Area (CBD)
EC:	European Commission
EcAp:	Ecosystem Approach under the Barcelona Convention
EEA:	European Environment Agency
EEZ:	Exclusive Economic Zone
EGTC:	European Grouping of Territorial Cooperation
EMODnet:	European Marine Observation and Data Network
ETC/BD:	European Topic Centre on Biological Diversity
EU:	European Union
EUNIS:	European Nature Information System
FAO:	Food and Agriculture Organisation
FRA:	Fisheries Restricted Area
GEBCO:	General Bathymetric Chart of the Oceans
GES:	Good Environmental Status
GFCM:	General Fisheries Commission for the Mediterranean
GIS:	Geographic Information System
HELCOM:	Baltic Marine Environment Protection Commission (HELsinki COMmission), intergovernmental organization governing the Convention on the Protection of the Marine Environment of the Baltic Sea Area (Helsinki Convention)
IBA:	Important Bird Area (Birdlife NGO)
ICZM:	Integrated Coastal Zone Management
IMAP:	Integrated Monitoring and Assessment Programme
IMMA:	Important Marine Mammal Area (IUCN)
IMO:	International Maritime Organization
INFO/RAC:	Regional Activity Centre for Information and Communication
IUCN:	International Union for the Conservation of Nature
IUCN-WCPA:	International Union for the Conservation of Nature - World Commission on Protected Areas
MAPAMED:	Database on sites of interest for the conservation of marine environment in the Mediterranean Sea
MARPOL:	International Convention for the Prevention of Pollution from Ships
MedPAN:	Network of Marine Protected Area Managers in the Mediterranean

MED POL:	Mediterranean Pollution Assessment and Control Programme
MPA:	Marine Protected Area
MSFD:	Marine Strategy Framework Directive
MSP:	Marine Spatial Planning (or Maritime Spatial Planning when used in a European Union context)
MSSD:	Mediterranean Strategy for Sustainable Development
NGO:	Non-Governmental Organisation
OECD:	Organisation for Economic Co-operation and Development
OECM:	Other Effective area-based Conservation Measure
OSPAR:	Convention for the Protection of the Marine Environment of the North-East Atlantic
PA:	Protected Area
PAP/RAC:	Priority Actions Programme Regional Activity Centre
PB/RAC:	Plan Bleu Regional Activity Centre
PCA:	Priority Conservation Area
PPP:	Public Private Partnership
PSSA:	Particularly Sensitive Sea Area (IMO)
pSCI:	Proposed Site of Community Importance (Habitats Directive)
REMPEC:	Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea
RFMO:	regional fisheries management organization
SPA/RAC:	Specially Protected Areas Regional Activity Centre (aka RAC/SPA)
SAC:	Special Area of Conservation (Habitats Directive)
SCI:	Site of Community Importance (Habitats Directive)
SCP/RAC:	Regional Activity Centre for Sustainable Consumption and Production
SDG:	Sustainable Development Goal
SEPA:	Special Environmental Protection Area (Turkey specific designation)
SPA:	Special Protection Area (Birds Directive)
SPA/BD Protocol:	Protocol on Specially Protected Areas and Biological Diversity // Specially Protected Area (SPA/BD Protocol, Barcelona Convention)
SPAMI:	Specially Protected Area of Mediterranean Importance (Barcelona Convention)
UNEP-MAP:	United Nations Environment Programme - Mediterranean Action Plan
UNEP-WCMC:	United Nations Environment Programme - World Conservation Monitoring Centre
UNESCO:	United Nations Educational, Scientific and Cultural Organization
UNCLOS:	United Nations Convention on the Law of the Sea
UNFCCC:	United Nations Framework Convention on Climate Change
WDPA:	World Database on Protected Areas
WWF:	World Wide Fund for Nature

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EXECUTIVE SUMMARY

There has been progress since 2012. The 1 215 MPAs and OECMs now cover 6.81 % of the Mediterranean through a large variety of conservation designations, with national designations accounting for only 1.27% and no-go, no-take or no-fishing zones for 0.04%. Over 72.77% of the surface covered is located in the Western Mediterranean. Designations cover 9.79% of European waters mostly due to the Natura 2000 at sea network which rarely affords strict restrictive measures. To reach the 10% quantitative part of the Aichi Target, an additional 71,900 km^2 (2.86 % of the Mediterranean) would need to be placed under strong protection designations that also target currently under-represented features. Since 2012, 375 Natura 2000 sites were designated but just 9 MPAs of national status were established. Looking at the qualitative aspects of the current system of MPAs and OECMs, many sites are not actually implemented and there are no regulations in place to curb existing pressures or enough means to enforce them. Little is also known about the management measures in place and if they are effective at maintaining or restoring the biodiversity they aim to protect. It appears that the human and financial means allocated to management are much too low thereby compromising successful conservation.

Considering the high pressures exerted on the Mediterranean marine environment with growing trends, it is crystal clear that willingness to invest in marine conservation needs to be boosted up.

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INTRODUCTION

What is the context of this assessment?

The Mediterranean Sea

The Mediterranean Sea is recognised as one of the world's top 36 marine and coastal biodiversity hotspots (CEPF, 2010). Although it represents only 0.7 % of the global ocean surface, it comprises 4 to 18 % of the world known marine species, depending on the taxonomic group considered (Bianchi and Morri, 2000). This exceptional biodiversity is even more remarkable considering the high rate of endemism which is estimated to reach 20 % of all species found in the basin (Coll *et al.*, 2010).

However, the Mediterranean Sea marine life undergoes multiple soaring pressures, mostly due to human activities, such as professional and recreational fishing, maritime traffic, water pollution, coastal development, introduction of non-indigenous species, and offshore oil and gas prospection and exploitation. The semi-enclosed nature of this sea aggravates the impacts of these activities along with the effects of climate change, resulting in habitat degradation and biodiversity loss.

Some species of conservation concern have had their population decline to the point they are now considered endangered at basin scale, such as the Mediterranean monk seal (*Monachus monachus*) which once spanned across the whole Mediterranean Sea and of which only a few hundreds of individuals remain, restricted to the Eastern basin (Karamanlidis and Dendrinos, 2015); or the dusky grouper (*Epinephelus marginatus*), which population is estimated to have decreased by well over 50 % in only a few generations (Cornish and Harmelin-Vivien, 2011). Likewise, the endemic *Posidonia oceanica* meadows, which are recognised as a particularly important habitat in the basin, are estimated to have declined by close to 34 % over the last 50 years (Boudouresque *et al.*, 2012; Telesca *et al.*, 2015). Of increasing concern are also the largely human induced shifts on primary productivity and planktonic composition and biomass. This has implications for marine food webs as well as the integrity of ecosystem functioning and compromises the foundations of ecosystem services, important for economic purposes and above all vital for food security and health.

Most of these threats and pressures have kept on growing until now... and are expected to keep on growing in the near future (Piante and Ody, 2015).

Box 01: The Mediterranean Sea in a clamshell		
The Mediterranean Sea…	**… a biodiversity hotspot…**	**…under pressure**
• 0.2 % of the global ocean volume (3 750 000 km^3) • 0.7 % of the global ocean surface (2 500 000 km^2) • Average depth 1 500 m • Maximum depth 5 267 m • Connected to the Atlantic via the Strait of Gibraltar, to the Sea of Marmara via the Dardanelles and to the Red Sea via the Suez Canal • 21 riparian countries • More than 15 000 islands and islets of less than 1 000 ha • A total of 348 submarine canyons or canyon systems can be allocated on the slopes of the Mediterranean (Würtz, 2012) • 242 seamounts and seamount-like structure outside the continental shelf boundaries (Würtz and Rovere, 2015) • Major deltas (Ebro, Rhône, Po, Adige, Neretva, Achelloos, Evros, Nile)	• One of the world's 25 top biodiversity hotspot (Myers *et al.*, 2000) • About 17,000 marine species • 20 % of endemic species (Coll *et al.* 2010) • Seagrass meadows and coralligenous assemblages among main marine key habitats • Flagship species: groupers, red coral & deep sea corals, noble pen shell, sharks & rays, the Mediterranean monk seal, loggerhead and green sea turtles, fin whales and bottlenose or common dolphins, ospreys and yelkouan shearwaters…	• 150 million people living on the coast • 1st tourism destination in the world (1/3 of the world's international tourism) • 343 million tourists in 2014 • 85 % of fishing stocks exploited beyond biological sustainable limits • Oil and gas exploration contracts cover 44 % of the basin (April 2015) • 18 % of the global crude oil traffic transits in the Mediterranean • Over 50% of the wastewater and sewage entering the Mediterranean Sea flows untreated • 70% of marine litter ends up on the seabed (Piante and Ody, 2015; FAO, 2016) • Sea level rises about 4mm/year on average • ''Plastification" with both floating debris and micro-fragments • Acidification due to higher CO2 levels • Ghost fishing gear

Legal & institutional framework

To address the need to protect the natural realm and help reduce the current rate of biodiversity loss, a set of legal instruments has been established at various levels.

Global level

On the global level, the Convention on Biological Diversity (CBD), which entered into force in 1993, sets conservation objectives to which Contracting Parties are committed. Specifically, during the 10th Conference of Parties in 2010, the Aichi Biodiversity targets were adopted as part of the 2011-2020 Strategic Plan for Biodiversity (CBD Secretariat, 2010a). Aichi Target 11 in particular states that "by 2020 at least 10 % of coastal and marine areas [...] are conserved through effectively and equitably managed, ecologically representative and well-connected systems of protected areas and other effective area-based conservation measures…». The CBD also promotes the Ecosystem Approach, which is a strategy for the integrated management of land, water and living resources.

Besides, during the 2015 United Nations Sustainable Development Summit, the 2030 Agenda for Sustainable Development, which sets out the Sustainable Development Goals (SDGs), was adopted (United Nations, 2015). Sustainable Development Goal 14, in particular, recognises the pivotal role of marine conservation and reasserts many previous announcements to «Conserve and sustainably use the oceans, seas and marine resources for sustainable development».

Other Treaties or Agreements are also of relevance, such as:

- the 1971 Ramsar Convention on Wetlands of International Importance (Ramsar Convention) which aims to develop and maintain an international network of wetlands which are important for the conservation of global biological diversity and for sustaining human life through the ecological and hydrological functions they perform,
- the Convention Concerning the Protection of the World's Cultural and Natural Heritage (World Heritage Convention) which was adopted by the General Conference of UNESCO in 1972 and aims to catalogue, name, and conserve sites of outstanding cultural or natural importance to the common culture and heritage of humanity,
- the Convention on Migratory Species (CMS) signed in 1979 which provides a global platform for the conservation and sustainable use of migratory animals and their habitats (also known as the Bonn Convention),

[1] http://www.rac-spa.org/sites/default/files/action_plans/fdr_en.pdf

- the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), an international agreement between governments signed in 1973 which aims to ensure that international trade in specimens of wild animals and plants does not threaten their survival and the UN Framework Convention on Climate Change (UNFCCC).

Mediterranean level

In the Mediterranean region, these international commitments are reflected in different instruments. The Barcelona Convention and its Protocols incepted by United Nations Environment within the framework of the Mediterranean Action Plan (UNEP-MAP). In particular, the Protocol concerning Specially Protected Areas (SPAs) and Biological Diversity in the Mediterranean (SPA/BD Protocol - 1995) follows up on the CBD objectives and encourages Contracting Parties to establish Specially Protected Areas, some of which may then be included in the List of Specially Protected Areas of Mediterranean Importance (SPAMIs) (more information on SPAMIs in Part 1 – At Mediterranean level). The Regional Activity Centre for Specially Protected Area (SPA/RAC) is responsible for the implementation of this Protocol. In February 2016, the Roadmap[1] on MPAs to achieve Aichi Target 11 in the Mediterranean was adopted by the Contracting Parties to the Barcelona Convention during their COP 19 in Athens.

The Ecosystem Approach (EcAp), considered the overarching principle of the UNEP-MAP Barcelona Convention, is being integrated in all of its policies and activities. The implementation of the EU Marine Strategy Framework Directive (MSFD, 2008/56/EC) by the EU Member States in the region presents crucial opportunities and needs for the application of EcAp throughout the Mediterranean region ensuring that the MSFD and EcAp mutually strengthen and build on each other, without duplication of activities and obligations, with the common ultimate aim to achieve the Good Environmental Status (GES) of the Mediterranean Sea and coast.

In this context, the Mediterranean countries are updating/developing their national Integrated Monitoring and Assessment Programmes[2] (IMAP), which defines objectives and corresponding indicators related to biodiversity, pollution and hydrography. MPAs and SPAMIs should be taken into account in the monitoring programmes.

Box 02: The Mediterranean MPA Roadmap

Echoing the CBD Aichi Biodiversity Target 11 in the Mediterranean region, SPA/RAC, MedPAN, their partners and the participants to the 2012 Mediterranean MPA Forum (Antalya, Turkey, November 2012) elaborated a "Roadmap - Towards a comprehensive, ecologically representative, effectively connected and efficiently managed network of Mediterranean Marine Protected Areas by 2020". This roadmap aims at facilitating concrete actions at local, national and regional levels involving a wide range of stakeholders: MPA managers, scientists, decision-makers, NGOs, civil society, donors, etc.

In order to bring global conservation targets to a higher commitment level, the Contracting Parties to the Barcelona Convention (encompassing 21 riparian countries and the European Union) have adopted during their 19th ordinary meeting (COP 19, Athens, Greece, February 2016) a "Roadmap for a comprehensive coherent network of well-managed Marine Protected Areas (MPAs) to achieve Aichi Target 11 in the Mediterranean", that comes in support to a previous regional strategy regarding MPAs that is the "Regional Working Programme for the Coastal and Marine Protected Areas in the Mediterranean including the High Sea" (COP 16, Marrakesh, Morocco, November 2009).

The innovative aspect of this roadmap is that it considered other effective area-based conservation measures having a potential to contribute to the long-term conservation and sustainable use of the components of the marine and coastal Mediterranean biodiversity.

The roadmap aims at:

- guiding the Contracting Parties efforts towards improving the Mediterranean MPA system in accordance with Aichi Target 11,
- harmonizing the contributions of the relevant international organizations in assisting countries towards achieving Aichi Target 11,
- assessing the progress made as well as ensuring a better visibility, at regional and global levels, of the UN Environment/MAP-Barcelona Convention contribution in building the comprehensive coherent network of well-managed MPAs referred to in Aichi Target 11.

The Roadmap is an evolutionary process which allows actors concerned with MPAs from all around the Mediterranean to update it every 4 years and provide recommendations, as was the case in 2016 (Tangier Declaration and updated Roadmap).

[1] http://www.rac-spa.org/sites/default/files/action_plans/fdr_en.pdf
[2] http://wedocs.unep.org/bitstream/handle/20.500.11822/17012/imap_2017_eng.pdf?sequence=5&isAllowed=y

Six other Protocols have been established under the Barcelona Convention and are likewise managed by specific Components of the UN Environment/MAP.

Box 03: Other components of UN Environment/MAP in charge of coordinating and implementing the Barcelona Convention and its Protocols

The Mediterranean Pollution Assessment and Control Programme (MED POL)

MED POL's main objective is to contribute to the prevention and elimination of land-based pollution in the Mediterranean. MED POL assists the Contracting Parties, through planning and coordination of initiatives and actions, including promoting and catalyzing synergies and investment programmes, to meet their obligations under the Barcelona Convention and the Dumping, the Land-Based Sources (LBS) and the Hazardous Wastes Protocols.

MED POL also facilitates the implementation of National Action Plans to address land-based pollution and LBS-related legally binding programmes and action plans, and continuously assess the status and trends of pollution of the Mediterranean.

The Regional Marine Pollution Emergency Response Centre for the Mediterranean Sea (REMPEC)

REMPEC is administered by the International Maritime Organization (IMO) in cooperation with UNEP. REMPEC's main objective is to contribute to preventing and reducing pollution from ships and combating pollution in case of emergency. REMPEC assists the Contracting Parties in meeting their obligations under the Barcelona Convention and the Prevention and Emergency Protocol as well as in implementing the Regional Strategy for Prevention of and Response to Marine Pollution from Ships, whose key objectives and targets are reflected in the Mediterranean Strategy for Sustainable Development (MSSD).

The Centre also assists the Contracting Parties which so request in mobilizing the regional and international assistance in case of an emergency under the Offshore Protocol.

The Plan Bleu Regional Activity Centre (PB/RAC)

The PB/RAC's main objective is to contribute to raising awareness of Mediterranean stakeholders and decision makers concerning environment and sustainable development issues in the region, by providing future scenarios to assist in decision-making. In this respect and through its dual functions as an observatory of the environment and sustainable development and a centre for systematic and prospective analysis, PB/RAC provides the Contracting Parties with assessments of the state of the environment and development of the Mediterranean and a solid basis of environmental and sustainable development data, statistics, and indicators to support their action and decision-making process.

PB/RAC's activities are consistent with the priority fields of action of the MSSD and facilitate its implementation and follow-up.

The Priority Actions Programme Regional Activity Centre (PAP/RAC)

The specific objective of PAP/RAC is to contribute to sustainable development of coastal zones and sustainable use of their natural resources. PAP/RAC provides assistance to Mediterranean countries in the implementation of the Barcelona Convention, in meeting their obligations under the Integrated Coastal Zone Management (ICZM) Protocol and in implementing the MSSD.

PAP/RAC assists the Contracting Parties in strengthening their capacities, formulating and implementing national strategies under the ICZM Protocol, and implementing demonstration coastal management projects, such as Coastal Area Management Programme in selected local Mediterranean coastal areas.

The Regional Activity Centre for Sustainable Consumption and Production (SCP/RAC)

The objective of SCP/RAC is to contribute to pollution prevention and sustainable and efficient management of services, products and resources based on the Sustainable Consumption and Production integrated approach adopted by UNEP.

SCP/RAC provides assistance to the Contracting Parties in implementing the Barcelona Convention, the LBS Protocol, the Hazardous Waste Protocol, and the Offshore Protocol, in which sustainable production and consumption plays a crucial role, as well as other Protocols in which the shift to sustainable consumption and production is key to attain their objectives. SCP/RAC also provides assistance to the Contracting Parties in Promoting and using relevant mechanisms.

The Regional Activity Centre for Information and Communication (INFO/RAC)

The objective of INFO/RAC is to contribute to collecting and sharing information, raising public awareness and participation and enhancing decision-making processes at the regional, national and local levels. In this context, the mission of INFO/RAC is to provide adequate information and communication services and infrastructure technologies to the Contracting Parties to implement the Barcelona Convention's Article 12 on public participation and Article 26 on reporting, as well as several articles related to reporting requirements under the different Protocols, thus strengthening MAP information management and communication capabilities. With a view to ensuring availability of coherent and scientifically sound environmental knowledge, INFO/RAC strives for close cooperation with other key environment institutions and international bodies working on environmental data and information management, to progressively move towards a shared environmental information system.

Still specific to the Mediterranean region, two more legal entities are of relevance.

The General Fisheries Commission for the Mediterranean (GFCM) is a regional fisheries management organization (RFMO) of the Food and Agriculture Organization of the United Nations (FAO). The main objective of the GFCM is to ensure the conservation and the sustainable use, at the biological, social, economic and environmental level, of living marine resources as well as the sustainable development of aquaculture in the Mediterranean and in the Black Sea. It has the authority to adopt resolutions and binding recommendations for fisheries conservation and management in its area of application and plays a critical role in fisheries governance in the region.

ACCOBAMS, the Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic area, is a legal conservation tool based on cooperation, established under the auspices of the Bonn Convention (UNEP/CMS). Its purpose is to reduce threats to cetaceans notably by improving current knowledge on these animals. This intergovernmental Agreement provides the demonstration of the commitment of riparian Countries to preserve all species of cetaceans and their habitats within the geographical Agreement area by the enforcement of more stringent measures than those defined in the texts adopted previously.

A draft joint cooperation strategy between UNEP-MAP through SPA/RAC, ACCOBAMS, GFCM and IUCN with the collaboration of MedPAN has been drafted, including a guiding document on necessary steps towards joint proposal for the establishment and management of area-based measures at multinational level. The terms of reference to eventually embrace such a collaborative approach are under discussion by the Parties to the Barcelona Convention, while the other concerned bodies have manifested to be in favour of the initiative. Meanwhile, actions are undertaken through already existing bilateral agreements among the diverse involved partners to assist countries for the development of such joint partner proposals under respective relevant governance umbrellas.

European level

At European Union (EU) level, several instruments, directives and policies have been particularly important for marine conservation:

The Council of Europe's Convention on the Conservation of European Wildlife and Natural Habitats (1979), or Bern Convention, was the first international treaty to protect both species and habitats and to bring countries together to decide how to act on nature conservation in Europe and some African States.

The Birds Directive (adopted in 1979, replaced in 2009) and the Habitats Directive (adopted in 1995) require EU Member States to protect important habitats and species by establishing protected areas known as Natura 2000 sites (more information on Natura 2000 sites in Part 1 – At EU level and Box 05).

The Marine Strategy Framework Directive (MSFD) which came into force in 2008 aims to achieve the Good Environmental Status (GES) of European Union marine waters by 2020 through the development of national strategies for marine waters. This Directive promotes the Ecosystem Approach and encourages cooperation between EU Member States.

The Water Framework Directive, adopted in 2000 sets the broad scope for action and ambitious goals for the protection of inland surface waters, transitional waters, coastal waters and groundwater.

The Directive establishing a framework for Maritime Spatial Planning, adopted in 2014, recognises the benefits of environment protection and the importance of sustainability in the development of maritime activities. This Directive also promotes an integrated approach in the planning of these activities.

The 1970 EU Common Fisheries Policy (CFP) is a set of rules for managing European fishing fleets and for conserving fish stocks. Designed to manage a common resource, it gives all European fishing fleets equal access to EU waters and fishing grounds and allows fishermen to compete fairly. While many fish stocks have been overfished, the policy was updated in 2014.

What is the purpose of this assessment?

This report aims to assess the progress made towards Aichi Target 11, especially since 2008 when the first assessment was conducted, to point out what remains to be done to reach this target, and to provide key players with concrete recommendations to achieve a coherent and effectively managed network of MPAs in the Mediterranean Sea.

More specifically, this report attempts:

- to provide readers with an overarching and integrated view of the current system[3] of Mediterranean MPA,
- to assess the ecological coherence of the current Mediterranean MPA system,
- to evaluate how much resources are put into managing these MPAs,
- to monitor the evolution of the MPA system over time,
- to identify what improvements can be made to the MPA system (eg. extensions of MPAs, increase of coverage by fully protected zones, creation of new MPAs, etc.) and suggest ways forward to key players (decision and policy makers, institutions, scientists, MPA managers, Non-Governmental Organisations and to some extent the private sector).

Aside from these main objectives, methodological issues and data gaps are pointed out along with recommendations for improvement or use of new approaches for future assessments.

This report also provides food for thoughts on what needs to be done beyond the 2020 CBD Aichi Target 11.

Important notice: although this report focuses on MPAs, one has to keep in mind that MPAs are just one tool among the panoply of practical, legal and policy instruments available for biodiversity conservation, which should clearly not be limited to the boundaries of MPAs.

Box 04: Aichi target 11: it's not all about coverage!

«By 2020, at least 17% of terrestrial and inland water, and **10% of coastal and marine areas**, especially areas of particular importance for biodiversity and ecosystem services, are conserved through **effectively and equitably managed, ecologically representative and well connected** systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.»

The percentage covered by MPAs being the easiest criterion to evaluate, most analyses tend to focus on this quantitative target, thus concealing the rest of the objective, which proves to be more difficult to assess. This may lead to a false feeling of achievement once the 10 % coverage by a system of MPAs is reached, whereas it is essential to also make sure this system is ecologically coherent and MPAs are effectively managed (Watson *et al.*, 2014).

Besides, once the 10 % well managed and well connected MPAs is eventually reached in a region, the remaining 90 % will consistently require to undergo similar conservation driven marine spatial planning, should present ecosystem services and livelihoods be sustained.

What data is the assessment based on?

What is MAPAMED?

MAPAMED is a database on MPAs and other sites of interest for the conservation of the marine environment in the Mediterranean Sea. It is run jointly by the MedPAN organisation and the UNEP/MAP-SPA/RAC secretariat, and adopts a broad approach of marine conservation by recording a large variety of sites, including sites that are not (yet) protected but have somehow been recognised as ecologically important.

[3] There is currently no science based network of MPAs at the Mediterranean basin level that have been designed using systematic conservation planning. As such, we refer to the 'system of MPAs' recognising that it is an ad hoc system within which each individual MPA or sub-set of MPAs have gradually been established as opportunities arose for over the past 50 years.

MAPAMED stores information on:

- Nationally designated MPAs,
- Natura 2000 sites at sea (Birds and Habitats Directives, EU),
- Specially Protected Areas of Mediterranean Importance (SPAMIs, Barcelona Convention),
- Ramsar sites (Ramsar Convention),
- Biosphere reserves (UNESCO),
- World Heritage sites (UNESCO),
- Particularly Sensitive Sea Areas (PSSAs, IMO),
- Fisheries Restricted Areas (FRAs, GFCM)
- Cetacean Critical Habitats (CCH, ACCOBAMS),
- Important Marine Mammal Area (IMMA),
- Ecologically or Biologically Significant Areas (EBSAs, CBD).

Inventorying designated sites started in 1989 (UNEP-MAP Technical Report Series 026), further taken on by Ramos Esplá and McNeill (1994) and then by Batisse and Jeudy de Grissac (1995). Then sites attributes became more detailed and were added to a global directory of Marine Protected Areas in the Mediterranean which was published by WWF France in 2005 (Mabile and Piante, 2005). This directory was later upgraded and became an online database which was used for the analysis of the first Report on the Status of Marine Protected Areas in the Mediterranean Sea, which was published in 2008 (Abdulla *et al.*, 2008). The database was officially named MAPAMED in 2010, when the MedPAN organisation and the UNEP-MAP-SPA/RAC secretariat teamed up to further develop it, build the GIS dimension and record data on the management of sites, following international standards. An updated and upgraded version of the dataset was released in 2012 and served as a basis for the analysis of the second report on the Status of Marine Protected Areas in the Mediterranean Sea (Gabrié *et al.*, 2012).

Over the years, the MAPAMED dataset has kept on growing and as of October 2016, it contained 1461 sites of interest for marine conservation in the Mediterranean Sea.

The MAPAMED dataset is open access and therefore accessible to any person who may ask for a full updated extraction from the MedPAN or SPA/RAC Secretariats.

Why such a database?

The general objective of the MAPAMED database is to provide users, either managers, scientists, institutions, NGOs, decision-makers or the general public, with the best possible information on conservation areas at the Mediterranean scale.

More specifically, the database aims to:

- **Facilitate access to data about conservation areas in the Mediterranean sea** by gathering and structuring data and providing **free online** access to these data,
- Enable the assessment of the **status and trends** of the Mediterranean MPA system,
- **Promote Mediterranean MPAs** by improving the visibility of these sites and providing information to the various stakeholders,
- Identify **management issues** at a supra-MPA scale by offering a general view of the MPA system.

What kind of data can be found in the MAPAMED database?

The MAPAMED database contains the following information:

- **Spatial data:** polygons representing the outer boundaries of each conservation area or, failing that, a point locating the area.
- **Core attributes:** basic information describing each conservation area (see Table 01). This information is largely based on the attribute data described in the World Database on Protected Areas (WDPA - Protected Planet) data standards (UNEP-WCMC, 2015[4]).
- **Specific attributes:** detailed information about the governance, objectives, management, regulations, pressures and protected features in the conservation areas. Since this information is difficult to get, it is available only for a limited number of conservation areas.
- **Metadata:** information about the origin of spatial data for each conservation area. Recording accurate source of information is important to ensure that ownership of the data is maintained and traceable. Moreover, by enabling users to know who created or provided the spatial data, how it was created and when it was included in the MAPAMED dataset, metadata give users a hint about data reliability.

Table 01: Core attributes of the MAPAMED database

Field	Name	Description
NAME	Name	The name of the site in English, provided in Latin characters.
COUNTRY	Country	Country in which the area is located, in English.
DESIG	Designation	The type of protected area as legally/officially established or recognized translated into English (e.g. national park, biosphere reserve...). When a single area has several overlapping designations, different records are created (one per designation).
DESIG_EN	Designation in English	The type of protected area as legally/officially established or recognized translated into English.

[4] A new version of the WDPA data standards was released in 2016 and will be used by MAPAMED in the future.

DESIG_TYPE	Type of designation	Describes whether a site is "Sub-national", "National" or "International" by designation. International applies to sites designated under a convention, commission or regional agreement such as Barcelona Convention, Ramsar Convention, Natura 2000, UNESCO World Heritage...
REP_M_AREA	Reported marine area	Marine extent of the area, as officially reported (in km^2).
REP_AREA	Reported area	Total area extent, including both marine (if applicable) and terrestrial areas (in km^2).
GIS_M_AREA	Marine area	Marine extent of the area, based on GIS calculation (in km^2).
GIS_AREA	Total area	Total extent of the area, based on GIS calculation (in km^2).
STATUS	Status	The current legal or official standing of the site in English: "Proposed" for areas identified as important for the conservation of biodiversity and likely to be designated, "In project" for areas that are in the process of being designated, "Designated" for already designated areas.
STATUS_YR	Status year	The year in which the current status was officially decreed.
RESP_PARTY	Responsible Party	The organisation, consultancy, national government, private company or other entity that claims ownership/authorship of the GIS data or that is providing the data on behalf of the ownership/authorship entity.
LINEAGE	Lineage	Information about the creation, events, changes or transformations in the life of a dataset including the process used to create and maintain the dataset and associated dates.
GIS_DATE	Geometry creation date	Date in which the spatial data was provided to and included into the MAPAMED dataset.
LATITUDE	Latitude	Latitude of the polygon centroid (decimal degrees).
LONGITUDE	Longitude	Longitude of the polygon centroid (decimal degrees).

Where do the data come from?

Data stored in the MAPAMED database come from a wide range of sources. A large portion of boundary data in the MAPAMED dataset are compiled from official sources (e.g. regional, national or sub-national agencies). A smaller portion of the boundary data is also either provided by experts or - when no other information could be found - digitised by the MAPAMED team using any available material such as coordinates provided in legal texts, official maps, communication leaflets, etc..

As for specific attributes, they are collected using a survey sent to all MPAs where a management body has been identified. Specific attribute collection campaigns are launched once every 4 years for each Mediterranean MPA system assessment.

How reliable is the dataset?

The MAPAMED team is continually updating and verifying the data in order to provide the users with the best possible information on marine conservation areas in the Mediterranean Sea.

Moreover, once the spatial data and core attributes are compiled, they are sent to SPA/RAC National Focal Points for validation. This validation step gives the dataset recognition and legitimacy at the Mediterranean scale.

The MAPAMED dataset, however, is not intended to replace official datasets issued by competent authorities such as national Governments or national Agencies. It is provided «as is» and no warranty of any kind is given as to its completeness or accuracy.

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PART 1 - WHAT MAKES THE CURRENT SYSTEM OF MPAs?

What is an MPA?

In the Mediterranean Sea, and for the specific purpose of inclusion of sites in MAPAMED, the generic term «Marine Protected Area» is understood as «a clearly defined marine geographical space - including subtidal, intertidal and supratidal terrain and coastal lakes/lagoons connected permanently or temporarily to the sea, together with its overlying water - recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values» (Claudet *et al.*, 2011).

The Aichi Target 11 also mentions «Other Effective area-based Conservation Measures» (OECMs). This denomination seems to also indicate protection designations, even though there is as yet no clear international guidance as to how it applies. A Task Force was established in 2015 by the World Commission on Protected Areas (IUCN-WCPA) to develop criteria for OECMs. Until the criteria are defined, this term will be set aside and all protection designations will be referred to as MPAs (with provision that they may include OECMs in the future).

When applying the above-mentioned definition of an MPA, it becomes clear that this concept is polymorphic by nature: it encompasses a wide range of area-based management tools, established under various designations, at various levels (sub-national, national, regional and international), and providing various degrees of protection. Moreover, each designation has its own conservation objectives. So in effect, there is an array of differing statuses of MPAs in the Mediterranean Sea.

Besides, these designations may spatially overlap:

- partially,
- fully, with exactly matching perimeters, or
- fully, where one designation completely encompasses another smaller one.

Several designations overlapping on one site does not necessarily mean that it is better protected than if there were only one designation. It all depends on what regulations and management measures are actually implemented in the area.

This is why providing a single figure for the surface coverage is not only difficult but can be misleading as to the actual level of protection provided by the system of MPAs, hence the choice here to embrace this complexity and offer the reader a set of figures rather than a single one. The following paragraphs shed the light on this maze of designations.

At national and sub-national level

For the purpose of this publication, **nationally designated MPAs** are defined as conservation sites declared under country specific designations. A country may have several different designations, each having its own characteristics regarding objectives, governance, management and regulations. For instance, and to name just three, France has “national parks” that are marine (or partly marine), “marine parks” and “natural marine parks”. Designations may also be specific to a national subdivision such as in Catalonia (Spain) with its «Pla d’Espais d’Interès Natural» (which could translate as Plans for Areas of Natural Interest). The potential strength of protection provided is thus designation specific.

A total of 54 different national or sub-national designations was identified in the Mediterranean Sea. These designations are shown in Table 02. Although some designation names may be similar from one country to another (when translated into English), this does not mean that they imply the same set-up or strength of protection. For instance, a Croatian national park is different from a French national park. As a result, nationally designated MPAs cannot be classified using their designation name. It is essential to look into the specificities of each designation and identify what it can afford in terms of protection. Nevertheless, only some national designations appear to have the legal possibility to establish highly regulated sub-zones within their perimeter.

Lacking sufficient information to perform such a refined classification, all national and sub-national designations were merged together into a single group in this analysis.

Table 02: National and sub-national MPA designations in the Mediterranean Sea

Country	Designation (English)	Designation (Original language)	Number identified
Albania	Managed Nature Reserve	Rezervatit Natyror të Menaxhuar	4
	National Park	Parku Kombëtar	3
	Protected Landscape	Peizazh i Mbrojtur	2
Algeria	Marine Nature Reserve	Réserve Naturelle Marine	1
Croatia	National Park	Nacionalni Park	3
	Natural Monument	Spomenik Prirode	1
	Nature Park	Park Prirode	2
	Significant Landscape	Značajni Krajobraz	6
	Special Reserve	Posebni Rezervat	6
Cyprus	Protected Area	Περιοχή Προστασίας	1
Egypt	Nature Protectorate	المحميات الطبيعية	5
France	Biotope Protection Order	Arrêté de Protection de Biotope	4
	Sites with Maritime Public Domain assigned to Littoral and Lakeside Conservatory	Sites avec Domaine Public Maritime affecté au Conservatoire du Littoral	6
	Marine Park	Parc Marin	1
	National Park	Parc National	2
	Natural Marine Park	Parc Naturel Marin	2
	Nature Reserve	Réserve naturelle	4
	Regional Nature Park	Parc naturel régional	2
Greece	Marine Wildlife Refuge	Θαλάσσιο Καταφύγιο Άγριας Ζωής	1
	Marine National Park	Εθνικό Θαλάσσιο Πάρκο	2
	National Park	Εθνικό Πάρκο	7
	Protected Area	Περιοχή Προστασίας της Φύσης	1
Israel	Marine Protected Area		2
	National Park	ימואל קראפ	1
	Nature Reserve	עבט תרומש	7
Italy	Marine Protected Area	Area Marina Protetta	27
	National Park	Parco Nazionale	2
	Regional Nature Reserve	Riserva Naturale Regionale	1
	Underwater Park	Parco Sommerso	2
Lebanon	Nature Reserve	محمية الطبيعية	2
Libya	Marine Protected Area		2

Malta	Special Area of Conservation of International Importance	Żona Speċjali ta 'Konservazzjoni ta' Importanza Internazzjonali	14
Monaco	Marine Reserve	Réserve Marine	2
Montenegro	Area protected by municipal decision	Područja zaštićena opštinskim odlukama	1
Morocco	National Park	Parc National	1
Slovenia	Landscape Park	Krajinski Park	2
	Natural Monument	Naravni Spomenik	2
	Nature Reserve	Naravni Rezervat	1
Spain	Area of Natural Interest	Espai d'Interès Natural	10
	Marine Reserve	Reserva Marina	16
	National Hunting Refuge	Refugio Nacional de Caza	1
	National Park	Parque Nacional	1
	Natural Area	Paraje Natural	3
	Natural Monument	Monumento Natural	1
	Nature Park	Parque Natural	8
	Nature Reserve	Reserva Natural	1
Syria	Nature Reserve for Marine Wildlife	محمية طبيعية للاحياء المائية	1
Tunisia	Biological Protection Zone	Zone de Protection Biologique	1
	Nature Reserve	Réserve naturelle	2
Turkey	National Park	Milli Parkı	1
	Special Environmental Protection Area	Özel Çevre Koruma Bölgesi	9
TOTAL			**190**

This table shows only designations that have been established. Proposed MPAs, such as Marine and Coastal Protected Areas (Aires Marines et Côtières Protégées) in Tunisia are not considered. However, some designations are not officially recognised as MPAs by the country, such as «Protected Landscapes» in Croatia. Considering these sites may be of interest for marine conservation, they have been included in the present analysis.

The full list of nationally and sub-nationally designated areas is provided in Appendix 01.

At EU level

At EU level, the Habitats Directive and the Birds Directive require Member States to protect core habitats (including breeding and resting sites) for rare and threatened species and preserve key habitats across Europe through the establishment of protected areas, both on land and at sea, known as Natura 2000 sites. These important habitats and species are listed in the annexes of the Directives.

There are different types of Natura 2000 sites depending on which Directive they are designated under (Box 05). These different types of sites may overlap in all or in part. Altogether, they form the Natura 2000 network, an initiative which has aimed to build protection from a 'network' perspective both at biogeographic and country scale.

However, the implementation of conservation measures is highly heterogeneous between countries. The Natura 2000 designation does not make provision for highly or fully protected zone, many measures are only 'recommended', and not all Member States have decided to develop, yet implement, a management document. This means that the majority of Natura 2000 sites seem to afford softer protection compared with many national designations.

A total of 882 marine Natura 2000 sites were identified in the Mediterranean Sea (November 2017): 729 being designated under the Habitats Directive and 226 under the Birds Directive (some sites being designated under both Directives, hence the fact that these figures are not cumulative). The methodology for the identification of marine Natura 2000 sites is described in Appendix 02.

Box 05: what is the Natura 2000 network made of?

The procedure for the designation of a Natura 2000 site varies according to which of the two Directives - Birds or Habitats - warrants the creation of the site.

- **Habitats Directive**

Under this directive, Member States submit lists of **proposed Sites of Community Importance (pSCIs)** to the European Commission. Once adopted by the Commission, these proposed sites become **Sites of Community Importance (SCIs)**, and Member States must then designate them as **Special Areas of Conservation (SACs)** within six years at most.

Despite this 6-year limit, it seems that very few SCIs (17 % or 126 out of the 729 Habitats Directive sites according to the Natura 2000 database) have been designated as SACs, according to the Natura 2000 dataset (end 2015 release).

- **Birds Directive**

The procedure to establish sites under this directive is straightforward and entails Member States directly designating **Special Protection Areas (SPAs)** according to scientific criteria..

The full list of Natura 2000 sites at sea is provided in Appendix 01.

Another European instrument, which may be used for marine conservation, is the **European Grouping of Territorial Cooperation (EGTC)** which is designed to facilitate and promote cross-border, transnational and interregional cooperation. The International Marine Park of the Strait of Bonifacio between France and Italy is the only MPA of this kind in the Mediterranean Sea.

At Mediterranean level

At Mediterranean level, Contracting Parties to the Barcelona Convention have adopted the SPA/BD Protocol, which implementation is supervised by the Specially Protected Areas Regional Activity Centre (UNEP-MAP-SPA/RAC). It requires countries to protect and manage in a sustainable way areas of particular natural or cultural value, as well as endangered or threatened species, particularly through the creation of Specially Protected Areas in marine and coastal zones subject to their sovereignty or jurisdiction. The term Specially Protected Areas includes any marine or coastal protected area established by the Contracting Parties and serving the conservation objectives listed in Article 4 of the SPA/DB Protocol[5]. Some of these Specially Protected Areas - being particularly important for the conservation of Mediterranean biodiversity, containing ecosystems specific to the Mediterranean area, or being of scientific, aesthetic, cultural or educational interest - may then be submitted by the concerned Contracting Party to the UNEP-MAP-SPA/RAC for inclusion in the list of **Specially Protected Areas of Mediterranean Importance (SPAMIs)**. The SPAMI designation therefore comes as an additional layer overlapping previously established designations. It does not bring any additional regulation to the area and may therefore be considered as a label rather than a protection designation per se. That said, when adopting a SPAMI, all Contracting Parties recognise the special importance of the area for the Mediterranean and agree to comply with the measures applicable to the area, thus commonly endorsing the responsibility for its protection. SPAMIs may be established in the marine and coastal zones subject to the sovereignty or jurisdiction of the Parties and in areas situated partly or wholly beyond national jurisdictions.

Up until the last biennial ordinary meeting of the Contracting Parties to the Barcelona Convention (February 2016), a total of 34 SPAMIs were adopted in the Mediterranean Sea in 10 countries, one of these SPAMIs being a transnational area (the Pelagos Sanctuary for Marine Mammals, a tripartite international agreement).

Another important designation used in the Mediterranean Sea is the **Fisheries Restricted Area (FRA)**. FRAs are established by the General Fisheries Commission for the Mediterranean (GFCM), which is entitled to adopt spatial management measures that regulate or restrict human activities affecting marine life and resources, including in the high seas. Legal recognition of FRAs at national level is then undertaken by the concerned country(ies). As of November 2017, 8 FRAs have been established in the Mediterranean Sea since 2005:

- Lophelia reef off Capo Santa Maria di Leuca,
- The Nile delta area cold hydrocarbon seeps,
- The Eratosthenes Seamount,
- The Gulf of Lion,
- East of Adventure Bank,
- East of Malta Bank,
- West of Gela Basin
- Deepwater Fisheries Management

Three of these were established to protect, on a permanent basis, deep sea sensitive habitats of conservation importance, thanks to a set of regulations that prohibit fishing with towed dredges and bottom trawl nets. In other words, they were not set up to manage a resource that can then be exploited commercially. These three conservation driven FRAs may thus be considered as MPAs and are taken into account in the analysis and results of this study.

By implementing a set of regulations to manage fishing activities, 4 of the other 5 FRAs may bring ancillary benefits to conservation but have not been considered in the analysis

[5] Article 4 "Objectives": The objective of specially protected areas is to safeguard: (a) representative types of coastal and marine ecosystems of adequate size to ensure their long-term viability and to maintain their biological diversity; (b) habitats which are in danger of disappearing in their natural area of distribution in the Mediterranean or which have a reduced natural area of distribution as a consequence of their regression or on account of their intrinsically restricted area; (c) habitats critical to the survival, reproduction and recovery of endangered, threatened or endemic species of flora or fauna; (d) sites of particular importance because of their scientific, aesthetic, cultural or educational interest.

since they were established mainly to protect fish stocks and thus manage resources to be exploited.

The remaining FRA includes any area in the Mediterranean Sea deeper than 1000 m where the use of towed dredges and trawl nets is prohibited. This proactive ban was put in place as a precautionary measure to protect deep sea ecosystems.

It should also be noted that, at its annual session in 2012, the GFCM also adopted Recommendation GFCM/36/2012/3 on fisheries management measures for conservation of sharks and rays in the GFCM area of application. This legally binding instrument lays down measures aiming to ensure in its area of competence a high level of protection from fishing activities to sharks and rays, in particular those listed as endangered or threatened under Annex II of the SPA/BD Protocol. According to the Recommendation, fishing activities carried out with trawl nets are to be prohibited within 3 n.m. off the coast, provided that the 50 m isobaths is not reached, or within the 50 m isobaths where the depth of 50 m is reached at a shorter distance from the coast. Such prohibition was already contained in Regulation (EC) No 1967/2006 of the Council of the European Union.

Finally, in the Mediterranean Sea, attempts at conserving marine marine mammals has led to the establishment of two types of recognition, highlighting the importance of key areas to focus on for these animals.

First, the ACCOBAMS has introduced the concept of **Cetacean Critical Habitats** (CCHs). CCHs are areas of importance for cetacean species and can include:

- Areas used by cetaceans for feeding, breeding, calving, nursing and social behaviour,
- Migration routes and corridors and related resting areas,
- Areas where there are seasonal concentrations of cetacean species,
- Areas of importance to cetacean prey,
- Natural processes that support continued productivity of cetacean foraging species (upwellings, fronts…),
- Topographic structures favourable for enhancing foraging opportunities for cetacean species (canyons, seamounts…).

Apart from the importance of an area with regard to cetacean species, the term CCH also incorporates the notion of current and potential threats to these species. CCH are therefore high priority areas for cetacean conservation, where Parties to the ACCOBAMS are strongly recommended to establish MPAs for cetacean species as well as other conservation or mitigation measures.

In the Mediterranean Sea, 18 CCH were adopted in 2010 by the ACCOBAMS Parties.

Then, also of high relevance are the Important Marine Mammal Areas (IMMAs) (see Box 06), a global tool to support marine mammal conservation implemented by the IUCN Marine Mammal Protected Areas Task Force. In October 2016, 34 marine mammal experts met in Chania, Greece, and identified 41 candidate IMMAs in the Mediterranean Sea, later reduced to 26 by an independent Review Panel tasked to verify the correct application of the IMMA criteria and the robustness of the supporting data. IMMAs to a large extent coincide with CCHs but are based on specific criteria which allows them to be applied at the global level, as requested by the CMS with Resolution 12.13[6].

Box 06: Important Marine Mammal Areas (IMMAs)
by Giuseppe Notarbartolo di Sciara, Erich Hoyt and Michael J. Tetley

IMMAs are an area-based conservation tool identifying discrete portions of habitat, important for one or more marine mammal species, that have the potential to be delineated and managed for conservation. The process of identifying a global network of IMMAs is implemented jointly by the IUCN Species Survival Commission and the World Commission on Protected Areas through the Task Force on Marine Mammal Protected Areas, which examines and assesses through a series of workshop areas of interest submitted for consideration as IMMAs. Candidate IMMAs emerging are examined and validated by an independent Review Panel. Once validated, IMMAs are made publicly available on the Task Force's website.

To access the IMMA e-Atlas: **www.marinemammalhabitat.org/imma-eatlas**

[6] http://www.cms.int/en/document/important-marine-mammals-areas-immas

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At international level

International designations are designations set through international conventions, through international agreements or by international organisations and recognised by most countries. These designations usually act as labels and highlight the ecological, socio-economic and/or cultural importance of an area, thus justifying the need to take measures to protect it. A brief presentation of each of the international designations considered in this study follows.

Particularly Sensitive Sea Areas (PSSAs) are areas of high ecological, socio-economic and/or scientific value which need special protection because of their vulnerability to be damaged by international maritime activities. These areas are designated by the IMO upon request from its Member Governments. In these areas, specific measures can be used to control the maritime activities, such as routeing measures, installation of Vessel Traffic Services and strict application of discharge and equipment requirements for ships set by the International Convention for the Prevention of Pollution from Ships (MARPOL). The only PSSA designated so far in the Mediterranean Sea is located in the Strait of Bonifacio.

Wetlands of International Importance (hereinafter referred to as Ramsar sites) are sites designated by the Contracting Parties of the Ramsar Convention which aims to develop and maintain an international network of wetlands which are important for the conservation of global biological diversity and for sustaining human life through the ecological and hydrological functions they perform. Ramsar sites are designated on account of their international significance in terms of ecology, botany, zoology, limnology or hydrology. Once designated, Ramsar sites are recognized as being of significant value not only for the country or countries in which they are located, but for humanity as a whole. As such, the designation of a Ramsar site embodies the Contracting Parties commitment to take the steps necessary to ensure that its ecological character is maintained.

Many Ramsar sites are coastal and linked to the sea, and/or encompass marine waters (up to 6 m depth at low tide), thus justifying their inclusion in this study. Up until October 2016, 94 coastal or marine Ramsar sites were identified in the Mediterranean Sea. A special initiative for the Mediterranean wetlands (MedWet initiative) has been agreed upon by the Parties to the Ramsar Convention, allowing more coordination and efforts between the Mediterranean countries through the MedWet secretariat.

Biosphere Reserves are areas of terrestrial and coastal/marine ecosystems that are internationally recognized under the UNESCO Man and the Biosphere Programme. Biosphere Reserves are nominated by national governments and remain under the sovereign jurisdiction of the States where they are located. These areas aim to reconcile solutions to achieve a sustainable balance between protection of biological diversity, economic development and conservation of associated cultural values, thus promoting an integrated approach. Physically, each Biosphere Reserve should contain:

- one or more core areas, which comprise strictly protected ecosystem that contributes to the conservation of landscapes, ecosystems, species and genetic variation,
- a buffer zone which surrounds or adjoins the core areas, and is used for activities compatible with sound ecological practices, including environmental education, recreation, ecotourism and research, and
- a transition area which is the part of the reserve where the greatest activity is allowed, fostering economic and human development that is socio-culturally and ecologically sustainable.

Legally speaking, some countries have enacted specific legislation to establish Biosphere Reserves. In many others, the core areas and buffer zones are designated (in whole or in part) as protected areas under national law. Seven Biosphere Reserves with a marine component were identified in the Mediterranean Sea by October 2016.

World Heritage sites are sites which comprise cultural and/or natural heritage considered to be of outstanding value to humanity, and have thus been inscribed on the UNESCO World Heritage List under the Convention concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention). State Parties to the World Heritage Convention shall take the appropriate legal, scientific, technical, administrative and financial measures necessary for the identification, protection, conservation, presentation and rehabilitation of this heritage. Although the Convention makes it clear that the duty of achieving these objectives belongs primarily to the State Party in which the site is located, it establishes a system of international cooperation and assistance (in particular financial, artistic, scientific and technical) to support State Parties in this endeavour. Three World Heritage sites with a marine component were identified in the Mediterranean Sea by October 2016.

Other area-based management tools

Apart from all the types of designations presented above, other spatial sector-specific management measures exist. While their prime objective is not the conservation of natural features, they can however bring de facto conservation benefits to species, habitats or other features. This is the case with national fisheries reserves where fishing is either forbidden or highly regulated for instance.

The GFCM has recently started to inventory these national FRAs and those that are prohibiting fisheries all year-round have been included in the present analysis of no-go (no access), no-take (no extraction or picking of living or nonliving resources) and no-fishing zones (for both professional and recreational sectors unless specified).

Within the wider context of ocean management, all regulations that apply to the coastal and marine environment and aim to manage human activities should be considered altogether. Such consideration goes beyond the present analysis. Still, in the future, some which have been put into place specifically to lessen impact on key species or habitats could be examined. For example, IMO has implemented some traffic separation or routing schemes not just to avoid collisions between ships but also collisions with marine fauna.

Classifying MPAs

A quick look at the previous paragraphs is enough to realise the variety of existing area-based conservation tools that meet the definition of an MPA. This whole array of different designations does not afford the same level of conservation strength: each tool has its own objectives, design, legal provisions, operational capacity and protection level, making it challenging to assess MPA systems. While some designations provide a framework to facilitate cooperation between local stakeholders for a sustainable development, some others enable the implementation of strong regulations regarding some activities, including the creation of no-take areas, where all fishing activities and other extractive uses are prohibited.

Therefore, the term MPA on its own provides scant information on the actual contribution of any individual area to the conservation of biological diversity, hence the need for an MPA classification system to better reflect this inherent heterogeneity.

IUCN (International Union for the Conservation of Nature) proposes a classification system for terrestrial and marine protected areas based on their management objectives. This system is recognised worldwide (although not applied by all countries or for each site) and comprises 6 management categories (Table 03). Over the years, IUCN has reviewed and adapted this classification system and has published a set of guidelines to provide clarity regarding the meaning and application of the categories, particularly in the marine environment (López Ornat & Pons Reynés, 2007; Dudley, 2008; Day *et al.*, 2012). Not all Mediterranean MPAs have been assigned an IUCN category so far and some have not been assigned the most fitted category. However, IUCN maintains its efforts to fill this gap and brings support to MPAs and Governments so that categories are properly assigned.

Table 03: IUCN management categories for protected areas

IUCN management category	Description	Primary objective
Ia - Strict Nature Reserve	Protected areas that are strictly set aside to protect biodiversity and also possibly geological/geomorphological features, where human visitation, use and impacts are strictly controlled and limited to ensure protection of the conservation values. Such protected areas can serve as indispensable reference areas for scientific research and monitoring.	To conserve regionally, nationally or globally outstanding ecosystems, species (occurrences or aggregations) and/ or geodiversity features: these attributes will have been formed mostly or entirely by non-human forces and will be degraded or destroyed when subjected to all but very light human impact.
Ib - Wilderness Area	Protected areas that are usually large unmodified or slightly modified areas, retaining their natural character and influence, without permanent or significant human habitation, which are protected and managed so as to preserve their natural condition.	To protect the long-term ecological integrity of natural areas that are undisturbed by significant human activity, free of modern infrastructure and where natural forces and processes predominate, so that current and future generations have the opportunity to experience such areas.
II - National Park	Large natural or near natural areas set aside to protect large-scale ecological processes, along with the complement of species and ecosystems characteristic of the area, which also provide a foundation for environmentally and culturally compatible spiritual, scientific, educational, recreational and visitor opportunities.	To protect natural biodiversity along with its underlying ecological structure and supporting environmental processes, and to promote education and recreation.

III - Natural Monument or Feature	Protected areas set aside to protect a specific natural monument, which can be a landform, seamount, submarine cavern, geological feature such as a cave or even a living feature such as an ancient grove. They are generally quite small protected areas and often have high visitor value.	To protect specific outstanding natural features and their associated biodiversity and habitats.
IV - Habitat/Species Management Area	Protected areas aiming to protect particular species or habitats and management reflects this priority. Many category IV protected areas will need regular, active interventions to address the requirements of particular species or to maintain habitats, but this is not a requirement of the category.	To maintain, conserve and restore species and habitats.
V - Protected Landscape/ Seascape	A protected area where the interaction of people and nature over time has produced an area of distinct character with significant ecological, biological, cultural and scenic value: and where safeguarding the integrity of this interaction is vital to protecting and sustaining the area and its associated nature conservation and other values.	To protect and sustain important landscapes/ seascapes and the associated nature conservation and other values created by interactions with humans through traditional management practices.
VI - Protected area with sustainable use of natural resources	Protected areas that conserve ecosystems and habitats, together with associated cultural values and traditional natural resource management systems. They are generally large, with most of the area in a natural condition, where a proportion is under sustainable natural resource management and where low-level non-industrial use of natural resources compatible with nature conservation is seen as one of the main aims of the area.	To protect natural ecosystems and use natural resources sustainably, when conservation and sustainable use can be mutually beneficial.

Source: Day et al., 2012

The IUCN classification system being clearly based on protected areas' stated management objectives, it provides information on the reason why a protected area has been established, hence its intention. However, this does not necessarily illustrate what measures have been applied in the field, resulting in a skewed vision of reality where actual regulations or management actions do not match the initially stated objectives. In recent years, some attempts have been made to develop additional MPA classification systems that integrate the diversity of MPAs and bring precision on their actual level of protection, thus complementing the IUCN system (NOAA, 2011; Al-Abdulrazzak & Trombulak, 2012; Horta e Costa *et al.* 2016).

The US National MPA Center (NOAA, 2011) has developed a classification system that provides straightforward means to describe MPAs in purely functional terms using five objective characteristics common to most MPAs:

- Conservation Focus
- Level of Protection
- Permanence of Protection
- Constancy of Protection
- Scale of Protection

Far from wishing to replace well-established classification approaches, it simply aims to provide a neutral, intuitive, common language with which to describe, understand, and evaluate proposed and existing MPA sites, networks and systems within the United States of America.

Specific to the 'level of protection' characteristic, it proposes a scale of 5:

- **Uniform Multiple-Use:** MPAs or zones with a consistent level of protection, allowing activities or restrictions throughout the protected area. Extractive uses may be restricted for natural or cultural resources.
- **Zoned Multiple-Use with No-Take Area(s):** Multiple-use MPAs that contain at least one legally established management zone in which all resource extraction is prohibited.
- **No-Take:** MPAs or zones that allow human access and even some potentially harmful uses, but that totally prohibit the extraction or significant destruction of natural and cultural resources.
- **No Impact (which would be better described as «least impact»):** MPAs or zones that allow human access, but that prohibit all activities that could harm the site's resources or disrupt the ecological and cultural services

they provide. Examples of activities typically prohibited in «no-impact» MPAs include resource extraction of any kind (fishing, collecting, or mining); discharge of pollutants; disposal or installation of materials; and alteration or disturbance of submerged cultural resources, biological assemblages, ecological interactions, physico-chemical environmental features, protected habitats, or the natural processes that support them. (In the marine environment however, «no impact» has to be interpreted with its limitations).

- **No Access:** MPAs or zones that restrict all human access to the area in order to prevent potential ecological disturbance, unless specifically permitted for designated special uses such as research, monitoring or restoration.

A recent proposed MPA classification system was developed by Horta e Costa *et al.* (2016) within the framework of the BiodivERsA BUFFER project (Partially protected areas as buffers to increase the linked social-ecological resilience). Partially protected areas in this case recognises that within its boundaries, an MPA is multiple use and therefore has different sub-zones allowing, prohibiting or regulating specific types of activies. The classification uses regulations in force within each sub-zone of the MPA as an indicator of the level of protection. Scores are assigned to activities (commonly occurring in MPAs) according to their potential impacts on biodiversity (from 0: no impact to 9: high impact). Following a 4-step decision tree (Figure 01), it is then possible to classify each zone of an MPA depending on the scores of activities that are allowed. An MPA index, which defines in which category the considered MPA falls, is then calculated by averaging the class of every zone, accounting for its size.

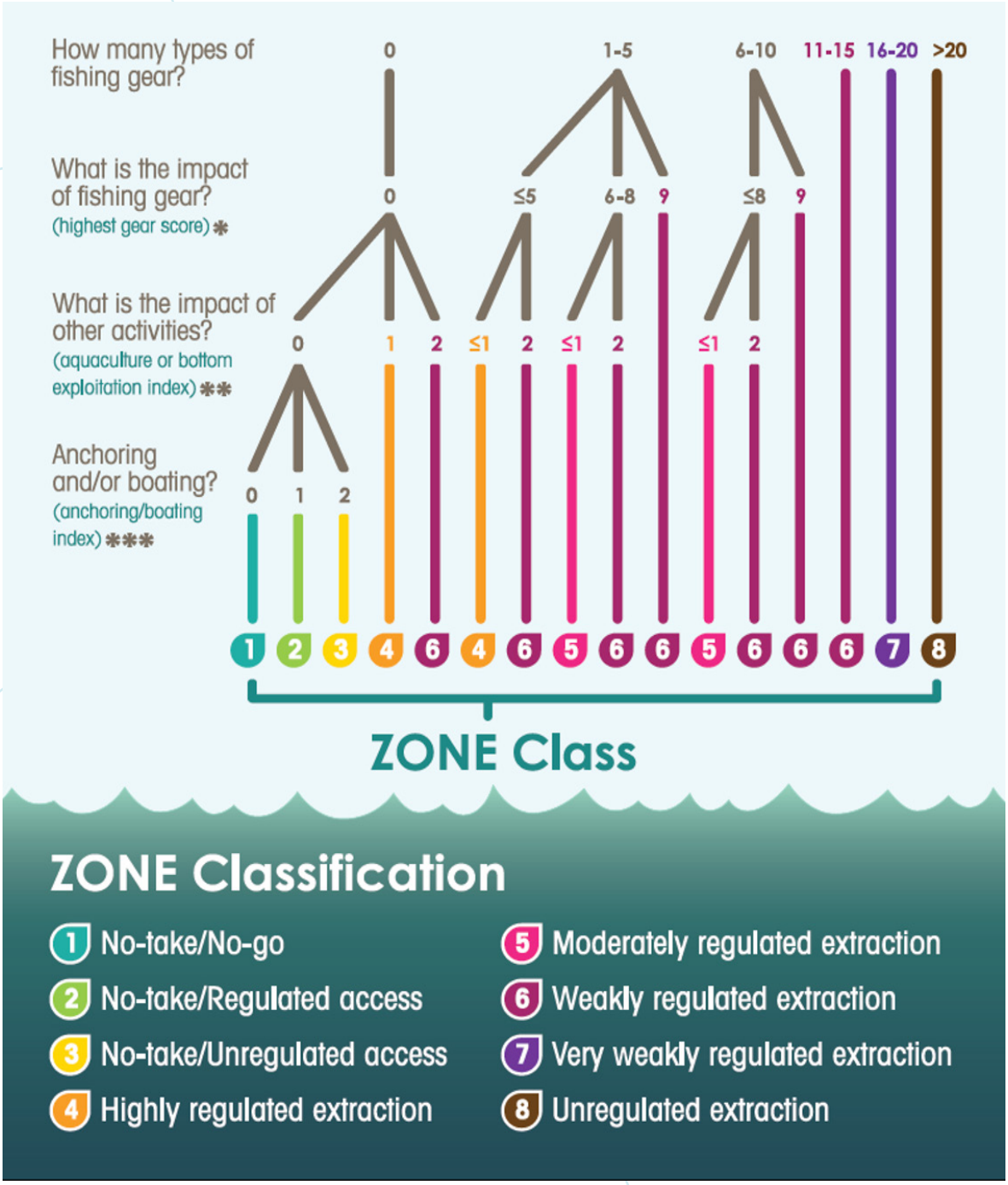

Figure 01: Classification system of zones within MPAs based on allowed uses, a decision tree according to Horta e Costa et al. (2016)

This globally applicable approach, which is being applied at the Mediterranean level (Zupan *et al.*, 2018), intends to complement the IUCN classification system, thus providing a practical tool to check whether or not regulations in force are in line with the stated objectives of the MPA (Horta e Costa *et al.*, 2017). Most importantly, it brings in a first step before attempting to analyse management effectiveness.

The regulation-based classification system could be improved by widening the number of threats and pressures and types of regulations to better fit the full Mediterranean picture. It could also consider not only which regulations theoretically apply within the zones, but also whether these regulations are actually enforced and complied with in the field. The need to include information on management effectiveness to complement this classification has also been clearly identified. Even though this implies a considerable effort to gather additional data, it would be well worthwhile.

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PART 2 - WHAT DO MPAs COVER?

General methodology for spatial analysis

Assessment area

The spatial extent of this analysis was defined as the whole Mediterranean Sea, in accordance with the limits defined by the International Hydrographic Organization (1953), that is to say:

- On the west: a line joining the extremities of Cape Trafalgar (Spain) and Cape Spartel (Africa),
- On the northeast: a line joining Kum Kale and Cape Helles, the western entrance to the Dardanelles.

This represents an area of 2 516 908 km^2.

Datasets used

All data layers used for this study are described in Appendix 02.

Regarding conservation areas, spatial data and basic information were extracted from the recently updated MAPAMED dataset, which was released in November 2017 (MAPAMED, 2017). Spatial data consist in a vector file (either shapefile or kml) representing the considered site, either as a polygon (outer boundaries) or, failing that, a point (centroid).

Data processing

Spatial analysis and the maps were conducted using QGis 2.14.7 (QGis Development Team, 2016) and double-checked using ArcGIS 10.2.2.

All the layers used for the analysis and the creation of the maps were projected in Lambert Azimuthal Equal Area for projection (ETRS89-LAEA).

Many conservation areas include a terrestrial part, which needed to be excluded, in order to calculate the marine extent of conservation areas. The exclusion of terrestrial parts was done by cutting the conservation area layer with the 2015 version of the "EEA coastline for analysis" (http://www.eea.europa.eu).

For coverage calculations, in order to avoid double counting areas where several designations overlap, conservation areas boundaries were dissolved to form a single, flat conservation area layer. Unless otherwise stated, all coverage figures provided in this report (areas and percentages) include only marine areas.

Provided that national jurisdictions in the Mediterranean Sea have not all been clearly defined yet, or are subject to disputes between countries, an estimation of the percentage of national waters covered by MPAs was calculated using theoretical Exclusive Economic Zones (EEZs) as a basis, derived from the World EEZ v8 database (Flanders Marine Institute, 2014) (Figure 02).

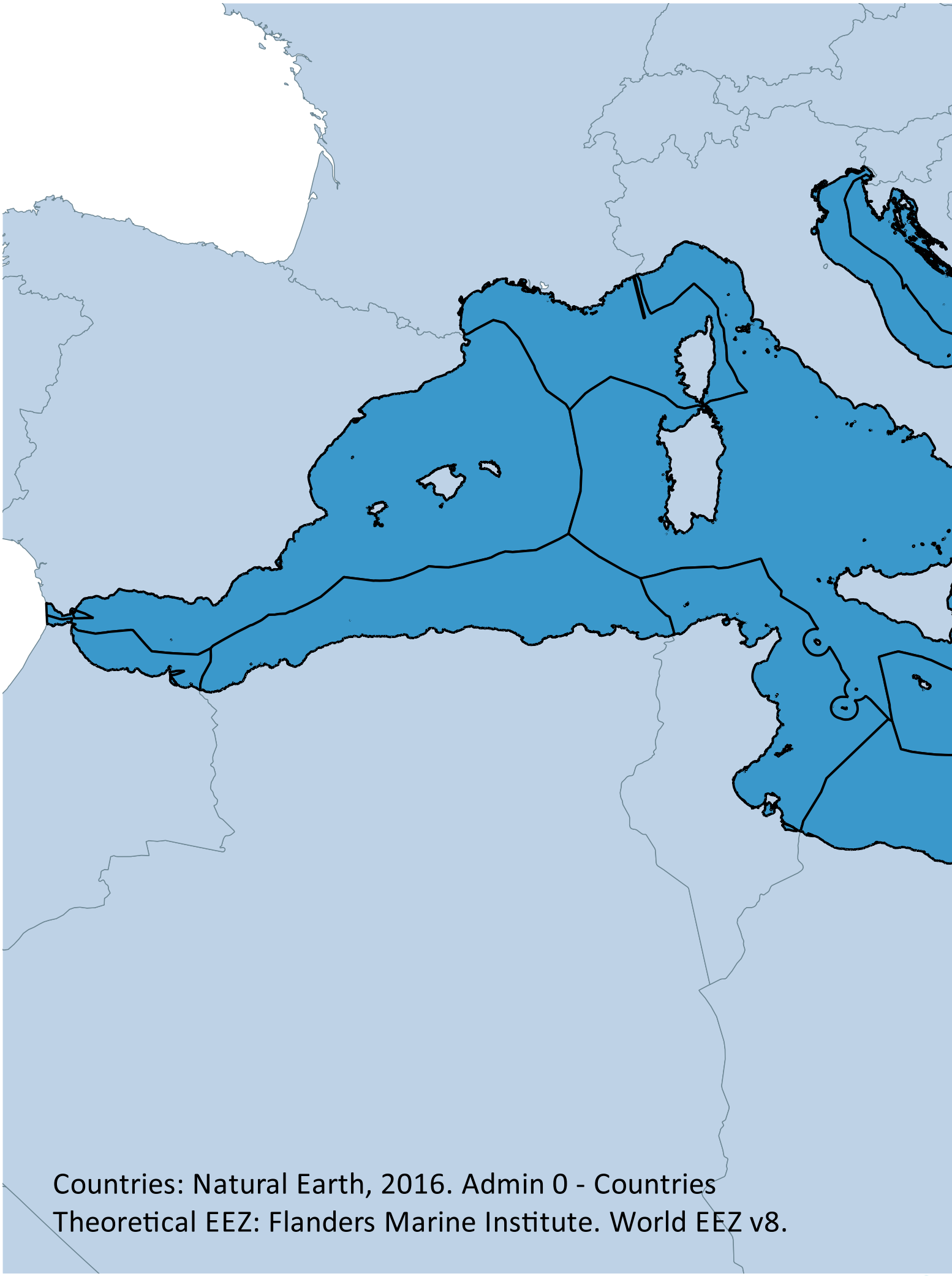


Figure 02: Theoretical EEZs used to roughly estimate the proportion of national waters covered by MPAs (Flanders Marine Institute, 2014). The use of this dataset does not imply any expression whatsoever on the part of the authors concerning the legal status of any country, territory or area, or of its authorities, or concerning the delimitation of its frontier or boundaries.


0
250
500
750
1000 km

It should be noted however that the use of this dataset does not imply any expression whatsoever on the part of the authors concerning the legal status of any country, territory or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries. Results obtained are therefore theoretical and intend to provide the reader with an order of magnitude regarding the MPA coverage for each country. Priority is given to biological conservation over any other concerns.

When processing the data, it was noted that not all MPAs designated by a country actually fall within its theoretical EEZ. MPAs or the parts of MPAs falling beyond the theoretical EEZ of a country were not accounted for in the calculation of the percentage of national waters under protection. Similarly, MPAs or the parts of MPAs designated by other countries falling within the theoretical EEZ were removed.

Possible discrepancies between national reports on MPAs or other studies and the outcomes of the present analysis are likely to be due to different input data (e.g. resolution of coastline projection used, resolution of MPA perimeter used) or different selection approaches. Therefore they must not necessarily be interpreted as errors.

MPA coverage

BOX 07: MPA coverage: key figures and fast facts

- All designations combined, MPAs cover 6.81 % of the Mediterranean Sea.
- To reach the 10 % target, an additional 80 328 km^2 (at least) should be placed under protection by 2020. This is more than the progress made between 2006 and 2016.
- Cyprus, France, Monaco and Spain have reached the 10 % target. Croatia and Italy are close to reaching this target with more than 9 % of their theoretical EEZ covered by MPAs.
- There is a strong imbalance between the North-Western basin and the rest of the Mediterranean Sea regarding MPA coverage.
- The coverage target does not mean the Mediterranean MPA system is ecologically coherent, nor does it provide information as to whether MPAs have regulations and are managed effectively, thus providing actual protection.

General coverage

Since the 1950s, nearly all countries Parties[7] to the Barcelona Convention have established MPAs, including countries that have not yet ratified the SPA/BD Protocol of 1995. Until the late 1990s, the MPA coverage in the Mediterranean Sea increased slowly but remained low (< 15 000 km^2) (Figure 04).

Then, in 1999, the tripartite agreement creating the Pelagos Sanctuary for Marine Mammals was signed, expanding the MPA coverage more than sevenfold. Additional significant steps were taken in 2006 and to a lesser extent in 2011 with the creation of marine Natura 2000 sites in Spain and in Greece respectively.

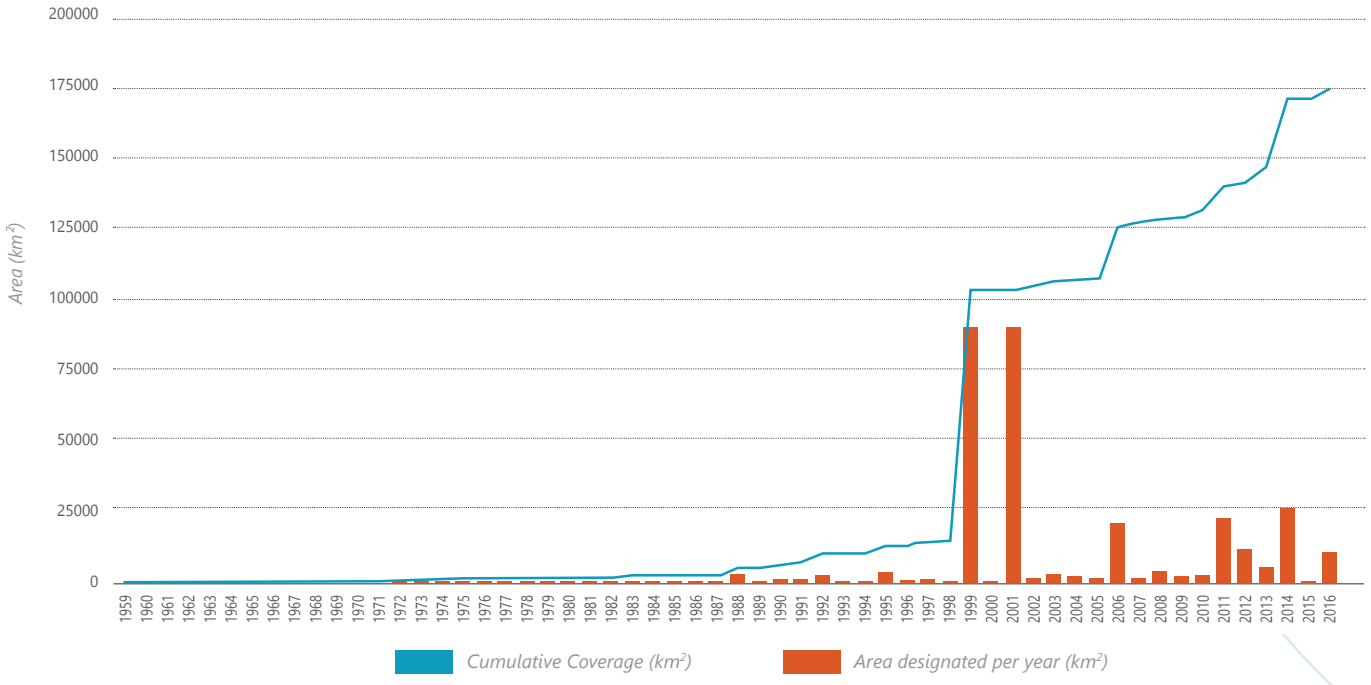


Figure 04 : Evolution of MPA coverage over time

[7] With the EU joining and ratifying the Convention, there 22 Parties to the Convention in total.

Further progress in MPA coverage was made over the last few years (Table 04).

Since 2012, the area covered by nationally designated MPAs has increased by 45.5 % with some countries like France designating large sites (eg. the Cap Corse - Agriate Natural Marine Park designated by France in 2016 (6 829 km²)).

Similarly, the area covered by marine Natura 2000 sites has more than doubled since 2012 (+150 %). Indeed, Spain has designated large marine Natura 2000 sites in the Mediterranean Sea in recent years, many of which are larger than 1 000 km². Moreover, upon its accession to the European Union in 2013, Croatia established 259 marine Natura 2000 sites all at once, covering an area of 5 269 km².

Table 04: Recent progress in MPA number and coverage, 2012 - 2016 comparison.

	2012		2016	
	Number	**Area**	**Number**	**Area**
Nationally designated MPAs	181	22 034 km²	190	32 065 km²
Natura 2000 sites	507	25 243 km²	882	63 000 km²

Figures for 2012 were re-calculated using the new dataset, hence differences from what was calculated by Gabrié et al. (2012).

To date, there are 1 215 MPAs in the Mediterranean Sea, all designations combined, covering 171 362 km² or 6.81 % of the Mediterranean Sea. Table 05 breaks this general figure down and shows the relative contribution of each type of designations to the overall coverage.

The Pelagos Sanctuary for Marine Mammals, marine Natura 2000 sites and nationally designated MPAs are by far the designations that cover the most with respectively 3.47, 2.50 and 1.27 % of the Mediterranean Sea.

In order to reach the 10 % coverage goal set in the Aichi target 11, at least 251 690 km² of the Mediterranean Sea should be designated. Assuming the current coverage is 171 362 km² (which is the most optimistic scenario considering it encompasses all types of designation), this means that an additional 80 328 km² (at least) should be placed under protection by 2020. This is more than the progress made between 2006 and 2016, regardless of whether regulations are implemented or of management effectiveness.

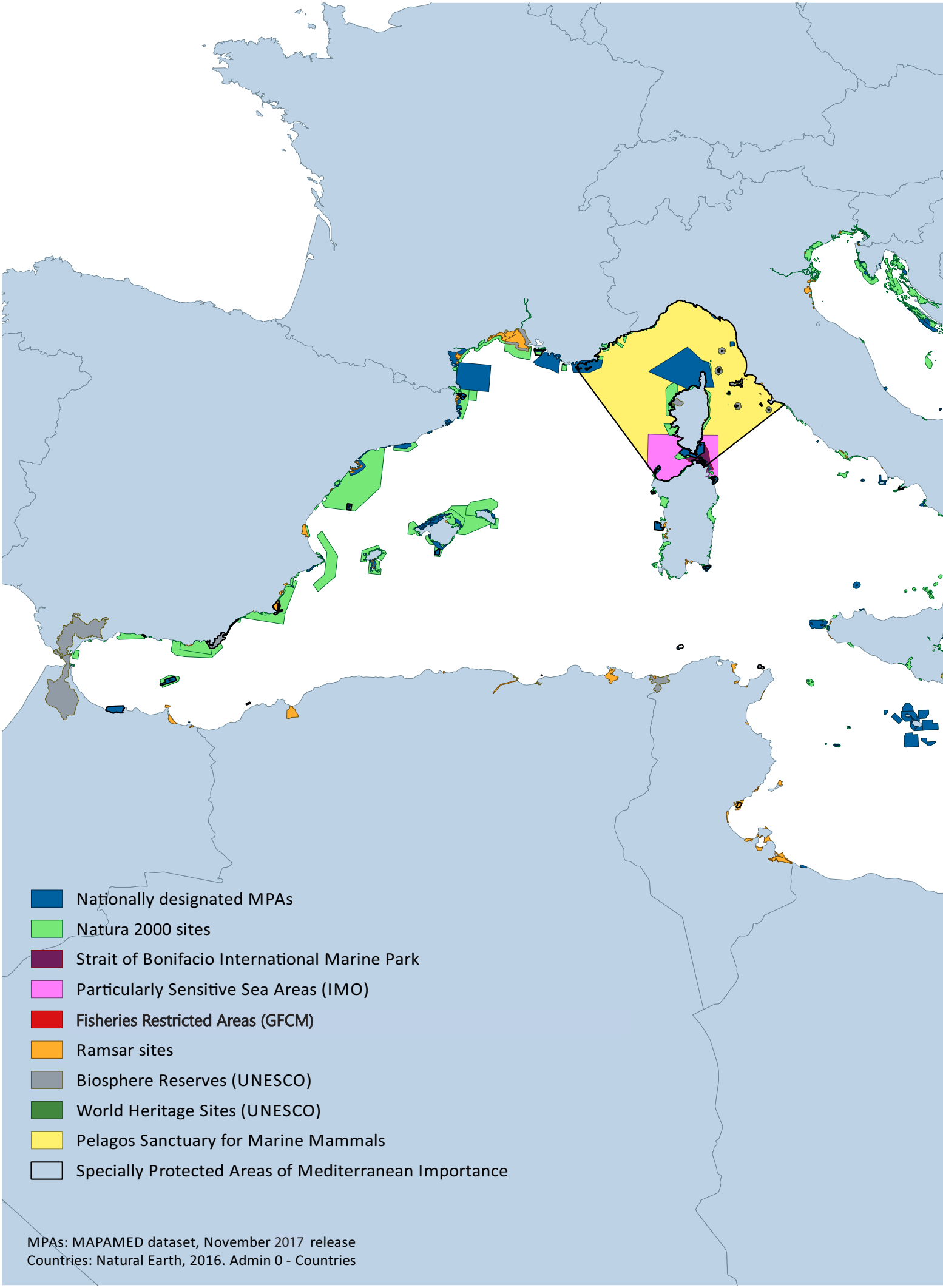


Figure 03: The Mediterranean MPA system

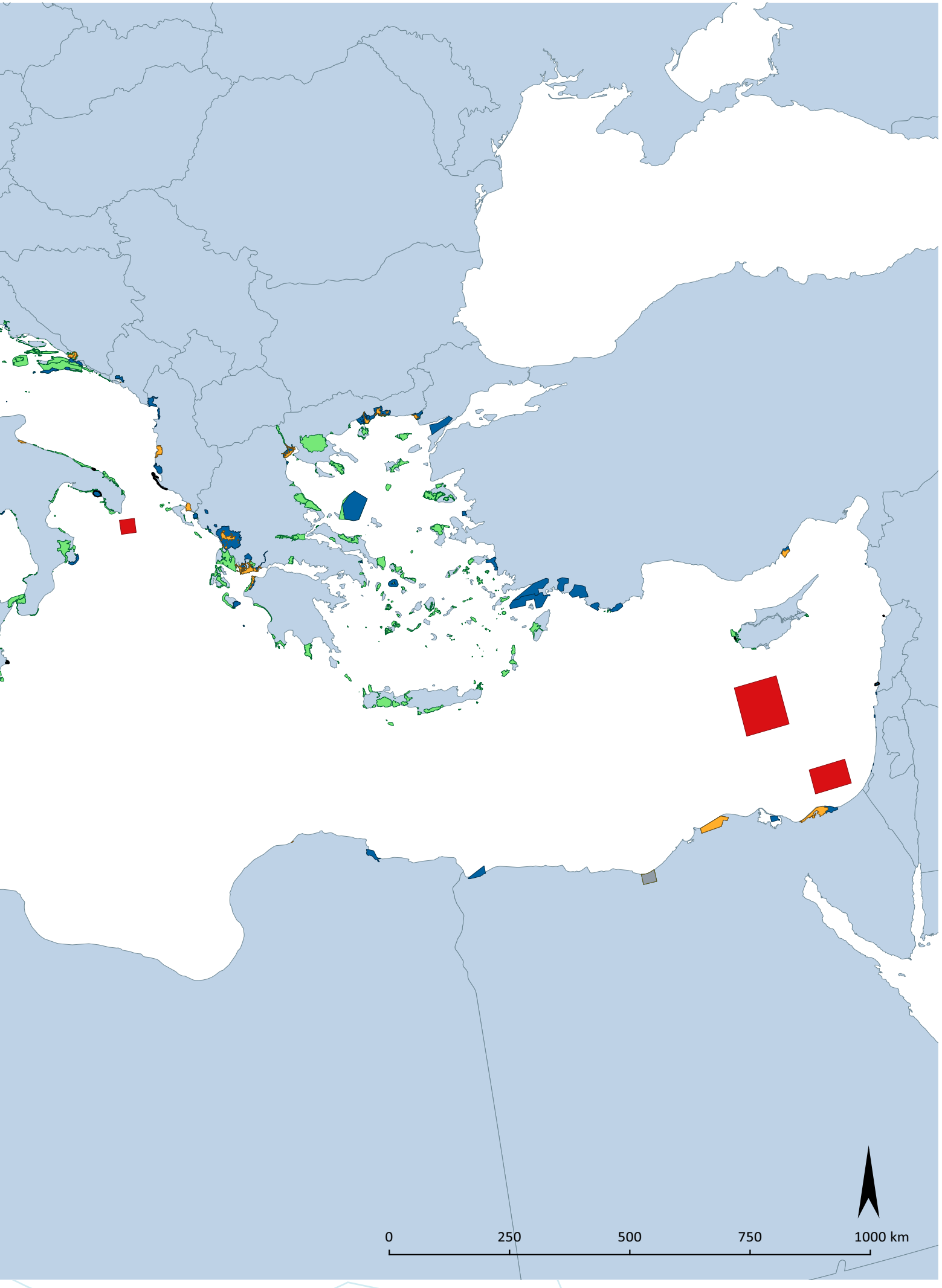
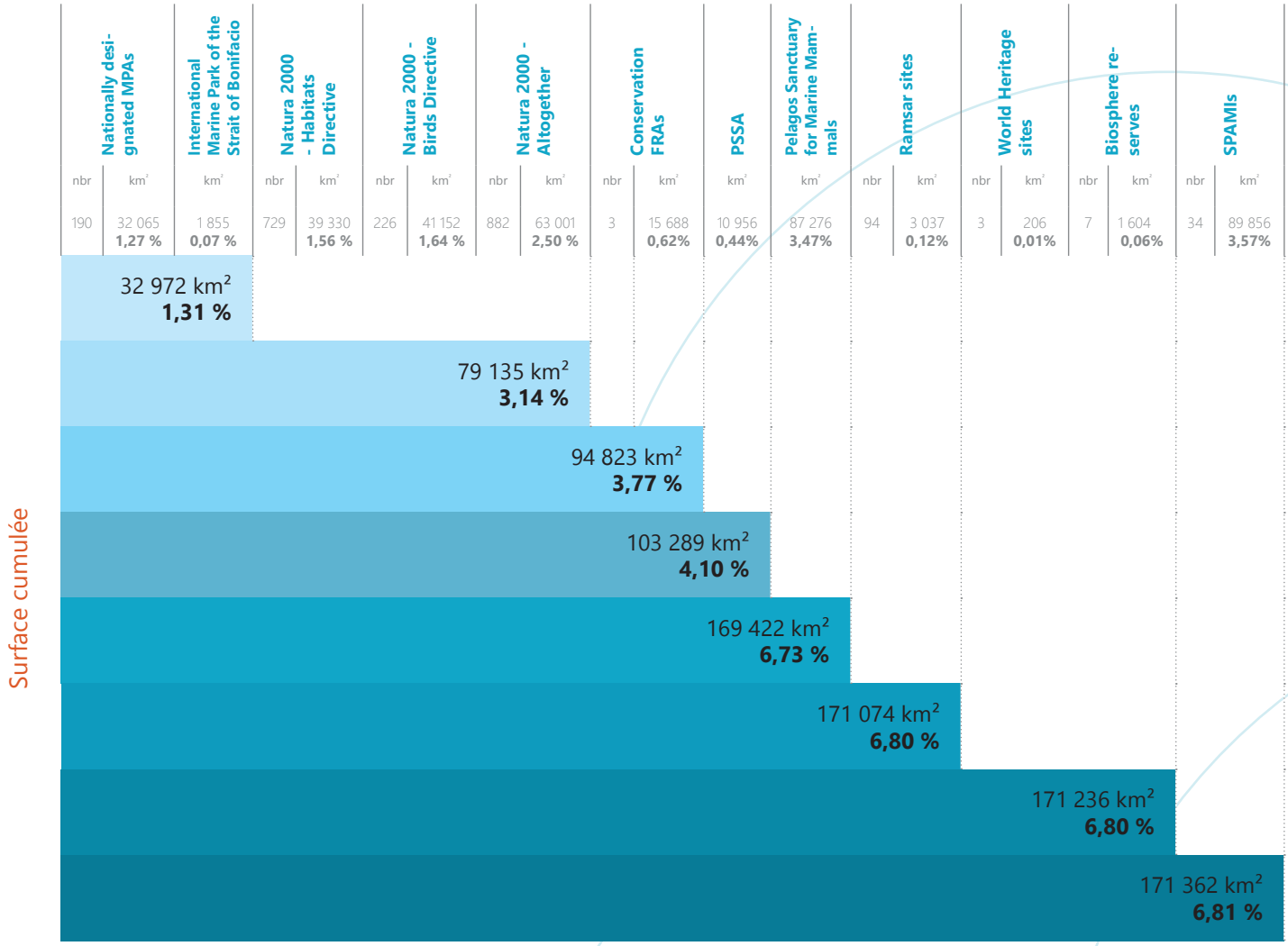

0
250
500
750
1000 km

Table 05: MPA coverage in the Mediterranean Sea



Areas where several designations overlap were counted only once in the calculation of merged coverage, hence the fact that the general coverage cannot be obtained by simply adding up all individual coverages.

As explained before, designations often overlap with each other and Appendix 03 shows to what extent they do. For example, about half of the total area covered by nationally designated MPAs is also covered by Natura 2000 sites (16 751 out of 32 065 km²).

Coverage by country

Even though the 10 % coverage goal set by the Aichi target 11 has not yet been reached in the Mediterranean Sea and is unlikely to be reached by 2020, some countries have achieved this target in their theoretical EEZ, at least on paper and regardless of whether sites are being actually managed (Figure 05):

- Cyprus, with 10.26 % of its theoretical EEZ under protection. This is almost entirely due to the Eratosthenes Seamount FRA, which alone covers 10.13 % of the theoretical EEZ.
- France, with 60.18 % of its Mediterranean theoretical EEZ covered by MPAs, mainly thanks to the Pelagos Sanctuary for Marine Mammals but also to some large areas established recently (Gulf of Lion Natural Marine Park in 2011, Calanques National Park in 2012, and Cap Corse - Agriate Natural Marine Park in 2016).
- Monaco, with 100 % of its theoretical EEZ being included in the Pelagos Sanctuary for Marine Mammals.
- Spain, with 11.70 % of its Mediterranean theoretical EEZ covered by MPAs, particularly by several large marine Natura 2000 sites which have been established over the last few years.

Other countries are very close to reaching the 10 % coverage goal of the Aichi target 11. Croatia has placed 9.51 % of its theoretical EEZ under protection, mainly through its Natura 2000 network. As for Italy, despite being the second Mediterranean country with the biggest MPA coverage (having placed 48 890 km² under protection), 9.07 % of its theoretical EEZ is covered. This is due to its theoretical EEZ being the largest among all Mediterranean theoretical EEZs. With the creation of 9 large Areas of Conservation of International Importance in 2016 that are also Natura 2000 sites, the MPA coverage of Maltese theoretical EEZ has reached 6.29 %.

None of the remaining countries exceed 5 % MPA coverage. As for Bosnia and Herzegovina, it is the only Mediterranean country with no MPA, but it also has the smallest theoretical EEZ (14.66 km^2) of all parties to the Barcelona Convention.

Regarding MPA coverage, there is a strong imbalance between the North-Western basin and the rest of the Mediterranean Sea.

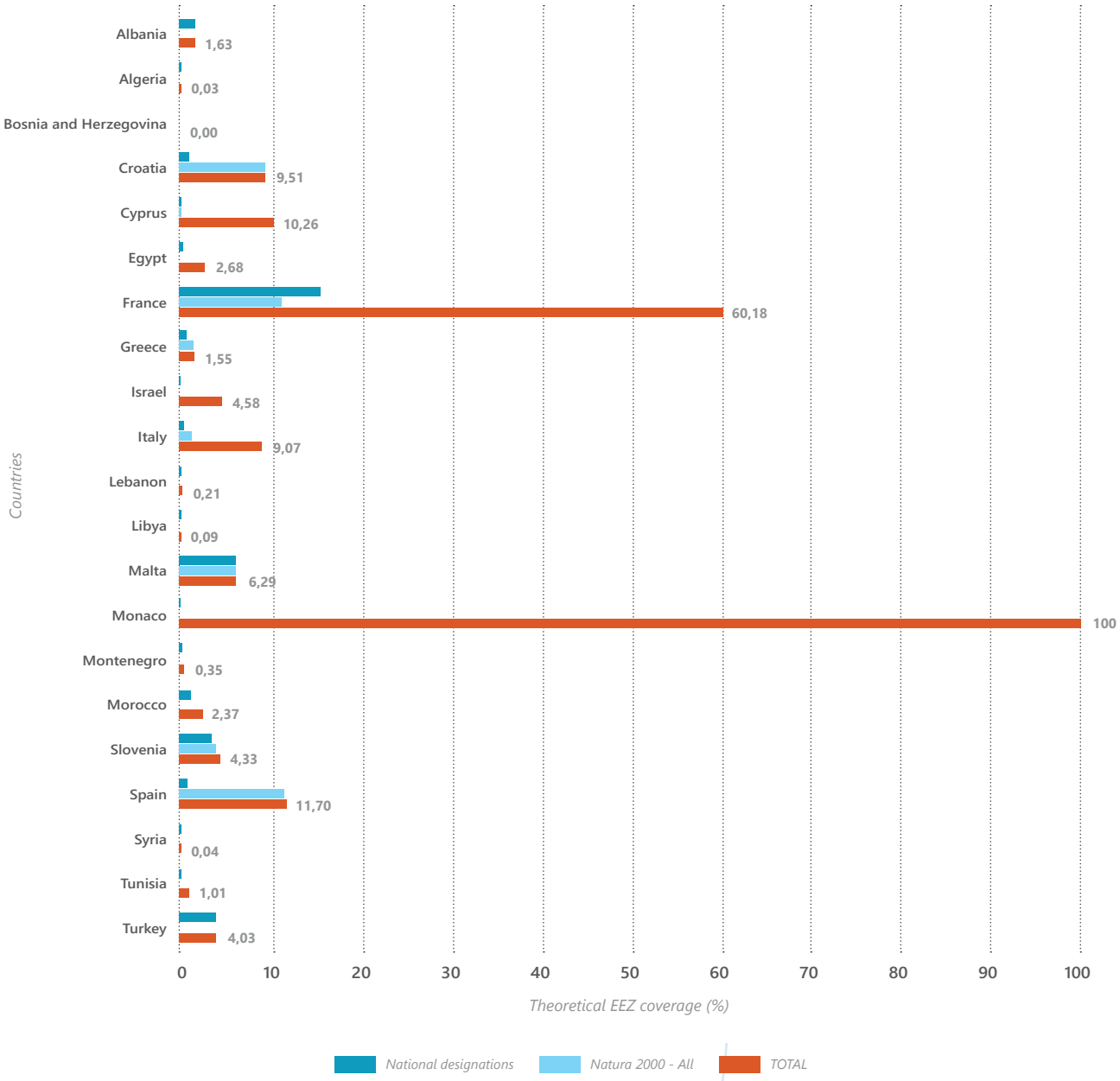


Figure 05: Proportion of each theoretical EEZ covered by MPAs (%).
The coverage by MPAs or by the parts of MPAs falling beyond theoretical EEZ were not accounted for.

Even though an MPA coverage of 6.81 % of the Mediterranean Sea is a rather encouraging figure, **it does not mean the Mediterranean MPA system is ecologically coherent, nor does it provide information as to whether MPAs have regulations and are managed effectively, thus providing actual protection.**

Coverage of buffer distance belts

MPA coverage was also calculated within the following buffer distance belts (hereafter referred to as buffer zones):

- Nearshore zone: 0-1 nm from the coast,
- Coastal zone: 1-12 nm from the coast,
- Offshore zone: > 12 nm from the coast.

These buffer zones were constructed directly from the coastline regardless of national jurisdictions and are based on the ones used by the European Environment Agency (EEA) for its spatial analysis of MPA networks in Europe's seas (European Environment Agency, 2015). The purpose of creating such buffer zones is to assess MPA coverage and distribution from a purely coastal to offshore perspective, thus allowing us to pinpoint possible patterns of protection effort. It can also provide indications of protection efforts in relation to what type of human activity may occur at what distance from shore.

Unsurprisingly, the results show that the farther we get from the coast the lower the proportion of MPA is: while 30.60 % of the nearshore zone is covered by MPAs, 12.87 % of the coastal zone and 3.98 % of the offshore zone are (Figure 06). However, when considering surface areas rather than percentages, it appears that the total MPA coverage is actually larger in the offshore zone (74 452.11 km^2) than in the nearshore zone (23 443.42 km^2). This is due to the fact that the offshore zone is more than 24 times bigger than the nearshore one, and placing a certain proportion of the former under protection requires much more space than protecting the same proportion in the latter.

The Natura 2000 designation is the one contributing the most to the coverage of both the nearshore and the coastal zone[8]. As for the offshore zone, it is mainly covered by the Pelagos sanctuary.

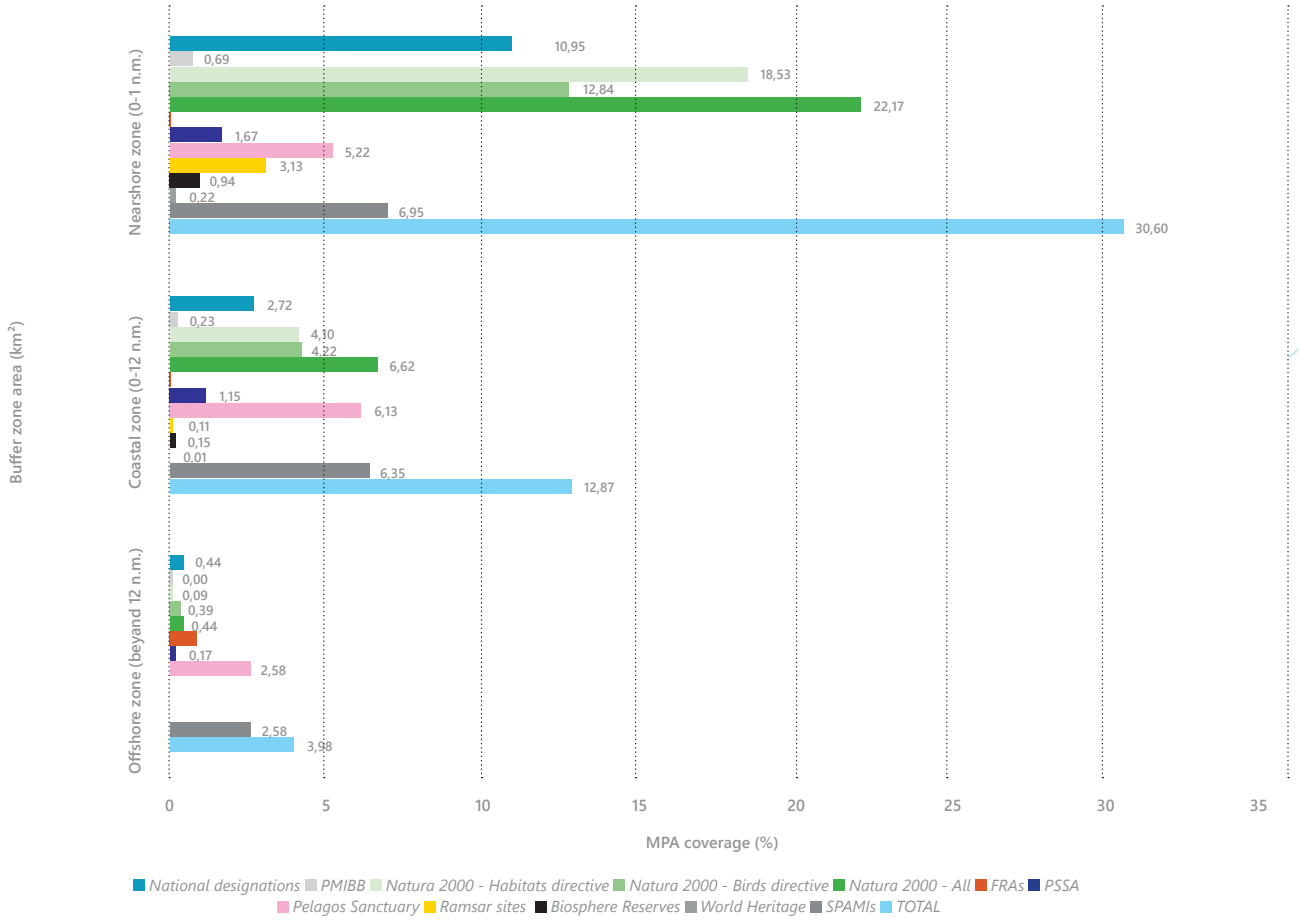


Figure 06: Proportion of each buffer zone covered by MPAs (%)

Concluding remark on coverage

Much coverage progress has been made in the last decade. However, an additional 80 328 km^2 (at least) will need to be declared under protection in the Mediterranean if the Aichi Target 11 is to be met in respect to the coverage goal set. This is more than the progress made between 2006 and 2016. The coverage goal is therefore unlikely to be met by 2020.

Besides, even though some countries seem to have met the 10 % coverage goal, it is important to underline that the Aichi Target 11 should not be limited to this percentage.

Indeed, in this race to reach this goal, countries are tempted to create large MPAs in remote areas that require little to no management investment, with little consideration for marine spatial planning, and often overlooking the actual objective of effective management and conservation of a representative portion of the marine environment (Agardy *et al.*, 2016). This may give an illusion of progress or even success, thus preventing further conservation effort.

[8] The SPAMI designation coming as an additional layer overlapping precisely previously established designations, it does not directly contribute to MPA coverage, hence the fact that SPAMIs are set aside when analysing these results.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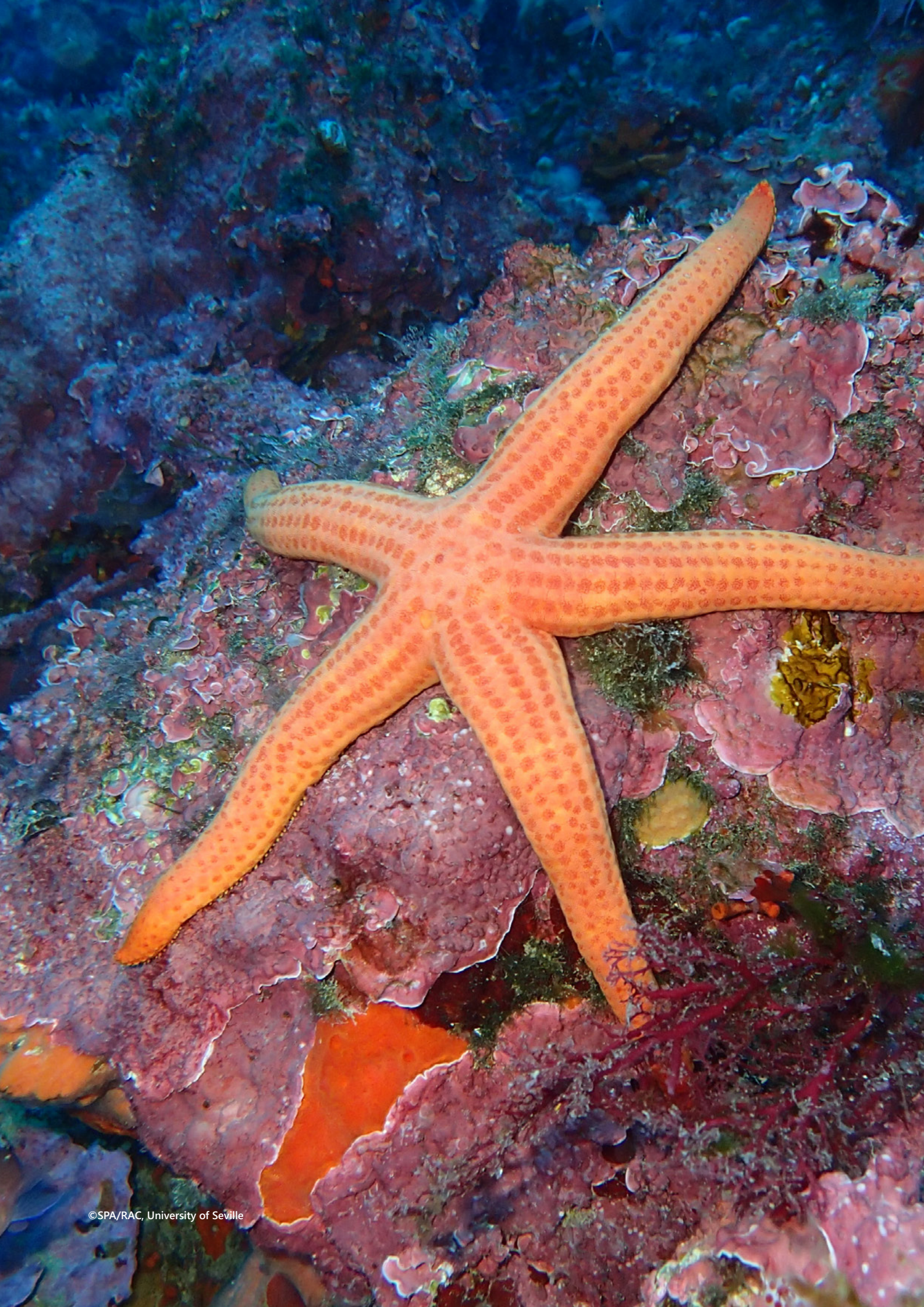

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PART 3 – IS THE CURRENT SYSTEM OF MPAs ECOLOGICALLY COHERENT?

What is Ecological Coherence?

The concept of Ecological Coherence is nowadays commonly used under various marine policy instruments, particularly the Habitats Directive and the CBD, to summarise the ultimate goal in the design, establishment and assessment of MPA networks. However, no specific definition for the term Ecological Coherence has yet been formally agreed upon internationally and it is not a widely used term in marine science. Only a few theoretical concepts and practical approaches have been developed for assessing the ecological coherence of a network of MPAs.

The Baltic Marine Environment Protection Commission (HELCOM) and the Commission managing the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Commission) have generally agreed that an ecologically coherent network of MPAs:

- interacts with and supports the wider environment;
- maintains the processes, functions, and structures of the intended protected features across their natural range; and
- functions synergistically as a whole, such that the individual protected sites benefit from each other to achieve the two objectives above.

Additionally, the network may also be designed to be resilient to changing conditions (e.g. climate change).

In the Mediterranean Basin, the concept of Ecological Coherence has not been addressed per se, but it is implicitly and partially covered in the SPA/BD Protocol. Moreover, within the framework of this Protocol, the Contracting Parties to the Barcelona Convention adopted in 2009 the Regional Working Programme for the Coastal and Marine Protected Areas in the Mediterranean Sea including the High Seas, which aims at supporting the Mediterranean countries in designing and establishing a representative network of MPAs. This Working Programme proposes three main criteria for the identification of sites to be included in such a network: representativity, connectivity and replication. In addition, the Working Programme also states that once the sites have been identified, adequacy and viability should also be assessed.

These criteria are in accordance with the four generally agreed primary principles of ecological coherence which were defined during the 8th Conference of the Parties to the CBD (Table 06):

- Adequacy of MPAs and of the network,
- Connectivity between the protected features,
- Replication, and
- Representativity of functions and features of marine biodiversity.

These four criteria have also been incorporated in the proposal of Wolters *et al.* (2015) for an assessment method of the ecological coherence of networks of MPAs in Europe. All four criteria must meet a minimum standard if the network is to be called ecologically coherent.

Table 06: Definitions of the four main principles constituting Ecological Coherence

Representativity	Connectivity	Adequacy	Replication
Representativity is captured in a network when it consists of areas representing the different biogeographical subdivisions of the global oceans and regional seas that reasonably reflect the full range of ecosystems, including the biotic and habitat diversity of those marine ecosystems.	Connectivity in the design of a network allows for linkages whereby protected sites benefit from larval and/or species exchanges, and functional linkages from other network sites. In a connected network, individual sites benefit one another.	Adequate and viable sites indicate that all sites within a network should have size and protection sufficient to ensure the ecological viability and integrity of the feature(s) for which they were selected.	Replication of ecological features means that more than one site shall contain examples of a given feature in the given biogeographic area. The term "features" means "species, habitats and ecological processes" that naturally occur in the given biogeographic area.

Source: Convention on Biological Diversity, COP 9, Decision IX/20

Representativity

Box 08: Representativity: key figures and fast facts

When considering all MPA designations together (regardless of what their objectives are):

- The 10 % coverage is met in only 2 Mediterranean ecoregions out of 8 (see Spalding *et al.* 2017).
- About ¼ of the 0 to 15 m depth zone is covered by MPAs while only 3.8 % of the zone deeper than 1000 m is covered.
- About 40 % of *Posidonia oceanica* beds and 37 % of coralligenous assemblages are covered. However, little is known as to whether MPAs target these habitats or not. Besides, habitat maps must be improved to refine this analysis, and other habitats should be taken into consideration.
- 10 out of 18 of the Cetacean Critical Habitats have more than 10 % of their area covered by MPAs.
- Only 3 EBSAs out of 15 have more than 10 % of their area covered by MPAs, and 10 among them have less than 5 % of their area covered.

Representativity can be approached by assessing MPA coverage in relation to various features or ecological/ topographic compartments. In the present report, we propose to assess representativity by calculating MPA coverage of the following elements:

- Ecoregions,
- Depth zones,
- Seabed habitats,
- Cetacean Critical Habitats (CCH),
- Ecologically and Biologically Significant Areas (EBSAs).

No targets were set regarding the minimum MPA coverage to be reached for each component to consider the MPA system is representative. The underlying intention is indeed to provide the readers with descriptive information and remain as objective as possible, although the somewhat symbolic 10 % coverage threshold is often referred to in the text.

Representativity of ecoregions

Ecoregions are defined by Spalding *et al.* (2007) as "Areas of relatively homogeneous species composition, clearly distinct from adjacent systems" dominated by "a small number of ecosystem and/or a distinct suite of oceanographic or topographic features". Ecologically speaking, these are "strongly cohesive units, sufficiently large to encompass ecological or life history processes for most sedentary species". Evaluating how much of each ecoregion is set under protection is therefore one way of giving some indication of whether or not the MPA system is representative of these large ecological units. Cross-checking with other methods would bring added value (such as with introducing three-dimensional currentology). One such approach under development consists in identifying cells of ecosystem functioning, which in essence are portions of marine systems where production phenomena are generated by the intertwining of physical, chemical, biological and ecological processes - and where the role of canyons, gyres and eddies are considered, for example (Boero, 2015).

When applying their biogeographic classification to the Mediterranean Sea, Spalding *et al.* (2007) ended up with 7 ecoregions. Yet in 2010, UNEP-MAP-SPA/RAC proposed a refined classification composed of 8 ecoregions (Figure 07) which are the ones used in the present analysis (see Appendix 02 for more information about the ecoregion layer used). These 8 ecoregions are compatible with the 4 Mediterranean subregions set in the Article 4 of the MSFD and within the Ecosystem Approach (EcAp) of the Barcelona Convention.

MPA coverage exceeds 10 % in only 2 out of the 8 ecoregions (Figure 08): the Algero-Provencal Basin (17.88 %) and the Tyrrhenian Sea (13.34 %). These percentages are largely due to the Pelagos Sanctuary for Marine Mammals, which straddles these 2 ecoregions. The Alboran Sea comes third with 7.93 % of its area covered by MPAs, mostly Natura 2000 sites. In contrast, the Ionian Sea and the Tunisian Plateau - Gulf of Sirte are the 2 less represented ecoregions, with only 1.21 % and 1.23 % of their total area covered by MPAs respectively.

Nationally designated MPAs never account for more than 4 % of any ecoregion.

Although the analysis within ecoregions was also undertaken in 2012, the results cannot be compared because additional designations have been taken into account in the present analysis.

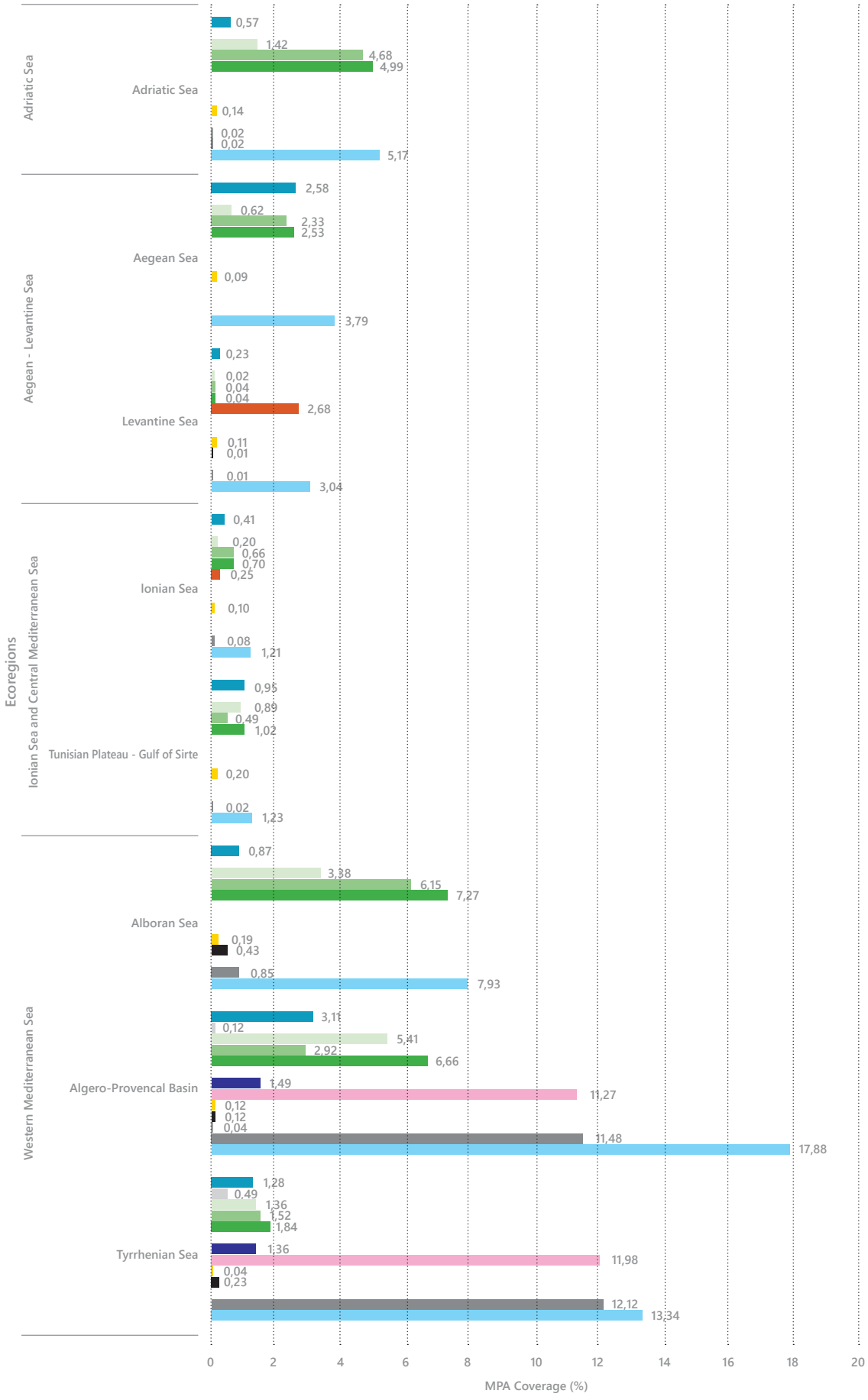


Figure 08: Proportion of each ecoregion covered by MPAs (%)

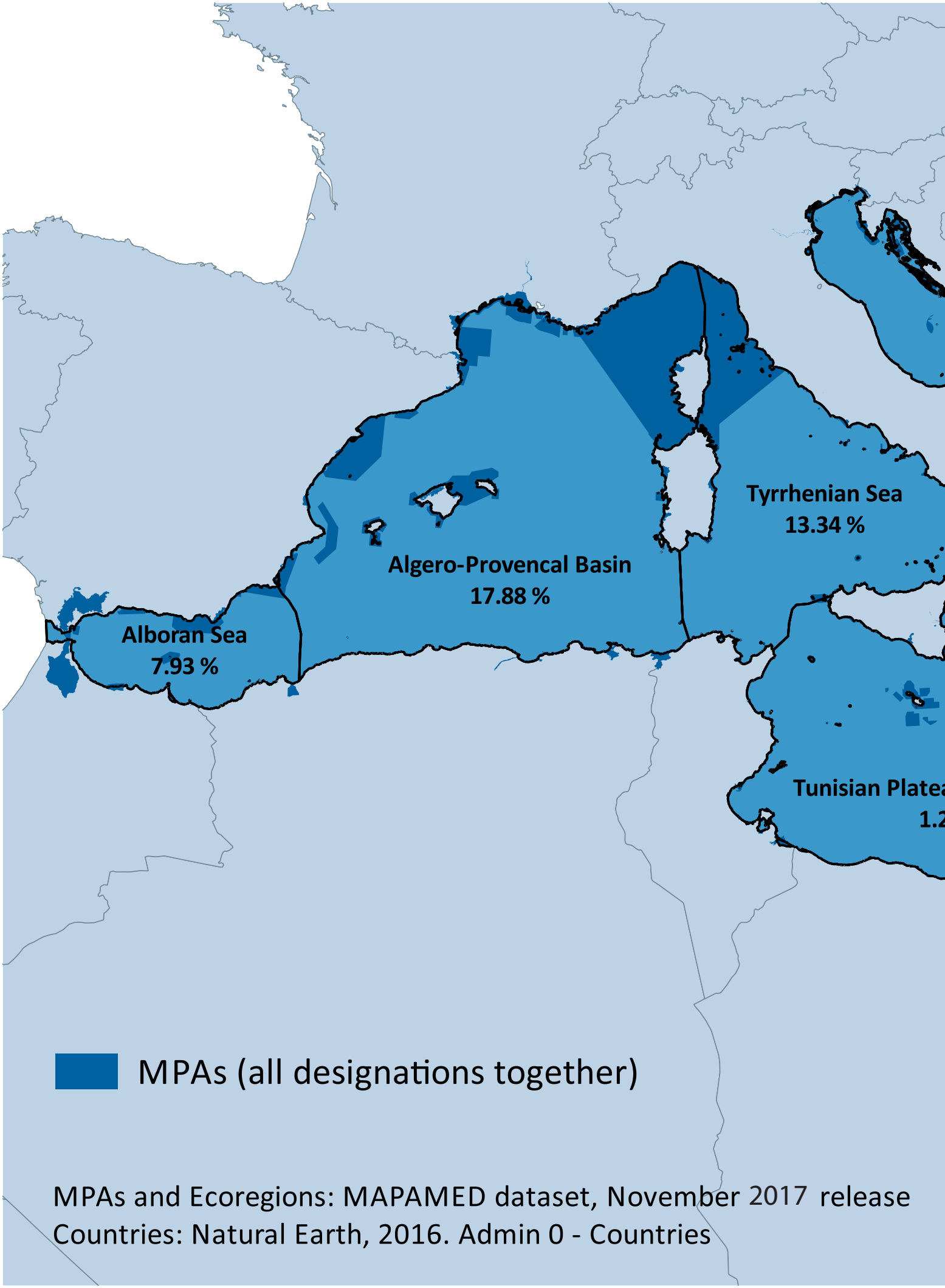


Figure 07: Ecoregions of the Mediterranean Sea


Adriatic Sea
5.17 %
Ionian Sea
1.21 %
Aegean Sea
3.79 %
Levantine Sea
3.04 %
au - Gulf of Sirte
23 %
0
250
500
750
1000 km

Representativity of depth zones

The distribution of habitats and the type of anthropogenic pressures and their intensity are, to an important degree, depth dependent, hence the importance to assess the representativity of the MPA system with regard to depth zones. The following depth zones were selected for the analysis:

- 0-15 m: these waters are where the highest cumulated pressures from human activities are assumed to occur (mooring, boating, fishing, coastal artificialisation, land-based pollution…). Key shallow habitats and high biodiversity also occur in that depth range,
- 15-50 m: together with the previous zone, this one is where the majority of seagrass meadows and coralligenous habitats are still found and where anthropogenic pressures can still be considered high (boating, cruising, mooring, diving, fishing, dredging…),
- 50-200 m: the 200 m isobath roughly corresponds to the continental shelf, and much activity can still occur down to this depth (cruising, fishing, mining, oil & gas exploitation, cable installation…),
- 200-1000 m: this zone encompasses most canyon heads. The combination of steep rocky slopes, strong currents and enhanced access to food (upwellings) makes submarine canyons places of special ecological significance (Würtz, 2012). Many economic and industrial activities still take place.
- > 1000 m: provided this depth is difficult to access, it can be considered as relatively spared from human activities up until now, although not unaffected. Besides, at depths greater than 1000 m, the use of towed dredges and trawl nets is forbidden since 2005 by GFCM. That said, pressures in this zone are likely to increase in the near future, particularly oil and gas exploration and exploitation (Piante and Ody, 2015). And pressures in the water column are noted.

The depth zone layer used for the analysis was derived from the GEBCO 2014 grid (see Appendix 02 for more information about the creation of this layer).

Unsurprisingly, the results show that the deeper the depth, the lower the proportion of MPAs: while about one quarter (24.68 %) of the 0-15 m depth zone is placed under a designation, only 3.83 % of the zone deeper than 1000 m is covered by MPAs (Figure 09). Although a relatively high proportion of the shallower zone is covered by MPAs, it is important to keep in mind that this coverage encompasses a whole array of designations with regulatory regimes ranging from nonexistent to well in place. Whether these designations actually contribute to curbing pressures and prompting positive impacts on the marine environment remains to be checked. Most of the MPA coverage in areas deeper than 1000 m is actually largely attributable to the Pelagos Sanctuary and the Eratosthenes Seamount FRA.

This analysis could be refined by distinguishing MPAs that target the water column from MPAs that target the seabed by looking at their management objectives and identifying what type of regulations are implemented.

Even though the open and deep sea may be considered less exposed to anthropogenic pressures due to their remoteness, it is essential to adopt a proactive approach and strengthen efforts to protect these areas, provided it is expected to be increasingly coveted in the near future. In this regard, the trawl ban set by the GFCM in areas deeper than 1000 m, which represents 58.33 % of the Mediterranean Sea area, is a remarkable example of precautionary measures to protect deep-sea features from potential future fisheries developments.

Yet other activities are likely to harm deep-sea ecosystems and Mediterranean countries have begun working together to establish MPAs in open sea (regardless of national jurisdictions). In this context, a number of «operational criteria for identifying SPAMIs in areas of open seas, including the deep sea» were defined. Twelve priority conservation areas covering 24 % of the Mediterranean surface (mostly the deep sea) were identified by the Extraordinary Meeting of Focal Points for SPAs in 2010. This work was the basis for the further CBD definition of Mediterranean EBSAs in 2014. The UNEP-MAP has conducted some further consultation meetings on the establishment of SPAMIs in the following priority areas: Gulf of Lions, Alboran Sea, the Adriatic Sea and the Sicily Channel/Tunisian Plateau. The above processes start to render results, so far under the countries' jurisdictional zones, through new SPAMI proposals embracing sizeable Mediterranean open sea areas, including the deep sea (i.e. Spain Cetaceans Corridor candidate SPAMI), with plans to promote transboundary extension.

Furthermore, the United Nations Convention on the Law of the Sea (UNCLOS) has set the rules for defining limits in the oceans and seas along with codifying the use of resources for over three decades. While there is a procedure to do this in semi-enclosed seas like the Mediterranean, and while two articles refer specifically to marine conservation, it is likely that UNCLOS will disclose precedents and a sharpened law in the near future. This is expected to provide more explicit framework for establishing and governing MPAs in Areas Beyond National Jurisdiction (ABNJs).

Representativity of seabed habitats

In previous assessments, the representativity of the Mediterranean MPA system with regard to habitats could not be evaluated due to the lack of a homogenous full Mediterranean scale habitat map. Yet in 2012, the first broad scale seabed habitat map covering, inter alia, the whole Western basin was released by the European Marine Observation and Data Network (EMODnet) within the framework of the EUSeaMap project (phase 1). Then in a second phase, this map was improved and its coverage was extended to the whole Mediterranean Sea, leading to the creation of the EMODnet broad-scale predictive seabed habitat map for Europe released in September 2016 (Appendix 02 and Figure 10). This map was generated by combining a series of descriptors which are considered as important drivers for the distribution of seabed habitats (biological zones, substrate type and plume area), and using habitat maps from specific surveys to refine the map in areas where information was available. The resulting seabed habitats are classified using the European Nature Information System (EUNIS) classification, which is a comprehensive pan-European habitat classification system to facilitate the harmonised description and collection of data[9]. This EMODnet

[9] The EUNIS classification contains 6 hierarchical levels, the first 3 levels being based entirely on "physical" characteristics and the concept of biological zones, and the level 6 being the most discriminant level. In the EMODnet seabed habitat map, habitats were given at the most detailed level of the EUNIS hierarchy possible. A target of level 3 was aimed for, but in well documented areas, a level 4 or 5 was achieved.

seabed habitat map was used as the basis to assess the representativity of the Mediterranean MPA system with regard to habitats.

Along with this map comes a confidence map, which provides the user with a way to assess the degree of uncertainty in the habitat map in any location and help angle and optimise future habitat data collection by informing gaps and heterogeneity in seabed portrayal (Figure 11). Confidence ranges from 1 (low) to 3 (high) and was calculated by amalgamating the confidence values of the underlying habitat descriptors used to generate the habitat value in the considered area.

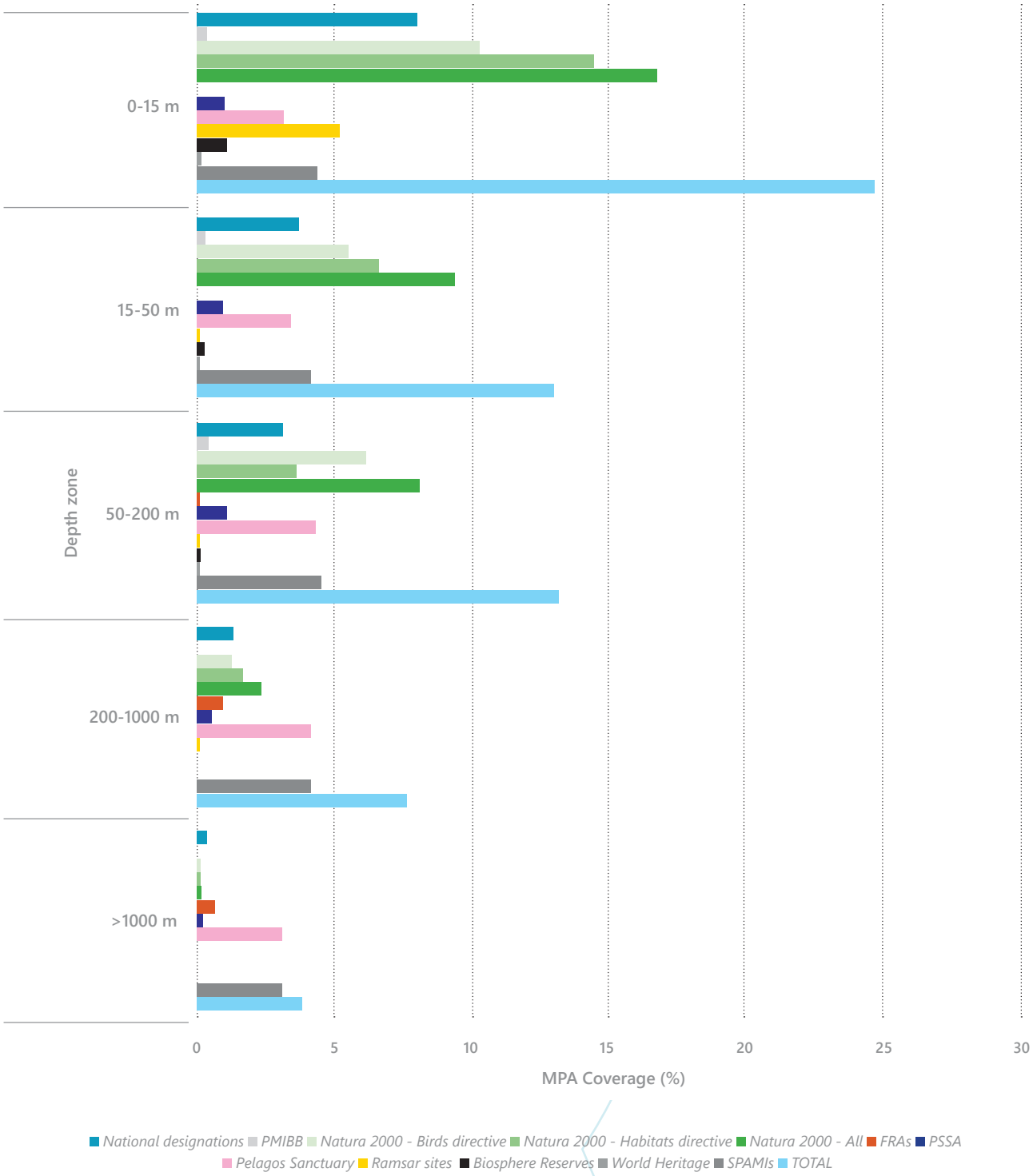


Figure 09: Proportion of each depth zone covered by MPAs (%). The precautionary GFCM FRA which prohibits the use of towed dredges and trawl nets at depth greater than 1000 m and covers 58.33 % of the Mediterranean Sea was not accounted for in the calculations.

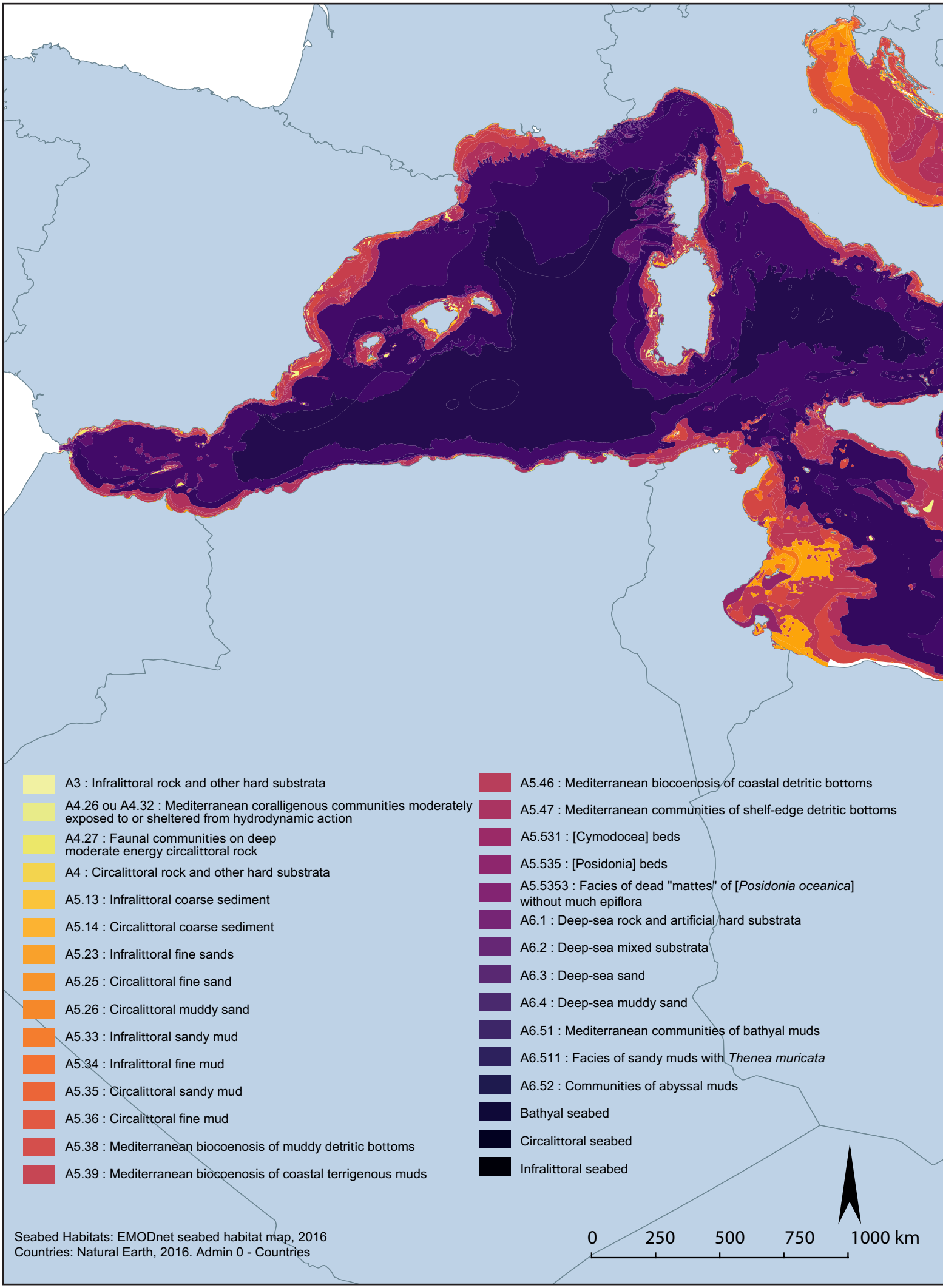
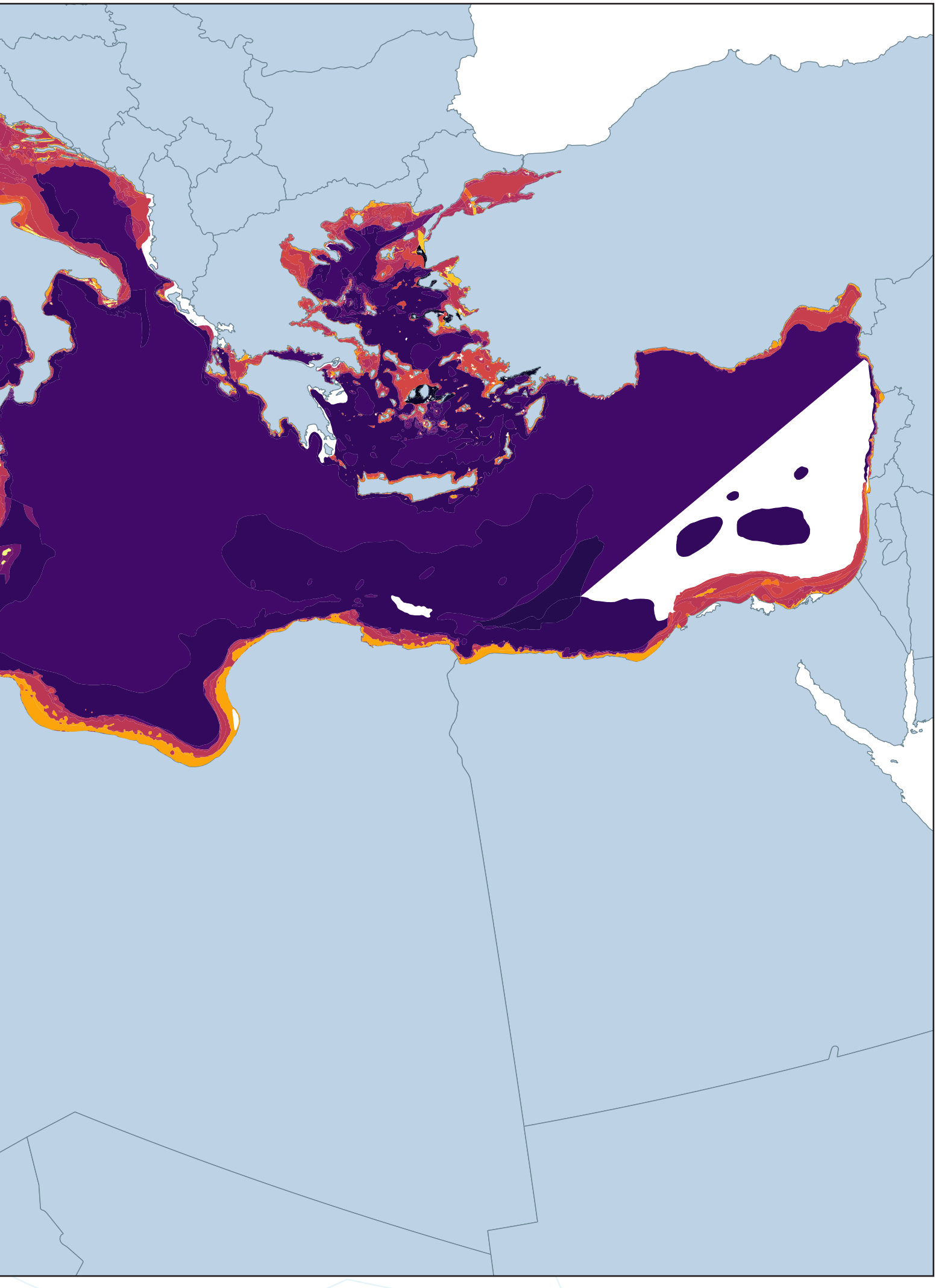


Figure 10: EMODnet broad-scale predictive habitat map for the Mediterranean Sea



The confidence value, regarding habitats, is considered moderate in most of the Mediterranean Sea and large areas are assigned a low confidence. Results presented here are therefore intended to provide a first Mediterranean scale estimation of habitat representativity and pave the way for future research rather than to provide an accurate evaluation.

When overlaying MPAs and seabed habitat maps, it appears that 12.96 % of *Posidonia oceanica* beds (EUNIS class A5.535) are covered by nationally designated MPAs and 31.38 % by Natura 2000 sites (Figure 12). Altogether, MPAs cover 39.78 % of this habitat, which is considered vulnerable by the European Red List of Habitats (European Commission, 2016).

Similarly, 8.58 % of coralligenous communities (EUNIS classes A4.26 or A4.32) are covered by nationally designated MPAs and 29.28 % by Natura 2000 sites. When considering all types of designations and overlapping, the coverage of this habitat reaches 36.66 %.

Although rather encouraging, these figures should be somewhat balanced. Firstly, these results greatly depend on the quality and comprehensiveness of input data. As previously stated, the level of confidence of the EMODnet habitat map is considered moderate for most of the Mediterranean basin, with large areas being assigned a low confidence level (Figure 11). Moreover, EUNIS level 4 (e.g. coralligenous communities - A4.26 or A4.32) or level 5 (e.g. Posidonia beds - A5.535) habitats were mapped only in well documented areas, which are likely to be areas where MPAs have been established, thus resulting in a bias when estimating to what extent these habitats are covered by MPAs.

The EMODnet seabed habitat map is a great achievement, and efforts should be maintained to produce and refine broad-scale harmonised seabed habitat maps in order to have a better idea of the representativity of seabed habitats within the MPA system.

Secondly, a habitat may be covered by an MPA, but it does not necessarily mean that this particular habitat is targeted with management measures and effectively protected within this MPA. For instance, the Pelagos Sanctuary for marine mammals covers 1 570 km^2 of Posidonia beds, but its designation does not have specific regulations regarding this habitat (that said, some other overlapping designations may do so over smaller expanses within the Sanctuary). Further analysis on habitat representativity should therefore consider primarily MPAs which have been established to protect a given habitat and assess whether other designations have a *de facto* positive effect. Then, MPA effectiveness should be assessed to examine where actual regulations or management measures are implemented and thus the habitats actually protected against the harmful activities, which are being regulated.

Figure 12 shows the results for 3 habitat types and the results of representativity analysis for other types of EMODnet seabed habitats are provided in Appendix 04.

Representativity of Cetacean Critical Habitats

In the Mediterranean Sea, 18 CCH (initially called Areas of Special Importance for Cetaceans) were identified by the ACCOBAMS Scientific Committee and adopted by the Parties to the ACCOBAMS (Figure 13)[10]. Assessing to what extent these CCH are covered by MPAs provides a general idea of the representativity of the MPA system with regards to these habitats. It also represents the first step before identifying what conservation actions exist as linked to protecting cetaceans, or what conservation measures could be recommended to MPAs for implementation.

The MPA percentage cover within CCH shows high fluctuations from one CCH to another and ranges from 0.26 % in the Gulf of Saronikos and adjacent waters to 99.35 % in the Amvrakikos Gulf (Figure 14).

All CCH intersect with at least one MPA and a bit more than half (10 out of 18) the CCH have more than 10 % of their surface covered by MPAs.

[10] The Pelagos Sanctuary for Marine Mammals was not identified as a CCH provided it is already designated as an MPA where conservation or mitigation measures to protect these species are implemented..

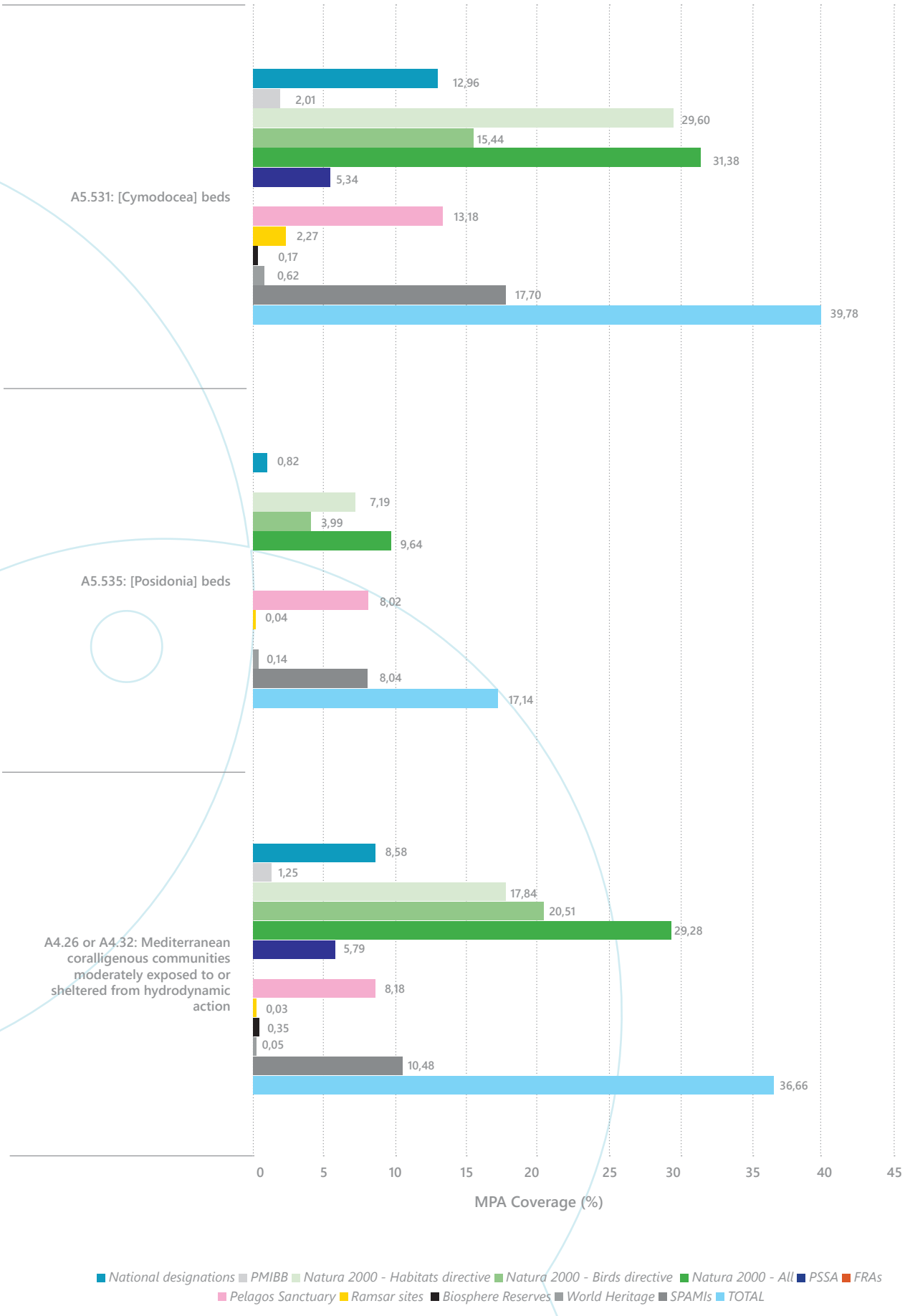


Figure 12: Proportion of each habitat type covered by MPAs (%).
These results were calculated from the EMODnet seabed habitat map.

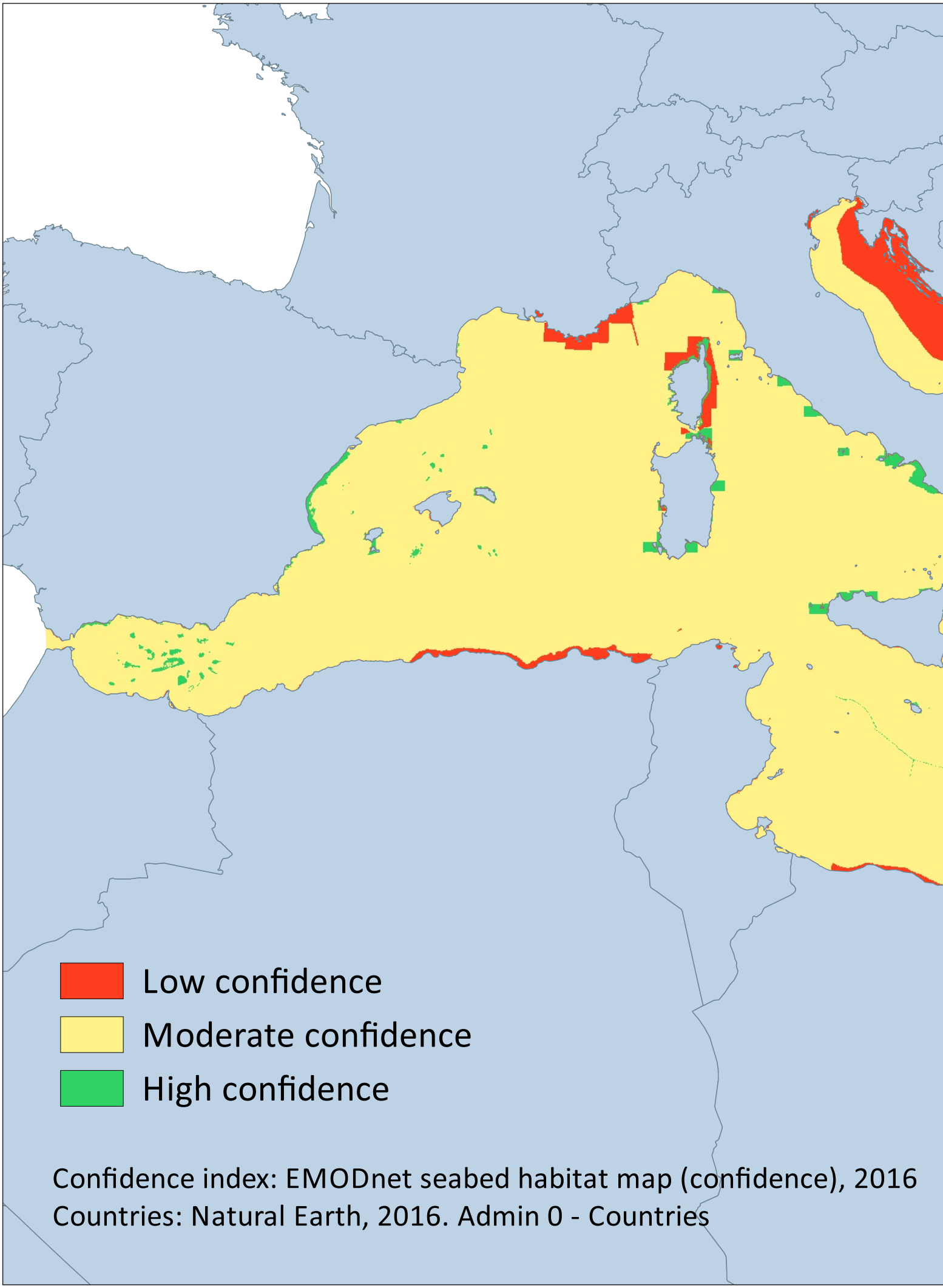
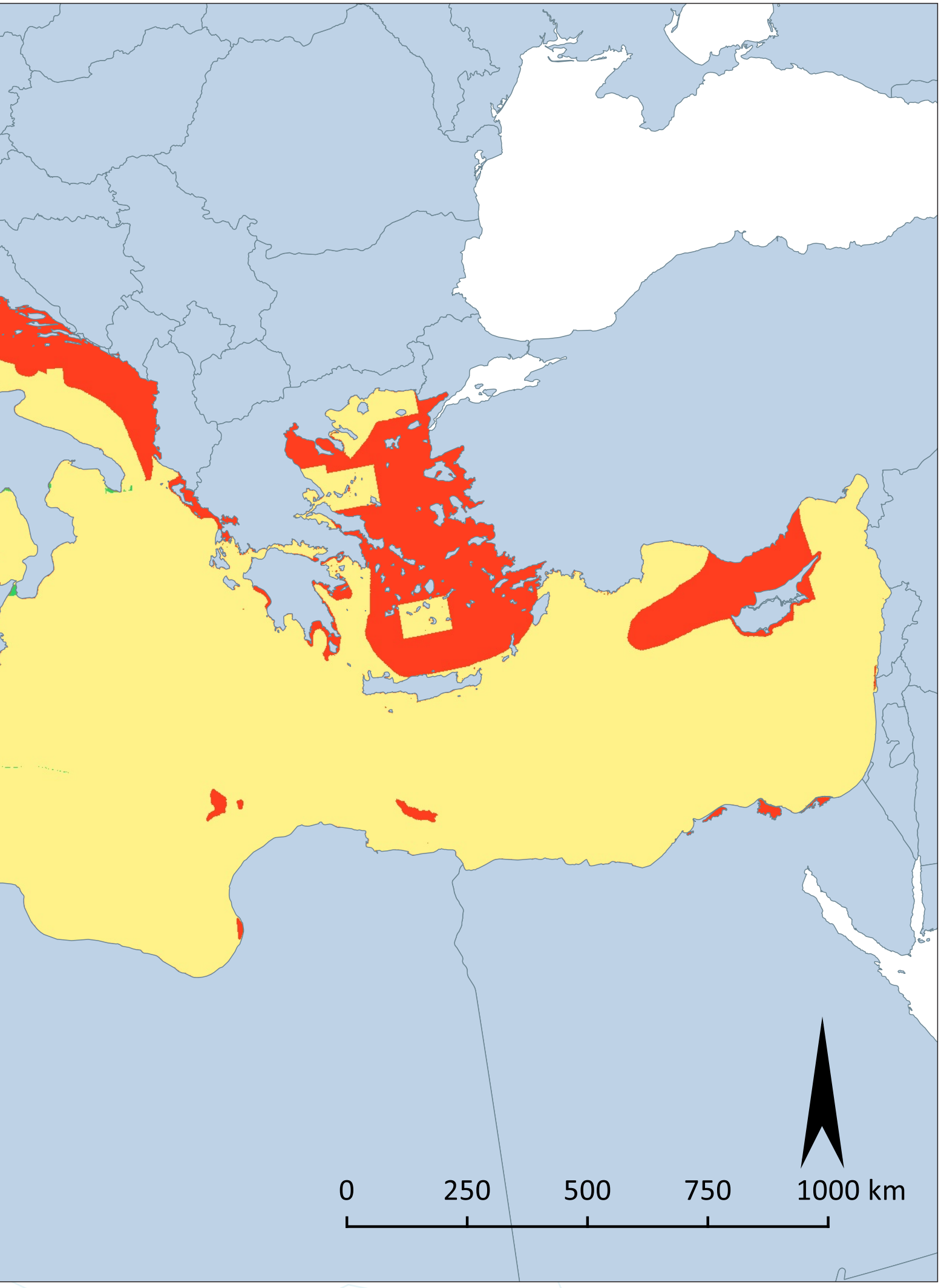


Figure 11: EMODnet confidence map for the seabed habitats


0
250
500
750
1000 km

The Amvrakikos Gulf was identified as a CCH of special importance for the bottlenose dolphin (*Tursiops truncatus*) and almost all (99.35 %) its surface is covered by the national park "Amvrakikos wetlands". Moreover, a little over a third (36.23 %) of this CCH is also covered by the Natura 2000 site "Amvrakikos Kolpos, Delta Lourou Kai Arachthou (Petra, Mytikas, Evryteri Periochi)", which clearly lists the bottlenose dolphin among the species justifying the creation of this site.

The Kalamos CCH was identified important for the short-beaked common dolphin (*Delphinus delphis*) and other cetaceans, and is the second most represented CCH with 83.79 % of its total area covered by MPAs, mostly by the Natura 2000 site "Esoteriko Archipelagos Ioniou (Meganisi, Arkoudi, Atokos, Vromonas)". Although not listed in the Annex II of the EU Habitats Directive as a species whose conservation requires the designation of SACs, the short-beaked common dolphin was identified as justifying the creation of this site due to its mention in national red list data.

The Tuscany Archipelago CCH is recognised as an area of special importance for the bottlenose dolphin and also shows quite a high MPA coverage (69.09 %), particularly due to its partial overlap with the Pelagos Sanctuary for Marine Mammals (knowing that it also overlaps with a number of other smaller nationally designated MPAs).

On the other hand, among the 8 CCH whose MPA coverage is below 10 %, 3 are poorly represented, with less than 2 % of their total area covered by MPAs: the South-West Crete and the Hellenic Trench, the Gulf of Saronikos and adjacent waters and the Northern Aegean Sea. The extension of existing MPAs or the designation of new MPAs to improve the protection of cetacean species within these CCH should therefore be considered if this is deemed relevant compared to other conservation or mitigation measures. These under-represented areas may also be important for other species, a fact to be considered upon designing future MPAs.

Evaluating the MPA coverage within CCH is a first step in assessing the representativity of the MPA system with regard to these areas. Yet it is insufficient and further analysis is needed to be able to draw conclusions, taking into account whether MPAs' management plans actually target cetaceans, whether cetacean-oriented management measures are implemented within these MPAs, and if they are, whether they are effective or not.

Moreover, it is important to remember here that MPAs are not the only tool available to protect cetacean species. There may indeed be intra and inter annual variability in the distribution of cetaceans and in the use of habitats that MPAs often fail to address provided that they are fixed in space. Besides, some threats to cetaceans, such as naval sonars or seismic exploration, reach beyond the boundaries of MPAs and require a more integrated management approach. MPAs should therefore be used when relevant and in synergy/complementarity with other conservation or mitigation measures.

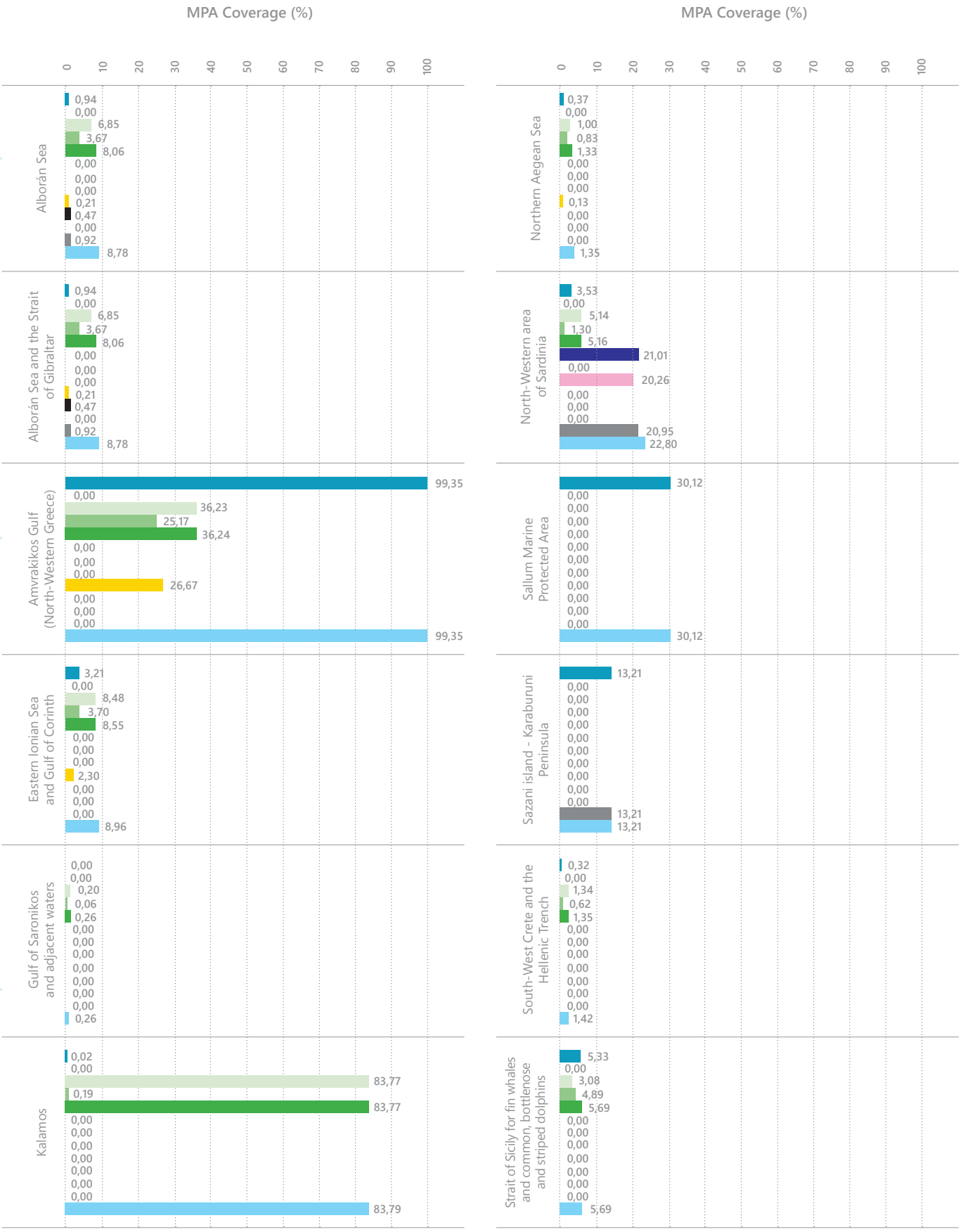


Figure 14: Proportion of each CCH covered by MPAs (%). Areas where several designations overlap were counted only once in the calculation of the total coverage, hence the fact that the latter cannot be obtained by simply adding up all individual coverages.

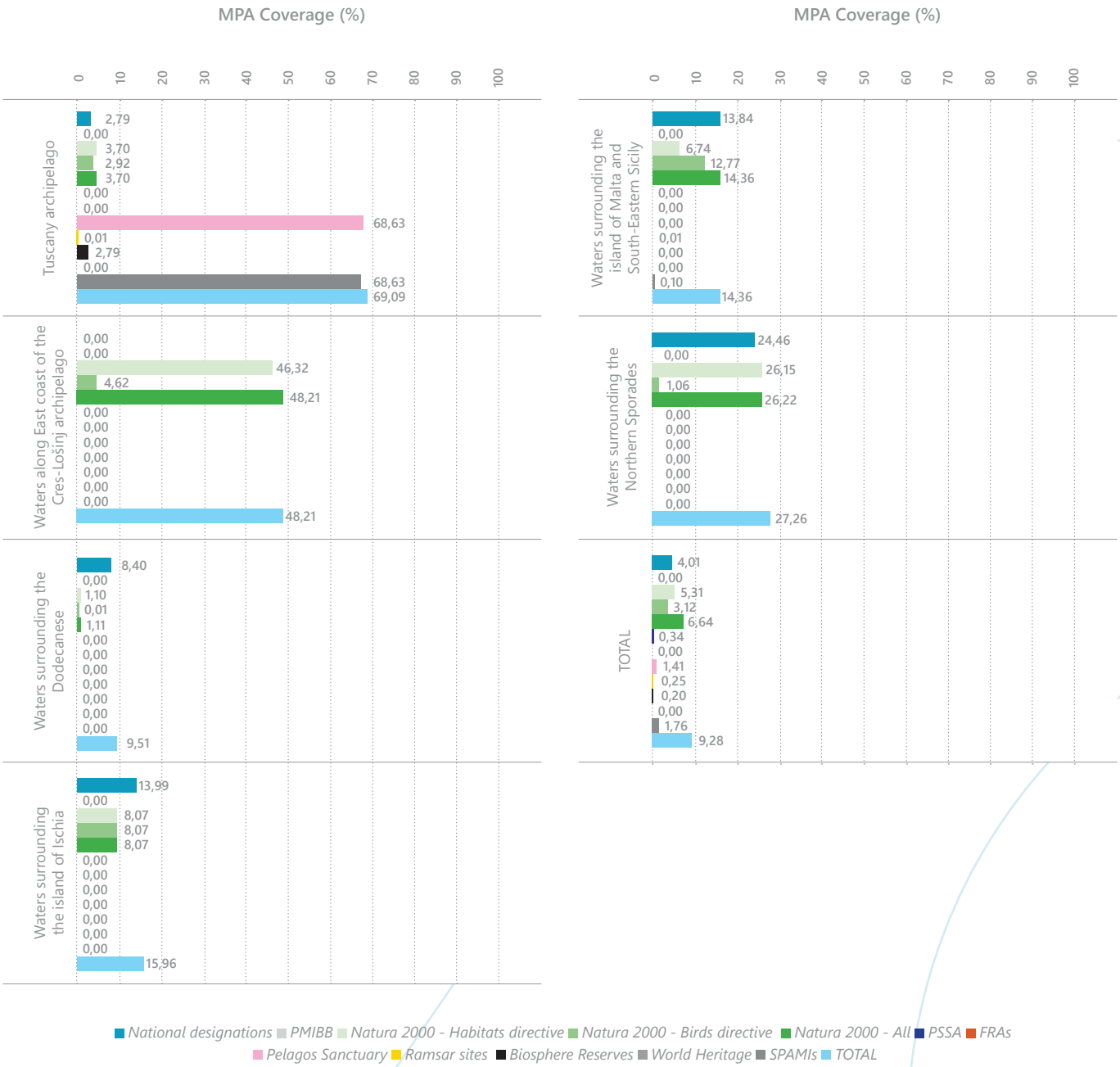


Figure 14 (suite): Proportion of each CCH covered by MPAs (%). Areas where several designations overlap were counted only once in the calculation of the total coverage, hence the fact that the latter cannot be obtained by simply adding up all individual coverages.

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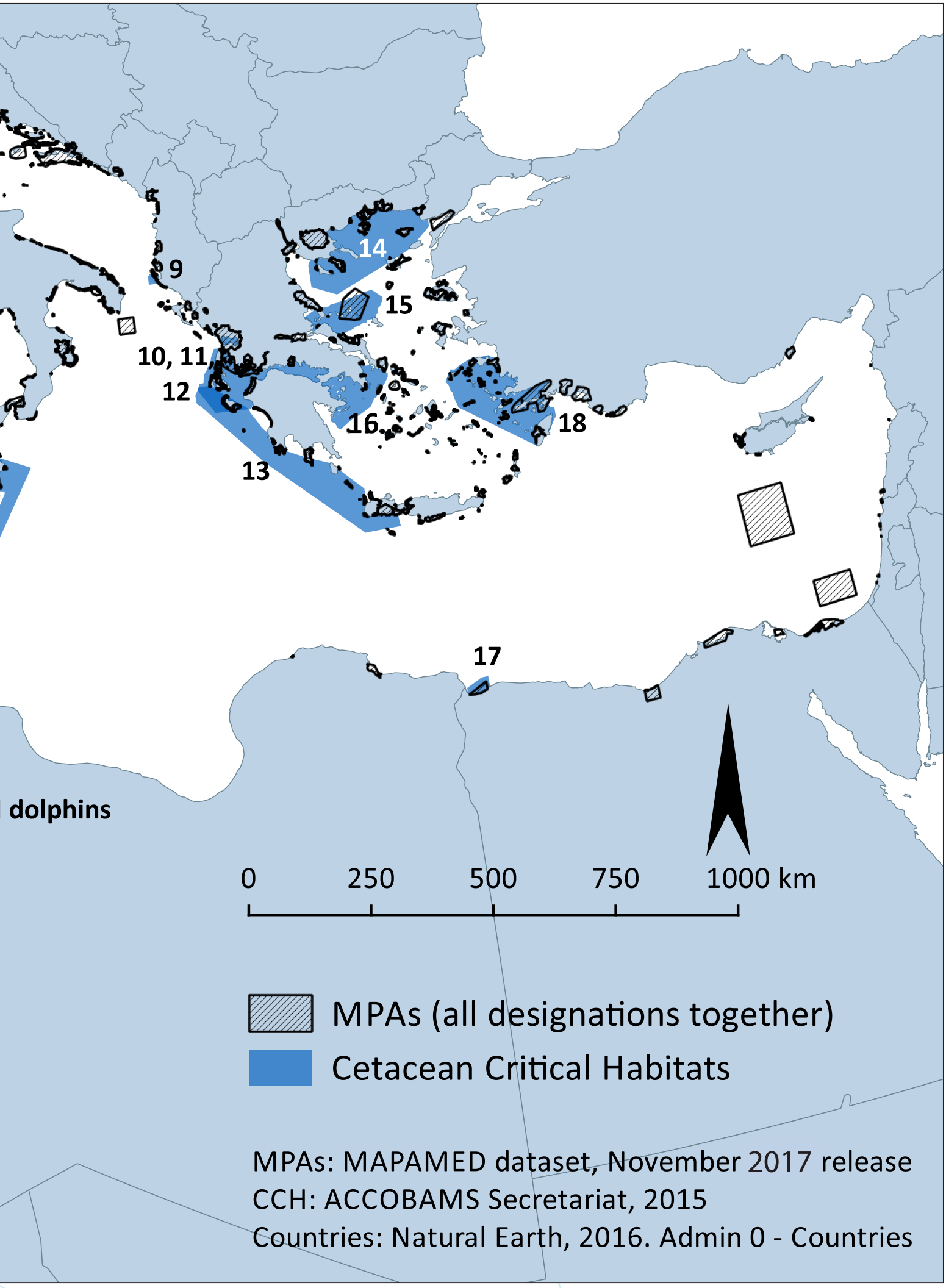
Figure 13: Cetacean Critical Habitats (CCH) identified by ACCOBAMS in the Mediterranean Sea. Each CCH is defined with regard to specific cetacean species and may therefore overlap in all or in part with another CCH.


14
9
15
10, 11,
12
16
18
13
17
dolphins
0
250
500
750
1000 km
MPAs (all designations together)
Cetacean Critical Habitats
MPAs: MAPAMED dataset, November 2017 release
CCH: ACCOBAMS Secretariat, 2015
Countries: Natural Earth, 2016. Admin 0 - Countries

Representativity of Ecologically and Biologically Significant Marine Areas

The concept of Ecologically or Biologically Significant Marine Area (EBSA) was developed within the framework of the CBD and was originally driven by the commitment to establish MPAs in areas beyond national jurisdiction. Since then, however, it has broadened to encompass the possibility of informing marine spatial planning and other activities, both within and beyond national jurisdictions (Dunn *et al.*, 2014).

EBSAs are defined as "geographically or oceanographically discrete areas that provide important services to one or more species/populations of an ecosystem or to the ecosystem as a whole, compared to other surrounding areas or areas of similar ecological characteristics, or otherwise meet the [EBSA] criteria" (CBD Secretariat, 2008). These criteria were adopted during the 9th meeting of the Conference of the Parties to the CBD and are presented in Table 07.

EBSAs are therefore areas whose importance is recognised by all the Contracting Parties to the CBD, and the latter are encouraged, together with other governments and competent intergovernmental organisations, "to cooperate, as appropriate, collectively or on a regional or subregional basis, to identify and adopt, according to their competence, appropriate measures for conservation and sustainable use in relation to EBSAs, including by establishing representative networks of MPAs in accordance with international law, including the United Nations Convention on the Law of the Sea, and based on best scientific information available" (CBD Secretariat, 2010b).

Table 07: Criteria for identifying EBSAs adopted during the 9th Conference of the Parties to the CBD

Criteria	Description
Uniqueness or rarity	Area contains either (i) unique ("the only one of its kind"), rare (occurs only in few locations) or endemic species, populations or communities, and/or (ii) unique, rare or distinct, habitats or ecosystems; and/or (iii) unique or unusual geomorphological or oceanographic features.
Special importance for life history stages of species	Area required for a population to survive and thrive.
Importance for threatened, endangered or declining species and/ or habitats	Area containing habitat for the survival and recovery of endangered, threatened, declining species or area with significant assemblages of such species.
Vulnerability, fragility, sensitivity or slow recovery	Area that contain a relatively high proportion of sensitive habitats, biotopes or species that are functionally fragile (highly susceptible to degradation or depletion by human activity or by natural events) or with slow recovery.
Biological productivity	Area containing species, populations or communities with comparatively higher natural biological productivity.
Biological diversity	Area contains comparatively higher diversity of ecosystems, habitats, communities, or species, or has higher genetic diversity.
Naturalness	Area with a comparatively higher degree of naturalness as a result of the lack of or low level of human-induced disturbance or degradation.

In the Mediterranean Sea, out of the 17 EBSAs that had been described during the Mediterranean Regional Workshop to facilitate the description of EBSAs (CBD Secretariat, 2014a), 15 were eventually adopted by the Parties to the CBD (CBD Secretariat, 2014b), unbundling the however significant Algero Tunisian Margin and the Alboran Sea and Connected Areas for now. These 15 EBSAs are presented in Figure 15.

The MPA percentage cover within EBSAs ranges from 0.00 % in the Gulf of Sirte to 88.15 % in Akamas and Chrysochou Bay (Figure 16). Only 3 EBSAs have more than 10 % of their area covered by MPAs:

- Akamas and Chrysochou Bay (88.15 %) which is the smallest EBSA (106.40 km^2) and stretches along the Western coast of Cyprus. This EBSA is mostly covered by Natura 2000 sites, and also encompasses the nationally designated Lara-Toxeftra MPA and SPAMI.
- the North Western Mediterranean Benthic Ecosystem (47.69 %). However a large part (30.20 %) of this EBSA is covered by the Pelagos Sanctuary for Marine Mammals, which does not actually target benthic ecosystems.
- the North West Mediterranean Pelagic Ecosystem (35.15 %).

Apart from these three well represented EBSAs, the MPA percentage cover remains rather low and does not exceed 5 % in 10 EBSAs. Three out of these 10 EBSAs have less than 1 % of their surface area placed under a designation. It seems therefore essential to foster the creation of MPAs in these poorly covered areas, to protect namely what the EBSAs have been described for. Further progress on achieving the declaration of SPAMIs in the areas agreed as Priority Conservation Areas at MAP level in 2010, would be an important step forward, since there is an important geographic overlap among them.

This analysis could be refined by considering whether MPAs located within EBSAs actually aim to protect the features for which these EBSAs were described, and whether adequate management measures have been implemented in this respect.

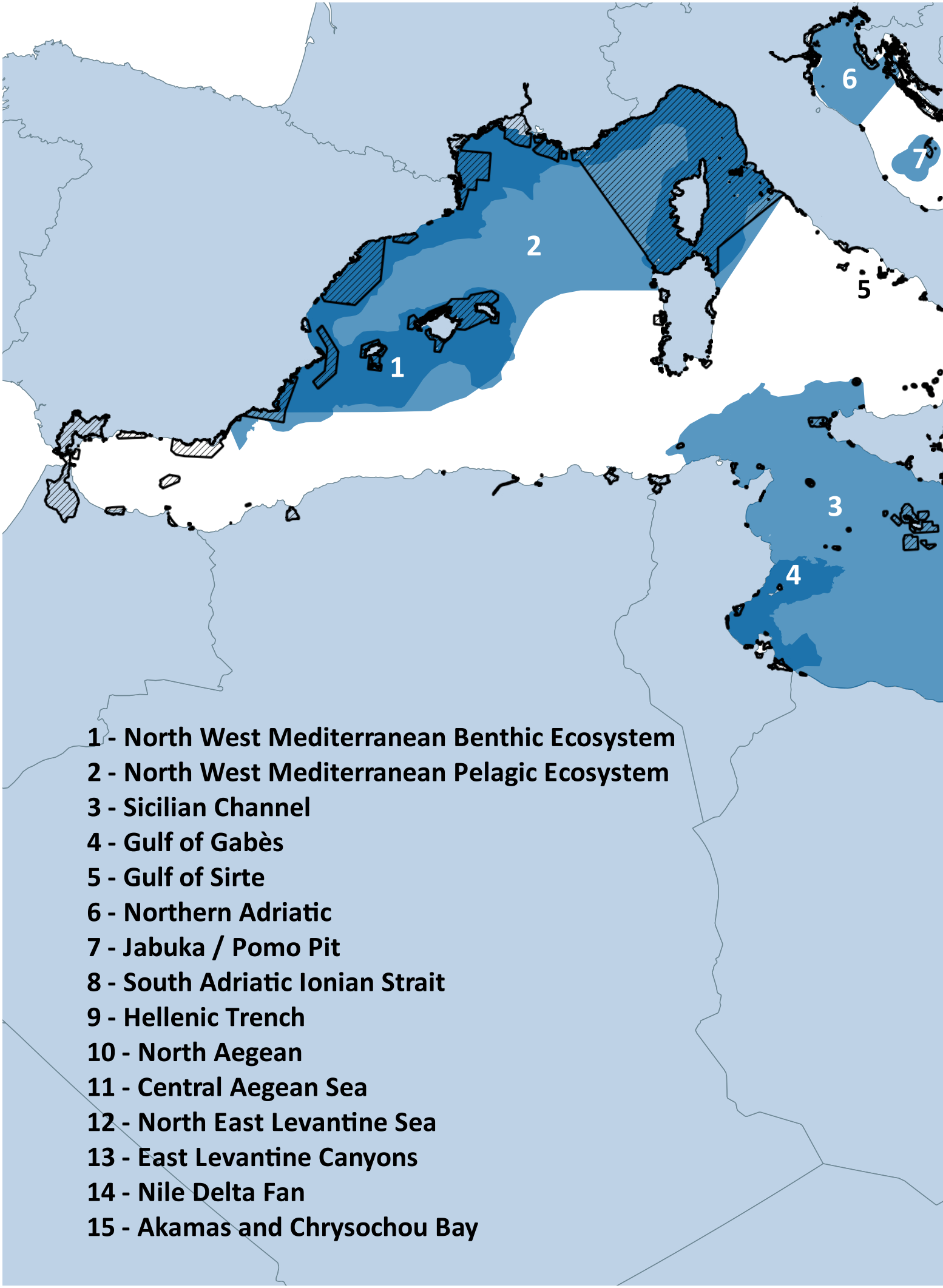
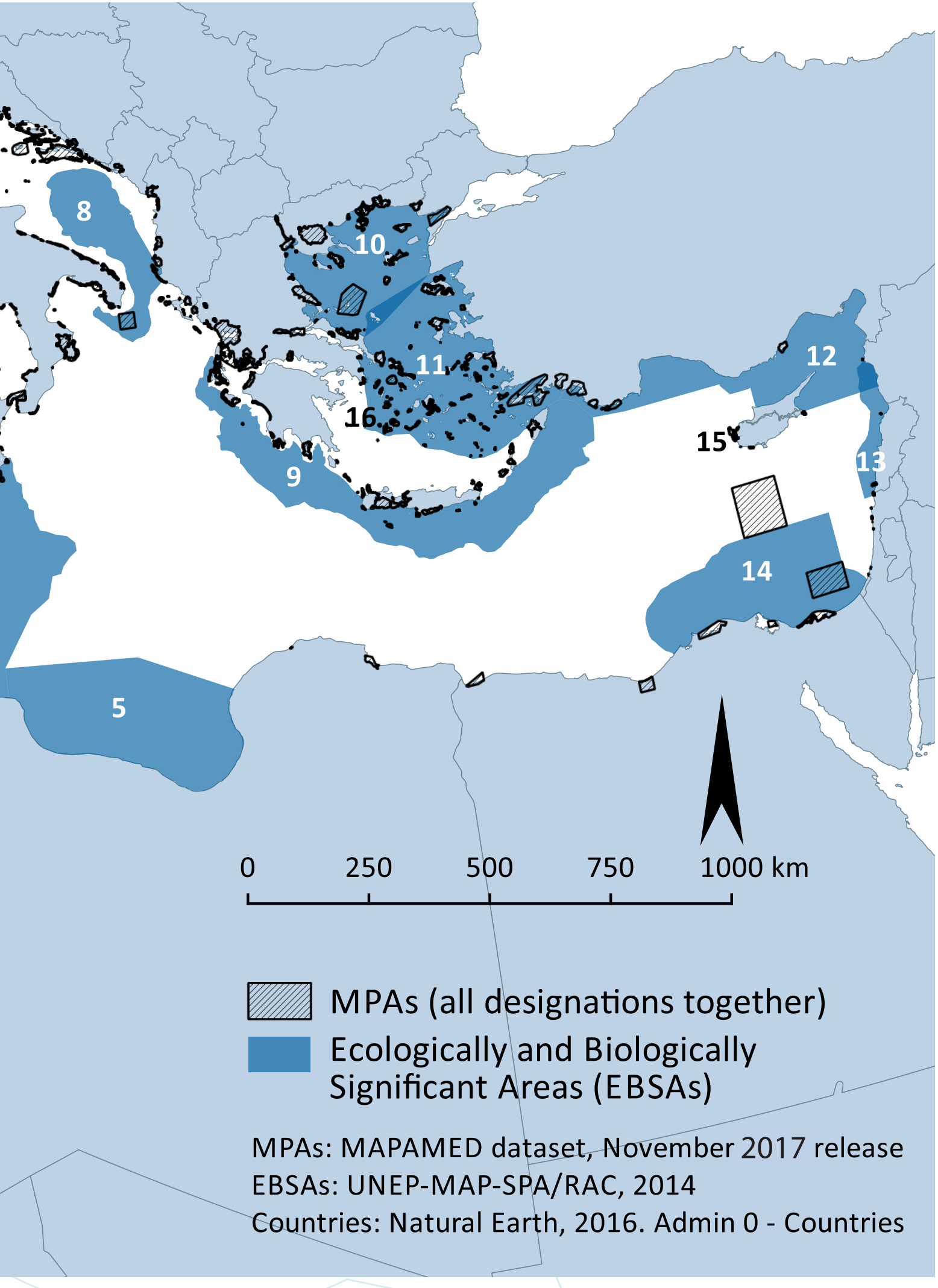


Figure 15: Mediterranean EBSAs


8
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250
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750
1000 km
MPAs (all designations together)
Ecologically and Biologically Significant Areas (EBSAs)
MPAs: MAPAMED dataset, November 2017 release
EBSAs: UNEP-MAP-SPA/RAC, 2014
Countries: Natural Earth, 2016. Admin 0 - Countries

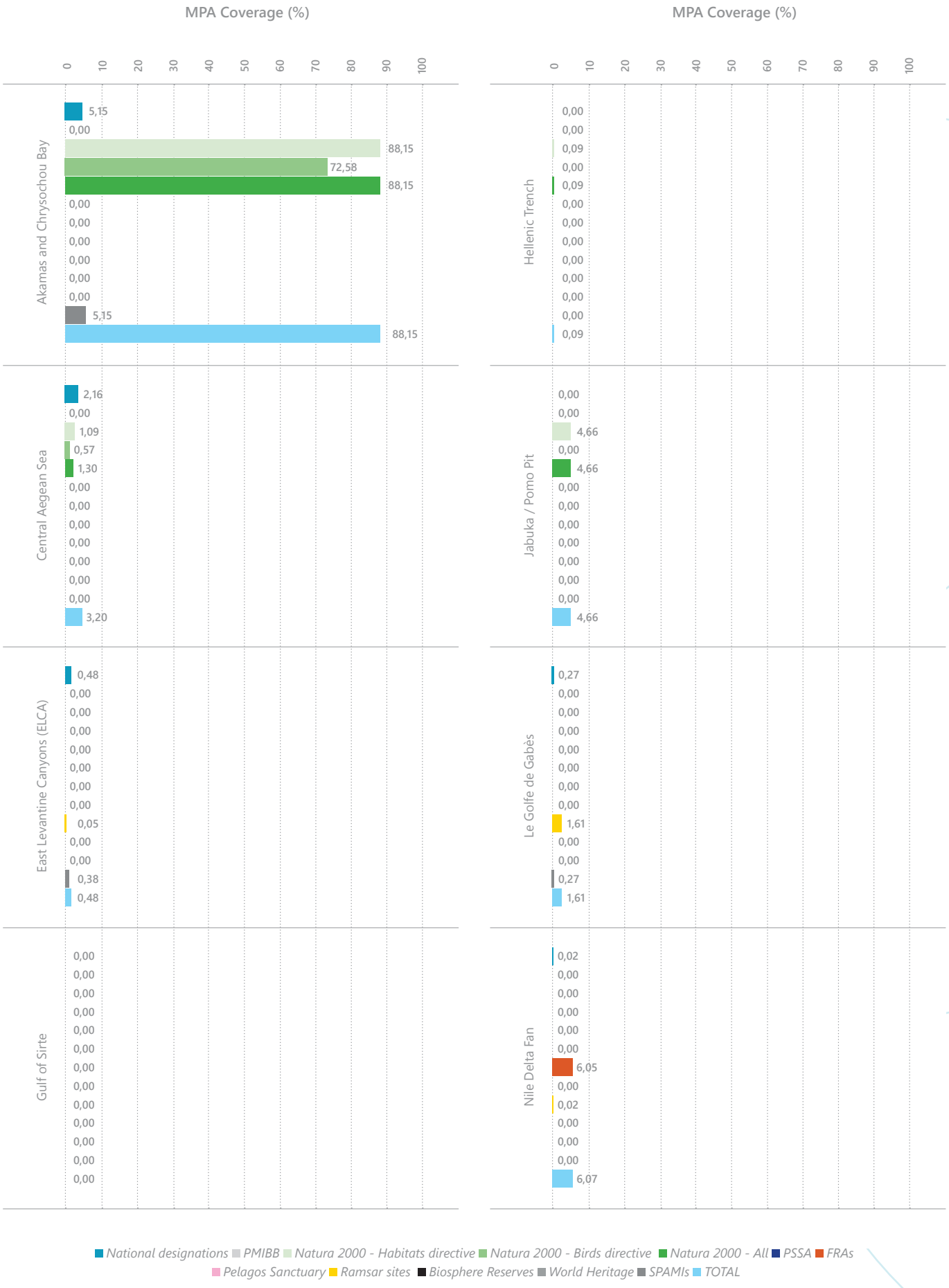


Figure 16: MPA coverage within each EBSA. Areas where several designations overlap were counted only once in the calculation of the total coverage, hence the fact that the latter cannot be obtained by simply adding up all individual coverages.

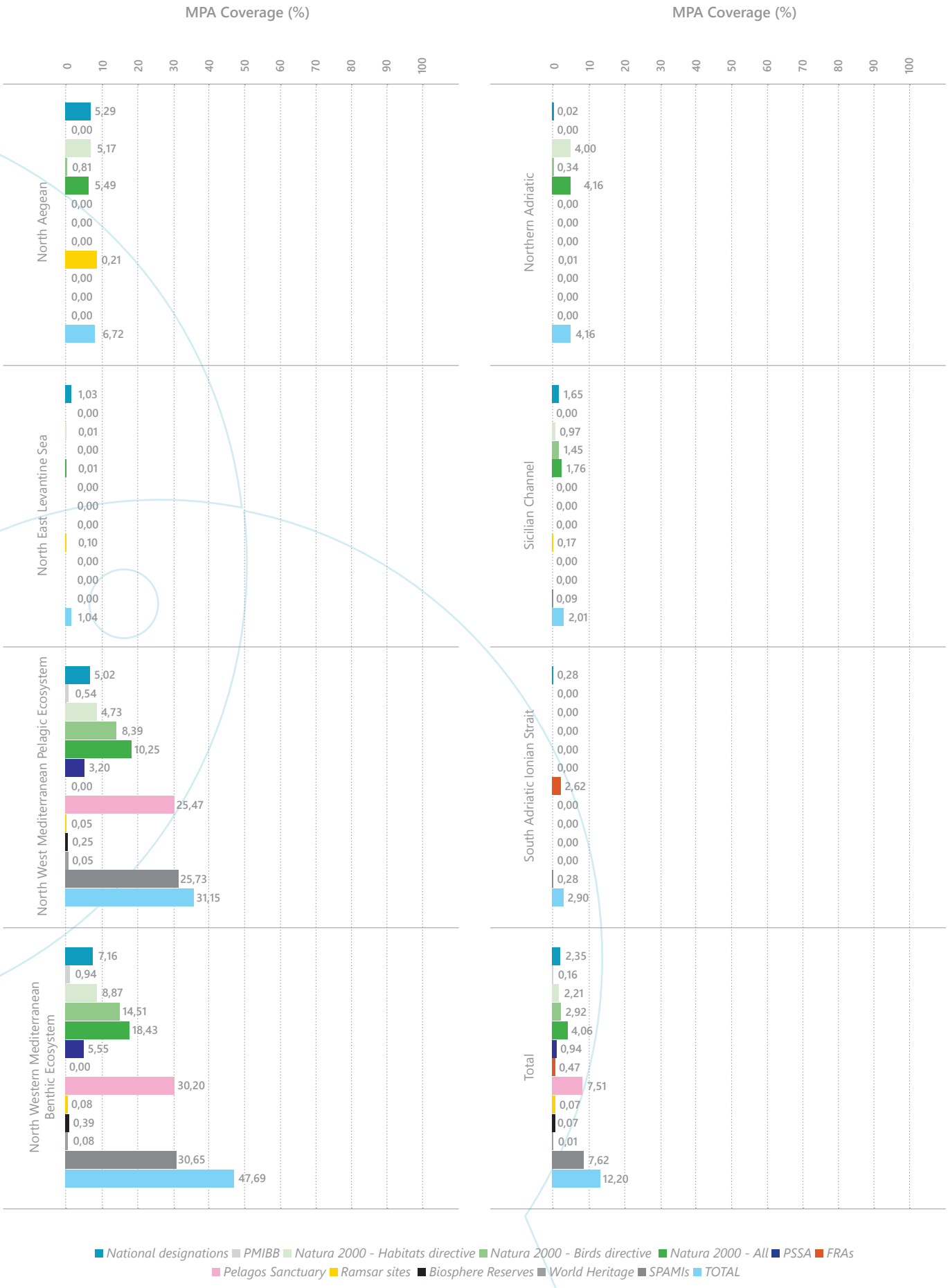


Figure 16 (suite): MPA coverage within each EBSA. Areas where several designations overlap were counted only once in the calculation of the total coverage, hence the fact that the latter cannot be obtained by simply adding up all individual coverages.

Concluding remarks

Advances with EMODNet habitat maps have proven valuable, and efforts should be maintained to produce and refine broad-scale harmonised seabed habitat maps to better gauge the representativity of such habitats within the MPA system. Hopefully, many parties will contribute further data for its improvement, especially with regard to the Eastern and Southern Mediterranean seabed. Besides, some mapping initiatives such as the MedKeyHabitats project (Box 09) could help refine the EMODnet habitat maps.

Further representativity analysis could target functional habitats for the life cycle of key marine species. For example, in 2012, an initial estimate of the proportion of nesting sites and distribution range of marine turtles in MPAS was presented (Gabrié *et al.*, 2012). This could be refined by looking at how much of the wintering, foraging, and feeding grounds and migration routes of the loggerhead turtle (*Caretta caretta*) and green turtle (*Chelonia mydas*) are covered by MPAs (and whether they implement turtle conservation measures). Similarly, this could be done for some shark and ray species, and for monk seals on which there has been new data acquisition since 2012.

The endangered Mediterranean monk seal (*Monachus monachus*) is indeed another species that deserves a representativity analysis. Many studies have revealed its presence either where unnoted before or where it hadn't been seen for years, even a century. For example, evidence of its presence in caves of Montenegro has been further documented (Panou *et al.*, 2017), and there are new sightings in Turkey, including in the Sea of Marmara (Kiraç *et al.*, 2013, Inanmaz *et al.*, 2014), in previously unknown areas of Greece (Karamanlidis *et al.*, 2015, Notarbartolo di Sciara and Kotomatas, 2016) and in Libya (Alfaghi *et al.*, 2013).

Still from the perspective of functional units relevant to fauna, a Mediterranean scale analysis of all spawning and nursery grounds of both species of conservation importance and of commercial value would be of added value. This is usually done for some commercially exploited species using either a single species approach (such as for tuna, hake, eels, sardines, anchovies or shrimps and octopus) or on a country by country basis. However, having a global map of these areas and assessing where they are covered by effective MPAs, or in need of regulations, would pave the way for better integrated ocean management.

The advantage of such results would allow the network of MPA managers to put adaptive management measures in place at relevant lifecycle stages or other sensitive times and places for a species.

Box 09: Implementation of the MedKeyHabitats project (Mapping of marine key habitats in the Mediterranean and promotion of their conservation through the establishment of SPAMIs) by SPA/RAC

DAs part of its assistance to the Mediterranean countries to attain the SPA/BD Protocol objectives and achieve Aichi Target 11 in the Mediterranean Sea, SPA/RAC set up, in 2013, the MedKeyHabitats project for the benefit of 8 Mediterranean countries, with the financial support of the MAVA Foundation. The project aims to:

- develop cartographic inventories of marine key habitats of conservation interest,
- strengthen the SPAMI network, and
- train national experts on the techniques used.

All maps produced within the framework of the MedKeyHabitats project concerning the distribution of marine habitats and in particular Posidonia meadows and coralligenous assemblages can be found on the Mediterranean Platform on Biodiversity (MPB) http://data.medchm.net.

Furthermore, in order to promote the standardised techniques/methodologies adopted in the framework of the Barcelona Convention, the following tools were published:

- Manual of interpretation of marine habitat types for the selection of sites to be included in national inventories of natural sites of conservation interest.
- Standardised methods for the inventory and monitoring of coralligenous and maërl stands and lists of stands of the coralligenous and main species to be considered in the inventories and monitoring.
- Guidelines for the Standardisation of the Methods of Cartography and Surveillance of Marine Magnoliophytes in the Mediterranean.
- Protocol for the establishment of a monitoring of Posidonia meadows.

Number crunching :

- 5 sites mapped
- 66,38 km2 total surface area prospected
- 85 field survey days
- 12 maps produced: 4 bathymetric maps using the single beam technique, 3 geomorphologic maps using the side scan sonar technique and 5 biocenotic distribution maps using scuba diving, underwater video and photographic samplings, underwater towed camera and sediments collection.
- 538 species inventoried
- 51 species listed in international conservation conventions
- 4 permanent systems set up to monitor *Posidonia oceanica* meadows
- 2 permanent systems set up to monitor *Zostera marina* meadows
- 4 permanent systems set up to monitor coralligenous communities
- 1 new site included in the SPAMI List

For more details and to download the countries' reports and other manuals, please visit the SPA/RAC website: http://rac-spa.org/publications#enmedkey

Connectivity

BOX 10: Connectivity: key figures and fast facts

- Knowledge on connectivity remains very fragmented and restricted mainly to fish species.
- There is a need for more multidisciplinary approaches to get a better picture of dispersal and connectivity patterns and related processes.
- Larval dispersal models need to be refined, gathering and including information on: species spawning grounds, nursery areas, larval behavior, 3D, larval mortality, food availability, water temperature...). As a first step, it is essential to better integrate suitable habitats as input data, depending on the targeted species or group of species
- The connectivity of a system of MPA is particularly difficult to grasp since MPAs target a wide range of species with different life history traits.
- Connectivity is often very roughly approximated by arbitrarily setting minimum distance requirements between MPAs.

What is connectivity and why is it important?

Preliminary remark: here, connectivity is considered from a biological point of view. However, connectivity may also be considered with regard to other aspects such as physical materials (sediments) or chemicals (nutrients or pollutants).

Many marine species use several habitats throughout their life and move from one habitat to another either passively (drifting with the current) or actively (swimming). For example, the life cycle of many Mediterranean coastal fishes is characterized by a pelagic egg-larval stage, during which movements of individuals are mostly driven by water circulation, followed by a demersal juvenile-adult stage. After the larval phase, individuals initially settle in shallow waters of small sheltered bays, and then move deeper on rocky reefs or seagrass meadows (Figure 17). As another example, gorgonians, such as the red gorgonian (*Paramuricea clavata*), also have a complex life cycle. Sperm is liberated into the sea by the male colonies and fertilisation occurs on the surface of the female colonies. The embryos are brooded there before being released as planula larvae into the water column. The released larvae show a photophobic behavior and settle on the seabed after a short swimming period (Mokhtar-Jamaï *et al.*, 2013). Once there, they develop into polyps and start secreting gorgonin to form the skeleton. The larval phase being rather short, dispersal is likely to be limited (hundreds of meters). However, recent genetic studies suggest that the maximum larval dispersal for this species is between 20 to 60 km (Pilczynska *et al.*, 2016).

The complex life cycle of most marine species, often characterised by a pelagic stage with high dispersive capability, explains the structure and dynamics of many marine populations, which are commonly structured as

metapopulations. Metapopulations can be seen as networks of subpopulations linked to each other through the exchange of individuals at whatever life stage (eggs, larvae, juveniles and adults) (Dubois *et al.*, 2016). These exchanges of individuals between discrete subpopulations are at the very core of population connectivity.

Some subpopulations have little exchanges with other subpopulations, and depend mainly on self-recruitment to ensure their persistence over time, whereas more open subpopulations may either play a key role in the persistence of other subpopulations by exporting a significant number of individuals ("source" subpopulations) or be dependent on other subpopulations to survive ("sink" subpopulations), or both (Rossi et al., 2016). Depending on their frequency and magnitude, these exchanges can greatly affect population demography (growth and mortality rates) and genetics (evolutionary processes). In particular, by increasing genetic diversity, connectivity helps maintain population resilience and adaptation under critical conditions (Hastings and Botsford, 2006).

Understanding and considering connectivity is therefore fundamental in management and protection strategies to achieve conservation objectives. MPAs should preferably not be designed as isolated sites. Indeed, establishing an MPA on a site where subpopulations depend on larval supply from "upstream" non-protected subpopulations may prove ineffective, especially if larval retention rates are not sufficient to allow for self-persistence. Instead, MPAs should be designed as interconnected sites, which benefit each other. Only in that case a system of MPAs can be considered a true network, which ensures the continuity in the life cycle of target species and maintains the linkages between subpopulations.

Figure 17: Life cycle of the two-banded seabream (*Diplodus vulgaris*).

Connectivity in the marine realm, however, is a particularly complex issue to address since it depends on numerous factors, including spawning outputs, dispersal of eggs and larvae, habitat availability, trophic interactions and juvenile and adult movements (daily, seasonal and ontogenetic).

Assessing connectivity requires a comprehensive knowledge and understanding of life cycles, habitat use, behavior, migration patterns and dispersal for the species to be targeted by protection.

Scientific progress in understanding connectivity in the Mediterranean Sea

In the Mediterranean Sea, several connectivity studies were conducted, particularly in the Adriatic Sea. In a publication from 2013, Calò *et al.* reviewed the methods used in the Mediterranean Sea to assess connectivity and dispersal between fish populations, either during larval stage or during post-settlement and adult stages.

The authors strongly recommended to increase the use of multidisciplinary approaches for assessing connectivity in the Mediterranean Sea, provided each single method has drawbacks and limitations, and to focus on areas that had been poorly covered so far to fill in the gaps.

In 2016, Di Franco and Guidetti found that to be comprehensive, a fish dispersal and connectivity assessment requires:

- to simulate larval dispersal using biophysical models,
- to estimate larval dispersal using otolith microchemistry or genetic parentage analysis,
- to investigate dispersal and connectivity at post-settlement stages using tagging,
- to assess the effects on populations using visual census and estimating population density at multiple life stages,
- to assess the effects on genetic structures at multiple life stages.

The authors also pointed out the importance of focusing not just on propagule stages but also on subsequent life stages (juveniles and adults) which had often been neglected in previous assessments.

Several multidisciplinary studies have been conducted, particularly in the Southern Adriatic Sea (Pujolar *et al.*, 2013, Aliani *et al.*, 2014, Carlson *et al.*, 2016, Paterno *et al.*, 2017) or in the Strait of Sicily (Falcini *et al.*, 2015, Gargano *et al.*, 2017). These studies reavealed that by combining several methods – such as Lagrangian simulations (i.e. numerical techniques modelling the flow of particles in a fluid), drifters, observation of floating debris, population genomics, *in situ* ichtyoplankton observation, remote sensing data, etc – it is possible to understand the main mechanisms that rule the dynamics of populations and to highlight the potential importance of some areas with regards to dispersal processes: average transit time, dispersal range and pattern, level of larval exchanges with other areas, etc.

To answer a specific question, however, multidisciplinary approach is not always necessary. For example, using otolith chemistry analyses, Di Franco *et al.* (2015) underlined the potential role of MPAs in replenishing areas more than 100 km away. Besides, otolith chemistry analyses also revealed that distinct group of larvae, potentially originating from different sources, can merge in open sea (Calò *et al.*, 2016). Another genetic study revealed a high gene flow (i.e. a significant connectivity) for the two-banded seabream (*Diplodus vulgaris*) along 200 km of the Apulian Adriatic coast, including within the Torre Guaceto MPA, thus indicating that this MPA is interconnected with surrounding areas and is not an isolated self-sufficient system (Sahyoun *et al.*, 2016).

It appears from all the above that:

- Knowledge on connectivity remains very fragmented and restricted mainly to fish species. Besides, little is known on species life history traits, the location of spawning grounds and nursery areas (important for model configuration),
- Most connectivity studies were conducted in very specific areas (North-Western Mediterranean and Adriatic Sea mostly) leaving the majority of the Mediterranean Sea unstudied,
- The different types of connectivity should be assessed at the right scale for each population/subpopulation.
- There is a need for more multidisciplinary approaches to get a better picture of dispersal and connectivity patterns and related processes. Thus, there is a strong need for scientists to join forces, work together and share knowledge.
- Larval dispersal models need to be refined, gathering and including information on: species spawning grounds, nursery areas, larval behavior, 3D, larval mortality, food availability, water temperature...). As a first step, it is essential to better integrate suitable habitats as input data, depending on the targeted species or group of species.

Most of the above-mentioned work as well as other studies are featured in a recently published monograph on connectivity by CIESM (CIESM, 2016). In addition, Jonsson *et al.* (2016) recently proposed a method to select networks of MPAs for multiple species with different dispersal strategies. Although intended to support MPA network planning rather than MPA network assessment, the adopted approach may have interesting applications to assess the level of connectivity in MPA networks for multiple species.

Are Mediterranean MPAs "connected"?

Based on the current state of research, it is not possible to provide a straightforward answer to whether Mediterranean MPAs are ''connected". Although everything is somewhat connected throughout the world's oceans and seas this does not mean that movement in water necessarily connects two or more MPAs. This will depend on the species studied and where.

Ideally, assessing the connectivity of a system of MPAs would consist in estimating whether this system, in its design, potentially ensures a continuity in the life cycle of each population of target species and maintains a certain level of exchanges among subpopulations. However, the Mediterranean MPA system as a whole aims to protect a wide range of species which have ranges of dispersal and mobility that differ highly among species and at different life stages (from meters to thousands of kilometers). Connectivity therefore proves particularly difficult to grasp at this scale and its measurement would require a considerable amount of ecological information.

Lacking such information, connectivity at MPA network scale has often been very roughly approximated through the "rule of thumb" by arbitrarily setting minimum spacing requirements between MPAs. Although distance is not the only factor determining whether a species will be able to disperse from one area to another, these proximity analyses are based on the assumption that the closer MPAs are from one another, the higher the chances of connections through dispersal are.

Several guidelines for MPA spacing rules based on average dispersal distances have been proposed:

- Shanks *et al.* (2003) proposed to create MPAs that are 4 to 6 km in diameter (large enough to contain the larvae of short distance dispersers) and are spaced 10 to 20 km apart (close enough to capture propagules released from adjacent MPAs).
- Palumbi (2004) stated that dispersal distance may vary from 10 to 100 km for invertebrates and 50 to 200 km for fish.
- Halpern *et al.* (2006) consider that the MPA spacing rules lie between 20 to 200 km.
- Anadón *et al.* (2013) consider a distance range of 50 to 100 km between MPAs may be used as a global spacing rule, being based on available knowledge of larval dispersal distances of fish species worldwide.

In the previous Mediterranean MPA Status Report (Gabrié *et al.*, 2012), proximity between MPAs was evaluated using the following distance ranges: 0 to 25 km, 25 to 50 km, and 50 to 150 km.

Similarly, in West Africa, a minimum distance of 50 km and a maximum distance of 250 km between one MPA and its closest neighbour were set as criteria to assess MPA proximity (RAMPAO, 2012).

In England, it is recommended that MPAs supporting similar habitats should be no more than 40 to 80 km apart in order to assure sufficient ecological connectivity (Roberts *et al.*, 2010).

In the OSPAR region, it is considered that MPAs should be geographically well-distributed and that the minimum distance from one MPA to its nearest neighbour should not exceed 250 km in coastal areas, 500 km in offshore areas, and 1000 km in High Seas (ICG-MPA, 2015).

These proximity analyses are obviously quite basic and far from reflecting the actual ecological connections between MPAs. However, they provide some suggestions on how to assess an MPA network compactness.

More recently, for its assessment of the status of MPAs in the Baltic Sea, HELCOM (2016) describes connectivity as the glue to the network of MPAs. They establish two subcriteria:

- Theoretical connectivity: 50% of landscape patches under protection have more than 20 connections (minimum patch size 0.24 km2). This target was assessed under two scenarios: a connection distance of 25 km^2 and a connection distance of 50 km^2.
- Species-specific connectivity: 50% of landscape patches representing habitats for the species have over 20 connections (same patch size). The connection distance was set for each of the 5 species considered according to their dispersal distance.

Concluding remarks on connectivity

In light of the above information, we propose to adopt the following approach for future connectivity assessments in the Mediterranean Sea:

- Cluster species according to criteria that strongly influence larval dispersal (location of spawning grounds, spawning season, pelagic larval dispersal duration, larval behaviour and suitable habitats for settlement). Good information on species ecology is therefore needed.
- Subdivide the Mediterranean Sea into relatively homogenous hydrodynamic units (a network of networks), where propagules are much more likely to disperse efficiently within each one than among them, using Lagrangian simulations.
- Assess connectivity between MPAs within each hydrodynamic unit and for each species cluster, considering the location of spawning grounds, spawning season, pelagic larval dispersal duration, larval behaviour and suitable habitats for settlement.

Even though this proposed approach remains theoretical, it would provide a much more relevant view of potential connectivity than usual proximity analyses. Further research could then be conducted using complementary approaches (genetics, otolith chemistry…) to check and possibly corroborate the results.

Besides, further research should be conducted on highly mobile species to determine migration patterns and identify important areas as well as ecological corridors.

Mediterranean proximity assessment

BOX 11: Proximity: key figures and fast facts

- The proportion of protected habitat patches having at least 20 other patches within a set distance range (25 or 50 km) is lower than 50 % for each of the 3 types of habitats considered here.
- The proximity analysis could be refined by setting habitat-specific targets, both for minimum patch size and the minimum number of relations needed to determine sufficient density of the MPA system.
- A species-specific approach could be adopted, including only habitats suitable for the considered species. The approach could use the average dispersal range of the species as the area within which we consider there is a possible relation between patches. Besides, only MPAs which target the considered species could be considered.
- It could also be interesting to conduct this analysis at ecoregion scale instead of the full Mediterranean.

Methodology

The proximity analysis hereafter draws from the methodology used in the Baltic Sea (HELCOM, 2016) to assess propinquity (proximity and relations) and is also in line with the approach proposed by Wolters *et al.* (2015). Instead of considering the distance between MPAs, as has often been done until now, the HELCOM methodology goes one step further by considering the distance between seabed habitat patches located within MPAs. For the Mediterranean, such patches were obtained by intersecting the MPA boundaries with the EMODnet seabed habitat map. Only habitat patches bigger than 0.24 km^2 were kept.

Patches of the same habitat were considered potentially linked when they were less than a chosen distance from one another. For each habitat patch, the number of potential relations (i.e. number of patches of the same habitat falling within the distance range defined) was calculated. This analysis was conducted under 2 distance scenarios (25 and 50 km), and considering the three following seabed habitats:

- Mediterranean coralligenous communities moderately exposed to or sheltered from hydrodynamic action (A4.26 or A4.32)
- [Cymodocea] beds (A5.531)
- [Posidonia] beds (A5.535)

Coralligenous communities

A total of 394 patches of this habitat have been identified within MPAs (all designations together). The average number of potential relations is 9.28 for a 25 km distance range and 16.96 for a 50 km distance range (Table 08). The proportion of habitat patches having 20 or more potential relations reaches 7.87 % for a 25 km distance range and 38.58 % for a 50 km distance range.

However, when considering only MPAs which have at least one no-go, no-take or no-fishing zone (likely to afford better protection of benthic habitats), the number of patches identified falls down to 62, and the average number of relations drops to 3.03 for the 25 km distance range and 3.45 for the 50 km distance range. Moreover, no patch appears to have 20 or more potential relations for either of these distance ranges.

Cymodocea beds

A total of 81 patches of this habitat have been identified within MPAs (all designations together). The average number of potential relations is 4.69 for a 25 km distance range and 7.90 for a 50 km distance range. No patch appears to have 20 or more potential relations for either of these distance ranges.

When considering only MPAs which have at least one no-go, no-take or no-fishing zone, the number of patches identified drops to 9, and the average number of relations is only 2 for both distance ranges.

Posidonia beds

A total of 808 patches of this habitat have been identified within MPAs (all designations together). The average number of potential relations is 9.65 for a 25 km distance range and 17.61 for a 50 km distance range. The proportion of habitat patches having 20 or more potential relations reaches 11.76 % for a 25 km distance range and 31.06 % for a 50 km distance range.

When considering only MPAs which have at least one no-go, no-take or no-fishing zone, the number of patches identified drops to 184, and the average number of relations is 7.84 for the 25 km distance range and 10.49 for the 50 km distance range. As for the proportion of patches having 20 or more potential relations, it reaches 5.98 % for the 25 km distance range and 14.13 % for the 50 km distance range.

The Table 08 shows the results for the 3 types of habitats per type of designation or highly protected sub-zone of MPAs

Table 08: Proximity analysis. Number of habitat patches located within MPAs, and average number of related patches within the distance range defined.

	A4.26 or A4.32: Mediterranean coralligenous communities moderately exposed to or sheltered from hydrodynamic action			A5.531: [Cymodocea] beds			A5.535: [Posidonia] beds		
	Number of patches (>0.24 km^2)	Average nb. of potentially related patches (25 km distance range)	Average nb. of potentially related patches (50 km distance range)	Number of patches (>0.24 km^2)	Average nb. of potentially related patches (25 km distance range))	Average nb. of potentially related patches (50 km distance range)	Number of patches (>0.24 km^2)	Average nb. of potentially related patches (25 km distance range)	Average nb. of potentially related patches (50 km distance range)
All MPAs	394	9,28	16,96	81	4,69	7,90	808	9,65	17,61
Nationally designated MPAs	117	5,95	8,91	9	2,00	2,00	270	7,72	11,03
MPAs with a no-go, no-take, no-fishing zone	62	3,03	3,45	8	2,00	2,00	184	7,84	10,49

At this stage, more research is needed to draw conclusions from these results. Indeed, provided that inter-patch distance is not the only factor influencing connectivity, it is not possible to define a number of potential relations at which we consider that the density of the MPA system is sufficient to enable exchanges of individuals between habitat patches. Unlike HELCOM, we did not set a minimum percentage target for habitat patches (50%) to have ≥ 20 potential relations either within a 50 km distance range (basic target) or within a 25 km distance range (more ambitious target). However, to provide a comparison, in the Mediterranean Sea, this target is reached for none of the 3 habitats considered and for none of the distance ranges defined.

Concluding remarks on proximity analysis

The proximity analysis could be refined by setting habitat-specific targets, both for minimum patch size and the minimum number of relations needed to determine sufficient density of the MPA system. Besides, as was done in the HELCOM assessment, a species-specific approach could be adopted, including only habitats suitable for the considered species. The approach could use the average dispersal range of the species as the area within which we consider there is a possible relation between patches.

It could also be interesting to conduct this analysis at ecoregion scale instead of the full Mediterranean. This ecoregion approach could indeed highlight differences in MPA density from one ecoregion to another and would make it possible to identify ecoregions where MPA density is not sufficient for the considered habitat.

Ideally, this proximity analysis should also take into consideration only MPAs which target the considered species or habitat in their management objectives. For example, these analyses could be carried out for the Natura 2000 network.

Adequacy

BOX 12: Adequacy: key figures and fast facts

- Half of the Mediterranean MPAs are smaller than 8.65 km^2, which is less than the arbitrary criteria of 20 km^2 set by Wolters *et al.* (2015).
- 38.28 % of MPAs are larger than 20 km^2.
- Areas with strong protection levels (no-go, no-take or no-fishing areas) cover only 0.04 % of the Mediterranean Sea, or 0.15 % of the 0 – 12 n.m. zone, which is still far from the 2 % target agreed upon in the 2016 Tangier Declaration.
- In future analyses, adequacy could be evaluated by assessing to what extent the size of MPAs, their level of protection (regulations and enforcement) and management measures are in line with the management objectives and the threats occurring within or around the MPA.

What is adequacy and how to assess it?

UNEP-WCMC (2008) defines adequacy as "the need to ensure that the individual components of the [MPA] network are of sufficient size and appropriate shape and distribution to maintain the ecological viability and integrity of populations and species". This definition focuses on the spatial and size aspects of MPAs within a system. Moreover, the entire system should be large enough to cover the full range of ecosystems or habitats in the area, preferably with multiple replicates of each, to ensure its viability. In that sense, the concept of adequacy is often closely linked to the ones of representativity, replication and viability. Moreover, this document states that MPAs should be distributed in a way that minimises the impacts of natural and anthropogenic threats.

However, this definition only partially captures what adequacy actually is. Indeed, apart from MPA size, shape and distribution, adequacy is also a matter of appropriate protection: for an MPA to be considered "adequate", it is deemed particularly important to make sure regulations and management measures implemented are consistent with the conservation objectives of the MPA and the level of pressures that affects its habitats, species and ecological processes. Wolters *et al.* (2015) further pinpoint that an adequate network should, among other elements, include "management categories related with conservation objectives and endangered features".

Overall, adequacy is a criterion which describes the qualitative aspect of single MPAs.

Several criteria are commonly used to assess adequacy:

- **Size:** the size of MPAs should be consistent with their stated conservation objectives. Ideally, considering each MPA has its own objectives, whether its size is appropriate or not should be assessed on a case by case basis. Indeed, MPAs aimed at the conservation of mobile species may need to be substantially larger than MPAs protecting benthic species with limited home ranges and dispersal distances. They can also be designed as a network to protect key life stages and functional units of highly mobile species and combined with other management measures. There is a variety of factors which should be considered when designing an MPA: the purpose of the site, adult dispersal ability, larval dispersal ability, minimum viable population, habitat continuity and anthropogenic threats (Sciberras *et al.*, 2013). Generally speaking, it is considered that the size of individual MPAs should be sufficient to at least support self-sustaining populations of species that disperse on relatively short distance. However, in many cases the scientific knowledge is insufficient to determine what minimum size is appropriate for the protection of a given feature. As a result, many assessments arbitrarily set a minimum MPA size which applies for all sites, based on the assumption that the larger an MPA is, the more likely it is to include more species and habitats, support more viable populations and contain greater structural diversity. In the Baltic Sea for instance, the target was set to 30 km^2 for marine areas, and at least 80 % of the MPAs have to reach or exceed this size to consider the network is adequate (HELCOM, 2016). Wolters *et al.* (2015) propose to consider the proportion of MPA which are larger than 20 km^2 for European networks of MPAs, but add that the threshold size may be agreed to be something else. Roberts *et al.* (2010) recommended that for English territorial sea, the median size of MPAs should be no less than 5 km in their minimum dimension and that the average size of MPAs should lie between 10 and 20 km, while in the offshore region (12 - 200 nautical miles), MPAs should have a minimum dimension between 30 and 60 km. In the Celtic Seas, a size range of 10-100 km^2 was recommended by Foster *et al.* (2017).
- **Shape:** the shape of the MPA may also be of particular importance in adequacy. In terms of conservation efficiency, compact shapes (e.g. round, square or rectangle) are considered most desirable than jagged shaped MPAs. Indeed, by minimising the perimeter/area ratio, compact shapes reduce edge effects from threats coming from outside the MPA, such as fishing effort concentrating along its borders. Compact sites can therefore be expected to have greater internal viability than less compact sites of the same size (OSPAR, 2007). Besides, compact shapes (square or rectangular) tend to have simpler boundaries compared to less compact shapes, which is considered more appropriate from a managerial perspective since it makes it easier for user groups to identify and remember these boundaries. However, compact sites can be expected to have less spillover (OSPAR, 2007). Sciberras *et al.* (2013) therefore conclude that it is better to have a high compactness in small MPAs where edge effects can be important, whereas in larger sites it might be better to have less compactness to favour spillover to adjacent areas.

- **Proportion of a feature in the network:** one of the criteria sometimes used to describe adequacy is the proportion of a feature which is included in the MPA system (Sciberras *et al.*, 2013). An MPA system should indeed include a large enough proportion of features to ensure their viability and therefore be considered adequate. That said, this criterium is commonly linked to representativity. Indeed, assessing the proportion of habitats, species or other features which are included in the MPA system amounts to assessing the representativity of these habitats, species or features within the network.
- **Threats:** one of the criteria sometimes used to characterise adequacy is the impact of threats, considering that MPAs should be designed in a way that minimize the impacts of pressures occurring within their boundaries and in their vicinity. In the Baltic Sea, overlap of anthropogenic pressures (fishing activity and ship traffic) with MPAs was used as a supporting information for MPA adequacy (HELCOM, 2016), and the potential impact of these pressures on the conservation features was discussed, although no target was set. As an indicator, Wolters *et al.* (2015) propose to arbitrarily define an impact range of each pressure from their source, and then assess the proportion of areas within the MPA system that is not impacted by threats. On the other hand, areas of high biodiversity or of key conservation interest where strong pressures occur are of particular concern and should as such be protected with the adequate measures to curb the pressures. Another indicator of the adequacy of the MPA system with regard to threats could therefore be the proportion of these areas of conservation concern (i.e. high biodiversity where strong pressures occur, and that could be mitigated by MPAs) that actually overlap with the MPA system. In addition, the type of designation with what is regulated, allowed, or not, is crucial.
- **Level of protection:** as stated above, the protection provided by an MPA should be consistent with both conservation objectives and pressures affecting the MPA. For instance, if an MPA intends to protect the noble pen shell (*Pinna nobilis*) in an area where strong anchoring pressure is known to occur, measures should obviously be taken either to forbid or regulate anchoring, or to set up mooring buoys. Although recognised as essential, the level of protection is often overlooked in ecological coherence assessments due to methodological difficulties in building robust and easy to use indicators with clear targets. When considered, it is often estimated either as the proportion of MPAs (or MPA zones) which are strongly protected (e.g. no-take areas) or as the proportion of a region covered by such strongly protected areas. For instance in the Baltic Sea, the level of protection was assessed as the percentage of MPAs which have been assigned the most strict IUCN management categories (Ia, Ib or II) (HELCOM, 2016). Similarly, Wolters *et al.* (2015) propose to consider the proportion of sites falling under no-take zones as an indicator of the level of protection. Indeed, no-go, no-take or no-fishing areas are considered the most effective type of MPA to replenish fished areas: a recent global meta-analysis of scientific studies showed that the biomass of the whole fish assemblage is, on average, 670 % greater within no-take areas than in unprotected areas, and 343 % greater than in partially protected areas (Sala and Giakoumi, 2017). In the Mediterranean Sea, the biomass of fish assemblages and flagship species, such as the dusky grouper, is significantly higher in no-take marine reserves than in partially protected areas (Giakoumi *et al.*, 2017). However, these positive effects are only present when MPAs are well-enforced and well-managed (Claudet *et al.*, 2008, Sala *et al.*, 2012, Giakoumi *et al.*, 2017). When updating the Roadmap towards a comprehensive, ecologically representative, effectively connected and efficiently managed network of Mediterranean Marine Protected Areas by 2020, the participants in the 2016 Forum of Marine Protected Areas in the Mediterranean agreed (within the Tangier Declaration) to set a target of «at least 2 % of no-take zones, especially in key functional areas» (Monbrison *et al.*, 2016). As a comparison, the participants in the marine cross-cutting theme at the 6th IUCN World Parks Congress in Sydney were much more ambitious and set a target of at least 30 % of the world ocean with no extractive activities (IUCN, 2014). Although arbitrarily defined, these targets provide clear thresholds against which progress can be measured.

Are Mediterranean MPAs "adequate"?

Size[11]

In the Mediterranean Sea, the size of nationally designated MPAs ranges from 0.01 km^2 to 4 009.17 km^2 (Table 09). The median size (25.07 km^2) is far smaller than the average size (137.64 km^2) which reveals that the distribution of sizes is strongly skewed, with many relatively small MPAs (44.09 % are smaller than 20 km^2) and only a few large ones (26.88 % are larger than 100 km^2) that pull the mean up.

Marine Natura 2000 sites follow the same trend, with lots of relatively small sites (67.52 % smaller than 20 km^2) and a few that are quite large (14.32 % bigger than 100 km^2).

All designations together, the size of Mediterranean MPAs ranges from 0.01 km^2 to 87 275.56 km^2, with an average of 266.68 km^2. This may seem high, but the distribution of sizes is actually strongly skewed towards the smallest size classes. The median indeed indicates that half of Mediterranean MPAs are smaller than 8.65 km^2.

As mentioned above, Wolters *et al.* (2015) suggest to consider the proportion of sites larger than 20 km^2 as an indicator of adequacy for the European networks of MPAs. In the Mediterranean Sea, this proportion reaches 38.28 % of MPAs (Figure 18). However, although valuable, this information alone is far from being sufficient to judge whether the adequacy criteria is met in the Mediterranean Sea. Future analyses could go one step further by weighting the sizes with the level of protection provided by the MPA or its zones.

[11] Only marine areas are considered here. Possible terrestrial parts were removed and not accounted for in the calculations.

For example, the assessment of the size of no-access, no-take and no-fishing zones could be undertaken (average size and median value) and although the results are likely to be dismal, this would point further to the great chasm between today's status and the targets of 2020.

Anyhow, as means of comparison with the Baltic Sea which has set a target of 30 km^2 (at least 80 % of MPAs should be larger than 30 km^2), 31.54 % of Mediterranean MPAs are bigger than 30 km^2 while that percentage is 68 % in the Baltic Sea.

Table 09: Basic statistics regarding the size of Mediterranean MPAs (average, minimum, first quartile, median and third quartile and maximum values) for each type of designations

	Average size (km^2)	Minimum value	First quartile	Median value	Third quartile	Maximum value
National designations	137,64	0,01	4,49	25,07	113,94	4009,17
Natura 2000 - Habitats directive	55,78	0,01	0,95	5,36	22,52	3355,91
Natura 2000 - Birds directive	184,08	0,01	1,97	26,36	136,12	9016,17
Natura 2000 - All	88,39	0,01	1,10	6,27	36,36	9016,17
Pelagos Sanctuary	87275,56	87275,56	87275,56	87275,56	87275,56	87275,56
Conservation FRAs	5229,38	1004,88	2691,14	4377,39	7341,63	10305,86
PMIBB	1858,00	1858,00	1858,00	1858,00	1858,00	1858,00
PSSA	10956,43	10956,43	10956,43	10956,43	10956,43	10956,43
SPAMIs	2666,52	0,29	13,91	68,93	146,16	87275,56
Biosphere Reserves	229,12	0,29	23,43	120,94	414,93	605,92
Ramsar sites	38,93	0,02	0,91	4,92	28,12	525,68
World Heritage	68,53	25,67	31,79	37,91	89,96	142,01
TOTAL	266,68	0,01	1,38	8,65	49,12	87275,56

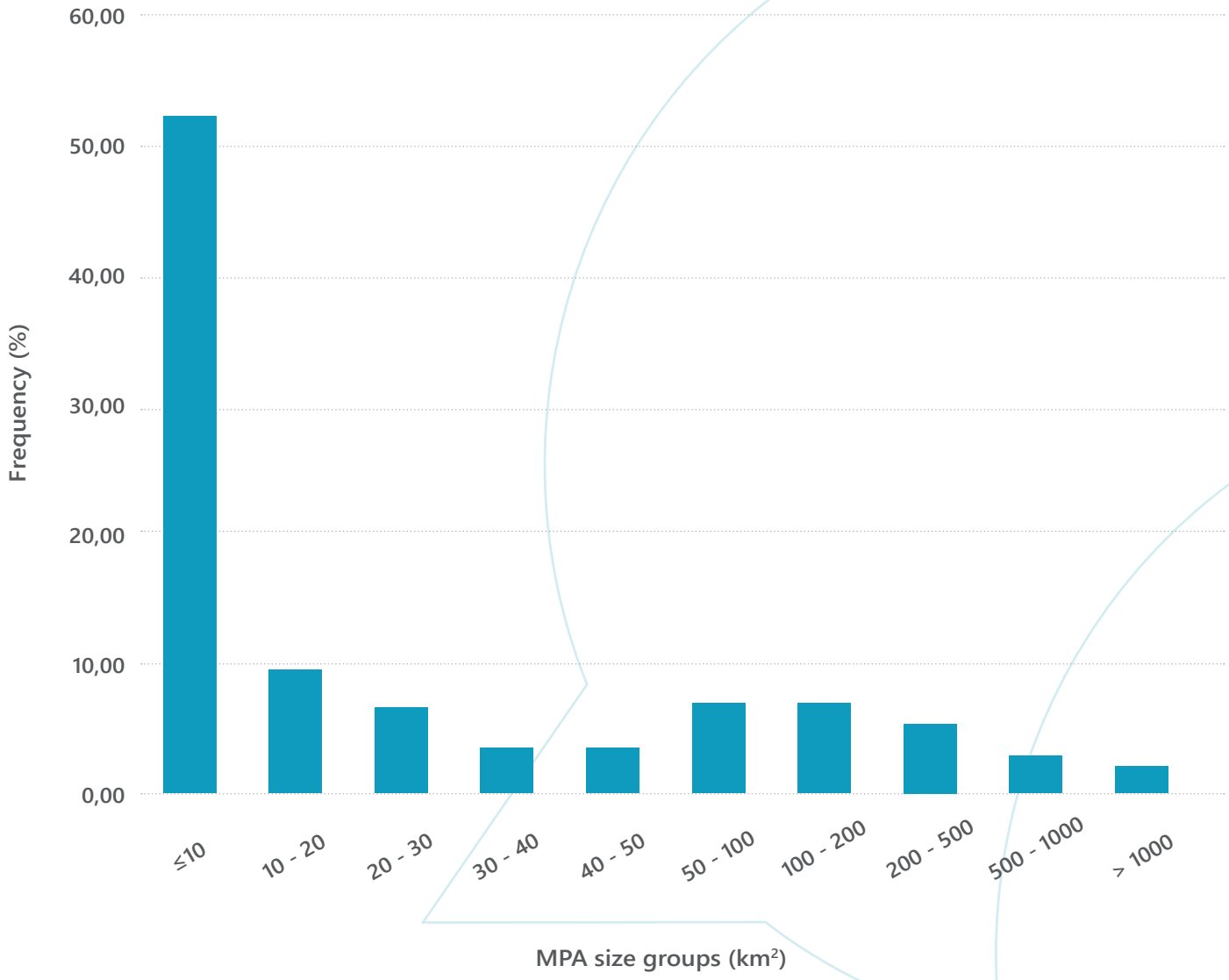


Figure 18: Size distribution of MPAs.

This figure clearly shows that although the average size is 266.68 km², most sites are actually smaller than 10 km².

Shape

The compactness of an area can be calculated using the following formula: $C= (4\pi A/p^2)^{0.5}$ where C is the Compactness, A is the area of the site and p is its perimeter. This index actually measures to what extent the shape of an area approaches a circle. The maximum possible score is 1 and it corresponds to a perfect circle, which is also the most compact shape. This score decreases as the MPA becomes less circular (OSPAR, 2007). As a comparison, a square would score 0.89.

On average the compactness of Mediterranean MPAs is of 0.43 ± 0.22 (Table 10), which seems relatively low considering Mediterranean MPAs are quite small on average. Nevertheless, 6.85 % of MPAs have a compactness index greater than 0.8 (Figure 19).

It is important to note however that there are geographic limitations to the compactness index. The majority of MPAs in the Mediterranean Sea are indeed bounded by the coast, and even if their seaward boundaries are relatively compact, they may score poorly on compactness if their landward boundaries stretch along an irregular coastline. This index may therefore not truly reflect the shape of the MPAs.

Table 10: Basic statistics regarding the compactness of Mediterranean MPAs (average, minimum, first quartile, median and third quartile and maximum values) for each type of designations

	Average compactness	Minimum value	First quartile	Median value	Third quartile	Maximum value
National designations	0.4665	0.0518	0.2903	0.4583	0.6393	0.9120
Natura 2000 - Habitats directive	0.4465	0.0315	0.2811	0.4105	0.5992	0.9993
Natura 2000 - Birds directive	0.3687	0.0310	0.1972	0.3422	0.5073	0.9999
Natura 2000 - All	0.4285	0.0310	0.2624	0.3895	0.5862	0.9999
Pelagos Sanctuary	0.2962	0.2962	0.2962	0.2962	0.2962	0.2962
FRAs	0.8798	0.8704	0.8767	0.8829	0.8846	0.8862
PMIBB	0.2695	0.2695	0.2695	0.2695	0.2695	0.2695
PSSA	0.2813	0.2813	0.2813	0.2813	0.2813	0.2813
SPAMIs	0.4919	0.2022	0.3287	0.5056	0.6421	0.9712
Biosphere Reserves	0.3167	0.1374	0.2183	0.2735	0.4297	0.5103
Ramsar sites	0.3342	0.0985	0.1940	0.2967	0.4438	0.8223
World Heritage	0.3084	0.1480	0.2265	0.3049	0.3886	0.4723
TOTAL	0.4298	0.0310	0.2635	0.3895	0.5877	0.9999

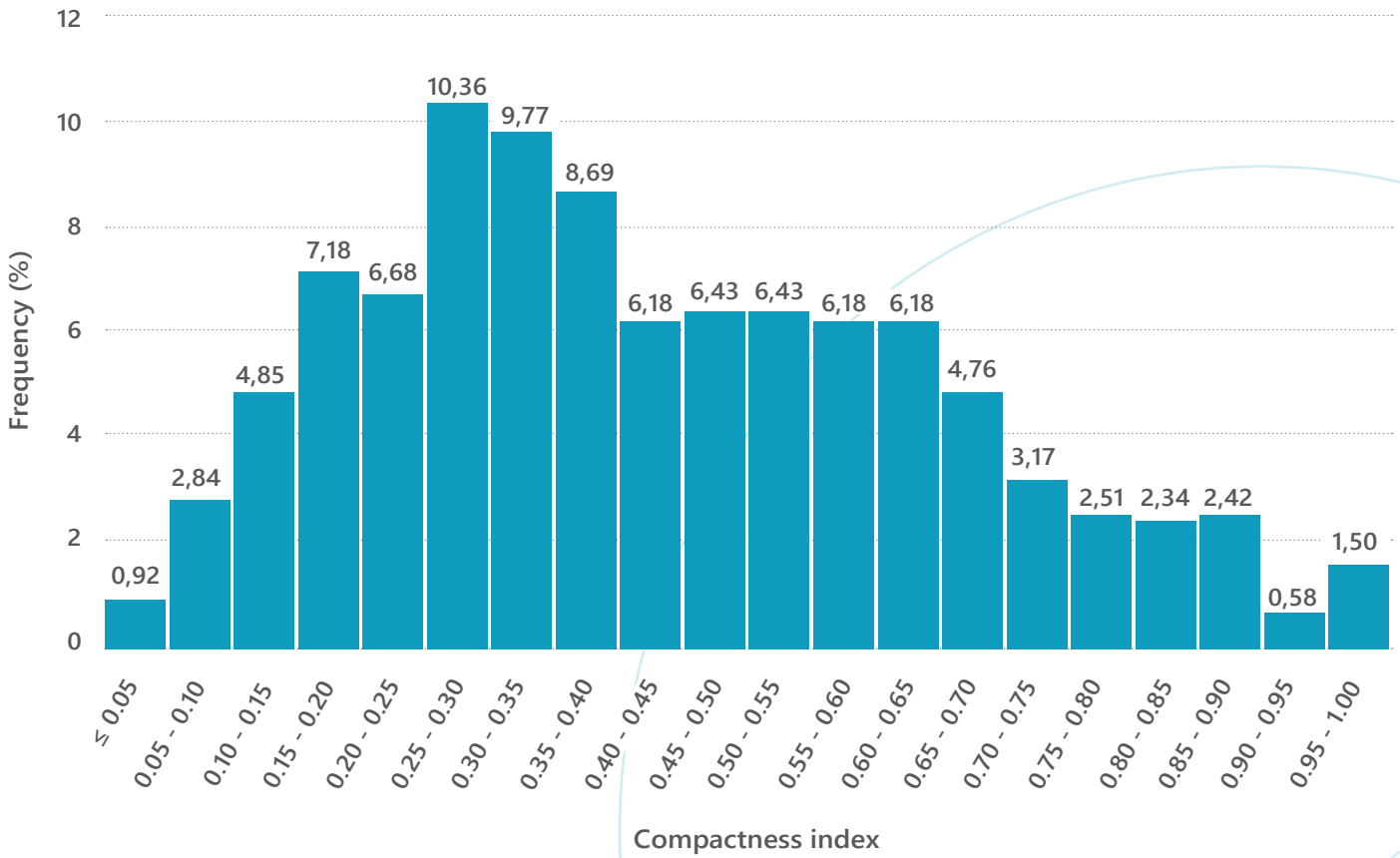


Figure 19: Distribution of the compactness index of MPAs.

Threats

In the Mediterranean Sea, Coll *et al.* (2012) identified the main areas of concern, where the interaction between marine biodiversity and cumulative anthropogenic threats is more pronounced, and then assessed the overlap with MPAs. Five species groups were selected to describe marine biodiversity (invertebrates, fishes, marine mammals and marine turtles, seabirds and large predators), and 6 categories of threats were considered (coastal-based impacts, trawling and dredging, ocean-based pollution, exploitation of marine resources by fisheries, maritime activities and the impacts of climate change). Although one should remain cautious with the interpretation of results based on the fact that MPAs are not the silver bullet for solving all cumulative impacts, this is what the study reveals. The results reveal that the main areas of conservation concern for biodiversity (i.e. where there is a high overlap between areas of high biodiversity and threats) vary from one species group to another. For invertebrates and fish species these areas appear to be relatively small, whereas for marine mammals they are significantly larger. Areas of concern for seabird species and large predators show intermediate extension and are located closer to coastal regions. The results also suggest that areas of greatest conservation concern, all species group combined, are located over the Spanish Mediterranean shelf, the Gulf of Lion, the North-Eastern Ligurian Sea, the North and central Adriatic Sea, and regions of Tunisia and the Western coast of North-Africa. In 2013, Micheli *et al.* also looked at cumulative pressures in the Mediterranean for adequate ocean planning and management. The results point to the same regions, extending to the whole Alboran Sea, as well as the coastal zone of Egypt, Israel and Turkey.

These analyses however suffered from data limitations and geographic unbalance as well as uncertainties which may have rendered conservative the identification of areas of concern. Moreover, it did not take into consideration dynamic changes in marine biodiversity and threats. That said, this approach is very promising and these studies can be considered as a first step towards the identification of priority areas for the conservation of marine species, and by extension, towards the assessment of the adequacy of the Mediterranean MPA system with regard to threats.

At the time the study of Coll *et al.* was conducted (before 2012), only a very small proportion of the areas of conservation concern for biodiversity were under protection (less than 1.6 %), revealing that significant effort was required to improve the adequacy of the Mediterranean MPA system. That said, since then, new MPAs were created in the Mediterranean and the coverage has greatly increased. Such an analysis should therefore be renewed with updated and refined data.

Level of protection

As previously mentioned, MPAs cover 6.81 % (171 362 km^2) of the Mediterranean Sea. This coverage, however, encompasses a wide range of designations, regardless of what level of protection these designations actually guarantee legally speaking. Thus, areas with strong protection level (i.e. areas which are either no-go, no-take or no-fishing areas) cover only 945.67 km^2, that is to say 0.54 % of the total area covered by MPAs, or 0.15 % of the 0 - 12 n.m. zone (and 0.04 % of the Mediterranean Sea). This is still very far from the 2 % target agreed upon by the participants in the 2016 Forum of Marine Protected Areas in the Mediterranean (Tangier Declaration).

Besides, little is known as to whether these no-go, no-take or no-fishing zones are implemented and effectively managed.

Apart from MPAs, other areas may provide some protection level, such as Fisheries Restricted Areas where fishing activities are regulated. Although these Fisheries Restricted Areas are established to manage fishing resources rather than to protect marine biodiversity, they bring ancillary conservation benefits, and clearly provide a higher level of protection to an area with regard to adjacent ones. Among the National Fisheries Restricted Areas reported by the GFCM Contracting Parties, 35 sites are closed all year round to fishing activities which represent 596.74 km^2 or 0.02 % of the Mediterranean Sea[12].

Therefore, the proportion of the Mediterranean Sea covered by no-fishing zones when taking into account areas designated for managing fisheries reaches 0.06 %.

Concluding remarks on adequacy

Although the current trend seems to be the designation of large open sea areas, half of the Mediterranean MPAs are smaller than 8.65 km^2, which is less than the arbitrary criteria of 20 km^2 set by Wolters *et al.* (2015). That said, 38.28 % of MPAs are larger than 20 km^2.

Areas with strong protection levels (no-go, no-take or no-fishing areas) and designated purposely for conservation cover only 0.04 % of the Mediterranean Sea, or 0.15 % of the 0 – 12 n.m. zone, which is very far from the 2 % target agreed upon in the Tangier Declaration.

Lacking information on the management objectives of MPAs, the level of protection they provide, and the cumulative threats, it is difficult to draw conclusions as to whether MPAs are "adequate" or not.

It is therefore deemed particularly important to bridge this gap by gathering and structuring data on these 3 components.

Over the last few years, progress has been made to classify MPAs according to their level of protection (see Part 1 – Classifying MPAs for more details). These approaches could be applied to assess whether the size of the MPA and its management measures are in line with the management objectives and the threats occurring within or around the MPA.

To further assess the situation, the following elements are needed:

- data on regulations (per zone),
- data on threats,
- refinement of MPA typology to better reflect the various types of uses,
- typology on objectives.

Replication

BOX 13: Replication: key figures and fast facts

- In the Mediterranean Sea, a target of at least 3 replicates for each ecoregion would be reached in all ecoregions for [Posidonia] beds if we consider all MPAs, while it would be reached only for 4 out of 8 ecoregions if we consider only no-go, no-take or no-fishing zones.
- Replication varies greatly from one ecoregion to another due to an uneven distribution of MPAs across the basin.
- The number and size of replicates should actually be both feature and ecoregion specific.

What is replication?

Replication is "the protection of the same feature across multiple sites within the MPA network, taking biogeographic variation into account and ensuring natural variability of all features (Wolters *et al.*, 2015). HELCOM (2016) compares replication to an "insurance" for the MPA system, which prevents loss of features (species, habitats or ecological processes) from local environmental disasters by spreading risk and making sure not all eggs are in one basket, thus enhancing the resilience of the MPA system. Besides, replicated features can act as a source for re-colonisation if a similar feature is damaged. Replication also helps to cover a wider part of the natural variation of features (either at genetic level or within populations or communities), and provides stepping stones for the dispersal of marine species, thereby enhancing connectivity (Sciberras *et al.*, 2013).

Simply put, measuring replication for a given feature consists in counting the number of its replicates within the MPA system, and this for each ecological unit in the study area. Interpreting the results is, however, unfortunately, not as straightforward as it would first appear. Indeed, the minimum number and size of replicates to be protected for a particular feature depends on the vulnerability and resilience of the feature as well as on the level of risk regarding potential natural or human caused disturbances (OSPAR, 2007).
It is generally agreed that:

- The larger the study area is, the higher the number of replicates should be (Johnson *et al.*, 2014),
- The more vulnerable a feature is, the higher the number of replicates should be,
- Features located in high risk areas require greater replication than those in low risk areas.

[12] These figures are slightly different from the ones provided in the brochure presenting the main findings of this assessment, because the national FRA layer has been updated since the publication of the brochure.

Targets regarding the number and size of replicates, however, remain rather arbitrary. Generally, the minimum recommended number of replicates varies from 3 to 5 (Table 11), while recommendations on the minimum size of the replicates are more diverse. In the Baltic Sea and in the Celtic Seas, the minimum habitat patch size was set to 0.24 km^2. In Californian waters (USA), replicates should contain "sufficient representation of each habitat type", which means that they should be large enough to encompass at least 90 % of the habitat associated biodiversity, the latter being determined using a species-area relationship (Rondinini, 2010). In UK waters, a minimum viable patch size was assigned to each habitat and species of conservation importance.

Table 11: Targets set in other geographic regions regarding replication within MPA systems

Baltic Sea (HELCOM, 2016)	Californian waters (California Department of Fish and Game et al., 2008 ; Saarman et al., 2013)	Celtic Seas (Foster et al., 2017)	English Channel (Foster et al., 2014)	Great Barrier Reef Marine Park (Fernandes et al., 2009)	UK waters (Natural England and JNCC, 2010)
• 3 replicates (4 patches) for each seabed habitat, with a minimum patch size of 0.24 km^2	• At least 5 replicates (but a minimum of 3) containing sufficient representation of each habitat type within each biogeographical region, a replicate being considered sufficient when it is large enough to encompass at least 90 % of the habitat associated biodiversity	• Minimum patch size of 0.24 km^2 • 0-2 replicates: low replication • 3-5 replicates: moderate replication • ≥ 6 replicates: high replication	• At least 2 replicates for each EUNIS level 3 habitat • At least 3 replicates for OSPAR threatened and declining habitats and species • 5 replicates for priority species and habitats • At least 3, and preferably 5 or more replicates of each habitats	• At least 3-4 replicates within no-take areas	• At least 2 separate examples of each broad-scale habitat where their distribution allows within each regional conservation zone • At least 3 to 5 separate examples of each feature of conservation importance where their distribution allows within each conservation zone

Are there enough replicates of conservation features within the Mediterranean MPA system?

Seabed habitat replication was calculated within each ecoregion as the number of habitat patches larger than 0.24 km^2 covered by the MPA system. Habitat patches were obtained by intersecting EMODnet seabed habitat map with the MAPAMED dataset. This assessment was conducted for MPAs altogether, for nationally designated MPAs, and for no-go, no-take or no-fishing zones.

Figure 20 shows the results for each ecoregion and for the 3 following EMODnet seabed habitats: A4.26 or A4.32: Mediterranean coralligenous communities, A5.531: [Cymodocea] beds and A5.535 [Posidonia] beds.

The number of protected habitats patches larger than 0.24 km^2 shows great variation from one ecoregion to another: 361 patches of [Posidonia] beds (A5.535) are covered by MPAs (all designations together) in the Algerian-Provencal basin, but only 14 are found in the Levantine Sea. Such differences may be explained either by an uneven distribution of MPAs among ecoregions and/or by the fact that the seabed habitat map is not homogenous across the basin, therefore leading to a bias in favor of well mapped areas, especially when it comes to EUNIS level 4 or 5 habitats. Furthermore, Posidonia meadows do not naturally extend over the whole Levantine Sea, due to many factors (temperature, salinity, etc.) and for example, there are no Posidonia beds in Eastern Mediterranean coastal waters nor around the Nile delta.

Moreover, the results also greatly depend on the type of MPA considered. For instance, in the Algerian-Provencal basin, when considering all MPAs together, we count 259 patches of Mediterranean coralligenous communities (A4.26 or A4.32) while there are only 67 when considering only nationally

designated MPAs, and 9 when considering only no-go, no-take or no-fishing zones (Figure 20). It is therefore important to always specify what should be taken into account when setting targets. Indeed, in the Mediterranean context, a target of at least 3 replicates for each ecoregion would be reached in all ecoregions for Posidonia beds (EMODnet) if we consider all MPAs, while it would be reached only for 4 out of 8 ecoregions if we consider only no-go, no-take or no-fishing zones.

Concluding remarks on replication

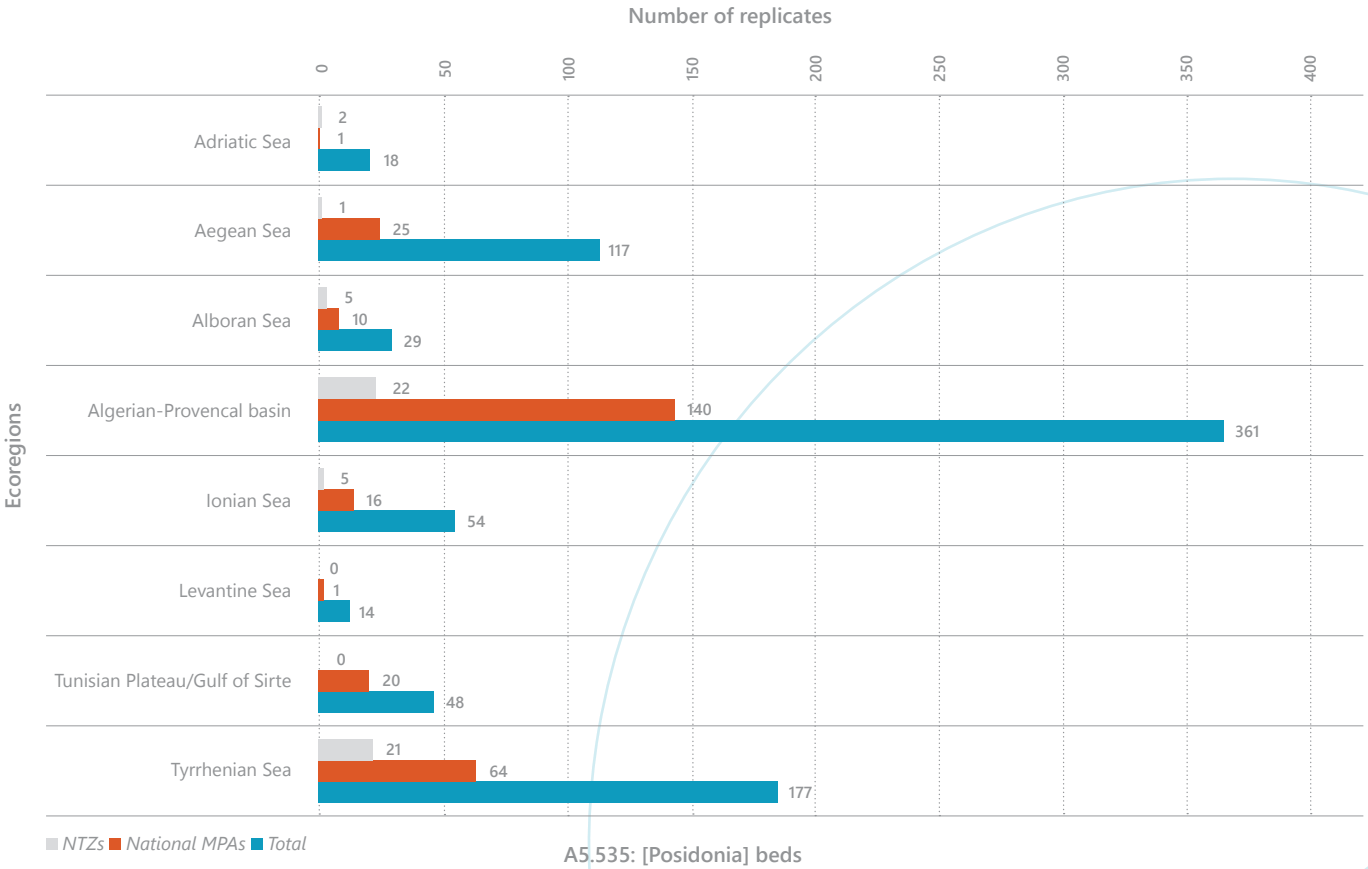
It appears from this analysis that replication varies greatly from one ecoregion to another due to an uneven distribution of MPAs across the basin. Efforts should therefore be undertaken to create new MPAs in poorly represented areas in order to increase the number of replicates.

That said, drawing further conclusions regarding replication at this stage remains quite challenging, due to data availability and methodological issues.

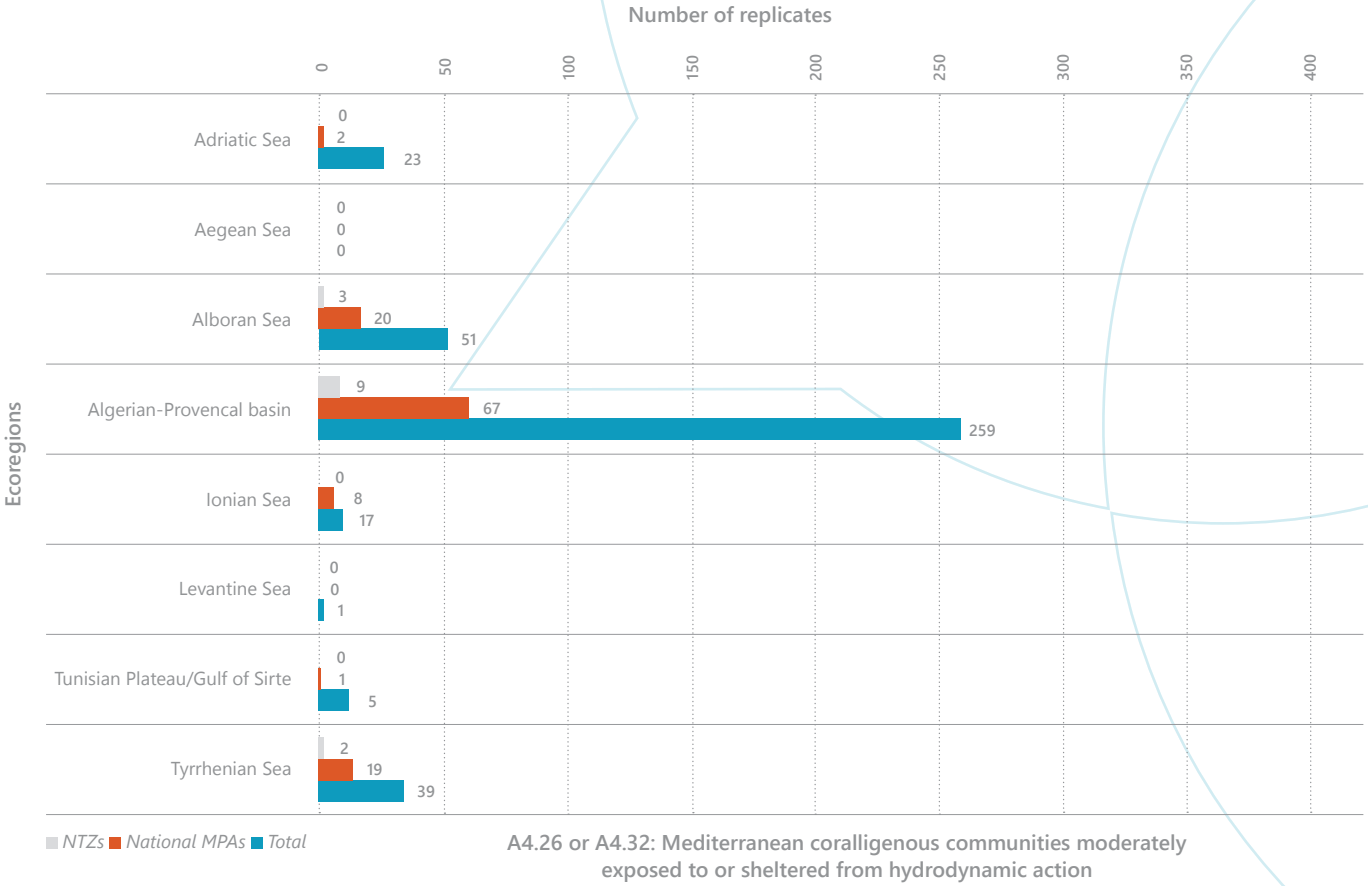
Here we have set the same target for all patches in all ecoregions, but the number and size of replicates should actually be feature specific, as well as ecoregion specific. Moreover, the actual level of protection should be considered if we are to define targets for replication.

Once again, the EMODnet seabed habitat map proved useful since it is the only homogenous Mediterranean scale habitat map to date. Efforts to refine such habitat maps, and to map other types of important areas, such as fish spawning grounds or turtles nesting beaches, should therefore be maintained. This way, future replication analyses could go one step further.

Besides, all patches are not necessarily comparable: some may be in good condition, others might be damaged or under stress, some may play an important role in connectivity, others might be more isolated... Current habitat maps do not incorporate this kind of information.



A5.535: [Posidonia] beds



A4.26 or A4.32: Mediterranean coralligenous communities moderately exposed to or sheltered from hydrodynamic action

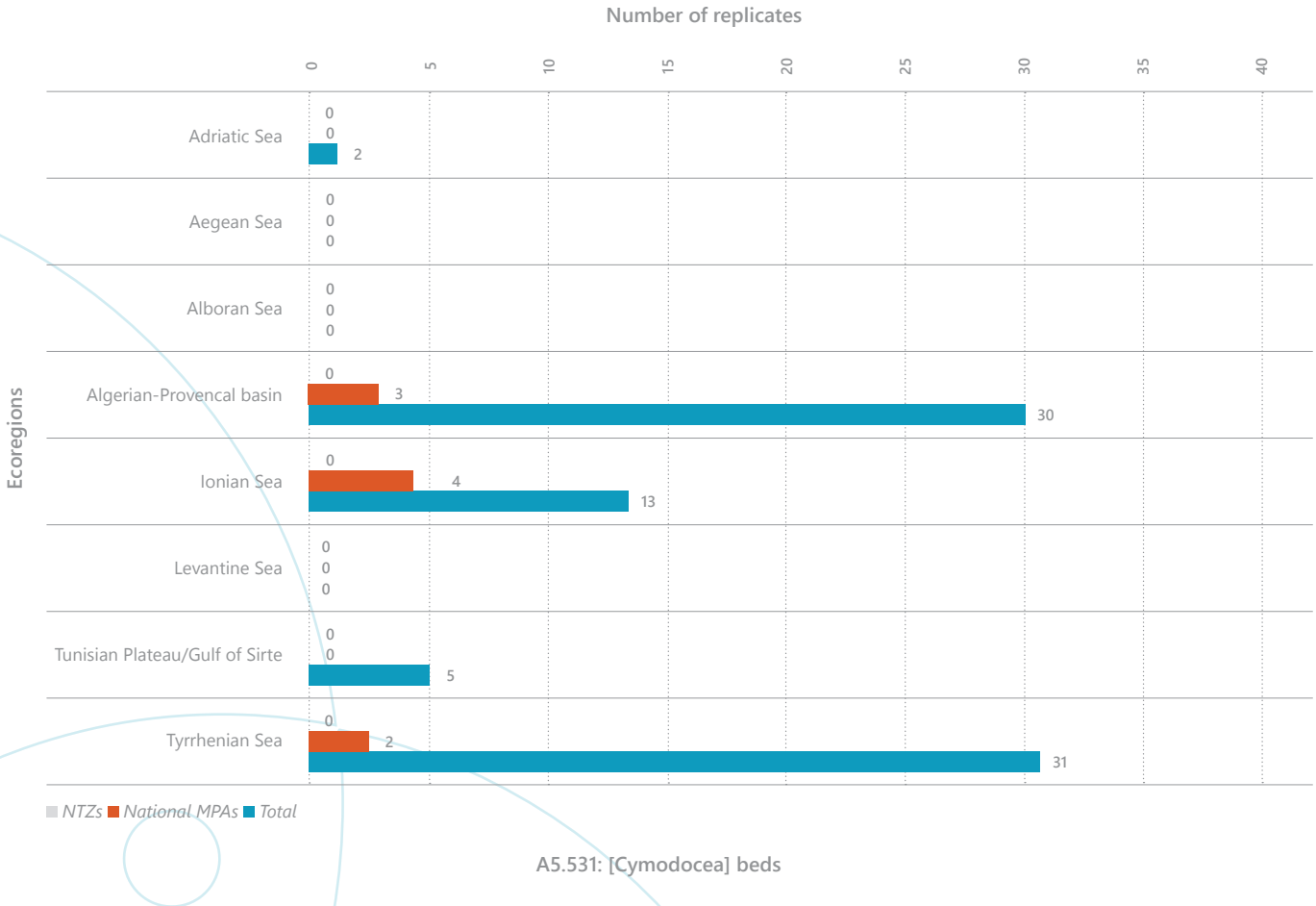


Figure 20: Number of habitat patches within the MPA system for each ecoregion, considering 1) all MPAs together, 2) only nationally designated MPAs and 3) only no-go, no-take or no-fishing zones. This figure clearly shows that results vary greatly depending on what kind of site we take into account.

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PART 4 – IS THE CURRENT SYSTEM OF MPAs EFFECTIVELY MANAGED?

What does management effectiveness mean and how to assess it?

Apart from MPA coverage and ecological coherence, the Aichi Target 11 also calls for "effectively and equitably managed [...] systems" of MPAs. Management effectiveness of an MPA is commonly defined as "the degree to which management actions are achieving the goals and objectives" of the MPA or MPA network (Pomeroy *et al.*, 2004).

MPA management effectiveness evaluation is a key step in the process of management. It should first and foremost be seen as a tool to help managers adapt and improve management by identifying what works, highlighting problems, setting priorities and reporting on achievements. It can also assist in effective resource allocation, promote accountability and transparency, help involve the community, build consistency and promote protected area values.

In 2000, Hockings *et al.* proposed a framework for assessing management effectiveness of protected areas, which was updated in 2006. It considers the management process as a 6-step cycle which is repeated over and over, thus allowing information concerning the past to feed back into and improve the way management is conducted in the future (Figure 21). This initial framework served as a basis for the development of several methodologies to assess MPA management effectiveness (Ervin, 2003; Pomeroy *et al.*, 2004; Staub and Hatziolos, 2004; Stolton *et al.*, 2007; Tempesta and Otero, 2013). These methodologies range from rapid, scorecard-type, qualitative systems to detailed, lengthy evaluations involving stakeholder group discussions and collection of monitoring data.

In its most basic form, assessing management effectiveness consists of determining to what extent the goals and objectives of the MPA are achieved, regardless of what management measures have been implemented. However, such an outcome-oriented approach has little explanatory power since it does not examine possible links between the management outcomes and other parts of the management cycle. Therefore, it provides little insight as to what could

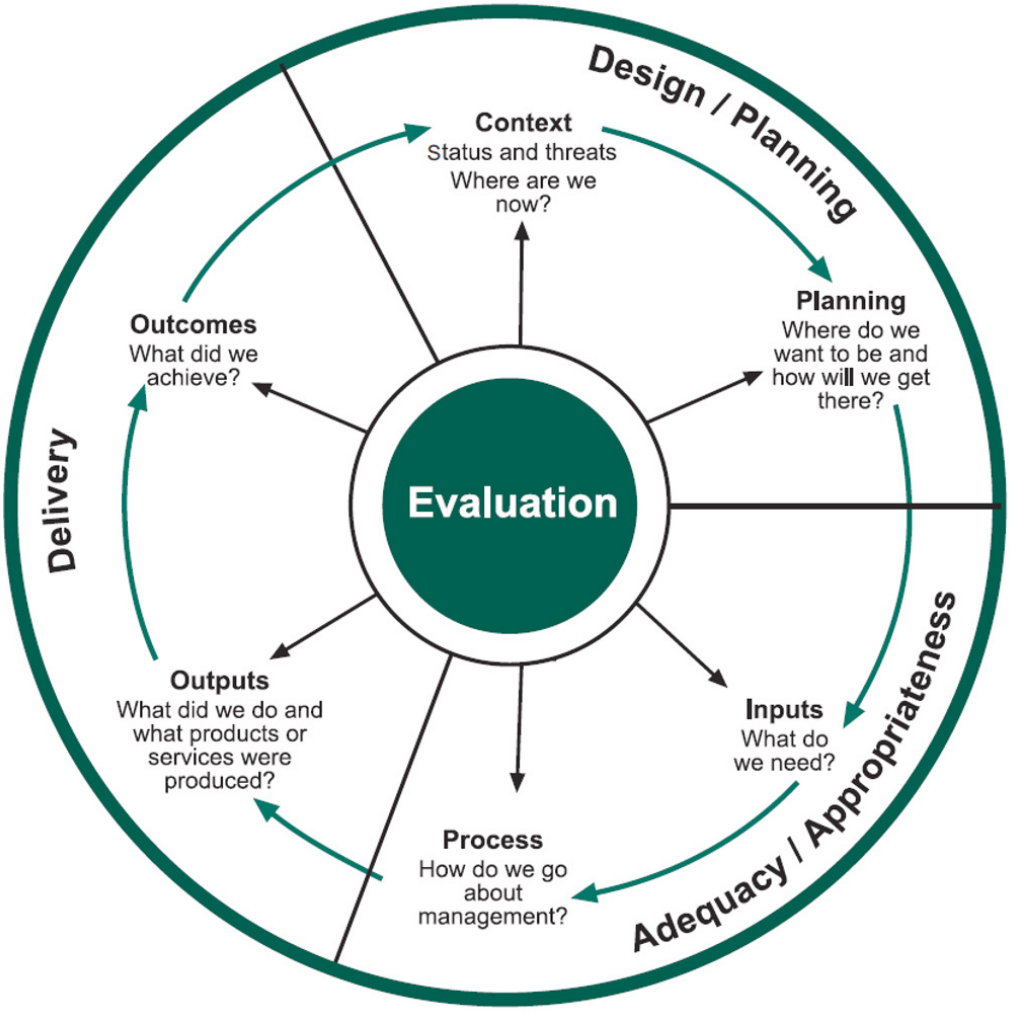


Figure 21 : Le cycle et l'évaluation de la gestion des aires protégées proposés par Hockings *et al.* (2006)

be done to further improve management. Instead, it is generally acknowledged that a comprehensive management effectiveness evaluation requires that all 6 steps of the management cycle are assessed to identify shortfalls and any need for improvement.

However, some steps are particularly difficult to assess, especially the outcomes. Indeed, despite being a key step for adaptive management, monitoring the management outcomes is often skipped, incompletely addressed or conducted opportunistically rather than systematically due to lack of time and resources (money, staff, expertise, etc.). The results (presented below) from the survey conducted with MPA managers confirm this issue. In many cases, only expert judgement can be used as an indicator of management effectiveness. Moreover, each MPA has its own context and management objectives. It is therefore difficult to come up with a comprehensive assessment of management effectiveness at national or regional scale. Most methodologies actually focus on the capacity to manage rather than management effectiveness, and this analysis is no exception.

The capacity to manage encompasses the first 4 steps of the management cycle:

- **Context:** MPA significance, values, threats, vulnerability, stakeholders...
- **Planning:** MPA legislation and policy, design, management planning...
- **Inputs:** MPA resources (staff, funds, equipments, infrastructures...)
- **Process:** management measures implemented (surveillance, restoration, regulations...) and monitoring.

These steps can be considered as pre-conditions for effective management.

Another novel approach for assessing management effectiveness, although still around the first 4 steps (capacity), takes into account organisational science. Scianna *et al.* (2015) observe that, the effectiveness of an MPA is influenced by its organisational dimension and that the tools provided by the organisational science framework could help assess the socio-ecological effects of MPAs. Analysing thousands of papers worldwide, they did not find any using the comprehensive organisational science approach formally but several studies used some of the elements. In this analysis, the organisational variables included centralisation (regarding the way decisions are made), formalisation, professionalism, size, networking, vision, compliance, goals and strategy. To some extent, this approach is linked to the business models advocated by Armstrong (2009), Alder *et al.* (2002) and Sala *et al.* (2013).

Other interesting works looking at MPA performance in relation to fish and fisheries specifically include that of Gill *et al.* (2017) who looked at over 200 MPAs worldwide and fish population data, as well as that of Di Franco *et al.* (2016) who identified 5 key attributes in the management of small scale fisheries in MPAs. In the first study, human and financial capacity is identified as essential to the performance of MPAs to successfully protect fish populations. In the second, looking at 25 Mediterranean MPAs, authors show that fish stocks are healthier, fishermen incomes are higher and the social acceptance of management practices is fostered if the following attributes are present: high MPA enforcement, presence of a management plan, fishermen engagement in MPA management, fishermen representation in the MPA board, and promotion of sustainable fishing.

For the purpose of this regional report, an online survey was developed by MedPAN and SPA/RAC, and sent to 180 Mediterranean MPAs (mostly nationally designated MPAs) in June 2015 to collect data about various aspects of management. This survey was mostly made of closed questions to facilitate result interpretation and comparison although the respondents also had the option to provide further information through open questions. Many questions were extracted, adapted or inspired by several existing management effectiveness evaluation methodologies (Stolton *et al.*, 2007; Tempesta and Otero, 2013 mostly). Additional questions were included to collect specific information, particularly about uses and pressures in and/or around the MPA. Out of 180 MPAs contacted, 74 replied (6% of the 1 215 sites). The following section presents the results of this survey.

Are conditions favourable for MPAs to ensure an effective management?

IMPORTANT NOTICE:

Results presented here only apply to the pool of MPAs that replied to the survey in 2015 (6% of all existing designations) and cannot be generalised to all Mediterranean MPAs. Indeed, chances are that MPAs which contributed to this survey are among the best managed in the Mediterranean Sea, where a manager or a contact person could be identified. The reader must therefore consider that there is a strong response bias, and that these results therefore show the most optimistic estimate of the situation. Also, it is to be kept in mind that the majority of these responding MPAs are national designations.

Moreover, the reader should keep in mind that these results reflect the opinion of the managers, and no other stakeholders were consulted to offer a different point of view.

Box 14: Management: key figures and fast facts

- More than half the surveyed MPAs reported having either partial baseline data or no baseline data at all (habitat maps, ecological data and socio-economic and social data).
- Generally speaking, the boundaries and zoning, the governance and the regulations are rather clearly defined in the legislation. It seems however that enforcement procedures often need clarifications or should be defined.
- 27 % of surveyed managers mentioned having no management plan at all (or equivalent document), 20 % reported having either a management plan in preparation or ready but not implemented, 21 % replied having a management plan only partially implemented due to funding constraint or other problems, and 32 % mentioned having a management plan implemented.
- 44 % of surveyed MPAs consider the staff number is below optimum level for critical management activities and only 10 % say it is adequate for the management needs.
- At least 50 % of surveyed MPAs have an operating budget equal to or less than €200 000/y. As a comparison, it is estimated that the annual operating needs for effective management of Mediterranean MPAs amount to €448 411.
- More than half the surveyed managers either have no dedicated budget at all (24 %) or a budget inadequate for even basic management needs, which presents a serious constraint on the capacity to manage (29 %).
- Most of the surveyed managers consider regulations in their MPA is either satisfying (37 %) or acceptable although not ideal (29 %).
- Patrolling and surveillance are conducted for the majority of MPAs but only regularly and sufficiently for 31 % of the surveyed MPAs, and there is no patrolling at all in 20 % of them.
- Although 37 % of the respondents reported having a good monitoring and evaluation system that feeds back into management, most of the surveyed managers reported either having no monitoring at all (15 %) or having only sporadic or opportunistic monitoring and evaluation with no overall strategy (38 %).

Context

A good knowledge and understanding of the context is essential to set objectives, to plan and implement appropriate management measures. In particular, managers need to know what the values of their MPA are (from both biological and socio-cultural perspectives), what is their significance and what threats they face. Besides, knowing the stakeholders, the local communities and their perception with regard to the MPA is also very important to be in a position to build trust and foster their involvement and compliance, as is with visitors' profile (Martin *et al.*, 2017).

Regarding baseline data, more than half of the surveyed managers mentioned having only partial information that require to be completed to better meet the management needs, either for habitat maps (56 %, N=52), for ecological reference data (58 %, N=52) or for socio-economic and cultural reference data (63 %, N=51) (Figure 22). A smaller yet still important portion of them mentioned having no data at all (6 % for habitat maps, N=52, 8 % for ecological reference data, N=52, and 23 % for socio-economic and cultural reference data, N=51).

Overall, the knowledge gap regarding reference data seems larger when it comes to socio-economic and cultural information: 48 MPAs reported having complete or partial ecological reference data as well as full or partial habitat maps, but 8 of them actually have no cultural and socio-economic reference data.

Baseline data is fundamental in order to adopt the appropriate management measures, monitor effectiveness over time and allow adaptive approaches. For these reasons, it appears clear that priority should be given to allocating the necessary funds and human capacity to secure such knowledge.

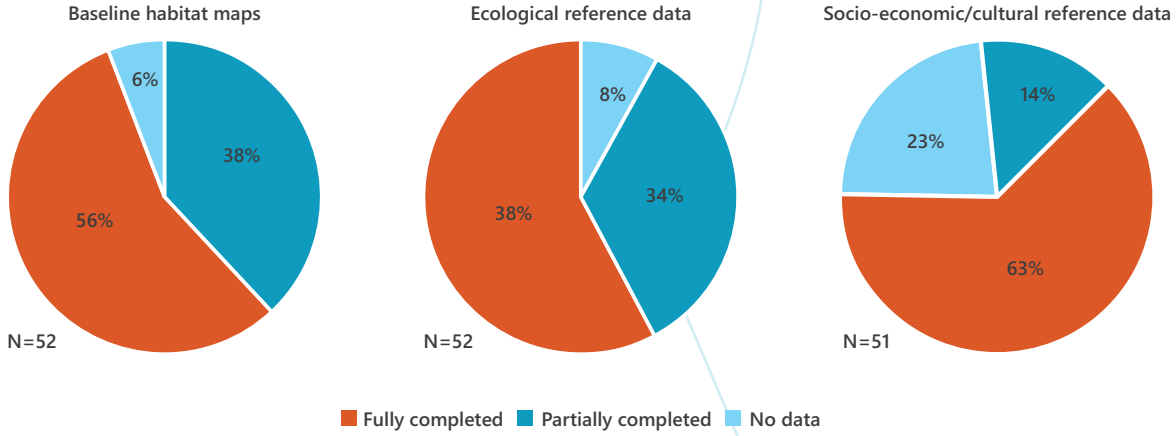


Figure 22: Availability of baseline data in surveyed MPAs

In this survey, some data was collected on functional areas that are important in the life cycle of a number of species, taxa or genus for 74 MPAs (see Appendix 05). Regarding some key species of importance for these MPAs, information was also sought on whether their presence justified the designation of the MPA, if the status of the given species is being monitored and if it is subject to specific conservation or restoration measures.

Regarding functional areas, out of the 74 sites, 50 % (N=37) have birds, marine mammals and/or fish wintering grounds; about 39.2 % (N=29) have fish and/or sea turtles feeding area; 47.3 % (N=35) have fish nursery(ies); 40.5% (N=30) have fish spawning grounds; 16.2% (N=12) have a resting area used by marine mammals and/or large fish; sea turtles nesting beaches are found in 9 of these MPAs and caves where monk seals breed are present in 8 of these sites.

Out of the 74 MPAs, 39 provided information concerning the key species found in their MPA. Each MPA could list up to 10 species. For each of the reported species, managers were asked whether this species:

- justifies (at least partly) the designation of the site as MPA,
- is monitored in the MPA,
- is subject to specific conservation or restoration measures in the MPA.

The species most often reported by managers are the noble pen-shell *Pinna nobilis* (N=18), the Neptune grass *Posidonia oceanica* (N=15), the loggerhead turtle *Caretta caretta* (N=15) and the dusky grouper *Epinephelus marginatus* (N=11) (Appendix 05). It is reasonable to assume that any species justifying the creation of an MPA should be monitored. However, this is not always the case in the field. For instance, out of the 13 MPAs which said *Pinna nobilis* justified the designation of the site, only 10 confirmed it is monitored in the MPA. Similarly, 10 MPAs mentioned *Caretta caretta* as justifiying the creation of the MPA, but only 8 reported monitoring this species. The information provided by MPA managers could allow comparison between sites when monitored (if methodologies are compatible) and could allow to observe trends over the region. Experience could also be shared on the management measures being implemented or restoration initiatives.

Regarding the legal framework, most of the interviewed managers (91 %, N=66) reported that the boundaries and zoning of their MPA was clearly defined in the legislation (Figure 23). Similarly, about two thirds of the interviewed managers reported that MPA governance (66 %, N=62) and regulations (69 %, N=64) were clearly defined in the legislation. However, legal texts seem to be less detailed when it comes to enforcement procedures (administrative fines, penalties applied, etc.), with 43 % of the interviewed managers expressing a need for clarification and 11.5 % mentioning that enforcement procedures were not defined in their legislation (N=61).

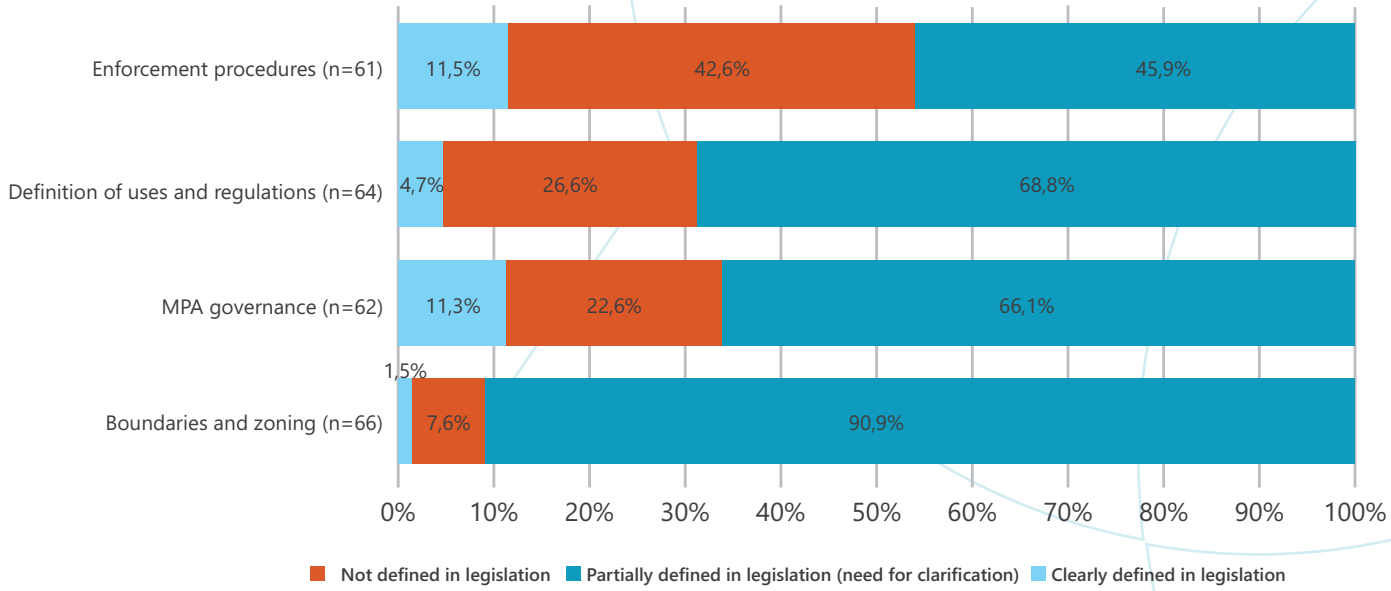


Figure 23: Legal framework in the surveyed MPAs

Regarding stakeholders involvement and support, a large part of interviewed managers (51 %) consider cooperation with stakeholders is fair, with some stakeholders cooperating, but still some suspicion toward the MPA or a lack of understanding (N=59). About a third (34 %) of interviewed managers consider cooperation is good with stakeholders. However, 10 % of them reported cooperation is nonexistent (Figure 24).
Besides, a large part of interviewed managers reported their MPA was either well (43 %) or partly (49 %) recognised by local planning authorities and taken into account in local land planning policies (N=65).

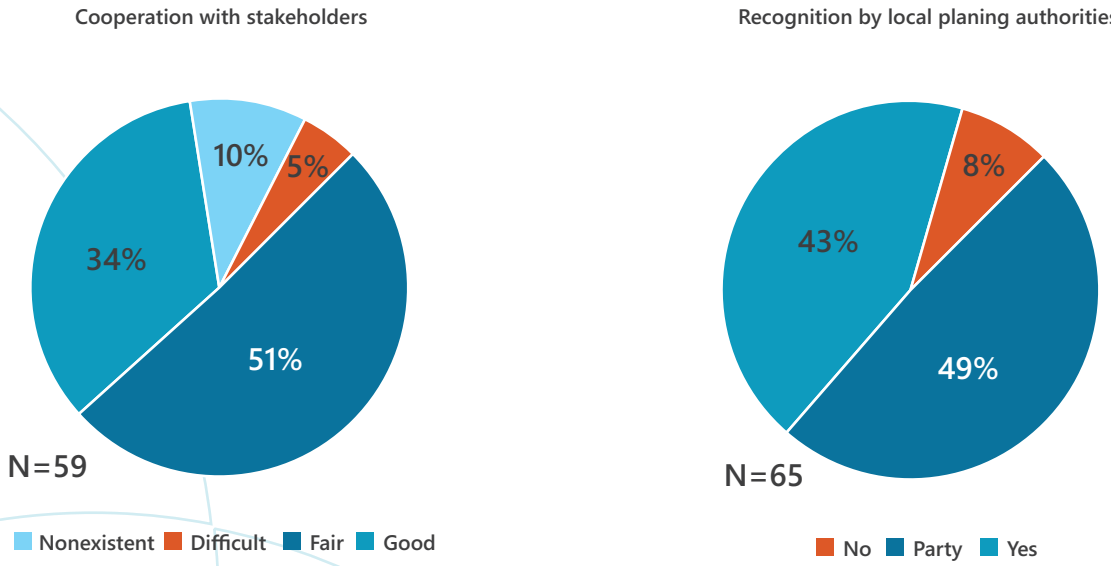


Figure 24: Cooperation with stakeholders and recognition by local planning authorities for surveyed MPAs

While engaging stakeholders and securing their participation and involvement is key to the acceptance of an MPA at local level, and plays a role towards compliance (Pomeroy and Douvere, 2008; Walton *et al.*, 2013; UNEP-MAP-SPA/RAC and IUCN, 2013), recognition by local planning authorities means the value of the site is considered by the local decision makers and the MPA is more likely to be considered in coastal zone management policies and MSP (Portman *et al.*, 2013; Brown *et al.*, 2002; Prévost & Robert, 2016).

Management planning

Regarding management planning, responses to the survey are highly variable from one MPA to another: 27 % of surveyed managers mentioned having no management plan at all (or equivalent document), 20 % reported having either a management plan in preparation or ready but not implemented, 21 % replied having a management plan only partially implemented due to funding constraint or other problems, and 32 % mentioned having a management plan implemented (N=66) (Figure 25).

Among the 35 MPAs that have a management plan that is being at least partially (N=14) or fully implemented (N=21), 22 of them said the management objectives are clearly defined in the written plan.

Among the managers who reported having a management plan implemented, 81 % also mentioned the management plan was either regularly reviewed and updated or less than 10 years old (N=21). However, when considering MPAs where the management plan is only partially implemented, this proportion drops to 36 % (N=14), and to 23 % in MPAs where the management plan is either not implemented or in preparation (N=13).

Box 15: Management planning in marine Natura 2000 sites

Only four Natura 2000 sites replied to the survey (all other respondent MPAs were nationally designated sites). In order to have a better idea of management planning within Mediterranean marine Natura 2000 sites, we therefore used the EEA Natura 2000 dataset (end 2016 release). The results show that:

- 23 % of Mediterranean marine Natura 2000 sites have a management plan (although no information is available as to whether these management plans are implemented or not),
- 10 % have a management plan in preparation,
- 35 % have no management plan,
- 32 % have not reported this information.

With more than two thirds of the sites having either no management plan or missing information about management planning, there is a clear need to bridge the data gaps and develop management plans in marine Natura 2000 sites and secure capacity to implement it.

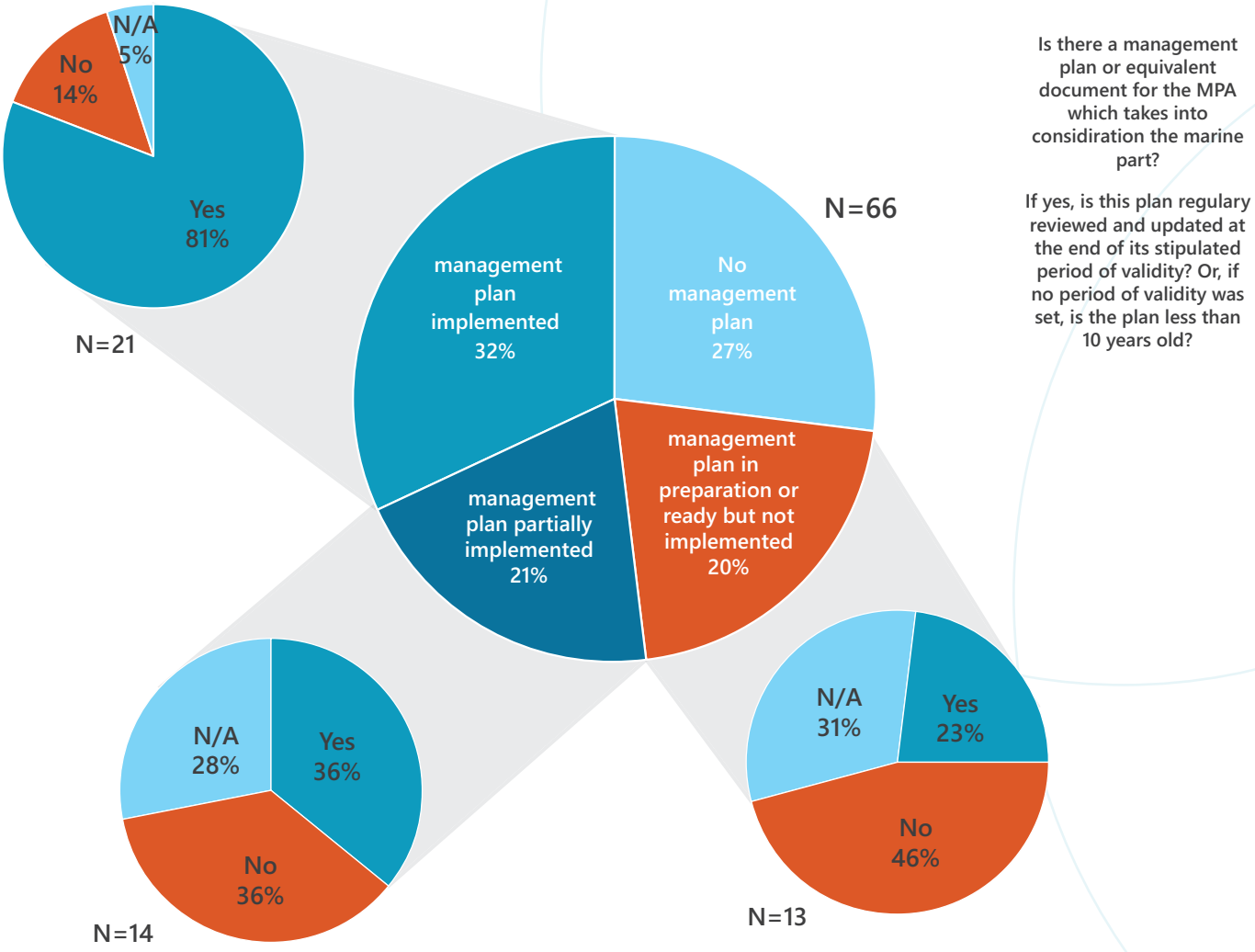


Figure 25: Management planning in surveyed MPAs (N/A= "No answer") for surveyed MPAs

While the presence and implementation of a management plan provides information on whether there is actual management, the results from the above sample of MPA managers merely provides information for that sample and cannot be generalised to the 1 215 MPAs.

If we combine data among MPAs that stated to have a management plan (21 % partially implemented and 32 % implemented management plan) we can suppose a slight improvement on management planning in the Mediterranean. In 2008, only «26 (42%) respondents stated that there is a management plan in place» (N=57; Abdulla *et al.* 2008).

The conclusions that can be drawn from the above results is that, unsurprisingly, there is a need not only for more nationally designated MPAs and Natural 2000 sites to develop a management plan, but also for these plans to be implemented. Management planning and operational management need to be supported financially and technically to manifest conservation results that Mediterranean countries have engaged in providing.

Ressources

Staff

Most surveyed MPAs consider the staff number is below optimum level for critical management activities (44 %) and only 10 % say it is adequate for the management needs (N=57) (Figure 26). Also, the majority of MPAs say that either staff is untrained, lowly trained or that training could be improved with only 30 % saying that training is adequate (N=47).

For 42 MPAs who answered the question, the total number of staff, both field based and administrative (full-time equivalent, permanent and regular under a contract of at least one year) ranged from 0 to 40 people with a median of 6, which means that at least half of these 42 MPAs (23 actually) have a staff number below or equal to 6.

For 30 MPAs who answered, the number of field staff (full time equivalent and under a contract for more than a year) varies between 0 and 30 with a median of 2. About two thirds (21) of these 30 MPAs have a field staff number below or equal to 2. Seasonal and temporary staff are common practice in MPAs and some MPAs rely fully on volunteers. These figures could be analysed further in relation to MPA size, objectives and activities and the social context of the site. As for the needs for training and capacity building, MedPAN is exploring the setting up of a permanent training mechanism to respond to the needs that will be identified directly by MPAs in a number of domains.

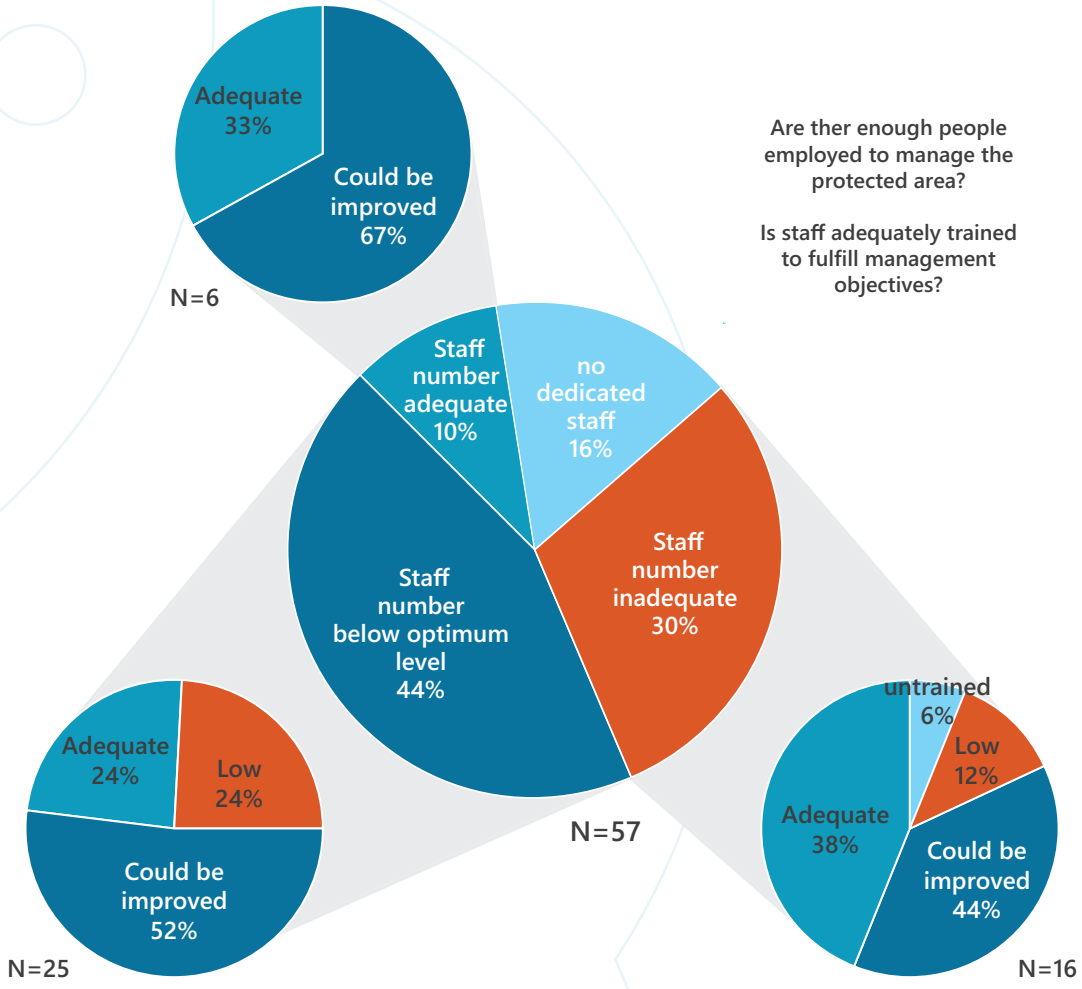


Figure 26: Staff number and training in surveyed MPAs

Budget

Out of 37 answers, the operating budget of the MPA ranged from 0 to close to 4 million euros, with an average of €399 619/y. However, this last figure is actually pulled up by a few outliers. In reality, at least 50 % of these MPAs have an operating budget equal to or less than €200 000/y (which represents the median). As a comparison, in a study on the sustainable financing of MPAs, Binet *et al.* (2015) estimated, based on the answers provided by 13 MPAs, that the annual operating needs for effective management of Mediterranean MPAs amount to €448 411 (Box 16). Of course the operating needs depend on several factors (staff salaries, location, objectives, pressures, MPA size, etc.) and vary greatly from one MPA to another, but this estimation gives an order of magnitude at regional scale. These results clearly highlight the need to find solutions to improve MPA funding, and are in line with the perception of MPA managers. Indeed, only 5 % of the 55 MPAs surveyed within the framework of the present study reported having enough budget to cover all their management needs (Figure 27), whereas more than half either have no dedicated budget at all (24 %) or a budget inadequate for even basic management needs, which presents a serious constraint on the capacity to manage (29 %) (N=55).

Among the 21 MPAs which consider their budget acceptable, although not ideal, 24 % mentioned this budget was not secured and 28 % reported that only a small portion of it was secured and that the MPA could not function adequately without outside funding. All MPAs that reported having enough budget to meet their management needs also mentioned this budget was secure.

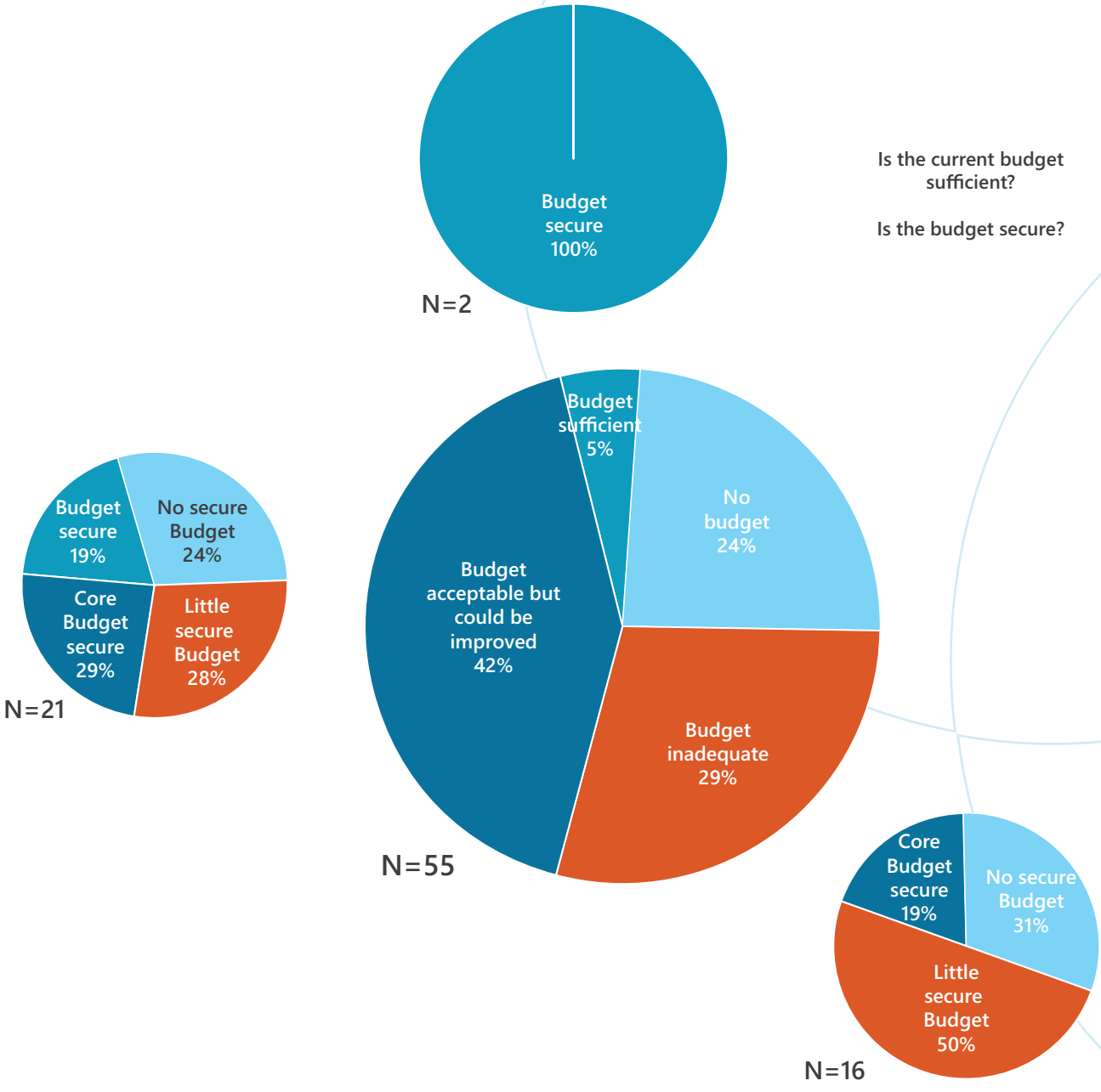


Figure 27: Budget in surveyed MPAs

Box 16: Sustainable financing of Mediterranean MPAs

Binet *et al.* (2015) conducted an assessment of financing needs and gaps for effective management of Mediterranean MPAs. This study was conducted at two different scales. At local scale, the current financial situation and the financing needs (under various scenarios) were assessed for a representative sample of 20 MPAs. In parallel, at national level, the annual resource mobilisation devoted to MPAs was evaluated in 17 countries of the Mediterranean Sea.

The Mediterranean MPAs studied in this survey show an average level of available finances of €18 500 per km2 per year, human resources being the main expenses (current scenario).

But Mediterranean MPAs face large underfunding. Official data from 14 countries studied show that total available resources for MPA systems are in the region of €52.8M per year. This should be compared with the financial resources for effective management of existing MPAs. In the framework of the optimal management scenario, estimates for such needs for existing MPAs at national level show a total financing gap of €700M per year (investment costs included). As a result, there is an urgent need to consider an increase in current funding for existing MPAs in the Mediterranean region, given that only 8% of the financing needs for effective management of MPAs are covered by current resources.

To reach the 10% quantitative part of the Aichi Target, an additional 80 328 km^2 (3.19 % of the Mediterranean) would need to be placed under strong protection designations that also target currently under-represented features.
For the purpose of their financial assessments, Binet *et al.* (2015) however used the figure of 49 000 km^2, looking at the 10% surface of the coastal area to be protected (i.e. MPAs to be created within in the 12 nm zone by 2020). They found that considering current and projected resources over the period 2015-2020, and the need to effectively manage existing MPAs as well as the ones that are to be created (or extended), the total financing gap for attaining the ideal management scenario is over €7 billion up to 2020.

While many MPAs rely fully on funds from the national government in their early phase, others at a latter stage need to complement their budget either because funding from the national government is reduced, insecure or irregular. Out of 74 answers from MPA managers, 13 said they relied on incomes from entry fees, taxes, concession fees, diving permits, fines from infractions (...) as their main source of funding; 8 said they relied on international donors and other organisations as their main source of funding (regardless of whether they received the budget directly or via another structure); only 5 respondents said their main part of the budget came from the private sector; and 32 rely principally on public authorities (whether local, sub-national or national). Then a large variety sources was also identified such as EU funded projects, Foundations, NGOs, etc... In effect, there is little sustainable financing within the system of MPAs in the Mediterranean, especially with regard to self-financing mechanisms. These tendencies are confirmed in the study of Binet *et al.* (2015).

In 2015, the Association for the sustainable financing of Mediterranean Marine Protected Areas (The Medfund) was created by the governments of Monaco, France, Tunisia and the Prince Albert II of Monaco Foundation. This organisation has set up a conservation trust fund that has received financial contributions from the Government of the Principality of Monaco and, more recently, new donors such as the Leonardo di Caprio Foundation, Basel Zoo and the Oceanographic Museum of Monaco. This trust fund aims at providing targeted financing for Mediterranean MPAs, with an initial focus on projects in Morocco, Tunisia and Albania.

Equipment

Among 55 responses, 22 % of the managers deemed the equipment and facilities adequate for their management needs while 40 % said there were still some gaps that constrain management (Figure 28). The remaining 38 % of respondents either said equipment was inadequate, not sufficient or that there was none at all. This last figure is likely to be rather representative of the situation at Mediterranean scale. This means that MPA managers need to clearly express their needs for equipment in relation to management objectives and demonstrate how management can be hindered when lacking that equipment. This can then justify either request for funding from public authorities, governments, sponsors or other sources, setting up innovative mechanisms or answering various calls for projects.

Activities

Regulations

Most of the surveyed managers consider regulations in their MPA is either satisfying (37 %) or acceptable although not ideal (29 %) (N=49). That said, 12 % reported having no regulations at all and 22 % mentioned existing regulations were inadequate (Figure 29). This means that about two thirds of the sample of MPAs experiment difficulties concerning regulations let alone implementing them, a fact which is likely to be representative of the rest of the Mediterranean MPAs.

Surveillance and Enforcement

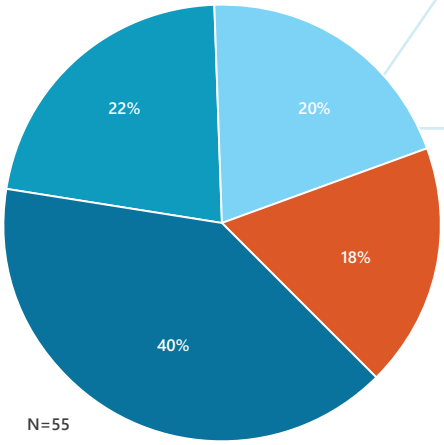
To begin with, users need to be aware of the regulations and boundaries of the MPA in order to respect the rules, and for managers to be able to do their surveillance or awareness raising work adequately. However, out of 50 answers from MPAs, only 13 (26 %) confirmed that the MPA's boundaries, zoning and associated regulations are well known by users, and 20 (40 %) said that either these were little known with a clear need to improve the MPA visibility (N=12), or that none of these were known at all (N=8). A further 17 respondents said that the MPA visibility could be further improved.

Patrolling and surveillance are conducted for the majority of MPAs but only regularly and sufficiently for 16 sites out of 51 (31 %), and there is no patrolling at all in 10 out of 51 sites (20 %). This last figure can partially be explained by the type of designations these sites have been declared under, such as Plan for Areas of Natural Interest (Spain) or Natural Monuments (Slovenia). These designations may perhaps not require the same degree of patrolling, although this would need to be checked as some MPAs do have a no-access or no-take zone, yet no surveillance. When patrolling occurs, 39 managers provided information on how this was done. In 21 sites, the MPA staff undertakes the surveillance together with other players or occasionally supported by other enforcement bodies (such as coast guards, customs services, fisheries administration, etc.), and in 17 sites, it is mostly or only other enforcement bodies who patrol.

It is widespread knowledge that the number of hours of surveillance are linked to enforcing regulations, if not the only factor (Pomeroy *et al.*, 2005; Di Franco *et al.*, 2016; Bustamante *et al.*, 2014; Gabrié *et al.*, 2012). From our survey, for 27 sites, between 24 and 55 000 hours of surveillance per year were recorded. In this sample, the number of hours does not necessarily increase as the size of the MPA gets bigger and is probably reliant on the capacity and budget.

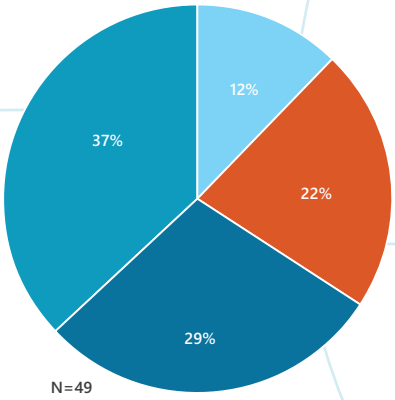
Further research looking at cumulative time spent doing surveillance in relation to the conservation objectives, type of designation, staff involved, other players patrolling, the available equipment and budget, (etc.) would help pinpoint the needs of managers. For example, when looking just at the 18 out of the 27 answers where the level of confidence was 'good' to 'excellent' concerning the cumulative number of hours spent doing surveillance, we observe the following: most are in European countries and nationally designated; just over half have a strictly protected sub-zone(s) (either no-access or no-take/no-fishing); just under half of the sites have at least some staff legally registered to perform the duties of a police officer, and only 4 do not apply penalties when recording violations, while 13 apply the penalties (at least for a portion of recorded infractions).

Regarding the capacity to enforce and whether a system is in place, over half of the respondents out of 42 were not satisfied with their current situation either because they have no protection system at all (such as patrols, permits, etc.) or because it is ineffective at controlling access or resource use (N=9), or because their protection systems is only partially effective to enforce regulations due to major deficiencies (e.g. lack of skills, no patrol budget, problems with legal processes, MPA too large...) (N=13). The other half were satisfied with 7 having a fully operational and effective system and 13 having an acceptable capacity to enforce with some deficiencies remaining. This area needs to be improved as compliance with the rules and regulations decreases when enforcement procedures are weak (McClanahan *et al.*, 2006;



- There is little or no equipment and facilities for management needs.
- There is some equipment and facilities but these are inadequate for most management needs.
- There is equipment and facilities, but still some graps that constrain management (not in use/not maintained...).
- There is adequate equipment and facilities.

Figure 28: Equipment availability in 55 surveyed MPAs



- There are no regulations for controlling uses and activities in the MPA.
- Some regulations for controlling uses and activities in the MPA exist but there are major weakness.
- Regulations for controlling uses and activities in the MPA exist but there are some weakness or gaps.
- Regulations for controlling uses and activities in the MPA exist and provide an excellent basis for management.

Figure 29: Regulations and enforcement in 49 surveyed MPAs

Keane *et al.*, 2008; Agardy *et al.*, 2011; MedPAN, 2013). While in some cases raising awareness of occasional offenders can work, repeat offenders will recurrently breach the rules when offenses are not prosecuted. Besides the need for clear procedures and their implementation, knowledge of the social context, of the profile of offenders operating in the vicinity, and understanding of the drivers behind infractions are important for adequate measures to be set up (Read *et al.*, 2015; OECD, 2017; Recio-Blanco *et al.*, 2016; Martin *et al.*, 2017).

These results corroborate the observations presented in the previous paragraphs. However such trends cannot be generalised to all Mediterranean MPAs, partly because the wide array of different designations means that the protection system will vary accordingly and partly because it is likely that the number of positive answers regarding a protection system is higher in the present sample than it would be if we had the information for all the 1 215 sites.

Out of 22 MPAs who reported about the intensity of non-extractive infractions (e.g. trespassers), 8 said it was medium (N=3) to high (N=5) and 14 said it was low (N=13) or inexistent (N=1). These same MPAs reported on the intensity of extractive infractions (e.g. fishing, harvesting, picking red coral…), and 11 of them said it was medium (N=7) or high (N=4) and 11 said it was low (N=10) or inexistent (N=1). The answers were too few to be able to make a relation with what management power the MPA have on infractions and draw out trends or correlations. More research is needed on this particular topic that would also include contextual information.

Monitoring

Regarding monitoring, although 37 % of the respondents reported having a good monitoring and evaluation system that feeds back into management, most of the surveyed managers reported either having no monitoring at all (15 %) or having only sporadic or opportunistic monitoring and evaluation with no overall strategy (38 %) (Figure 30).

As mentioned in the context section, far from all MPAs have baseline data (38 % have mapped habitats, N=52 - 34% have an ecological reference, N=52 - and 14% have a socio-economic and cultural reference, N=51) which may be partly linked to the fact that 53% don't monitor the MPA or only sporadically. Out of these MPAs that have ecological reference data, 23 have a good monitoring and evaluation system that is well implemented, 19 of which use for adaptive management and 4 of which don't.

Assessment of socio-economic benefits of MPAs

Eleven sites have studied the benefits brought by their site for social and economic aspects, although we also know that additional MPAs that did not answer the questionnaire have undertaken such work, such as in Port-Cros National Park in France (Landrieu, 2013). Four of the 11 respondents confirmed their study has been published (Roncin *et al.*, 2008; Fakotakis *et al.*, 2016; Franzese *et al.*, 2015; Bann *et al.*, 2011) and some are in preparation. Others appear in grey literature or have been showcased at various events (such as the unpublished "Socio-economic benefits of Gökova SEPA, Turkey: Special emphasize to small-scale fisheries" - Ünal, 2015).

Out of those 11 MPAs, 3 mentioned they identified a major flow of economic benefits to local communities from activities associated with the MPA, and a significant proportion of this derives from activities on the park (e.g. employment of locals, locally operated commercial tours, etc.). Four reported that the potential economic benefits are recognised and that plans to value these are being developed. And 4 say that there is some flow of economic benefits to local communities but that this has been identified as of moderate importance for the local economy.

Communication

Establishing communication between the MPA authority and the different users of a site has long been identified as important for planning, managing, and recognition of the value of the MPA by stakeholders, and for compliance to name just a few reasons (Agardy, 2000; Marques *et al.*, 2013; Young *et al.*, 2016). Through the questionnaire, an attempt to understand the context in general and then in relation to each type of stakeholder was carried out. Out of 48 respondents, only 7 said that there is an approved communication programme/plan/strategy that is being used to build support for the MPA amongst relevant stakeholders, and another 7 said they had such plans but that implementation was limited. Half of the managers who answered said that there is some communication between managers and stakeholders but on an ad hoc basis and not part of a planned communication programme. And 9 have little or no communication with stakeholders. Out of 49 answers on communication with economic actors and local population, over half said they had reasonable communication (27) and 2 more said it was excellent. Strangely, 2 said it was not relevant for their MPA yet these two sites are known to be under tremendous pressure or potential threat from either the tourism industry or maritime traffic. Concerning communication towards tourists, 24 said it was reasonable to very good but 25 said it was poor or non existent.

Out of 49 respondents, 28 said communication towards the educational sector was reasonable to very good, 22 communicate reasonably to very well towards the media, and 31 reasonably to very well towards decision makers. These answers are obviously a matter of perception and it should be stressed that while some may have a better opinion of the MPA actions than is really, others may see things more negatively than the situation really is.

When looking at communication across all the types of stakeholders, only 10 MPAs deem their communication reasonable to very good throughout but none have a very good communication towards all groups. This highlights that all MPAs have their weaknesses. While MedPAN has delivered training for MPA managers to improve their communication towards different users, it is likely that this thematic should become part of the permanent training mechanism which is being set up for MPA staff and recommendations should be made to public authorities to better support MPAs with communication strategies as part of territorial planning and management. Furthermore, it would be interesting to find out how the communication is with prosecuting authorities.

Marine conservation outreach through social and public events is not a widespread subject in the scientific literature but NGOs and foundations worldwide have long understood the value of organising festivals, exhibitions, contests, conferences (etc.) linked to nature (Jacobson *et al.*, 2015; Hesselink *et al.*, 2007; Badalamenti *et al.*, 2000). Interestingly, out of the sample of 75 respondents, 23 sites have an event linked to marine and coastal conservation for the wider public. These events are organised either by the MPA itself or

some other organisation or local authority, yearly or at least on a regular basis.

Twenty three out of the 75 respondents have also engaged in a charter(s) process or disseminate a code(s) of conduct to promote good practice and set rules for users within the MPA. Fourteen charters or codes of conduct concern small scale fisheries, 13 target recreational fishing, 19 aim at scuba divers, 13 are for boaters, 4 concern wildlife watching in general and 5 are for whale watching. An additional 4 have a charter or code concerning other uses such as on anchoring or scientific research, and still some others are in the process of developing charters. Charter implementation seem to occur in MPAs from European countries aside 1 site out of 23. These experiences should be shared within the network to inspire those that need to use such a process.

Finally, it is to be underscored that communication within the scientific community and transboundary scientific cooperation and collaboration is also crucial to conservation actions and to support MPA managers in their work and own communication strategies (Katsanevakis *et al.*, 2017; Roulin *et al.*, 2017).

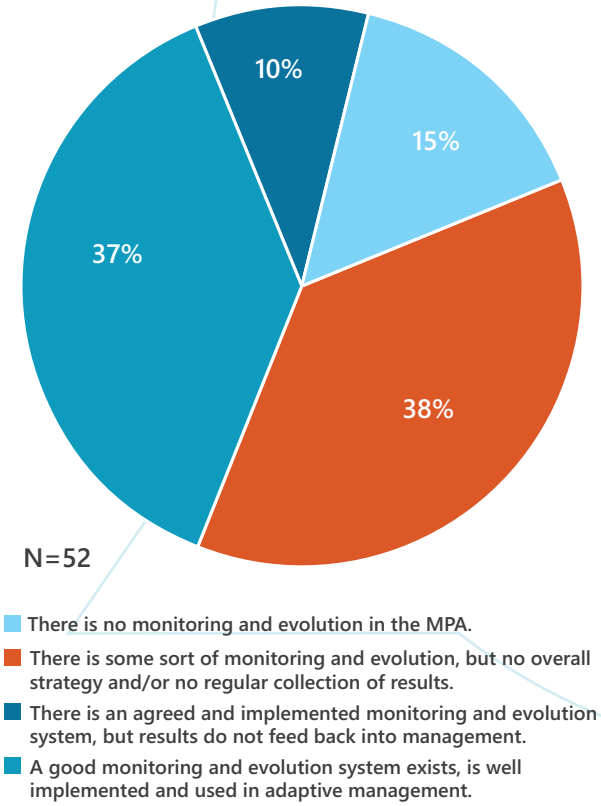


Figure 30: Monitoring in 52 surveyed MPAs

Box 17: MedTrends Key Findings
By Catherine Piante and Denis Ody, WWF France

The Mediterranean Sea is increasingly exploited by a range of maritime activities: wind farms, **oil extraction**, cables, **shipping routes, fisheries** and other human activities including **tourism and aquaculture**. Except for professional fisheries, all traditional sectors of the Mediterranean maritime economy such as tourism, shipping, aquaculture and offshore oil and gas are expected to **keep growing during the coming 15 years.**

The combined and cumulative effects of these activities decrease the overall resilience of marine ecosystems. **Climate change** is another significant additional indirect pressure leading to increased sea surface temperature and acidification. Consequently, the expected growth in the maritime economy represents a potential additional **threat to the health of already stressed Mediterranean ecosystems.**

The likely future developments and their resulting pressures can generate **significant conflicts between sectors.** This can be the case, between sectors that rely strongly on marine ecosystem services and offshore extractive industries or maritime traffic, and will impose additional risks on marine ecosystems and on the tourism economy.

Despite technological progress and stricter environmental legislation, the development of key sectors is likely to increase pressures and impacts on the marine environment. **There is a high risk of failing to achieve Good Environmental Status in the Mediterranean Sea** by 2020 for 7 out of 11 of the descriptors of the Marine Strategy Framework Directive (MSFD).

While Marine Protected Areas (MPAs) **propose innovative approaches to sustainable development, the growth of maritime sectors also increases** the challenge faced by the EU to meet the Convention on Biological Diversity (CBD) Aichi Target 11, which requires at least 10% of EU waters to be within well managed MPAs or other effective area-based management measures by 2020.

The current development of key economic sectors in the Mediterranean Sea is happening against a background of weak formulation on what needs to be done to ensure that the Blue Economy is truly sustainable. The **Marine Strategy Framework Directive, Water Framework Directive, Maritime Spatial Planning Directive** and **Blue Growth Strategy** need to be truly integrated to achieve their objectives in the future, for the benefits of societies.

Note: The MEDTRENDS project illustrated and mapped the main scenarios of maritime economic activities for the EU Mediterranean countries in the next 20 years. The MedTrends analysis was implemented at the Mediterranean regional or sub-regional (Adriatic Sea) scales and more specifically at the level of the 8 EU Mediterranean countries (Croatia, Cyprus, France, Greece, Italy, Malta, Slovenia and Spain).

www.medtrends.org

The Mediterranean Sea is vastly used and a large number of activities puts pressure on ecosystems and species and can become threatening. In addition, trends in the use of the marine environment are likely to increase for most sectors of economic activity placing increasing stress on the marine environment in coming years (Halpern *et al.*, 2008, Piante *et al.*, 2015). Furthermore, human impact is cumulative and the combination of stressors can be even more harmful (Coll *et al.*, 2012; Micheli *et al.*, 2013; Rodríguez-Rodríguez *et al.*, 2015). What has become clear is that for economies to be maintained, they need to be slowed down and so does our ecological demands on biodiversity; as such, beyond improving and increasing the management and the number of MPAs, additional solutions to biodiversity loss have to be implemented (Mora and Sale, 2011).

Within MPAs, some pressures can be managed but not all of them. The questionnaire sent to MPA managers allowed to collect data on these pressures for a number of sites.

Industrial fishing occurs only inside 2 of the 35 responding MPAs but within a 10 km radius of 16 other MPAs. The other half of the sites who answered are not concerned by industrial fisheries yet 4 of them are concerned by semi-industrial fishing within a 10 km radius of the MPA. Semi-industrial fishing however occurs inside 11 sites out of 45; and within a 10 km radius of 19 MPAs (including the 4 above mentioned ones). Regarding small scale fisheries, 40 out of 51 MPA managers that responded to the questionnaire confirmed that type of fisheries was occurring inside the MPA and another 10, only in a 10 km radius of the site. Indeed, small scale fisheries is an active sector in and/or around all but one of the responding MPAs. Out of the 40 MPAs which have artisanal fisheries inside the site, 31 reported about the intensity of the activity; out of these, 7 said the pressure was high and compromising the objectives of the MPA but the majority (N=19) said it was well managed and compatible with the conservation objectives. Regarding gear allowed and regulations, the following results were obtained:

- Bottom trawling is either fully forbidden or fully regulated throughout the MPA in 25 out of 27 sites;
- Purse seines are either fully forbidden or fully regulated throughout the MPA in 22 out of 27 sites;
- Surrounding nets without purse lines are forbidden or fully regulated throughout the MPA in 20 out of 26 sites;
- Boat seines (bottom) are forbidden or fully regulated throughout the MPA in 18 out of 23 sites;
- And beach seines are forbidden or fully regulated throughout the MPA in 17 out of 20 sites.

As for **recreational fishing,** 37 out of 50 respondents are concerned with the activity inside their MPA while another 8 observe recreational fishing within a 10 km radius and only 2 are not concerned at all. Out of the 37 who have recreational

fishing inside their MPA, 20 say they monitor the activity and 18 have direct control over the activity (to set regulations or provide permits). **Spearfishing** is either fully forbidden or fully regulated throughout the MPA in 20 out of 26 sites.

Overall, 34 MPAs have both small scale and recreational fishing occurring within their boundaries (N=51). These 2 activities having implications for the conservation of the target species, for ecosystems and for management (Lloret and Font, 2013; Lloret *et al.*, 2016; Marengo *et al.*, 2015; Venturini *et al.*, 2017), it is highly desirable that the measures and regulations in place are looked into for their adequacy and that the zoning in place concerning these uses allows to avoid conflict.

Many other pressures occur in and around MPAs, such as **pollution** on which MPA managers cannot always adopt measures due to the connected nature of water masses. 13 out of 35 MPAs acknowledge that pollution from urban sources is present in site. Others note the presence of agricultural pollution (15 out of 33), some of which are the same MPAs that observe urban pollution. Only 6 out of 32 sites are concerned by industrial pollution. In terms of direct control over regulations, very few MPAs can influence laws and rules, but about a third of respondents can partly influence by collaborating with the relevant instances. 28 out of 32 have had an external institution conducting a study on water quality in or nearby their MPA.

Aquaculture installations can be found inside 9 of the 45 responding MPAs but the majority are not in the vicinity of this activity at all.

Oil and gas extraction is not considered a major issue for inside the MPA by respondents but regarding **shipping traffic** 9 out of 27 say they are concerned with a 'medium' pressure and 3 say it is 'high'. Oil, gas and chemical carriers are only fully forbidden throughout 8 MPAs among the respondents.

The Mediterranean is a well known destination for **cruise ships** and many countries or maritime authorities have in their strategy to increase this lucrative activity. Only 16 out of the 75 MPAs who answered the questionnaire commented about large to medium passenger ships, perhaps because the other sites are not concerned by this activity or didn't have the capacity to answer the questionnaire. Six out of these fully forbid entrance of large (capacity above 250 passengers) and medium (50 - 250 passengers) ferries/cruise ships in there MPA and another 3 forbid access to some zones of the site. Eight of these sites (and 2 different others) also apply this restriction to merchant ships. For smaller passenger ships, out of 20 answers, half also apply these restrictions. Other MPAs allow this activity but some have regulations such as on speed.

Leisure boating is part of the Mediterranean lifestyle, and with tourism, this activity is very high, especially during the summer season. Out of 38 MPAs, 26 said the pressure was medium (N=15) to high (N=11). Yet, only 10 MPAs (out of 17 who commented further) are implementing some regulations (either fully forbidding boating throughout the boundaries, N=1, regulating throughout the site, N=6, or regulating in only part of the MPA, N=3). Out of 74 MPAs, 55 don't monitor the number of visitors in their site, so it is difficult to draw any significant conclusions from the boating figures and further research is needed.

Among the 74 respondents who answered, 8 **monitor visitors** in the most visited parts of the MPA, 2 in the most protected area and 15 in the whole site. Some do monitor just during the peak season and others throughout the year. We see that visitor numbers is highly variable for the 14 MPAs who provided figures, ranging from 300 to 1 000 000 beach users (average: 220 927); 13 MPAs (not all the same MPAs as the 14 previous ones) who have counted swimmers and sunbathers during the peak season have up to 850 000 people at the same time on site. Out of 38 MPAs, 21 said the pressure from swimmers, bathers and snorkelers was from medium (N=10) to high (N=11). Concerning **scuba diving,** 14 MPAs reported between 5 and 115 000 dives per year (average: 13 900). Among the 37 who reported on pressure from scuba diving, 5 said it was high and 13 saying it was medium. Among the 12 MPAs that have reported implementing some regulation on diving, 4 say the pressure is medium and 6 say the pressure is low, but none reported it is high. Among other activities, 13 out of 17 MPAs regulate or forbid **motorised water sports** and 7 of these also regulate non-motorised water sports. Among the MPAs that have loose regulations and a high number of visitors, especially concentrated in a peak season and in specific spots of the MPA, it would be advisable to managers that they calculate the carrying capacity of these and the Limits of Acceptable Change (McClachlan *et al.*, 2013; Davis & Tisdell, 1995; Diedrich *et al.*, 2011).

Box 18 – Invasive Species
By Maria del Mar Otero, IUCN Med.

Today a large number of non-indigenous invasive species of fishes, mollusks, crustaceans and algae among others are found in more than 100 Mediterranean MPAs. These exotic species locally threaten to displace the local flora and fauna and may hinder the management efforts of MPAs to maintain their ecological integrity.

The most reported species of all is the green algae *Caulerpa cylindracea,* now covering many coastal areas where it modifies the physical and chemical conditions of the environment and the present benthic assemblages. Highly mobile fish and crustacean species such as the bluespotted cornetfish *Fistularia commersonii,* the sally lightfoot crab *Pernon gibbesi* and rabbitfishes of the family Siganidae are becoming well common at different Eastern and Center Mediterranean MPAs while a greater dominance of non-indigenous invasive algae species appearing more frequently towards the western Mediterranean MPAs.

MPAs are more frequently affected by invasive species probably because of their closeness to the coastline and thus their high accessibility and affection by socio-economic activities (Gallardo *et al.*, 2017). The recent arrival of new species such as the lionfish *Pterois miles* in Mediterranean MPAs together with the harmful nature and population explosion of others such as the the pufferfish (e.g. *Lagocephalus sceleratus*) or blue swimming crabs (e.g. *Callinectes sapidus*) might further affect directly or indirectly a number of protected species and increase the pressure posed upon native populations and associated habitats in the MPAs.

Further data and information is still needed to have a more complete picture of the total number of MPAs affected and the impact of these invasions on their environment.

Although most of these species have been introduced via intentional or accidental release, the Mediterranean Sea conditions with the increase of sea surface temperatures will enhance the success for these species of tropical or sub-tropical origin to find further suitable conditions for their growth, reproduction, and fast spreading.

Another pressure which is increasing in the Mediterranean comes from non-indigenous species that can become invasives (Galil, 2007, Zenetos *et al.*, 2012, Katsanevakis *et al.*, 2014 and 2015). Thirty managers reported on this subject and 10 said the pressure was medium (N=9) to high (N=1). Some provided additional details such as what species had been detected or that they were part of ongoing projects on this thematic. There are many routes and mechanisms by which new alien species arrive in the Mediterranean Sea. Identification and assessment of the pathways of introduction is essential for predicting future trends of new introductions, identifying management options to mitigate invasions and to prevent new introductions, and communicating related risks and costs to policy makers and high level administration. Among the many important pathways by which human actions have introduced alien invasive species into the Mediterranean Sea are shipping (by means of ballast waters and hull fouling), corridors, maritime transport and water ways, aquaculture, trade in live marine organisms (aquarium trade and fishing bait) and others (e.g. fishing activities and aquarium exhibits). Other additional factors such as global warming may enhance alien species to spread in the Mediterranean (UNEP-MAP-SPA/RAC, 2005). Furthermore, the issue of ballast water release is still not fully resolved although some efforts are clearly being done (Magaletti *et al.*, 2017, EU Regulation No 1143/2014 and UNEP-MAP Decision IG.20/11). Consequently, MPAs can play a role as an observatory, to monitor these arrivals, and share their experience on adaptive management of non-indigenous species.

Box 19: Invasive species - The MedMIS Platform & The Marine Mediterranean Invasive Alien Species (MAMIAS) Database

Given the susceptibility of MPAs to biological invasions, in 2013, a Strategic Plan to establish a common framework for the Mediterranean MPA network to develop action on marine invasive species was developed by IUCN and discussed with MPA managers (IUCN, 2013). The key actions established under this strategy lay the groundwork for cooperative activities between MPAs and their associated partners as well as within local MPAs themselves, to reduce the impacts of invasive and alien species and preventing, if possible, their further introduction and spreading. It also establishes a black list of the most potentially damaging invasive species and the creation of an early warning and rapid response system for MPAs. The Strategy is aligned with the CBD Guiding principles to prevent or minimise IAS impacts to biodiversity. It further aims to assist the Action Plan concerning Species Introductions and Invasive Species as part of the Protocol concerning Specially Protected Areas and Biological Diversity of the Barcelona Convention and the European Strategy on Alien Invasive Species as well as other policy instruments. As part of the Strategy, **the MedMIS platform** was developed as an online information system designed to keep track of non-indigenous invasive species in different MPAs in the Mediterranean and as an early warning system to prevent further spreading.

At national level, the updated Action Plan concerning Species Introductions and Invasive Species of the Barcelona Convention has set up the development of the **Marine Mediterranean Invasive Alien Species (MAMIAS) Database.** MAMIAS provides information on invasive non-indigenous species in the Mediterranean (list of alien species, list of marine invasive species, list of vectors, etc.) and allows the use of different filters to find required data and retrieve statistics about alien and invasive species at regional and national levels. MAMIAS is a data partner to EASIN (European Alien Species Information Network) since October 2016. SPA/RAC is putting in place processes to enable regular reporting on invasive alien species occurrences in the Mediterranean Sea through this database. MAMIAS is intended to be further updated to include distribution maps of alien species in the Mediterranean, as well as an early warning system to issue notifications to the Parties and concerned authorities.

The MAMIAS database can be visited through this link: http://www.mamias.org.

Box 20: GFCM Mid Term Strategy
By Miguel Bernal (GFCM)

Mediterranean and Black Sea fisheries are currently facing serious challenges, with roughly 90 % of the scientifically assessed stocks considered to be fished beyond safe biological limits, decreasing catches and shrinking fleets at regional scale. Such alarming trends not only negatively impact the fisheries sector itself, but they also hinder attempts to ensure secure livelihoods and food security for coastal communities in the region.

In this regard, the United Nations Sustainable Development Goals (SDG) recognize that fisheries can drive sustainable development and, to this end, they set several targets to be met for the conservation and sustainable use of the marine environment. These objectives are echoed by the FAO Blue Growth Initiative, which implies that all United Nations organisations having a mandate over fisheries, including the GFCM, must take urgent actions to revert the alarming trends in the status of commercially exploited stocks. To this end, a mid-term strategy (20172020) towards the sustainability of Mediterranean and Black Sea fisheries has been elaborated, in line with SDG 14 and the FAO Strategic Objective 2.

The mid-term strategy is the fruit of the commitment of GFCM contracting parties, cooperating non-contracting parties and partner organizations to improve, by 2020, the sustainability of Mediterranean and Black Sea fisheries and ensure that the alarming trend in the status of commercially exploited stocks is reversed. It is based on 5 targets which include selected outputs and proposed actions:

1. Reverse the declining trend of fish stocks through strengthened scientific advice in support of management,
2. Support livelihoods for coastal communities through sustainable small-scale fisheries,
3. Curb illegal unreported and unregulated (IUU) fishing, through a regional plan of action,
4. Minimize and mitigate unwanted interactions between fisheries and marine ecosystems and environment, and
5. Enhance capacity-building and cooperation.

The Mediterranean can already count on long-standing regional mechanisms to coordinate actions addressing the status of stocks and fisheries. In this context, the GFCM is therefore called to play a leading role in steering actions and boosting cooperation in order to bring about a favourable and open environment where different actors could transparently contribute to meet common goals and provide their support, expertise and experiences.

Box 21: Climate Change
By Maria del Mar Otero, IUCN Med.

Sea warming in the Mediterranean (0.4°C per decade) is now 4 times the average rate in the open ocean (Thomson *et al.*, 2015) and an increase of thermal anomalies and marine heat waves has been already observed in different MPAs. By the end of the 21st century, the sea surface temperature of the Mediterranean is expected to further rise from 1.73 to 2.97°C (Adloff *et al.* 2015, Bensoussan *et al.* 2014) and marine heat waves might shift in their occurrance and intensity (raising maximum daily temperatures) with inmediate observations also in Mediterranean MPAs (Bensoussan *et al. in prep.*).

The cascading and accumulative effects of these climate stressors with other ongoing pressures have been now well reported in the Mediterranean Sea (Lacoue-Labarthe *et al.* 2016, UNEP-MAP-SPA/RAC, 2010) as well as in different protected sites (Otero *et al.*, 2013, Vergés *et al.*, 2014, Longobardi *et al.*, 2017). Notable examples of significant impacts on Mediterranean marine ecosystems are provided by the 1999, 2003 and 2006 summers, which were characterized by mass mortality outbreaks in a variety of sessile macroinvertebrates including anthozoans, sponges, bryozoans, ascidians, and bivalves (Garrabou *et al.*, 2001, 2009; Crisci *et al.*, 2011). Other effects of climate changes includes the increase in harmful blooms of algae and jellyfish, the spread of non-indigenous species, the altering biogeographic boundaries of species and local native communities and other shifts on ecosystem structure and species behavior patterns. Climate change is thus becoming a growing challenge to the management of the Mediterranean MPAs. Mitigation solutions lie on finding mechanisms to reduce emisions from activities occurring in the MPAs as well as enhacing and conserving blue carbon ecosystems, such as sea grasses, kelp, and salt marshes, to capture and store carbon. Adaptation strategies will involve restoration activities and enhancing resilience and response of the habitats and species to the upcoming changes.

Concluding remarks on management

Management in MPAs is quite difficult to assess at the regional level which explains why this section has been more descriptive and why trends could not be drawn out. Nevertheless, it provides some idea of how things are in 74 sites of the Mediterranean, knowing that the situation is possibly worse than is portrayed via the respondents. Indeed, it is likely that the majority of those who answered could do so because their MPA is established, there are staff, and baseline data is available. Another reason we acknowledge is the length of the questionnaire which has probably deterred some MPA managers from answering. In the future, MPA managers may simply let us know what conservation objectives they have and whether these are met or how the trends are going, and describe the reasons when trends are not so good.

Nevertheless, several conclusions and recommendations can be made on management:

- The legal text which allows designation of an MPA and/or OECM should be quite detailed and include not only boundaries but general objectives (still allowing others to be added if needed in the future and enabling adaptive management), rules and regulations that are to be implemented and the process for sanctions to be applied in case of different forms of infractions.
- Each MPA should have a management plan (or equivalent document) to provide a clear framework for management.
- The management objectives should be clearly defined according to the values to be protected and the pressures that impact the area, and be included in the management plan.
- Adequate management measures, in line with these objectives, should be implemented, and clear and operational indicators should be established to monitor the progress and possibly adapt management.
- More funds should be allocated by the governments and local authorities to MPAs, especially during their establishment and early phases of operation.
- Even when receiving funding from governments and local authorities, MPAs should develop a business model and seek to set up a sustainable financing mechanism because a good part of the time, budgets are not secure from one year to another and can fluctuate vastly.
- An adequate number of permanent staff should be employed both in administrative operations and in the field, and they should receive the appropriate training.
- Staff should have the capacity to invest in the right tools, training and equipment to enforce the legislation, implement the measures to reach the set conservation objectives, and spend more time on, and improve, communication and engagement with stakeholders.
- A management committee or a governance body made of representatives from all stakeholders (both public and private) should be established. Such a committee is a way to enhance stakeholder collaboration and engagement by giving them an active role in shaping the future of the area.
- Initial data on the habitats, ecological aspects, socio-economic context, and cultural aspects (...) should be collected in order to manage the site in an informed manner.
- Appropriate monitoring (with the support of external scientists as well as in-house) should take place to check if the conservation objectives are reached.

BOX 22: IUCN Green List process
By Mar Otero del Mar (IUCN Mediterranean)

The IUCN 'Green List of Protected and Conserved Areas' is a global program to encourage, achieve and promote effective, equitable and successful protected and conserved areas. IUCN developed the Green List concept based on an IUCN Resolution in 2012, in response to calls for more focus on the quality of protected area sites and systems, especially effective management and equitable governance that could help secure conservation outcomes.

Today, the IUCN Green List Standard and its supporting implementation program aims continue working to support protected areas in order to achieve successful conservation outcomes. The baseline components of its standard are concern with Good Governance; Sound Design and Planning; and Effective Management. Its Global Standard is implemented through a jurisdictional approach, allowing a reflection of regional and local characteristics and circumstances in which protected and conserved areas operate. Sites wishing to achieve 'Green List' status must demonstrate, and then maintain, a successful implementation of the IUCN Green List Global Standard.

In the Mediterranean region, the Green List is implemented by IUCN Mediterranean Center in collaboration with several institutions, among which Europarc Italy, Europarc Spain and the IUCN French committee.

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PART 5 – 2020 AND BEYOND

Challenges

Since 2010 when the CBD reconfirmed the objective of 10 % protected and well-managed MPAs to be reached by 2020, progress has been made regarding coverage. Worldwide, the WCMC and IUCN have calculated that 5.01 % of the global oceans are covered by an MPA designation (IUCN & UNEP-WCMC, 2016) based on the December 2016 WDPA release[13], yet only 1.23 % is covered by exclusively no-take areas. If looking just at coastal and marine areas under national jurisdiction, 12.7% are covered by MPAs, of which exclusively no-take areas equal 3.09 %. At the same time, the Atlas of Marine Protection, which is a tracking tool developed by the USA Marine Conservation Institute (http://www.mpatlas.org), indicates that only 3 % of oceans and seas are covered by MPAs that are implemented and actively managed.

Many countries have created new MPAs, several of which are huge and located in remote areas, a process that can be difficult to apply to small semi-enclosed seas where high human activity occurs. Many countries have also extended existing MPAs and/or created new ones in their territorial and contiguous waters, although in a number of cases the type of designation that has been selected does not intend to 'strongly' protect the marine environment. Yet looking on the bright side, the Atlas of Marine Protection indicates that among the MPAs in effect worldwide, those that are no-take marine reserves or have other strongly protective designations cover 2 % of the ocean.

The race to reach the 10 % target is a double-edged sword whereby the actual management capacity that is needed to reach the set objectives of a newly created site is either dismissed or not yet put in place (Agardy *et al.*, 2016). A first challenge will be to ensure that the types of MPAs that are created have the right regulations to curb the identified pressures. A second challenge will be to increase the management capacity when needed to ensure the control of the good implementation of regulations in order to reach the MPAs' set conservation objectives.

This report has stated that it was difficult to provide just one figure about the percentage of the Mediterranean covered by MPAs. Looking at nationally designated MPAs, it amounts to 1.27 % of the sea but these MPAs offer different types and strength of protection. No-go, no-take and no-fishing zones cover only 0.04 % of the Mediterranean. Then the network of Natura 2000 sites covers 2.50 % of the sea presenting some overlapping with national designations. All designations together correspond to a coverage of 6.81 % of the Mediterranean.

Because the 10 % coverage is not reached yet and because the current system of MPAs in the Mediterranean is neither representative nor ecologically coherent, the challenge is that an additional 80 328 km^2 (at least) will need to be placed under protection, aiming to complement the amount or the variety of features / biodiversity to reach the quantitative part of Aichi Target 11 by 2020. Then this full 10 % will need to be effectively managed to fully meet the CBD commitments. Hence, there is a great need for political will to allocate the necessary resources for such results and for administrative authorities to give priority to marine conservation. Over 100 sites are in project to be declared, among which some have been for many years, and countries need to justify why the MPAs still haven't been established. Another opportunity to encourage the process could be to look at description of EBSAs to priorities some sites among the ones in project.

In an era where MSP is the new ocean management tool but which hasn't been fully applied in the Mediterranean (partly because it is not mandatory outside the EU), it will need to be understood by riparian countries that the marine environment should be placed as the prerequisite for economic or social activities to take place. Indeed, the marine environment is the capital on which many economic sectors and livelihoods depend. In this regard, a recent report developed in partnership between WWF and the Boston Consulting Group provided an estimate of the Mediterranean Sea's contribution to the regional economy, considering only the sectors that directly rely on healthy ocean assets (Randone *et al.*, 2017). The analysis showed that the economic output from the Mediterranean is at least US$450 billion, making the «Mediterranean Sea economy» larger than most of the region's national economies. Multiple-use MPAs provide one of the few examples of implementing marine spatial planning, at a smaller level, where stakeholders' views are taken into account but where the conservation of the natural capital is the prime objective.

Over the last 50 years, the Mediterranean has moved away from the concept of solely putting nature under a bell-jar and has acquired experience at also managing multiple-use areas, now moving towards more co-management schemes and interacting with stakeholders. This often means that many MPAs are now better integrated within the territorial unit (planning at sub-national level). This also means that MPAs or similar spatial tools can be used in both areas undergoing various pressures and in more pristine ones. Arguably, 100 % of the sea should be well managed in collaborative and multidisciplinary ways. But to come back to the general 10 % target, there is a serious need for both:

- a better representation of the ecoregions where very few MPAs have so far been established,
- increasing the proportion of highly, strongly and effectively regulated zones.

[13] A dynamic monthly update of global progress with MPAs is available on https://www.protectedplanet.net/marine.

In the short term, the MPA community of the Mediterranean has come together and identified key operational and action-oriented steps to improve and help achieving the Mediterranean MPA Forum Roadmap objectives by 2020 declaring that, by then, 2 % should already be put under strong protection and managed either as no-go, no-take or no-fishing zones in key functional areas (the 2012 Roadmap was updated at the 2016 Forum of MPAs in the Mediterranean, Tangier - November 2016).

As shown in the last part of this report, knowing if a site is being managed in line with its objectives and assessing management effectiveness is particularly challenging at the full regional level. What can be drawn out of the 74 MPAs who shared their information is that in the majority of cases, MPAs lack preconditions (e.g. political will, adequate funding and management capacity) to reach their conservation objectives and many don't have the baseline data necessary to contextually monitor the state of what the MPA has been designated for, and the threats potentially compromising conservation success. As we now know what are the elements contributing to management effectiveness (age, surveillance and patrolling, presence of staff, management plan, budget…), the next challenge will be to evaluate on a site-by-site basis whether the objectives are being met, on their way to being met, or not met at all.

Recommendations

Recommendations to national decision makers and institutional frameworks

1. Declare the MPAs that are in project before 2020, putting care in choosing the appropriate type of designation and making sure that the majority of these new MPAs have at least part(s) of their surface placed under strict protection (no-go, no-take, no-fishing, no anchoring, etc…). This should be done in line with the existing pressures and in concertation with stakeholders and users. In the other parts of these MPAs and in other MPAs that will be created, adequate regulations should be implemented throughout.

2. Ensure political will and financial contribution to support managers in the field and the national system of MPAs and, therefore, to achieve national targets on the long term.

3. Support the identification process of areas important to protect as key ecological functional areas within EBSAs, CCH, IMMA, IBA, and within important ecological areas identified in national environmental status reports, strategies and action plans; and proceed with declaring them as MPAs in order to fill the obligations that the country has signed with international and regional conventions and agreements.

4. Ensure boundaries, sub-zones and objectives of MPAs or networks of MPAs are clearly defined in the legal documents relative to the creation of MPAs, and involve stakeholders in this process.

5. Provide a flexible framework for management plans, allowing MPA managers to adapt them if necessary to better meet the conservation objectives.

6. Ensure management plans are developed or updated (with scientific support), and implemented, including sections on monitoring, reporting and sustainable financing, and allocate the necessary resources (financial, human and capacities) so that there are no obstacles to the implementation of the plans (while the plan needs to be adapted rapidly in the event of change).

7. Enable a proper implementation of MPA regulations with regular patrolling and enforcement of the law.

8. Allocate the appropriate resources to have baseline data collected, including on the socio-economic context.

9. Encourage co-management configurations when establishing the management body and ensure there is enough skilled permanent staff, including stable presence in the field and sworn staff, in line with the management objectives.

10. Disseminate knowledge on the benefits the MPAs bring (based on all Mediterranean case-studies in particular) to other sectoral authorities when contributing to the MSP process.

11. Contribute to shifting the marine natural capital as the cornerstone which allows to maintain economic activities and livelihoods.

12. Integrate MPAs to coastal territorial planning processes as well as watershed management strategies, to improve Integrated Coastal Zone Management (ICZM).

13. Improve sectoral policies by better integrating measures that can contribute to MPAs achieving their conservation objectives.

14. Use existing protection instruments and create new ones as necessary to better protect ABNJs, the water column and deep sea features, along with dark habitats.

15. Phase down bottom trawling and set restrictions on other destructive gear, increase efforts on illegal, unreported and unregulated fishing, and curb overfishing; strengthen legislation concerning recreational fishing.

16. Build robust databases for funded project results that can be used by the wider community in order to avoid duplicates, achieve economies of scale and ensure the maintenance of the databases on the long term (beyond the project timespan).

Recommendations to MPA managers

1. Ensure all elements needed to declare the sites in project are put together and decision makers in charge of this process are informed of the deadlines set by agreements/ protocols that have been signed and in most cases ratified by their country, and the benefits of MPAs are understood by them.

2. When highly visited and even if not aware of infractions, increase patrolling and surveillance, at least randomly, as presence in the field deters devious behaviours. Using technologies, such as remote cameras, can also contribute to improving surveillance.

3. Work on collecting habitat data and ecological, social and economics baseline data when missing and explain to funding sources that budget is necessary to monitor the state of the features for which there are conservation objectives, both in the framework of the Barcelona Convention and the MSFD when relevant.

4. Monitor both for assessing conservation outcomes and for adaptive management.

5. When budget is irregular or unsecure, seek support to establish private public partnerships (PPP), develop a business plan and seek other sources of funding.

6. When few links are made with stakeholders, increase efforts to interact with them with appropriate training on how to do so and involve them in management when beneficial.

7. Share positive case-studies with other MPAs and seek their experience when encountering problems.

8. Disseminate the benefits of MPA(s) with the appropriate communication tools to decision makers at local and national level, NGOs, foundations, international donors and the wider public (including business sectors as appropriate).

9. Continue and when necessary improve outreach and public awareness to the different groups of society, including prosecution authorities.

Recommendations to researchers and scientists

1. Continue documenting the benefits of MPAs and updating the state of science in this domain for policy to be more pro-active, businesses to better integrate responsible action, and for the benefit of effective and adaptive management.

2. Advance knowledge to fill the gaps, namely with habitat mapping, and to homogenise data at full regional scale to allow refined assessments.

3. Join forces, pool resources and share data with the scientific community and with MPA managers to foster research and improve knowledge on marine conservation.

4. Advance understanding of the life cycle of species of conservation importance and of commercial value (spawning grounds, nurseries, larval behaviour and life span) in order for key functional areas to be identified and to contribute to refining connectivity analyses.

5. Inventory nurseries of key species of conservation importance, and identify new ones, in order for environment authorities to implement adequate regulations or sectoral policies.

6. Contribute to bridging the gaps by undertaking the suggested research identified in this report, namely on representativity, connectivity, adequacy and replication.

7. Continue studying the effects of multiple stressors and refining conservation planning initiatives, namely to support the intelligent development and implementation of MSP, as well as the better integration of the different sectoral policies.

8. Continue working with MPA managers to support their MPA monitoring, allowing them to assess progress in reaching their conservation objectives.

9. Contribute to establishing observatories that can contribute to monitoring shifting baselines in order to better adapt conservation strategies.

10. Improve communication skills in dissemination of the work and its meaning for MPA management.

Recommendations to the business sector

1. Seek information on the objectives of the MPA in which or close to which business operates and disseminate the rules and regulations to the business staff and clients.

2. When planning to operate in and around MPAs or when the activity can potentially affect an MPA(s), ensure that business plans take into account the marine natural capital as the cornerstone of economic activities. Ensure environmental and social impact assessments fully consider conservation and MPA objectives before operating - thus allowing to avoid or minimise potential impacts.

3. When operating in and around MPAs, adopt existing or develop tailored codes and charters of good conduct.

4. When operating in or around an MPA, become an active stakeholder and help MPA managers build a better future for the area by working hand in hand with them and with other stakeholders, building a long-term win-win collaboration. That includes taking part in the management board (if existing), raising awareness among customers, or contributing to monitoring.

5. Share data with the management body. Data such as the number of divers (dive centres), number of passengers (boat excursions), number of customers or average length of stay (hotels) are very important to inform management and decision-making.

6. Businesses can also be the initiator for having regulations established or MPAs created.

7. In and around MPAs in particular, shift the mindset towards environmental responsibility, Net Positive Impact (NPI) and sustainability.

8. When an MPA is about to be created in or close to business area, become an active stakeholder, provide views on the zonation and regulations to be set and draw out the benefits this will bring to operation, recognising that some activities compromise the sustainability or survival of marine ecosystems upon which we all depend.

9. If business is to be impacted negatively by the establishment of an MPA, discuss what changes are needed to meet sustainability levels and what support is needed to implement this.

10. Use innovation and blue solutions, adopt solutions to curb carbon emissions, improve consumption patterns, reduce waste and dispose of it in the best available manner.

Recommendations to NGOs and Mediterranean Institutions

1. Work further together to achieve economies of scale and capitalise on what has been done so far while ensuring that the recommendations from the the Roadmap to achieve Aichi Target 11 in the Mediterranean adopted in 2016 by the Contracting Parties to the Barcelona Convention as well as from the updated 2016 Roadmap of the Tangier Forum of MPAs in the Mediterranean (Morocco, November 2016) are well disseminated to actors that can implement them.

2. Rethink conservation strategies so that the long-term vision is better fitted to managing cumulative pressures from growing activities of business and industry planned for at least the next few decades.

Recommendations to networks of MPA managers

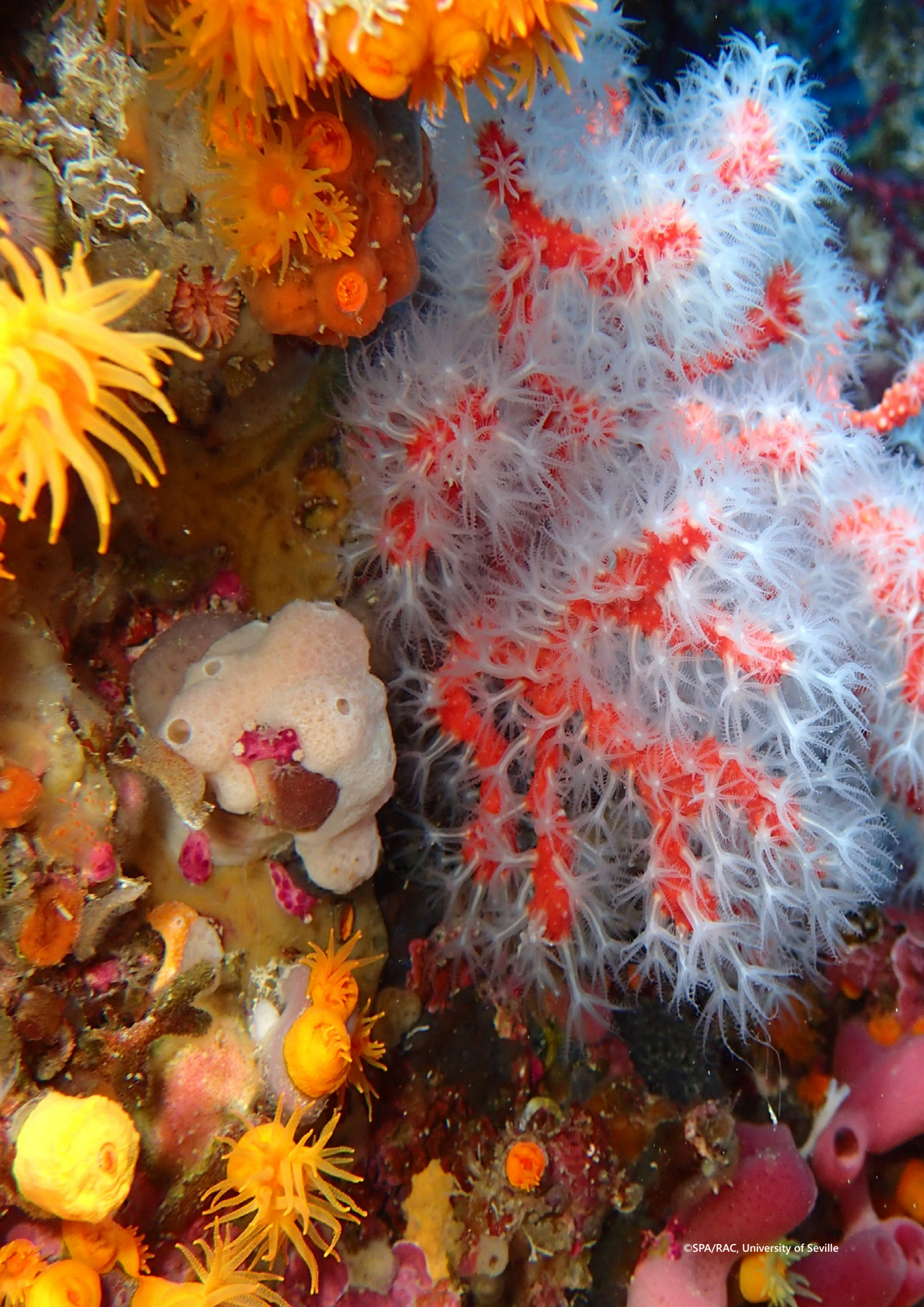
1. Increase network of managers capacity (financial, human and technical) to better support individual MPAs and the establishment of a true ecological network of MPAs as well as to reinforce connections, through an active bottom-up approach, between local experience of MPAs with decision-making processes at higher levels.

2. Encourage the establishment of other networks of MPA managers - both formal and informal, and at regional, subregional and national levels - including key thematic workgroups to pull together knowledge and experience and strengthen management actions.

3. Tighten links between networks of MPA managers worldwide to share experience and have a stronger voice on the benefits of MPAs and networks.

Over all, all stakeholders should contribute to implementing the Roadmap to achieve Aichi Target 11 in the Mediterranean adopted in 2016 by the Contracting Parties to the Barcelona Convention as well as recommendations of the updated Roadmap of the Forum of MPAs in the Mediterranean.
In the Mediterranean, the next assessment of the Status of MPAs will be undertaken in 2020 to inform on the level of achievement of the Aichi Target 11. This assessment will be synergized with the 2019 evaluation of the Barcelona Convention Roadmap to achieve Aichi Target 11 in the Mediterranean, as well as with the ''2019 State of Environment and Development Report" provided by the Contracting Parties to the Barcelona Convention.

The 2020 Mediterranean MPA Forum will evaluate the implementation of the 2020 Mediterranean MPA Roadmap, elaborated during the 2012 Forum in Antalya and updated in 2016 during the Tangier Forum. The 2020 Forum will provide key recommendations for post-2020.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APPENDIX

APPENDIX 01: List of MPAs identified in the Mediterranean

List of nationally or sub-nationally designated MPAs

MAPAMED identifier	Country	Name	Designation	Original designation	Status year	Marine area (km²)	Total area (km²)
2	Albania	Butrinti	National Park	Parku Kombëtar	2000	29.03	93.86
4	Albania	Divjake-Karavasta	National Park	Parku Kombëtar	2007	10.68	212.19
5	Albania	Karaburun-Sazani Island	National Park	Parku Kombëtar	2010	125.27	125.40
1285	Albania	Kunë-Vain-Tale	Managed Nature Reserve	Rezervatit Natyror të Menaxhuar	2010	5.44	43.09
7	Albania	Lumi Buna-Velipoje	Protected Landscape	Peizazh i Mbrojtur	2005	4.36	230.96
8	Albania	Patok-Fushekuqe-Ishem	Managed Nature Reserve	Rezervatit Natyror të Menaxhuar	2010	6.42	22.17
1288	Albania	Pishe Poro	Managed Nature Reserve	Rezervatit Natyror të Menaxhuar	1977	0.10	16.31
1287	Albania	Rrushkull	Managed Nature Reserve	Rezervatit Natyror të Menaxhuar	1995	0.04	6.60
10	Albania	Vjose-Narte	Protected Landscape	Peizazh i Mbrojtur	2004	0.51	190.54
25	Algeria	Iles Habibas	Marine Nature Reserve	Réserve Naturelle Marine	2003	25.97	26.36
54	Croatia	Brijuni	National Park	Nacionalni Park	1983	27.04	33.97
64	Croatia	Datule Barbariga	Special Reserve	Posebni Rezervat	1994	4.21	4.25
1289	Croatia	Kanal - Luka	Significant Landscape	Značajni Krajobraz	1974	4.75	11.69
97	Croatia	Kornati	National Park	Nacionalni Park	1980	169.22	215.71
107	Croatia	Labin, Rabac i uvala Prklog	Significant Landscape	Značajni Krajobraz	1972	3.14	13.46
109	Croatia	Lastovo Archipelago	Nature Park	Park Prirode	2006	144.44	195.76
112	Croatia	Lim Bay	Significant Landscape	Značajni Krajobraz	1964	5.57	8.82
113	Croatia	Lim Bay	Special Reserve	Posebni Rezervat	1979	4.28	4.29

130	Croatia	Maloston Bay	Special Reserve	Posebni Rezervat	1983	58.84	149.01
134	Croatia	Mljet	National Park	Nacionalni Park	1960	26.12	52.88
1324	Croatia	Modra špilja	Natural Monument	Spomenik Prirode	1951	0.00	0.02
146	Croatia	Neretva Delta - Southeastern Part	Special Reserve	Posebni Rezervat	1974	4.73	4.99
149	Croatia	Northwest part of Dugi Otok	Significant Landscape	Značajni Krajobraz	1967	0.54	6.52
193	Croatia	Pantana	Special Reserve	Posebni Rezervat	2001	0.13	0.45
229	Croatia	Prvic	Special Reserve	Posebni Rezervat	1972	45.15	57.59
264	Croatia	Telašćica	Nature Park	Park Prirode	1988	46.16	69.99
1290	Croatia	Zavratnica	Significant Landscape	Značajni Krajobraz	1964	0.10	0.41
332	Croatia	Žut-Sit archipelago	Significant Landscape	Značajni Krajobraz	1967	82.40	100.08
336	Cyprus	Lara Toxeftra	Protected Area	Περιοχή Προστασίας	1989	5.95	6.73
342	Egypt	Ashtum El-Gamel	Nature Protectorate	المحميات الطبيعية	1988	7.80	171.16
343	Egypt	Burullus	Nature Protectorate	المحميات الطبيعية	1998	22.61	911.17
346	Egypt	El Omayed	Nature Protectorate	المحميات الطبيعية	1986	36.72	672.64
353	Egypt	Sallum Gulf	Nature Protectorate	المحميات الطبيعية	2010	331.95	414.82
354	Egypt	Zaranik	Nature Protectorate	المحميات الطبيعية	1985	114.75	231.95
356	France	Agriate	Land acquired by Littoral and Lakeside Conservatory	Terrain acquis par le Conservatoire du Littoral	1979	0.43	0.45
358	France	Archipel Des Embiez	Land acquired by Littoral and Lakeside Conservatory	Terrain acquis par le Conservatoire du Littoral	2011	2.73	2.77
364	France	Biguglia Pond	Nature Reserve	Réserve Naturelle	1994	14.29	18.08
366	France	Calanques	National Park	Parc National	2012	1,410.62	1,577.26
371	France	Camargue	Regional Nature Park	Parc Naturel Régional	1970	268.39	844.90
1508	France	Cap d'Antibes	Land acquired by Littoral and Lakeside Conservatory	Terrain acquis par le Conservatoire du Littoral	2015	1.64	1.64
377	France	Cap Taillat	Land acquired by Littoral and Lakeside Conservatory	Terrain acquis par le Conservatoire du Littoral	1987	0.62	0.64
380	France	Cerbere-Banyuls	Nature Reserve	Réserve Naturelle	1974	5.81	5.81
386	France	Cote Bleue	Marine Park	Parc Marin	1983	90.37	90.69

393	France	Domaine Du Rayol	Land acquired by Littoral and Lakeside Conservatory	Terrain acquis par le Conservatoire du Littoral	1989	0.13	0.14
404	France	Formation Récifale De Saint Florent	Biotope Protection Order	Arrêté de Protection de Biotope	1998	0.08	0.08
408	France	Grotte Marine De Temuli/ Sagone (Coggia)	Biotope Protection Order	Arrêté de Protection de Biotope	2000	0.01	0.01
409	France	Gulf Of Lion	Natural Marine Park	Parc Naturel Marin	2011	4,009.17	4,009.49
412	France	Iles Bruzzi Et Ilot Aux Moines	Biotope Protection Order	Arrêté de Protection de Biotope	1997	11.70	11.77
423	France	Narbonnaise En Mediterranee	Regional Nature Park	Parc Naturel Régional	2003	62.56	686.00
1509	France	Pointe de Beauduc	Biotope Protection Order	Arrêté de Protection de Biotope	2013	4.42	4.42
428	France	Port D'Alon	Land acquired by Littoral and Lakeside Conservatory	Terrain acquis par le Conservatoire du Littoral	2009	1.00	1.00
429	France	Port-Cros	National Park	Parc National	1963	1,221.67	1,472.46
437	France	Scandola	Nature Reserve	Réserve Naturelle	1975	6.89	15.15
438	France	Strait Of Bonifacio	Nature Reserve	Réserve Naturelle	1999	794.80	797.66
447	Greece	Alonissos - Northern Sporades	National Marine Park	Εθνικό Θαλάσσιο Πάρκο	1992	2,179.99	2,303.00
452	Greece	Amvrakikos Wetlands	National Park	Εθνικό Πάρκο	2008	494.05	1,808.62
456	Greece	Anatolikis Makedonias Kai Thrakis	National Park	Εθνικό Πάρκο	2008	108.69	931.92
485	Greece	Evros Delta	National Park	Εθνικό Πάρκο	1977	25.68	190.88
489	Greece	Gallikos, Axios, Loudias, Aliakmonas, Saltmarsh Kitrous, Kalohori Lagoon	National Park	Εθνικό Πάρκο	2009	99.52	337.95
1507	Greece	Gyaros	Marine Wildlife Refuge	θαλάσσιο Καταφύγιο Άγριας Ζωής	2015	243.22	243.22
443	Greece	Kalama Delta, Acheron Estuary and Kalodiki Marsh	Nature Reserve	Περιοχή Προστασίας της Φύσης	2009	31.01	192.99
505	Greece	Kotychi - Strofylia Wetland	National Park	Εθνικό Πάρκο	2009	23.24	159.67

531	Greece	Messolonghi - Aetoliko Lagoons, Estuaries Of Acheloos And Evinos And Echinades Islands	National Park	Εθνικό Πάρκο	2006	248.27	616.60
582	Greece	Schinias - Marathon	National Park	Εθνικό Πάρκο	2000	3.51	14.40
609	Greece	Zakynthos	National Marine Park	Εθνικό Θαλάσσιο Πάρκο	1999	87.09	141.51
610	Israel	Akhziv	National Park	ימואל קראפ	1968	0.01	0.48
611	Israel	Hof Dor And Ma'Agan Michael Islands	Nature Reserve	עבט תרומש	1964	0.02	0.02
614	Israel	Rosh Hanikra - Akhziv	Marine Protected Area		2005	10.91	11.37
615	Israel	Rosh Hanikra Islands	Nature Reserve	עבט תרומש	1965	0.30	0.31
618	Israel	Shiqma	Nature Reserve	עבט תרומש	2005	0.42	1.10
619	Israel	Shiqmona	Nature Reserve	עבט תרומש	2008	1.56	1.74
624	Israel	Yam Dor Habonim	Nature Reserve	עבט תרומש	2002	12.34	12.59
623	Israel	Yam Dor Habonim	Marine Protected Area		2005	5.14	5.23
625	Israel	Yam Evtah	Nature Reserve	עבט תרומש	2003	1.28	1.33
627	Israel	Yam Gador	Nature Reserve	עבט תרומש	2004	0.91	0.94
638	Italy	Arcipelago Della Maddalena	National Park	Parco Nazionale	1991	154.50	201.65
644	Italy	Arcipelago Toscano	National Park	Parco Nazionale	1996	581.41	730.08
647	Italy	Baia	Underwater Park	Parco Sommerso	2002	1.74	1.79
655	Italy	Capo Caccia - Isola Piana	Marine Protected Area	Area Marina Protetta	2002	26.33	26.38
658	Italy	Capo Carbonara	Marine Protected Area	Area Marina Protetta	1999	86.23	86.35
663	Italy	Capo Gallo - Isola Delle Femmine	Marine Protected Area	Area Marina Protetta	2002	21.75	21.80
665	Italy	Capo Rizzuto	Marine Protected Area	Area Marina Protetta	1991	154.58	154.63
671	Italy	Cinque Terre	Marine Protected Area	Area Marina Protetta	1997	44.64	44.69
673	Italy	Costa Degli Infreschi E Della Masseta	Marine Protected Area	Area Marina Protetta	2009	23.31	23.31
774	Italy	Gaiola	Underwater Park	Parco Sommerso	2002	0.43	0.43
783	Italy	Isola Dell'Asinara	Marine Protected Area	Area Marina Protetta	2002	107.99	108.17

785	Italy	Isola Di Bergeggi	Marine Protected Area	Area Marina Protetta	2007	2.01	2.01
797	Italy	Isola Di Ustica	Marine Protected Area	Area Marina Protetta	1986	159.24	159.24
803	Italy	Isole Ciclopi	Marine Protected Area	Area Marina Protetta	1989	6.17	6.18
807	Italy	Isole Dello Stagnone Di Marsala	Regional Nature Reserve	Riserva Naturale Regionale	1984	18.06	20.45
810	Italy	Isole Di Ventotene E Santo Stefano	Marine Protected Area	Area Marina Protetta	1997	27.91	27.92
811	Italy	Isole Egadi	Marine Protected Area	Area Marina Protetta	1991	541.06	541.15
812	Italy	Isole Pelagie	Marine Protected Area	Area Marina Protetta	2002	38.73	38.80
814	Italy	Isole Tremiti	Marine Protected Area	Area Marina Protetta	1989	14.71	14.78
831	Italy	Miramare	Marine Protected Area	Area Marina Protetta	1986	0.29	0.29
846	Italy	Penisola Del Sinis - Isola Mal Di Ventre	Marine Protected Area	Area Marina Protetta	1997	267.02	267.07
851	Italy	Plemmirio	Marine Protected Area	Area Marina Protetta	2004	24.28	24.28
854	Italy	Porto Cesareo	Marine Protected Area	Area Marina Protetta	1997	164.81	165.00
857	Italy	Portofino	Marine Protected Area	Area Marina Protetta	1998	3.61	3.62
865	Italy	Punta Campanella	Marine Protected Area	Area Marina Protetta	1997	15.16	15.24
871	Italy	Regno Di Nettuno	Marine Protected Area	Area Marina Protetta	2007	112.61	112.64
876	Italy	Santa Maria Di Castellabate	Marine Protected Area	Area Marina Protetta	2009	70.87	70.91
882	Italy	Secche Della Meloria	Marine Protected Area	Area Marina Protetta	2009	93.78	93.78
885	Italy	Secche Di Tor Paterno	Marine Protected Area	Area Marina Protetta	2000	13.85	13.85
904	Italy	Tavolara - Punta Coda Cavallo	Marine Protected Area	Area Marina Protetta	1997	153.12	153.24
909	Italy	Torre Del Cerrano	Marine Protected Area	Area Marina Protetta	2009	34.15	34.17
911	Italy	Torre Guaceto	Marine Protected Area	Area Marina Protetta	1991	21.82	21.82
923	Lebanon	Palm Islands	Nature Reserve	محمية الطبيعية	1992	4.17	4.17
927	Lebanon	Tyre Coast	Nature Reserve	محمية الطبيعية	1998	36.89	38.88
929	Libya	Ain Al-Ghazalah Gulf	Marine Protected Area		2011	265.58	292.78
934	Libya	Farwa Lagoon	Marine Protected Area		2011	47.66	55.91

1530	Malta	Marine Area around Gozo	Special Area of Conservation of International Importance	Żona Speċjali ta 'Konservazzjoni ta' Importanza Internazzjonali	2016	556.85	556.85
942	Malta	Marine Area In The Limits Of Dwejra	Special Area of Conservation of International Importance	Żona Speċjali ta 'Konservazzjoni ta' Importanza Internazzjonali	2007	2.28	2.29
943	Malta	Marine Area In The Limits Of Ghar Lapsi And Filfla	Special Area of Conservation of International Importance	Żona Speċjali ta 'Konservazzjoni ta' Importanza Internazzjonali	2010	24.39	24.52
944	Malta	Marine Area In The Limits Of Mgarr Ix-Xini	Special Area of Conservation of International Importance	Żona Speċjali ta 'Konservazzjoni ta' Importanza Internazzjonali	2010	0.26	0.31
945	Malta	Marine Area In The Northeast Malta	Special Area of Conservation of International Importance	Żona Speċjali ta 'Konservazzjoni ta' Importanza Internazzjonali	2010	154.13	155.35
1535	Malta	Marine Area to the East	Special Area of Conservation of International Importance	Żona Speċjali ta 'Konservazzjoni ta' Importanza Internazzjonali	2016	625.59	625.59
1533	Malta	Marine Area to the North	Special Area of Conservation of International Importance	Żona Speċjali ta 'Konservazzjoni ta' Importanza Internazzjonali	2016	319.22	319.22
1534	Malta	Marine Area to the Northeast	Special Area of Conservation of International Importance	Żona Speċjali ta 'Konservazzjoni ta' Importanza Internazzjonali	2016	351.94	351.94
1532	Malta	Marine Area to the Northwest	Special Area of Conservation of International Importance	Żona Speċjali ta 'Konservazzjoni ta' Importanza Internazzjonali	2016	55.93	55.93
1528	Malta	Marine Area to the South	Special Area of Conservation of International Importance	Żona Speċjali ta 'Konservazzjoni ta' Importanza Internazzjonali	2016	835.41	835.41
1529	Malta	Marine Area to the Southeast	Special Area of Conservation of International Importance	Żona Speċjali ta 'Konservazzjoni ta' Importanza Internazzjonali	2016	256.30	256.30
1536	Malta	Marine Area to the Southwest	Special Area of Conservation of International Importance	Żona Speċjali ta 'Konservazzjoni ta' Importanza Internazzjonali	2016	219.34	219.34
1531	Malta	Marine Area to the West	Special Area of Conservation of International Importance	Żona Speċjali ta 'Konservazzjoni ta' Importanza Internazzjonali	2016	231.06	231.06
946	Malta	Marine Between Rdum Majjiesa U Ras Ir-Raheb	Special Area of Conservation of International Importance	Żona Speċjali ta 'Konservazzjoni ta' Importanza Internazzjonali	2007	8.42	8.49
951	Monaco	Larvotto	Underwater reserve	Réserve Sous-marine	1978	0.23	0.23

952	Monaco	Tombant Des Spélugues	Marine Reserve	Réserve Marine	1986	0.02	0.02
954	Monte-negro	Kotorsko Risanski Zaliv	Area protected by municipal decision	Područja zaštićena opštinskim odlukama	1979	25.67	109.96
957	Morocco	Al-Hoceima	National Park	Parc National	2004	213.69	490.77
967	Slovenia	Cape Madona	Natural Monument	Naravni Spomenik	1990	0.12	0.12
968	Slovenia	Debeli Rtic	Natural Monument	Naravni Spomenik	1991	0.22	0.24
1316	Slovenia	Sečoveljske soline	Landscape Park	Krajinski park	2001	4.66	8.58
974	Slovenia	Skocjanski Zatok	Nature Reserve	Naravni Rezervat	1998	0.00	1.22
975	Slovenia	Strunjan	Landscape Park	Krajinski park	1990	2.34	4.71
979	Spain	Acantilados De Maro Cerro Gordo	Natural Area	Paraje Natural	1989	14.60	17.91
986	Spain	Aiguamolls De L'Alt Empordà	Plan for Areas of Natural Interest	Pla d'Espais d'Interès Natural	1992	59.06	108.37
989	Spain	Archipielago De Cabrera	National Park	Parque Nacional	1991	88.41	100.35
1003	Spain	Arrecife Barrera De Posidonia	Natural Monument	Monumento Natural	2001	1.06	1.08
1009	Spain	Bahia De Palma	Marine Reserve	Reserva Marina	1982	23.63	23.63
1013	Spain	Cabo De Gata Níjar	Nature Park	Parque Natural	1987	123.49	495.43
1012	Spain	Cabo de Gata Níjar	Marine Reserve	Reserva Marina	1995	121.62	121.62
1015	Spain	Cabo De Palos - Islas Hormigas	Marine Reserve	Reserva Marina	1995	19.33	19.33
1016	Spain	Cabo De San Antonio	Marine Reserve	Reserva Marina	2002	9.65	9.67
1026	Spain	Cap De Creus	Nature Park	Parque Natural	1998	33.46	138.46
1028	Spain	Cap de Santes Creus - Litoral meridional tarragoní	Plan for Areas of Natural Interest	Pla d'Espais d'Interès Natural	1992	46.03	46.92
1033	Spain	Castell - Cap Roig	Plan for Areas of Natural Interest	Pla d'Espais d'Interès Natural	2003	8.19	12.30
1037	Spain	Costes del Garraf	Plan for Areas of Natural Interest	Pla d'Espais d'Interès Natural	1992	264.86	264.86
1039	Spain	Costes del Maresme	Plan for Areas of Natural Interest	Pla d'Espais d'Interès Natural		29.09	29.09
1044	Spain	Delta De L'Ebre	Nature Park	Parque Natural	1983	372.36	485.30
1045	Spain	El Estrecho	Nature Park	Parque Natural	2003	94.58	189.21
1047	Spain	El Montgrí, Les Illes Medes I El Baix Ter	Nature Park	Parque Natural	2010	21.44	82.01
1051	Spain	Es Vedrà, es Vedranell i els illots de Ponent	Nature Reserve	Reserva Natural	2002	6.25	8.05

1085	Spain	Freus D'Eivissa I Formentera	Marine Reserve	Reserva Marina	2001	145.00	145.06
1087	Spain	Grapissar de Masia Blanca	Plan for Areas of Natural Interest	Pla d'Espais d'Interès Natural		4.45	4.45
1089	Spain	Illa De Tabarca	Marine Reserve	Reserva Marina	1986	13.72	13.75
1090	Spain	Illa Del Toro	Marine Reserve	Reserva Marina	2004	1.48	1.48
1091	Spain	Illes Columbretes	Marine Reserve	Reserva Marina	1990	44.21	44.30
1094	Spain	Illes Malgrats	Marine Reserve	Reserva Marina	2004	0.96	0.96
1098	Spain	Irta	Marine Reserve	Reserva Marina	2002	24.46	24.46
1100	Spain	Isla De Alboran	Natural Area	Paraje Natural	2003	263.83	263.91
1102	Spain	Isla de Alborán	Marine Reserve	Reserva Marina	1997	16.28	16.29
1104	Spain	Islas Chafarinas	National Hunting Refuge	Refugio Nacional de Caza	1982	4.60	5.07
1115	Spain	Llevant De Mallorca - Cala Ratjada	Marine Reserve	Reserva Marina	2007	114.38	114.38
1118	Spain	Masia Blanca	Marine Reserve	Reserva Marina	1999	4.45	4.45
1120	Spain	Massís De Les Cadiretes	Plan for Areas of Natural Interest	Pla d'Espais d'Interès Natural	1992	21.40	98.81
1121	Spain	Migjorn De Mallorca	Marine Reserve	Reserva Marina	2002	224.80	224.80
1126	Spain	Muntanyes De Begur	Plan for Areas of Natural Interest	Pla d'Espais d'Interès Natural	1992	12.78	23.36
1128	Spain	Norte De Menorca	Marine Reserve	Reserva Marina	1999	53.40	53.40
1129	Spain	Pinya De Rosa	Plan for Areas of Natural Interest	Pla d'Espais d'Interès Natural	2006	0.18	0.85
1139	Spain	S'Albufera Des Grau	Nature Park	Parque Natural	2005	17.75	51.82
1141	Spain	Serra De Tramuntana	Natural Area	Paraje Natural	2007	16.49	630.68
1144	Spain	Serra Gelada	Nature Park	Parque Natural	2005	49.49	56.50
1146	Spain	Ses Negres	Marine Reserve	Reserva Marina	1993	0.18	0.18
1148	Spain	Ses Salines D'Eivissa I Formentera	Nature Park	Parque Natural	2001	145.97	167.85
1153	Spain	Tamarit - Punta De La Mora - Costes del Tarragonès	Plan for Areas of Natural Interest	Pla d'Espais d'Interès Natural	1992	9.67	10.74
1158	Syria	Ibn Hani			2010		
1178	Tunisia	Galiton	Nature Reserve	Réserve Naturelle	1980	4.65	4.82
1185	Tunisia	Iles Kneiss	Nature Reserve	Réserve Naturelle	1993	74.70	77.72
1205	Tunisia	Zembra	Biological Protection Zone	Zone de Protection Biologique	1973	50.82	50.82

1210	Turkey	Datca-Bozburun	Special Environmental Protection Area (SEPA)	Özel Çevre Koruma Bölgesi	1990	757.33	1,443.51
1212	Turkey	Fethiye-Gocek	Special Environmental Protection Area (SEPA)	Özel Çevre Koruma Bölgesi	1988	337.15	805.14
1213	Turkey	Foca	Special Environmental Protection Area (SEPA)	Özel Çevre Koruma Bölgesi	1990	50.64	71.44
1215	Turkey	Gokova	Special Environmental Protection Area (SEPA)	Özel Çevre Koruma Bölgesi	1988	826.73	1,093.06
1216	Turkey	Goksu Delta	Special Environmental Protection Area (SEPA)	Özel Çevre Koruma Bölgesi	1990	78.73	228.37
1218	Turkey	Kas-Kekova	Special Environmental Protection Area (SEPA)	Özel Çevre Koruma Bölgesi	1990	156.53	257.91
1219	Turkey	Koycegiz-Dalyan	Special Environmental Protection Area (SEPA)	Özel Çevre Koruma Bölgesi	1988	35.53	461.30
1220	Turkey	Marmaris	National Park	Milli Parkı	1996	44.68	304.62
1221	Turkey	Patara	Special Environmental Protection Area (SEPA)	Özel Çevre Koruma Bölgesi	1990	43.71	197.07
1223	Turkey	Saros Korfezi	Special Environmental Protection Area (SEPA)	Özel Çevre Koruma Bölgesi	2010	544.49	730.15

List of marine Natura 2000 sites

MAPA-MED identifier	Country	Natura 2000 identifier	Name	Designation	Date SPA	Date proposed as SCI	Date confirmed as SCI	Date SAC	Marine area (km²)	Total area (km²)
39	Croatia	HR3000431	Akvatorij J od uvale Pržina i S od uvale Bilin žal uz poluotok Ražnjić	SCI		01/07/2013			1.19	1.22
40	Croatia	HR3000170	Akvatorij uz Konavoske stijene	SCI		01/07/2013			13.64	13.67
41	Croatia	HR5000032	Akvatorij zapadne Istre	SCI		01/07/2013			753.84	762.75
42	Croatia	HR1000032	Akvatorij zapadne Istre	SPA	01/07/2013				138.72	148.46
43	Croatia	HR3000101	Arkanđel	SCI		01/07/2013			0.35	0.36
44	Croatia	HR3000473	Babuljaši i okolni grebeni	SCI		01/07/2013			1.99	2.01
45	Croatia	HR4000007	Badija i otoci oko Korčule	SCI		01/07/2013			8.90	8.95
1343	Croatia	HR3000340	Batista jama (Bijaka)	SCI		01/07/2013			0.00	0.01
47	Croatia	HR3000098	Biševo more	SCI		01/07/2013			7.75	7.84
48	Croatia	HR3000092	Blitvenica	SCI		01/07/2013			0.16	0.16
50	Croatia	HR3000065	Bonaster - o. Molat	SCI		01/07/2013			1.02	1.02
51	Croatia	HR3000127	Brač - podmorje	SCI		01/07/2013			6.79	6.83
52	Croatia	HR3000475	Brač - podmorje od Rta Gališnjak do Druge vale	SCI		01/07/2013			3.44	3.51
53	Croatia	HR3000064	Brguljski zaljev - o. Molat	SCI		01/07/2013			5.07	5.07
56	Croatia	HR3000099	Brusnik i Svetac	SCI		01/07/2013			14.75	14.79
58	Croatia	HR3000466	Čiovo od uvale Orlice do rta Čiova	SCI		01/07/2013			2.22	2.22
59	Croatia	HR3000161	Cres - Lošinj	SCI		01/07/2013			523.11	525.71
60	Croatia	HR3000004	Cres - rt Grota - Merag	SCI		01/07/2013			3.16	3.18

61	Croatia	HR3000005	Cres - rt Pernat - uvala Tiha	SCI		01/07/2013			6.47	6.49
62	Croatia	HR3000007	Cres - rt Suha - rt Meli	SCI		01/07/2013			74.64	74.76
63	Croatia	HR3000133	Crni rat - o. Brač	SCI		01/07/2013			2.82	2.83
65	Croatia	HR5000031	Delta Neretve	SCI		01/07/2013			10.33	238.04
66	Croatia	HR1000031	Delta Neretve	SPA	01/07/2013				10.33	237.72
67	Croatia	HR3000026	Dolfin i otoci	SCI		01/07/2013			10.94	10.95
69	Croatia	HR4000028	Elafiti	SCI		01/07/2013			42.48	67.77
70	Croatia	HR3000108	Fumija I - podmorje	SCI		01/07/2013			1.53	1.54
71	Croatia	HR3000110	Fumija II - podmorje	SCI		01/07/2013			1.98	1.99
1326	Croatia	HR2001474	Golubinka kod Han-drake	SCI		01/07/2013			0.01	0.01
72	Croatia	HR3000105	Hrid Mulji-ca more	SCI		01/07/2013			0.04	0.04
1504	Croatia	HR2001428	Hvar - od Maslinice do Gre-bišća	SCI		01/07/2013				
1503	Croatia	HR2001425	Hvar - od Prapratna do Karn-jakuše	SCI		01/07/2013				
75	Croatia	HR3000456	Hvar - od uvale Vitarna do uvale Maslinica	SCI		01/07/2013			2.70	2.70
76	Croatia	HR3000451	Hvar - otok Zečevo	SCI		01/07/2013			2.30	2.32
78	Croatia	HR3000028	I. strana V. i M. Orjula	SCI		01/07/2013			4.90	4.92
79	Croatia	HR3000014	Ilovik i Sv. Petar	SCI		01/07/2013			4.16	4.18
80	Croatia	HR3000077	J dio o. Iža i o. Mr-tovnjak	SCI		01/07/2013			2.77	2.77
81	Croatia	HR3000073	J rt o. Zverinac	SCI		01/07/2013			1.18	1.18
82	Croatia	HR3000419	J. Mo-lat-Du-gi-Kor-nat-Mur-ter-Paš-man-Ugl-jan-Ri-vanj-Ses-trunj-Mo-lat	SCI		01/07/2013			608.22	608.54
83	Croatia	HR3000423	Jabučka kotlina	SCI		01/07/2013			305.44	305.44

1342	Croatia	HR3000331	Jama Bač II	SCI		01/07/2013			0.00	0.01
1341	Croatia	HR3000319	Jama Gradina	SCI		01/07/2013			0.00	0.01
1346	Croatia	HR3000376	Jama Stračinćica	SCI		01/07/2013			0.00	0.01
1338	Croatia	HR3000257	Jama Vr-tare Male	SCI		01/07/2013			0.00	0.01
1347	Croatia	HR3000381	Jama Zaglavica	SCI		01/07/2013			0.00	0.01
85	Croatia	HR3000066	JI dio o. Molata	SCI		01/07/2013			5.66	5.68
86	Croatia	HR3000096	JI strana o. Visa	SCI		01/07/2013			10.88	11.00
87	Croatia	HR3000457	Južna obala Hvara - od rta Nedjel-ja do uvale Česminica	SCI		01/07/2013			15.67	15.98
89	Croatia	HR3000093	JZ strana Šolte - I	SCI		01/07/2013			4.34	4.36
90	Croatia	HR3000094	JZ strana Šolte - II	SCI		01/07/2013			4.74	4.82
91	Croatia	HR3000116	Kabal - podmorje	SCI		01/07/2013			2.73	2.75
92	Croatia	HR3000442	Kakanski kanal	SCI		01/07/2013			7.23	7.24
93	Croatia	HR3000441	Kaprije	SCI		01/07/2013			6.21	6.23
95	Croatia	HR2000911	Kolansko blato - Blato Rogoza	SCI		01/07/2013			0.01	1.75
98	Croatia	HR3000042	Košljunski zaljev	SCI		01/07/2013			2.82	2.82
99	Croatia	HR3000102	Kosmač M. i V.	SCI		01/07/2013			0.15	0.16
100	Croatia	HR3000438	Kosmerka - Prokla-d-nica - Vrtlac - Babuljak - podmorje	SCI		01/07/2013			1.27	1.28
101	Croatia	HR3000454	Krk - od Crikvenog rta do rta Sv. Nikole	SCI		01/07/2013			0.99	1.01
102	Croatia	HR3000452	Krk - od rta Negrit do uvale Zaglav	SCI		01/07/2013			1.06	1.06
103	Croatia	HR3000453	Krk - od uvale Zaglav do Crikvenog rta	SCI		01/07/2013			0.84	0.85
104	Croatia	HR3000109	Krknjaši	SCI		01/07/2013			0.36	0.37
105	Croatia	HR3000444	Kukuljari	SCI		01/07/2013			0.85	0.86
106	Croatia	HR1000033	Kvarnerski otoci	SPA	01/07/2013				176.07	1,141.28

108	Croatia	HR4000027	Laguna kod Povljane - Sega	SCI		01/07/2013			0.09	0.12
110	Croatia	HR3000426	Lastovski i Mljetski kanal	SCI		01/07/2013			1,082.83	1,084.88
111	Croatia	HR1000038	Lastovsko otočje	SPA	01/07/2013				144.44	195.76
114	Croatia	HR3000001	Limski kanal - more	SCI		01/07/2013			6.66	6.69
116	Croatia	HR3000046	Ljubačka vrata	SCI		01/07/2013			0.64	0.65
117	Croatia	HR3000175	Ljubački zaljev	SCI		01/07/2013			7.76	7.84
1327	Croatia	HR2001475	Ljubičica kod Han-drake	SCI		01/07/2013			0.01	0.01
118	Croatia	HR4000017	Lokrum	SCI		01/07/2013			0.62	1.20
119	Croatia	HR3000011	Lošinj - uvala Balvanida	SCI		01/07/2013			0.11	0.11
120	Croatia	HR3000010	Lošinj - uvala Krivica	SCI		01/07/2013			0.11	0.11
121	Croatia	HR3000012	Lošinj - uvala Pijeska	SCI		01/07/2013			0.08	0.08
122	Croatia	HR3000009	Lošinj - uvala Sunfarni	SCI		01/07/2013			0.10	0.10
123	Croatia	HR3000008	Lošinj - Vela i Mala draga	SCI		01/07/2013			0.09	0.09
125	Croatia	HR3000067	Luka Soliščica; Dugi Otok	SCI		01/07/2013			9.35	9.37
127	Croatia	HR3000179	Lun - pod-morje	SCI		01/07/2013			11.99	12.05
128	Croatia	HR3000030	M. Draga - Žrnovica	SCI		01/07/2013			0.66	0.66
129	Croatia	HR3000020	Mala i Vela luka na poluotoku Sokol, Krk	SCI		01/07/2013			1.88	1.91
131	Croatia	HR4000015	Malos-tonski zaljev	SCI		01/07/2013			57.03	57.14
1350	Croatia	HR3000447	Markova jama	SCI		01/07/2013			0.00	0.01
132	Croatia	HR3000173	Medu-linski zaljev	SCI		01/07/2013			21.67	21.90
1335	Croatia	HR3000198	Medvjeđa pećina kod uvale Lučica (Lošinj)	SCI		01/07/2013			0.00	0.01

1349	Croatia	HR3000446	Medvjeđa špilja (morska)	SCI		01/07/2013			0.00	0.01
1328	Croatia	HR2001476	Medvjedina špilja	SCI		01/07/2013			0.01	0.01
133	Croatia	HR3000103	Merara	SCI		01/07/2013			0.09	0.09
135	Croatia	HR3000056	More oko otoka Grujica	SCI		01/07/2013			0.64	0.65
136	Croatia	HR3000060	More oko otoka Škarda	SCI		01/07/2013			5.19	5.19
137	Croatia	HR3000460	Morinjski zaljev	SCI		01/07/2013			1.98	1.99
138	Croatia	HR3000112	Mrduja	SCI		01/07/2013			0.81	0.81
139	Croatia	HR3000104	Muljica V. more	SCI		01/07/2013			0.08	0.08
141	Croatia	HR3000445	Murterski kanal	SCI		01/07/2013			6.00	6.09
142	Croatia	HR3000106	Murvica	SCI		01/07/2013			0.06	0.07
143	Croatia	HR2000604	Nacional-ni park Brijuni	SCI		01/07/2013			27.04	33.97
144	Croatia	HR4000001	Nacional-ni park Kornati	SCI		01/07/2013			169.22	215.71
145	Croatia	HR5000037	Nacionalni park Mljet	SCI		01/07/2013			26.12	52.88
1329	Croatia	HR2001477	Nevjestina špilja	SCI		01/07/2013			0.01	0.01
148	Croatia	HR3000176	Ninski zaljev	SCI		01/07/2013			22.33	22.41
150	Croatia	HR4000030	No-vigradsko i Karinsko more	SCI		01/07/2013			35.37	36.86
151	Croatia	HR1000035	NP Kornati i PP Te-lašćica	SPA	01/07/2013				215.38	285.73
152	Croatia	HR3000029	Obala između rta Šilo i Vodotoč	SCI		01/07/2013			5.01	5.05
153	Croatia	HR3000172	Obalna linija od luke Gonoturs-ka do rta Vratnički	SCI		01/07/2013			42.59	42.63
155	Croatia	HR3000052	Olib - po-dmorje	SCI		01/07/2013			5.75	5.77
156	Croatia	HR3000125	Osejava	SCI		01/07/2013			0.15	0.15
159	Croatia	HR3000114	Otoci Lukavci	SCI		01/07/2013			0.64	0.66
160	Croatia	HR3000107	Otoci Orud i Mačaknar	SCI		01/07/2013			0.77	0.77

161	Croatia	HR3000462	Otoci rovinjskog područja - podmorje	SCI		01/07/2013			1.24	1.25
162	Croatia	HR3000059	Otoci Škrda i Maun	SCI		01/07/2013			5.99	6.04
163	Croatia	HR3000474	Otočić Drvenik	SCI		01/07/2013			0.27	0.27
164	Croatia	HR3000122	Otočić Galijula	SCI		01/07/2013			0.89	0.89
171	Croatia	HR3000135	Otok Hvar - od Uvale Dubovica do rta Nedjelja	SCI		01/07/2013			1.02	1.06
172	Croatia	HR3000100	Otok Jabuka - podmorje	SCI		01/07/2013			1.13	1.13
173	Croatia	HR3000075	Otok Jidula do rt Ovčjak; prolaz V. Ždrelac	SCI		01/07/2013			2.81	2.81
174	Croatia	HR3000079	Otok Ka-rantunić	SCI		01/07/2013			0.17	0.17
175	Croatia	HR3000153	Otok Korčula - od uvale Poplat do Vrhovn-jaka	SCI		01/07/2013			17.51	19.01
177	Croatia	HR3000152	Otok Proizd i Privala na Korčuli	SCI		01/07/2013			6.38	6.41
178	Croatia	HR2001359	Otok Rab	SCI		01/07/2013			1.99	76.44
179	Croatia	HR3000119	Otok Šćedro	SCI		01/07/2013			4.84	4.92
181	Croatia	HR3000078	Otok Tu-košćak i o. Mrtonjak	SCI		01/07/2013			0.34	0.34
182	Croatia	HR2000942	Otok Vis	SCI		01/07/2013			1.47	90.79
183	Croatia	HR3000097	Otok Vis - podmorje	SCI		01/07/2013			29.19	29.53
184	Croatia	HR3000085	Otok Vrgada SI strana s o. Kozina	SCI		01/07/2013			2.58	2.58
185	Croatia	HR4000031	Otok Zeča	SCI		01/07/2013			2.88	5.25
187	Croatia	HR3000040	Pag - od uvale Luka V. do rta Krištofor	SCI		01/07/2013			3.54	3.63
188	Croatia	HR3000095	Pakleni otoci	SCI		01/07/2013			19.74	19.84
190	Croatia	HR3000121	Palagruža - podmor-je I	SCI		01/07/2013			4.04	4.05
191	Croatia	HR3000430	Pantan	SCI		01/07/2013			0.16	0.47

192	Croatia	HR3000459	Pantan - Divulje	SCI		01/07/2013			0.87	0.87
194	Croatia	HR5000038	Park prirode Lastovsko otočje	SCI		01/07/2013			144.44	195.76
195	Croatia	HR4000002	Park prirode Telašćica	SCI		01/07/2013			46.16	70.02
197	Croatia	HR3000041	Paška vrata	SCI		01/07/2013			3.51	3.54
200	Croatia	HR3000156	Pavja luka	SCI		01/07/2013			0.08	0.09
201	Croatia	HR3000115	Pelegrin - podmorje	SCI		01/07/2013			1.69	1.70
202	Croatia	HR3000150	Pelješac - od uvale Rasoka do rta Osičac	SCI		01/07/2013			10.13	10.15
203	Croatia	HR3000058	Planik i Planičić	SCI		01/07/2013			3.76	3.78
204	Croatia	HR3000061	Plićine oko Maslin-jaka; Vo-denjaka, Kamen-jaka	SCI		01/07/2013			2.93	2.95
205	Croatia	HR3000062	Plićine oko Tramerke	SCI		01/07/2013			12.85	12.85
206	Croatia	HR3000002	Plomin - Mošče-nička draga	SCI		01/07/2013			1.66	1.70
207	Croatia	HR3000465	Podmorje istočne obale otoka Krka	SCI		01/07/2013			3.80	3.83
208	Croatia	HR3000470	Podmorje kod Rabca	SCI		01/07/2013			0.22	0.22
209	Croatia	HR3000467	Podmorje Kostrene	SCI		01/07/2013			0.71	0.71
210	Croatia	HR3000472	Podmorje oko rta Ćuf na Krku	SCI		01/07/2013			0.54	0.54
211	Croatia	HR3000113	Podmorje otočića Mrduja	SCI		01/07/2013			0.05	0.05
212	Croatia	HR3000022	Podmorje otoka Gr-gur i Goli	SCI		01/07/2013			9.55	9.58
213	Croatia	HR3000021	Podmorje otoka Prvić	SCI		01/07/2013			6.79	6.82
214	Croatia	HR3000017	Podmorje otoka Suska	SCI		01/07/2013			3.49	3.54
215	Croatia	HR3000018	Podmorje otoka Unije	SCI		01/07/2013			9.68	9.78
216	Croatia	HR3000016	Podmorje Plavnika i Kormata	SCI		01/07/2013			5.36	5.38

217	Croatia	HR3000468	Podmorje poluotoka Lopar - Rab	SCI		01/07/2013			10.79	10.85
218	Croatia	HR3000027	Podmorje Trstenika	SCI		01/07/2013			4.85	4.85
219	Croatia	HR2001337	Područ-je oko Rafove (Zatonske) špilje	SCI		01/07/2013			0.11	1.43
220	Croatia	HR3000464	Područje oko rta Tatinja - Hvar	SCI		01/07/2013			2.32	2.34
224	Croatia	HR3000174	Pomerski zaljev	SCI		01/07/2013			0.67	0.69
226	Croatia	HR3000054	Premuda - vanjska strana	SCI		01/07/2013			9.90	9.91
227	Croatia	HR4000005	Privlaka - Ninski zaljev - Ljubački zaljev	SCI		01/07/2013			0.82	20.20
228	Croatia	HR3000063	Prolaz između Zapuntela i Ista	SCI		01/07/2013			5.36	5.41
230	Croatia	HR1000039	Pučinski otoci	SPA	01/07/2013				26.95	126.81
231	Croatia	HR3000076	Punta Parda	SCI		01/07/2013			0.80	0.80
232	Croatia	HR3000154	Pupnatska luka	SCI		01/07/2013			0.13	0.15
233	Croatia	HR3000051	Ražanac M. i V.	SCI		01/07/2013			1.32	1.32
234	Croatia	HR3000111	Recetino-vac	SCI		01/07/2013			0.28	0.28
235	Croatia	HR3000074	Rivanjski kanal sa Sestricama	SCI		01/07/2013			11.04	11.05
236	Croatia	HR3000081	Rončić	SCI		01/07/2013			0.07	0.07
237	Croatia	HR3000455	Rt Gomili-ca - Brač	SCI		01/07/2013			1.90	1.90
238	Croatia	HR3000162	Rt Ru-kavac - Rt Marčuleti	SCI		01/07/2013			1.74	1.74
239	Croatia	HR1000034	S dio zadarskog arhipelaga	SPA	01/07/2013				45.54	130.41
242	Croatia	HR3000437	Sedlo - podmorje	SCI		01/07/2013			0.59	0.59
244	Croatia	HR3000053	Silba - po-dmorje	SCI		01/07/2013			9.91	9.94
245	Croatia	HR4000025	Silbanski grebeni	SCI		01/07/2013			2.21	2.44
246	Croatia	HR2001360	Šire rovinjsko područje	SCI		01/07/2013			0.57	101.69

247	Croatia	HR3000166	Sjeverna obala od rta Pusta u uvali Sobra do rta Stoba kod uvale Okuklje s otocima i akvatori-jem	SCI		01/07/2013			2.32	2.33
1325	Croatia	HR2001384	Solana Dinjiška	SCI		01/07/2013			0.01	0.63
248	Croatia	HR3000421	Solana Nin	SCI		01/07/2013			0.53	0.58
249	Croatia	HR3000450	Solana Pag	SCI		01/07/2013			3.35	3.98
250	Croatia	HR3000167	Solana Ston	SCI		01/07/2013			0.37	0.38
251	Croatia	HR3000458	Šolta od uvale Šipkova do Grčkog rata	SCI		01/07/2013			1.28	1.28
1336	Croatia	HR3000208	Špilja kod iškog Mr-tovnjaka	SCI		01/07/2013			0.00	0.01
1344	Croatia	HR3000349	Špilja Ma-tijaševica	SCI		01/07/2013			0.01	0.01
1330	Croatia	HR2001478	Špilja pod Neharom	SCI		01/07/2013			0.01	0.01
1337	Croatia	HR3000247	Špilja pod-no Kostrija (Vrbnička špilja)	SCI		01/07/2013			0.01	0.01
1331	Croatia	HR2001479	Špilje od Konjavca	SCI		01/07/2013			0.01	0.01
1332	Croatia	HR2001480	Špiljica u luci Trstena	SCI		01/07/2013			0.01	0.01
1333	Croatia	HR2001481	Špiljice kod mola od Orašca	SCI		01/07/2013			0.01	0.01
252	Croatia	HR1000036	Srednje-dalma-tinski otoci i Pelješac	SPA	01/07/2013				64.49	826.43
253	Croatia	HR3000043	Stara Povljana	SCI		01/07/2013			0.83	0.84
254	Croatia	HR3000163	Stonski kanal	SCI		01/07/2013			5.65	5.66
256	Croatia	HR3000024	Supetars-ka draga na Rabu	SCI		01/07/2013			4.12	4.23
257	Croatia	HR3000031	Sv. Juraj - otočić Lisac	SCI		01/07/2013			0.49	0.50
259	Croatia	HR3000164	Sveti Andrija - podmorje	SCI		01/07/2013			0.27	0.27
260	Croatia	HR3000124	Sveti Petar	SCI		01/07/2013			0.06	0.06

261	Croatia	HR1000023	SZ Dalmacija i Pag	SPA	01/07/2013				249.32	604.54
262	Croatia	HR1000037	SZ dio NP Mljet	SPA	01/07/2013				15.59	16.46
265	Croatia	HR3000443	Tetovišnjak - podmorje	SCI		01/07/2013			5.14	5.15
266	Croatia	HR3000128	U. Ramova; u. Krvavica	SCI		01/07/2013			0.43	0.43
267	Croatia	HR3000126	Ušće Cetine	SCI		01/07/2013			6.58	6.77
268	Croatia	HR3000171	Ušće Krke	SCI		01/07/2013			20.94	43.90
269	Croatia	HR3000433	Ušće Mirne	SCI		01/07/2013			0.67	1.26
270	Croatia	HR3000432	Ušće Raše	SCI		01/07/2013			0.38	0.44
271	Croatia	HR3000071	Uvala Brbišćica	SCI		01/07/2013			0.37	0.37
272	Croatia	HR3000137	Uvala Bristova - Hvar	SCI		01/07/2013			0.10	0.10
273	Croatia	HR3000039	Uvala Caska - od Metajne do rta Hanzina	SCI		01/07/2013			9.00	9.03
274	Croatia	HR3000045	Uvala Dinjiška	SCI		01/07/2013			2.22	2.31
275	Croatia	HR3000476	Uvala Divna - Pelješac	SCI		01/07/2013			0.20	0.21
1345	Croatia	HR3000351	Uvala Drašnica - vrulja	SCI		01/07/2013			0.01	0.01
276	Croatia	HR3000068	Uvala Golubinka - rt Lopata	SCI		01/07/2013			0.41	0.42
277	Croatia	HR3000088	Uvala Grebaštica	SCI		01/07/2013			3.62	3.64
278	Croatia	HR3000032	Uvala Ivanča	SCI		01/07/2013			0.19	0.19
279	Croatia	HR3000037	Uvala Jurišnica	SCI		01/07/2013			0.23	0.23
280	Croatia	HR3000129	Uvala Klokun	SCI		01/07/2013			0.34	0.34
281	Croatia	HR3000035	Uvala Krivača	SCI		01/07/2013			0.36	0.36
282	Croatia	HR3000134	Uvala Lovrečina	SCI		01/07/2013			0.08	0.08
283	Croatia	HR3000140	Uvala M. Moševčica - Hvar	SCI		01/07/2013			0.03	0.03
284	Croatia	HR3000139	Uvala M. Pogorila - Hvar	SCI		01/07/2013			0.06	0.06
285	Croatia	HR3000086	Uvala Makirina	SCI		01/07/2013			0.35	0.36

287	Croatia	HR3000033	Uvala Malin; uvala Duboka	SCI		01/07/2013			1.55	1.55
288	Croatia	HR3000461	Uvala Modrić	SCI		01/07/2013			0.09	0.10
289	Croatia	HR3000155	Uvala Orlanduša	SCI		01/07/2013			0.06	0.06
290	Croatia	HR4000006	Uvala Plemići	SCI		01/07/2013			0.13	2.13
291	Croatia	HR3000463	Uvala Remac	SCI		01/07/2013			0.21	0.22
292	Croatia	HR3000080	Uvala Sabuša	SCI		01/07/2013			0.64	0.64
293	Croatia	HR3000069	Uvala Sakarun	SCI		01/07/2013			4.37	4.38
294	Croatia	HR3000471	Uvala Škvaranska - Uvala Sv. Marina	SCI		01/07/2013			0.85	0.88
295	Croatia	HR3000165	Uvala Slano	SCI		01/07/2013			1.30	1.30
296	Croatia	HR3000019	Uvala Soline	SCI		01/07/2013			0.52	0.52
297	Croatia	HR3000180	Uvala Stara Novalja	SCI		01/07/2013			2.83	2.84
298	Croatia	HR3000090	Uvala Stivančica	SCI		01/07/2013			0.56	0.57
299	Croatia	HR3000084	Uvala Sv. Ante	SCI		01/07/2013			0.21	0.22
300	Croatia	HR3000091	Uvala Tijašnica	SCI		01/07/2013			0.52	0.54
301	Croatia	HR3000130	Uvala V. Duba	SCI		01/07/2013			0.06	0.06
302	Croatia	HR3000141	Uvala V. Moševčica - Hvar	SCI		01/07/2013			0.04	0.04
303	Croatia	HR3000138	Uvala V. Pogorila - Hvar	SCI		01/07/2013			0.04	0.04
304	Croatia	HR3000044	Uvala Vlašići	SCI		01/07/2013			0.58	0.59
305	Croatia	HR3000136	Uvala Vlaška - Hvar	SCI		01/07/2013			0.15	0.15
306	Croatia	HR3000123	Uvala Vrulja kod Brela	SCI		01/07/2013			0.30	0.30
307	Croatia	HR3000036	Uvala Vrulja u Velebitskom kanalu	SCI		01/07/2013			0.15	0.15
308	Croatia	HR3000072	Uvala Zagračina	SCI		01/07/2013			0.16	0.16
309	Croatia	HR3000034	Uvala Zavratnica	SCI		01/07/2013			0.20	0.20

310	Croatia	HR3000142	Uvale Divlja mala i Divlja vela - Hvar	SCI		01/07/2013			0.10	0.10
311	Croatia	HR3000415	Uvale Jaz; Soline i Sulinj na Krku	SCI		01/07/2013			3.38	3.40
312	Croatia	HR3000143	Uvale Kruševa; Pokrvenik i Zaraće - Hvar	SCI		01/07/2013			2.25	2.25
313	Croatia	HR3000089	Uvale oko rta Ploča	SCI		01/07/2013			1.85	1.89
314	Croatia	HR3000149	Uvale Prapratna i Makarac - Hvar	SCI		01/07/2013			0.23	0.23
315	Croatia	HR3000038	Uvale Svetojanj V. i M.; uvala Lusk	SCI		01/07/2013			0.41	0.42
316	Croatia	HR3000439	Uvale Tratinska i Balun	SCI		01/07/2013			0.46	0.47
317	Croatia	HR3000131	Uvale Vira donja i Vira gornja	SCI		01/07/2013			0.12	0.12
318	Croatia	HR3000082	V. i M. Skala	SCI		01/07/2013			0.57	0.57
319	Croatia	HR3000015	V. i M. Srakane	SCI		01/07/2013			2.57	2.64
322	Croatia	HR3000050	Vinjerac - Maslenič-ko ždrilo	SCI		01/07/2013			3.58	3.59
323	Croatia	HR3000469	Viški akva-torij	SCI		01/07/2013			518.86	518.86
324	Croatia	HR3000003	Vrsarski otoci	SCI		01/07/2013			8.78	8.95
1339	Croatia	HR3000279	Vrulja Plantaža	SCI		01/07/2013			0.01	0.01
1340	Croatia	HR3000280	Vrulja Zečica	SCI		01/07/2013			0.01	0.01
325	Croatia	HR3000070	Z. obala Dugog otoka	SCI		01/07/2013			6.55	6.58
326	Croatia	HR3000025	Zaljev Kampor na Rabu	SCI		01/07/2013			2.22	2.24
328	Croatia	HR3000417	Zaljev Sv. Eufemije na Rabu	SCI		01/07/2013			1.05	1.05
329	Croatia	HR3000440	Žirje - Kabal	SCI		01/07/2013			2.94	2.97
330	Croatia	HR3000120	Zlatni rat na Braču - podmorje	SCI		01/07/2013			0.23	0.24
1334	Croatia	HR3000177	Zmajevo oko	SCI		01/07/2013			0.00	0.01

1348	Croatia	HR3000414	Zmajevo uho	SCI		01/07/2013			0.00	0.01
333	Cyprus	CY5000005	Akrotirio Aspro - Petra Romiou	SPA & SCI	01/12/2005	01/05/2004	01/03/2008		21.08	24.91
334	Cyprus	CY4000010	Chersoni-sos Akama	SCI		01/02/2010			79.79	179.27
335	Cyprus	CY3000005	Kavo Gkreko	SPA & SCI	01/10/2007	01/05/2004	01/03/2008		9.75	18.77
338	Cyprus	CY4000001	Periochi Polis - Gialia	SCI		01/05/2004	01/03/2008		16.93	17.51
339	Cyprus	CY4000006	Thalassia Periochi Moulia	SCI		01/05/2004	01/03/2008		1.92	2.00
340	Cyprus	CY3000006	Thalassia Periochi Nisia	SCI		01/06/2004	01/03/2008		1.90	1.91
341	Cyprus	CY4000023	Zoni Eidikis Prostasias Chersoni-sos Akama	SPA	01/12/2009	01/12/2009			79.79	180.95
357	France	FR9400570	Agriates	SCI		31/07/2003	26/01/2013		231.54	296.66
360	France	FR9301998	Baie De La Ciotat	SCI		31/10/2008	26/01/2013		17.50	17.53
361	France	FR9402010	Baie De Stagnolu, Golfu Di Sognu, Golfe De Por-to-Vecchio	SCI		28/02/2001	26/01/2013		20.34	20.58
362	France	FR9301573	Baie Et Cap D'An-tibes - Iles De Lerins	SCI		31/07/2003	26/01/2013		133.71	135.87
363	France	FR9102014	Bancs Sableux De L'Espi-guette	SCI		31/10/2008	26/01/2013		87.76	88.51
365	France	FR9402015	Bouches De Bonifacio, Iles Des Moines	SCI		31/10/2008	26/01/2013		937.44	938.24
367	France	FR9301602	Calanques Et Iles Marseil-laises - Cap Canaille Et Massif Du Grand Caunet_ X000D_	SCI		31/07/2003	26/01/2013		393.87	499.41
369	France	FR9301592	Camargue	SCI		31/07/2003	26/01/2013		596.17	1,133.78
370	France	FR9310019	Camargue	SPA	03/10/2003				1,649.89	2,203.40
372	France	FR9112034	Cap Bear- Cap Cerbere	SPA	31/10/2008				382.46	382.49
373	France	FR9301996	Cap Ferrat	SCI		31/10/2008	26/01/2013		89.37	89.54

374	France	FR9301995	Cap Martin	SCI		30/04/2009	26/01/2013		20.81	20.85
375	France	FR9402018	Cap Rossu, Scandola, Pointe De La Reveletta, Canyon De Calvi	SCI		31/10/2008	26/01/2013		737.59	737.63
376	France	FR9301610	Cap Sicie - Six Fours	SCI		31/07/2003	26/01/2013		4.46	13.34
379	France	FR9412010	Capu Rossu , Scandola, Revellata, Calvi	SPA	30/10/2008				990.29	990.47
381	France	FR9412001	Colonie De Goélands D'Audouin (Larus Audouinii) D'Aspretto/Ajaccio	SPA	19/09/2003				0.02	0.02
382	France	FR9101441	Complexe Lagunaire De Lapalme	SCI		28/02/2001	26/01/2013	26/12/2008	0.04	18.33
383	France	FR9101463	Complexe Lagunaire De Salses	SCI		31/12/1998	26/01/2013		45.38	77.45
384	France	FR9112005	Complexe Lagunaire De	SPA	07/03/2006				45.48	76.60
385	France	FR9301624	Corniche Varoise	SCI		31/07/2003	26/01/2013		285.39	289.53
388	France	FR9301601	Cote Bleue - Chaine De L'Estaque	SCI		31/07/2003	26/01/2013		0.14	55.47
389	France	FR9301999	Cote Bleue Marine	SCI		31/10/2008	26/01/2013		188.50	188.64
390	France	FR9112035	Cote Languedocienne	SPA	31/10/2008				714.98	716.26
391	France	FR9102013	Cotes Sableuses De L'Infralittoral Languedocien	SCI		31/10/2008	26/01/2013		85.57	85.97
392	France	FR9101436	Cours Inferieur De L'Aude	SCI		31/12/1998	26/01/2013		46.40	53.16
394	France	FR9301997	Embiez - Cap Sicie	SCI		31/10/2008	26/01/2013		123.57	123.58
395	France	FR9301627	Embouchure de l'Argens	SCI		31/03/2005	26/01/2013		1.91	13.81

396	France	FR9400586	Embouchure Du Stabiaccu, Domaine Public Maritime Et Îlot Ziglione	SCI		28/02/2001	26/01/2013		0.72	1.96
397	France	FR9101493	Embouchure Du Tech Et Grau De La Massane	SCI		31/12/1998	26/01/2013		6.80	9.51
398	France	FR9301628	Esterel	SCI		31/12/1998	26/01/2013		72.71	150.74
399	France	FR9112006	Etang De Lapalme	SPA	06/04/2006				0.11	39.08
400	France	FR9400581	Etang De Palo Et Cordon Dunaire	SCI		31/07/2003	26/01/2013	17/03/2008	1.16	2.18
401	France	FR9112018	Etang De Thau Et Lido De Sete A Agde	SPA	07/03/2006				71.12	77.45
402	France	FR9101410	Etangs Palavasiens	SCI		28/02/2001	26/01/2013		21.22	65.95
403	France	FR9110042	Etangs Palavasiens Et Étang De L'Estagnol	SPA	26/10/2004				21.45	64.22
405	France	FR9402017	Golfe D'Ajaccio	SCI		31/10/2008	26/01/2013		469.95	470.43
406	France	FR9410023	Golfe De Porto Et Presqu'Île De Scandola	SPA	26/10/2004				175.17	255.51
407	France	FR9402014	Grand Herbier De La Côte Orientale	SCI		31/10/2008	26/01/2013		427.74	428.26
411	France	FR9101411	Herbiers De L'Etang De Thau	SCI		28/02/2001	26/01/2013		44.88	47.83
413	France	FR9410022	Iles Cerbicale	SPA	17/03/2005				49.62	49.97
414	France	FR9400587	Iles Cerbicale Et Frange Littoral	SCI		31/07/2003	26/01/2013		33.36	36.96
415	France	FR9310020	Iles D'Hyères	SPA	30/10/2002				449.09	478.21
416	France	FR9400609	Iles Et Pointe Bruzzi, Etangs De Chevanu Et D'Arbitru	SCI		31/07/2003	26/01/2013		0.69	3.56

417	France	FR9410021	Iles Lavezzi, Bouches De Bonifacio	SPA	26/10/2004				978.59	981.03
418	France	FR9312007	Iles Marseillaises - Cassidaigne	SPA	28/10/2002				388.04	390.99
419	France	FR9410096	Iles Sanguinaires, Golfe D'Ajaccio	SPA	26/10/2004				470.03	470.81
420	France	FR9301609	La Pointe Faconniere	SCI		31/07/2003	26/01/2013	16/02/2010	2.57	7.65
421	France	FR9302001	Lagune Du Brusc	SCI		30/11/2000	26/01/2013		5.03	5.04
422	France	FR9301590	Le Rhone Aval	SCI		31/12/1998	26/01/2013		2.88	125.76
424	France	FR9400591	Plateau De Pertusato/ Bonifacio Et Iles Lavezzi	SCI		31/07/2003	26/01/2013		57.33	60.66
425	France	FR9402013	Plateau Du Cap Corse	SCI		31/10/2008	26/01/2013		1,775.29	1,775.37
426	France	FR9412009	Plateau Du Cap Corse	SPA	30/10/2008				850.64	850.67
427	France	FR9402016	Pointe De Senetosa Et Prolongements	SCI		31/10/2008	26/01/2013		34.98	35.07
431	France	FR9400574	Porto/ Scandola/ Revellata/ Calvi/ Calanches De Piana (Zone Terrestre Et Marine)	SCI		30/04/2002	26/01/2013		429.03	501.95
432	France	FR9101482	Posidonies De La Cote Des Alberes	SCI		31/12/1998	26/01/2013		42.07	42.07
433	France	FR9101413	Posidonies De La Cote Palavasienne	SCI		28/02/2001	26/01/2013		107.85	107.98
434	France	FR9101414	Posidonies Du Cap D'Agde	SCI		31/03/2002	26/01/2013		22.97	23.09
435	France	FR9102012	Prolongement En Mer Des Cap Et Etang De Leucate	SCI		31/10/2008	26/01/2013		136.69	136.72
436	France	FR9301613	Rade D'Hyeres	SCI		30/04/2002	26/01/2013		454.12	487.82

444	Greece	GR4110002	Agios Efstratios Kai Paraktia Thalassia Zoni	SCI		01/08/1996	01/09/2006	01/03/2011	22.12	62.88
445	Greece	GR1270007	Akrotirio Elia - Akrotirio Kastro - Ekvoli Ragoula	SCI		01/08/1996	01/09/2006	01/03/2011	5.31	5.33
446	Greece	GR1270010	Akrotirio Pyrgos - Ormos Kypsas - Malamo	SCI		01/08/1996	01/09/2006	01/03/2011	11.52	11.52
448	Greece	GR1250004	Alyki Kitrous - Evryteri Periochi	SCI		01/08/1996	01/09/2006	01/03/2011	7.20	14.41
449	Greece	GR2230003	Alyki Lefkimìis (Kerkyra)	SPA & SCI	01/10/2001	01/08/1996	01/09/2006	01/03/2011	0.96	2.42
450	Greece	GR2110001	Amvrakikos Kolpos, Delta Lourou Kai Arachthou (Petra, Mytikas, Evryteri Periochi)	SCI		01/08/1996	01/09/2006	01/03/2011	179.09	287.59
451	Greece	GR2110004	Amvrakikos Kolpos, Limnothalassa Katafourko Kai Korakonisia	SPA	01/02/1988				124.40	229.88
453	Greece	GR4220023	Anafi: Anatoliko Kai Voreio Tmima Kai Gyro Nisides	SPA	01/10/2001				0.66	5.85
454	Greece	GR4220002	Anafi: Chersonisos Kalamos - Roukounas	SCI		01/04/1997	01/09/2006	01/03/2011	4.39	11.45
455	Greece	GR4220011	Anatoliki Kea	SCI		01/04/1997	01/09/2006	01/03/2011	4.68	71.61
457	Greece	GR4220028	Andros: Kentriko Kai Notio Tmima, Gyro Nisides Kai Paraktia Thalassia Zoni	SPA	01/03/2010				72.57	220.51
458	Greece	GR3000008	Antikythira - Prasonisi Kai Lagouvardos	SCI		01/04/1997	01/09/2006	01/03/2011	51.87	71.77

459	Greece	GR4210010	Arkoi, Leipsoi, Agathonisi Kai Vrachonisides	SCI		01/08/1996	01/09/2006	01/03/2011	80.00	123.98
460	Greece	GR4340012	Asfendou - Kallikratis Kai Paraktia Zoni	SCI		01/04/1997	01/09/2006	01/03/2011	17.74	140.33
461	Greece	GR4310005	Asterousia (Kofinas)	SCI		01/08/1996	01/09/2006	01/03/2011	6.40	161.83
462	Greece	GR4310013	Asterousia Ori (Kofinas)	SPA	01/03/2010				3.09	286.65
463	Greece	GR4210009	Astypalaia: Anatoliko Tmima, Gyro Nisides Kai Ofidoussa Kai Thalassia Zoni (Akr. Lantra - Akr. Vrysi)	SCI		01/08/1996	01/09/2006	01/03/2011	34.68	70.25
464	Greece	GR4340003	Chersonisos Rodopou - Paralia Maleme	SCI		01/04/1997	01/09/2006	01/03/2011	7.64	88.04
465	Greece	GR1270014	Chersonisos Sithonias	SPA	01/01/2008				1.30	234.70
466	Greece	GR2310015	Delta Acheloou, Limnothalassa Mesolongiou - Aitolikou Kai Ekvoles Evinou, Nisoi Echinades, Nisos Petalas, Dytikos Arakynthos Kai Stena Kleisouras	SPA	01/02/1988				226.54	441.60
467	Greece	GR2310001	Delta Acheloou, Limnothalassa Mesolongiou - Aitolikou, Ekvoles Evinou, Nisoi Echinades, Nisos Petalas	SCI		01/08/1996	01/09/2006	01/03/2011	226.54	354.89
468	Greece	GR1220010	Delta Axiou - Loudia - Aliakmona - Alyki Kitrous	SPA	01/02/1988				84.23	296.61

469	Greece	GR1220002	Delta Axiou - Loudia - Aliakmona - Evryteri Periochi - Axioupoli	SCI		01/08/1996	01/09/2006	01/03/2011	69.68	336.93
470	Greece	GR1110006	Delta Evrou	SPA	01/02/1998				26.00	125.58
471	Greece	GR1110007	Delta Evrou Kai Dytikos Vrachio-nas	SCI		01/08/1996	01/09/2006	01/03/2011	25.68	98.58
472	Greece	GR1150010	Delta Nestou Kai Limno-thalasses Keramotis - Evryteri Periochi Kai Parak-tia Zoni	SCI		01/08/1996	01/09/2006	01/03/2011	49.29	225.00
473	Greece	GR1150001	Delta Nestou Kai Limno-thalasses Keramotis Kai Nisos Thaso-poula	SPA	01/02/1988				38.42	146.35
474	Greece	GR1420015	Delta Pineiou	SPA	01/03/2010				3.13	33.61
475	Greece	GR2230008	Diapon-tia Nisia (Othonoi, Ereikousa, Mathra-ki Kai Vrachoni-sides)	SPA	01/03/2010				90.76	101.17
476	Greece	GR2220005	Dytikes Aktes Kefalonias - Steno Kefalonias Ithakis - Voreia Ithaki (Akroti-ria Gero Gkompos - Drakou Pidima - Kentri - Ag. Ioannis)	SCI		01/03/2002	01/09/2006	01/03/2011	186.66	187.14
477	Greece	GR2210001	Dytikes Kai	SPA & SCI	01/10/2002	01/08/1996	01/09/2006	01/03/2011	170.91	213.91
478	Greece	GR4220030	Dytiki Milos, Antimilos, Polyai-gos Kai Nisides	SPA	01/03/2010				3.27	92.61
479	Greece	GR2120001	Ekvoles (Delta) Kalama	SCI		01/08/1996	01/09/2006	01/03/2011	20.15	85.16

480	Greece	GR1260002	Ekvoles Potamou Strymona	SPA & SCI	01/10/2001	01/04/1997	01/09/2006	01/03/2011	1.93	12.98
481	Greece	GR4310012	Ekvoli Geropo-tamou Mesaras	SPA	01/10/2002				0.89	6.85
482	Greece	GR2220003	Esoteriko Archipela-gos Ioniou (Meganisi, Arkoudi, Atokos, Vromo-nas)	SCI		01/08/1996	01/09/2006	01/03/2011	868.59	882.36
483	Greece	GR3000003	Ethniko Parko Schinia - Mara-thona	SCI		01/07/2002	01/09/2006	01/03/2011	3.51	13.23
484	Greece	GR1430004	Ethniko Thalassio Parko Alonnisou - Voreion Sporadon, Anatoliki Skopelos	SCI		01/08/1996	01/09/2006	01/03/2011	2,330.47	2,493.34
486	Greece	GR2450009	Evryteri Periochi Galaxei-diou	SPA	01/03/2010				1.06	121.61
487	Greece	GR1110004	Fengari Samo-thrakis, Anatolikes Aktes, Vra-chonissida Zourafa Kai Thalas-sia Zoni	SCI		01/08/1996	01/09/2006	01/03/2011	50.54	164.43
488	Greece	GR4220004	Fole-gandros Anatoliki Mechri Dytiki Sikino Kai Thalassia Zoni	SPA & SCI	01/10/2002	01/04/1997	01/09/2006	01/03/2011	24.06	70.15
490	Greece	GR4120004	Ikaria - Fournoi Kai Parak-tia Zoni	SCI		01/04/1997	01/09/2006	01/03/2011	38.94	129.05
491	Greece	GR4340001	Imeri Kai Agria	SCI		01/08/1996	01/09/2006	01/03/2011	25.35	57.86
493	Greece	GR1420004	Karla - Mavro-vouni - Kefa-lovryso Velestinou - Neochori	SCI		01/08/1996	01/09/2006	01/03/2011	32.29	434.59
495	Greece	GR4210001	Kasos Kai Kasonisia - Evryteri Thalassia Periochi	SCI		01/08/1996	01/09/2006	01/03/2011	66.68	134.41

496	Greece	GR4210004	Kastello-rizo Kai Nisides Ro Kai Strongy-li Kai Paraktia Thalassia Zoni	SCI		01/08/1996	01/09/2006	01/03/2011	6.87	17.60
497	Greece	GR2440005	Kato Rous Kai Ekvoles	SPA	01/02/1997				35.65	109.73
498	Greece	GR2220006	Kefalonia: Ainos, Agia Dynati Kai Kalon Oros	SPA	01/03/2010				0.37	206.87
499	Greece	GR4220014	Kentriki Kai Notia Naxos: Zas Kai Vigla Eos Mavro-vouni Kai Thalassia Zoni (Ormos Karades - Ormos Moutsou-nas)	SCI		01/04/1997	01/09/2006	01/03/2011	19.50	87.25
500	Greece	GR4210002	Kentriki Karpathos: Kali Limni - Lastos - Kyra Pa-nagia Kai Paraktia Thalassia Zoni	SCI		01/08/1996	01/09/2006	01/03/2011	9.22	93.11
501	Greece	GR2440002	Koila-da Kai Ekvoles	SCI		01/08/1996	01/09/2006	01/03/2011	147.42	475.64
502	Greece	GR2210002	Kolpos Lagana Zakyn-thou (Akr. Geraki - Keri) Kai Nisides Maratho-nisi Kai Pelouzo	SCI		01/08/1996	01/09/2006	01/03/2011	61.76	69.50
503	Greece	GR1150009	Kolpos Palaiou - Ormos Eleftheron	SCI		01/08/1996	01/09/2006	01/03/2011	11.46	11.69
504	Greece	GR4210008	Kos: Akrotirio Louros - Limni Psa-lidi - Oros Dikaios - Alyki - Paraktia Thalassia Zoni	SCI		01/08/1996	01/09/2006	01/03/2011	17.64	101.25

506	Greece	GR4330003	Kourtaliotiko Farangi - Moni Preveli - Evryteri Periochi	SCI		01/08/1996	01/09/2006	01/03/2011	0.00	36.45
507	Greece	GR4330007	Kourtaliotiko Farangi, Farangi Preveli	SPA	01/10/2001				0.00	76.01
508	Greece	GR4340008	Lefka Ori Kai Paraktia Zoni	SCI		01/04/1997	01/09/2006	01/03/2011	14.23	534.06
509	Greece	GR4110003	Lesvos: Dytiki Chersonisos - Apolithomeno Dasos	SCI		01/08/1996	01/09/2006	01/03/2011	16.18	208.19
510	Greece	GR4110013	Lesvos: Kolpos Geras, Eli Ntipi Kai Charamida	SPA	01/03/2010				45.39	51.03
511	Greece	GR4110005	Lesvos: Kolpos Geras, Elos Ntipi Kai Oros Olympos	SCI		01/04/1997	01/09/2006	01/03/2011	46.24	111.97
512	Greece	GR4110004	Lesvos: Kolpos Kallonis Kai Chersaia Paraktia Zoni	SCI		01/08/1996	01/09/2006	01/03/2011	120.83	183.09
513	Greece	GR4110007	Lesvos: Paraktioi Ygrotopoi Kolpou Kallonis	SPA	01/02/1997				2.43	35.11
514	Greece	GR1130009	Limnes Kai Limnothalasses Tis Thrakis - Evryteri Periochi Kai Paraktia Zoni	SCI		01/08/1996	01/09/2006	01/03/2011	95.64	294.72
515	Greece	GR1220009	Limnes Koroneias - Volvis, Stena Rentinas Kai Evryteri Periochi	SPA	01/02/1988				0.01	1,617.47
516	Greece	GR1130010	Limnes Vistonis, Ismaris - Limnothalasses Porto Lagos, Alyki Ptelea, Xirolimni, Karatza	SPA	01/02/1988				77.25	182.27

517	Greece	GR4340006	Limni Agias - Platanias - Rema Kai Ekvoli Keriti - Koilada Fasa	SCI		01/08/1996	01/09/2006	01/03/2011	0.24	12.13
518	Greece	GR4340022	Limni Kourna Kai Ekvoli Almyrou	SPA	01/10/2002				0.15	2.00
519	Greece	GR4110001	Limnos: Chorta-rolimni - Limni Alyki Kai Thalassia Periochi	SCI		01/08/1996	01/09/2006	01/03/2011	130.22	182.39
520	Greece	GR4110006	Limnos: Limnes Chorta-rolimni Kai Alyki, Kolpos Moudrou, Elos Dia-pori Kai Chersoni-sos Fakos	SPA	01/02/1997				39.21	163.01
521	Greece	GR1270004	Limno-thalassa Agiou Mama	SPA & SCI	01/10/2001	01/08/1996	01/09/2006	01/03/2011	1.10	6.34
522	Greece	GR1220005	Limno-thalassa Angelo-choriou	SPA & SCI	01/10/2001	01/08/1996	01/09/2006	01/03/2011	1.40	3.77
523	Greece	GR2230001	Limno-thalassa Antinioti (Kerkyra)	SPA & SCI	01/10/2001	01/08/1996	01/09/2006	01/03/2011	0.04	1.88
524	Greece	GR1220011	Limno-thalassa Epanomis	SPA	01/10/2001				2.37	6.90
525	Greece	GR1220012	Limnotha-lassa Epa-nomis Kai Thalassia Paraktia Zoni	SCI		01/08/1996	01/09/2006	01/03/2011	3.78	8.31
526	Greece	GR2330009	Limno-thalassa Kotychi - Alyki Lechainon	SPA	01/02/1988				8.84	23.36
527	Greece	GR2550004	Limnotha-lassa Py-lou (Divari) Kai Nisos Sfaktiria, Agios Dimitrios	SCI		01/08/1996	01/09/2006	01/03/2011	18.09	35.51
528	Greece	GR2240001	Limno-thalasses Stenon Lefkadas (Palionis - Avlimon) Kai Alykes Lefkadas	SPA & SCI	01/10/2002	01/04/1997	01/09/2006	01/03/2011	16.21	21.41

529	Greece	GR2420007	Megalo Kai Mikro Livari - Delta Xeria	SPA	01/10/2001				7.81	10.42
530	Greece	GR2420004	Megalo Kai Mikro Livari - Delta Xeria - Ydrochares Dasos Ag. Nikolaou - Paraktia Thalassia Zoni	SCI		01/08/1996	01/09/2006	01/03/2011	2.22	4.82
532	Greece	GR4220013	Mikres Kyklades: Irakleia,	SCI		01/04/1997	01/09/2006	01/03/2011	73.40	125.85
533	Greece	GR4130002	Nisia Antipsara Kai Nisides Daskalio, Mastrogiorgi, Prasonisi, Kato Nisi, Mesiako, Koutsoulia	SPA	01/10/2001				1.14	4.70
534	Greece	GR1430005	Nisia Kyra Panagia, Piperi, Psathoura Kai Gyro Nisides Agios Georgios, Nisoi Adelfoi, Lechousa, Gaidouronisia	SPA	01/02/1997				82.47	129.78
535	Greece	GR4130004	Nisida Venetiko	SPA	01/03/2010				0.02	0.03
536	Greece	GR4110008	Nisides Kai Vrachonisides Limnou: Nisos Sergitsi Kai Nisides Diavates, Kompio, Kastria, Tigani, Karkalas, Prasonisi	SPA	01/10/2001				0.32	1.25
537	Greece	GR3000010	Nisides Kythiron: Prasonisi, Dragonera, Antidragonera	SCI		01/08/1996	01/09/2006	01/03/2011	9.43	9.90
538	Greece	GR4210014	Nisides Patmou: Petrokaravo, Anydros	SPA	01/10/2001				0.37	0.62
539	Greece	GR4220022	Nisoi Christiana	SPA	01/10/2001				0.33	1.49

540	Greece	GR4220017	Nisoi Despotiko Kai Strongylo Kai Thalassia Zoni	SCI		01/08/1996	01/09/2006	01/03/2011	9.58	18.59
541	Greece	GR4340013	Nisoi Gavdos Kai Gavdopoula	SCI		01/08/1996	01/09/2006	01/03/2011	28.66	62.96
542	Greece	GR2230004	Nisoi Paxoi Kai Antipaxoi	SCI		01/08/1996	01/09/2006	01/03/2011	32.85	56.39
543	Greece	GR2550003	Nisoi Sapientza Kai Schiza, Akrotirio Akritas	SCI		01/08/1996	01/09/2006	01/03/2011	3.03	112.90
544	Greece	GR2210003	Nisoi Strofades	SCI		01/08/1996	01/09/2006	01/03/2011	2.09	5.23
545	Greece	GR4110014	Nisos Agios Efstratios Kai Thalassia Zoni	SPA	01/03/2010				72.30	113.06
546	Greece	GR4220007	Nisos Antimilos - Thalassia Paraktia Zoni	SCI		01/08/1996	01/09/2006	01/03/2011	4.45	12.62
547	Greece	GR4320003	Nisos Chrysi	SCI		01/04/1997	01/09/2006	01/03/2011	0.87	5.47
548	Greece	GR4340002	Nisos Elafonisos Kai Paraktia Thalassia Zoni	SCI		01/08/1996	01/09/2006	01/03/2011	2.35	2.72
549	Greece	GR4220033	Nisos Gyaros Kai Thalassia Zoni	SPA & SCI	01/03/2010	01/03/2010	01/01/2012		243.20	260.55
550	Greece	GR4320008	Nisos Koufonisi Kai Paraktia Thalassia Zoni	SCI		01/04/1997	01/09/2006	01/03/2011	4.00	8.05
551	Greece	GR4320017	Nisos Koufonisi, Gyro Nisides Kai Nisides Kavalloi	SPA	01/03/2010				0.51	4.80
552	Greece	GR4210032	Nisos Nisyros Kai Nisides	SPA	01/03/2010				1.09	47.25
553	Greece	GR4220006	Nisos Polyaigos - Kimolos	SCI		01/08/1996	01/09/2006	01/03/2011	105.21	139.08
554	Greece	GR2540008	Notia Mani	SPA	01/03/2010				4.69	316.69

555	Greece	GR4210007	Notia Nisy-ros Kai Strongyli Kai Paraktia Thalassia Zoni	SCI		01/04/1997	01/09/2006	01/03/2011	6.75	40.41
556	Greece	GR4220009	Notia Serifos	SCI		01/04/1997	01/09/2006	01/03/2011	14.98	45.34
557	Greece	GR4110010	Notiody-tiki Cher-sonisos, Apoli-thomeno Dasos Lesvou	SPA	01/01/2008				4.00	288.22
558	Greece	GR2420011	Ori Kentrikis Evvoias, Paraktia Zoni Kai Nisides	SPA	01/03/2010				0.93	393.39
559	Greece	GR1150008	Ormos Potamias - Akr. Pyrgos Eos N. Gramvous-sa	SCI		01/08/1996	01/09/2006	01/03/2011	3.51	3.58
560	Greece	GR4340005	Ormos Sougias - Vardia - Farangi Lissou Mechri Anydrous Kai Parak-tia Zoni	SCI		01/04/1997	01/09/2006	01/03/2011	3.34	30.42
561	Greece	GR1270002	Oros Itamos - Sithonia	SCI		01/08/1996	01/09/2006	01/03/2011	10.75	180.46
562	Greece	GR2420010	Oros Kantili	SPA	01/03/2010				1.19	62.48
563	Greece	GR1420006	Oros Mavro-vouni	SPA	01/02/1992				0.67	371.47
564	Greece	GR2420001	Oros Ochi - Kampos Karystou - Potami - Akrotirio Kafirefs - Paraktia Thalassia Zoni	SCI		01/04/1997	01/09/2006	01/03/2011	12.66	159.60
565	Greece	GR2420012	Oros Ochi, Paraktia Zoni Kai Nisides	SPA	01/03/2010				99.25	334.10
566	Greece	GR1430008	Oros Pilio	SPA	01/03/2010				1.58	362.17
567	Greece	GR1430001	Oros Pilio Kai Paraktia Thalassia Zoni	SCI		01/08/1996	01/09/2006	01/03/2011	23.35	311.32
568	Greece	GR1270008	Paliouri - Akrotiri	SCI		01/08/1996	01/09/2006	01/03/2011	2.84	2.86

569	Greece	GR2330007	Paraktia Thalas-sia Zoni Apo Akr. Kyllini Eos Toumpi - Kalogria	SCI		01/08/1996	01/09/2006	01/03/2011	109.54	131.58
570	Greece	GR2220004	Paraktia Thalassia Zoni Apo Argos-toli Eos Vlachata (Kefalonia) Kai Ormos Mounta	SCI		01/08/1996	01/09/2006	01/03/2011	37.07	37.31
571	Greece	GR2230005	Paraktia Thalassia Zoni Apo Kano-ni Eos Mesongi (Kerkyra)	SCI		01/08/1996	01/09/2006	01/03/2011	8.60	8.86
572	Greece	GR2140003	Paraktia Thalassia Zoni Apo Parga Eos Akrotirio Agios Thomas (Preveza), Akr. Kela-dio - Ag. Thomas	SCI		01/08/1996	01/09/2006	01/03/2011	14.98	15.27
573	Greece	GR4220005	Paraktia Zoni Dy-tikis Miloy	SCI		01/08/1996	01/09/2006	01/03/2011	52.65	53.32
574	Greece	GR4340015	Paralia Apo Chry-soskalitis-sa Mechri Akrotirio Krios	SCI		01/04/1997	01/09/2006	01/03/2011	7.64	22.04
575	Greece	GR1270009	Platanitsi - Sykia: Ákr. Rigas - Akr. Adolo	SCI		01/08/1996	01/09/2006	01/03/2011	9.67	9.90
576	Greece	GR4330004	Prassano Farangi - Patsos - Sfakorya-ko Rema - Paralia Rethym-nou Kai Ekvoli Geropo-tamou, Akr. Lianos Kavos - Perivolia	SCI		01/04/1997	01/09/2006	01/03/2011	33.33	131.31
577	Greece	GR4210005	Rodos: Akramytis, Arme-nistis, Attavyros, Remata Kai Thalas-sia Zoni (Karavo-la-Ormos Glyfada)	SCI		01/08/1996	01/09/2006	01/03/2011	44.45	276.38

578	Greece	GR4120003	Samos: Oros Kerketefs - Mikro Kai Megalo Seitani - Dasos Kastanias Kai Lekkas, Akr. Katavasis - Limenas	SCI		01/12/1997	01/09/2006	01/03/2011	4.44	66.80
579	Greece	GR4120008	Samos: Oros Kerkis	SPA	01/03/2010				1.50	91.32
580	Greece	GR4120001	Samos: Paralia Alyki	SCI		01/12/1995	01/09/2006	01/03/2011	1.57	3.01
581	Greece	GR1110012	Samothra-ki: Oros Fengari Kai Parak-tia Zoni	SPA	01/03/2010				58.68	210.29
583	Greece	GR4220029	Serifos: Paraktia Zoni Kai Nisides Serifopou-la, Piperi Kai Vous	SPA	01/03/2010				50.93	53.35
584	Greece	GR4220008	Sifnos: Profi-tis Ilias Mechri Dytikes Aktes Kai Thalassia Periochi	SCI		01/04/1997	01/09/2006	01/03/2011	2.39	20.69
585	Greece	GR1430003	Skiathos: Koukou-naries Kai Evryteri Thalassia Periochi	SCI		01/04/1997	01/09/2006	01/03/2011	0.66	0.89
586	Greece	GR3000005	Sounio - Nisida Pa-troklou Kai Paraktia Thalassia Zoni	SCI		01/08/1996	01/09/2006	01/03/2011	11.85	53.79
587	Greece	GR1220003	Stena Rentinas - Evryteri Periochi	SCI		01/08/1996	01/09/2006	01/03/2011	0.32	29.07
588	Greece	GR4220018	Syros: Oros Sy-ringas Eos Paralia	SCI		01/04/1997	01/09/2006	01/03/2011	0.10	7.84
589	Greece	GR2330008	Thalassia Periochi Kolpou Kyparis-sias: Akr. Katakolo - Kyparissia	SCI		01/08/1996	01/09/2006	01/03/2011	110.34	110.38
590	Greece	GR2550007	Thalassia Periochi Stenou Methonis	SCI		01/08/1996	01/09/2006	01/03/2011	9.64	9.72

591	Greece	GR1150012	Thasos (Oros Ypsario Kai Paraktia Zoni) Kai Nisides Koinyra, Xironisi	SPA	01/03/2010				34.66	176.05
592	Greece	GR4220012	Voreia Amorgos Kai Kinaros, Levitha, Mavra, Glaros Kai Thalassia Zoni	SCI		01/08/1996	01/09/2006	01/03/2011	29.19	60.61
593	Greece	GR4130003	Voreia Chios	SPA	01/03/2010				1.77	325.70
594	Greece	GR4130001	Voreia Chios Kai Nisoi Oinousses Kai Paraktia Thalassia Zoni	SCI		01/08/1996	01/09/2006	01/03/2011	43.03	344.10
595	Greece	GR4210003	Voreia Karpathos Kai Saria Kai Paraktia Thalassia Zoni	SPA & SCI	01/10/2001	01/08/1996	01/09/2006	01/03/2011	53.11	112.83
596	Greece	GR4110012	Voreia Lesvos	SPA	01/03/2010				0.72	93.47
597	Greece	GR4220032	Voreia Syros Kai Nisides	SPA	01/03/2010				0.84	29.08
598	Greece	GR4220031	Voreioanatoliki Tinos Kai Nisides	SPA	01/03/2010				2.44	50.59
599	Greece	GR4320009	Voreioanatoliko Akro Kritis	SPA	01/10/1987				1.56	37.59
600	Greece	GR4320006	Voreioanatoliko Akro Kritis: Dionysades, Elasa Kai Chersonisos Sidero (Akra Mavro Mouri - Vai - Akra Plakas) Kai Thalassia Zoni	SCI		01/08/1996	01/09/2006	01/03/2011	58.22	130.70
601	Greece	GR4220010	Voreiodytiki Kythnos: Oros Atheras - Akrotirio Kefalos Kai Paraktia Zoni	SCI		01/04/1997	01/09/2006	01/03/2011	8.00	28.57

602	Greece	GR4210011	Vrachonisia Notiou Aigaiou: Velopoula, Falkonera, Ananes, Christiana, Pacheia, Fteno, Makra, Astakidonisia, Syrna - Gyro Nisia Kai Thalassia Zoni	SCI		01/08/1996	01/09/2006	01/03/2011	27.91	45.68
603	Greece	GR4130005	Vrachonisides Kalogeroi Kai Thalassia Zoni	SCI		01/03/2010	01/01/2012		17.50	17.51
604	Greece	GR3000004	Vravrona - Paraktia Thalassia Zoni	SCI		01/08/1996	01/09/2006	01/03/2011	4.27	26.71
605	Greece	GR2320011	Ygrotopoi Kalogrias-Lamias Kai Dasos Strofylias	SPA	01/03/2010				1.69	65.63
606	Greece	GR1270013	Ygrotopoi Neas Fokaias	SPA	01/10/2001				0.68	4.40
607	Greece	GR2120005	Ygrotopos Ekvolon Kalama Kai Nisos Prasoudi	SPA	01/02/1997				20.17	85.26
608	Greece	GR3000016	Ygrotopos Schinia	SPA	01/03/2010				3.51	20.81
634	Italy	ITB042209	A Nord Di Sa Salina (Calasetta)	SCI		01/09/1995			0.02	0.05
635	Italy	IT9210015	Acquafredda Di Maratea	SCI		01/09/1995			3.40	5.53
636	Italy	IT9150011	Alimini	SCI		01/06/1995			23.40	37.11
637	Italy	IT9150003	Aquatina di Frigole	SCI		01/06/1995			30.55	31.59
639	Italy	ITA010027	Arcipelago Delle Egadi - Area Marina E Terrestre	SPA	01/06/2005				448.87	482.36
640	Italy	ITA030044	Arcipelago Delle Eolie - Area Marina E Terrestre	SPA	01/06/2006				324.18	400.15
641	Italy	ITA040013	Arcipelago Delle Pelagie - Area Marina E Terrestre	SPA	01/06/2005				108.69	127.11

642	Italy	ITB010008	Arcipelago La Maddalena	SPA & SCI	09/07/2009	01/09/1995			168.60	209.67
645	Italy	IT3340007	Area Marina Di Miramare	SCI		01/07/2011			0.25	0.25
646	Italy	IT3341002	Aree Carsiche Della Venezia Giulia	SPA	01/02/2005				1.70	121.96
648	Italy	ITB020012	Berchida E Bidderosa	SCI		01/09/1995			8.62	26.62
649	Italy	ITA070029	Biviere di Lentini, tratto mediano e foce del Fiume Simeto e area antistante la foce	SPA	01/06/2005				17.55	61.99
650	Italy	IT4060007	Bosco Di Volano	SPA & SCI	01/08/1999	01/06/1995			1.98	4.01
651	Italy	IT9220055	Bosco Pantano di Policoro e Costa Ionica Foce Sinni	SPA & SCI	01/08/1999	01/06/1995			7.17	17.95
652	Italy	IT9140001	Bosco Tramazzone	SCI		01/06/1995			42.77	44.03
653	Italy	ITB040051	Bruncu De Su Monte Moru - Geremeas (Mari Pintau)	SCI		01/06/1995			1.22	1.39
654	Italy	IT9350144	Calanchi di Palizzi Marina	SCI		01/09/1995			9.08	11.10
657	Italy	ITB010042	Capo Caccia (Con Le Isole Foradada E Piana) E Punta Del Giglio	SCI		01/09/1995			37.28	74.15
660	Italy	ITB042216	Capo di Pula	SCI		01/06/1995			15.21	15.78
661	Italy	ITB010009	Capo Figari E Isola Figarolo	SCI		01/09/1995			4.51	8.52
662	Italy	ITB013018	Capo Figari, Cala Sabina, Punta Canigione e Isola Figarolo	SPA	09/07/2009				35.27	40.57
664	Italy	ITB040030	Capo Pecora	SCI		01/09/1995			4.11	38.26
666	Italy	IT9350141	Capo S. Giovanni	SCI		01/09/1995			3.13	3.41

667	Italy	IT9350142	Capo Spartivento	SCI		01/09/1995			3.08	3.65
668	Italy	ITB010007	Capo Testa	SCI		01/09/1995			9.14	12.17
669	Italy	IT3340006	Carso Triestino E Goriziano	SCI		01/07/2006			1.68	96.53
670	Italy	IT3330007	Cavana Di Monfalcone	SCI		01/09/1995			0.17	1.33
672	Italy	ITB034004	Corru S'Ittiri, Stagno Di S. Giovanni E Marceddì	SPA	09/07/2009				23.12	26.54
674	Italy	ITB040021	Costa Di Cagliari	SCI		01/09/1995			1.21	26.26
675	Italy	ITB040029	Costa Di Nebida	SCI		01/09/1995			10.78	84.39
676	Italy	ITB043035	Costa E Entroterra Tra Punta Cannoni E Punta Delle Oche - Isola Di San Pietro	SPA	09/07/2009				3.77	19.12
677	Italy	IT9220080	Costa Ionica Foce Agri	SCI		01/09/1995			15.93	24.15
678	Italy	IT9220085	Costa Ionica Foce Basento	SCI		01/09/1995			8.63	13.93
679	Italy	IT9220090	Costa Ionica Foce Bradano	SCI		01/09/1995			6.78	11.56
680	Italy	IT9220095	Costa Ionica Foce Cavone	SCI		01/09/1995			14.77	20.44
681	Italy	IT6040022	Costa Rocciosa Tra Sperlonga E Gaeta	SPA & SCI	01/10/1999	01/06/1995			0.64	2.33
682	Italy	IT5320005	Costa Tra Ancona E Portonovo	SCI		01/06/1995			0.19	1.68
683	Italy	IT8050048	Costa Tra Punta Tresino E Le Ripe Rosse	SPA	01/10/1999				0.56	28.43
684	Italy	IT9350300	Costa Viola	SPA	01/05/2005				108.52	294.46
685	Italy	ITB010043	Coste E Isolette A Nord Ovest Della Sardegna	SCI		01/09/1995			17.10	37.43

686	Italy	ITB042250	Da Is Arenas A Tonnara (Marina Di Gonnesa)	SCI		01/06/1995			3.24	5.32
687	Italy	ITB040071	Da Piscinas A Riu Scivu	SCI		01/06/1995			4.72	29.01
688	Italy	IT3270023	Delta del Po	SPA	01/02/2005				118.50	249.88
689	Italy	IT3270017	Delta del Po: tratto terminale e delta veneto	SCI		01/09/1995			113.81	253.40
690	Italy	IT9130003	Duna di Campomarino	SCI		01/06/1995			17.33	18.45
691	Italy	IT4060012	Dune Di San Giuseppe	SPA & SCI	01/08/1999	01/06/1999			0.19	0.73
692	Italy	ITB020041	Entroterra E Zona Costiera Tra Bosa, Capo Marargiu E Porto Tangone	SCI		01/09/1995			12.49	296.48
693	Italy	IT7222216	Foce Biferno - Litorale Di Campomarino	SCI		01/09/1995			0.90	8.18
694	Italy	ITB040018	Foce Del Flumendosa - Sa Praia	SCI		01/09/1995			1.32	5.19
695	Italy	IT3250040	Foce Del Tagliamento	SPA	01/08/2003				0.51	2.79
696	Italy	IT3330005	Foce Dell'Isonzo - Isola Della Cona	SPA & SCI	01/02/2000	01/09/1995			13.05	26.69
697	Italy	IT7222217	Foce Saccione - Bonifica Ramitelli	SCI		01/09/1995			0.08	8.70
698	Italy	ITB010004	Foci Del Coghinas	SCI		01/09/1995			6.91	22.57
699	Italy	IT6000002	Fondali Antistanti Punta Morelle	SCI		01/06/1995			11.11	11.11
700	Italy	IT6000007	Fondali Antistanti S. Marinella	SCI		01/06/1995			9.52	9.52
701	Italy	IT1344273	Fondali Anzo	SCI		01/06/1995			0.43	0.43
702	Italy	IT1332477	Fondali Arenzano - Punta Ivrea	SCI		01/06/1995			3.06	3.06

703	Italy	IT1315973	Fondali Arma Di Taggia - Punta San Martino	SCI		01/06/1995			4.50	4.50
704	Italy	IT1332576	Fondali Bocca-dasse - Nervi	SCI		01/06/1995			5.27	5.27
705	Italy	IT1315670	Fondali Capo Ber-ta - Diano Marina - Capo Mimosa	SCI		01/06/1995			15.19	15.19
706	Italy	IT9340094	Fondali Capo Cozzo - S. Irene	SCI		01/09/1995			10.59	10.59
707	Italy	IT1325675	Fondali Capo Mele - Alassio	SCI		01/06/1995			2.06	2.06
708	Italy	IT1316175	Fondali Capo Morto-la - San Gaetano	SCI		01/06/1995			3.39	3.39
709	Italy	IT6000015	Fondali Circostanti L'Isola Di Palmarola	SCI		01/06/1995			9.22	9.27
710	Italy	IT6000016	Fondali Circostanti L'Isola Di Ponza	SCI		01/06/1995			10.07	10.12
711	Italy	IT6000019	Fondali Circostanti L'Isola Di S. Stefano	SCI		01/06/1995			0.50	0.52
712	Italy	IT6000018	Fondali Circostanti L'Isola Di Ventotene	SCI		01/06/1995			5.19	5.21
713	Italy	IT6000017	Fondali Circostanti L'Isola Di Zannone	SCI		01/06/1995			2.89	3.05
714	Italy	IT9310048	Fondali Cro-sia-Pietra-paola-Ca-riati	SCI		01/09/1995			43.96	43.96
715	Italy	IT9320097	Fondali Da Crotone A Le Castella	SCI		01/09/1995			52.09	52.09
716	Italy	IT9350172	Fondali Da Punta Pezzo A Capo Dell'Armi	SCI		01/09/1995			18.04	18.13
717	Italy	ITA010025	Fondali Del Golfo Di Custo-naci	SCI		01/09/1995			44.39	44.42

718	Italy	ITA090030	Fondali Del Plem-mirio	SCI		01/10/2011			24.24	24.25
719	Italy	ITA040014	Fondali Delle Isole Pelagie	SCI		01/10/2011			39.17	40.84
720	Italy	ITA010026	Fondali Dell'Isola Dello Sta-gnone Di Marsala	SCI		01/09/1995			34.20	34.40
721	Italy	ITA090028	Fondali Dell'Isola Di Capo Passero	SCI		01/09/1995			53.71	53.71
722	Italy	ITA010024	Fondali Dell'Isola Di Favi-gnana	SCI		01/09/1995			542.18	542.44
723	Italy	ITA030041	Fondali Dell'Isola Di Salina	SCI		01/09/1995			2.67	2.67
724	Italy	ITA020046	Fondali Dell'Isola Di Ustica	SCI		01/09/1995			162.17	162.17
725	Italy	ITA070028	Fondali Di Acicastel-lo (Isola Lachea - Ciclopi)	SCI		01/09/1995			6.19	6.20
726	Italy	ITA090026	Fondali Di Brucoli - Agnone	SCI		01/09/1995			13.41	13.66
727	Italy	ITA040012	Fondali Di Capo San Marco - Sciacca	SCI		01/09/1995			62.92	63.02
728	Italy	IT9310033	Fondali Di Capo Tirone	SCI		01/09/1995			0.80	0.80
729	Italy	IT9340093	Fondali Di Capo Vaticano	SCI		01/09/1995			7.96	8.02
730	Italy	IT9320096	Fondali Di Gabella Grande	SCI		01/09/1995			4.84	4.84
731	Italy	ITA020047	Fondali Di Isola Delle Femmine - Capo Gallo	SCI		01/09/1995			21.48	21.56
732	Italy	IT9340092	Fondali Di Pizzo Calabro	SCI		01/09/1995			12.12	12.16
733	Italy	IT9350173	Fondali Di Scilla	SCI		01/09/1995			2.74	2.75
734	Italy	IT9320185	Fondali Di Staletti	SCI		01/09/1995			0.45	0.46
735	Italy	ITA030040	Fondali Di Taormina - Isola Bella	SCI		01/09/1995			1.41	1.42
736	Italy	ITA090027	Fondali Di Vendicari	SCI		01/09/1995			39.03	39.04

737	Italy	IT1324172	Fondali Finale Ligure	SCI		01/06/1995			0.48	0.48
738	Italy	ITA080010	Fondali Foce Del Fiume Irminio	SCI		01/09/1995			15.14	15.15
739	Italy	IT1332673	Fondali Golfo Di Rapallo	SCI		01/06/1995			0.99	0.99
740	Italy	IT9310036	Fondali Isola Di Cirella-Diamante	SCI		01/09/1995			3.13	3.13
741	Italy	IT9310035	Fondali Isola Di Dino-Capo Scalea	SCI		01/09/1995			4.44	4.44
742	Italy	IT1345175	Fondali Isole Palmaria - Tino - Tinetto	SCI		01/10/2010			0.14	0.14
743	Italy	IT1324973	Fondali Loano - Albenga	SCI		01/06/1995			5.41	5.41
744	Italy	IT8030040	Fondali Marini Di Baia	SCI		01/10/2011			1.76	1.80
745	Italy	IT8030041	Fondali Marini Di Gaiola E Nisida	SCI		01/10/2011			1.66	1.67
746	Italy	IT8030010	Fondali Marini Di Ischia, Procida E Vivara	SPA & SCI	01/04/2004	01/05/1995			60.98	61.19
747	Italy	IT8030011	Fondali Marini Di Punta Campanella E Capri	SPA & SCI	01/04/2004	01/05/1995			84.77	84.97
748	Italy	IT1332674	Fondali Monte Portofino	SCI		01/06/1995			5.43	5.44
749	Italy	IT1332575	Fondali Nervi - Sori	SCI		01/06/1995			6.09	6.09
750	Italy	IT1323271	Fondali Noli - Bergeggi	SCI		01/06/1995			3.80	3.80
751	Italy	IT1315971	Fondali Porto Maurizio - San Lorenzo Al Mare - Torre Dei Marmi	SCI		01/06/1995			12.02	12.02
752	Italy	IT1343474	Fondali Punta Apicchi	SCI		01/06/1995			0.52	0.52

753	Italy	IT1333370	Fondali Punta Baffe	SCI		01/06/1995			0.24	0.24
754	Italy	IT1333369	Fondali Punta Di Moneglia	SCI		01/06/1995			0.36	0.36
755	Italy	IT1344272	Fondali Punta Levanto	SCI		01/06/1995			0.57	0.57
756	Italy	IT1333371	Fondali Punta Manara	SCI		01/06/1995			1.48	1.48
757	Italy	IT1344270	Fondali Punta Mes-co - Rio Maggiore	SCI		01/06/1995			5.46	5.47
758	Italy	IT1344271	Fondali Punta Picetto	SCI		01/06/1995			0.16	0.16
759	Italy	IT1333372	Fondali Punta Sestri	SCI		01/06/1995			0.29	0.29
760	Italy	IT1315972	Fonda-li Riva Ligure - Cipressa	SCI		01/06/1995			4.74	4.74
761	Italy	IT1316274	Fondali San Remo - Arziglia	SCI		01/06/1995			5.64	5.64
762	Italy	IT1324974	Fondali Santa Croce - Gallinara - Capo Lena	SCI		01/06/1995			2.12	2.13
763	Italy	IT9310039	Fondali Scogli Di Isca	SCI		01/09/1995			0.70	0.70
764	Italy	IT6000013	Fondali Tra Capo Circeo E Terracina	SCI		01/06/1995			33.78	33.78
765	Italy	IT6000012	Fondali Tra Capo Portiere E Lago Di Caprolace (Foce)	SCI		01/06/1995			19.39	19.39
766	Italy	IT6000001	Fondali Tra Le Foci Del Fiume Chiarone E Fiume Fiora	SCI		01/06/1995			17.60	17.60
767	Italy	IT6000003	Fondali Tra Le Foci Del Torrente Arrone E Del Fiume Marta	SCI		01/06/1995			12.65	12.65

768	Italy	IT6000004	Fondali Tra Marina Di Tarquinia E Punta Della Quaglia	SCI		01/06/1995			8.44	8.44
769	Italy	IT6000006	Fondali Tra Punta Del Pecoraro E Capo Linaro	SCI		01/06/1995			7.45	7.45
770	Italy	IT6000005	Fondali Tra Punta S. Agostino E Punta Della Mattonara	SCI		01/06/1995			4.34	4.34
771	Italy	IT6000014	Fondali Tra Terracina E Lago Lungo	SCI		01/06/1995			18.01	18.01
772	Italy	IT6000011	Fondali Tra Torre Astura E Capo Portiere	SCI		01/06/1995			8.31	8.31
773	Italy	IT1322470	Fondali Varazze - Albisola	SCI		01/06/1995			0.91	0.91
775	Italy	ITB020014	Golfo Di Orosei	SPA & SCI	01/07/2009	01/09/1995			47.48	289.93
776	Italy	ITB032228	Is Arenas	SCI		01/06/1995			26.73	40.68
777	Italy	ITB032229	Is Arenas S'Acqua E S'Ollastu	SCI		01/06/1995			0.72	3.27
778	Italy	ITB042247	Is Compinxius - Campo Dunale Di Bugerru - Portixeddu	SCI		01/06/1995			1.31	6.12
779	Italy	ITB010001	Isola Asinara	SPA	01/07/2009				46.83	96.76
780	Italy	ITB043027	Isola Dei Cavoli	SPA	09/07/2009				1.33	1.73
781	Italy	ITB040020	Isola Dei Cavoli, Serpentara, Punta Molentis E Campulongu	SCI		01/09/1995			83.74	90.69
782	Italy	ITB040081	Isola Della Vacca	SPA & SCI	09/07/2009	01/06/2002			0.58	0.62
784	Italy	ITB010082	Isola Dell'Asinara	SCI		01/06/2002			121.01	171.98
786	Italy	IT5160006	Isola Di Capraia - Area Terrestre E Marina	SCI		01/06/1995			187.16	187.66

787	Italy	IT5160007	Isola Di Capraia - Area Terrestre E Marina	SPA	01/03/1995				183.93	184.15
788	Italy	IT51A0024	Isola Di Giannu-tri - Area Terrestre E Marina	SPA & SCI	01/10/2011	01/06/1995			108.22	110.22
789	Italy	IT5160002	Isola Di Gorgo-na - Area Terrestre E Marina	SPA & SCI	01/10/2011	01/06/1995			146.24	148.28
790	Italy	ITB030080	Isola Di Mal Di Ventre E Catalano	SCI		01/06/2002			268.34	269.16
791	Italy	IT5160014	Isola Di Monte-cristo E Formica Di Mon-tecristo - Area Terrestre E Marina	SPA & SCI	01/10/2011	01/06/1995			144.94	154.91
792	Italy	ITA010030	Isola Di Pantelleria E Area Marina Circos-tante	SPA	01/06/2005				93.29	156.76
793	Italy	IT5160013	Isola Di Piano-sa - Area Terrestre E Marina	SPA & SCI	01/10/2011	01/06/1995			45.51	55.01
794	Italy	IT9210160	Isola Di S. Ianni E Costa Prospi-ciente	SCI		01/09/1995			2.87	4.18
795	Italy	ITB040027	Isola Di San Pietro	SCI		01/09/1995			44.13	92.80
796	Italy	ITB043032	Isola Di Sant'An-tioco, Capo Sperone	SPA	09/07/2009				3.94	17.86
798	Italy	ITB030039	Isola Mal Di Ventre	SPA	09/07/2009				2.99	3.75
799	Italy	ITB013011	Isola Piana Di Porto Torres	SPA	09/07/2009				2.96	4.00
800	Italy	ITB012211	Isola Ros-sa - Costa Paradiso	SCI		01/06/1995			25.66	54.17
801	Italy	ITB040024	Isola Ros-sa E Capo Teulada	SCI		01/09/1995			13.73	37.17
802	Italy	ITB043026	Isola Ser-pentara	SPA	09/07/2009				0.99	1.34
804	Italy	ITA070006	Isole Dei Ciclopi	SCI		01/09/1995			0.02	0.03

805	Italy	ITB013019	Isole del Nord - Est tra Capo Ceraso e Stagno di San Teodoro	SPA	09/07/2009				159.31	181.77
806	Italy	ITA010001	Isole Dello Stagnone Di Marsala	SCI		01/09/1995			3.92	6.41
808	Italy	IT6040020	Isole Di Palmarola E Zannone	SCI		01/06/1995			0.54	2.36
809	Italy	IT6040019	Isole Di Ponza, Palmarola, Zannone, Ventotene E S. Stefano	SPA	01/09/1996				160.98	171.70
813	Italy	ITB010010	Isole Tavolara, Molara E Molarotto	SCI		01/09/1995			150.98	160.13
815	Italy	ITB011155	Lago Di Baratz - Porto Ferro	SCI		01/06/1995			3.23	13.10
816	Italy	IT3250013	Laguna Del Mort E Pinete Di Eraclea	SCI		01/09/1995			0.47	2.14
817	Italy	IT3250033	Laguna Di Caorle - Foce Del Tagliamento	SCI		01/09/1995			0.73	43.79
818	Italy	IT3320037	Laguna di Marano e Grado	SPA & SCI	01/02/2000	01/09/1995			138.09	163.69
819	Italy	ITA030012	Laguna di Oliveri - Tindari	SCI		01/09/1995			1.42	4.67
820	Italy	IT3250046	Laguna di Venezia	SPA	01/04/2007				425.45	551.58
821	Italy	IT3250030	Laguna medio-inferiore di Venezia	SCI		01/09/1995			249.32	263.64
822	Italy	IT3250031	Laguna superiore di Venezia	SCI		01/09/1995			119.81	203.44
823	Italy	IT9150032	Le Cesine	SCI		01/06/1995			14.44	21.46
824	Italy	ITB022214	Lido Di Orrì	SCI		01/06/1995			1.44	4.89
825	Italy	IT9140002	Litorale Brindisino	SCI		01/06/1995			68.47	72.54
826	Italy	IT9150015	Litorale Di Gallipoli E Isola S. Andrea	SPA & SCI	01/12/1998	01/06/1995			66.19	70.01
827	Italy	IT9150009	Litorale di Ugento	SCI		01/06/1995			60.59	72.38

828	Italy	IT9320302	Marchesato e Fiume Neto	SPA	01/05/2005				29.75	702.14
829	Italy	IT9210155	Marina Di Castrocucco	SCI		01/09/1995			1.08	8.11
833	Italy	IT9150008	Montagna Spaccata e Rupi di San Mauro	SCI		01/06/1995			11.05	13.60
834	Italy	ITB040031	Monte Arcuentu E Rio Piscinas	SCI		01/09/1995			3.77	114.95
835	Italy	IT5320015	Monte Conero	SPA	01/03/2003				0.18	17.69
836	Italy	ITB010006	Monte Russu	SCI		01/09/1995			6.91	19.91
837	Italy	ITB042243	Monte Sant'Elia, Cala Mosca E Cala Fighera	SCI		01/06/1995			0.00	0.27
838	Italy	ITA030042	Monti Peloritani, Dorsale Curcuraci, Antennamare E Area Marina Dello Stretto Di Messina	SPA	01/06/2005				81.11	280.14
839	Italy	IT4070009	Ortazzo, Ortazzino, Foce Del Torrente Bevano	SPA & SCI	17/10/1988	01/06/1995			2.61	12.55
840	Italy	IT9150013	Palude del Capitano	SCI		01/06/1995			21.37	22.46
841	Italy	IT9150027	Palude del Conte, dune di Punta Prosciutto	SCI		01/06/1995			49.85	56.57
842	Italy	ITB020013	Palude Di Osalla	SCI		01/09/1995			4.71	9.86
843	Italy	IT8050037	Parco Marino Di Punta Degli Infreschi	SPA & SCI	01/04/2004	01/05/1995			49.12	49.17
844	Italy	IT8050036	Parco Marino Di S. Maria Di Castellabate	SPA & SCI	01/04/2004	01/05/1995			50.17	50.23
845	Italy	IT6040015	Parco Nazionale Del Circeo	SPA	01/10/1988				116.83	221.67
848	Italy	IT4070006	Pialassa Dei Piomboni, Pineta Di Punta Marina	SPA & SCI	01/09/2009	01/06/1995			0.57	4.64

849	Italy	IT4070005	Pineta Di Casal-borsetti, Pineta Staggioni, Duna Di Porto Corsini	SPA & SCI	01/09/2009	01/06/1995			1.70	5.78
850	Italy	IT4070008	Pineta Di Cervia	SCI		01/06/1995			0.04	1.94
853	Italy	ITB042230	Porto Campana	SCI		01/06/1995			1.19	2.03
855	Italy	IT9150028	Porto Cesareo	SCI		01/06/1995			0.81	2.25
859	Italy	IT5320006	Portonovo E Falesia Calcarea A Mare	SCI		01/06/1995			0.17	1.32
860	Italy	IT9150034	Posido-nieto Capo San Gregorio - Punta Ristola	SCI		01/06/1995			2.70	2.70
861	Italy	IT9130008	Posidonie-to Isola di San Pietro - Torre Canneto	SCI		01/06/1995			31.45	31.47
862	Italy	IT9120009	Posido-nieto San Vito - Barletta	SCI		01/06/1995			124.60	124.60
863	Italy	IT6040016	Promon-torio Del Circeo (Quarto Caldo)	SCI		01/06/1995			0.26	4.27
864	Italy	ITB040025	Promon-torio, Dune E Zona Umida Di Porto Pino	SCI		01/09/1995			5.25	26.99
867	Italy	ITB042233	Punta Di Santa Giusta (Costa Rei)	SCI		01/06/1995			0.00	0.05
868	Italy	ITB042210	Punta Giunchera	SCI		01/06/1995			0.46	0.54
869	Italy	ITB040028	Punta S'Aliga	SCI		01/09/1995			4.20	6.95
870	Italy	IT9150006	Rauccio	SCI		01/06/1995			48.88	54.70
872	Italy	IT4070026	Relitto Della Piat-taforma Paguro	SCI		01/10/2010			0.66	0.66
873	Italy	IT4060005	Sacca Di Goro, Po Di Goro, Valle Dindona, Foce Del Po Di Volano	SPA & SCI	17/10/1988	01/06/1995			39.63	48.67

874	Italy	ITA090014	Saline Di Augusta	SPA & SCI	01/12/1998	01/09/1995			0.24	0.52
875	Italy	ITB032239	San Giovanni Di Sinis	SCI		01/06/1995			0.00	0.03
877	Italy	ITB032219	Sassu - Cirras	SCI		01/06/1995			0.70	2.51
878	Italy	IT5160020	Scarpata Continentale Dell'Arcipelago Toscano	SCI		01/10/2011			4.74	4.74
879	Italy	IT5160019	Scoglietto Di Portoferraio	SCI		01/10/2011			1.54	1.54
880	Italy	IT51A0038	Scoglio Dell'Argentarola	SCI		01/10/2011			0.14	0.14
881	Italy	IT9310053	Secca Di Amendolara	SCI		01/09/1995			6.11	6.11
883	Italy	IT5160018	Secche Della Meloria	SCI		01/10/2011			87.32	87.32
884	Italy	IT6000008	Secche Di Macchiatonda	SCI		01/06/1995			15.65	15.65
886	Italy	IT6000010	Secche Di Tor Paterno	SCI		01/06/1995			0.27	0.27
887	Italy	IT6000009	Secche Di Torre Flavia	SCI		01/06/1995			8.65	8.65
888	Italy	ITB042220	Serra Is Tres Portus (Sant'Antioco)	SCI		01/06/1995			0.69	2.61
889	Italy	IT9350160	Spiaggia di Brancaleone	SCI		01/09/1995			15.00	15.86
890	Italy	ITB043025	Stagni Di Colostrai	SPA	09/07/2009				4.55	19.19
891	Italy	ITB040019	Stagni Di Colostrai E Delle Saline	SCI		01/09/1995			5.36	11.52
892	Italy	ITB040017	Stagni Di Murtas E S'Acqua Durci	SCI		01/09/1995			3.43	7.45
893	Italy	IT9140003	Stagni E Saline Di Punta Della Contessa	SPA & SCI	01/12/1998	01/06/1995			26.71	28.56
894	Italy	ITB030032	Stagno Di Corru S'Ittiri	SCI		01/09/1995		01/08/1994	31.63	57.16
895	Italy	ITB030034	Stagno di Mistras di Oristano	SCI		01/08/1994		01/08/1994	8.26	16.23

896	Italy	ITB010002	Stagno Di Pilo E Di Casaraccio	SCI		01/09/1995			8.54	18.84
897	Italy	ITB042218	Stagno Di Piscinnì	SCI		01/06/1995			1.15	4.45
898	Italy	ITB042226	Stagno di Porto Botte	SCI		01/06/1995			4.97	12.23
899	Italy	ITB030038	Stagno Di Putzu Idu (Salina Manna E Pauli Marigosa)	SCI		01/09/1995			2.26	5.98
900	Italy	ITB010011	Stagno Di San Teodoro	SCI		01/09/1995			2.66	8.20
901	Italy	ITB030016	Stagno Di S'Ena Arrubia E Territori Limitrofi	SCI		01/09/1995			1.71	2.79
902	Italy	ITB010003	Stagno E Ginepreto Di Platamona	SCI		01/09/1995			7.92	16.14
903	Italy	ITA010028	Stagnone Di Marsala E Saline Di Trapani - Area Marina E Terrestre	SPA	01/06/2005				30.28	37.30
906	Italy	IT3250047	Tegnùe Di Chioggia	SCI		01/10/2010			26.53	26.53
907	Italy	IT3250048	Tegnùe Di Porto Falconera	SCI		01/10/2010			6.22	6.22
908	Italy	IT9130001	Torre Colimena	SCI		01/06/1995			17.37	26.77
910	Italy	IT7120215	Torre Del Cerrano	SCI		01/10/2011			34.15	34.17
913	Italy	IT9140005	Torre Guaceto E Macchia S. Giovanni	SCI		01/06/1995		01/08/1994	76.72	79.74
914	Italy	ITA050012	Torre Manfria, Biviere E Piana Di Gela	SPA	01/06/2005				19.51	178.58
915	Italy	IT9150025	Torre Veneri	SCI		01/06/1995			13.67	17.40
916	Italy	ITB042231	Tra Forte Village E Perla Marina	SCI		01/06/1995			0.00	0.00
917	Italy	ITB042208	Tra Poggio La Salina E Punta Maggiore	SCI		01/06/1995			0.02	0.11
918	Italy	IT3330009	Trezze San Pietro e Bardelli	SCI		01/09/2013			19.72	19.72

919	Italy	IT3330006	Valle Cavanata E Banco Mula Di Muggia	SPA & SCI	01/02/2000	01/09/1995			5.85	8.60
920	Italy	IT3250041	Valle Vecchia - Zumelle - Valli di Bibione	SPA	01/08/2003				2.26	20.86
921	Italy	IT4060003	Vene Di Bellocchio, Sacca Di Bellocchio, Foce Del Fiume Reno, Pineta Di Bellocchio	SPA & SCI	17/10/1988	01/06/1995			7.43	22.40
922	Italy	IT9340091	Zona costiera fra Briatico e Nicotera	SCI		01/09/1995			5.25	7.80
940	Malta	MT0000101	Il-Bahar Bejn Rdum Majjiesa U Ras Ir-Raheb	SCI		01/08/2006	01/03/2008		8.43	8.49
1521	Malta	MT0000112	Il-Bahar ta' Madwar Ghawdex	SPA	01/04/2016				555.11	556.85
1525	Malta	MT0000107	Il-Bahar tal-Grigal	SPA	01/04/2016				351.94	351.94
1520	Malta	MT0000111	Il-Bahar tal-Lbic	SPA	01/04/2016				255.71	256.3
1526	Malta	MT0000108	Il-Bahar tal-Lvant	SPA	01/04/2016				625.59	625.59
1523	Malta	MT0000114	Il-Bahar tal-Majjistral	SPA	01/04/2016				55.93	55.93
1522	Malta	MT0000113	Il-Bahar tal-Punent	SCI		01/04/2016			231.06	231.06
1519	Malta	MT0000110	Il-Bahar tan-Nofsinhar	SPA & SCI	01/04/2016	01/04/2016			835.41	835.41
1524	Malta	MT0000106	Il-Bahar tat-Tramuntana	SPA & SCI	01/04/2016	01/04/2016			319.22	319.22
1527	Malta	MT0000109	Il-Bahar tax-Xlokk	SPA	01/04/2016				219.34	219.34
941	Malta	MT0000005	Ir-Ramla Area	SCI		01/04/2004	01/03/2008		0.01	0.07
947	Malta	MT0000105	Zona Fil-Bahar Fil-Grigal Ta' Malta	SCI		01/08/2010			154.15	155.36
948	Malta	MT0000102	Zona Fil-Bahar Fl-Inhawi Ta' Ghar Lapsi U Ta' Filfla	SCI		01/08/2010			24.40	24.52

949	Malta	MT0000104	Zona Fil-Bahar Fl-Inhawi Ta' Mgarr Ix-Xini (Ghawdex)	SCI		01/08/2010			0.26	0.31
950	Malta	MT0000103	Zona Fil-Bahar Fl-Inhawi Tad-Dwejra (Ghawdex)	SCI		01/08/2010			2.28	2.29
1321	Slovenia	SI3000241	Ankaran - Sv. Nikolaj	SAC		01/04/2004	01/11/2007	01/02/2012	0.02	0.07
1322	Slovenia	SI3000243	Debeli Rtič	SAC		01/04/2004	01/11/2007	01/02/2012	0.03	0.05
1323	Slovenia	SI5000028	Debeli rtič	SPA	01/04/2013				0.89	0.93
969	Slovenia	SI3000239	Kanal Sv. Jerneja	SCI		01/04/2004	01/11/2007	01/02/2012	0.12	0.32
970	Slovenia	SI3000249	Med Izolo in Strunjanom - klif	SCI		01/04/2004	01/11/2007	01/02/2012	0.42	0.56
971	Slovenia	SI3000307	Med Strunjanom in Fieso	SCI		01/04/2013			0.13	0.15
1317	Slovenia	SI3000247	Piranski klif	SAC		01/04/2004	01/11/2007	01/02/2012	0.00	0.04
972	Slovenia	SI5000018	Seèoveljske Soline	SPA	01/04/2004				7.47	9.69
973	Slovenia	SI3000240	Seèoveljske Soline In Estuarij Dragonje	SCI		01/04/2004	01/11/2007	01/02/2012	3.28	4.17
1319	Slovenia	SI3000252	Škocjanski zatok	SAC		01/04/2004	01/11/2007	01/02/2012	0.00	1.23
1320	Slovenia	SI5000008	Škocjanski zatok	SPA	01/04/2004				0.00	1.23
976	Slovenia	SI5000031	Strunjan	SPA	01/04/2013				1.83	1.88
1318	Slovenia	SI3000238	Strunjanske soline s Stjužo	SAC		01/04/2004	01/11/2007	01/02/2012	0.33	0.35
977	Slovenia	SI3000251	Usterna - Rastišèe Pozejdonke	SCI		01/04/2004	01/11/2007	01/02/2012	0.04	0.07
981	Spain	ES6170002	Acantilados de Maro-Cerro Gordo	SPA & SCI	01/10/2002	01/12/1997			14.60	17.91
982	Spain	ES0000197	Acantilados Del Monte Hacho	SPA	01/09/2000				0.05	0.28
983	Spain	ES6140014	Acantilados Y Fondos Marinos De Calahonda-Castell De Ferro	SAC		01/12/2000			9.18	9.72

984	Spain	ES6140016	Acantilados Y Fondos Marinos De La Punta De La Mona	SAC		01/12/2000			1.24	1.24
985	Spain	ES0000019	Aiguamolls De L'Alt Empordà	SPA & SCI	01/02/1988	01/12/1997			59.05	108.40
987	Spain	ES6110015	Alboran	SAC		01/04/1999			265.43	265.52
988	Spain	ES5222007	Alguers de Borria-	SCI		01/07/2001			40.74	40.79
991	Spain	ES5310103	Àrea Marina Cap De Cala Figuera	SCI		01/04/2004	01/07/2006		1.29	1.29
992	Spain	ES5310097	Àrea Marina Costa De Llevant	SCI		01/04/2004	01/07/2006		20.00	20.00
993	Spain	ES5310109	Àrea Marina De Cala Saona	SCI		01/04/2004	01/07/2006		4.42	4.42
994	Spain	ES5310106	Àrea Marina De Ses Margalides	SCI		01/04/2004	01/07/2006		0.99	0.99
995	Spain	ES5310107	Àrea Marina De Tagomago	SCI		01/04/2004	01/07/2006		7.45	7.46
996	Spain	ES5310108	Àrea Marina Del Cap Martinet	SCI		01/04/2004	01/07/2006		5.53	5.53
997	Spain	ES5310035	Àrea Marina Del Nord De Menorca	SCI		01/07/2000	01/07/2006		51.05	51.10
998	Spain	ES5310036	Àrea Marina Del Sud De Ciutadella	SCI		01/07/2000	01/07/2006		22.32	22.35
999	Spain	ES5310111	Àrea Marina Platja De Migjorn	SCI		01/04/2004	01/07/2006		20.50	20.51
1000	Spain	ES5310110	Àrea Marina Platja De Tramuntana	SCI		01/04/2004	01/07/2006		14.06	14.06
1001	Spain	ES5310073	Àrea Marina Punta Prima-Illa De L'Aire	SCI		01/04/2004	01/07/2006		13.22	13.23
1002	Spain	ES5310075	Arenal De Son Saura	SCI		01/04/2004	01/07/2006		3.46	3.47

1004	Spain	ES6110019	Arrecifes De Roquetas De Mar	SCI		01/12/2000			2.08	2.08
1005	Spain	ES0000083	Arxipèlag De Cabrera	SPA & SCI	01/03/2006	01/07/2000	01/07/2006		193.46	205.47
1006	Spain	ES5310005	Badies De Pollença I Alcúdia	SCI		01/07/2000	01/07/2006		307.59	307.66
1007	Spain	ES0000506	Bahía de Almería	SPA					1,267.91	1,267.91
1008	Spain	ES0000504	Bahía de Málaga-Cerro Gordo	SPA					609.75	609.76
1014	Spain	ES0000046	Cabo de Gata-Nijar	SPA & SCI	01/10/1989	01/12/1997		11/10/2012	123.49	495.43
1017	Spain	ES5310069	Cala D'Algairens	SCI		01/04/2004	01/07/2006		1.42	1.42
1018	Spain	ES5310071	Cala En Brut	SCI		01/04/2004	01/07/2006		0.40	0.40
1019	Spain	ES5310094	Cala Figuera	SCI		01/04/2004	01/07/2006		0.66	0.66
1020	Spain	ES6170030	Calahonda	SAC		01/12/2000			14.00	14.04
1021	Spain	ES6310001	Calamocarro-Benzú	SPA & SCI	01/09/2000	01/04/1999			0.51	6.02
1022	Spain	ES5310072	Caleta De Binillautí	SCI		01/04/2004	01/07/2006		1.61	1.61
1023	Spain	ESZZ16002	Canal de Menorca	SCI					3,355.91	3,356.03
1024	Spain	ES5310025	Cap De Barbaria	SPA & SCI	01/03/2006	01/07/2000	01/07/2006		17.98	24.77
1025	Spain	ES5120007	Cap De Creus	SPA & SCI	01/03/2005	01/12/1997			33.43	138.56
1029	Spain	ES0000228	Cap De Ses Salines	SPA & SCI	01/03/2006	01/07/2000	01/07/2006		0.46	37.29
1030	Spain	ES5310128	Cap Enderrocat I Cap Blanc	SCI	01/03/2006	01/07/2000	01/07/2006		34.59	70.84
1031	Spain	ES0000081	Cap Enderrocat-Cap Blanc	SPA	01/03/2006	01/07/2000	01/07/2006		34.59	70.85
1032	Spain	ES5310068	Cap Negre	SCI		01/04/2004	01/07/2006		5.66	7.33
1034	Spain	ES5310030	Costa De Llevant	SCI		01/07/2000	01/07/2006		18.34	18.38
1035	Spain	ES5310104	Costa De L'Oest D'Eivissa	SCI		01/04/2004	01/07/2006		12.70	12.73
1036	Spain	ES5110020	Costes Del Garraf	SPA & SCI	01/09/2006	01/09/2006			264.99	264.99

1038	Spain	ES5110017	Costes Del Maresme	SCI		01/09/2006			29.09	29.09
1040	Spain	ES5140007	Costes Del Tarra-gonès	SCI		01/12/1997			9.69	11.11
1041	Spain	ES0000233	D'Addaia A S'Al-bufera	SPA & SCI	01/03/2006	01/07/2000	01/07/2006		11.38	28.11
1042	Spain	ES5310074	De Cala Llucalari A Cales Coves	SCI		01/04/2004	01/07/2006		10.58	10.59
1043	Spain	ES0000020	Delta De L'Ebre	SPA & SCI	01/02/1988	01/09/2006			370.88	483.81
1046	Spain	ES5120016	El Montgrí-Les Medes - El Baix Ter	SPA & SCI	01/03/2005	01/12/1997			20.81	63.63
1048	Spain	ES6170037	El Saladillo - Punta De Baños	SCI		01/05/2007			17.52	17.52
1049	Spain	ES5310105	Es Amunts D'Eivissa	SCI		01/04/2004	01/07/2006		1.72	14.63
1050	Spain	ES5310077	Es Rajolí	SCI		01/04/2004	01/07/2006		1.10	1.10
1052	Spain	ES0000078	Es Ve-drà-Es Vedranell	SPA & SCI	01/03/2006	01/07/2000	01/07/2006		5.76	6.36
1053	Spain	ESZZ16005	Espacio marino de Alborán	SCI					107.36	107.36
1054	Spain	ESZZ16009	Espacio marino de Cabo Roig	SPA & SCI					46.80	46.85
1055	Spain	ES0000515	Espacio marino de Formen-tera y del sur de Ibiza	SPA					464.29	464.31
1056	Spain	ESZZ16006	Espacio marino de Ifac	SCI					9.22	9.22
1057	Spain	ESZZ16004	Espacio Marino de Illes Co-lumbretes	SCI					12.77	12.77
1058	Spain	ES0000505	Espacio marino de la Isla de Alborán	SPA					661.54	661.58
1059	Spain	ESZZ16007	Espacio marino de la Marina Alta	SPA & SCI					23.17	23.17
1060	Spain	ES0000514	Espacio marino de l'Empordà	SPA					855.13	855.13

1061	Spain	ES0000447	Espacio marino de Orpesa i Benicàs-sim	SPA & SCI	01/06/2009				13.17	13.17
1062	Spain	ES0000214	Espacio marino de Tabarca	SPA & SCI	01/05/2000				142.50	142.56
1063	Spain	ES0000508	Espacio marino de Tabar-ca-Cabo de Palos	SPA					1,260.69	1,260.70
1064	Spain	ES0000513	Espacio marino del Baix Llobre-gat-Garraf	SPA					386.82	386.82
1065	Spain	ESZZ16008	Espacio marino del Cabo de les Hortes	SCI					42.49	42.51
1066	Spain	ES0000512	Espacio marino del Delta de l'Ebre-Illes Co-lumbretes	SPA					9,016.17	9,016.17
1067	Spain	ESZZ16010	Espacio marino del entorno de Illes Co-lumbretes	SPA & SCI					122.57	122.66
1068	Spain	ES0000517	Espacio marino del levante de Ibiza	SPA					191.65	191.67
1069	Spain	ES0000520	Espacio marino del norte de Mallorca	SPA					984.70	984.81
1070	Spain	ES0000521	Espacio marino del norte y oeste de Menorca	SPA					1,614.50	1,614.57
1071	Spain	ES0000519	Espacio marino del poniente de Mal-lorca	SPA					469.60	469.62
1072	Spain	ES0000516	Espacio marino del poniente y norte de Ibiza	SPA					471.68	471.81
1073	Spain	ES0000518	Espacio marino del sur de Mallorca y Cabrera	SPA					400.16	400.16
1074	Spain	ES0000522	Espacio marino del sureste de Menorca	SPA					235.64	235.70

1075	Spain	ES0000337	Estrecho	SPA & SCI	01/05/2003	01/04/1999		11/10/2012	94.58	191.66
1076	Spain	ES6120032	Estrecho Oriental	SCI		01/05/2007		01/12/2012	236.25	236.36
1077	Spain	ES6170036	Fondos Marinos De La Bahia De Estepona	SCI		01/12/2000			5.52	5.52
1078	Spain	ES6110009	Fondos Marinos De Punta Enti-nas-Sabi-nar	SCI		01/12/1997			39.62	39.62
1080	Spain	ES6120034	Fondos Marinos Estuario Del Rio Guadiaro	SAC		01/05/2007			1.03	1.03
1081	Spain	ES6110010	Fondos Marinos Levante Alme-riense	SCI		01/12/1997			106.83	106.98
1082	Spain	ES6120033	Fondos Marinos Marismas Del Rio Palmones	SAC		01/05/2007			0.88	0.88
1083	Spain	ES6140013	Fondos Marinos Tesoril-lo-Sa-lobreña	SAC		01/12/2000			10.14	10.14
1084	Spain	ES6200029	Franja Litoral Sumergi-da De La Región De Murcia	SCI		01/04/1999	01/09/2006		134.56	134.66
1086	Spain	ES5140020	Grapissar De La Ma-sia Blanca	SCI		01/09/2006			4.41	4.41
1092	Spain	ES0000061	Illes Co-lumbretes	SPA & SCI	01/01/1990	01/12/1997			0.10	0.19
1095	Spain	ES0000121	Illots De Benidorm I Serra Gelada	SPA	01/04/1991				54.86	61.88
1096	Spain	ES5310023	Illots De Ponent D'Eivissa	SPA & SCI	01/03/2006	01/07/2000	01/07/2006		24.18	25.37
1097	Spain	ES0000242	Illots De Santa Eulària, Rodona I Es Canà	SPA & SCI	01/03/2006	01/07/2000	01/07/2006		0.69	0.70
1099	Spain	ES0000270	Isla Cueva de Lobos	SPA	01/03/2001				0.28	0.28
1103	Spain	ES0000271	Isla de las Palomas	SPA	01/03/2001				0.28	0.28

1105	Spain	ES0000256	Islas Hormigas	SPA	01/10/2000				1.54	1.54
978	Spain	ES6110020	Islote de San Andrés	SAC		01/12/2000			0.35	0.35
1107	Spain	ES0000507	Islotes litorales de Murcia y Almería	SPA					123.35	123.38
1108	Spain	ES5310024	La Mola	SPA & SCI	01/03/2006	01/07/2000	01/07/2006		11.39	21.84
1109	Spain	ES5120014	L'Albera	SPA & SCI	01/03/2005	01/12/1997			0.51	163.22
1110	Spain	ES0000023	L'Albufera	SCI		01/07/2001			67.64	275.26
1111	Spain	ES0000471	L'Albufera	SPA	01/12/1988				85.10	292.73
1112	Spain	ES5212005	L'Almadrava	SPA & SCI	01/06/2009	01/07/2001			22.37	22.37
1113	Spain	ES5120015	Litoral Del Baix Empordà	SPA & SCI	01/03/2005	01/12/1997			18.61	33.35
1114	Spain	ES5140001	Litoral Meridional Tarragoní	SCI		01/09/2006			46.07	49.04
1116	Spain	ES0000260	Mar Menor	SPA	01/03/2001				135.46	145.24
1119	Spain	ES5120013	Massís De Les Cadiretes	SPA & SCI	01/09/2006	01/12/1997			14.90	92.31
1122	Spain	ES5211007	Montgó	SCI		01/12/1997			8.55	30.06
1123	Spain	ES0000454	Montgó-Cap De Sant Antoni	SPA	01/06/2009				8.55	30.06
1124	Spain	ES0000224	Muleta	SPA	01/03/2006				0.14	1.63
1125	Spain	ES0000227	Muntanyes D'Artà	SPA & SCI	01/03/2006	01/07/2000	01/07/2006		57.11	147.15
1127	Spain	ES5310112	Nord De Sant Joan	SCI		01/04/2004	01/07/2006		5.26	19.29
1130	Spain	ES0000510	Plataforma-talud marinos del Cabo de la Nao	SPA					2,679.84	2,679.84
1131	Spain	ES5310081	Port Des Canonge	SCI		01/04/2004	01/07/2006		1.83	6.16
1132	Spain	ES5310099	Portocolom	SCI		01/04/2004	01/07/2006		0.76	0.76
1133	Spain	ES0000467	Prat De Cabanes I Torreblanca	SPA	01/01/1990				11.02	19.41
1134	Spain	ES0000060	Prat De Cabanes I Torreblanca.	SCI		01/12/1997			11.02	19.38

1135	Spain	ES5310096	Punta De N'Amer	SCI		01/04/2004	01/07/2006		3.37	5.27
1136	Spain	ES5310070	Punta Redona-Arenal D'En Castell	SCI		01/04/2004	01/07/2006		9.83	10.05
1137	Spain	ES0000221	Sa Dragonera	SPA & SCI	01/03/2006	01/07/2000	01/07/2006		10.31	12.73
1138	Spain	ES0000234	S'Albufera Des Grau	SPA & SCI	01/03/2006	01/07/2000	01/07/2006		7.30	25.39
1140	Spain	ES0000175	Salinas y Arenales de San Pedro del Pinatar	SPA & SCI	01/01/1999	01/04/1999	01/09/2006		6.27	8.29
1142	Spain	ES5223036	Serra D'Irta	SCI		01/07/2001			20.86	97.86
1143	Spain	ES0000444	Serra D'Irta	SPA	01/09/2009				20.86	97.86
1145	Spain	ES5213021	Serra Gelada I Litoral De La Marina Baixa	SCI		01/12/1997			51.40	55.48
1147	Spain	ES0000084	Ses Salines D'Eivissa I Formentera	SPA & SCI	01/03/2006	01/07/2000	01/07/2006		141.80	164.40
1149	Spain	ES5310082	S'Estaca-Punta De Deià	SCI		01/04/2004	01/07/2006		7.91	10.03
1150	Spain	ESZZ16001	Sistema de cañones submarinos occidentales del Golfo de León	SCI					938.43	938.43
1151	Spain	ESZZ16003	Sur de Almería - Seco de los Olivos	SCI					2,830.81	2,830.81
1152	Spain	ES0000082	Tagomago	SPA & SCI	01/03/2006	01/07/2000	01/07/2006		5.14	5.54
1154	Spain	ES6200048	Valles submarinos del Escarpe de Mazarrón	SCI		01/07/2000	01/09/2006		1,539.05	1,539.05

1155	Spain	ES0000538	ZEPA Espacio marino de Ifac	SPA					9.31	9.32
1156	Spain	ES6320001	Zona Marítimo Terrestre De Los Acanti-lados De Aguadú	SCI		01/03/2002		01/02/2013	0.52	0.56
1157	Spain	ES6310002	Zona Maríti-mo-Ter-restre Del Monte Hacho	SCI		01/04/1999			7.58	8.65

List of Ramsar sites

MAPAMED identifier	Country	Ramsar identifier	Name	Designation	Status year	Marine area (km^2)	Total area (km^2)
1	Albania	1290	Butrint	Ramsar site	2003	29.03	146.12
6	Albania	781	Karavasta Lagoon	Ramsar site	1995	10.68	212.19
14	Algeria	1056	Complexe De Zones Humides De La Plaine De Guerbes-Sanhadja	Ramsar site	2001	2.71	421.01
21	Algeria	1961	Ile De Rachgoun	Ramsar site	2011	0.36	0.65
30	Algeria	1059	Marais De La Macta	Ramsar site	2001	0.00	441.73
33	Algeria	1424	Réserve Intégrale Du Lac El Mellah	Ramsar site	2004	4.69	25.18
34	Algeria	1304	Réserve Naturelle Du Lac De Réghaïa	Ramsar site	2003	4.88	8.42
38	Algeria	1898	Vallée De L'Oued Soummam	Ramsar site	2009	1.38	119.75
147	Croatia	585	Neretva River Delta	Ramsar site	1993	10.07	129.25
348	Egypt	407	Lake Bardawil	Ramsar site	1988	525.68	572.97
349	Egypt	408	Lake Burullus	Ramsar site	1988	22.61	911.17
1276	France	454	Albufera de Valencia	Ramsar site	1989	0.00	209.97
1266	France	346	Camargue	Ramsar site	1986	268.41	845.52
1265	France	520	Etang de Biguglia	Ramsar site	1991	14.26	17.86
1269	France	1829	Etang de Palo	Ramsar site	2008	1.16	2.18
1270	France	1831	Etang d'Urbino	Ramsar site	2008	0.00	8.03
1271	France	1832	Etangs palavasiens	Ramsar site	2008	22.59	75.77
1267	France	786	La Petite Camargue	Ramsar site	1996	2.66	416.77
1272	France	1836	Les étangs de Villepey	Ramsar site	2008	0.02	2.43
1268	France	1593	Les Etangs littoraux de la Narbonnaise	Ramsar site	2006	60.63	123.56
1273	France	1838	Salins d'Hyères	Ramsar site	2008	4.95	9.15
1258	Greece	61	Amvrakikos gulf	Ramsar site	1975	133.45	287.39
1259	Greece	59	Axios, Loudias, Aliakmon Delta	Ramsar site	1975	92.74	149.67
1260	Greece	54	Evros Delta	Ramsar site	1975	25.39	55.32
1261	Greece	63	Kotychi lagoons	Ramsar site	1975	23.08	87.80

1262	Greece	55	Lake Vistonis, Porto Lagos, Lake Ismaris & adjoining lagoons	Ramsar site	1975	52.57	121.00
1263	Greece	62	Messolonghi lagoons	Ramsar site	1975	229.28	362.76
1264	Greece	56	Nestos delta & adjoining lagoons	Ramsar site	1975	2.18	83.07
1253	Italy	128	Lago dei Monaci	Ramsar site	1976	0.08	4.25
1239	Italy	125	Lago di Burano	Ramsar site	1976	0.18	4.07
1255	Italy	129	Lago di Caprolace	Ramsar site	1976	0.09	5.66
1241	Italy	127	Lago di Fogliano	Ramsar site	1976	0.11	8.86
1242	Italy	130	Lago di Sabaudia	Ramsar site	1976	0.08	14.61
1229	Italy	190	Laguna di Marano: Foci dello Stella	Ramsar site	1979	10.65	14.34
1240	Italy	124	Laguna di Orbetello	Ramsar site	1976	0.07	8.94
1228	Italy	423	Laguna di Venezia: Valle Averto	Ramsar site	1989	3.88	5.17
1254	Italy	1664	Oasi di Castelvolturno o Variconi	Ramsar site	2006	0.57	1.95
1231	Italy	227	Ortazzo e Ortazzino	Ramsar site	1981	0.00	4.61
1238	Italy	522	Palude della Diaccia Botrona	Ramsar site	1991	0.00	12.38
1256	Italy		Palude di Capo Feto	Ramsar site	2011	0.20	2.98
1232	Italy	226	Piallassa della Baiona e Risega	Ramsar site	1981	0.00	12.29
1233	Italy	119	Sacca di Bellocchio	Ramsar site	1976	0.39	2.24
1234	Italy	228	Saline di Cervia	Ramsar site	1981	0.00	8.38
1243	Italy	191	Saline di Margherita di Savoia	Ramsar site	1979	0.00	49.02
1257	Italy		Saline di Trapani	Ramsar site	2011	6.80	9.70
1248	Italy	178	Stagno di Cábras	Ramsar site	1979	20.52	36.24
1252	Italy	134	Stagno di Cagliari	Ramsar site	1976	12.94	36.82
1247	Italy	179	Stagno di Corru S'Ittiri, Stagni di San Giovanni e Marceddì	Ramsar site	1979	22.72	26.44
1249	Italy	233	Stagno di Mistras	Ramsar site	1982	4.21	7.11
1250	Italy	133	Stagno di Molentargius	Ramsar site	1976	0.00	13.77

1251	Italy	180	Stagno di Pauli Maiori	Ramsar site	1979	0.00	2.92
1246	Italy	132	Stagno di S'Ena Arrubia	Ramsar site	1976	1.64	3.02
1244	Italy	215	Torre Guaceto	Ramsar site	1981	3.34	5.38
1235	Italy	224	Valle Bertuzzi	Ramsar site	1981	1.42	29.55
1230	Italy	169	Valle Cavanata	Ramsar site	1978	0.09	2.42
1236	Italy	223	Valle di Gorino	Ramsar site	1981	12.19	13.43
1237	Italy	225	Valli residue del comprensorio di Comacchio	Ramsar site	1981	123.67	141.93
1245	Italy	424	Vendicari	Ramsar site	1989	2.31	15.09
925	Lebanon	1079	Palm Islands Nature Reserve	Ramsar site	2001	4.17	4.17
926	Lebanon	980	Tyre Beach	Ramsar site	1999	1.07	2.80
930	Libya	1026	Ain Elshakika	Ramsar site	2000	0.00	1.36
931	Libya	1027	Ain Elzarga	Ramsar site	2000	0.00	0.83
1227	Monaco	918	Réserve sous-marine du Larvotto	Ramsar site	1997	0.23	0.23
956	Monte-negro	2135	Tivat Saline	Ramsar site	2013	0.37	1.45
959	Morocco	1473	Cap Des Trois Fourches	Ramsar site	2005	29.93	43.84
961	Morocco	1478	Embouchure De La Moulouya	Ramsar site	2005	1.04	16.98
965	Morocco	1484	Sebkha Bou Areg	Ramsar site	2005	131.72	153.49
1226	Slovenia	586	Secoveljske Soline	Ramsar site	1993	4.60	7.21
1284	Spain	592	Aiguamolls de l'Empordà	Ramsar site	1993	0.42	47.35
1283	Spain	593	Delta del Ebro	Ramsar site	1993	18.99	78.05
1275	Spain	456	Lagunas de la Mata y Torrevieja	Ramsar site	1989	0.00	34.79
1282	Spain	2036	Lagunas de las Moreras	Ramsar site	2011	0.00	0.73
1281	Spain	706	Mar Menor	Ramsar site	1994	141.11	150.51
1274	Spain	1677	Paraje Natural Punta Entinas-Sabinar	Ramsar site	2007	0.48	19.50
1280	Spain	458	Prat de Cabanes - Torreblanca	Ramsar site	1989	1.19	10.19
1279	Spain	449	S'Albufera de Mallorca	Ramsar site	1989	0.02	16.48
1278	Spain	641	Salinas de Ibiza y Formentera	Ramsar site	1993	6.71	16.81
1277	Spain	457	Salinas de Santa Pola	Ramsar site	1989	0.86	25.53
1166	Tunisia	1697	Bahiret El Bibane	Ramsar site	2007	360.60	468.33

1171	Tunisia	2100	Complexe Des Zones Humides De Sebkhet Oum Ez-Zessar Et Sebkhet El Grine	Ramsar site	2013	45.36	74.37
1172	Tunisia	2076	Complexe Des Zones Humides Des Chott El Guetayate Et Sebkhet Dhreia Et Oueds Akarit, Rekhama Et Meleh	Ramsar site	2012	42.09	58.58
1173	Tunisia	2096	Complexe Lac De Tunis	Ramsar site	2013	0.47	24.68
1175	Tunisia	1700	Djerba Bin El Ouedian	Ramsar site	2007	91.81	121.84
1176	Tunisia	1701	Djerba Guellala	Ramsar site	2007	20.70	24.22
1177	Tunisia	1702	Djerba Ras Rmel	Ramsar site	2007	17.11	18.97
1179	Tunisia	2008	Golfe De Boughrara	Ramsar site	2012	24.53	88.01
1183	Tunisia	2012	Iles Kerkennah Ou L'Archipel De Kerkennah	Ramsar site	2012	32.17	68.15
1187	Tunisia	1704	Iles Kneiss Avec Leurs Zones Intertidales	Ramsar site	2007	165.56	220.58
1192	Tunisia	1706	Lagune De Ghar El Melh Et Delta De La Mejerda	Ramsar site	2007	54.84	101.23
1194	Tunisia	1707	Lagunes Du Cap Bon Oriental	Ramsar site	2007	0.00	5.67
1197	Tunisia	1709	Salines De Thyna	Ramsar site	2007	3.17	27.24
1200	Tunisia	2006	Sebkhet Halk Elmanzel Et Oued Essed	Ramsar site	2012	0.00	16.55
1201	Tunisia	1713	Sebkhet Soliman	Ramsar site	2007	0.37	7.11
1217	Turkey	657	Göksu Delta	Ramsar site	1994	61.41	142.70

List of Specially Protected Areas of Mediterranean Importance

MAPAMED identifier	Country	Name	Designation	Status year	Marine area (km²)	Total area (km²)
1464	Albania	Karaburun-Sazani Island	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2016	125.27	125.27
11	Algeria	Banc Des Kabyles	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2001	4.01	4.01
26	Algeria	Iles Habibas	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2005	25.97	26.36
337	Cyprus	Lara-Toxeftra	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2013	5.95	6.73
359	France	Archipel Des Embiez - Six Fours	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2012	2.71	2.72
387	France	Cote Bleue	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2012	188.33	188.64
430	France	Port-Cros	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2001	13.43	19.83
439	France	Strait Of Bonifacio	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2009	794.80	797.66
441	France, Italy, Monaco	Pelagos Sanctuary For The Conservation Of Marine Mammals	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2001	87 275.56	87 338.27
656	Italy	Capo Caccia - Isola Piana	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2009	26.33	26.38
659	Italy	Capo Carbonara	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2012	86.23	86.35
832	Italy	Miramare	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2008	0.29	0.29
847	Italy	Penisola Del Sinis - Isola Mal Di Ventre	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2012	267.02	267.07

852	Italy	Plemmirio	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2008	24.28	24.28
856	Italy	Porto Cesareo	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2012	164.81	165.00
858	Italy	Portofino	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2005	3.61	3.62
866	Italy	Punta Campanella	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2009	15.16	15.24
905	Italy	Tavolara - Punta Coda Cavallo	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2008	153.12	153.24
912	Italy	Torre Guaceto	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2007	21.82	21.82
924	Lebanon	Palm Islands	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2012	4.17	4.17
928	Lebanon	Tyre Coast	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2012	36.89	38.88
958	Morocco	Al-Hoceima	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2009	213.69	490.77
980	Spain	Acantilados De Maro Cerro Gordo	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2003	13.49	18.17
990	Spain	Archipielago De Cabrera	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2003	88.35	100.29
1011	Spain	Cabo De Gata Nijar	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2001	120.46	495.75
1027	Spain	Cap De Creus	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2001	33.46	138.46
1079	Spain	Fondos Marinos Del Levante Almeriense	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2001	63.15	63.16

1093	Spain	Illes Columbretes	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2001	122.49	122.64
1101	Spain	Isla De Alboran	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2003	263.77	263.81
1106	Spain	Islas Medas	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2001	5.81	6.00
1117	Spain	Mar Menor y Costa Oriental de la Région de Murcia	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2001	262.28	274.97
1165	Tunisia	Archipel De La Galite	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2001	82.94	91.16
1186	Tunisia	Iles Kneiss	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2001	74.70	77.72
1206	Tunisia	Zembra et Zembretta	Specially Protected Area of Mediterranean Importance (SPAMI - Barcelona Convention)	2001	77.33	81.89

List of other types of MPAs identified in the Mediterranean Sea

MAPAMED identifier	Country	Name	Designation	Status year	Marine area (km²)	Total area (km²)
1354	Cyprus	The Eratosthenes Seamount	Fisheries Restricted Area (GFCM)	2006	10 305.86	10 305.86
345	Egypt	El Omayed	UNESCO-MAB Biosphere Reserve	1981	36.72	672.64
1353	Egypt	The Nile delta area cold hydrocarbon seeps	Fisheries Restricted Area (GFCM)	2006	4 377.39	4 377.39
368	France	Camargue	UNESCO-MAB Biosphere Reserve	2006	605.92	1 922.32
410	France	Gulf Of Porto: Calanche Of Piana, Gulf Of Girolata, Scandola Reserve	World Heritage Site (UNESCO)	2006	37.91	118.01
440	France	Vallée Du Fango	UNESCO-MAB Biosphere Reserve	1977	10.13	268.27
1351	France, Italy	Strait of Bonifacio	Particularly Sensitive Sea Area (PSSA - IMO)	2011	10 956.43	10 956.43
1374	France, Italy	Strait of Bonifacio International Marine Park	European Grouping of Territorial Cooperation (EGTC)	2012	1 858.00	1 858.00
1505	France, Italy, Monaco	Pelagos Sanctuary for Marine Mammals	International Agreement	1999	87 275.56	87 338.27
643	Italy	Arcipelago Toscano	UNESCO-MAB Biosphere Reserve	2003	581.41	730.08
1352	Italy	Lophelia reef off Capo Santa Maria di Leuca	Fisheries Restricted Area (GFCM)	2006	1 004.88	1 004.88
830	Italy	Miramare	UNESCO-MAB Biosphere Reserve	1979	0.29	0.29
955	Montenegro	Natural and Culturo-Historical Region of Kotor	World Heritage Site (UNESCO)	1979	25.67	109.96
966	Morocco, Spain	Intercontinental Biosphere Reserve Of The Mediterranean	UNESCO-MAB Biosphere Reserve	2006	248.44	8 826.76
1010	Spain	Cabo De Gata Nijar	UNESCO-MAB Biosphere Reserve	1997	120.94	496.38
1088	Spain	Ibiza, Biodiversity And Culture	World Heritage Site (UNESCO)	1999	142.01	165.33

APPENDIX 02: List of GIS layers used for spatial analysis

Name of the layer	Description	Obtained from
Nationally designated MPAs	This layer represents all nationally designated MPAs in the Mediterranean Sea.	MAPAMED dataset, November 2017 version Data constituting this layer come from a wide range of sources. Please refer to the fields "RESP_PARTY", "LINEAGE" and "GIS_DATE" in the attribute table for more detailed information.
Natura 2000 sites	This layer represents all marine Natura 2000 sites in the Mediterranean Sea.	MAPAMED dataset, November 2017 version Most of the data constituting this layer come from the EEA Natura 2000 dataset (PublicNatura2000End2015). Marine Natura 2000 sites selected where those archived as covering habitats belonging to codes N01 (Marine areas and sea inlets) in the field HABITATCODE of the HABITATCLASS table and located in the assessment area. Other sources have also been used. Please refer to the fields "RESP_PARTY", "LINEAGE" and "GIS_DATE" in the attribute table for more detailed information.
SPAMIs	This layer represents all Specially Protected Areas of Mediterranean Importance.	MAPAMED dataset, November 2017 version Data constituting this layer come from a wide range of sources. Please refer to the fields "RESP_PARTY", "LINEAGE" and "GIS_DATE" in the attribute table for more detailed information.
Ramsar sites	This layer represents all coastal and marine Ramsar sites in the Mediterranean Sea.	MAPAMED dataset, November 2017 version Data constituting this layer come from a wide range of sources. Please refer to the fields "RESP_PARTY", "LINEAGE" and "GIS_DATE" in the attribute table for more detailed information.
Biosphere Reserves	This layer represents all Biosphere Reserves with a marine component in the Mediterranean Sea.	MAPAMED dataset, November 2017 version Data constituting this layer come from a wide range of sources. Please refer to the fields "RESP_PARTY", "LINEAGE" and "GIS_DATE" in the attribute table for more detailed information.
World Heritage sites	This layer represents all World Heritage sites with a marine component in the Mediterranean Sea.	MAPAMED dataset, November 2017 version Data constituting this layer come from a wide range of sources. Please refer to the fields "RESP_PARTY", "LINEAGE" and "GIS_DATE" in the attribute table for more detailed information.
Fisheries Restricted Areas	This layer represents the 8 international Fisheries Restricted Areas established by the General Fisheries Commission for the Mediterranean (GFCM) at the time of the analysis, among which 3 aim to protect sensitive deep sea habitats.	Data for each Fisheries Restricted Area were downloaded from the GFCM website in April 2016 (http://www.fao.org/gfcm/data/map-fisheries-restricted-areas/en). The polygons of the 3 FRAs established in 2016 in the Strait of Sicily were digitised manually using the coordinates provided in the Recommendation GFCM/40/2016/4. The 9th FRA of October 2017 was therefore not used in the analysis (Recommendation GFCM/41/2017).
EEA coast-line for analysis	This layer represents the coastline of the Mediterranean Sea at a scale of 1:100000. It is derived from the combination of two data sources: EU-Hydro and A Global Self-consistent, Hierarchical, High-resolution Geography Database (GSHHG).	EEA coastline for analysis, 2015 version The layer was downloaded from the European Environment Agency website (http://www.eea.europa.eu/data-and-maps/data/eea-coastline-for-analysis-1).

Hypothetical EEZs	This layer represents hypothetical EEZs in the Mediterranean Sea.	The layer is derived from the World EEZ v8 developed by the Flanders Marine Institute, which was slightly modified so that its landward boundaries fit the EEA coastline for analysis described above.
Ecoregions	This layer represents the 8 ecoregions described by UNEP-MAP-SPA/RAC (2010).	This layer was created by the MAPAMED team, based on the map showing the 8 proposed ecoregions in the "Overview of scientific findings and criteria relevant to identifying SPAMIs in the Mediterranean open seas including the deep sea".
Depth zones	This layer represents various depth zones in the Mediterranean Sea (0 - 15 m, 15 - 50 m, 50 - 200 m, 200 - 1000 m, > 1000 m).	Bathymetry polygons were obtained for the selected depths by applying the contour extraction tool of QGis to the GEBCO 2014 Grid. The resulting contour lines were then converted into polygons which were then clipped with the Mediterranean Sea polygon to remove parts which were not in the study area.
EMODnet Seabed Habitats	This layer represents broad-scale predictive habitat map presented in the EUNIS classification system where possible, and amalgamated into the MSFD predominant habitats.	This layer was derived from the EMODnet Seabed Habitats project in 2016 (http://www.emodnet-seabedhabitats.eu/default.aspx?page=1953), which was clipped with the Mediterranean Sea polygon to remove parts which were not in the study area.
Buffer distance belts	This layer represents various buffer distance belts from the coast (0-1 n.m., 0-12 n.m. and beyond 12 n.m.).	The buffer distance belts were generated using the EEA coastline for analysis. The resulting buffer zones were then clipped with the Mediterranean Sea polygon to remove parts which were not in the assessment area. The buffer zones were constructed directly from the coastline without considering the presence or absence of eventual baselines.
Cetacean Critical Habitats	This layer represents Cetacean Critical Habitats, as identified by ACCOBAMS.	The layer was provided by the ACCOBAMS Permanent Secretariat in June 2015 and was slightly modified so that the boundaries of coastal areas fit with the EEA coastline for analysis.

APPENDIX 03: Overlap between designations

		National designations	Natura 2000 - Habitats directive	Natura 2000 - Birds directive	Natura 2000 - All	Pelagos Sanctuary	Conservation FRAs	PMIBB	PSSA	SPAMIs	Biosphere Reserves	Ramsar sites	World Heritage
	Total coverage	40326,69 km²	37905,46 km²	37934,19 km²	59700,79 km²	87275,56 km²	15688,13 km²	1855,45 km²	10956,43 km²	89856,09 km²	1603,84 km²	3349,93 km²	205,59 km²
National designations	40326,69 km²		14422,00 km²	11335,78 km²	16750,91 km²	9580,01 km²	0,00 km²	948,60 km²	1213,90 km²	11523,17 km²	1095,83 km²	1141,53 km²	174,39 km²
Natura 2000 - Habitats directive	37905,46 km²			17481,05 km²	39329,59 km²	7187,64 km²	0,00 km²	1025,53 km²	1606,54 km²	8839,25 km²	1308,86 km²	876,73 km²	179,49 km²
Natura 2000 - Birds directive	37934,19 km²				41152,40 km²	4631,48 km²	0,00 km²	1016,40 km²	1449,10 km²	5682,39 km²	1344,30 km²	997,55 km²	179,69 km²
Natura 2000 - All	59700,79 km²					7189,48 km²	0,00 km²	1025,92 km²	1656,21 km²	8996,48 km²	1347,12 km²	1034,66 km²	179,71 km²
Pelagos Sanctuary	87275,56 km²						0,00 km²	1693,03 km²	9952,45 km²	87275,56 km²	556,35 km²	0,27 km²	34,80 km²
Conservation FRAs	15688,13 km²							0,00 km²	0,00 km²	0,00 km²	0,00 km²	0,00 km²	0,00 km²
PMIBB	1855,45 km²								1855,45 km²	1695,33 km²	0,00 km²	0,00 km²	0,00 km²
PSSA	10956,43 km²									10107,86 km²	0,00 km²	0,00 km²	0,00 km²
SPAMIs	89856,09 km²										674,78 km²	221,17 km²	34,80 km²
Biosphere Reserves	1603,84 km²											268,66 km²	0,00 km²
Ramsar sites	3349,93 km²												6,70 km²
World Heritage	205,59 km²												

APPENDIX 04: Detailed results for seabed habitat representativity

		Proportion of seabed habitat covered (%)												
EMODnet seabed habitats	**Total area of the habitat (km^2)**	**National designations**	**Natura 2000 - Habitats directive**	**Natura 2000 - Birds directive**	**Natura 2000 - All**	**Pelagos Sanctuary**	**Conservation FRAs**	**PMIBB**	**PSSA**	**SPAMIs**	**Biosphere Reserves**	**Ramsar sites**	**World Heritage**	**TOTAL**
		18,46	35,05	24,77	40,36	9,38	0,00	1,80	5,71	16,39	1,43	0,15	0,18	47,75
A3: Infralittoral rock and other hard substrata	3190,14	8,58	17,84	20,51	29,28	8,18	0,00	1,25	5,79	10,48	0,35	0,03	0,05	36,66
A4.26 or A4.32: Mediterranean coralligenous communities moderately exposed to or sheltered from hydrodynamic action	1264,48	3,49	10,81	8,06	13,51	2,51	0,00	0,00	0,20	5,40	0,26	0,05	0,00	15,83
A4.27: Faunal communities on deep moderate energy circalittoral rock	266,78	0,00	0,46	0,00	0,46	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,46
A4: Circalittoral rock and other hard substrata	3083,05	8,73	15,90	11,92	19,24	11,02	0,00	2,25	5,20	12,71	0,34	0,19	0,08	26,62
A5.13: Infralittoral coarse sediment	56,88	9,28	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	9,28
A5.14: Circalittoral coarse sediment	55257,62	3,95	6,19	4,13	7,33	1,54	0,00	0,07	0,57	2,05	0,27	1,26	0,04	10,94
A5.23: Infralittoral fine sands	2868,44	0,00	2,08	0,00	2,08	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	2,08
A5.25: Circalittoral fine sands	5143,13	0,08	0,37	0,05	0,37	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,37
A5.26: Circalittoral muddy sand	7725,80	2,57	7,00	2,55	8,11	1,00	0,00	0,01	0,04	1,26	0,02	0,64	0,00	11,66
A5.33: Infralittoral sandy mud	2162,36	3,70	7,36	11,53	15,21	7,83	0,00	0,00	0,00	12,95	0,02	5,65	0,00	25,39
A5.34: Infralittoral fine mud	9072,87	0,11	3,22	2,93	3,65	0,00	0,00	0,00	0,00	0,00	0,00	0,19	0,00	3,70
A5.35: Circalittoral sandy mud	11836,90	0,01	0,34	0,08	0,37	0,00	0,00	0,00	0,00	0,00	0,00	0,01	0,00	0,37
A5.36: Ciracalittoral fine mud	52856,43	1,73	2,75	3,65	5,29	1,61	0,00	0,57	0,78	1,80	0,20	0,03	0,00	7,91
A5.38: Mediterranean biocenosis of muddy detritic bottoms	64383,52	2,00	2,24	10,48	11,49	11,84	0,40	0,00	0,00	11,87	0,26	0,12	0,00	24,73
A5.39: Mediterranean biocenosis of coastal terrigenous muds	144077,66	3,20	5,95	6,98	10,13	3,95	0,00	0,73	1,77	4,38	0,21	0,09	0,04	13,67

A5.46: Mediterranean biocenosis of coastal detritic bottoms	100285,82	4,36	3,31	6,06	7,58	3,28	0,00	0,05	1,02	3,60	0,24	0,07	0,00	12,60
A5.47: Mediterranean communities of self-edge detritic bottoms	993,62	0,82	7,19	3,99	9,64	8,02	0,00	0,00	0,00	8,04	0,00	0,04	0,14	17,14
A5.531: [Cymodocea] beds	11911,36	12,96	29,60	15,44	31,38	13,18	0,00	2,01	5,34	17,70	0,17	2,27	0,62	39,78
A5.535: [Posidonia] beds	56,23	0,96	45,35	6,49	46,24	6,70	0,00	0,00	0,00	6,70	0,00	0,00	0,00	49,88
A5.5353: Facies of dead "mattes" of [*Posidonia oceanica*] without much epiflora	5273,41	2,74	5,62	6,82	10,45	1,23	0,35	0,00	0,00	2,16	0,16	0,00	0,00	11,72
A6.1: Deep-sea rock and artificial hard substrata	9497,56	5,51	1,29	2,86	3,32	15,48	0,00	0,00	3,26	15,53	0,01	0,00	0,00	20,80
A6.2: Deep-sea mixed substrata	13696,65	3,32	6,04	4,68	8,55	13,01	0,00	0,00	0,57	13,11	0,79	0,00	0,00	21,14
A6.3: Deep-sea sand	30002,79	5,15	5,79	3,36	6,41	18,94	0,00	0,00	6,11	18,99	0,06	0,00	0,00	23,58
A6.4: Deep-sea muddy sand	1021463,92	0,48	0,27	0,18	0,39	2,94	1,30	0,00	0,05	2,94	0,00	0,00	0,00	4,77
A6.51: Mediterranean communities of bathyal muds	603518,39	0,93	0,86	0,57	1,13	2,88	0,35	0,00	0,46	2,88	0,00	0,00	0,00	4,24
A6.511: Facies of sandy muds with Thenea muricata	318084,05	0,00	0,00	0,00	0,00	2,98	0,00	0,00	0,00	2,98	0,00	0,00	0,00	2,98
A6.52: Communities of abyssal muds	3289,00	0,59	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,59
Bathyal seabed	3000,52	6,84	1,49	0,01	1,49	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	8,33
Circalittoral seabed	1261,95	4,04	10,44	0,26	10,45	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	14,49
Infralittoral seabed														

APPENDIX 05: Species reported in MPAs

Taxon	Scientific name	Vernacular name	Nb. of MPAs which reported the species	Nb. of MPAs which reported the species justifies the designation of the MPA	Nb. of MPAs which reported the species is monitored	Nb. of MPAs which reported the species is subject to specific conservation or restoration measures
Magnoliophyta	*Cymodocea nodosa*	Slender seagrass	3	3	2	0
	Cymodocea sp.	Cymodocea seagrass	1	1	1	1
	Posidonia oceanica	Neptune grass	15	12	12	12
	Ruppia sp.	Widgeonweed	1	1	1	1
	Zostera marina	Common eelgrass	1	1	1	1
	Zostera noltii	Dwarf eelgrass	1	1	1	1
Phaeophyta	*Cystoseira amentacea*	Cystoseira sp.	1	1	1	0
	Cystoseira barbata	Cystoseira sp.	1	1	0	0
	Cystoseira sp.	Cystoseira sp.	2	2	1	0
Rhodophyta	*Fucus virsoides*	Brown alga	1	1	0	0
	Lithophyllum lichenoides		1	0	0	1
Porifera	*Aplysina aerophoba*		1	1	0	0
	Axinella verrucosa	Mediterranean mermaids glove	1	1	0	0
	Geodia cydonium		1	1	0	0
	Hippospongia communis	Common bath sponge	1	1	0	0
	Lycopodina hypogea	Carnivorous sponge	1	1	1	1
		Sponges	1	1	0	1
Cnidaria	*Astroides calycularis*	Orange coral	1	1	0	0
	Cladocora caespitosa	Mediterranean Pillow Coral	4	4	2	0
	Corallium rubrum	Red coral	9	6	7	9
	Leptogorgia sarmentosa	Orange gorgonian	2	1	1	0
	Leptopsammia pruvoti	Sunset cup coral	2	2	1	0
	Paramuricea clavata	Violescent sea-whip	2	2	1	0
		Gorgonians	2	0	1	0
Echinodermata	*Centrostephanus longispinus*	Hatpin urchin	5	2	3	2

Mollusca	*Charonia lampas*	Pink lady	1	1	0	0
	Dendropoma petraeum	Worm-shell	1	0	1	0
	Haliotis tuberculata lamellosa	Green ormer	1	0	1	1
	Lithophaga lithophaga	Date shell	5	4	1	2
	Octopus vulgaris	Octopus	1	0	0	0
	Patella ferruginea	Ribbed Mediterranean limpet	5	5	5	4
	Pholas dactylus	Common piddock	2	2	0	0
	Pinna nobilis	Noble pen-shell	18	13	10	9
	Pinna rudis	Rough pen-shell	1	1	1	1
Crustacea	*Homarus gammarus*	European lobster	1	1	0	0
	Melicertus kerathurus		1	0	0	0
	Palinurus elephas	Spiny lobster	3	2	3	3
	Scyllarides latus	Mediterranean slipper lobster	3	1	0	1
	Scyllarus arctus	Small European locust lobster	1	1	0	1
Pisces	*Carcharhinus plembeus*	Sandbar shark	1	1	1	1
	Cetorhinus maximus	Basking shark	1	1	1	1
	Corcyrogobius liechtensteini	Corcyrogobius	1	0	1	0
	Dasyatis pastinaca	Common stingray	1	0	0	0
	Diplodus cervinus	Zebra seabream	1	0	1	1
	Diplodus sargus	White seabream	1	0	1	0
	Epinephelus costae	Golden grouper	1	0	1	1
	Epinephelus marginatus	Dusky grouper	11	4	9	9
	Epinephelus sp.	Grouper	4	2	2	1
	Hippocampus guttulatus	Long-snouted seahorse	1	1	0	0
	Hippocampus hippocampus	Short-snouted seahorse	1	0	1	1
	Labrus viridis	Green wrasse	1	1	0	0
	Pelasgus marathonicus	Marathon minnow	1	1	1	0
	Sardina pilchardus	European pilchard	1	0	0	0
	Sarpa salpa	Salema porgy	1	0	1	0
	Sciaena umbra	Brown meagre	6	2	6	3
	Scyliorhinus canicula	Small-spotted catshark	1	0	0	0
	Siganus luridus	Dusky spinefoot	1	0	1	0
	Sparisoma cretense	Mediterranean parrotfish	1	0	1	0
	Squatina squatina	Angelshark	1	0	0	0
		Fish	1	1	1	0
		Flatfish	1	1	1	1
		Sharks and rays	1	1	1	1

Reptiles	*Caretta caretta*	Loggerhead turtle	15	10	8	9
	Chelonia mydas	Green turtle	2	2	2	2
	Dermochelys coriacea	Leatherback turtle	1	1	1	1
Aves	*Anser erythropus*	Lesser white-fronted goose	1	0	0	0
	Aquila clanga	Greater spotted eagle	1	0	0	0
	Aythya nyroca	Ferruginous duck	1	1	1	1
	Calonectris borealis	Cory's shearwater	1	1	1	0
	Calonectris diomedea	Scopoli's shearwater	2	2	2	2
	Cygnus columbianus	Tundra swan	1	0	0	0
	Falco peregrinus	Peregrine falcon	1	1	1	0
	Gypaetus barbatus	Bearded vulture	1	1	1	1
	Gyps fulvus	Griffon vultures	1	0	1	0
	Haliaeetus albicilla	White-tailed eagle	1	0	0	0
	Himantopus himantopus	Black-winged stilt	1	1	1	1
	Hydrobates pelagicus	European storm petrel	1	1	1	1
	Larus audouinii	Audouin's gull	4	4	3	3
	Larus cachinnans	Caspian gull	1	0	1	1
	Larus melanocephalus	Mediterranean gull	1	0	0	0
	Larus michahellis	Yellow-legged gull	1	1	1	1
	Pandion haliaetus	Osprey	2	2	2	1
	Phalacrocorax aristotelis	European shag	5	2	2	1
	Plegadis falcinellus	Glossy ibis	1	1	1	1
	Puffinus mauretanicus	Balearic shearwater	1	1	1	1
	Sternula albifrons	Little tern	1	1	1	1
	Vanellus spinosus	Spur-winged lapwing	1	0	0	0
Mammalia	*Balaenoptera physalus*	Fin whale	1	1	1	1
	Delphinus delphis	Short-beaked common dolphin	1	1	1	1
	Lutra lutra	Eurasian otter	1	0	0	0
	Monachus monachus	Monk seal	6	5	4	2
	Physeter macrocephalus	Sperm whale	1	1	1	1
	Stenella coeruleoalba	Striped dolphin	1	1	1	1
	Tursiops truncatus	Common bottlenose dolphin	9	7	4	4
	Ziphius cavirostris	Cuvier's beaked whale	1	1	1	1
		Dolphins	1	1	0	0
		Marine mammals	1	0	0	1


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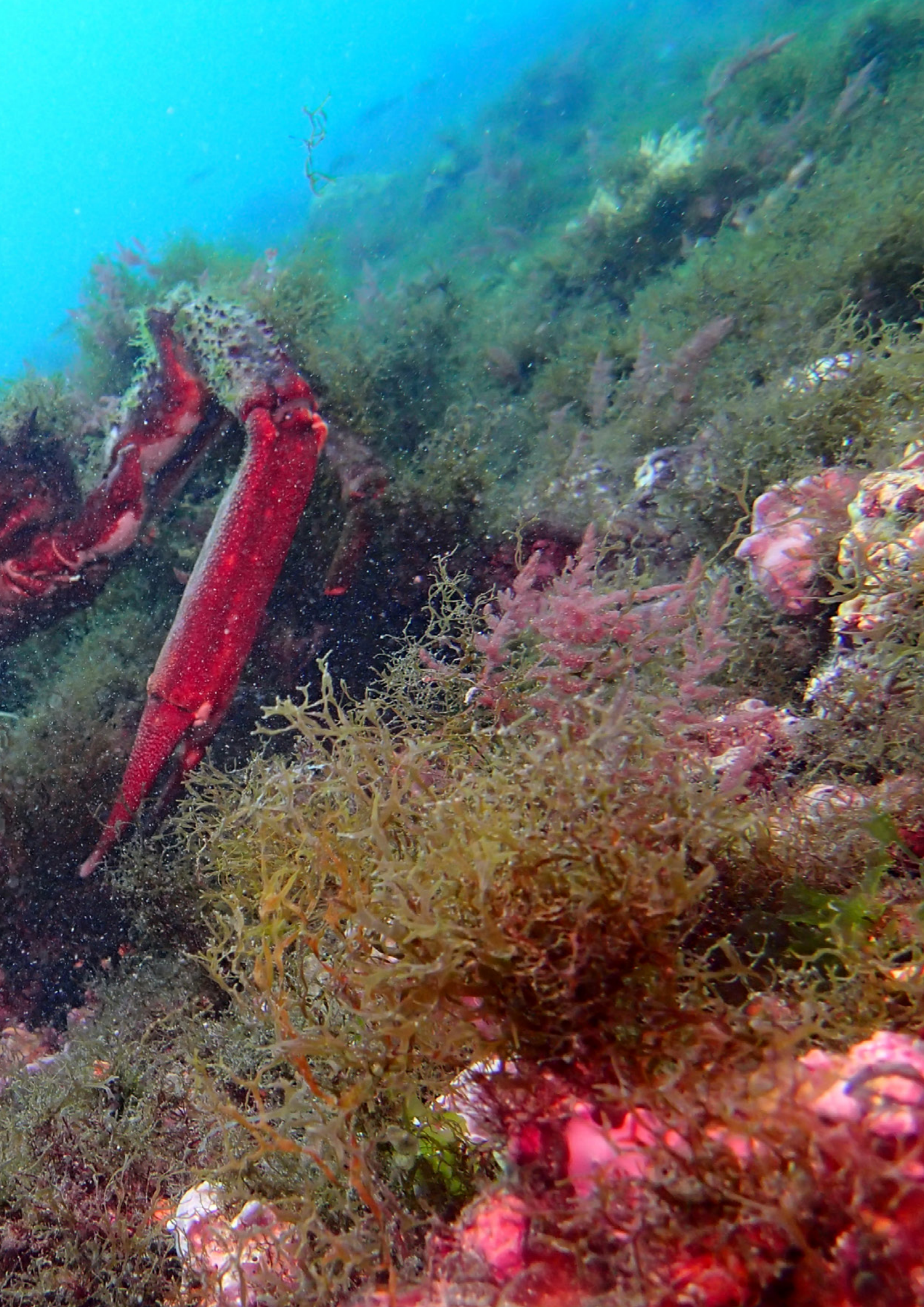

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Specially Protected Areas Regional Activity Centre (SPA/RAC)
Boulevard du Leader Yasser Arafat - B.P. 337 - 1080 Tunis Cedex - Tunisia
Tel: +216 71 206 649 / 485 | car-asp@spa-rac.org | www.spa-rac.org