

## REPRESENTATIVITY AND COHERENCE OF MPA NETWORKS: CONCEPTS AND APPLICABILITY TO THE MEDITERRANEAN SEA

### REPRESENTATIVNOST IN SKLADNOST MREŽ MORSKIH ZAVAROVANIH OBMOČIJ: KONCEPTI IN NJIHOVA UPORABNOST V SREDOZEMSKEM MORJU

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**Key words:** Mediterranean MPAs, ecological representativity, MPA network coherence

**Ključne besede:** sredozemska morska zavarovana območja (MPA-ji), ekološka reprezentativnost, skladnost mrež MPA-jev

#### ABSTRACT

The establishment of MPAs is still being implemented in many Mediterranean countries in an opportunistic way without ecological planning, since MPAs were created to preserve individual sites, but not within the framework of a national or regional strategy that aims to ensure conservation for all types of habitats. Therefore, the existing network of Mediterranean MPAs is not representative of all the Mediterranean habitats.

The issue of improving the representativity of the MPA networks at the national and regional levels is relevant not only for the Mediterranean, but it has emerged at the beginning of this century as a global concern. In this context, the Parties to CBD adopted in 2004 the Program of Work on Protected Areas, whose aim is to establish and maintain national and regional systems of MPAs that are comprehensive, effectively managed, and ecologically representative.

A survey conducted in 2009 concluded that most of the Mediterranean habitat types are not adequately represented in MPAs and that although 80% of the species listed in the Annexes to the SPA and biodiversity Protocol are recorded in the Mediterranean MPAs, thirty one species are not listed in any of the Mediterranean MPAs.

Several initiatives were undertaken to assess the representativity of MPAs in the Mediterranean or to identify gaps in the coverage of habitats and species. However, a regional assessment, using commonly agreed criteria and reference list of Habitats, is still needed.

#### IZVLEČEK

Morska zavarovana območja (MPA-ji) se v mnogih sredozemskih državah še vedno ustanavljajo oportunistično, se pravi brez ekološkega načrtovanja, saj nastajajo z namenom, da se zaščitijo posamezne lokalitete, vendar ne v okviru nacionalne ali regionalne strategije, ki si prizadeva zavarovati vse tipe habitatov. To pomeni, da obstoječa mreža sredozemskih MPA-jev ni reprezentativna za vse sredozemske habitate.

Vprašanje izboljšanja reprezentativnosti mrež MPA-jev na nacionalni in regionalni ravni ne zadeva le Sredozemlja, saj se je začelo zastavljati že v začetku tega stoletja kot globalna skrb. V tem kontekstu so podpisnice Konvencije o biotski pestrosti leta 2004 sprejele Program dela v zavarovanih območjih, katerega namen je osnovati in vzdrževati nacionalne in regionalne sisteme MPA-jev, ki so vseobsegajoči, učinkovito upravljani in ekološko reprezentativni.

S popisom, opravljenim leta 2009, je bilo ugotovljeno, da večina sredozemskih habitatnih tipov ni ustrezno zastopana v MPA-jih in da 31 vrst ni na seznamu sredozemskih MPA-jev kljub dejstvu, da je bilo 80 % vrst, naštetih v aneksih v Protokolu o posebnih območjih varstva in biodiverziteti, zabeleženih v sredozemskih MPA-jih.

V Sredozemlju je bilo sproženih že več pobud z namenom, da bi ocenili reprezentativnost MPA-jev ali identificirali vrzeli v pokrivanju habitatov in vrst v tem delu sveta. Vendar pa je še vedno potrebna regionalna ocena z uporabo splošno sprejetih kriterijev in referenčnih seznamov habitatov.

## 1. INTRODUCTION

Creating Marine Protected Areas (MPAs) is among the main tools used to preserve the components of the marine biodiversity, including sensitive or threatened species, habitats and other ecological features of the marine environment. In the Mediterranean, the first MPA was created at the beginning of the sixties. At that time and during the following two decades, there was no real planning for MPAs, since these were created to preserve individual sites, but not within the framework of a national or regional strategy that aims to ensure conservation for all types of habitats. In many Mediterranean countries, the establishment of MPAs is still implemented in an opportunistic way without ecological planning. A recent assessment made by RAC/SPA (May, 2010) of the ecological status and pressures to Mediterranean marine and coastal biodiversity concluded that “the existing MPAs are not representative of all the Mediterranean habitats: the present situation of Mediterranean MPAs is neither representative nor consistent”.

The issue of improving the representativity of the MPA networks at the national and regional levels is relevant not only for the Mediterranean, but it has emerged at the beginning of this century as a global concern. In this context, the Parties to CBD adopted in 2004 the Program of Work on Protected Areas whose aim is to establish and maintain national and regional systems of MPAs that are comprehensive, effectively managed, and ecologically representative. The Parties committed themselves to achieve this objective by 2010 for the terrestrial areas and by 2012 for the marine areas.

The assessment of the representativity of an MPA network at a given spatial scale consists in analysing the extent to which important ecological features of the marine environment are sufficiently represented within the network. It is a gap analysis to identify absent and/or underrepresented elements that make the biological diversity of the considered area. The gap analysis should also take into account the efficiency of the protection and of the management system of the network constituting MPAs.

Assessing the representativity of the Mediterranean Network of MPAs could be done through assessments at sub-regional scales to cover portions of the Mediterranean Sea identified using agreed criteria such as the CBD criteria for the establishment of Ecologically or Biologically Significant Areas (EBSAs). However, the overall Mediterranean assessment would be achieved only if the sub-regional approach covered the whole Mediterranean using common assessment criteria and reference list of Habitats. The classification of Habitats and the relevant lists of reference of habitats developed for the EU Natura 2000 initiative and the reference list of marine habitats adopted under the Barcelona Convention are appropriate

references for assessing the representativity of the MPA networks in the Mediterranean.

In the Mediterranean, the first MPA was created at the beginning of the sixties and the total number of MPAs declared by the Mediterranean countries has evolved to reach, in 2009, 158 Marine Protected Areas (MPA) located in 18 countries (Figure 1). A full list of these MPAs is provided in Annex 1 to this document.

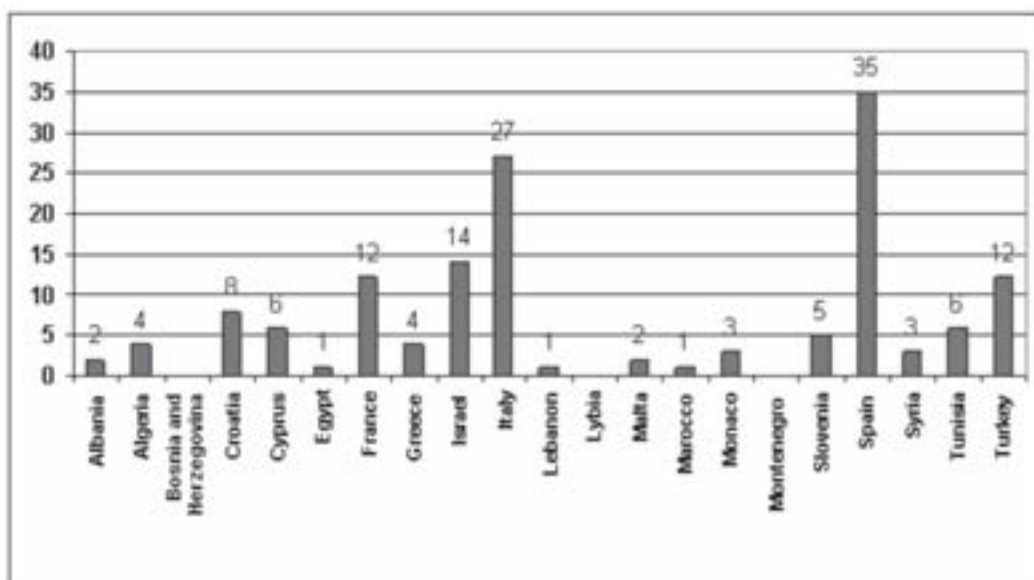


Figure 1: Number of Marine Protected Areas in the Mediterranean Countries (Source: RAC/SPA databases 2009)  
Slika 1: Število MPA-jev v sredozemskih državah (vir: RAC/SPA databases 2009)

Under the Barcelona Convention<sup>1</sup>, the Mediterranean countries are committed to protect, preserve and manage in a sustainable and environmentally sound way the areas that are of particular natural or cultural value. However, in many Mediterranean countries, the establishment of MPAs is done on an opportunistic way without ecological planning, since MPAs are usually created to preserve individual sites, but not within the framework of a national or regional strategy that aims to ensure conservation for all types of habitats.

<sup>1</sup> 21 Mediterranean riparian countries and the EC are Parties to the Barcelona Convention (Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean)

## 2. THE CONCEPT OF REPRESENTATIVITY OF THE PROTECTED AREA SYSTEMS

The representativity of systems of protected areas emerged as an issue of priority importance for the conservation of the Planet's biodiversity by the beginning of this century. Its importance was highlighted by several assessments of the effectiveness of protected area systems that stressed the under-representation of many ecosystems and habitat types in the existing protected areas. For the marine environment, representativity is one of required network properties and components to establish a representative network of MPAs, as defined within the framework of the CBD. These are:

- ecological and biological significance of the area forming the network
- representativity
- connectivity
- replicated ecological features
- adequate and viable sites

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*" (CBD, 2007).

At the regional level, a system of protected areas could be considered representative of the ecological features of the region when all the ecosystem and habitat types recorded in the region are adequately covered by protected areas.

A recent survey was conducted in 2009 to assess the extent to which the most significant Mediterranean marine habitat types are represented in the existing Mediterranean MPAs (Rais 2009). The survey assessed the presence of the types of habitats appearing in the reference list of benthic habitats adopted by the Contracting Parties to the Barcelona Convention for the identification at national level of sites of conservation interest. The results of this assessment are represented in Figure 2.

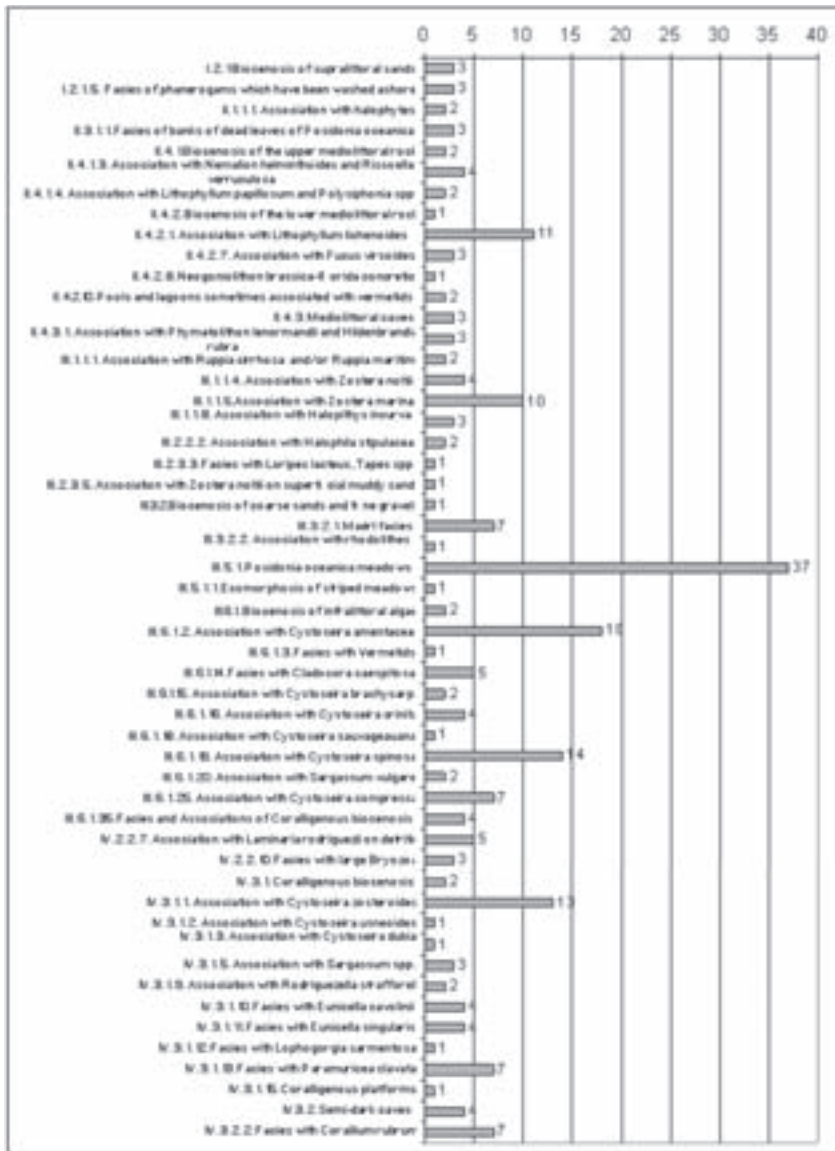


Figure 2: Presence in the Mediterranean MPAs of the types of habitats appearing in the reference list of benthic habitats adopted by the Contracting Parties to the Barcelona Convention for the identification at the national level of sites of conservation interest (with the bars indicating the number of Mediterranean MPAs where each type of habitat is recorded)

Slika 2: Habitatski tipi v sredozemskih MPA-jih, naštetih na referenčnih seznamih bentoških habitatov, ki so jih sprejele podpisnice Barcelonske konvencije za identifikacijo naravovarstveno pomembnih lokalitet na nacionalni ravni (ležeči stolpci označujejo število sredozemskih MPA-jev, kjer so bili zabeleženi vsi habitatski tipi)

The assessment considered also the species appearing in the Annex II and Annex III to the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean.

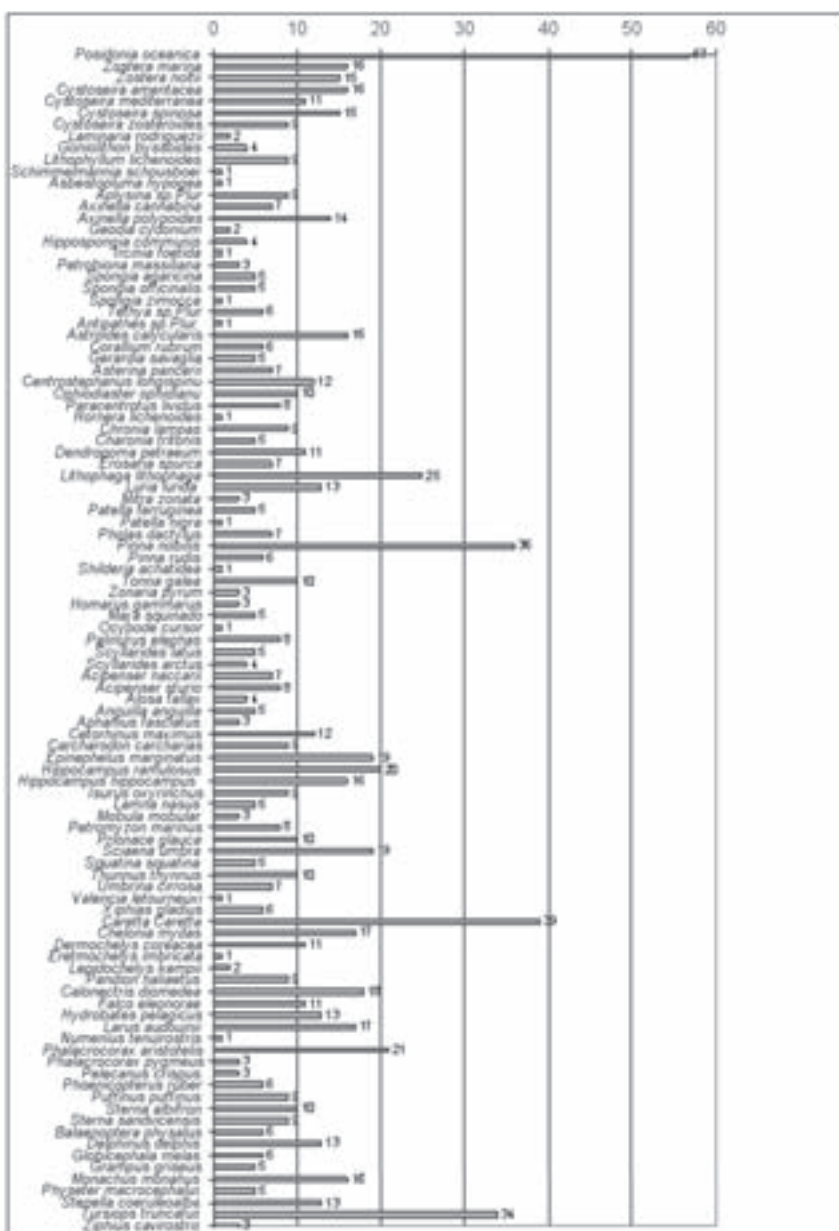


Figure 3: Presence in the Mediterranean MPAs of the species listed in the Annexes to the SPA & Biodiversity Protocol (with the bars indicating the number of MPAs where each species is recorded)

Slika 3: Vrste v sredozemskih MPA-jih, našete v aneksih k Protokolu o posebnih območjih varstva in biodiverziteti (ležeči stolpci ponazarjajo število MPA-jev, v katerih so bile zabeležene vse vrste)

Concerning the species, the survey concluded that 80% of the species listed in the Annexes to the Protocol are recorded in the Mediterranean MPAs. Presented below are the species not listed in any of the Mediterranean MPAS:

**Chlorophyta***Caulerpa ollivieri***Phaeophyta***Cystoseira sedoides***Rhodophyta***Ptilophora mediterranea***Porifera***Ircinia pipetta***Cnidaria***Errina aspera***Echinodermata****Bryozoa****Mollusca***Ranella olearia**Gibbula nivosa***Crustacea***Pachylasma giganteum**Scyllarides pigmaeus***Pisces***Alosa alosa**Aphanius iberus**Huso huso**Lampetra fluviatilis**Lethenteron zanandreai**Pomatoschistus canestrinii**Pomatoschistus tortonesei**Raja alba**Valencia hispanica***Reptiles***Trionyx triunguis***Aves***Pelecznus onocrotalus**Sterna bengalensis***Mammalia***Balaenoptera acutorostrata**Balanoptera borealis**Eubalaena glacialis**Kogia simus**Megaptera novaeangliae**Mesoplodon densirostris**Orcinus orca**Phocoena phocoena**Pseudorca crassidens**Steno bredanensis*

The approach of assessing the representativity of the Mediterranean network of MPAs only through the presence of habitat types or species of particular importance in the existing MPAs provides a general picture of the situation, but does not reflect properly whether or not the biological and ecological significant features of each ecological unit of the Mediterranean Sea are well represented. Indeed, the assessment of the representativity of an MPA network at a given spatial scale consists in analysing the extent to which important ecological features of the marine environment are sufficiently represented within the network. It is a gap analysis to identify absent and/or underrepresented elements that make the biological diversity of the considered area. The gap analysis should also take into account the efficiency of the protection and of the management system of the network constituting MPAs.

Assessing the representativity of the Mediterranean Network of MPAs could be done through assessments at sub-regional scales to cover portions of the Mediterranean Sea identified using agreed criteria such as the CBD criteria for the establishment of Ecologically or Biologically Significant Areas (EBSAs). Details on the approaches for the identification of the ecological units and of the EBSAs are presented in the working document "Methods for the identification of EBSAs in the Adriatic Sea", prepared by Giuseppe Notarbartolo di Sciara to this International Workshop (Notarbartolo di Sciara 2010).

### **3. REGIONAL INITIATIVES UNDERTAKEN SO FAR TO IMPROVE THE REPRESENTATIVITY OF THE MEDITERRANEAN NETWORK OF MPAS**

At the global level, the Parties to CBD adopted in 2004 the Program of Work on Protected Areas whose aim is to establish and maintain national and regional systems of MPAs that are comprehensive, effectively managed, and ecologically representative. The Parties committed themselves to achieve this objective by 2010 for the terrestrial areas and by 2012 for the marine areas.

At the Mediterranean level, several regional initiatives were undertaken in the last decade to assess and/or to improve the representativity of the Mediterranean network of MPAs. All of them are inline with the general orientations of the CBD's Programme of Work on Protected Areas. The more recent of these regional initiatives are the following:

#### The WWF gap analysis for the Mediterranean marine environment

The aim of the Mediterranean Marine Gap-Analysis conducted by WWF was to provide an overview of marine and coastal features of the entire Mediterranean Sea and to identify the most important unprotected coastal marine areas in the region. To overcome the lack of reliable biological data, the project used a methodology based on the statistical analysis of the sea-bed using the available digital bathymetry maps. The project was finalised in 2001, it identified 13 priority areas as areas in need of urgent protection because of their high level of biodiversity, the significant presence of flag-ship species and the presence of important threats from human pressure. Here are the identified areas (WWF 2002):

- 1 - Alboran Sea (Spain, Morocco, Algeria)
- 2 - Balearic Islands (Spain)
- 3 - Liguro-Provençal coast (France, Italy, Monaco)
- 4 - Corso-Sardinian coast (France, Italy)
- 5 - Southern Tyrrhenian coast (Italy)
- 6 - Dalmatian coast (Croatia)
- 7 - Eastern Ionian coast and islands (Albania, Greece)
- 8 - Aegean Sea and Anatolia coast (Greece, Turkey)
- 9 - Cilician coast (Turkey) and Cyprus Island coast
- 10 - Cyrenaica (Libya)



- 11 - Gulf of Sirte (Libya)
- 12 - Gulf of Gabès (Tunisia)
- 13 - Algero-Tunisian coast (Algeria, Tunisia)

#### Programme of work in marine and coastal protected areas within the Mediterranean region

This programme was elaborated by the Regional Activity Centre for Specially Protected Areas to promote the implementation in the Mediterranean of the CBD's Programme of Work on Protected Areas and to support the establishment and maintenance of comprehensive, effectively managed, and ecologically representative systems of protected areas (at the national and regional levels). It was adopted by the Contracting Parties to the Barcelona Convention during their Sixteenth Ordinary Meeting (Marrakech, November 2009).

The programme of work recommends adopting a three-step hierarchical planning approach, which begins at the large scale (the Mediterranean Basin) and focuses in on ever-smaller scales to identify ecological units and priority conservation areas within each ecological unit, using seven criteria: uniqueness or rarity; special importance for life history stages of species; importance for threatened, endangered or declining species and/or habitats; vulnerability, fragility, sensitivity or slow recovery; biological productivity; biological diversity; and naturalness. The programme of work has four elements:

- Element 1: To Assess the representativity and effectiveness of the existing Mediterranean network of marine and coastal Protected Areas
- Element 2: To make the Mediterranean Network of Marine and Coastal Protected Areas more comprehensive and more representative of the ecological features of the Region.
- Element 3: To improve the management of the Mediterranean marine and coastal protected areas.
- Element 4: To strengthen the protected area governance systems and further adapt them to national and regional contexts.

Elements 1 and 2 of the work programme address the issue of representativity of the Mediterranean network of marine and coastal protected areas. Element 1 includes activities to:

- (i) Evaluate, at the national level, the status, the representativity and the effectiveness of the marine and coastal protected areas and
- (ii) Compile a regional synthesis on the status, the representativity and the effectiveness of the marine and coastal protected areas.

The activities included in Element 2 of the work programme include:

- (i) Identification of preliminary priority conservation areas and
- (ii) Strengthening of the Mediterranean network of marine and coastal protected areas through the creation of new protected areas and, where appropriate, the extension of the existing ones.

As set by the calendar of implementation of the work programme, the activities under Element 1, as well as the "Identification of preliminary priority conservation areas" of Element

2, are expected to be finalised by mid 2011, while the creation of new protected areas and the extension of the existing ones, included under Element 2, are to be carried out during the five years of the programme's duration.

#### Med-RAS: Identifying Priority Representative Areas and Species in the Mediterranean Sea to Conserve

Med-RAS is a project coordinated by the IUCN Centre for Mediterranean Cooperation. It aims at elaborating maps of sensitive areas and spatial distribution of sites in need of protection and are not included in the current Mediterranean system of MPAs. These maps cover pilot Mediterranean zones representative of different eco-regions in the Mediterranean Sea (west, north-west, east and south). The project developed standard methodologies of analysis that take into account the latest scientific developments in the disciplines of spatial planning, marine ecology, species modelling, and remote sensing. This included developing standardized definitions; defining operating principles; and guiding criteria for sites selection. Currently the project is implemented in the Alboran Sea and in Libya. Although the project is focusing on the biological and ecological features of the covered zone, it takes also into consideration the socioeconomic value of the sites and the threats, including human activities, in particular over-fishing, shipping, land and marine based pollution as well as invasive species (IUCN 2008).

#### Project concerning the establishment of a representative ecological network of protected areas in the Mediterranean open seas, including the deep sea, through the SPAMI system

This is a Joint Management Action of the European Community with the United Nations Environment Programme/Mediterranean Action Plan. It envisages a process developed in two phases:

The first phase of the initiative, entitled "Identification of possible SPAMI in the Mediterranean areas beyond national jurisdiction", consisted of identifying, on the basis of sound science, priority conservation areas in the open seas, including the deep sea, that could contain sites that could be candidates for the SPAMI List. The first activities under this first phase were launched in 2008 and led to the identification of twelve priority conservation areas<sup>2</sup> in the Mediterranean open seas, including the deep sea, that could contain sites that could be candidates for the SPAMI List. The Northern and Central Adriatic is among the identified priority conservation areas.

The second phase will consist of the collection of data through field surveys and of the elaboration of SPAMI presentation reports for submission to the Contacting Parties of the Barcelona Convention as application for inscription of the concerned sites on the SPAMI List.

<sup>2</sup> Alborán Seamounts, Southern Balearic, Gulf of Lions shelf and slope, Central Tyrrhenian, Northern Strait of Sicily (including Adventure and nearby banks), Southern Strait of Sicily, Northern and Central Adriatic, Santa Maria di Leuca, Northeastern Ionian, Thracian Sea, Northeastern Levantine Sea and Rhodes Gyre and the Nile Delta Region

### The Natura 2000 network

The Natura 2000 initiative is applicable only for the countries that are members of the European Union (EU) and for the countries preparing their accession to the EU. Its legal basis is mainly provided by the “Habitat” and “Bird” Directives. This initiative stimulated a wide effort of inventory of sites of conservation interest according to common criteria. Nine Mediterranean countries have participated in this initiative<sup>3</sup>.

### Other relevant initiatives

There are other initiatives that are not specifically addressing the issue of MPAs representativity in the Mediterranean, but they have close links to this issue since their objectives and activities include the strengthening of the Mediterranean MPAs. MedPAN is one of these initiatives. It is an association of MPA managers, whose purpose<sup>4</sup> “is to promote the creation, perpetuation and operation of a Mediterranean ecological network of marine protected areas”. There are also two new complementary initiatives being conducted by WWF and RAC/SPA within the framework of the Strategic Partnership for the Mediterranean Sea large Marine Ecosystem:

(i) the MedPAN South Project, whose aim is to promote the effective conservation of regionally important coastal and marine biodiversity features through providing support to the participating countries<sup>5</sup> to improve the management effectiveness of their MPAs and to establish new ones.

(ii) the MedMPAnet Project being coordinated and implemented by RAC/SPA is aimed at the development of a Mediterranean marine and coastal protected areas network through the boosting of Mediterranean MPAs creation and management in areas within national jurisdiction<sup>6</sup>.

All these initiatives will probably help the Mediterranean countries to develop a representative network of MPAs, but will most likely not be achieved by 2012 due to many hindrances. The most important hindrance is the non-availability of reliable data about the occurrence distribution and the status of marine habitats and species. Another hindrance is the lack, at least in some Mediterranean sub-regions, of the needed political will to ensure the required international coordination and cooperation for the MPA planning and management. Coordination and cooperation between countries sharing a given ecological unit is essential to achieve coherence and complementarity of their MPAs and to strengthen the effectiveness of the protection measures, especially for the species populations that are shared by two or more countries. Coordination and cooperation are essential for the management of the mitigation and management of the transboundary impacts of threats to biodiversity. In this

<sup>3</sup> The following Mediterranean EU member countries carried out inventories of sites of conservation interest within the framework of Natura 2000: Cyprus, France, Greece, Italy, Malta, Slovenia, and Spain. Croatia, as part of its EU pre-accession activities, has also carried out an inventory of the sites to include in its Natura 2000 network. An exercise of inventorying natural sites using the Natura 2000 methodology and criteria was also conducted in Bosnia and Herzegovina.

<sup>4</sup> As stated in the charter of the association (source: [www.medpan.org](http://www.medpan.org))

<sup>5</sup> Albania, Algeria, Croatia, Egypt, Lebanon, Libya, Montenegro, Morocco, Syria, Tunisia and Turkey.

<sup>6</sup> The MedMPAnet Project includes regional activities and activities in pilot sites in Albania, Croatia, Libya, Montenegro and Tunisia.

context, mutual assistance, exchange of information and experiences are also of particular importance.

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**ANNEX 1: List of MPAs in the Mediterranean countries****PRILOGA 1: Seznam MPA-jev v sredozemskih državah**

COUNTRY	CODE	NAME OF MPA	YEAR OF ESTABLISHMENT	MARINE SURFACE(Km <sup>2</sup> )
ALBANIA	ALB 01	KEPI I RODONIT		
	ALB 02	PORTO PALERMO		
	ALB 03	SAZANI ISLAND - KARABURUNI PENINSULA	2010	
ALGERIA	ALG 01	BANC DES KABYLES		6
	ALG 02	CAP DE GARDE	1983	72
	ALG 03	ILE HABIBAS	2003	27
	ALG 04	ILE RACHGOUN		10,8
<b>BOSNIA &amp; HERZEGOVINA</b>				
CROATIA	CRO 01	BRIJUNI	1983	34
	CRO 02	CRES-LOSINJ ARCHIPELAGO	2006	523
	CRO 03	KORNATI	1980	216
	CRO 04	LASTOVO ARCHIPELAGO	2006	196
	CRO 05	LIMSKI ZALJEV	1979	4
	CRO 06	MALOSTONSKI ZALJEV	1983	173
	CRO 07	MLJET	1960	53
	CRO08	TELASCICA	1988	70
CYPRUS	CYP 01	CAPE GRECO		9,3
	CYP 02	LARA TOXEFTRA	1989	1
	CYP 03	MOULIA		2
	CYP 04	NISSIA		1,85
	CYP 05	PETRA TOU ROMIOU		20,85
	CYP 06	POLIS/YIALIA	2003	17
EGYPT	EGY 01	SALLOUM		1064
FRANCE	FR 01	COTE BLEUE	1983	101,7
	FR 02	DPM A SAINT FLORENT	1998	0,07
	FR 03	DPM GROTTTE MARINE DE TEMULI/ SAGONE	2000	
	FR 04	IMPERIAUX		
	FR 05	POSIDONIES DE LA COTE DES ALBERES	1998	
	FR 06	POSIDONIES DE LA COTE PALAVASIENNE	2001	
	FR 07	POSIDONIES DU CAP D AGDE	2002	
	FR 08	CERBERE-BANYULS	1974	6,5
	FR 09	BOUCHES DE BONIFACIO		792
	FR 10	PORT-CROS	1963	24,75
	FR 11	SCANDOLA		
	FR 13	CAPO AGDE		

COUNTRY	CODE	NAME OF MPA	YEAR OF ESTABLISHMENT	MARINE SURFACE(Km <sup>2</sup> )
GREECE	GRE 01	ALONNISSOS NORTHERN SPORADES	1992	2301
	GRE 02	ZAKYNTHOS	1999	102,96
	GRE 03	SCHINIA-MARATHONA		14,39
	GRE 04	MESSOLONGHI-AETOLIKO LAGOONS,ESTUARIES OF ACHELOON AND ECHINADES ISLANDS		334,7
ISRAEL	ISR 01	AKHZIV	1968	0,45
	ISR 02	ASHQELON	1965	2,19
	ISR 03	ATIQOT QESARYA	1968	0,4
	ISR 04	ATLIT	1972	0,15
	ISR 05	HOF DOR-HABONIM	1980	0,42
	ISR 06	HOF HASHARON	1973	1,24
	ISR 07	HOF PALMAHIM	2003	0,22
	ISR 08	HOF ROSH HA-NIQRA	2003	0,26
	ISR 09	HOLOT HA-MIFRAZ	1995	0,12
	ISR 10	HOLOT NIZZANIM	0	20,27
	ISR 11	MA'AGAN MICHAWEL island	1964	0,02
	ISR 12	ROSH HA-NIKRA island	1965	0,31
	ISR 13	NAHAL ALEXANDER	1982	3,28
	ISR 14	NAHAL POLEG	1971	0,45
	ISR 15	NAHAL RUBIN	2002	0,78
	ISR 16	NAHAL TANNINIM	1992	0,22
	ISR 17	ROSH HA-NIQRA	0	0,22
	ISR 18	SHIQMONA	2008	1,67
	ISR 19	SIDNEY ALI	1966	0,13
	ISR 20	YAM DOR HA-BONIM	2002	5,23
	ISR 21	YAM GADOR	2004	0,94
	ISR 22	YAM SHIQMA	2005	1,1
	ISR 23	YAM EVTAH	2003	1,34
	ISR 24	MPB-CENTRAL	0	12,59
	ISR 25	MPB - NORTHERN	0	11,15
ITALY	ITA 01	PENISOLA DEL SINIS - ISOLA DE MAL DI VENTRE	1997	329
	ITA 02			
	ITA 03			
	ITA 04			
	ITA 05			
	ITA 06			
	ITA 07			
	ITA 08			
	ITA 09			
	ITA 11			

COUNTRY	CODE	NAME OF MPA	YEAR OF ESTABLISHMENT	MARINE SURFACE(Km <sup>2</sup> )
ITALY	ITA 12	ISOLE TREMITI	1989	15
	ITA 13	ISOLE PELAGIE	2002	32
	ITA 14	ISOLE EGADI	1991	540
	ITA 15	ISOLE DI VENTOTENE E SANTO STEFANO	1997	28
	ITA 16	ISOLE CICLOPI	1989	6
	ITA 17	ISOLA DELL'ASINARA	2002	107
	ITA 18	GAIOLA	2002	0,4
	ITA 19	CINQUE TERRE	1997	27
	ITA 20	CASTELLABATE	1972	44
	ITA 21	CAPO RIZZUTO	1991	147
	ITA 22	CAPO GALLO - ISOLA DELLE FEMMINE	2002	22
	ITA 23	CAPO CARBONARA	1998	86
	ITA 24	CAPO CACCIA - ISOLA PIANA	2002	26
	ITA 25	BAIA	2002	1,8
	ITA 26	ARCIPELAGO MADDALENA	1994	150
	ITA 27	ARCHIPELAGO TOSCANO	1989	568
ITA 28	ASINARA		107	
LEBANON	LEB 01	PALM ISLANDS	1992	100
<b>LIBYA</b>				
MALTA	MAL 01	ZONA FIL-BAHAR FL-INHAWI TAD-DWEJRA,GOZO	2007	
	MAL 02	RDUM MAJJIESA TO RAS IR-RAHEB	2007	
MOROCCO	MARO 01	AL HOCEIMA	1992	196
MONACO	MON 01	MONACO RED CORAL RESERVE	1986	
	MON 02	MONACO UNDERWATER RESERVE - LARVOTTO	1976	50
	MON 04	TOMBANT DES SPELUGHES	1986	
<b>MONTENEGRO</b>				
SLOVENIA	SLO 01	CAPE MADONA	1990	0,12
	SLO 02	DEBELI RTIC	1991	0,24
	SLO 03	STRUNJAN	1990	0,9
	SLO 04	STRUNJAN STJUZA	1990	0,34
	SLO 05	STUNJAN LANDSCAPE PARK	1990	4,28
SPAIN	SPA 01	ARCHIPELAGO DE CABRERA	1991	100,21
	SPA 02	ÁREA MARINA CAP CALA FIGUERA	2006	1,29
	SPA 03	AREA MARINA COSTA DE LLEVANT C	2006	20,13
	SPA 04	AREA MARINA DE CALA SAONA	2006	4,44
	SPA 05	AREA MARINA DE SES MARGALIDES	2006	0,98
	SPA 06	AREA MARINA DE TAGOMAGO	2006	7,48

COUNTRY	CODE	NAME OF MPA	YEAR OF ESTABLISHMENT	MARINE SURFACE(Km <sup>2</sup> )	
SPAIN	SPA 07	AREA MARINA DEL CAP MARTINET	2006	5,55	
	SPA 08	AREA MARINA DEL NORD DE MANORCA	2006	51,52	
	SPA 09	AREA MARINA DEL SUD DE MONORCA	2006	22,54	
	SPA 10	AREA MARINA PLATJA DE MIGJORN	2006	20,43	
	SPA 11	AREA MARINA PLATJA DE TRAMUNTANA		14,15	
	SPA 12	AREA MARINA PUNTA PRIMA-ILLA DE L'AIRE	2006	13,35	
	SPA 13	CABO DE CREUS	1998	138,86	
	SPA 14	CABO DE PALOS-ISLAS HORMIGAS	1995	18,98	
	SPA 15	CABO SAN ANTHONIO	1993	110	
	SPA 16	CAP NEGRO-PA DE PESSIC	1993	0,15	
	SPA 17	FONDOS MARINOS DEL LEVANTE ALMERIENSE	2001	63,14	
	SPA 18	FREUS DE EIVISSA I FORMENTERA	1999	136,17	
	SPA 19	ILLA DEL TORO	2004	1,36	
	SPA 20	ISLA DE TABARCA	1986	145,73	
	SPA 21	ISLAS COLUMBRETES	1990	123,06	
	SPA 22	ISLAS MALGRATS	2004	0,89	
	SPA 23	ISLAS MEDAS	1990	5,33	
	SPA 24	MAR MENOR	2001	275,03	
	SPA 25	MASIA BLANCA	1999	0,44	
	SPA 26	MIGJORN DE MALLORCA	2004	59	
	SPA 27	NORTE DE MENORCA	1999	51,19	
	SPA 28	S'ARENAL-CABO REGANA	1999	23,94	
	SPA 29	SA DRAGONERA	2006	12,79	
	SPA 30	BAHIA DE PALMA	1982		
	SPA 31	CABO DE GATA NIJAR	1987	434	
	SPA 32	ACANTILADOS DE MARO- GERRO GORDO	1989		
	SPA 33	SES NEGRES	1993		
	SPA 34	ISLA DE ALBORAN	1997	4,29	
	SPA 35	ISLA CHAFARINAS	2006	0,53	
	SYRYA	SYR 01	FANAR IBN HANI	2000	10
		SYR 02	RAS AL BASSIT	1999	30
		SYR 03	OM-ALTOYOUR	1999	10
	TUNISIA	TUN 01	ARCHIPEL DE KERKENNAH		
		TUN 02	CAP NEGRO-CAP SERRAT		
		TUN 03	GALITE		19
TUN 04		ILES KURIAT			
TUN 05		ZEMBRA AND ZEMBRETTEA	1977	47	
TUN 06		ILES KNEISS		58,5	



COUNTRY	CODE	NAME OF MPA	YEAR OF ESTABLISHMENT	MARINE SURFACE(Km <sup>2</sup> )
TURKEY	TUR 01	DATKA BOTZBURUN	1990	736,63
	TUR 02	DILEK YARIMADASI	1966	120
	TUR 03	FETHIYE GOCEK	1988	340,11
	TUR 04	FOCA	1990	51,72
	TUR 05	GOKOVA	1988	299,35
	TUR 06	GOKSU DELTA	1990	80,78
	TUR 07	KAS-KEKOVA	1990	165,91
	TUR 08	KOYCEGIZ DALYAN	1988	40,84
	TUR 09	PATARA	1990	49,9
	TUR 10	GELIBOLU PENINSULA	1973	330
	TUR 11	OLIMPOS-BEYDAGLARI	1972	
	TUR 12	AYVALIK ISLANDS	1995	
FRANCE				
ITALY		PELAGOS SANCTUARY	1993	87500
MONACO				

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