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## Executive summary

'Penisola del Sinis – Isola di Mal di Ventre' MPA has been established in the 1997, and managed by the municipality of Cabras. It covers an area of 23471 hectares.

It has a naturalistic and historical importance and it includes the Sinis peninsula from Mare Morto (inside the Gulf of Oristano), to Porto Suedda, the Mal di Ventre island and the Catalano rock. The MPA is related with a wide wetland system (Cabras and Mistras Lagoons), recognized as international importance wetlands by the Ramsar Conference of 1971 and by other laws.

The Penisola del Sinis area is characterized by a high diversity of natural landscapes and cultural evidences. Sea-bottoms are characterized by different substrate types: for example, basaltic necks in the area of the Catalano, granitic rock in the Mal di Ventre island, carbonatic caves in the foreland of Seu, limestone beds along the Sinis coast. The *Posidonia oceanica* meadows are the dominant habitat type in the MPA which take turns with precoralligenous and coralligenous populations. Rocky bottoms that rise up by the large sandy beaches are colonized by bryozoans (e.g. *Myriapora truncata*) and incrustant sponges, facies of *Cladocora caespitosa* and Cnidaria as *Eunicella singularis*, *Astroides calycularis* and *Alcyonium acaule*. In deep sites and caves it is possible to observe populations of *Corallium rubrum* and colonies of the black coral *Savalia savaglia*. Sinis MPA hosts a rich fish assemblage which includes protected species like *Epinephelus marginatus* and *Sciaena umbra*. Mal di Ventre island, and the Catalano rock, were recognized as Special Area of Conservation, according to the "Habitat directive", and Special Protection Area, according to the "Birds directive" also because they are important nesting sites for marine bird species. The Municipality of Cabras is also the management body of the Natura 2000's sites located inside the own territory and inside the MPA. These are respectively: Stagno di Cabras (the largest Sardinian lagoon), Stagno di Mistras (a coastal lagoon), San Giovanni di Sinis (a coastal dune system), Isola di Mal di Ventre and Scoglio del Catalano.

As well as involving on scientific programs, the MPA also constantly realizes environmental education activities. The MPA structures used for scientific dissemination and for the environmental education are the 'Centro Visite' and the 'Osservatorio' at San Giovanni di Sinis and 'Centro Esperienze' at Seu Park.

Moreover, in collaboration with IAMC-CNR (National Research Council), it was founded the Rescue Center of Sinis (CReS), aimed to the conservation of wild marine fauna and mainly involved in marine turtle rescue and care. It is included in the Marine Species Conservation Network of Sardinia.

Sinis shows a lot of archeological evidences as Pre-nuragic and Nuragic sites, Phoenician and Roman settlements (Tharros, Cuccuru Is Arrius). It also notices the historical fishing activities in the Cabras Lagoons, where the *bottarga* (dried mullet's gonads) is the main product.

In the 2009, the Sinis MPA and the Cabras territory were recognized as EDEN site (European Destination of Excellence), having proved to be able to couple the safeguard of its own natural heritage with the valorisation of local tourist resources.

For more information, please contact [www.areamarinasinis.it](http://www.areamarinasinis.it)

**Presentation report submitted**

## 1. AREA IDENTIFICATION

### 1.1. COUNTRY/COUNTRIES (in the case of transboundary areas)

Italy

### 1.2. ADMINISTRATIVE PROVINCE OR REGION

Regione Sardegna, Provincia di Oristano

Sardinian Region, Province of Oristano

### 1.3. NAME OF THE AREA

Area Marina Protetta 'Penisola del Sinis - Isola di Mal di Ventre'

"Penisola del Sinis - Isola di Mal di Ventre" Marine Protected Area

### 1.4. GEOGRAPHIC LOCATION

Describe its geographical boundaries, e.g. rivers, roads, geographical or administrative boundaries (do not describe the co-ordinates here; please make a separate annex with a map and a description of geographical co-ordinates as stated in the legal declaration of the area).

The Marine Protected Area (MPA) is located in the west coast of Sardinia. It includes the Sinis peninsula coast from 'Mare Morto' to 'Porto Suedda', the 'Mal di Ventre' granitic island and the 'Catalano' volcanic rock. The shoreline is characterized by different coast typology: sand beaches, rocks and cliffs. Mal di Ventre Island and Catalano rock are located along a ridge 5-6 miles away from the coast.

The MPA is mainly influenced by Mistral, the dominant wind that blows from NW direction and by a high hydrodynamics. Only a little part of MPA is inside of the Gulf of Oristano and hence is sheltered from Mistral wind and waves.

The MPA is related with a wide wetland system (Cabras and Mistras Lagoons), recognized as international importance wetlands by the Ramsar Conference of 1971 and by other laws.

### 1.5. SURFACE OF THE AREA (total)

23471 ha (in national unit)

23471 ha (in ha)

### 1.6. LENGTH OF THE MAIN COAST (Km)

about 26,6 km

## 2. EXECUTIVE SUMMARY (maximum 3 pages)

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### 3. SITE DESCRIPTION

#### 3.1. TYPOLOGY OF THE SITE

3.1.1. Terrestrial surface, excluding wetlands (ha):	208,31 ha
3.1.2. Wetland surface (ha):	
3.1.3. Marine surface (Sq. Km):	
Marine internal waters	
Territorial sea	23,271 ha
High sea	

#### 3.2. MAIN PHYSICAL FEATURES

##### 3.2.1. Geology/Geomorphology

Give a brief description of: (i) geological aspects (lithologic and tectonics); (ii) processes of sedimentation and erosion observable in the area; (iii) coastal geomorphology and (iv) island system. Indicate bibliographical sources.

The main part of the site leans on a Holocenian 'layer' of continental detrital sediments (alluvial sediments, dunes, littoral sands, etc.). In this 'layer', a line of marine carbonatic sediments is been settled down from North to South. The complex geologic formation of this area dates back to the Paleozoic age and to the tectonic activities that have concerned all the Mediterranean sea, carrying up wide granitic masses. The structural conditions of the inner platform doesn't allow the detection of erosion or sedimentation marks ascribable to Glacial-Eustatic sea level conditions in the Quaternary age. The sediment build-up, mainly found in structural depressions, have to be correlated with the debris that come from erosion processes on present days and ancient rocky shores. Because of the shallow waters and the peculiar sea-weather conditions, the inner platform is still affected by erosion processes and by important movements of sediment that mainly originate by coastal erosion on rocky shores. It is possible to distinguish 4 lithological facies: 1) Small-grain sand or pebbly sand; 2) Present-days organogenic deposit; 3) Detrital build-up by landslide or coastal brought; 4) Rocky basement.

Mal di Ventre Island represent a geologic interesting area for its granitic composition, unique feature along whole West- Sardinia coast.

Catalano rock has a circle shape, 12 meters above the sea level high, and a diameter of 230 meters. It is formed by a basaltic base located on the lower platform, about 50 meters depth.

Deriu M. & Zerbi M. (1962) – Notizie sulla costituzione geopetrografica dell'Isola di Mal di Ventre. Ateneo Parm., Acta Nat., 113-143

Forti e Orrù - Boll. Soc. Geol. It. 114 (1995), 3-21, 14 uff., 2 tavv.- Geomorfologia costiera e sottomarina della Penisola del Sinis (Sardegna occidentale).

Lecca L., Scarteddu R.& Sechi F. (1983) – La piattaforma continentale Sarda da capo Mannu a Capo Marargiu. Boll. Soc. Geol. It., 102, 57-86.

Marini A.& Murru M. (1977) – Rilevamento geologico della penisola del Sinis (Sardegna centro-occidentale) Rend. Sem. Fac. Sc. Un. Cagliari, 47 (3-4), 459-466.

Pomesano Cerchi A. (1968) – Il Quaternario del Golfo di Oristano. Atti del X Congresso Int. di Studi Sardi, 87-89.

3.2.2. Other interesting physical features: Such as hydrodynamics, volcanic formations, caves, underwater formations, etc.

Particularity geological features described above have determined a complex underwater environment. It is characterized by submarine tunnels, caves, crevices and basalt column necks.

3.2.3. Length of beaches (in Km), including islands:

- |   |                      |
|---|----------------------|
| a) Length of sandy beaches:                       | about 10,4 km        |
| b) Length of pebble or stony beaches:             | about 0,5 km         |
| c) Length, height and depth of active sand-dunes: | 1,5 x 0,01 x 0,45 km |

### 3.3. FRESHWATER INPUTS

3.3.1. Mean annual precipitation (in mm)

550 mm/y (Oristano)

3.3.2. Main water courses (permanent and seasonal)

The main Sardinian river flows into the gulf of Oristano (on the extern of MPA)  
The Tirso river crosses the Sardinian island from the East to the West and its total length is about 152 km. In the middle of its path it is divided by a great dam and gives rise to the Omodeo lake.  
Tirso is a permant river with 16 m<sup>3</sup>/s of annual mean flow.

3.3.3. Estuarine areas: Existence and brief description

Sinis area has the most important and large wetlands in Sardinia. Their influence particularly affected the Gulf of Oristano, the site where they flow into.  
Moreover also the Tirso river flows into the same Gulf.

3.3.4. Freshwater springs: Existence and brief description, including marine offsprings

Beside the shoreline some springs flow by the rocky cliffs (Su Tingiosu) and by the ground in sites close to the beaches of Is Arutas and Funtana Meiga.



### 3.4. BIOLOGICAL FEATURES (B2, Annex I)

3.4.1. Habitats: A brief description of dominant marine and terrestrial habitats, on the basis of the habitat classifications adopted within the framework of MAP (and their coverage in ha)

**The main biocoenosis present inside the Sinis MPA are:**

- I. 2. 1. 5. Facies of phanerogams which have been washed ashore (upper part)
- II. 1. 1. 1. Association with halophytes
- II. 3. 1. 1. Facies of banks of dead leaves of *P. oceanica* and other phanerogams
- II. 4. 1. 3. Association with *Nemalion helminthoides* and *Rissoella verruculosa*
- II. 4. 2. 1. Association with *Lithophyllum lichenoides* (= entablature with *L. tortuosum*)
- II. 4. 2. 8. *Neogoniolithon brassica-florida* concretion
- II. 4. 3. 1. Association with *Phymatolithon lenormandii* and *Hildenbrandia rubra*
- III. 3. 2. 1. Maërl facies (= Association with *Lithothamnion corallioides* and *Phymatolithon calcareum*) (can also be found as facies of the biocenosis of coastal detritic).
- III. 5. 1. 1. Ecomorphosis of striped meadows
- III. 5. 1. 2. Ecomorphosis of "barrier-reef" meadows
- III. 6. 1. 2. Association with *Cystoseira amentacea* ( var. *amentacea*, var. *stricta*, var. *spicata*)
- III. 6. 1. 14. Facies with *Cladocora caespitosa*
- III. 6. 1. 15. Association with *Cystoseira brachycarpa*
- III. 6. 1. 16. Association with *Cystoseira crinita*
- III. 6. 1. 19. Association with *Cystoseira spinosa*
- III. 6. 1. 20. Association with *Sargassum vulgare*
- III. 6. 1. 25. Association with *Cystoseira compressa*
- III. 6. 1. 35. Facies and Associations of Coralligenous biocenosis (in enclave)
- IV. 2. 2. 10. Facies with large Bryozoa
- IV. 3. 1. 15. Coralligenous platforms

**Other important biocoenosis are:**

- IV. 2. 2. 7. Association with *Laminaria rodriguezii* on detritic
- IV. 3. 1. 5. Association with *Sargassum* spp. (indigenous)
- IV. 3. 1. 11. Facies with *Eunicella singularis*
- IV. 3. 2. 2. Facies with *Corallium rubrum*

Up to date it is impossible to give an absolute value of coverage

### 3.4.2. List of regionally important species (flora and fauna) (B-2a, Annex I)

List here ONLY those species protected by international agreements, particularly those marine species included in Annex II of the Protocol, which are present in the area. Any other species may be listed if it is clearly considered of regional importance given its high representation in the area. Display the species list under the headings Marine Plants, Terrestrial Plants, Marine Invertebrates, Fish, Amphibians and Reptiles, Birds, and Mammals. For each species state:

- a) its relative abundance as Common (C), Uncommon (U) or Occasional (O),
- b) Its global status as rare (r), endemic (e) and/or threatened (t), and
- c) its status as an important resident population (R), or important for its breeding (B), feeding (F), wintering (W) or migratory passage (M)

SPECIES	Rel. Abundance			Global STATUS	Local STATUS						
	(C)	(U)	(O)			(r)	(e)	(t)	(R)	(B)	(F)
<b>Marine Plants</b>											
<i>Posidonia oceanica</i>	(c)			(e), (t)		(r)					
<i>Cystoseira amentacea</i> (including var. <i>stricta</i> and var. <i>spicata</i> )	(c)			(e), (t)		(r)					
<i>Cystoseira mediterranea</i>	(c)			(e)		(r)					
<i>Cystoseira spinosa</i> (including <i>C. adriatica</i> )	(c)			(e)		(r)					
<i>Cystoseira zosteroides</i>	(c)			(e)		(r)					
<i>Laminaria rodriguezii</i>	(u)			(e), (r)		(r)					
<i>Litophyllum byssoides</i>	(c)			(t)		(r)					
<b>Marine Invertebrates</b>											
<i>Aplysina sp. plur.</i>	(c)			(t)		(r)					
<i>Axinella cannabina</i>	(o)			(e)		(r)					
<i>Axinella polypoides</i>	(u)					(r)					
<i>Geodia cydonium</i>	(u)			(t)		(r)					
<i>Sarcotragus foetidus</i>	(u)			(e), (t)		(r)					
<i>Tethya sp. Plur</i>	(c)					(r)					
<i>Astroides calycularis</i>	(u)			(e)		(r)					
<i>Savalia savaglia</i>	(o)			(e), (t)		(r)					
<i>Asterina pancerii</i>	(u)			(e)		(r)					
<i>Centrostephanus longispinus</i>	(u)			(t)		(r)					
<i>Ophidiaster ophidianus</i>	(c)			(e)		(r)					
<i>Ranella olearia</i> (= <i>Argobuccinum olearium</i> = <i>A. giganteum</i> )	(o)					(r)					
<i>Charonia lampas</i> (= <i>Ch. Rubicanda</i> = <i>Ch. Nodifera</i> )	(o)					(r)					
<i>Charonia tritonis</i> (= <i>Ch. Seguenziae</i> )	(o)					(r)					
<i>Dendropoma petraeum</i>											
<i>Erosaria spurca</i>	(u)			(t)		(r)					
<i>Lithophaga lithophaga</i>	(o)					(r)					
<i>Luria lurida</i> (= <i>Cypraea lurida</i> )	(c)			(e), (t)		(r)					
<i>Mitra zonata</i>	(u)			(t)		(r)					
<i>Patella ferruginea</i>	(o)					(r)					
<i>Pholas dactylus</i>	(c)			(e), (t)		(r)					
<i>Pinna nobilis</i>	(c)			(t)		(r)					
<i>Pinna rudis</i> (= <i>P. pernula</i> )	(c)			(e), (t)		(r)					
<i>Schilderia achatidea</i>	(u)			(t)		(r)					
<i>Tonna galea</i>	(o)					(r)					
<i>Zonaria pyrum</i>	(o)					(r)					
<i>Homarus gammarus</i> *											
<i>Palinurus elephas</i> *	(c)			(t)		(r)					
<i>Corallium rubrum</i> *	(c)			(t)		(r)					
	(u)					(r)					

<b>Fishes</b>			
<i>Aphanius fasciatus</i>	(c)	(e)	(r)
<i>Cetorhinus maximus</i>	(u)	(t)	(r)
<i>Carcharodon carcharias</i>	(u)		(r)
<i>Hippocampus guttulatus</i>	(u)	(t)	(r)
<i>Hippocampus hippocampus</i>	(u)	(t)	(r)
<i>Mobula mobular</i>	(u)		(r)
<i>Epinephelus marginatus*</i>	(c)	(t)	(r)
<b>Amphibians</b>			
<b>Reptiles</b>			
<i>Caretta caretta</i>	(c)	(t)	(f)
<i>Chelonia mydas</i>	(u)	(t)	(f)
<i>Dermochelys coriacea</i>	(u)	(t)	(f)
<b>Birds</b>			
<i>Pandion haliaetus</i>	(u)		(r)
<i>Calonectris diomedea</i>	(c)		(r)
<i>Falco eleonorae</i>	(o)	(t)	(m)
<i>Hydrobates pelagicus</i>	(o)		(m)
<i>Larus audouinii</i>	(c)	(t)	(b)
<i>Phalacrocorax aristotelis</i>	(c)	(t)	(r)
<i>Phoenicopiterus ruber</i>	(c)		(r)
<i>Puffinus puffinus yelkouan</i> ( <i>P. yelkouan</i> )	(c)		(m)
<i>Sterna albifrons</i>	(c)		(r)
<i>Sterna sandvicensis</i>	(c)		(r)
<b>Mammals</b>			
<i>Balaenoptera physalus</i>	(u)	(t)	(m)
<i>Delphinus delphis</i>	(u)	(t)	(r)
<i>Globicephala melas</i>	(u)	(t)	(r)
<i>Grampus griseus</i>	(u)	(t)	(r)
<i>Physeter macrocephalus</i>	(u)	(t)	(m)
<i>Stenella coeruleoalba</i>	(u)	(t)	(r)
<i>Tursiops truncatus</i>	(c)		(r)
<i>Ziphius cavirostris</i>	(o)	(t)	(r)

\* = not in Annex II

3.4.3. Flora: Describe in a few sentences the main plant assemblages significant in the area.

The rocky mesolittoral is characterized by *Nemalion helmintoides* and *Rissoella verruculosa* populations and by *Lithophyllum* spp.

In the submerged area there are phanerogams (*Posidonia oceanica*, *Cymodocea nodosa*) and many important macroalgae (e.g. *Cystoseira* spp, *Lithophyllum byssoides*, *Laminaria rodriguezii*)

3.4.4. Fauna: Describe in a few sentences, which are the main fauna populations present in the area.

The species found in the MPA includes same species typical of coralligenous habitat (e.g. *Myriapora truncate*, *Eunicella singularis*, *Savalia savaglia*, *Corallium rubrum*), seagrass meadows (e.g. *Pinna nobilis*, *Geodia cydonium*).  
The rocky mesolittoral presents significant invertebrate like *Patella ferruginea* and *Actinia aequina*.  
Fish assemblage is complex with three important families: Labridae, Sparidae, Serranidae.

### 3.5. HUMAN POPULATION AND USE OF NATURAL RESOURCES

#### 3.5.1 Human population

a) Inhabitants inside the area:

	Number	Date of data
Permanent	9.126	31/12/2009
Seasonal number (additional to permanent)	23.437	31/12/2009

b) Description of the population

The demographic 'photography' resulting from the latest Population and House Census of 2001 indicates a consistency of the resident (so-called 'legal') population of 8,804 inhabitants, representing 2,905 households. With a resident population equal to 9,126 inhabitants and 3,395 households as per 31/12/2009, Cabras represents the third municipality of the Province of Oristano. The ratio between population and surface determines a demographic density of 89,3 inhabitants/km<sup>2</sup>, implying an anthropization degree relatively higher than the average provincial (54,8) and regional (68,0) ones, although it is quite restricted in absolute terms, as in the majority of Sardinian municipalities.

c) Main human settlements and their populations

The Municipality of Cabras 'Penisola del Sinis - Isola di Mal di Ventre' MPA, whose territory covers a surface of 102,18 km<sup>2</sup>, ranks at the sixth position at a provincial level, representing 3,4% of the territory of the province of Oristano. The main settlements in the territory of Cabras are the hamlet of Solanas, the coastal villages of San Giovanni and Funtana Meiga and the village of San Salvatore. The first coastal village is located on the southern tip of the Sinis Peninsula, overlooking two seas, a short distance from the ruins of the ancient city of Tharros. The town of San Giovanni has arisen in recent times. It is believed that the construction of the houses date back to the early twentieth century. The number of inhabitants in summer ranging between 500 and 1,000. The second coastal village is situated along the central southern part of the MPA. The village is built in the 80s. The number of inhabitants living in the summer varies between 1,000 and 2,000. The village of San Salvatore is located on the slopes of the hills of Sinis. It is the most shining example of temporary religious center in Sardinia. Comes to life mainly during the religious festival the 'Corsa degli Scalzi' ('barefoot race'). Outside the boundaries of the territory of Cabras major towns are represented by the City of Oristano, which is located about 6 km from Cabras, with a population of approx. 33,000, the city of Santa Giusta, which is located about 8 km from Cabras, with a population of approx. 4,500, and the city of Nurachi, which is about 3 km, with a population of approx. 2,000.

### 3.5.2 Current human use and development

- a) Briefly describe the current use of the area by subsistence, artisan, commercial and recreational fishing, hunting, tourism, agriculture and other economic sectors.

Most of the local economy is found on agriculture, fishery, sheep-farming.

The main production of Cabras are the typical wines (e.g. Vernaccia DOC of Oristano, Karmis) and *bottarga* (dried mullets gonads).

The significant production of high quality olive oil is considerable for the town of Cabras, in fact it received an important National award as 'Città dell'Olio' (extra virgin olive oil, biologic olive oil). In the last years many fishermen converted their activity in a more sustainable and touristic-recreational one, the Fishtourism business. It is practiced on artisanal fishing vessels and it is promoted by MPA from 2003.

The accommodation - facilities section has been in a high increase in the last years, in fact, about half of all the new business is represented by this job sector.

About the comparative analysis of the composition of companies Cabras, compared to higher-level regional (province, region, country), showed a more pronounced weight proportional to some sectors, indicating a specific role as production of Cabras. It should be noted, in particular, a strong specialization in the fishing sector, in terms of number of enterprises has a weight of 3,1% compared with 0,4% of the province and the region, but has a much higher weight in terms employment. It finds a strong vocation for the activities of the tourism and hospitality industry and catering (8,1% versus 5% of the province and region) and also for activities in agriculture, though relatively less marked the provincial average. Particular attention should be paid, in the analysis of the productive system of Cabras, the tourism sector, in which it detects a specific vocation, and that is the sector with the greatest potential for development. In terms of tourism, in 2009, in the Municipality of Cabras are 87 accommodation facilities with a total of 1174 beds, which represent, at the provincial level, 21,5% of the structures and 11% of jobs bed. The 'qualified' receptivity (with reference to hotel establishments) appears too small, considering the tourist potential of Cabras.

In 2009 only 3 are active lodge with a budget of around 98 posts which cover only 4% of beds in the province. A new tourism and recreational activities related to the use of the sea is represented by fishing and tourism, driving under the small-scale fishing boats (promoted from the marine protected area since 2003). Other activities include scuba diving: 1 dive center in the Municipality of Cabras (plus 5 from outside the Municipality of Cabras): 16 dive sites of which 8 are the most popular. Reported 2000 dives per year.

- b) Enter how many of the users depend on these resources, seasonality, and assessment of the social and economic importance of their use and of the perceived impact on the conservation of the area, in a score of 0-1-2-3 (meaning null, low, medium, high).

ACTIVITY AND CATEGORY	ASSESS IMPORTANCE OF		Estimated No. of Users	Seasonality
	Socio-economic	Conserv. Impact		
<b>FISHING</b>				
Subsistence	0	0		
Commercial, local	3	3		
Commercial, non-local	2	2		
Controlled recreational	2	2		
Un-controlled recreational	1	2		
Other				
<b>TOURISM</b>				
Regulated	3	1		
Unregulated	2	1		
Indicate the type of tourism				
- scuba diving	1	2		
- wind sport	3	0		
- nautical activities	2	2		
- beach tourism	2	2		
Tourism facilities	1	1		
<b>FOREST PRODUCTS</b>				
Subsistence	0	0		
Non-timber commercial, local	0	0		
Non-timber commercial, non-local	0	0		
	0	0		
Timber commercial, local	0	0		
Timber commercial, non-local				
Agriculture	2	1		
Stockbreeding	1	1		
Aquaculture	1	1		
<b>EXTENSIVE STOCK GRAZING</b>				
Subsistence	0	0		
Commercial, local	0	0		
Commercial, non-local	0	0		
<b>OTHER ACTIVITIES</b>				
-	0	0		
-	0	0		

### 3.5.3. Traditional economic or subsistence uses

Name any environmentally sound traditional activities integrated with nature, which support the well being of the local population. E.g. land, water use, target species, if closed seasons or closed zones are used as management techniques.

73% of the territory (Municipality of Cabras) is devoted to farming, 13,5% is occupied by water surfaces (Cabras and Mistras Lagoon), about 10% is covered by woodlands and natural areas, while only 2,5% consists of artificial zones, that is urbanized areas. A comparison at the provincial level highlights a wider extension of water surfaces (lagoons, sea) within the SAC area and, on the other hand, a smaller area covered by woodlands, while the relative surface covered by agricultural land and urbanized areas is equivalent. In the Municipality of Cabras, hosting the 'Penisola del Sinis – Isola di Mal di Ventre' MPA, water surfaces and natural areas cover almost a third of the territory (respectively 16,5% and 13%), to the detriment of agricultural areas.

So the area has been traditionally used for agriculture, fishing and grazing. The fishery is regulated by the decree establishing the MPA (see attached DM 06.09.1999 and 17.17.2003). Sea urchins fisheries is managed through the controlled release of licences. In the recent years, sheep grazing has become almost absent. With the increasing development of the tourism industry (even after the institution of the MPA and the SAC and SPA), in the territory have arisen numerous farms and fisheries is also facing the sector through the tourist-recreational fishing. To note in the Cabras Lagoon the fishing activity of prized local species.

## 4. MEDITERRANEAN IMPORTANCE OF THE SITE

This Section aims at stressing the importance of the site for conservation at the regional or global scales, as set in Art. 8 para. 2 of the Protocol and B2-a, B2-b and B2-c in Annex I.

### 4.1. PRESENCE OF ECOSYSTEMS/HABITATS SPECIFIC TO THE MEDITERRANEAN REGION

Name the type of habitats considered of Mediterranean specificity, on the basis of the habitat classifications adopted within the framework of MAP, and their estimated cover (Ha).

- I.2.1.5. Facies of phanerogams which have been washed astore (upper part)
- II.3.1.1. Facies of banks of dead leaves of *P. oceanica* and other phanerogams
- II.4.1.3. Association with *Nemalion helmintoides* and *Rissoella verruculosa*
- II.4.2.1. Association with *Lithophyllum lichenoides*
- III.2.3.5. Association with *Zostera noltii* on superficial muddy sands in sheltered waters
- III.5.1. *Posidonia oceanica* meadows
- III.6.16 Association with *Cystoseira crinita*
- III.6.16 Association with *Cystoseira compressa*
- IV.3.1. Coralligenous biocenosis
- IV.3.2.2. Facies with *Corallium rubrum*

Coastal habitats (Appendix F)

- I.1.6 Mediterranean salt steppes
- I.4.2.1 Tethyan sea-cliff communities
- III.2.2.4 Palmetto brush
- I.1. Salt marshes, salt steppes
- I.2.2. Dunes

Up to date it is impossible to give an absolute value of coverage

## 4.2. PRESENCE OF HABITATS THAT ARE CRITICAL TO ENDANGERED, THREATENED OR ENDEMIC SPECIES

A critical habitat is an area essential to the conservation of the species concerned. These species should be those included in Annex II of the Protocol. E.g. Islets and sea stacks, as small islands in the sea or in large bodies of water, mostly important for water-bird colonies; caves appropriate for monk seals; undisturbed sand beaches where marine turtle nesting occurs; coastal lagoons where threatened fish or bird species feed or breed; tidal flats, coastal or benthic substrates important for marine invertebrates, etc.

Name the habitat types and the species linked to it.

- Subtidal caves for *Astroides calycularis*
- Subtidal sandy bottoms for *Posidonia oceanica*
- Seagrass meadows for *Pinna nobilis* and *Asterina pancerii*
- Undisturbed rocky cliffs and Palmeto brushes for nesting of *Larus audouinii*.
- Mesolittoral of Mal di Ventre island for *Patella ferruginea*
- Calcareous cliffs for *Lithophaga lithophaga*
- Coastal lagoons for *Aphanius fasciatus*

## 4.3. OTHER RELEVANT FEATURES (Art. 8 paragraph 2 in the Protocol)

### 4.3.1. Educational Interest (B-3 in Annex I)

E.g. particular values for activities of environmental education or awareness

One of the main objectives of the MPA is represented by carrying out educational programs for the improvement of the knowledge of ecology and marine biology.

With this aim, in the territory of Cabras exists one multifunctional centre, two education centres, and two information bureau near the coast and in Cabras. On the official MPA website ([www.areamarinasinis.it](http://www.areamarinasinis.it)) is possible to look through the educational excursions proposed by the MPA organization staff.

### 4.3.2. Scientific Interest (B-3 in Annex I)

Explain if the site represents a particular value for research in the field of natural or heritage sciences.

The 'Penisola del Sinis' area is characterized by an extraordinary entirety of natural landscapes and cultural evidence.

The phoenician colony of Tharros is one of the first main marks of human activities and now it represents one of the most interesting National archeologic sites. In the last years archeologic research by the Sardinian University of Cagliari is looking for any acient marks of the various colonization of the territory by Phoenicians, Romans, Spanish people, into the marine area too.

The submerged portion of the MPA is characterized by an extended *Posidonia oceanica* meadow and by a lot of interesting species like the *Corallium rubrum*, that it is begin so rare for the strongly harvesting in the last decades on the Sardinias coast.

The special withe quartz-grain beaches of Is Arutas, Mari Ermi, Maimoni, have a great naturalistic and geologic importance for tourism too and their protection and vulnerability is one of the roles of the Sinis MPA.

Finally, the SAC and SPA awards for Mal di Ventre Island and Catalano rock, highlight the particularly of the area as important nesting sites of rare birds like (*Phalacrocorax aristotelis*, *Larus audouinii*) and for rare flora too under the low of Habitat Directive and Bird Directive, included in the Rete Natura 2000 protocol. So, this area is attractive as for the marine flora



and fauna as for landy naturally habitats and species like black widow, tortoises, wild rabbits, hawks, insects and amphibious.

The monitoring and research activities into the MPA are coordinated by the Cabras municipality which makes use of the collaboration of the Institute for Coastal Marine Environment-National Research Council (IAMC-CNR), and of the University of Sassari and Cagliari.

#### 4.3.3. Aesthetic Interest (B-3 in Annex I)

Name and briefly describe any outstanding natural features, landscapes or seascapes.

The site is characterized by a great variety of its natural landscapes and abundance of cultural evidences (e.g. the archeological area of Tharros, the nuragic sites, fishponds). The coast of Sinis presents wide beaches of sand or quartz grains (one of the most appreciated peculiarity of the site) alternated by high cliffs from which it is possible to discern the granitic Island of Mal di Ventre and the basaltic outcrop of Catalano. This beautiful panorama encase an equally fascinating underwater landscape characterized by seagrass meadows, coralligenous habitat, a continental shelf with limestone and sand substrates and a ridge with large granite boulders and ravines.

#### 4.3.4. Main cultural features

Indicate if the area has a high representative value with respect to the cultural heritage, due to the existence of environmentally sound traditional activities integrated with nature which support the well-being of local populations.

The traffic of the territory of the Sinis Peninsula since prehistoric times has left important evidence: from prehistoric settlements to the numerous 'nuraghi' scattered from north to south, the plateau and along the banks of ponds and marshes to the largest and most important Phoenician-Punic settlement Tharros.

Of some importance are also some religious events. The cultural heritage of Cabras can be summarized in the following elements:

- archaeological sites of excellence, such as 'Tharros', among the most visited in Sardinia, belonging to a large, widespread Nuragic and architectural monumental heritage (Byzantine Church of San Giovanni di Sinis, Hypogeum of San Salvatore, pre-Nuragic sites of 'Cuccuru Is Arrius' and of 'Monte e' Prama', Archaeological Museum, Pontis Fishponds, Coastal Tower System, etc.);
- events at regional and national level, such as the 'barefoot race' (Corsa degli Scalzi, Festival of San Salvatore), recognized and inserted by the Region of Sardinia within the Great Events of the Island. A number of fairs and events are regularly and annually carried out, showing a consolidated interest either from a tourist and a cultural point of view: 'Sagra della Bottarga', 'Sagra del Muggine Arrosto e della Vernaccia', 'Sagra del Melone del Sinis'; the events 'Notti di Tharros', 'Note in Laguna', 'Festival dei Tre Mari' and 'L'Area Marina è in festa'; the sport events 'Motoraduno del Sinis', 'Granfondo del Sinis', mini-marathon 'Quattro passi nel Sinis', 'Traversata a nuoto nel Golfo di Oristano'; also, the show 'Pane, olio in frantoio' and 'Cantine Aperte', etc. These are a lot of development opportunities attracting large audiences, both at a tourist and at a local level;
- strong, widespread presence of know-how and productions of excellence within the field of artistic craftsmanship linked to traditional local production and fishing (Fassoni – typical lagoon boat, traditional building of adobe bricks, etc.).

## 5. IMPACTS AND ACTIVITIES AFFECTING THE AREA

### 5.1. IMPACTS AND ACTIVITIES WITHIN THE SITE

#### 5.1.1. Exploitation of natural resources

Assess if the current rates of exploitation of natural resources within the area (sand, water and mineral exploitation, wood gathering, fishing, grazing...) are deemed unsustainable in quality or quantity, and try to quantify these threats, e.g. the percentage of the area under threat, or any known increase in extraction rates.

The exploitation of natural resources within the MPA is mainly dependent on fishing, which is prohibited in Zone A and regulated in B and C Zones. The fishing fleet operating in the area (mainly with pots and net gears), however, is very large (over 100 units) whose gross tonnage may arrive in a few cases, up to 60 tons. The fishing gears used in the Cabras lagoons have an ancient origin and are extremely simple, enable to collect mullets, sole, sea bass, sea bream, eels and crabs.

#### 5.1.2. Threats to habitats and species

Mention any serious threats to marine or coastal habitats (e.g. modification, desiccation, disturbance, pollution) or to species (e.g. disturbance, poaching, introduced alien species...) within the area.

The main threats to habitats and species within the marine protected area are due to professional fishing, recreational activities (e.g. noise and use of anchor in mooring operations), and the collection (although forbidden) of quartz sand (especially along the beaches of Is Arutas, Mari Ermi and Maimoni).

Other threats to marine habitats and species are due to trawling and recreational fishing.

#### 5.1.3. Demand by an increased population and infrastructures

Assess whether the current human presence or an expected increase in frequentation (tourism, passage of vehicles and boats) and any human immigration into the area, or plans to build infrastructures, are considered a threat.

The steady increase in population due to the proximity of Oristano, chief town of the Province, led to an increase in infrastructure construction especially in the urban area, which is retained about 13 km from the MPA. Therefore, the increase in infrastructure can be only partly attributed to the increasing number of visitors who choose the Sinis Peninsula for their holidays. Along the coastline of the marine protected area there are no settlements except for small coastal villages of San Giovanni and Funtana Meiga. Environmental constraints and landscape in the area do not permit the construction of further settlements.

#### 5.1.4. Historic and current conflicts

Make a brief statement of any historic or current conflicts between users or user groups.

The multiple use of resources is a phenomenon that often occurs when one is affected by extensive and diverse catchment areas (work and recreation) and especially when the environmental permits it. The juxtaposition of different activities on the same sites generates conflicts of resource use. Some conflicts are manifest and others are the underlying function of the increase in intensity of use by the main forms of use: the work and recreation. An example where there are no specific conflicts is represented by sea urchins fishery within the MPA. This is due to the increase in the number of authorization for fishing, although in both cases, the fishing activity is regulated.

## 5.2. IMPACTS AND ACTIVITIES AROUND THE SITE

In Art.7.2-e the Protocol calls for the regulation of activities compatible with the objectives for which a SPA was declared, such as those likely to harm or disturb species or ecosystems (Art.6.h), while Section B4 in Annex I asks to consider “the existence of threats likely to impair the ecological, biological, aesthetic or cultural value of the area” (B4-a in Annex I), recommending the existence, in the area and its surroundings, of opportunities for sustainable development (B4-d) and of an integrated coastal management plan (B4-e).

### 5.2.1. Pollution

Name any point and non-point sources of external pollution in nearby areas, including solid waste, and especially those affecting waters up-current.

There are no significant sources of pollution neither within MPA nor in nearby areas. The water circulation contributes to avoid any potential pollution from the Gulf of Oristano. Moreover the treatment plant discharges are widespread and, the Municipality of Cabras was the first town in Sardinia activate the practice of selective waste collection. The collection is done regularly in the coastal villages and given to the green waste collection points.

### 5.2.2. Other external threats, natural and/or anthropogenic

Briefly describe any other external threat to the ecological, biological, aesthetic or cultural values of the area (such as unregulated exploitation of natural resources, serious threats on habitats or species, increase of human presence, significant impacts on landscapes and cultural values, pollution problems, any sectorial development plans and proposed projects, etc.), likely to influence the area in question.

Overfishing, illegal activities and the absence of continuous surveillance are the main problems of the MPA. Moreover, during the winter season, farmers are used to working the fields in the immediate vicinity of certain areas of the coastline. During the summer, however, some vehicles traveling or standing on the dunes. Other threats are caused by the voluntary removal of quartz sand. In order to discourage this practice a system for monitoring and control and information campaigns and environmental awareness was arranged.

### 5.2.3. Sustainable development measures

Comment whether the area is covered by an integrated coastal management plan, or bordering upon a zone under such a plan. Are there other opportunities for sustainable development provided for in the neighbouring areas?

The existing law of marine protected areas (Law 979/82, Law 394/91, Ministerial Decree) does not provide the definition of integrated coastal management plans. However, over the years, the MPA has based its action on the sustainable management of marine and coastal resources by regulating the activity. Throughout the years, the Municipality's attention towards Sinis resulted in the adoption of:

- preventive measures (ordinances, regulations, administrative measures, etc.) ensuring and maintaining a proper conservation status of resources;
- propulsive measures (plans, programmes, interventions, actions, etc.) promoting an efficient management and resources valorisation, even in economic terms, according to methodological approaches aiming to the sustainability target.

The presence of 5 SAC and 3 SPA has enabled the adoption of measures for management of marine and coastal environment, merged into plans management approved by the Autonomous Region of Sardinia, by decree of the Department for Environmental Protection of 26.11.2008, and No.0030013/DecA/97 of 13/02/2009, No.7. The plan identifies areas of vulnerability and designing the most appropriate management strategies to limit impacts. In

addition, it provides an integrated management model that can also be applied to contiguous areas of the marine protected area. Moreover it is in the process of the establishment of a marine SAC which includes the perimeter of the MPA and the respective coastal environment. This will allow to provide additional forms of integrated management of coastal areas.

The MPA has proved to be a real structure supporting the management of environmental policies of the Municipality of Cabras, involving far-reaching areas beyond those strictly regarding the environmental protection, while increasingly becoming an opportunity of economical and social development, besides a useful channel to promote the territory, encouraging the knowledge and visibility of the municipal territory and its resources at the most important institutional/promotional tourist and environmental levels, to enhance a really sustainable tourist development. This is why the 'Penisola del Sinis - Isola di Mal di Ventre' MPA has been designated, by the Department for Development and Competitiveness of Tourism of the Presidency of the Council of Ministers, as a winning destination within the frame of the EDEN project 'European Destinations of Excellence'.

The selection process, coordinated by the Department of Tourism of the Presidency of the Council of Ministers, has led to the designation of the 'Penisola del Sinis – Isola di Mal di Ventre' MPA, Sardinia, as a winning destination, having proved to be able to couple the safeguard of its own natural heritage with the valorisation of local tourist resources. In addition, the marine protected area is one of the pilot areas selected for the "Sardinia-CAMP (Coastal Area Management Programme). The plan includes the redevelopment of the beach-dune systems, coastal dynamic degraded, consolidation and qualification of local tourism in a sustainable and integrated management for the protection and enhancement of fisheries resources. Another project that the protected marine area is involved and the project 'Profils de durabilité dans quelques destinations touristiques Méditerranéennes' coordinated by the Blue Plan.

## **6. EXPECTED DEVELOPMENT AND TRENDS<sup>1</sup>**

The foreseeable development and trends of the site do not appear in the list of common criteria for the choice of protected marine and coastal areas that could be included in the SPAMI list, as established in the Protocol and its Annex I. Moreover, this is not always easy to assess and it is necessary to have knowledge about the site, which is not always available to all managers of protected areas; Thus, it is not obligatory to fill in the boxes in this Section 6.

On the other hand, the assessment of this foreseeable evolution and trends constitutes a dynamic supplement to the static knowledge of the site, as it appears in Sections 3, 4 and 5 above. Moreover, it is of significant importance for the definition of the objectives and the management plan of the site. It thus appears desirable to bringing out the main outlines at least in respect to the following points:

### **6.1. EXPECTED DEVELOPMENT AND TRENDS OF THREATS TO AND PRESSURES UPON THE AREA**

Deal briefly in succession with:

- The demographic development in and around the site
- The development of economic activities (other than tourism and recreation) within the area
- The development of local demand on tourism and recreation
- The development of tourism pressure on the area

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<sup>1</sup> By expected development and trends are meant the development, which is thought most likely to occur in the absence of any deliberate intervention to protect and manage the site.

### **The demographic development in and around the site**

The Municipality of Cabras is the third largest municipality in the Province of Oristano (Oristano and Terralba), with a population of 9,126 residents and 3,395 families (data of 31/12/2009). Its population in 2001 decreased to 8,804 inhabitants. Intercensal analysis of the dynamics on the years 1991-2001, allows us to assess the demographic trend affecting the municipality over the medium term.

It is noted that the town of Cabras has been affected by a demographic decline of 2.5%, similar to that recorded at the provincial level, but with a trend opposite to that of the main city, which has increased slightly the number of its inhabitants. Analysis of the annual population movement extended until 2009 showed initially a negative trend reversed in the last five years. This population dynamic pattern are due almost solely to the decreased migration flow. This phenomenon deserves to be further investigated in order to understand whether it should be regarded as a transitory or lasting phenomenon. It would be helpful to understand whether the last increasing trend of the population could be due to the perception of a potential and concrete developments of the territory of Cabras, linked to the growth of some economic sectors (e.g. tourism). Another plausible interpretation, which could partly explain the phenomenon of migration is a possible 'return migration', determined by entry into the territory of former migrants who moves back into the territory of Cabras at the end of their working life or to vocational rehabilitation, for example through the initiation of new activities. Finally, it is important to consider the phenomenon of decentralization of housing, which now affects most of the territory of Cabras. This trend, due mainly to the increase in property prices in the big towns (e.g. Oristano), shifts a growing share of the population (particularly young families) in the surrounding municipalities, generally characterized by the expansion phenomena and lower prices. Cabras constitutes one of the preferred destinations due to its favourable coastal location and to the presence of natural resources and its tourist value.

### **The development of economic activities (other than tourism and recreation) within the area**

The economy of Cabras is, according to the Register of Companies (Chamber of trade), has 865 local units recorded in 2004 (last data available). The trades represent 23% of all enterprises: a proportionate share of slightly less than the provincial average (25%) and regional (28%). Examining the structure of production with reference to the number of local units, we observe that about one third of the productive (32.7%) are represented by the primary sector, of which agriculture has a majority weight (29.6 %) and Fisheries has a value of 3.1%. The secondary sector has a total weight of 19.3% due to the construction sector (11.2%) and manufacturing (8.1%). The tertiary sector constitutes 48% of all enterprises: the largest share is represented by trade (25.8%) followed by the activities of the catering and hospitality sector (8.1%) and business services (4.2%). As far as the business dynamics, it is noted that since 1998 the trend has been consistently positive. This trend is measured by the growth rate of enterprises, since the value of companies created less than cease from the year 'n' and weighted in proportion to the number of companies registered during the year 'n-1'. The growth rate of enterprises on the territory of Cabras has been consistently positive over the past ten years, although with varying intensity. Therefore, it is appropriate to compare the business dynamics of Cabras with that of higher-order spatial levels (province, region, country). The dynamics of Cabras has followed essentially the regional trend, with growth rates ranging between 1.9% and 2.7% and a performance more favourable than the provincial average. Between 2002 and 2004, a slowdown in business occurred if compared to higher-orders, with growth rates scaled to values around 1%. However, in recent years the growth rate is twisted again to positive values.

### **The development of local demand on tourism and recreation**

Latest available data refer to 31.10.2009 (Department of Tourism of the Province of Oristano). In 2008, tourist arrivals registered in the territory of Cabras were 7,968, with a number of presences of 23,624, determining an average stay equal to 2,9 days. In 2009, 8,088 arrivals and 22,602 presences were registered, for an average presence equal to 2,8 days. These data are slightly underestimated, as they do not take into account farm stay lodgings that represents a considerable share of the territory reception facilities, contributing to characterize the offer and creating a significant synergy with the agricultural sector and the restaurant facilities as well. In 2009 (data by Autonomous Region of Sardinia, Department of Agriculture), there were 18 farm stay facilities in the territory (23 if including farm-campsites), with an average number of 12 beds per structure. The composition of tourists by nationality highlights a prevalence of Italian tourists (64% of arrivals and 72% of presences) over the foreign component. The share of tourist flows heading for Cabras represents only 10% of arrivals and 8% of presences regarding the province of Oristano. Local tourist flow, mainly formed by Italian tourists, is mostly concentrated during the summer months, especially in July and August. It is a mainly seaside tourism with an average stay around 3-4 days. This typology of users prefers reception facilities allowing to enjoy a period of absolute relax and rest. Foreign tourists, on the other hand, tend to show interest for the territory exploration, organizing themselves autonomously to visit places and centres of cultural and/or naturalistic interest. This is a need that foreign intermediaries – and only recently, Italian operators, too – have been able to seize and valorise, offering an opportunity to enrich one's holidays with excursions to discover the territory, its art, culture and local food-and-wine. However, it is a still limited share, considering the potential tourist offer of Cabras, and the top quality of tourist resources.

### **The development of tourism pressure on the area**

Impacts on the environment due tourist presence on the territory of Cabras can be assessed through tourist pressure indicators, allowing to measure the degree of tourist flow, the potential conflict between tourist uses and primary residential ones, the anthropic pressure degree and, the temporal concentration of tourist flows. Tourist presence in 2009 was more than doubled of the resident population of Cabras, with a distribution of 227.2 tourists per km<sup>2</sup>. This datum is in line with that of the Province of Oristano and appeared low when compared to the respective indicators of density/tourist density for Sardinia. In this latter case, tourists exceed more than six times the number of resident inhabitants, being distributed throughout the whole territory of the island with a density of about 430 tourists per km<sup>2</sup>.

## **6.2. POTENTIAL CONFLICTS IN THE AREA**

Make a brief statement of potential use conflicts between the users or group of users of the site.

Currently there are no strong conflicts between economic operators in different sectors. The only conflict can be attributed to the interaction between commercial fishermen and recreational fishermen fishing. Another possible conflict can exist between the operators engaged in the transportation to Mal di Ventre Island on the application of the rules governing this type of activities. However, these conflicts can be managed easily with the introduction of ordinances of the local Coast Guard.

### **6.3. EXPECTED DEVELOPMENT AND TRENDS OF THE NATURAL LAND ENVIRONMENT AND LANDSCAPES OF THE AREA: as expected arising from the evolution of the pressures**

The presence of a MPA in the Municipality of Cabras, undoubtedly represents an added value, as well as a significant potential for the development of the territory according to sustainable development models and to shared principles with the local community.

So the possibility of excessive pressure on the area needs to be tackled combining the protection policies with those of economic development and upgrading, which at the present do not have relevance.

### **6.4. EXPECTED DEVELOPMENT AND TRENDS OF THE MARINE ENVIRONMENT AND SEASCAPES OF THE AREA: as expected arising from the evolution of the pressures**

Expectations for the conservation and environmental development concerns mostly fishing activity. The decrease in fishing effort would result in an increase in biomass, highlighting a more marked Reserve Effect. It is expected that the conservation status of the site will be further improved with the implementation of the next activities regulation.

## **7. PROTECTION REGIME**

### **7.1. LEGAL STATUS (General Principles “e” and Section C-2 both in Annex I)**

#### **7.1.1. Historical background of the protection of the site**

The ‘Penisola del Sinis – Isola di Mal di Ventre’ MPA has been identified as a marine area of procurement by Law 979 of 1982, as supplemented by Law No. 394, 1991. It was established by decree of the Ministry of Environment of 12 December 1997, last amended by decree of July 17, 2003, while is forthcoming the publication of the new Ministerial Decree, which updates the perimeter and the Regulations governing the activities permitted within the MPA.

#### **7.1.2. Legal texts currently ruling the protection on the site**

Enter the national conservation category, the dates and the present enforcement status of the legal instrument declaring the protection of the area. Consider both the land and the marine areas of the site. Include the full text(s) as an annex.

- Law 31 December 1982, no. 979  
Provisions for defence of the sea  
(G.U. – official gazette – of the Italian Republic no. 16 – Ordinary Supplement - of 18 January 1983)
- Law 8 July 1986, no. 349  
Institution of the Ministry of the Environment and regulations regarding damage to the environment  
(G.U. – official gazette – of the Italian Republic no. 162 – Ordinary Supplement no. 59 - of 15 July 1986)

- Ministerial decree 12 December 1997  
Institution of the 'Penisola del Sinis – Isola di Mal di Ventre' Marine Protected Area  
(G.U. – official gazette – of the Italian Republic no. 45 of 24 February 1998)
- Ministerial decree 22 July 1999  
Modify Ministerial Decree Institution of the “'Penisola del Sinis – Isola di Mal di Ventre' Marine Protected Area  
(G.U. – official gazette – of the Italian Republic no. 220 of 18 September 1999)
- Ministerial decree 06 September 1999  
Test text which completely replaces the previous decrees  
(G.U. – official gazette – of the Italian Republic no. 255 of 29 October 1999)
- Ministerial decree 17 July 2003  
Modify previous decree  
(G.U. – official gazette – of the Italian Republic no. 262 of 11 November 2003)
- Law 6 December 1991, no. 394  
Framework law on protected areas  
G.U. – official gazette – of the Italian Republic no. 292 – Ordinary Supplement - of 13 December 1991)
- Law 8 October 1997, no. 344  
Provisions for the development and qualification of interventions and occupation in the environment sector  
(G.U. – official gazette – of the Italian Republic no. 239 of 13 October 1997)
- Law 9 December 1998, no. 426  
New interventions in the environment sector  
(G.U. – official gazette – of the Italian Republic no. 291 of 14 December 1998)
- Art. 114 Law 23 December 2000, no. 388  
Provisions regarding drawing up the annual and multi-annual State budgets (finance bill 2001)  
(G.U. – official gazette – of the Italian Republic no. 302 of 29 December 2000 – Ordinary Supplement no. 219)
- Law 23 March 2001, no. 93  
Provisions regarding the environment  
(G.U. – official gazette – of the Italian Republic no. 79 of 4 April 2001)
- Law 11 October 2001, no. 391
- Art. 8 and art. 9 Law 31 July 2002, no. 179  
Provisions regarding the environment  
(G.U. – official gazette – of the Italian Republic no. 189 of 13 August 2002)

### 7.1.3. Objectives (General Principles “a” and D-1 in Annex I)

Name in order of importance the objectives of the area as stated in its legal declaration.

The purposes of MPA are both the safeguard of the sea biodiversity (very rich in this zone) and biological resources and the promotion and the enhancement of the local economic activities, provided that they are compatible with the importance of the naturalistic aspects and of the landscape of the area.



Basically, governance actions started by the Municipality of Cabras through the Management Programmes are functional to the achievement of the following purposes, comprised within the ministerial institutional decree of 17 July 2003:

- A-purpose: environmental protection of the MPA, strictly speaking.
- B-purpose: protection and valorisation of biological and geomorphologic resources of the area and ichthyic repopulation.
- C-purpose: communication and dissemination of knowledge on ecology and biology of marine/coastal environments, including specific environmental and geomorphologic features of the area.
- D-purpose: educational programmes within the domain of marine ecology and biology
- E-purpose: conducting study/scientific research programmes within the sectors of ecology, marine biology and environmental protection, in order to ensure a systematic knowledge of the area.
- F-purpose: promotion of a socio-economical development compatible with the naturalistic/landscape importance of the area.

7.1.4. Indicate whether the national protection regime arises from international treaties enforced or from implementation measures of treaties (Art. 6.a in the Protocol).

not applicable to the proposed area

## 7.2. INTERNATIONAL STATUS

### 7.2.1. Transboundary or high seas areas

Complete this section only if the area is transboundary, totally or partially in the high sea, or within areas where the limits of national sovereignty or jurisdiction have not yet been defined. In this case, mention the modalities of the consultation (Art. 9 para. 3A in the Protocol and General Principles "d" in Annex I).

The 'Penisola del Sinis – Isola di Mal di Ventre' MPA is not a transboundary area

### 7.2.2. International category

Mention if the area, or part of it, has been designated and on what date, with an international conservation category (e.g. Specially Protected Area, Biosphere Reserve, Ramsar Site, World Heritage Site, European Diploma, Natura 2000, Emerald network, etc.).

Within the marine protected area contains the following sites included in the Natura 2000 network:

- SAC - SPA 'Isola Mal di Ventre' (ITB030039) and SAC 'Catalano' (ITB030080), whose management plan was approved by the Autonomous Region of Sardinia, by decree of the Department for Environmental Protection No. 97 of 22.10.2008
- SAC 'San Giovanni di Sinis' (ITB032239) and SAC-SPA 'Stagno di Mistras Oristano' (ITB030034), whose management plan was approved by the Autonomous Region of Sardinia, by decree of the Department for Environmental Protection No. 108 of 26.11.2008

### 7.3. PREVIOUS LEGAL BACKGROUND AND LAND TENURE ISSUES

Briefly mention if the area or part of it is subject to any legal claim, or to any file open in that connection within the framework of an international body. Describe the land tenure regimes within the area, and append a map if existing.

not applicable to the proposed area

### 7.4. LEGAL PROVISIONS FOR MANAGEMENT (Section D-1 in Annex I)

#### 7.4.1. Zoning

Briefly state if the legal text protecting the area provides for different zones to allocate different management objectives of the area (e.g. core and scientific zones in both land and sea, fishing zones, visitation, gathering, restoration zones etc) and in this case the surface area in ha of these zones. Include a map as an annex

The site contains no take – no entry zones (Zone A), highly protected zones (Zona B) and a partially protected zone (Zone C). See “DM 06.09.1999” and “DM 17.07.2003” for the MPA regulation.

#### 7.4.2. Basic regulations

Mention the provisions, which apply to the area concerning the implementation of Article 6 of the Protocol (paragraphs a to i), Section D5 (a to d) in the Annex I and Article 17 of the Protocol.

#### **Marine Protected Area regulation**

##### Zone A (No take – no entry zone)

Permitted activities: access only to authorized means and personnel research and surveillance activities;

Prohibited activities: swimming, commercial and recreational fishing, vessels access.

##### Zone B (Highly protected zone)

Permitted activities: (i) commercial fishing and recreational fishing, fish tourism according to the regulations issued by the Managing Authority; (ii) scuba-diving, mooring and anchoring as disciplined and authorized by the Managing Authority; (iii) power boating, sailing and rowing as disciplined by the Managing Authority.

##### Zone C (Partially protected zone)

Permitted activities: (i) power boating is allowed for different water-craft, as disciplined by the Managing Authority; (ii) mooring and anchoring as disciplined by the Managing Authority aiming at the safeguard of the seabed; (iii) recreational boating (either rowing and sailing) and scuba-diving; (iv) commercial fishing, recreational fishing and fish tourism as disciplined by the Managing Authority.

#### 7.4.3. Legal competencies

Section D4 in Annex I states that the competence and responsibility with regard to administration and implementation of conservation measures for areas proposed for inclusion in the SPAMI List must be clearly defined in the texts governing each area. Additionally Art.7.4. of the Protocol calls for the provision of clear competencies and co-ordination between national land and sea authorities, with a view to ensuring the appropriate administration and management of the protected area as a whole. Mention in which way do the legal provisions clearly establish the institutional competencies and responsibilities for the administration and conservation of the area, and if being the case, their co-ordination means, including those between land and sea authorities.

Article 5 of the Decree of Ministry of the Environment (6 September 1999) states that "The management of the marine protected area " Penisola del Sinis – isola di Mal di Ventre" according to... (*omissis*) ...will be entrusted to local authorities, even in according to the agreements with the Regional authorities and with the contribution of research institutes recognized by Ministry of the University and Research and environmental associations.... ". At the same DM (article 7) states that "The management body may rely on the staff of "Corpo Forestale di Vigilanza Ambientale" (CFVA) for vigilance activities within the marine protected area on the basis of regional decision, (see annex Decree of Ministry of the Environment 06/09/1999).

The last article is entirely replaced by the following, in DM 2003: "Article 7 – 1. The vigilance in marine protected area (Article 19, paragraph 7 of the Law 6 december 1991, n. 394, Article 2, paragraph 17 of the Law 9 december 1998, n. 426), is carried out by the Coast Guard and the Local Police. 2.

The management body may also utilize the activities in the marine protected area, in particular for surveillance, the staff of CFVA, on the basis of specific agreements to be concluded within Accord concluded with the same region on April 22, 1997 (see attached "DM 17/07/2003).

Today the Management body of the Marine Protected Area is the Municipality of Cabras.

#### 7.4.4. Other legal provisions

Describe any other relevant legal provisions, such as those requiring a management plan, the establishment of a local participation body, binding measures for other institutions or economic sectors present in the area, allocation of financial resources and tools, or any other significant measures concerning the protection and management of the area or its surrounding zones.

Oriented management tools are shown in the Management Plan of the MPA. These provide for the control of the territory for the emerged and the marine areas. These non-mandatory guidance instruments, are directed to the system of local authorities, regional, national, to the external competence of the ministry.

## 8. MANAGEMENT

Through the General Principles, para. (e) in the Annex I, the Parties agree that the sites included in the SPAMI List are intended to have a value as examples and models for the protection of the natural heritage of the region. To this end, the Parties ensure that sites included in the List are provided with adequate legal status, protection measures and management methods and means.

### 8.1. INSTITUTIONAL LEVEL

#### 8.1.1. Authority/Authorities responsible for the area

The management of the 'Penisola del Sinis – Isola di Mal di Ventre' MPA has been entrusted to the Municipality of Cabras, the local authority has territorial jurisdiction, with the agreement signed on 02.05.1998 by the Ministry of Environment - Inspectorate Central Sea Defence and the Municipality of Cabras, in agreement with the Autonomous Region of Sardinia with a duration of nine years, automatically renewable for additional nine years. The organs of the MPA are the City Council, the Executive Council, the Mayor who holds the office of President of the MPA, the Director, the Reserve Commission (which is currently not yet been reconstituted from Ministry of Environment). The decree establishing the MPA also includes the establishment of a Scientific and Technical Committee that has not been implemented yet.

### 8.1.2. Other participants in the management body

Such as other national or local institutions, as stated in Section D6 in Annex I.

The Reserve Commission was established by the Minister of the Environment, Land and Sea at the managing body of the 'Penisola of Sinis – Isola di Mal di Ventre' MPA alongside the delegate in the management of area, to make proposals and suggestions for all matters concerning the operation of the MPA and to express its opinion on:

- the proposed update of the decree establishing the Regulation and regulation of the activities permitted within the Marine Protected Area;
- the proposed Regulations for the execution and organization of the Marine Protected Area, and subsequent proposals for updating;
- the annual program management expenses;
- the reports on the operation and status of the Marine Protected Area;
- the documents and procedures, however, a Marine Protected accidents.

Be established within the institution charged with the management of the MPA and is as follows:

- to be a representative appointed by the Minister for the Environment, Land and Sea, acting as chairman;
- to be an expert appointed by the territorial regions concerned, to act as vice chairman;
- to be an expert appointed in consultation with the Coastal Municipalities of local stakeholders;
- to be an expert of the Ministry for the Environment, Land and Sea;
- by a representative of the Coast Guard on a proposal from the department took the marine environment Ministry for the Environment, Land and Sea;
- from an experiment designed by the Central Institute for Scientific and Technological Research Applied to the Sea (ex ICRAM);
- to be an expert appointed by the associations most representative nature recognized by the Ministry for the Environment, Land and Sea.

At the moment the Reserve Commission has not yet been reconstituted from Ministry of Environment, Land and Sea

Other participant for a specific projects are Regional Authority.

### 8.1.3. Participants in other committees or bodies

Such as a scientific committee, or a body of representatives from the local stakeholders, the public, the professional and non-governmental sectors, as in Sections B4-b and B4-c in Annex I.

The MPA meet regularly with its stakeholders in relation to various management issues and to the rules implementation that have a direct impact on the performance of different activities. Stakeholders are mainly made by groups of commercial fishermen and recreational fishermen, operators carrying out environmental education activities, associations and operators of diving, yachting and tourism, tour operators and cultural institutions and bodies but also for security sea, to control the illegal activities.

### 8.1.4. Effectiveness

As stated in Section B4 of Annex I, assess as very low, low, moderate, satisfactory, very satisfactory, and comment as needed on the following aspects:

- |   |   |
|---|---|
| a | Effectiveness of the co-ordination, where existing: satisfactory.                                     |
| b | Quality of involvement by the public, local communities, economic sectors, scientific community: Good |

## **8.2. MANAGEMENT PLAN (as set out in D7 of Annex I)**

### **8.2.1. Management Plan**

State if there is a management plan (MP) and in this case include the document as an annex. In the absence of a MP, mention if the main provisions governing the area and the main regulations for its protection are already in place and how (D7 in Annex I) and if the area will have a detailed management plan within three years (D7 in Annex I).

Marine protected areas are established by a decree of the Ministry of Environment. The decree does not provide for management plans but for the simple preparation of a program management activities for attainment of institutional purpose. Management programs are approved annually by the Ministry of the Environment and help to define a true Local Action Plan, where interventions and actions constitute the answer to the protection of biodiversity and preservation of environmental integrity. In addition, the management programs integrate environmental protection with the enhancement of the same, while improving the standard of social and economic life of the resident community. Pending the establishment of a institutionalized management plan, the activities are regulated by the decree of the Coast Guard, regional laws and decrees, management plans of SAC and SPA inside the marine protected area approved by the regional authorities.

### **8.2.2. Formulation and approval of the Management Plan**

Mention how the MP was formulated, e.g. by an expert team and/or under consultation and/or participation with other institutions or stakeholders. State the legal status of the MP, whether it is officialized, and how, and if it is binding for other institutions and sectors involved in the area.

The programs of the MPA management activities are made annually in accordance with the organs of the managing body, according to the needs of management emerged as a result of monitoring, and management plans of SAC and SPA present within the marine protected area with the involvement of institutions, organizations and associations in various capacities dealing with site management. Thus, the wording of the latter management plan is the product of consultation and sharing an activity with stakeholders that was approved by the Region of Sardinia.

### 8.2.3. Contents and application of the Management Plan

State the degree of detail in the MP by entering YES or NO in the following list of potential contents, and assess the degree of implementation of the MP by using the 0-1-2-3 score on the right hand side:

	Existing in MP	Degree of application
Detailed management objectives	YES	2
Zoning	YES	1
Regulations for each zone	YES	1
Governing body(ies)	YES	2
Management programmes as:		
Administration	YES	3
Protection	YES	3
Natural resource management	YES	2
Tourism and Visitation	YES	3
Education and Training	YES	3
Research and Monitoring	YES	3
Services and Concessions	YES	2
Fund raising activities	YES	3
Periodic revisions of the MP	YES	1

### 8.3. PROTECTION MEASURES

By Art. 6 of the Protocol the Parties agree to take all the necessary protection measures required for the conservation of the area, particularly the strengthening the application of the other Protocols to the Convention, and through the regulation of any other activity likely to harm the natural or cultural value of the area, such as economic, recreation or research activities. As per Section D2 in Annex I, the protection measures must be adequate to the site objectives in the short and long term, and take in particular into account the threats upon it.

#### 8.3.1. Boundaries and signing

Briefly, state if the boundaries of the area and its zones are adequately marked in the field, both on land, in the sea, and at the principal points of access.

The areas (Zone C and Zone A) are delimited externally by signs marking the perimeter, in accordance with Coast Guard and the Ministry for the Environment requirements. Signs indicate the coastal perimeter, and also describe the bans that have to be respected.

#### 8.3.2. Institutional Collaboration

Name the different national and local institutions or organisations with legal responsibilities or involved in the protection and surveillance of land and sea zones, and any measures or mechanisms through which their co-ordination is pursued.

**“Penisola del Sinis – Isola di Mal di Ventre” MPA institutional collaboration**

**Scientific and monitoring activity**

- IAMC-CNR, Istituto Nazionale per l’Ambiente Marino e Costiero – Consiglio Nazionale delle Ricerche (National Institute for Coastal and Marine Environment - National Research Council)
- CoNISMa – Consorzio Nazionale Interuniversitario per le Scienze del Mare (The National Interuniversity Consortium For Marine Sciences)
- Istituto di Biometereologia – Consiglio Nazionale delle Ricerche (Institute of Biometeorology - National Research Council)
- ISPRA, ex ICRAM – Istituto Centrale per la Ricerca Scientifica e Tecnologica Applicata al Mare (Central Institute for Scientific and Technological Research Applied to the Sea)
- Università di Firenze (University of Florence)
- Università di Sassari (University of Sassari)
- Università di Pisa (University of Pisa)
- Università di Padova (University of Padova)
- Università di Cagliari (University of Cagliari)
- Università di Lecce (University of Lecce)
- Università Ca’ Foscari di Venezia (University of Cà Foscari in Venice)
- Centro Marino Internazionale di Oristano (International Marine Centre of Oristano)
- FederParchi - Federazione delle aree protette italiane (Federation of protected areas of Italy)
- University of Texas – Ocean Biology

**Governance, Communication.**

- Ministero dell’Ambiente e della Tutela del Territorio e del Mare (Ministry for Environment and Protection of the Territory and Sea)
- Regione Autonoma della Sardegna - Agenzia Conservatoria delle Coste (Autonomous Region of Sardegna - Coastal Conservatory Agency)
- Regione Autonoma della Sardegna - Assessorato Difesa dell’Ambiente (Autonomous Region of Sardegna - Environmental Protection Department)
- Regione Autonoma della Sardegna - Assessorato all’Agricoltura - Servizio Pesca (Autonomous Region of Sardegna - Department of Agriculture - Fisheries Service)
- Province of Oristano - Department of Environment and Tourism
- Chamber of Commerce, Oristano
- Marine Oristanesi di Torregrande
- Local Action Group of Montiferru, Barigadu, Sinis (LAG)
- Locale Action Group of Terreshardana (LAG)
- Local Tourism System of Central Western Sardinia “Eleonora d’Arborea”
- RAI - Public National TV
- SF Schweizer Fernsehen - Swiss TV
- Mediaset - Private National TV

**Surveillance**

- Capitaneria di Porto di Oristano
- Corpo Forestale e Ambientale della Regione Sardegna
- Polizia di Stato
- Guardia di Finanza
- Polizia Municipale
- Carabinieri

### 8.3.3. Surveillance

Consider the adequacy of the existing protection means (human and material), and your present ability to survey land and sea uses and accesses

The various organism involved in surveillance and monitoring do not always have the resources and means of transport (land and marine), despite the size of the MPA. However, such organism are constantly working to meet the needs of surveillance, especially in summer. These activities are well supported from the MPA with own boats (No. 4) and ground vehicles (No. 1 pick-up and No. 1 car) to ensure effective monitoring and control of the entire territory.

### 8.3.4. Enforcement

Briefly, consider the adequacy of existing penalties and powers for effective enforcement of regulations, whether the existing sanctions can be considered sufficient to dissuade infractions, and if the field staff is empowered to impose sanctions.

The policy of the MPA is always to avoid sanctions, preferring a constant awareness and information activities to prevent unlawful conduct punishable. However, in case of illegal activities that they are implemented is left to the competent authorities. In fact, when the marine protected area has no power penalty.

## 9. AVAILABLE RESOURCES

### 9.1. HUMAN RESOURCES (Art. 7.2.f in the Protocol)

#### 9.1.1. Available staff

Assess the adequacy of the human resources available to the management body, in number of employees and training level, both in central headquarters and in the field. Indicate if there are staff training programmes.

The MPA staff is constituted by:

The President  
The Director  
No. 3 administrative employer  
No. 1 architect employer  
No. 2 maintainers employer  
No. 1 secretary (not permanent)  
No. 1 expert in environmental science PhD (not permanent)  
No. 1 expert biologist PhD (not permanent)  
No. 1 expert geologist (not permanent)  
No. 1 communications expert (not permanent)  
No. 3 researchers wildlife (not permanent)



### 9.1.2. Permanent field staff

Answer YES or NO on the current existence of the following FIELD staff categories. If YES, enter the number of staff either permanent or part-time in that category, and evaluate on a 0-1-2-3 score (0 is low, 3 is high) the adequacy of their training level.

	YES/NO	NUMBER Permanent/Part-time	ADEQUACY OF TRAINING LEVEL
Field Administrator	YES	3/part-time	2
Field Experts (scientific monitoring)	YES	1/full time, 2/part-time	3
Field Technicians (maintenance, etc)	YES	3/part-time	3
Wardens	NO		
Of which marine wardens	NO		
Guides	NO		
Other	NO		

### 9.1.3. Additional Support

Briefly, describe if the area currently has the advantage of other external human resources in support of its objectives, either from other national or local institutions, volunteer programmes, non-governmental organisations, academic or international organisations. Mention if there are any significant changes in prospect for the near future.

Staff of the 'Corpo Forestale e di Vigilanza Ambientale della Regione Autonoma della Sardegna' (Regional Forest Guard of Sardinia), 'Capitaneria di Porto di Oristano' (Coast Guard), 'Polizia Municipale' (City Police) implement surveillance and monitoring and control of the marine protected area. Additional staff provided by employment agencies (guards, technicians, ..).

Scientific studies have been and still are now carried out by some research centres (University of Cagliari and Sassari, International Marine Centre Foundation, and IAMC-CNR, CONISMA).

## 9.2. FINANCIAL RESOURCES AND EQUIPMENT

By Art. 7 in the Protocol, the Parties agree to adopt measures or mechanisms to ensure the financing of the specially protected areas (Art.7.2.d), and the development of an appropriate infrastructure (Art.7.2.f). The General Principles para. "e" in the Annex I call upon the Parties to provide the areas with adequate management means.

### 9.2.1. Present financial means

Note if the basic financing is ensured: a core funding for basic staff, protection and information measures. Who provides this core funding? Briefly assess the degree of adequacy of the present financial means for the area, either low, moderate, satisfactory; e.g. the implementation of the management plan, including protection, information, education, training and research.

The financing system of the MPA is based on the resources of the Ministry of the Environment and co-management of resources of the (Municipality of Cabras). Additional financial resources are transferred from the Ministry of Environment for investment and for specific projects within the program of the annual management of the MPA. In recent years, total funding from the Ministry of Environment has been reduced, due of the cuts introduced

by the latest finance laws. It would certainly be desirable allocation of resources by the Ministry of Environment, at least at the levels of previous years.

However, the amount allocated ensure the maintenance of an adequate standard of intervention under which however would be very difficult to prepare a set of satisfactory answers to the ongoing operating needs arising, and to the investments made in previous years, both the local demand for promotion of a socio-economic development compatible with the terms of nature and landscape.

### 9.2.2. Expected or additional financial sources

Briefly describe any alternative sources of funding in use or planned, and the perspectives for long-term funding from national or other sources.

The majority of resources resulting from the Ministry of Environment, although in recent years has increased the share of resources represented by other financial institutions (Autonomous Region of Sardinian, UE, LAG,...) projects for the conservation, protection and enhancement of the marine and coastal environment.

### 9.2.3. Basic infrastructure and equipment

Answer YES or NO to the following questions, and if YES, assess with a score of 1-2-3 (1 is low, 3 is high) the adequacy of the basic infrastructure and equipment.

	YES/NO	ADEQUACY
Office and/or laboratory in the field	YES	2
Signs on the main accesses	YES	2
Guard posts on the main accesses	NO	0
Visitors information centre	YES	3
Self guided trails with signs	YES	3
Terrestrial vehicles	YES	3
Marine vehicles	YES	3
Radio and communications	YES	2
Environmental awareness materials	YES	3
Capacity to respond to emergencies	YES	2
Comment on basic infrastructure and equipment		

## 9.3. INFORMATION AND KNOWLEDGE

By Section D3 of Annex I, the Parties agree that the planning, protection and management of a SPAMI must be based on an adequate knowledge of the elements of the natural environment and of socio-economic and cultural factors that characterize each area. In case of shortcomings in basic knowledge, an area proposed for inclusion in the SPAMI List must have a programme for the collection on the unavailable data and information.

### 9.3.1. State of knowledge

a) Assess the general state of knowledge of the area

		2	
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- b) Briefly describe the extent of knowledge of the area, considering at least specific maps, main ecological processes, habitat distribution, inventories of species and socio-economic factors, such as artisan fishing.

The area is object of study by various research institutes till the '80s.  
In biologic and geologic expertise, biocoenotic and sedimentological maps about interesting species, about fishery fleet and geology of the area have been made yet.  
Anyway, the Sinis MPA wants to improve these studies and knowledges by a request to the Environment Ministry of increasing funding to the Annual Management Plan.  
Historic-cultural and social knowledge result rather exhaustive, by early studies.

### 9.3.2. Data collection

Describe and assess the adequacy of any programme and activities to collect data in the area.

IAMC-CNR research institute works on the 'Penisola del Sinis – Isola di Mal di Ventre' MPA with many methods (Visual census) and about many species (Fishes, sea urchins, molluscs, algal populations) from many years. University of Cagliari and Sassari took part at AFRODITE project from 2002 to 2003.  
Biophysical, socio-economic and governance data are collected after the indication of IUCN-WWF guidebook "How is your MPA Doing?" in order to assess MPA's management effectiveness.  
In agreement with the MPA, Research institutes and university are currently conducting studies to value the conservation status of the area

### 9.3.3. Monitoring programme

Section D8 in Annex I states that to be included in the SPAMI List, an area will have to be endowed with a monitoring programme having a certain number of significant parameters, in order to allow the assessment of the state and trends of the area, as well as the effectiveness and protection and management measures, so that they may be adapted if need be (indicators may, for instance, supply information about species status, condition of the ecosystem, land-use changes, extraction of natural resources -sand, water, game, fish-, visiting, adherence to the provisions of the management plan, etc.).

- a) Is there a monitoring programme?

<b>YES</b>	
------------	--

- b) If NO, are there plans to start one, and when?

- c) If YES, assess as low, medium, satisfactory, its adequacy and present level of development.

Satisfactory with a good level of development

- d) If YES, who is/are carrying out the monitoring programme?

'Penisola del Sinis - Mal di Ventre' MPA personnel is carrying out the monitoring programme supported by researcher of IAMC-CNR and other research institutes and university (University of Lecce).  
The results of the monitoring plan are functional for adopt management measures.

e) If YES, briefly describe how the monitoring programme will be used in reviewing the management plan.

In 2000 the IUCN-World Commission on Protected Areas-Marine (IUCN-WCPA-Marine) and the World Wide Fund for Nature (WWF) started the MPA Management Effectiveness Initiative (MEI). A major product of this initiative is the guidebook "How is your MPA Doing? A Guidebook of Natural and Social Indicators for Evaluating Marine Protected Area Management Effectiveness", edited in 2004.

The AMP has participated in the program of translation and adaptation to the Italian network.

During the program, four Italian pilots MPAs, with diverse management objectives and environments, were selected to field test the guidebook for the adaptation.

'Penisola del Sinis – Isola di Mal di Ventre' MPA is keeping up the program: following the "Marine Effectiveness Initiative", the following indicators have been selected to evaluate the management performance:

#### **Biophysical**

Goals: 1 - Marine resources sustained or protected; 2 - biological diversity protected; 3 - Individual species protected.

Indicators: B1 – Focal species abundance; B2 – Focal species population structure; B7 – Type; level and return on fishing effort; B8 – Water quality; B10 – Area under no or reduced human impact.

#### **Socio-economic**

Goals: 3 - Non-monetary benefits to society enhanced or maintained; 5 - Compatibility between management and local culture maximized; 6 - Environmental awareness and knowledge enhanced.

Indicators: S1- Local marine resource use patterns; S2 - Local values and beliefs about marine resources; S6 - Perceptions of non-market and non-use value; S13 – Stakeholder knowledge of natural history; S14 - Distribution of formal knowledge to community.

#### **Governance**

Goals: 1 – Effective management structures and strategies maintained; 4 – Management plan compliance by resources users enhanced; 5 - Resource use conflicts managed and reduced.

Indicators: G1 - Level of resource conflict; G2 – Existence of a decision-making and management body; G4 – Local understanding of MPA rules and regulations; G7 – Existence and application of scientific research and input; G17 – Coordination and integration with local plan; G16 - Degree of information dissemination to encourage stakeholder compliance.

### **10. Other information, if any**

## 11. CONTACT ADDRESSES

(name(s), position(s) and contact address(es) of the person(s) in charge with the proposal and that compiled the report)

Legal/ Registered headquarters:

c/o Municipality of Cabras Piazza Eleonora 1, 09072 Cabras (OR)

Operative headquarters:

Dr. Lorenzo Mascia - Director MPA

Dr. Giorgio Massaro, PhD collaborator expert in environmental science

Dr. Giuseppe Fenu, Ph.D. biologist

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Web site <http://www.iamc.cnr.it/IAMC> <http://iamc.objectis.net/>

## 12. SIGNATURE(S) ON BEHALF OF THE STATE(S) PARTY/PARTIES MAKING THE PROPOSAL

## 13. DATE

18 March 2011