

**ANNOTATED FORMAT FOR THE PRESENTATION
REPORTS FOR THE AREAS PROPOSED
FOR INCLUSION IN THE SPAMI LIST**

ILLES MEDES

SPAIN

1. AREA IDENTIFICATION**1.1. COUNTRY/COUNTRIES** (in the case of transboundary areas)

Spain

1.2. ADMINISTRATIVE PROVINCE OR REGION

Catalonia

1.3. NAME OF THE AREA

Illes Medes (Medes Islands), 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 small archipelago of the Medes Islands (Illes Medes), with a surface area of 21.5 hectares), is made up of seven small islands and a number of reefs situated scarcely a mile from the Catalan coast of Empordà and the Montgrí Massif, of which the islands are a geographical extension. It is an area of extraordinary biological and ecological value for its variety of sub-species and micro-environments that are of important scientific interest. Moreover, the great beauty of the Medes Islands is unique in Catalonia.

1.5. SURFACE OF THE AREA (total)

511 Has. (in national unit)

511 hectares

1.6. LENGTH OF THE MAIN COAST (Km)

4.86 kms (perimeter length of the islands)

2. EXECUTIVE SUMMARY (maximum 3 pages)**Illes Medes, marine reserve**

The small archipelago of the Medes Islands (Illes Medes), with a surface area of 21.5 hectares), is made up of seven small islands and a number of reefs situated scarcely a mile from the Catalan coast of Empordà and the Montgrí Massif, of which the islands are a geographical extension. It is an area of extraordinary biological and ecological value for its variety of sub-species and micro environments that are of important scientific interest. Moreover, the great beauty of the Medes Islands is unique in Catalonia.

While the vegetation of the islands and particularly the terrestrial fauna are in themselves highly worthy of study, it is the Mediterranean marine environment of the Medes Islands that gives rise to their exceptional scientific value. The adjacent coastline and the estuary of the River Ter, which provides a source of organic material; the influence of northerly winds and currents that contribute to deep-water circulation, which in turn provides organic nutrient enrichment of the environment (with material coming from as far away as the River Rhône); different depths of sea-water around the islands; contrasting sea-bed formations (of both rock and sand); and karst-type land formations, with numerous tunnels, cavities and caves, all contribute to the varied environmental conditions on and around the Medes Islands and the wide variety of species (1,345 different species of marine animal and plants have been catalogued) that live and reproduce there.

These rich natural resources have been exploited by fishermen, and in particular by coral divers, for many years. These activities became more intensive from the 18th century onwards and spread along the entire coastline to such a point that, when scuba diving became popular as a sport during the 1950s, the coral formations came under the threat of extinction. Protection regulations laid down by the Government of Catalonia in 1983 and 1985, which set up a no-fishing protection zone around the Medes Islands, were extended by Law 19/1990 on the conservation of marine flora and fauna. As a result of the enactment of this law, the Medes Islands now form the largest marine nature park in Catalonia and one of the most important in the whole of the Mediterranean area.

3. SITE DESCRIPTION

3.1. TYPOLOGY OF THE SITE

3.1.1. Terrestrial surface, excluding wetlands (ha):		21.5 hectares
3.1.2. Wetland surface (ha):		0
3.1.3. Marine surface (Sq. Km):	Marine internal waters	0
	Territorial sea	511 hectares
	High sea	0

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 Medes Islands have been formed by the geological overlapping of the calcareous Montgrí Massif that extends into the sea. The lower strata reveal the same stratigraphic systems (Triassic, Jurassic and early Cretaceous periods), overlapped by the Tertiary period (a stratigraphy that is characteristic of the Baix Empordà region). Another distinguishing characteristic of the Medes Islands is the presence of a late Cretaceous stratum in the Montgrí geomorphology that has only recently been identified. There are also a number of faults that run north-west/south-east along the trend of the massif, which have give rise to different geological blocks, known as the islands of Meda Gran and Meda Petit.

The island of Meda Gran is markedly asymmetric in geological terms; the eastern side, made up of calcareous terrain formed by massive calcification, drops sheer into the sea, while the less durable material on the western side (clay, gypsum, loam) has given rise to the formation of more gentle slopes and also made the island accessible from the town of Estartit. It has two small beaches, one of which has a jetty that extends from an inlet and allows for fairly easy disembarking. The geological faults mentioned above are what give the entire coast its particular outline, with various steep valleys forming river courses and a large number of both open and concealed caves above and below sea level on the eastern side. There are also many reefs and rocks surrounding the island of Meda Gran.

The island of Meda Petita, which is separated from Meda Gran by the Freuetó channel, is similar in characteristics to Meda Gran, with gentle slopes and the Portitxol landing stage on the west side, and sheer cliffs and fissures on the east. It also has a large number of tunnels and caves that cross the island from one side to the other.

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

The Medes Islands and the Montgri Massif once formed part of a massif that was situated a long way from the sea, and water erosion formed underground tunnels and galleries that exist today in the form of underwater caves. These caves, which enhance the attractiveness of the underwater landscape of the islands, are interesting in that the lack of light prevents plant life from growing inside the caves. As one penetrates further into them, the sea fauna becomes increasingly scarcer until, at the end of the caves, the rock walls are practically devoid of all forms of life. On the other hand, a rich variety of fauna inhabits the walls of the underwater tunnels, due to the water-currents that flow through them.

The cave floors are inhabited by cotton spinners (*Holothuria tubulosa*), brown brittlestars or ophioderma (*Ophioderma longicaudum*), common brittlestars (*Ophiotrix fragilis*), and crabs such as the sponge crab (*Dromia personata*), as well as a large number of crustaceans, such as spiny lobster (*Palinurus elephas*), black squat lobster (*Galathea strigosa*) and broad lobster (*Scyllarus arctus*) that hide beneath rocks and boulders. The most outstanding species is the small red prawn (*Hemimysis speluncola*) that forms dense colonies in darker areas of the caves and which are preyed upon by a variety of other crustaceans, such as the common prawn (*Palaemon serratus*) and fish such as the blunt-headed holy fish (*Anthias anthias*), cardinal fish (*Apogon imberbis*), and leopard-spotted gobi (*Thorogobius ephippiatus*). The caves also serve as a hiding place for nocturnal fish such as the conger eel (*Conger conger*) and the forkbeard (*Phycis phycis*) which, together with brown meagre (*Sciaena umbra*), are the large predators. There are still a number of rare species to be found in the caves, such as the deep water Stenopus shrimp (*Stenopus spinosus*) and spider crab (*Herbstia condyliata*).

Although seasonal changes are barely perceptible in the caves, interesting variations in activity do occur between day and night. At night-time, schools of common prawns, bluemouth rockfish (*Helicolenus dactylopterus*) and conger eels come out of their lairs to feed, and the brown brittlestar that hides in sponges during the day actively moves around.

2.3.1. 3.2.3. LENGTH OF BEACHES (IN KM), INCLUDING ISLANDS:

a) Length of sandy beaches:

b) Length of pebble or stony beaches:

c) Length, height and depth of active sand-dunes:

3.3. FRESHWATER INPUTS

3.3.1. Mean annual precipitation (in mm)

3.3.2. Main water courses (permanent and seasonal)

3.3.3. Estuarine areas: Existence and brief description

Not applicable to the proposed area

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

Not applicable to the proposed area

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 Lithophyllum tortuosum Cornice

A cornice of calcified algae (*Lithophyllum Tortuosum*), situated at sea level in the wave-break area, comprises around 75% of the perimeter of the Medes Islands. The algae, which are made up of small nodules that form banks and clusters that project outwards, grow fairly rapidly (3-4 kg/m²), compared to other organisms on the cornice. They have a life span of less than a year and are strongly affected by seasonal changes. The appearance of the algae changes markedly from fresh, moist and red in winter to burnt white in summer (due to the sun and desiccation).

A great abundance of algae thrives in the nooks and crannies on the seabed, such as coralline (*Corallina elongata*) and sea cabbage (*Ulva rigida*), as well as a variety of marine creatures such as red anemones (*Actinia equina*), turban-shell (*Monodonta turbinata*), mussel (*Mytilus galloprovincialis*), Patellidae (*Patella aspera*), Placophora (*Acanthonchiton fascicularis*), runner crab (*Pachygrapsus marmoratus*), brown crab (*Eriphia spinifrons*), and yellow-cheeked blenny (*Blennius caneuae*). Tunnels and cavities inside the cornice are also home to over fifty different species of sea slugs, marine creatures and perforating molluscs.

Gulls, white bream (*Diplodus sargus*), gilt-head bream (*Sparus aurata*), which is capable of breaking the hard shells off the apparently immobile Patellidae and turban-shell are but a few of the many different species that hunt for food in this abundant environment. Life on the cornice undergoes marked changes in environmental conditions (humidity, temperature and light) and only organisms that adhere strongly can survive the force of the waves and swell.

Light-intensive Algae

The rocky, shallow and sunlight-intensive waters are characterised by a dense cover of over 100 different species of algae of arborescent fronds and assorted red, green and ochre colours. This well-illuminated strip lies at a depth of 5-6m on the north - north-eastern side of the islands, where the slopes are steeper and the period of sunlight is shorter, and at a depth of up to 15m on the south, south-western, and western sides where the slopes are less steep and there are longer periods of sunlight. In areas where wave action is more frequent, brown algae (*Cystoseira mediterranea*) proliferates, together with an abundance of red algae. In areas that are more sheltered, white cuneiform or fan-shaped algae (*Padina pavonica*) and the small umbrellas of Mermaid's cup, thrive, along with other common algae. The appearance of the algae changes over the seasons, and both algae and marine animals undergo their most profound reproductive changes during the spring and summer months when there is more sunlight.

Red and yellow sponges (*Hymeniacidon sanguinea* and *Verongia aerophoba*) also proliferate in this dense mantle of marine plant life, as well as hydra water polyps (*Aglaophenia* and *Sertularella ellis*), sea creatures and slugs, and ascidia, such as the bag-like ascidium (*Clavellina lepadiformis*), which attaches itself to algae. Oysters (*Ostrea edulis* and *Spondylus gaederopus*) and mussels (*Mytilus galloprovincialis*) attach themselves to rocks. Little sea-urchins and black sea-urchins (*Paracentrotus lividus* and *Arbacia lixula*) and starfish (*Asterias rubens*) also make their home here, and move around in their typically slow way.

Despite the repellent solutions they give off, algae are eaten by sea-urchins, sea hares (*Aplysia*), common grey mullet (*Mugil cephalus*), salemas (*Sarpa salpa*), sheeps-head bream (*Diplodus puntazzi*) and by a large number of sea-worms, snails and crustaceans that also attract smaller fish such as blennies, gobies, gapers and wrasses. One can also come across octopuses, crabs and larger-size fish, such as white bream (*Diplodus sargus*), mackerel, gilt-head bream, etc., as well as hunter fish like the bass that feed on the shoals of pelagic fish (anchovies, silversides, transparent gobies and bogues) that stay close to the rocks and reefs.

Penumbra Algae

Below a depth of 10 -15m, the underwater landscape becomes immersed in darkness, which predetermines the type of algae to be found there. Well adapted to the absence of light, narrow strips of algae cover almost all the seabed, with one or two species of green and red algae tend to prevail. The *Halimeda* tuna genus and *Udotea petiolata*, together with other types of slightly calcified red algae, such as the *Peyssonelia* genus, grow on sloping rock surfaces, while green algae (*Codium vermilara*) grow on sandy stretches.

This transitional strip of the Medes Islands is made up of fallen rocks and boulders that have been wrought loose by erosion. A wide variety of colonies of marine fauna live under these rocks, scattered amongst algae and sponges with vivid colours or a dark, down-like appearance. Colourful coelenterata, such as sea-fingers or Mediterranean alcyon (*Alcyonium acaule*), bryozoa such as false coral (*Myriapora truncata*), and ascidia (red ascidium, *Halocynthia papillosa*) and sea-squirts (*Microcosmus sabatien*) proliferate, as well as marine animals, sea-snails and scallops.

A variety of crustaceans, such as spiny lobster (*Palinurus elephas*), black squat lobster (*Galathea strigosa*) and broad lobster (*Scyllarus arctus*) inhabit the nooks and sheltered spots, as well as a variety of territorial fish, including gaper (*Serranus cabrilla*), wrasse (*Symphodus ocellatus*, *S. mediterraneus*, *S. scina*), scorpion fish or hog fish (*Scorpaena porcus*), and hunter species such as conger (*Conger conger*), corb or brown meagre (*Sciaena umbra*) and red grouper (*Epinephelus guaza*).

The underwater landscape here changes little throughout the year, although the small organisms that live on the algae undergo marked seasonal changes; the calcareous green algae (*Halimeda tuna* and *Udotea petiolata*), for example, takes on a downy appearance in spring, turns whitish in autumn, and then a clear green in winter.

Neptune grass

Neptune grass (*Posidonia oceanica*) grows in sand-covered stretches of the seabed on the mainland side of the Medes Islands, where it is somewhat protected from the action of waves. Although Neptune grass is popularly known as an alga, this is misleading, due to the fact that *Posidonia* is one of the few types of phanerogamous plants that blooms, has roots and grows on the seabed. The plant has luxuriant leaves, about 1 cm in breadth and up to 1m in length, which provide shelter and refuge for a large number of marine animals that hide behind the leaves, along with many other types of small algae and animals that encrust themselves onto the leaves.

Neptune grass has a high cellulose content and is consequently eaten by very few species. Little sea urchins (*Paracentrotus lividus*), violet sea urchins (*Sphaerechinus granularis*) and salemas (*Sarpa sarpa*) are amongst the few that do so. However, the sediment that accumulates in the Neptune grass is much richer in organic material and nutritious salts than the sandy stretches, and thus attracts a large number of species in suspension such as feather stars, ascidia, sponges, hydra, sea-worms, marine animals etc., which in turn are prey for carnivorous species (crab, fish, octopus, starfish, etc.).

Every autumn the Neptune grass sheds its leaves, which are pulled off by the action of storms and currents, and new leaves grow out of the rhizomes again, turning green and more resilient as spring advances. As they grow, small organisms encrust themselves on them again, until, at the beginning of autumn the leaves, weighed down by the incrustations, turn white.

The Coralligenous Seabed

Below a depth of 20m, a marine environment exists that is unique to the Mediterranean, and which is exemplified here in the Medes Islands. This submerged landscape is known as the coralligenous seabed as coral frequently occurs in the half-dark underwater caves that are typical of this area, and researchers in the past believed that this was the setting where red coral (*Corallium rubrum*) propagated.

The seabed here consists of literally miniature reefs of calcareous, laminate algae (*Mesophyllum lichenoides* and *Lithophyllum eszpansum*), and in the gaps and spaces of the tile-like, cuneiform shapes, a variety of hard-shelled marine animals, such as coral, molluscs, sea-worms, sea-lice, bryozoa etc, proliferate and form incrustations. This complex structural formation is criss-crossed with narrow tunnels and cavities where numerous microclimates occur and where one can find just about every organism that lives on the seabed of the Mediterranean.

In raised areas and along the sides, where the effect of currents is felt, white gorgonias (*Eunicella singularis*), blue gorgonias, yellow sea whips (*Eunicella cavellinii*) and red gorgonias (*Paramuricea clavata*) often form what are quite literally miniature forests. The "undergrowth" of these "forests" is inhabited by up to 600 different marine animal species, such as sponges, sea anemone, coral, bryozoa, echinoderms, ascidians, together with a wide variety of fish. The inside of the tunnels, cracks and crevices are inhabited by different deepwater species, such as red coral, sponges and anthozoa *Leptopsammia pruvoti*. They usually accumulate in crevices with sediment deposits and sand-covered stretches, and in turn provide life for other sand-dwelling species such as bonellias, cotton spinners and brown brittlestars.

The coralligenous seabed, which has hardly changed over the years, does nevertheless undergo seasonal changes that affect the smaller species living in the growths and incrustations that cover the larger species.

The Detrital Seabed

Rocks and rock detritus have accumulated on the flat, coarse sand-covered seabed surrounding the Medes Islands. Here, the underwater landscape is impoverished as a result of the very limited amount of light that filters down to the algae, which is mostly comprised of the cystocercus genus and some examples of large red algae. Sedimentation is an impediment for the filtering incrustation species (small bryozoa, sea-worms, ascidia) that, nevertheless, are numerous on the sides of rocks and rocky outcrops.

Olive gorgonias (*Lophogorgia sarmentosa*) and a variety of erect marine animals, such as sponges of the *Ircinia* genus, filigraninae sea-worms (*Filigrana implex*), bryozoa (*Pentapora fascilis*) and white sea-squirts (*Phallusia marmillata*) are typical species that are found at these depths. Some sediment-eating marine animals, such as cotton spinners (*Holothuria forskali*), sea cucumbers (*Stichopus regalis*), brown brittlestars (*Ophioderma longicaudum*) and bonellias (*Bonellia viridis*) live level with the seabed. There are also a number of cylinder-anemones (*Cerianthus membranaceus*), large sea-snails such as the trumpet shell, or Triton's horn (*Charonia lampas*), great hermit crabs (*Dardanus arrosor*), associated with the sea anemone (*Cailliaactis parasitica*), yellow-red sea urchins (*Echinus acutus*) and other species that inhabit this area of the seabed. The most common fish found here are the small spotted dogfish (*Scyliorhinus canicula*), anglerfish (*Lophius piscatorius*), rake fish (*Raja clavata*) and the marbled fish (*Torpedo marmorata*).

At these great depths, life is relatively stable, with little change throughout the year; there are no important temperature changes, and the weather does not have a direct or significant effect on the environment.

In the waters surrounding the Medes Islands, there is also a fascinating world of life in suspension with millions of micro-organisms that cannot generally be seen with the naked eye. The smallest organisms comprising this life-form are bacteria and ciliates; slightly larger ones include chlorophyllous diatomic and dinoflagellate algae, which comprise phytoplankton and, like continuously moving sea-lice, copepods, with amphipods, echinoderms, crustaceans, sea-worm larvae and saggitae making up most of the zooplankton.

Abundant quantities of gelatinous plankton collect in the area when the currents are favourable, including Siphonophora, micro-jellyfish, ctenophora and saupe (*Salpa maxima* and *Thalia democratica*). Besides the pink jellyfish (*Pelagia noctiluca*), larger jellyfish are not commonly found in the area.

Most marine organisms in this environment have a life span of no more than several days, weeks or months. The seasonal changes are quite marked with a maximum density of plankton in spring and autumn, when the oceanic conditions allow for maximum algae breeding.

Great shoals of whitebait (sprats or silverside, *Atherina hepsetus*), and anchovies (*Engraulis encrasicolus*), bogues (*Boops boops*), pilchard sardines (*Sardina pilchardus*) and saddled bream (*Oblada melanura*) are found close to the rocks where the currents are strongest. These small fish serve as food for the larger predators that come to the island to hunt; these include bass (*Dicentrarchus Labrax*), amberjack (*Seriola dumerilii*), barracuda (*Sphyraena sphyraena*) and Atlantic bonito (*Sarda sarda*)

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:

- its relative abundance as Common (C), Uncommon (U) or Occasional (O),
- Its global status as rare (r), endemic (e) and/or threatened (t), and
- 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 (C) (U) (O)	Global STATUS (r) (e) (t)	Local STATUS (r) (B) (F) (W) (M)
Marine plants			
<i>Posidonia oceanica</i>	(C)	(t)	(r)
<i>Cystoseira mediterranea</i>			
Birds			
<i>Phalacrocorax aristótelis</i>	(C)	(t)	(r)
Cnidaria			
<i>Corallium rubrum</i>	(C)	(t)	(r)

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

Terrestrial plant-life on the Medes Islands is greatly affected by the harsh conditions that they are exposed to; plants are constantly blown about and buffeted by the winds, salt adheres to their leaves and covers the ground, which in itself is calcareous and allows rainwater to filter away fairly easily. Consequently, vegetation on the islands is mainly formed of halophyte (adapted to saline conditions) and xerophyte species (adapted to dry conditions), and there is an absence of dense tree coverage. Salt-adapted plants include daucus carota (*Daucus gíngidium*), sea fennel (*Chritmum màritimum*) and sea lavender (*Limonium minutum*).

One important determining factor, however, is the excreta deposited by seagulls that colonise the islands. This acts as a rich organic fertiliser that, over recent years, has become an important ecological element in the Islands, particularly for plants adapted to hydrogen-rich soils, such as tree mallow (*Lavatera arborea*), thistle (*Carduus tenuiflorus*) and sea orache (*Atriplex halimus*).

Lastly, the presence of human beings in the Medes Islands throughout history has resulted in many exotic species being introduced to the islands, including Oponia ficus (*Oponia ficus-indica*), the carob or locust tree (*Ceratonia siliqua*), grape (*Vitis vinifera*) and fig-marigold (*Carpobrotus edulis*).

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

The narrow stretch of sea between the Medes and the mainland has been an effective barrier in preventing most wingless species from colonising the islands. At the present time, there are only three species of reptile to be found there; the Moorish gecko (*Tarentola mauritanica*), the Spanish wall lizard (*Podarcis hispanica*), and the large psammadromus (*Psammadromus algirus*). Three species of mammal are found, all of which have, to a large extent, been unintentionally introduced by man; rabbit (*Oryctolagus cuniculus*), the European white-toothed shrew (*Crocidura russula*) and the house mouse (*Mus musculus*).

Species of birds on the other hand proliferate on the islands in large numbers. 146 different species of insect and over 60 different species of bird (particularly sea birds) have been recorded and catalogued on the islands. Amongst the birds that winter here is the cormorant (*Phalacrocorax carbo*), which migrates from Norway and Scotland in November and stays until the end of March. The European shag (*Phalacrocorax aristotelis*), with its more slender, hooked beak, inhabits the islands all year round and nests and breeds there as well. The Islands' craggy heights are home for the Alpine swift (*Apus melba*), with its constant flying and screeching, and the jackdaw (*Corvus monedula*).

Goldfinch (*Carduelis cannabina*), blue rock thrush (*Monticola solitarius*), hoopoe (*Upupa epops*), the occasional barn owl (*Tyto alba*), kestrel (*Falco tinnunculus*) and peregrine falcon (*Falco peregrinus*) can also be observed on the islands. Grey heron (*Ardea cinerea*), little egret (*Egretta garzetta*) and night heron (*Nycticorax nycticorax*) are often seen as well, their silhouette outlined on higher ridges. After fishing the marshland areas of the River Ter floodplain, these birds return to their nests on the Medes Islands in search of tranquility.

The most spectacular bird colony is that of the yellow-legged gull (*Larus cachinnans*), which until very recently was considered to be a mere common variety of the herring gull (*Larus argentatus*). Numbering over 8,000 pairs, it occupies almost all of the surface area of the islands, with the breeding season extending from March through to May. Gulls thrive well here due to their ability to exploit all different types of food resource and they have formed one of the largest colonies of this type of species in the Mediterranean. Every morning, a large number of gulls fly from the Medes Islands and follow the course of the River Ter on the Empordà plain in search of grubs, worms, insects, mice, etc. on farmland, and bones and leftovers of meat and fish on rubbish dumps.

The gulls that gather on the Medes Islands during the breeding season become very territorial and aggressive. They have a complicated system of cries and postures whereby they threaten and give warning as they go through their mating rituals. Egg-laying begins about halfway through March, with each female laying between two to three eggs. The chicks hatch towards the end of April, and take about five weeks to fly. During the rest of the year, most gulls live on the beaches and along the rivers.

3.5. HUMAN POPULATION AND USE OF NATURAL RESOURCES

3.5.1 Human population

a) Inhabitants inside the area:

	Number	Date of data
Permanent	0	
Seasonal number (additional to permanent)	0	2001

3.4.1.1.1 Description of the population

The population is located outside of the protected area. On the boundary of the protected area, there is a permanent population of 7,726 that increases to 270,000 during the summer.

3.4.1.1.2 Main human settlements and their populations

L'Estartit	1,824
Torroella de Montgrí	5,902

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.

Agriculture	9.82%
Tourism	41.59%
Industry	38.59%
Traditional fishing	0,5%

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		
FISHING				
Subsistence Commercial, local Commercial, non-local	1 0	1	7	Annual
Controlled recreational Un-controlled recreational Other	0	2		Summer
TOURISM				
Regulated Unregulated Indicate the type of tourism -..... -..... . .	3	3		Annual
Tourism facilities	3	0		
FOREST PRODUCTS				
Subsistence Non-timber commercial, local Non-timber commercial, non-local Timber commercial, local Timber commercial, non-local				
Agriculture Stockbreeding Aquaculture				
EXTENSIVE STOCK GRAZING				
Subsistence Commercial, local Commercial, non-local				
OTHER ACTIVITIES				
- -				

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.

Traditional forms of fishing carried out by local boats are permitted and controlled in the protected area, whereas fishing is not permitted in the highly protected area.

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 parag. 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).

1170. Rocky seabed and sublittoral biogenic concretions
 1120. Posidonia meadows
 8330. Submerged or semi-submerged sea caves
 8310. Mediterranean cliff coastline colonised by vegetation, with *Limonium spp.*

Numbering in accordance with the European Habitats Directive 92/43/EEC.

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.

There is a very high level of biodiversity in the Medes Islands and the seabed is host to various species included in annex II of the Protocol, including *Posidonia oceanica*. Detailed information will be presented shortly.

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

Due to the great biodiversity, it is an ideal place to come into contact with, and observe, the Mediterranean seabed.

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.

A large number of scientific studies have, and continue to be, undertaken in the protected area of the Medes Islands. Study series of up to 10 years exist for certain species.

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

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

The large number of taxons identified bestow it with a great diversity. Added to the high degree of conservation and the beauty of the landscape in the area, the islands make up one of the best reserves in the Mediterranean.

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.

At the present time, traditional forms of professional fishing are regulated in the protected area and prohibited in the highly protected area.

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 extraction of the natural resources is regulated in the protected area and totally prohibited in the highly protected area.

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.

Although there is a limited number of daily diving allowed, the number of scubadivers is very high.

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.

In spite of the heavy pressure of tourism, on-going developments involving the natural heritage are positive, as a result of existing legal safeguards. Scientific monitoring shows that conservation and developments are favourable.

5.1.4. Historic and current conflicts

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

Maintaining the balance between tourism activities (yachting, underwater activities, etc.) and conservation of the natural heritage.

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.

This does not represent a serious problem.

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.

The difficulty of controlling the different forms of use permitted in the area and access by fishing activities, because of difficulty of permanent guarding.

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?

Four-year plans regulates the different activities (majority are tourist activities) done at the zone.

Temporary plans allow getting a well-maintained development.

6. EXPECTED DEVELOPMENT AND TRENDS¹

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 zones; 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

Legal safeguards existing makes possible to limit the activities it depending on the daily observations and going get a well-maintained development.

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.

The conflicts in the area are caused by the economic development that there is around the reserve.

¹ 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.

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

Under study

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

Under study

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 wealth of resources in this area has been exploited for many years by fishermen and especially by coral divers, who, from the 18th century onwards, intensified their activities to such an extent that, unfortunately, coral growing around the Medes Islands was endangered, particularly from the 1950s onwards when scuba diving was introduced. Protection safeguards laid down by the Government of Catalonia in 1983 and 1985, which set up an area around the islands where fishing was prohibited, were extended by Law 19/1990 on the conservation of flora and fauna on the seabed. As a result of the enactment of this law, the Medes Islands now form the largest marine nature park in Catalonia and one of the most important in the whole of the Mediterranean area.

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.

Order dated 25 November 1983 (DARP), prohibiting fishing and the extraction of live marine resources in the Medes Islands. (DOGC 391, 21-12-83)

Law 19/90 of 10 December 1990, on the conservation of flora and fauna in the Medes Islands. (DOGC 1381, 17-12-90)

With Decree 215/1999 of 27 July, the general regulations governing the Plan for the conservation of the protected areas of the Medes Islands during the period 1999 to 2002 were adopted.

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 objective is to establish a specific basis for conserving and protecting the flora and fauna in the marine environment of the Medes Islands and their surroundings, and to avoid the destruction, deterioration or disfigurement of the islands' natural habitat.

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).

The protection of the Medes Islands does not come under any international treaty.

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).

Not applicable to the proposed 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 zone, Biosphere Reserve, Ramsar Site, World Heritage Site, European Diploma, Natura 2000, Emerald network, etc.).

Natura 2000

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

Law 19/1990, passed by the Catalan Parliament, on the conservation of the marine flora and fauna on the seabed of the Medes Islands, establishes two protection levels:

- The protected area
- The highly protected area

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.

In the protected zone

The following are prohibited:

- All types of professional fishing, except for trawling and seine fishing from registered boats
- The introduction of non-native species
- Littering and rubbish disposal
- Underwater fishing
- Aquaculture (fish farming) installations
- Fishing with more than one rod

The following are permitted:

- Game fishing/angling with just one rod
- Diving
- Sailing

In the highly protected zone

The following are prohibited:

- All kinds of fishing
- Dropping anchor
- The use of torches
- The removal of marine resources
- Handling and touching animals or plants

The following are permitted:

- Diving with a permit
- Mooring in pre-established places.
- Sailing up to a speed of 3 knots
- Mooring only between sunrise and sunset.

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 zone 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.

Law 19/1990 establishes the competency of the Government of Catalonia in matters concerning management of the protected area of the Medes Islands.

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.

With Decree 215/1999 of 27 July, the general regulations governing the Plan for the conservation of the protected areas of the Medes Islands during the period 1999 to 2002 were adopted.

This decree regulates the different forms of use of the area during this period.

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

Government of Catalonia (Generalitat de Catalunya). Department of the Environment. Directorate-General of Natural Heritage and the Physical Environment. Parks and Natural Areas Service

8.1.2. Other participants in the management body

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

Advisory Committee, with representatives from the following bodies:

- Dept. of the Environment
- Dept. of Industry, Commerce and Tourism
- Dept. of Culture
- Dept. of Territorial Policy and Public Works
- Girona Provincial Council
- Directorate General of Sport
- Catalan Federation of underwater activities
- Catalan Federation of game fishing
- Territorial Federation Guild of Fishermen, Girona
- Montgrí Protection Defence Group
- Institute of Catalan Studies
- Personalitat Medes Defence Group
- Torroella de Montgrío Municipal Council
- Spanish Navy
- Diving centres, Estartit
- Estartit Sailing Club
- Estartit Fishermen's Guild
- Baix Empordà County Council
- Inter-university Council of Catalonia
- Coastal cruise firms serving the Medes Islands area

8.1.3. Such as 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.

Not applicable to the proposed area.

8.1.4. 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:
- b) Quality of involvement by the public, local communities, economic sectors, scientific community:

- a) Co-ordination through the Plan governing use and management (Decree 215/1999)
- b) Wide-ranging identification of all the social sectors.

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).

Four-year plans. Decree 215/1999 currently in force.

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 Plan was drawn up by a team of experts, with consultation and the participation of the Governing Board, and with representatives from all the sectors involved.

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

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 highly protected area is delimited and marked by a system of marine signalling.

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.

Those that are represented on the Governing Board.

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

Work is being done to provide more effective protection for this area with more human and material resources.

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.

At the present time, the proposal to modify the control regulations is at the stage of being under consideration.

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 intention is to increase the number of personnel.

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		
Field Experts (scientific monitoring)	YES		
Field Technicians (maintenance, etc)	YES		
Wardens	YES		
Of which marine wardens	NO		
Guides	NO		
Other	YES		

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.

Academic organisations and volunteers to clean the seabed.

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 zones (Art.7.2.d), and the development of an appropriate infrastructure (Art.7.2.f). The General Principles parag. "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.

Financing comes from Department of the Environment of the Government of Catalonia and Supramunicipal Administration Authorities. It is also self-financing as a result of concessions for diving and other activities.

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.

There are none.

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		3
Guard posts on the main accesses	YES	2	
Visitors information centre	YES		3
Self guided trails with signs			
Terrestrial vehicles	YES	2	
Marine vehicles	YES	2	
Radio and communications	YES	2	
Environmental awareness materials	YES	2	
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.

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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 was protected just over 10 years ago, its wealth of natural resources has been made widely known and it is now well-known by the population.

9.3.2. Data collection

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

A data collection survey is being carried out .

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?

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

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

Adequate

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

University of Barcelona.

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

10. Other information, if any

Human presence in the Medes Islands goes back to the period of the Greek colonisation of Roses, and amphorae, hand mill-stones, fragments of pottery, and lead and stone anchor stocks and slate (found between Roses and Cadaqués) have been found in the surrounding area. The gypsum quarry, after which the NW point of Meda Gran is named, was probably already being exploited then. The clay and glass lachrymatory vessels and human bones also found on Meda Gran are the basis of the hypothesis that the island was used as a necropolis.

The strategic situation of the islands adjacent to the coast, which made swift attack and a safe retreat easier, was the reason why during the Middle Ages they became the refuge of pirates, who harassed not only farms and villages along the coast but also maritime commerce, especially that going to and from Barcelona. Martín I the Humane planned a defensive tower and the setting up of a monastery for the knights of the Holy Sepulchre, although the highly expensive work of fortification was not completed until many years later and the knights abandoned the island. The protection of the islands passed through different hands, and the Genoese torched buildings and the chapel of Sant Miquel in an attack in 1442. The group of buildings, which were situated on the western point of Meda Gran, disappeared in 1552 as a result of a subsidence.

During the war-time conflicts at the end of the 18th century, the Medes Islands became somewhat important again when the French built a fort there in 1794, during the war against the French Revolution. They were captured by the English and were also used as a military prison, and then in the Napoleonic Wars, they were again occupied by the French. It remained a garrison until 1890, although it became increasingly smaller. The lighthouse built in 1866 during the reign of Isabella II still exists, although in a state of disrepair due to the passing of time; its characteristic silhouette towers over the dwelling of former lighthouse-keepers, and there are scattered remains of old military batteries and constructions. A new automatic beacon was built in 1930, which now runs on solar power. The island of Meda Gran was finally abandoned by man once and for all in 1932. Nature has once again regained total control of the islands, the terrestrial part of which has become an ornithological paradise.

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)

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

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Departament de Medi Ambient
Generalitat de Catalunya

Inés González Doncel
Directora General de Conservación de la
Naturaleza
Ministerio de Medio Ambiente

13. DATE

Barcelona, 30 October 2001