

Date of endorsement by the SCMEE

**STANDARD FORMAT FOR THE SUBMISSION OF PROPOSALS FOR GFCM
FISHERIES RESTRICTED AREAS (FRA) IN THE MEDITERRANEAN**

Name of the FRA:

Seamounts of the Mallorca Channel, Balearic Islands.

Submitted by (Institution, Scientists, GFCM Members...):



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1 EXECUTIVE SUMMARY (maximum 500 words)

Supply a summary of the information contained in sections 2 to 8, including the expected results.

Oceana is presenting the proposal for a new Fisheries Restricted Area (FRA) covering the main seamounts of the Mallorca Channel (Balearic Islands): Emile Baudot, Ausias March and Ses Olives (>800, 300 and 500-600 meters high respectively). Oceana has studied these seamounts since 2006 with the use of an ROV (Remotely Operated Vehicle), and we have identified more than 200 taxa, 25 of which have been listed by various international conventions and national and international laws, and up to 25 habitats classified according to the EUNIS code. Moreover, at least twelve identified species are listed as priority species by the General Fisheries Commission for the Mediterranean (GFCM), including *Eledone cirrhosa*, *Lophius piscatorius*, *Merlangius merlangus*, *Merluccius merluccius*, *Mullus barbatus*, *Mullus surmuletus*, *Nephrops norvegicus*, *Octopus vulgaris*, *Palinurus mauritanicus*, *Palinurus elephas*, *Scomber scombrus* and *Trachurus trachurus*. New information collected during the summer of 2010 is being analysed by Oceana, and new discoveries include, among others, a vast field of cnidarian *Isidella elongata* in apparently healthy condition.

The unique topographic and hydrographic conditions of the Balearic Promontory, factor greatly in the concentration of both demersal and pelagic commercial species in the area. The Mallorca Channel is also very important to high priced commercial species, especially crustaceans, demersal fish and large pelagics.

Little is known on the true extent of fishing activity in the seamounts area, though numerous oceanographic expeditions carried out under the TUNIBAL project have described the importance of the area for the reproduction of tuna and tuna related species, as these areas are known spawning grounds for these species. Additionally, recreational fishing competitions for large pelagic species are known to take place over the Emile Baudot seamount, trawlers often fish for *Plesionika* spp. on Ses Olives, and VMS data is available on bottom trawling fleet fishing for red shrimp (*Aristeus antennatus*) on the slopes of Ausias March. Oceana has also documented a lot of discarded fishing gear, especially fishing line and nets, as well as different types of garbage on the three seamounts and in their surrounding areas. A new FRA encompassing these seamounts would enable the establishment of a proper management plan for fisheries in the area that would promote the preservation of important marine resources and communities, and benefit recreational, artisanal and commercial fisheries in the Balearic area.

2 AREA IDENTIFICATION

2.1 GFCM GEOGRAPHICAL SUBAREA

http://www.icm.csic.es/rec/projectes/scsa/SAC_Geographical_SubAreas_2007.pdf

GSA5 Balearic Islands

2.2 NAME OF THE FRA

Seamounts of the Mallorca Channel, Balearic Islands.

2.3 GEOGRAPHIC LOCATION

2.3.1 General location

Mallorca Channel, Balearic Islands, NW Mediterranean Sea.

2.3.2. Precise location of the proposed core area: provide geographical coordinates (latitude and longitude in degrees, minutes and seconds) for the vertex of a polygonal area.

The proposed area in two subareas:

Subarea 1. Ausias March and Ses Olives

38°39'12"N 1°47'58"E

38°46'44"N 1°37'41"E

39°04'57"N 1°59'03"E

38°57'23"N 2°09'49"E

Subarea 2. Emile Baudot:

38°26'26"N 2°18'51"E

38°57'13"N 2°21'54"E

38°55'52"N 2°47'56"E

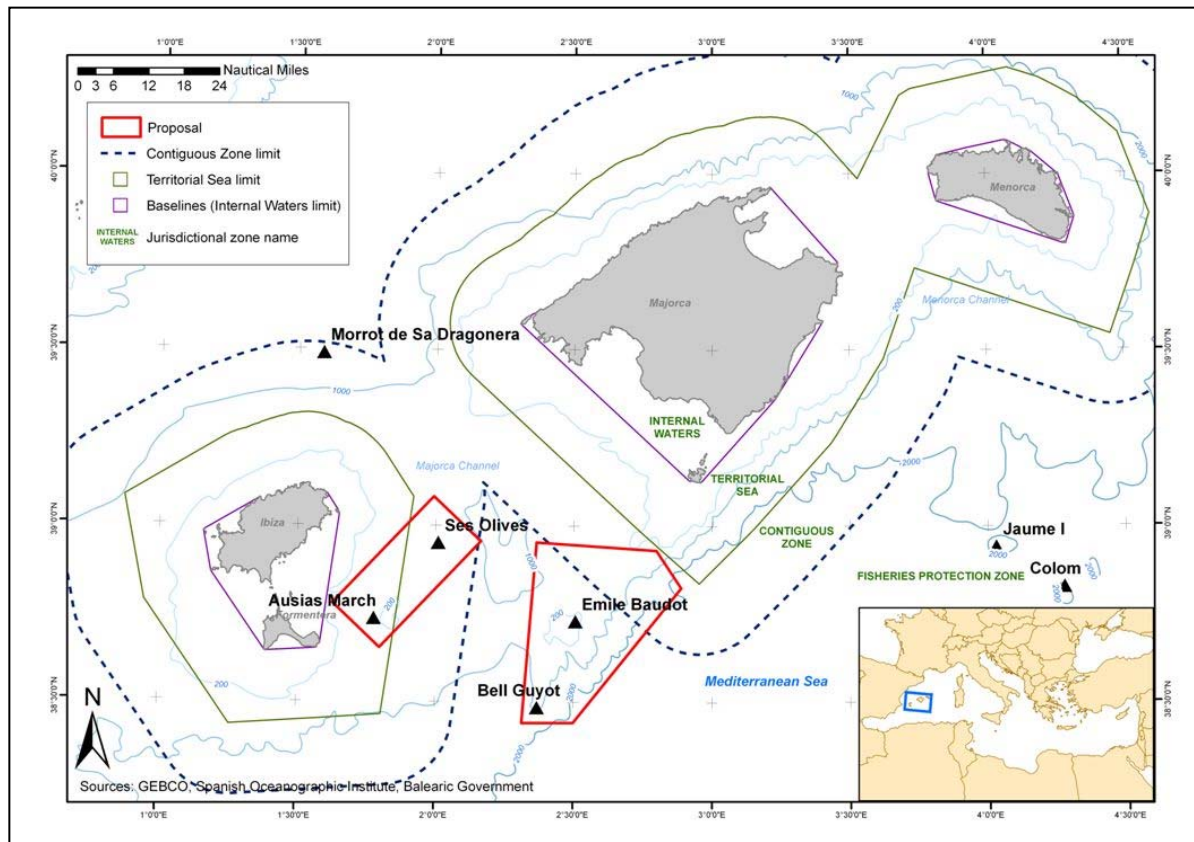
38°49'29"N 2°53'20"E

38°26'29"N 2°29'56"E

2.3.3. Buffer area (if applicable); provide geographical coordinates (latitude and longitude in degrees, minutes and seconds) for the vertex of a polygonal area.

Not applicable

2.3.4. Location Map: include geographical coordinates of the core and buffer areas, bathymetry, and the boundary of international waters. Add a global reference map of the Mediterranean with the location of the site.



2.3.5. Depth range (in m; specify core and buffer area, if applicable)

Subarea 1. Ausias March and Ses Olives: - 90 m to -1000
 Subarea 2. Emile Baudot: - 80 m to 2750 m
 Total depth range: - 80 m to 2750m

2.4 SURFACE AREA (in ha and km²; specify core and buffer area, if applicable)

Subarea 1. Ausias March and Ses Olives: 187900 ha, 1879 km².
 Subarea 2. Emile Baudot: 94200 ha, 942 km².
 Total surface area: 282000 ha, 2820 km²

3 SITE DESCRIPTION

3.1 MAIN PHYSICAL FEATURES

3.1.1. Geology/Geomorphology

Give a brief description of the geological aspects; processes of sedimentation and erosion observable in the area and other geomorphologic features or geological risks. Indicate bibliographical sources.

With an extension of over 50,000km², the Balearic promontory divides the northeastern Mediterranean in two, leaving the Valencia trough on the NW and the Algerian basin on the South (Acosta *et al.*, 2004). The Emile Baudot, Ausias March and Ses Olives seamounts are located in the heart of the Mallorca channel, one of three channels along with the Menorca and Ibiza channels, that cross the Balearic promontory, reaching depths of over 1,000m. Thus, the proposed area is located between the islands of Ibiza, Formentera and Mallorca and includes the most important seamounts of this channel: Ausias March, Ses Olives y Emile Baudot. Ausias March, located 9 nm NE of Formentera which covers an area of 600 km²; and Ses Olives, located 18 nm E of Ibiza, covering an area between 90 and 100 km². Both seamounts are continental in origin and constitute part of the eastern half of the Balearic continental shelf (Acosta *et al.*, 2002a). On the other hand, Emile Baudot, which covers roughly 100 km², is volcanic in origin and is surrounded by a field of 118 volcanic peaks with an extension of 513 km² (Acosta *et al.*, 2002b). Emile Baudot is located on the crest of the escarpment bearing the same name, which descends from its base towards the SE, almost vertically, to over 2,000 meters depth.

3.1.2. Other interesting physical or chemical features: Such as hydrodynamics, frontal areas, upwelling, etc than support the proposal.

The Balearic promontory can be considered individual region within the western Mediterranean (Pinot *et al.*, 1994; Galarza *et al.*, 2009) since it is located within the transition area between the two main sub-basins in the western Mediterranean: the Algerian Basin and the Ligurian-Provencal Basin. As such, there is significant exchange of waters with different densities and temperatures in the channels that cross the promontory between islands. On one hand, the Modified Atlantic Waters (MAW) travel north through the Straits of Gibraltar and on the other, the colder and more saline Surface Mediterranean Waters (SMW) come from the Gulf of Lyons.

As a consequence of these unique conditions, the area presents important formations of eddies, fronts and currents (Pascual *et al.*, 2002). These currents were recorded in the promontory channels moving both North and South (Astraldi *et al.*, 1992) although they move more intensely North in the Mallorca channel because the inflow of eddies that form in the southern Balearic Sea, the Algerian Basin, push the warmer waters towards the inside of the channel (Pinot *et al.*, 2002).

Despite its distinct oligotrophic environment and low concentration of plankton, the area's complex oceanography makes the southern Balearic Sea an ideal spawning area for various tuna species including bluefin tuna (*Thunnus thynnus*), bullet tuna (*Auxis rochei*) and albacore (*Thunnus alalunga*), among others (García *et al.*, 2005), as well as for a variety of decapod crustaceans. In addition, up to 5 important fishing grounds have been identified around the seamounts (Carbonell, 2005).

3.2 BIOLOGICAL FEATURES

3.2.1. Habitats: A brief description of the dominant marine habitats including pelagic ones if applicable

The only information available about the communities present in the area around the seamounts is the result of the samplings completed by Oceana. Other studies have focused more on the seamounts' geological aspects (see 3.1.1.).

The Ausias March and Emile Baudot peaks are located at depths (-90 m and -80 m, respectively) which allow the development of calcareous red algal communities, constituting coralligenous biocenosis and maerl facies. Sponge fields can also be found here. In deeper waters, the seabeds vary from hard to sandy, sandy-detritic and sandy-muddy bottoms in which a variety of facies have been identified including brachiopods, echinoderms, cnidarians, crustaceans, molluscs and poriferans, as well as vertebrates like flat fish, triglids and elasmobranchs, among others. Facies of gorgonians, with particular presence of *Paramuricea clavata* and *Eunicella verrucosa*, among others, have been identified on the rocks of the three seamounts. The rocky edges of the peak of Ses Olives (-220 m) also harbour specimens of the black coral *Leiopathes glaberrima*.

As far as the water column is concerned, the area's unique oceanographic characteristics, given the bottom topography and the channel's hydrodynamic qualities, convert this into an important pelagic environment for species of economic and/or ecological interest like various tuna and tuna-like species, cetaceans, marine reptiles and sharks.

3.2.2. List of regionally important species

List here those marine species protected by international agreements (specify the agreement) and/or included in the GFCM priority list. If applicable, give the IUCN category. Any other species may be listed if it is clearly considered of regional importance given its high representation in the area. For each species state:

- its relative abundance as Common (C), Uncommon (U) or Occasional (O),
- Its regional 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)	Regional STATUS (r) (e) (t)	Local STATUS (R) (B) (F) (W) (M)
Artropodos			
<i>Nephrops norvegicus</i> (7)	C		R
<i>Palinurus elephas</i> (7)	C		R
<i>Palinurus mauritanicus</i> (7)	C		R
Cnidarios			
<i>Antipathes dichotoma</i> (2,3,5)		t	R
<i>Caryophyllia cyathus</i> (5)		t	R
<i>Eunicella verrucosa</i> (6/VU)		t	R
<i>Leiopathes glaberrima</i> (3,5)		t	R
<i>Savalia savaglia</i> (2,3)		t	R
Cordados			
<i>Caretta caretta</i> (1,2,3,4,6/EN)	C	t	M
<i>Epinephelus caninus</i> (6/DD)	C	t	R
<i>Lophius piscatorius</i> (7)			R
<i>Merlangius merlangius</i> (7)	C		R
<i>Merluccius merluccius</i> (7)			R
<i>Mullus barbatus</i> (7)	C		R
<i>Mullus surmuletus</i> (7)			R
<i>Physeter macrocephalus</i> (1,2,3,4,5,6/VU)	C	t	F
<i>Polyprion americanus</i> (6/DD)		t	R
<i>Raja montagui</i> (6/LC)	C	t	R
<i>Scomber scombrus</i> (7)	C		R
<i>Stenella coeruleoalba</i> (1,2,3,4,6/LC)	C	t	F
<i>Trachurus trachurus</i> (7)	C		R
<i>Tursiops truncatus</i> (1,2,3,4,5)	C	t	F
Moluscos			
<i>Charonia lampas</i> (2,3)		t	R
<i>Eledone cirrhosa</i> (7)			R
<i>Erosaria spurca</i> (2,3)		t	R
<i>Octopus vulgaris</i> (7)	C		R
<i>Ranella olearium</i> (2,3)		t	R
Poríferos			
<i>Asbestopluma hypogea</i> (2,3)	C	t	R
<i>Aplysina cavernicola</i> (2,3)	C	t	R
<i>Axinella polypoides</i> (3)	C	t	R
<i>Spongia agaricina</i> (2,3)	C	t	R
<i>Tethya</i> sp. (3)	C	t	R

The listed protected species have been documented and identified by Oceana on the seamounts of the Mallorca channel. Currently, new information is being analysed, so the number of protected species observed in the area is expected to increase. The treaty is indicated in parentheses (1) Habitats Directive./ (2) Berne Convention./ (3) Barcelona Convention./ (4) Bonn Convention./ (5) CITES./ (5) IUCN Red List./ (7) GFCM priority species.

Various experts have proposed protection for other species observed in the area that are not currently listed in any international convention (Fautin, Daphne G. 2009; Boudoresque, 1991): red algae *Mesophyllum alternans* and *Neogoniolithon mamillosum* and cnidarians *Adamsia carciniopados*, *Paramuricea clavata*, *Paramuricea macrospina* and *Swiftia pallida*.

3.2.3. Occurrence of biological and ecological processes relevant to fish resources (essential fish habitats)

According to Oceana samplings, including the latest data obtained during the 2010 campaign currently being analysed, we can highlight the presence of various habitats that are important for fishery resources, including vulnerable or essential fish habitats:

- *Isidella elongata* bed between Ausias March and Ses Olives, with large specimens in good state of health, on a muddy bottom at roughly 500 m depth.
- High concentration of the crinoid *Leptometra phallangium* documented on the eastern slope of Ausias March seamount, as well as some individuals in Emile Baudot.
- Large braquiopods bed (*Gryphus* sp.) in Emile Baudot.
- Some specimens of the sea pen *Funiculina quadrangularisha* were identified during a transect between Ausias March and Ses Olives; more specimens are expected to be found in adjacent areas.

As mentioned above, one of the most important areas is the south of the Balearic Islands, including the entire area proposed for protection, because tuna and other species like albacore (*Thunnus alalunga*), bluefin tuna (*Thunnus thynnus*), bullet tuna (*Auxis rochei*) and swordfish (*Xiphias gladius*) use it as a spawning ground, among others. The Spanish Oceanographic Institute, within the framework of the TUNIBAL project to survey bluefin tuna larvae in the Mediterranean, detected elevated concentrations of these larvae around the Mallorca channel seamounts. Recently (Juan and Lleonart, in press), the south of the Balearic Islands was identified as a pelagic essential fish habitat due to its ecological richness and the need to protect it to conserve species like bluefin tuna, sperm whales and even the white shark.

Many other species targeted by industrial and recreational fisheries –from the Lophiidae, Mullidae, Gadidae, Trachinidae, Serranidae, Triglidae, Scorpaenidae, Pandalidae and Octopodidae families- have been documented and identified on those seabeds or in the overlying water column.

The social and economic importance of the different fishing activities around the Mallorca channel seamounts cannot be estimated due to a lack of data.

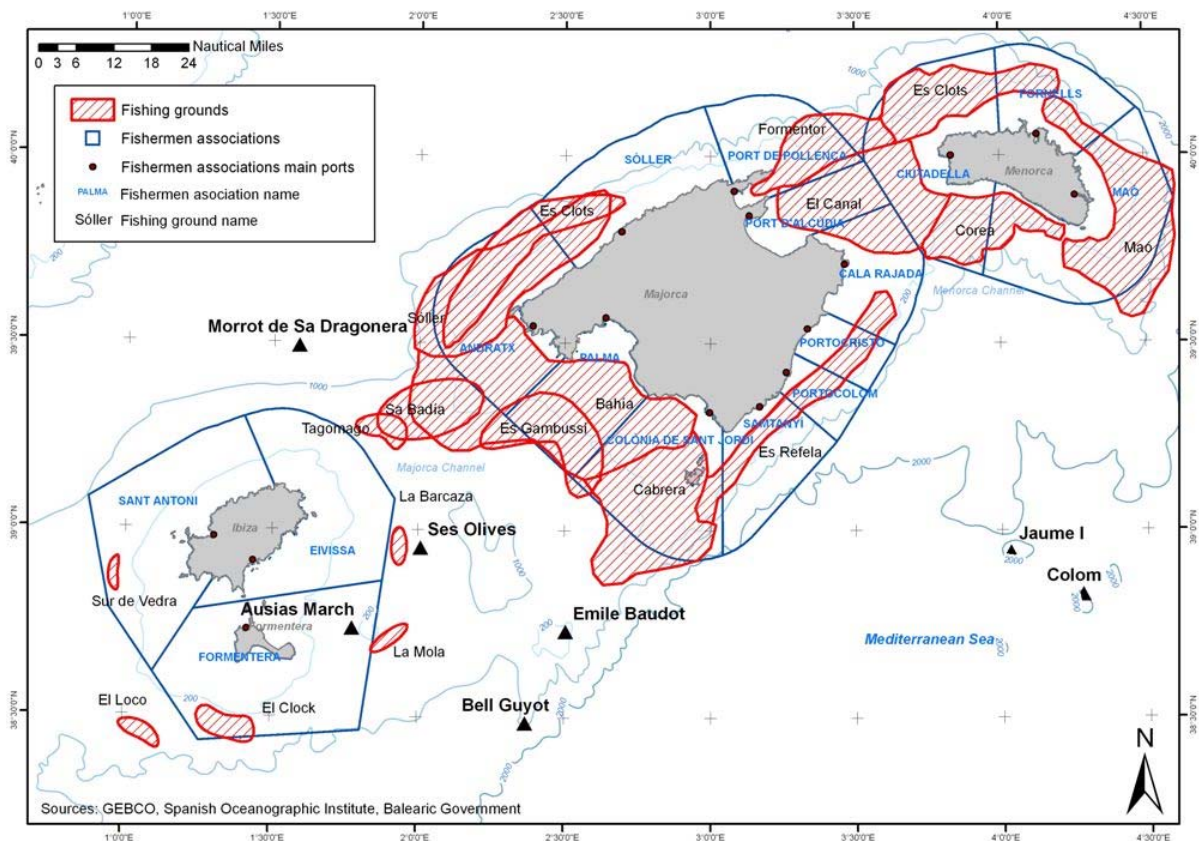
3.3 USE OF NATURAL RESOURCES

3.3.1. Current human use and development of fisheries

a) Briefly describe the current use of the area by artisanal, industrial and recreational fishing.

As mentioned above, the southern area of the Balearic Sea, the proposed area included, is the fishing ground for the summer surface longlining fleet and seining fleet targeting *Thunnus thynnus* and other species of high commercial value including swordfish (*Xiphias gladius*), albacore (*Thunnus alalunga*) and bullet tuna (*Auxis rochei*).

In addition, two other fishing grounds within the proposed area, La Mola and La Barcaza (García, 2004), close to Ausias March and Ses Olives respectively, are used by the trawling fleet targeting red shrimp (*Aristeus antennatus*). Trawling marks have been documented at different depths in this area and on these two seamounts. Emile Baudot, however, is inaccessible for the industrial fleet, taking into account the limited fishing hours and price of fuel, because this seamount is located far from the coast, roughly 30 nm SW of Cabrera.



Although there is a lack of information available about fishing activities of any kind carried out in the proposed area, it should be mentioned that Oceana identified remnants of fishing gear, lines and nets, as well as cans, bottles, plastics and textile waste in practically all the areas sampled. In addition, recreational fishing boats were observed around the three seamounts. Therefore, we can affirm that the three seamounts are being affected, to some degree, by some type of fishing activity for which no management measures have been implemented to guarantee the conservation of the species and habitats present in the area.

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										
Artisanal	0	1	2	3	0	1	2	3		
Industrial	0	1	2	3	0	1	2	3		
Other:										
- Acuiculture										
-										

The limited data available for the specific area do not allow to estimate the social and economic importance of the various modes of fishing on the Mallorca Channel's underwater elevations..

3.3.2. Current human use and development (except for fisheries)

a) Briefly describe the current use of the area for other economic sectors.

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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					
OTHER ACTIVITES										
Tourism	0	1	2	3	0	1	2	3		
Transport	0	1	2	3	0	1	2	3		
Mining										
-										
-										

4 REGIONAL IMPORTANCE OF THE SITE

This Section aims at stressing the importance of the site for conservation at the regional scale.

4.1 PRESENCE OF ECOSYSTEMS/HABITATS OF PARTICULAR IMPORTANCE IN THE MEDITERRANEAN

The importance of protecting seamount to conserve and regenerate marine life is globally acknowledged at present time and proof of it is the continuously increasing research efforts and creation of protected marine areas including seamounts around the world.

Of the 59 identified seamounts over 1,000 m in height in the Mediterranean Sea (Kitchingman *et al.*, 2007), only one, Eratosthenes, is protected, precisely as the deep sea fisheries restricted area “The Eratosthenes Seamount” (GFCM/2006/3, on the establishment of fisheries restricted areas in order to protect the deep sea sensitive habitats), given the deep sea habitats present on the seamount and their vulnerability to certain types of fishing techniques and other aggressive human activities. On the other hand, various international conventions and legislations concerning these marine ecosystems applicable to the region require the adoption of adequate management and protection measures.

Southern Balearic area has been recently identify as one of the 10 priority conservation areas in the Mediterranean, as it contains important critical habitats and seamounts. (UNEP-MAP-RAC/SPA, 2010, Notarbartolo and Agardy, 2009).

Coralligenous and maerl beds, as those present in these seamounts, are considered as one of the main important habitats in the Mediterranean, and their conservations has been strongly recommended by experts (Ballesteros, 2008; UNEP-MAP-RAC/SPA, 2008) and the international legislation is protecting these habitats from aggressive fishing activities (Concil Regulation N° 1967/2006, of 21 December 2006).

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

Name the habitat types and the species linked to it. Give information about its status (IUCN classification, etc.).

The entire Balearic Sea has been identified as an ecologically and biologically significant marine area (EBSA) in need of protection (Nortarbartolo and Agardi, 2009), after the application of scientific criteria (see 4.1.) for the selection of future marine protected areas within the framework of the Barcelona Convention and the Convention on Biodiversity, among others.

The area around the Mallorca channel seamounts is a critical habitat for bluefin tuna reproduction, a feeding ground for the loggerhead turtle and an important habitat for sperm whales and other toothed whales (UNEP-MAP-RAC/SPA, 2010).

At least 9 species listed in the Barcelona Convention annexes are present in the area, including cnidarians *Antipathes dichotoma*, *Leiopathes glaberrima* and *Savaglia savaglia*, the loggerhead turtle *Caretta caretta*, cetaceans *Physeter macrocephalus*, *Stenella coeruleoalba* and *Tursiops truncatus*, molluscs *Charonia lampas*, *Erosaria spurca* and *Ranella olearia* and the sponges *Asbestopluma hypogea*, *Aplysia cavernicola*, *Axinella polypoides*, *Spongia agaricina* and *Tethya* sp.

Some of these species are also strictly endemic to the Mediterranean, like the carnivorous sponge *Asbestopluma hypogea* or the poriferan *Spongia agaricina*. The red sea pen *Paramuricea clavata* is also endemic and frequently occurs on these seamounts, although it is more widely distributed.

Last, it should be mentioned that coralligenous and maerl concretions are extremely vulnerable to aggressive fishing activities, particularly bottom trawling. These formations are very important for a variety of marine species, It is therefore necessary to implement an effective and actual ban of this activity on these seabeds.

4.3 OTHER RELEVANT FEATURES

4.3.1. Educational Interest

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

The dissemination of the results of Oceana's campaigns focused on the Mallorca channel seamounts during recent years, especially during campaign months, has been welcomed by the media, offering many people extensive information about Mediterranean marine diversity, Mediterranean seamounts, their threats and the importance of conserving and correctly managing them. Sectors directly or indirectly related to the oceans and seas, like tourism, industrial and recreational fishing or maritime transport, could also be provided with this information in order to directly implicate them and improve the marine environment and its resources by transmitting the value of the different marine ecosystems and the need to protect and recover them.

Outside the fishery, political or environmental scopes, it can be said that marine protected areas and FRAs are a mystery to the general public, as is the importance of these sites in the Mediterranean. Initiatives like this proposal, its implementation, management and benefits should be widely disseminated in all fields and scopes in order to reinforce its value.

4.3.2. Scientific Interest

Explain if the site represents a particular value for research.

As already explained, there is important lack of information about deep sea Mediterranean habitats. Thus, seamounts are also widely unknown, especially if we refer to the communities they support, their state of conservation, threats and possibilities of recovery. Hardly any studies have been completed in the Mediterranean that provide data about the biology of seamounts, except the studies on Eratosthenes Seamount, Santa María di Leuca or a few studies on the seamounts in the Alboran Sea that were completed by the Spanish Oceanography Institute within the framework of the DEEPER project. The information available about the ecology of the benthic communities that live on the seamounts of the Mallorca channel is generated exclusively by studies completed by Oceana.

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 (e.g. fishing, sand and mineral exploitation) 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 state of the exploited fishery resources in the area proposed for protection, or adjacent areas, like crustaceans and other deep sea species, has not been evaluated. Thus, it is impossible to know whether they are overexploited or threatened.

5.1.2. Threats to habitats and species

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

- Fishing. Deep sea trawling involves the destruction of the seabed and all the benthic ecosystems with which this gear comes into contact, as well as the continuous lifting of sediments that makes the environment turbid and buries its inhabitants, while also negatively affecting adjacent areas and ecosystems.
- Waste. As already mentioned, Oceana samplings showed significant amounts of waste, garbage and remnants of lost or abandoned fishing gear in the proposed area, even though this area is not heavily frequented.
- Expansion of the port of Ibiza. At this time, dredged material from the construction work to expand the port of Ibiza is being dumped, with authorisation from the Spanish government, in the proposed FRA. No information is available about the deep sea habitats being affected by the dumping in this exact point or in the area affected by the dispersion of sediments via channel currents.

5.2 IMPACTS AND ACTIVITIES AROUND THE SITE

5.2.1. Pollution

Name and describe sources of pollution.

- Contamination, not only in this particular area, but in the entire Mediterranean, identified by MARPOL as “special area” due to its extreme vulnerability to hydrocarbon contamination. This is, however, one of the most contaminated seas in the world due to the maritime traffic it supports and the coastal activities that produce waste dumped via rivers, streams and runoff, or directly dumped into the sea.
- Waste. The source and scope of the waste has not been estimated for Mediterranean seabeds, but we can say that during Oceana's expeditions in this and other areas of the Balearic, Mediterranean and Cantabrian Seas and Atlantic area, the presence of waste, garbage and abandoned or lost fishing gear is constant.

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, pollution problems) likely to influence the area in question.

- Invasive species. The presence of invasive species including algal species *Lophocladia lallemandii*, *Caulerpa racemosa*, *Asparagopsis* spp. and *Oculina patagonica*, among others, has been documented in the entire Mediterranean and in the Balearic Sea. *C. racemosa* and *L. Lallemandii* have been documented in the Mallorca channel at depths over 70 m (Oceana, . Allochthonous species have yet to be identified in the area of the seamounts.
- Acidification. This may become one of the most serious problems for biodiversity, with serious effects on marine fauna present in the proposed area, particularly on crustaceans, pteropods, corals and gorgonians.
- Climate change. Increased temperature and salinity in the Mediterranean and Balearic Sea is a fact, and a variety of research projects have been implemented to monitor these changes, as is the case of the Mediterranean Group on Climate Change of the Spanish Oceanographic Institute. In addition, FAO has warned about the negative effects of these changes on vulnerable marine ecosystems (Bench *et al.*, 2008).
- Maritime traffic. The waters of the Mallorca channel support heavy traffic from industrial, artisanal and recreational fishing vessels and, in particular, from cruise ships, charter vessels and private yachts. Various threats are related to this maritime traffic including acoustic contamination, risk of collisions and hydrocarbon contamination, all of which seriously affect the marine fauna present in the channel, especially in the pelagic environment.
- Coastal construction. The expansion of ports, like the work being completed in the port of Ibiza that is the source of the dumping of dredged material into a specific area in the Mallorca channel close to the seamounts, and other coastal construction work is threatening the health of seagrass beds and other coastal ecosystems of the Balearic Islands.
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5.2.3. Sustainable development measures

Comment whether the area is covered by a management plan, or bordering upon a zone under such a plan.

The proposed area is located within the range of application of certain regional, European, national and autonomous management tools that limit the extraction of natural resources:

- GFCM recommendation to prohibit certain aggressive fishing techniques to protect deep sea vulnerable ecosystems at depths over 1,000m. The area SE of the Emile Baudot sub-area includes part of the Emile Baudot escarpment, which descends to 2,750 m, making it an area of application for the above recommendation.
- CE Regulation concerning management measures for sustainable exploitation of fishery resources in the Mediterranean (Council Regulation N° 1967/2006). The regulation prohibits certain fishing methods at depths over 1,000 m, as well as over coralligenous and maerl concretions.
- Declaration of Fishery Protected Area by the Spanish Government (Royal Decree 1315/1997, of 1 August, modified by Royal Decree 431/2000, of 31 March). The proposed area is mostly located within the limits of the fishery protected area established by the Spanish government (see 2.3.4.).
- Comprehensive Management Plan for the conservation of fishery resources in the Mediterranean (Order ARM/143/2010, of 25 January). The Spanish Fishery Protected Zone is, along with the Spanish territorial sea, within the scope of application of this Spanish regulation prohibiting certain fishing gear over coralligenous and maerl concretions and at depths over 1,000m. Unfortunately, this regulation is not being applied correctly because trawling marks and remnants of fishing gear have been identified on the coralligenous and maerl bottoms around these seamounts.
- Autonomous and national legislation regulating professional fisheries. Emile Baudot seamount is outside the reach of the trawling fleet after the implementation of some management measures, such as the establishment of fishery restricted hours. However, nets, lines, garbage (recreational and sports fishing is carried out in the area), and even some trawling marks have been identified here.

We should also mention the international environmental conventions and legislations that are applicable in the proposed area, such as CBD, ACCOBAMS, Berne Convention, MSFD, Habitats Directive, Birds Directive and Barcelona Conventions, as well as UNCLOS and CITES.

6 EXPECTED DEVELOPMENT AND TRENDS¹

This is not always easy to assess and thus, it is not obligatory to fill in this Section.

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

Deal briefly with the development of economic activities within the area

Although new projects are not currently affecting the area, we should add the development of the oil industry around the world and its capacity to exploit deeper areas far from the coast, even though this industry is incapable of responding to the environmental risks involved in its activities. The existence of pockmarks in the area (Acosta, 2001) can be indicative of the presence of gas seeps, which could make it a future target for this industry. The same occurs with fishing vessels, which are more powerful and better equipped, targeting resources in deeper waters because most stocks are overexploited. This overexploitation, far from being reversed, is increasing. Proof of this is the drastic decrease in catch rates of large pelagics, as well as in the size of the specimens, leading to serious effects throughout the trophic chain and, as a consequence, in the output of fisheries.

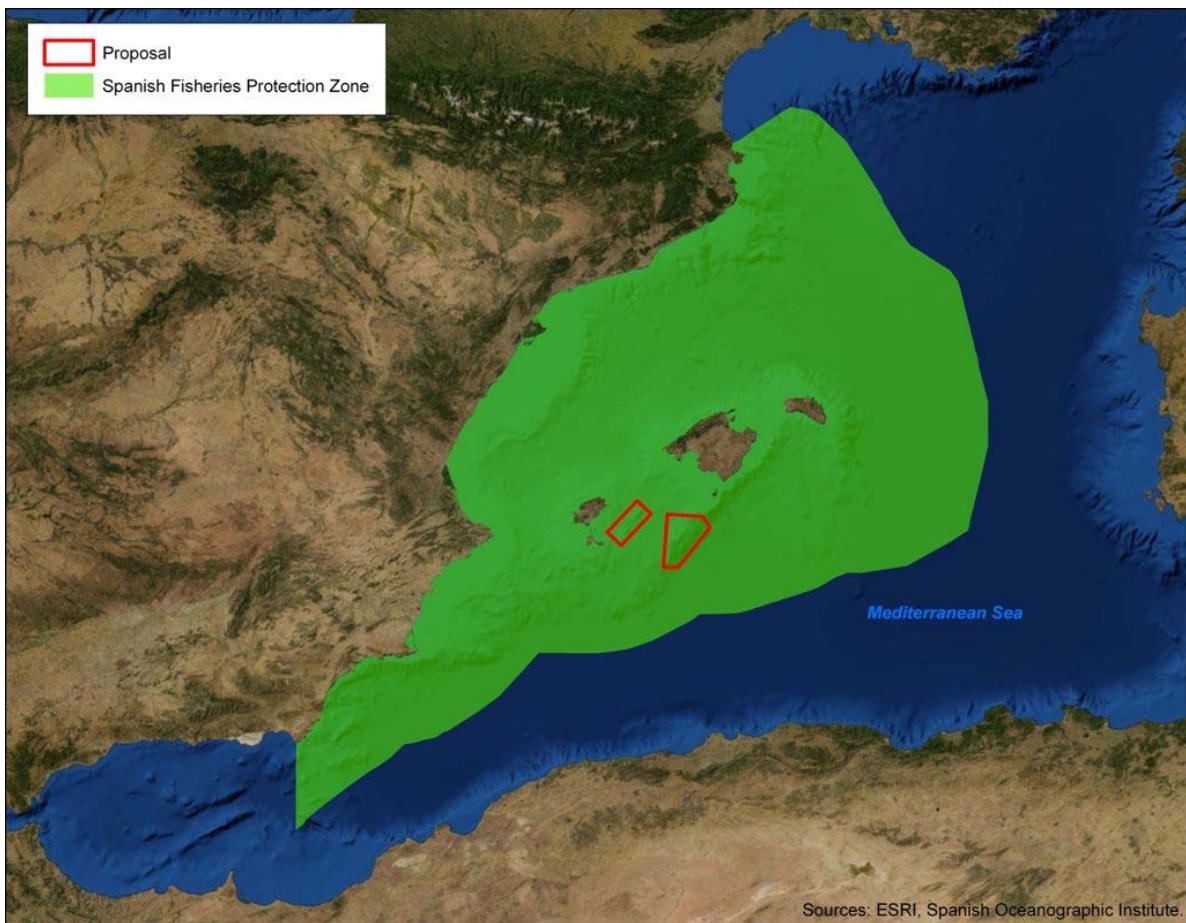
¹ By expected development and trends are meant the development, which is thought most likely to occur in the absence of any deliberate intervention to protect and manage the site.

7 MANAGEMENT AND PROTECTION REGIME

7.1 LEGAL STATUS (if applicable)

7.1.1. Historical background of the management related to the area

The area is practically entirely located within the limits of the Spanish Fishery Protected Zone. Specifically, the area is both within the territorial sea (Ausias March), in the contiguous area (Ses Olives) and in the fishery protected zone (Ses Olives and Emile Baudot). These waters, which are under Spanish jurisdiction and as a consequence under EU jurisdiction, are fully within the scope of application of national and European conventions and legislations.



7.1.2. Regulatory measures currently ruling the mangement on the site

Mention if the area, or part of it, has been designated and on what date, with an international conservation category.

Not applicable

7.1.3. Objectives

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

Not applicable

7.2 LEGAL BACKGROUND

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.

The area proposed here for protection as FRA lies in different jurisdictional zones. The western patch lies partially in the Spanish Territorial Sea and the rest of the proposal is on the 'Fisheries Protection Zone', declared by the Spanish government in 1997(see 7.1.1.). This last zone is likely to be claimed as Spanish Mediterranean Economic Exclusive Zone during the next years. Also, part of the FRA proposal is in the Contiguous Zone.

7.3 LEGAL PROVISIONS FOR MANAGEMENT

7.3.1. Zoning regulating the area

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, fishing zones, etc) and in this case the surface area of these zones. Include a map as an annex.

Not applicable

7.3.3. Legal competencies

Legal competence and responsibility with regard to administration and implementation measures

As already mentioned, the Spanish government has declared these waters under its jurisdiction, within the limits of the Spanish Fishery Protected Zone. As such, the area is both within the territorial sea (Ausias March), in the contiguous area (Ses Olives) and in the fishery protected zone (Ses Olives and Emile Baudot).

7.3.4. Other legal provisions

Describe any other relevant legal provisions, such as those requiring a management plan or any other significant measures concerning the protection and management of the area.

Not applicable

8 OBJECTIVES OF THE FRA AND PROPOSED MANAGEMENT MEASURES

8.1 OBJECTIVES OF THE FRA

State the reasons that justify the designation of the FRA

The seamounts of the Mallorca channel, according to data currently available, support a variety of marine habitats and communities that are important for the Mediterranean region, both on its hard and rocky bottoms as well as on its soft and sandy beds. Vulnerable habitats present here include coralligenous bio-concretions, maerl beds, *Leptometra phalangium* beds, *Gryphus* sp. beds and facies of *Isidella elongata*, whose protection against aggressive human activities is now urgent. Over 200 taxa and at least 32 protected species described to date, as well as other species, have been proposed for inclusion in protection lists due to their importance for the marine ecosystem. This area also harbours ecosystems that are vital for both pelagic and benthic species including bluefin tuna *Thunnus thynnus* and similar species, cetaceans, sea turtles and sharks, and species endemic to the Mediterranean such as the carnivorous sponge *Asbestopluma hypogea* which has been documented on these seamounts, as well as a variety of species of high commercial value.

All of the habitats and species described are exposed to the negative effects of human activities if they remain unprotected. These ecosystems must be included in a protection treaty that lays down the guidelines for the management of these communities and their use, if they are to be conserved. Protecting these seamounts and their ecosystems as an FRA could increase the marine richness in the area, conserving what may be the last healthy *Isidella elongata* beds in the Mediterranean, a sanctuary for a multitude of protected species and a recovery area for a variety of species of commercial value.

8.2 PROPOSED PROTECTION MANAGEMENT MEASURES FOR THE FRA

8.2.1. Management measures

Suggest management measures to be implemented in the FRA

- A closure of bottom trawling fishing activities in the described area
- Preparation of a detailed census of the number of vessels that fish in the area and the fishing gear used, in order to assess its impact on the area and implement appropriate actions to minimize it.
- Identify critical habitats for priority species in the proposed area and protect these habitats through the statement of additional fishing restrictions, according to the state of stocks.

8.2.2. Monitoring, Control and Surveillance measures

Suggest measures to effectively enforce the FRA

- Evaluate and monitor the status of available resources.
- Control and monitor human activities to avoid potential infractions and negative impacts on the proposed area. The monitoring and control systems currently in place at European Community (Council Regulation No. 1224/2009 of 20 November 2009) and Spain (Law 3 / 2001 of March 26) include sufficient capacity to ensure its implementation.
- Control and monitoring the fishing activities through a census of vessels authorized to fish in the area, through the VMS system.

8.2.3 Socioeconomic impact(s) of the FRA

Prevision of the socioeconomic impact(s) of the proposed measures

- Conserve and restore threatened ecosystems of importance for the Mediterranean.
- Increase catches for the entire fleet that operates in the Mallorca channel and beyond, thanks to the conservation of critical habitats present in the area that allows the regeneration of the species.
- Spread the importance of deep marine ecosystems protection, and the threats that endanger the Mediterranean marine biodiversity.

8.2.3.1. Economic evaluation of the ecosystems services (not only marketable)

Economic value of the goods and services that the ecosystem supports

The conservation of submerged elevations, as important areas for many pelagic and benthic species, provides benefits for fisheries, within and outside the protected area, for tourism, especially important in the Balearic Islands, or for recreational activities like diving or whale watching..

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10 RELEVANT ADDRESSES

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