
WORLD HERITAGE NOMINATION – IUCN TECHNICAL EVALUATION

IBIZA, BIODIVERSITY AND CULTURE (SPAIN)

1. DOCUMENTATION

- i) **IUCN/WCMC Datasheets:**
- i) **Additional Literature Consulted:** Heywood. 1994. **Centres of Plant Diversity.** WWF/IUCN, pp 50-51; Kelleher, Bleakley & Wells. 1995. **A Global Representative System of Marine Protected Areas.** Vol. 1. GBRMPA, WB and IUCN, pp 89-103; Aritio *et al.* 1993. **Parques Nacionales de España.** Incafo, pp 150-162; IUCN and RAC/SPA (UNEP). 1989. **Livre Rouge des Vegetaux, Peuplements, et Paysages Marins Menaces de Mediterranee.** Faculte des Sciences de Luminy. France, pp 83-107; Sherman, Alexander and Gold. 1993. **Large Marine Ecosystems.** AAAS, pp 137-146; Gomez-Campo. 1996. **Libro Rojo de Especies Vegetales Amenazadas de España e Islas Baleares.** ICONA, pp 647-667; Margalef. 1995. **Key Environments: Western Mediterranean.** Pergamon Press, pp 175-193; San Félix. 1997. **Guía Submarina de Ibiza y Formentera.** Ayuntamiento de Ibiza, 120 p; Ballesteros *et al.* 1987. **Invertebrados Alguícolas Marinos de las Islas Pitusas.** Consell Insular D' Eivissa I Formentera, 96 p.
- ii) **Consultations:** 2 external reviewers, officials of Ibiza and Formentera Municipal Government; ecologists, fishers, divers and nature reserve personnel.
- iii) **Field Visit:** February 1999, Pedro Rosabal.

2. SUMMARY OF NATURAL VALUES

The Ibiza site (nominated under both natural and cultural criteria) is located in the Balearic Islands, Western Mediterranean. The terrestrial component of the nomination includes the coastal lagoons and saltworks areas (Las Salinas) on the islands of Ibiza and Formentera as well as the small islands of Freus (Penjats, Espardell and Espalmador). The marine component includes the open sea between these islands up to limit of the isobar of 40m depth (see Map 2). This represents a total area of 11,231ha, including 2,667ha of land and 8,564ha of marine component.

The marine component is characterised by the presence of dense and very well preserved prairies of oceanic Posidonia (seagrass) and coral reefs. The other important ecosystems included are related to the saltworks areas (Las Salinas de Ibiza y Forementera) which were included in the List of Wetlands of International Importance (Ramsar Convention) in 1993 for their importance for migratory birds.

Oceanic Posidonia is an important endemic species only found in the Mediterranean basin. In its climax stage and under exceptional conditions of transparency and unpolluted waters, this species generates coastal reef that offers protection to coastal areas from storms. In this area, particularly around the Island of Formentera, the coastal reefs are four metres high, the highest reef reported world-wide of this origin (San Félix, 1998).

The prairies of *Posidonia* also have high importance as a hatchery for a variety of marine fish. This function is particularly important to the maintenance of fish stock thus being an essential element for sustainable fisheries. This ecosystem has a high biological productivity. One hectare of oceanic *Posidonia* produces 21 ton/year of biomass, similar to the productivity of a tropical forest (22 ton/year/ha).

This particular seagrass community is increasingly under threat across the Mediterranean Sea mainly due to increasing levels of pollution. Consequently, oceanic *Posidonia* communities are included as a priority ecosystem for protection under the Habitat 2000 Directive (92/43/ECC) and under Annex IV of the Berne Convention. According to UNEP this is a highly threatened ecosystem in the Mediterranean Basin (UNEP 1989).

Other important marine values present in the nominated site are:

- ♦ Presence of the most diverse community of *Cladocora caespitosa*, supporting 220 species, the highest record for a marine community in the Mediterranean basin;
- ♦ The area offers protection to three globally endangered species, including the Monk Seal and to 5 marine species considered by IUCN in a Vulnerable state of conservation (IUCN, 1996);
- ♦ An important community of *Ecteinascidia turbinata*, a marine species with recognised value to prevent and combat different types of cancer; and
- ♦ A number of underwater caves that offer important elements to assess the geological and geomorphological evolution of the islands.

In relation to the values existing in the terrestrial component of the nominated site it is important to note:

- ♦ There are 11 species of strictly endemic plants;
- ♦ There are 7 Rare species of plants and 8 considered in a Vulnerable state of conservation (IUCN, 1996);
- ♦ The area contains well-preserved examples of *Juniperus sp.* forest, which was the typical coastal forest of the Mediterranean region but now only remains in a few sites. In the Island of Espalmador there is probably one of the few relict samples for the entire Mediterranean;
- ♦ 205 different species of birds have been reported in this area, particularly in the coastal lagoons and saltworks (Las Salinas) of which 171 are migratory species; and
- ♦ There are 56 species of invertebrates, 11 species of terrestrial reptiles, and 5 species of mammals reported from this area, all of them endemic to Ibiza and Formentera.

3. COMPARISON WITH OTHER AREAS

There are currently 42 sites on the World Heritage list with major wetland values and 40 others that contain a coastal and marine component. They include 20 Island World Heritage sites. However, most of the sites have been inscribed for their exceptional and extensive coral reefs formations, such as the Great Barrier Reef (Australia) and the Belize Barrier Reef (Belize). Other World Heritage sites include other types of seagrass beds, but most of them formed by *Thalassia sp* or *Halimeda sp* communities, thus biologically these are not comparable to the *Posidonia* prairies.

The Mediterranean Sea is a unique Marine Biogeographic Region and within it the Western Mediterranean is a distinct Biogeographic Zone (IUCN, 1995). In the Mediterranean basin there is only one other site that could be compared to Ibiza -- Capes Girolata and Porto and Scandola Nature Reserve, France. However, this site was included in the World Heritage list mainly for its dramatic geological landforms. Its marine component includes prairies of *Posidonia* but the proposed site in Ibiza (8,564ha) is double the size of the area represented in the French site (4,950ha). In addition, the *Posidonia* prairies of Ibiza are considered as the best preserved in the Mediterranean basin. Moreover, both the marine and terrestrial diversity is greater in Ibiza.

The nominated site offers protection to the Monk seal. It could be used as a reference for comparison with the Banc d'Arguin National Park World Heritage site (Mauritania). However this site is representative of a different Marine Biogeographical Region (Western Africa). The marine component in Banc d'Arguin only includes shallow coastal waters little more than 5m, that include seagrass beds consisting of *Zostera* sp., *Cymodocea* sp., and *Halodule* sp., which form a different ecosystem to that of *Posidonia* sp. In the nominated site the marine component extends to the isobar of 40m, providing a broader sample of marine life at different depths. It also has a more diverse geomorphology including a number of underwater caves.

4. INTEGRITY

National Law 26 of 1995, which established the Nature Reserve of Ibiza and Formentera, protects this site. The site has also received international recognition by the Ramsar Convention and by the Habitat 2000 Directive (92/43/EC). Following the process of devolving power and responsibilities to local authorities in Spain, the Council of the Balearic Islands is negotiating with the national government over the jurisdiction and control of this Nature Reserve, which is presently under the control of the National Ministry of the Environment. It is expected that the State Court will devolve this responsibility to the Council of the Balearic Islands, but this would not imply a diminution in its legal protected area status. The World Heritage Centre and IUCN have received additional information from the State Party showing a comprehensive legal framework by which the State Party ensures to maintain full protection of the area under autonomic law.

A management plan exists for the area and it is being implemented. There are two administrative centres for the protection and management of this reserve, one in the Island of Ibiza, that serves as the headquarters, and a second one on the island of Formentera. There are 10 permanent staff working in the area with 4 vehicles for terrestrial patrol and one boat for marine patrol. However control on the use of the reserve is also supported by the local police and the National Coast Guards, the latter playing a key role in the marine and coastal areas. Volunteers (mainly members of local ecological groups and students) assist in management, particularly in summer where extra support is needed to clean up beaches and coastal areas due to the high number of visitors.

Twelve projects are currently being implemented in the Reserve. They include the construction of a Visitor Centre in Ibiza and a project dedicated to coastal zone protection. The total annual budget for conservation and management is around 4 million USD, mostly from the National Ministry of the Environment. There are on-going agreements with the University of Valencia, the University of Madrid and with the Ecological Group of Balearic Islands (GOB) to continue monitoring and research activities in the reserve. Rangers and technical staff in the reserve receive systematic training in management practices and biological monitoring as part of these agreements. There is also a strong commitment to conservation among the local fishers, who recognise the importance of protecting this area to ensure the long-term sustainability of traditional fisheries. Commercial fisheries are not allowed in the reserve and Coast Guards have acted to prevent violation of this regulation.

During the field mission, it was reported that a new submarine pipeline to discharge waters from a treatment plant in the urban areas of Ibiza was under consideration. There have been several local objections to this plan. Additional information has been received by the World Heritage Centre and

IUCN noting that the Government of the Balearic Islands has not allowed the construction of the submarine pipeline within the boundaries of the proposed site. At the same time the government proposed to evaluate other alternatives to re-use treated water so as to avoid the need to construct this submarine pipeline in any other location.

However, after the last session of the World Heritage Bureau and Committee (July 1999), IUCN has received information related to the approval by the EC of a project to reform and expand the port of Ibiza. This project will be partially funded by EU Fund for Cohesion and implies the construction of a dike to regulate coastal dynamics, offering greater protection to port facilities and operations. IUCN considers that this project could potentially impact the natural values of the marine area.

Further clarification is required in relation to the impact of this project, specifically in relation to the extent this development project could effect the conditions of integrity of the nominated site

5. ADDITIONAL COMMENTS

As indicated, this site is part of a Mixed Natural and Cultural Site nomination, which includes the ancient town of Ibiza and its fortress system. There are close linkages between the cultural and natural environment evident in:

- ♦ Strong local culture and traditions relate to the sea, with the marine environment providing an indivisible part of the landscape;
- ♦ The presence of more than 10 underwater archaeological sites related to the Late Bronze Age that help to understand old trade and interactions in the Western Mediterranean (Sherrat 1993). Most of these archaeological sites are far from adequately researched;
- ♦ In the Island of Formentera the local population is still applying traditional land use patterns that have been in place for the last 300 years. This has created a living cultural landscape that takes visitors to the island back to the Middle Ages; and
- ♦ The quality of the salt produced in the saltworks of Ibiza and Formentera (Las Salinas) depends on the quality of the coastal waters which, in turn, depend to a great extent on the ecological functions of the Posidonia prairies. Local people fully understand this and it is the basis of their concern for the protection of the marine environment.

Also in the Balearic Islands is the Archipelago de Cabrera National Park, consisting of 9,715ha of terrestrial and marine areas. It has some limited seagrass prairies but has other coral features and fish species that complement and extend the marine values in the Ibiza nomination. The potential exists to consider an extended World Heritage site, encompassing the current nomination plus Cabrera in a site that would be more representative of the whole variety of marine ecosystems of the Western Mediterranean.

The Bureau noted at its twenty-third session (Paris, July '99) that the site has the potential to meet natural criteria (ii) and (iv). The Bureau decided to refer the nomination back to allow the State Party to provide clear evidence on the continuation of the Nature Reserve's legal status under autonomic law, as well as clarification of the pipeline plans and their impact on the site. This information was provided and is reported on in this evaluation report.

6. APPLICATION OF WORLD HERITAGE NATURAL CRITERIA

It is not clear from the nomination dossier under which criteria this site has been nominated. IUCN suggests that the State Party consider the case for inscription on the following two criteria:

Criterion (ii): Ecological process

In the nominated site the direct influence of the *Posidonia* prairies in the dynamics and evolution of the coastal zone of the islands can be observed extremely well and it is thus an excellent example of the interaction between the marine and coastal ecosystems. Accumulation and decomposition of *Posidonia* have led to the development of all the sandy beaches existing in the site and this is an ongoing process essential for the replenishment and growth of the existing beaches. At the same time, the protective function of *Posidonia* coastal reefs against storms is remarkably evident in the islands included in the nominated site. The regulatory functions of *Posidonia* prairies, particularly in retaining sediments and oxygenating coastal waters, is recognised as a key factor to ensure the high quality of the salt produced in Ibiza and Formentera.

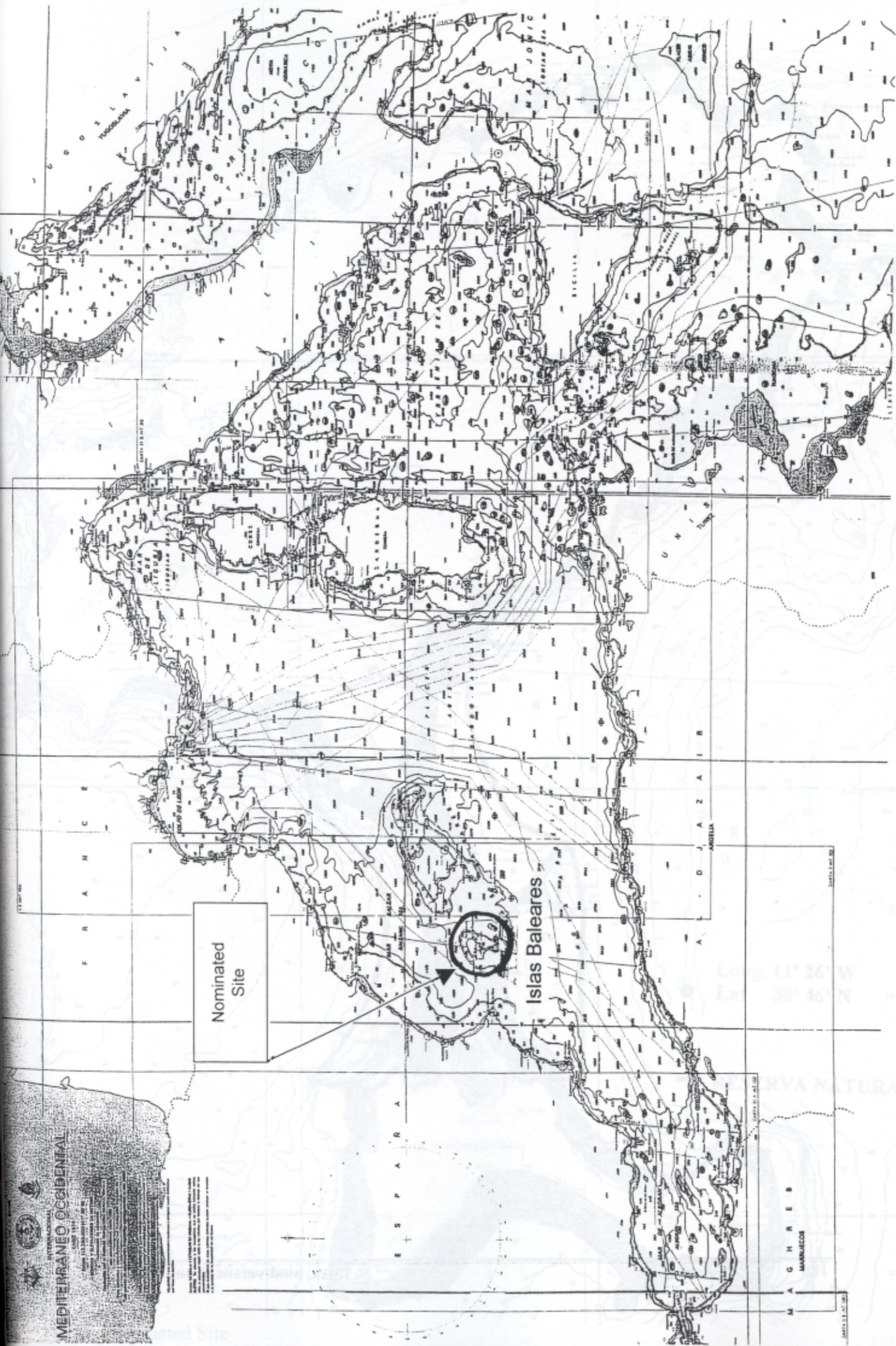
Criterion (iv): Biodiversity and threatened species

The well-preserved *Posidonia* prairies in this site contain and support a diversity of marine life. This ecosystem, and its related biodiversity, is highly threatened in most parts of the Mediterranean. One assessment indicates that this ecosystem will completely disappear from the coast of France by 2010. Thus, conservation of *Posidonia* prairies has been identified as a priority under the Habitats Directive of the European Union. The nominated site has been also identified as a priority area to achieve a Global Representative System of Marine Protected Areas. The site contains a diverse community of *Cladocora caespitosa*, supporting 220 species, the highest recorded for a marine community in the Mediterranean Biogeographic Region. It also contains an important community of genetic value (*Ecteinascidia turbinata*) for pharmaceutical purpose. In addition, the area is of importance for the conservation of the Monk Seal. The terrestrial component of the nominated site also supports a diversity of plant and animal species, most of them endemic to these islands.

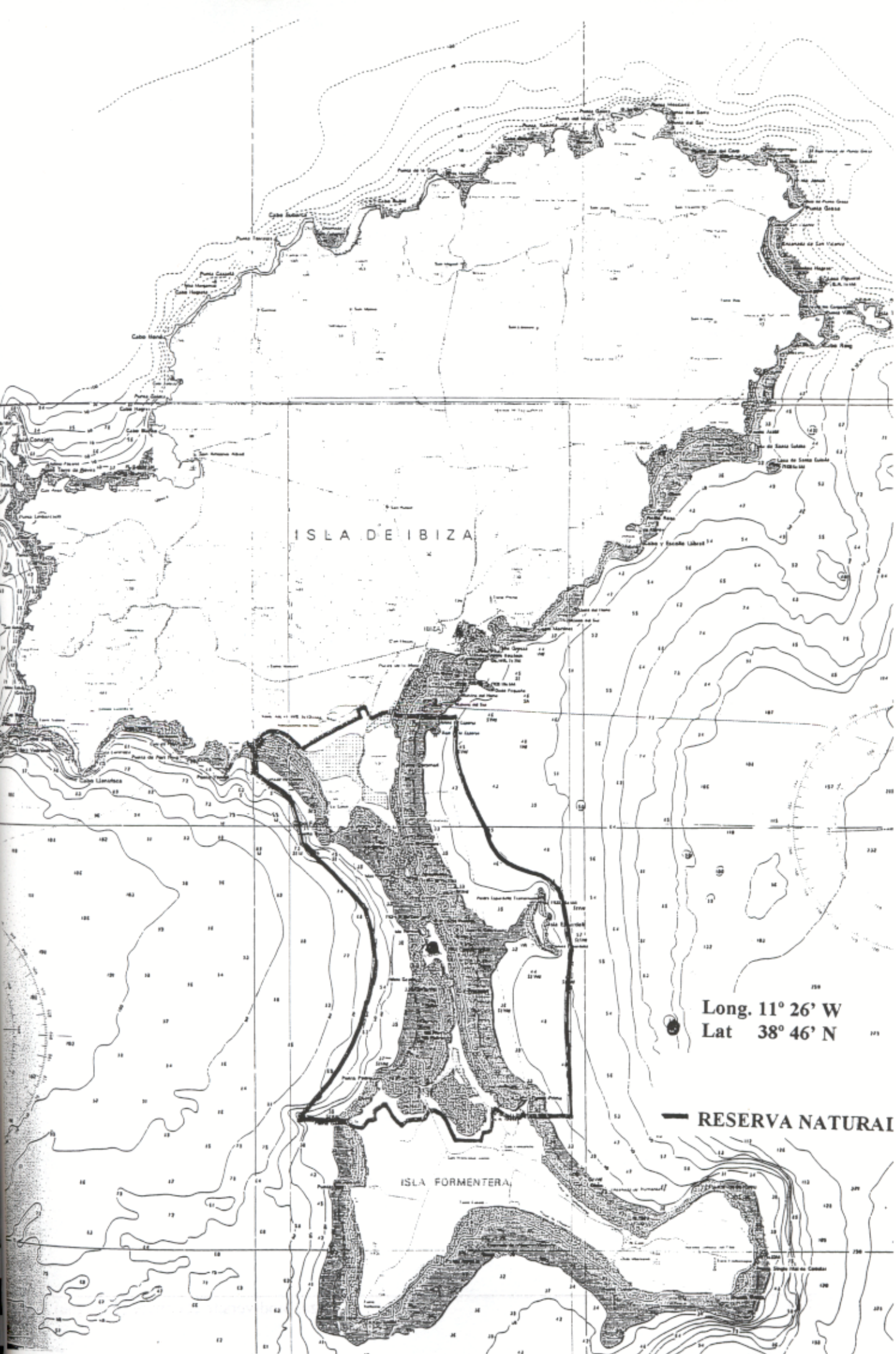
7. RECOMMENDATION

That the Bureau notes that the State Party did not identify which natural criteria the site might qualify under but IUCN suggests that natural criteria (ii) and (iv) might be relevant. But to satisfy the conditions of integrity, the State Party should provide further clarification, based on the EIA study, on the potential impact that the project to expand the port of Ibiza can have on the integrity of the nominated site. The Bureau is recommended to **defer** this nomination until this clarification is received.

The Bureau may also wish to invite the State Party to consider the nomination of the Archipelago of Cabrera with the possibility of it forming, with the Ibiza site, a combined site representing almost the whole spectrum of marine ecosystems of the Western Mediterranean.



Map 1 Location of Nominated Site



Map 2. Nominated Site