IUCN Conservation Outlook Assessment 2014 **(archived)**
Finalised on 06 November 2014

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Ibiza: Biodiversity and Culture

SITE INFORMATION

Country:
Spain
Inscribed in: 1999
Criteria:
(ii) (iii) (iv) (ix) (x)

Site description:

Ibiza provides an excellent example of the interaction between the marine and coastal ecosystems. The dense prairies of oceanic Posidonia (seagrass), an important endemic species found only in the Mediterranean basin, contain and support a diversity of marine life. Ibiza preserves considerable evidence of its long history. The archaeological sites at Sa Caleta (settlement) and Puig des Molins (necropolis) testify to the important role played by the island in the Mediterranean economy in protohistory, particularly during the Phoenician-Carthaginian period. The fortified Upper Town (Alta Vila) is an outstanding example of Renaissance military architecture; it had a profound influence on the development of fortifications in the Spanish settlements of the New World. © UNESCO

SUMMARY

2014 Conservation Outlook

Significant concern

High existing and potential threats have been growing during the last years and several cumulative impacts seem to be approaching a critical point. At the same time the management has so far been insufficient to properly address these pressures on the site’s values. Some decline in the site’s values has already been observed and its conservation outlook is of significant concern. Significant additional conservation measures to address identified threats and to reverse the main impacts are urgently needed.

Current state and trend of VALUES

High Concern
Trend: Deteriorating

The state of key ecosystem and biodiversity values of the site including its Posidonia oceanica meadows with their associated biodiversity, and the population of the Balearic Shearwater Puffinus mauretanicus is of High Concern, and deteriorating. If this negative trend continues, these values may soon enter a critical conservation state.

Overall THREATS

High Threat

The natural values of the site are currently under high threat from uncontrolled tourism use (physical damage as a consequence of uncontrolled anchoring and sewage pollution form thousands of tourist boats and yachts) and invasive alien species. Additional threats, to an unclear degree, come from disposal of poorly treated sewage from the land, visitation pressure on the terrestrial parts of the site, and disposal of dredged material nearby. The values of the site are also under high threat from potential shipping accidents and additional tourism infrastructure developments, and are additionally threatened, to an unclear

degree, by climate change and particularly the increase of water temperatures in the Mediterranean. Other potential threats are the future works to set up the third submarine electric cable between Ibiza and Formentera and the oil exploration and drilling project in the Ibiza channel.

Overall PROTECTION and MANAGEMENT

Some Concern

The site is under considerable pressure, mainly from poorly controlled tourism. The threats have been growing during the last years and several cumulative impacts seem to be approaching a critical point. At the same time the management (including management system and effectiveness, staffing, enforcement of borders and the legal framework, visitor management, monitoring of key threats) has so far been clearly insufficient, and has not been effective to properly address these pressures on the site’s values. There is also a clear lack of financial resources and staff.

FULL ASSESSMENT

Description of values

Values

World Heritage values

► Marine ecosystems sustained by Posidonia oceanica

Criterion:(x)

Exceptionally dense and well-preserved Posidonia oceanica meadows in coastal waters of the marine counterpart of the site between Ibiza and Formentera (IUCN, 1999) provide important spawning and nursery habitats to Mediterranean fauna (Boudouresque, 2004), including fauna with many endemic, threatened and economically important species (Reñones et al. 1995; Duarte, 2000). The Posidonia meadows and coastal reefs also support formation of coastal ecosystems in their vicinity and protect sandy beaches (Chessa et al., 2000, UNEP-WCMC, 2011). There are also exceptionally well-preserved Cladocora caetospitosa communities, an ecosystem that is declining in the Mediterranean sea, which support 220 species (IUCN, 1999). The marine part of the property overlaps with the WWF Global 200 marine priority ecoregion “Mediterranean Sea” (WWF, 2012).Moreover it is important to highlight that Posidonia oceanica beds and Cladocora caespitosa reefs are considered as priority habitat type under the Habitats Directive 92/43/EEC.

► Coastal (including lagoon) and small island ecosystems

Criterion:(ix)

Las Salinas de Ibiza y Formentera, as well as the islands of Penjats, Espardell and Espalmador, include important coastal lagoon and wetland ecosystems as well as halophyte communities, with 40 vegetation types having been mapped for Formentera alone. These areas also support important water bird

populations (UNEP-WCMC; 2011). The saltpans have been designated as Wetlands of International Importance under the Ramsar Convention in 1993 (Wetlands International, 2012). The area is part of Conservation International's (terrestrial) global biodiversity hotspot "Mediterranean Basin" (CI, 2012).

► Marine biodiversity

Criterion:(x)

The seagrass meadows of the area support a diverse fauna of invertebrates and fish (36 species in 15 families), and may be visited by Mediterranean Monk Seal Monachus monachus (CR), Loggerhead Turtle Caretta caretta (EN) and Bottlenose Dolphin Tursiops truncatus (LC), all of them are also considered under Habitat Directive and Monachus monachus and Caretta caretta are priority species . Noteworthy marine invertebrate species of particular importance for the ecosystem of the area are the zooxanthellate scleractinian coral Cladocora caespitosa, and the colonial sea squirt Ecteinascidia turbinata (IUCN, 2012, UNEP-WCMC, 2011).

► Diversity of coastal and terrestrial flora

Criterion:(x)

The coastal and terrestrial parts of the site have at least 11 endemic plant species, 7 rare species and 8 considered vulnerable by IUCN in 1996 (IUCN, 1999). The area belongs to a global Centre of Plant Diversity (UNEP-WCMC, 2011).

► Diversity of coastal and terrestrial fauna

Criterion:(x)

The site supports 205 species of birds (including 171 migratory species), 5 species of mammals, 11 of terrestrial reptiles, and at least 56 species of invertebrates. The salt-pans of Ibiza and Formentera and Freus Isles are an internationally important Important Bird Area, particularly because of their seabird and shorebird fauna (BirdLife International, 2012a). This includes the (globally) critically endangered Balearic Shearwater Puffinus mauretanicus. Seven species of ducks frequently winter there, including the near-threatened Ferrugineous Duck Aythya nyroca (UNEP-WCMC, 2011).

Other important biodiversity values

► Posidonia barrier reefs

The site hosts well preserved posidonia barrier reefs covering 0.8 has of marine surface. This ecosystem, almost disappeared in Northwestern Mediterranean, has high ecological importance and is highly vulnerable to human impacts (Ballesteros and Cebrián, 2004). Scientifics have dated a posidonia barrier reef located between Ibiza and Formentera as the oldest organism in the biosphere with at least 100,000 years old (Arnaud-Haond et al., 2012).

Assessment information

Threats

Current Threats

High Threat

The natural values of the site currently are under high threat from uncontrolled tourism use (principally physical damage and sewage pollution form thousands of tourist boats and yachts) and invasive alien species. Additionally threat, to an unclear degree, comes from disposal of poorly treated sewage from the land, visitation pressure on its terrestrial parts, and disposal of dredged material nearby.

► Tourism/ visitors/ recreation

High Threat
Inside site
Outside site

Thousands of boats and yachts visit the site daily during the tourism season, many anchoring inside the site and including inside seagrass beds. Although

extensive Posidonia areas were found by a 2007 survey (Government of the Balearic Islands, 2007), density decreases of seagrass beds due to the presence and anchoring of boats and yachts between 21% and 70% over 10 years have been reported from various locations near or inside the site (Convalia, 2011).

► Tourism/ Recreation Areas

High Threat
Outside site

Marinas and other tourism infrastructure near the site (e.g. at Ibiza town) are adding to seagrass destruction, eutrophication and disturbance.

► Water Pollution

Data Deficient
Inside site
Outside site

The disposal of dredged material from nearby Ibiza Harbor extension near the site should have finished or should finish soon (IUCN, 2011).The possible effect of this disposal on the integrity of site’s values should be studied in detail, as a reference for future similar projects. The cumulative impacts of water pollution could be reaching the saturation of the buffering effect of seagrass meadows.

► Household Sewage/ Urban Waste Water

Very High Threat
Inside site
Outside site

Eutrophication caused by release of poorly treated sewage of about 300,000 people during peak tourism season (from Ibiza and Platja d’en Bossa treatment plants – IUCN, 2011), is leading to increased turbidity and enhanced phytoplankton growth, and macrophyte (including seagrass) suppression. The exact extent and impact of this release needs to be studied more closely. The same is true for the effects of brine from the Ibiza desalination plant on the Posidonia barrier reef near the site at Talamanca.

► Water Pollution

Low Threat

Inside site
Outside site

The peak season sewage input from recreational boats in the area of the property has been compared to that of a city with a 10,000 population. Wastewater may lead to increased eutrophication of coastal waters, enhanced phytoplankton growth, and macrophyte (including seagrass) suppression. This may contribute to the direct effect of anchoring inside the site.

► Tourism/ visitors/ recreation

Low Threat
Inside site
Outside site

Ibiza is visited by 5 million people per year, many of which frequent the beaches and terrestrial/coastal parts of the site (Rössler et al. 2009). However, no exact visitor numbers to its terrestrial part (Ibiza, Formentera and small islands) are available, and the same is true for the impact of this visitation on the values of the site.

► Invasive Non-Native/ Alien Species

High Threat
Inside site
Outside site

The most threatening invasive macrophytes around the site are the green algae Caulerpa racemosa, the red algae Lophocladia lallemandii, Acrothamnion preissii and Womersleyella setacea (Piazzi et al., 2001; Cebrian and Ballesteros, 2010; Ballesteros and Cebrián, 2004). Particularly Lophocladia lallemandii has reportedly spread considerably in the site in recent years.

Potential Threats

High Threat

The values of the site are also under high threat from potential oil and gas exploration and drilling, shipping accidents and additional tourism infrastructure developments, and additionally threatened, to an unclear degree, by climate change and particularly the increase of water temperatures

in the Mediterranean.

▶ Habitat Shifting/ Alteration

Data Deficient
Inside site
Outside site

Although various effects of climate change on seagrass stands and ecosystems have been documented (e.g. Marba and Duarte, 2010), and increased water temperature has been listed as one of the factors favoring invasive alien macrophytes such as Caulerpa racemosa and Lophocladia lallemandii, the exact extent and impact of climate change on the site needs to be studied into more detail, also considering potential mitigation measures.

▶ Shipping Lanes

High Threat
Inside site
Outside site

There are reportedly several smaller ship accidents at and near the site each year, as a consequence of the intensive visitation by tourist boats and yachts. A notable larger accident was that of the MS Don Pedro in 2007 (Rössler et al. 2009). Although this accident happened outside the site and had reportedly no major effects on its integrity, it illustrates the high potential threat from shipping accidents to the marine and coastal natural values of the site.

▶ Tourism/ Recreation Areas

High Threat
Inside site
Outside site

Additional developments of tourism infrastructure near the site would aggravate the already strong pressure on its values in the same way as the already existing infrastructure. Reports in early 2012 about a new marina project near Ibiza with space for 700 yachts are of high significance in this regard, and need to be clarified as a matter of priority. There is also a new golf project near Salinas de Ibiza.

► Oil/ Gas exploration/development

Very High Threat
Outside site

Oil and gas exploration activities would have negative impacts on the Balearic shearwater (Puffinus mauritanicus) a (globally) critically endangered species, as well as Bottlenose dolphin (Tursiops truncates) and Loggerhead turtle (Caretta caretta), and many others and impact on the integrity of seagrass meadows.

Protection and management

Assessing Protection and Management

► Relationships with local people

Data Deficient

There is a “participation programme” of the Nature Park which constitutes the natural part of the World Heritage site, and there is a stakeholder advisory board that met once in 2010, and should meet once per year in the future (Parque Natural de Ses Salines d’Eivissa i Formentera, 2011). However, it is unclear to what extent the current stakeholder participation setup contributes to the effective conservation of the site and how effective it is in representing the interests of all stakeholders.

► Legal framework and enforcement

Some Concern

The conservation of the natural part of the site is based on at least 12 laws and legal provisions (Rössler et al., 2009). However, the stakeholders consulted for this assessment almost unequivocally highlighted the lack of enforcement of the legal protection regime at the site (mainly due to a lack of political will as well as financial and other resources). Therefore, the legal framework for the protection of the site and particularly its enforcement is of concern.

► Integration into regional and national planning systems

Some Concern

Important regional planning frameworks relevant to the management of the site are the Infrastructure Master Plan and the Insular Regional Plan. These plans have so far not been effective in preventing such key threats to the values of the site, as the intensive visitation and anchoring of recreational boats and yachts inside the site. Spain's National Biodiversity Strategy and Action Plan 2011-2017 mentions its natural World Heritage properties, but does not contain any specific objectives related neither to them in general, nor to the Ibiza World Heritage site in particular (Ministry of the Environment, Rural Issues and the Seas, 2011). Therefore, the integration of conservation objectives into regional and national planning systems remains of some concern.

► Management system

Some Concern

The site is managed as part of a Natural Park. A management plan has been in place since 2005 (Decree 132/2005) but it has been considered insufficient as an integral management planning framework for the site. An additional issue is the complex and apparently unclear distribution of management responsibility for the natural part of the site between the Ibiza and Formentera Councils (Rössler et al., 2009). However, in 2011 the State Party informed that preparation of an integrated management plan was planned for 2011, that a "Consorci Eivissa Patrimoni de la Humanitat" [Eivissa-Ibiza World
Heritage Consortium] had been formed to take charge of management planning, and that it had been clarified that the marine part of the site is under the management authority of the Autonomous Community of the Baleares. However, while the management plan has been approved, it has not been acted upon and management has not improved.

► Management effectiveness

Some Concern

The management effectiveness for the natural part of the site has not been formally assessed in recent years, but the stakeholders consulted for this

assessment almost unequivocally highlighted the low management effectiveness of the site (mainly due to lack of financial and other resources, as well as poor administrative cooperation).

► Implementation of Committee decisions and recommendations

Some Concern

Decision 33 COM 7B.41 requested the State Party to invite a joint monitoring mission to the site, to report about its state of conservation, and to delay the start of construction of the proposed extension of the port facility until after this mission (WHC, 2009). The first two requests were met by the State Party, while the third request was not met. Decision 34 COM 7B.41 urged the State Party to immediately inform the World Heritage Centre of any unexpected or adverse impacts that occur during the dredging and to undertake and report on appropriate mitigation and monitoring measures. This decision also requested the State Party to report to the World Heritage Centre, on the state of conservation of the property (WHC, 2010). The last two requests were met by the State Party while it is unclear if the first request was met. Reporting on activities aimed at meeting the requests of Decision 35 COM 7B.37 is only due in 2015 (WHC, 2011). Overall, and particularly because of the failure to meet the key request of Decision 33 COM 7B.41 regarding the port facility extension, the implementation of Committee decisions and recommendations by the State Party regarding the natural part of this site is of some concern.

► Boundaries

Some Concern

The boundaries and buffer zone of the natural part of the site were considered adequate at the time of inscription (IUCN, 1999) but it appears that they are not clearly marked on site (e.g. by buoys) and that they are not fully understood by all local stakeholders (Rössler et al., 2009). There is also a mismatch between the World Heritage site and the Nature Park, the latter being larger. It has also been recommended to extend the property to include the Posidonia reef at Talamanca, as well as other Posidonia areas and the Archipelago de Cabrera National Park (WHC, 2011). Since the boundaries are not effective in excluding key threats from the site, they remain of some

concern. Little progress has been made.

▶ Sustainable finance

Some Concern

The State Party informed in 2010 that the financial resources of the Natural Park are obtained through the General Budget of the government of the Balearic Islands, with additional contributions of private companies such as “la Caixa” bank. However, no numbers were provided. The 2010 annual report of the Nature Park does contain some budget information, but no conclusive budget overview (Parque Natural de Ses Salines d’Eivissa i Formentera, 2011). Partially due to the economic crisis that Spain is going through, budgets have been frozen for a number of years and now they are clearly insufficient to deal with the management needs.

▶ Staff training and development

Some Concern

The State Party informed in 2010 that the Natural Park has a staff consisting of technical, education, informer, conservation, surveillance and naturalists teams, plus environmental agents from the Ministry of Environment. 2010 staff numbers of the Nature Park were about 15, with most of the staff shared with other protected areas in the area (Parque Natural de Ses Salines d’Eivissa i Formentera, 2011). Currently (2014), the Natural Park has only one full-time staff and one management director, the latter being shared with another protected area. The State Party has stated that the staff of the Nature Park and particularly its technicians and educators are highly trained. However, no information about staff training or development programmes was provided. No budget for research tasks or wildlife monitoring is available.

▶ Sustainable use

Serious Concern

Sustainable use of the site is for tourism mainly. However, there is concern regarding visitation and anchoring by recreational boats and yachts within the site (WHC, 2011) as well as growing tourism pressures in coastal areas with fragile ecosystems, like dunes.

► Education and interpretation programs

Mostly Effective

The Ses Salines d'Eivissa i Formentera Nature Park implements a broad education and interpretation programme, including visitor education and awareness raising activities, a dedicated education programme for school children (ca. 900 participating children in 2010), and produces various publications (Parque Natural de Ses Salines d'Eivissa i Formentera, 2011). The World Heritage status of the Nature Park could be emphasized more clearly in the context of these activities (IUCN, 2009).

► Tourism and interpretation

Some Concern

Although the opening of the Visitor Interpretation Centre at Ses Salines Nature Park was scheduled for 2011, and was actually built, it has not opened to the public and there is no new date scheduled for its opening. Some visitor interpretation activities were implemented at Ses Feixes (IUCN, 2011). There have also been activities aimed at visitor management at both Ibiza and Formentera, and at signposting. Visitor services are offered by licensed local businesses. Management of visitation by cars as well as boats and yachts, and of the use of beach areas by tourists, remains a challenge (Parque Natural de Ses Salines d'Eivissa i Formentera, 2011).

► Monitoring

Serious Concern

Limited monitoring of key populations of seabirds and water quality which used to take place at the reserve (Parque Natural de Ses Salines d'Eivissa i Formentera, 2011) was stopped due to a lack of budget and staff. An integrated monitoring system addressing key threats to the integrity of the outstanding universal values of the site is still missing (WHC, 2011).

► Research

Mostly Effective

Some research is conducted in and around the site by the Parque Natural de Ses Salines d'Eivissa i Formentera, by the Mediterranean Institute for

Advanced Studies (IMEDEA) and Center for Advanced Studies of Blanes (CEAB), and by other institutions including the universities of Madrid, Barcelona and Valencia. Research areas include seagrass ecology, invasive alien macrophytes, and ornithology.

Overall assessment of protection and management

Some Concern

The site is under considerable pressure, mainly from poorly controlled tourism. The threats have been growing during the last years and several cumulative impacts seem to be approaching a critical point. At the same time the management (including management system and effectiveness, staffing, enforcement of borders and the legal framework, visitor management, monitoring of key threats) has so far been clearly insufficient, and has not been effective to properly address these pressures on the site's values. There is also a clear lack of financial resources and staff.

► Assessment of the effectiveness of protection and management in addressing threats outside the site

Some Concern

The main external threats to the site's values have been offshore disposal of dredged material ca. 15 km distant from the site, disposal of poorly treated sewage from Ibiza and Platja d'en Bossa sewage treatment plants during peak tourism season, and introduction of invasive species. While clear efforts were made by the State Party to reduce threats from IAS and dredging disposal, the sewage threat has apparently not been effectively addressed yet, and remains of serious concern. Regarding the new threats of submarine oil seismic exploration and drilling, at this moment there is a discussion between the government of the Islands and the government of Spain.

State and trend of values

Assessing the current state and trend of values

World Heritage values

► Marine ecosystems sustained by Posidonia oceanica

High Concern
Trend:Deteriorating

Although extensive Posidonia areas were found by the 2007 survey (Government of the Balearic Islands, 2007), this survey did not include long-term monitoring. Density decreases of seagrass beds between 21% and 70% over 10 years have been reported from various locations near and/or inside the site (Convalia, 2011). Even if additional research may be needed to determine if this loss of coverage is typical of the seagrass beds of the site as a whole, it is of high concern in relation to the site’s values.

► Coastal (including lagoon) and small island ecosystems

High Concern
Trend:Data Deficient

Degradation of the dune habitats of the Migiorn and Cavallet beaches (Ibiza) has been observed. The strong tourism pressure on the terrestrial/coastal part of the Nature Park (see Parque Natural de Ses Salines d’Eivissa i Formentera, 2011) means there is a growing concern for the integrity of these ecosystems.

► Marine biodiversity

High Concern
Trend:Deteriorating

The conservation status of marine biodiversity of the site, although apparently not monitored in detail currently, is inferred to be of high concern because it largely depends on the conservation status of the Posidonia oceanica meadows, the principal marine ecosystem of the site.

► Diversity of coastal and terrestrial flora

Data Deficient
Trend:Data Deficient

No information about the current conservation status of the terrestrial and coastal flora, or its trend, is available.

► Diversity of coastal and terrestrial fauna

High Concern
Trend:Deteriorating

Colonies of the critically endangered Balearic Shearwater Puffinus mauretanicus on Formentera, which overlap with the property, have experienced a strong decline in recent years, from more than 1,500 breeding pairs in the early 1990s to less than 1000 pairs in 2001, and 692 pairs in 2003-2006 (IUCN, 2012). The same may be true for the Ibiza population (747 pairs) and potentially for other seabird populations on site. No significant deteriorations of the conservation status of other coastal and terrestrial fauna of the site have been reported by the State Party or other stakeholders.

Other important biodiversity values

► Posidonia barrier reefs

The site hosts well preserved posidonia barrier reefs covering 0.8 has of marine surface. This ecosystem, almost disappeared in Northwestern Mediterranean, has high ecological importance and is highly vulnerable to human impacts (Ballesteros and Cebrián, 2004). Scientifics have dated a posidonia barrier reef located between Ibiza and Formentera as the oldest organism in the biosphere with at least 100,000 years old (Arnaud-Haond et al., 2012).

Summary of the Values

► Assessment of the current state and trend of World Heritage values

High Concern

Trend: Deteriorating

The state of key ecosystem and biodiversity values of the site including its Posidonia oceanica meadows with their associated biodiversity, and the population of the Balearic Shearwater Puffinus mauretanicus is of High Concern, and deteriorating. If this negative trend continues, these values may soon enter a critical conservation state.

Additional information

Key conservation issues

▶ Tourism pressure and construction, including in the coastal zone

Local

The tourism pressure and associated economic development interest on both islands with which the site overlaps is increasing, and although the State Party reports that long-term planning for Ibiza is based on constant not increasing visitor numbers, local NGOs and experts have reported about new development projects for touristic infrastructure in 2012. The recent revision of the coastal protection law of Spain has already introduced a lowered protection status for the overall coast of Formentera (Méndez, 2012). It is likely that the overall drive towards intensified tourism use and urban development along Spanish coast will also increasingly affect the values of the site in the long term, by further aggravating identified existing threats.

▶ Lack of awareness of World Heritage status and enforcement of effective protective regime in relation to anchoring of boats and yachts

Local

Several stakeholders have pointed out, and documented on photos and video, that the Posidonia meadows are often damaged by visitation and anchoring and wastewater pollution from numerous recreational boats and yachts inside the site. This can be due to a lack of awareness and/or enforcement of the management regime of the site, and can mean a potential need to revise and strengthen the management regime (WHC, 2011).

Benefits

Understanding Benefits

► Is the protected area valued for its nature conservation?

The considerable nature conservation values of the site are reflected by its designation as a mixed World Heritate site, as Natural Park, as Marine Reserve, as Site of Community Importance (SCI) and partly as a Ramsar site (Wetlands International, 2012). The seagrass habitat is also protected under the EU Habitats Directive (Rössler et al., 2009) and National Catalogue of Endangered Species.

► Does management of the site provide jobs (e.g. for managers or rangers)?

The property provides ca. 15 jobs for its management alone (Parque Natural de Ses Salines d'Eivissa i Formentera, 2011). In addition, a significant number of jobs (hundreds to thousands of jobs in tourism) indirectly benefit from the attractiveness of the outstanding universal value and biodiversity of the site.

► Outdoor recreation and tourism

There are 6 million arrivals to Ibiza annually (Rössler et al., 2009), with a high contribution of international visitors, and tourism at land and sea is is practiced at a high intensity (Parque Natural de Ses Salines d'Eivissa i Formentera, 2011). If managed sustainably, the site will continue to offer a unique opportunity to experience an extraordinary coastal landscape and seascape with its associated biodiversity. This will contribute significantly to income generation and the socio-economic development in the property's vicinity.

► Importance for research

The site has contributed to the scientific understanding of coastal Mediterranean waters and seagrass meadows, and continues to support extensive scientific research and publications (UNEP-WCMC, 2011).

► Contribution to education

Based on the site's significant importance for knowledge generation and its visitor and educational programmes and facilities, it also functions as a living

museum, which gives people a direct impression of the coastal Mediterranean landscape and seascape (Parque Natural de Ses Salines d'Eivissa i Formentera, 2011).

► Fishing areas and conservation of fish stocks

The seagrass meadows of the site are important spawning and nursing areas for a wide range of fish species, including commercially important species that support fisheries throughout the Balearic Islands (IUCN, 1999). Although this support function to sustainable fisheries has not been quantified in financial terms, these benefits are likely to be significant.

► Carbon sequestration

Posidonia oceanica seagrass meadows are considered as "blue carbon" store: coastal vegetation that sequesters CO2 and store carbon more effectively than terrestrial forests (Fourqurean et al., 2012). Thus, posidonia meadows contribute to climate regulation being estimated that it stores 420 103 gC m-2 (Pergent et al., 2012). In the Heritage site was estimated to exist 4,580 ha of posidonia meadows (Ballesteros and Cebrián, 2004), so according on previous estimation for all the posidonia meadows in the Balearic Islands (MacCord and Mateo, 2010; Pergent et al., 2012), the carbon stock of the site may be estimated around 270 million € on the global carbon market.

Summary of benefits

The most obvious benefits provided by the property are connected to tourism and the industry that is based on it, as a major pillar of the local and national economy. However, the site and particularly its seagrass meadows have other equally important benefits, such as contribution to sustainable fisheries, climate change mitigation and simply to the conservation of an endemic and uniquely well-represented ecosystem type and a number of globally threatened species.

Projects

Compilation of active conservation projects

№	Organization/ individuals	Project duration	Brief description of Active Projects
1	Mediterranean Institute of Advanced Studies		Various research projects related to marine conservation, seagrass ecosystem ecology and global change.
2	GEN-GOB Eivissa		Various projects on ecological education and campaigning on Ibiza
3	Oceana Europe		Campaign to enforce the preservation and conservation of posidonia meadows in Ibiza and Formentera

Compilation of potential site needs

№	Site need title	Brief description of potential site needs	Support needed for following years
1	n.a.	Establishment of an effective control mechanism against damage to seagrass meadows by anchoring and sewage release of recreational boats and yachts (see WHC, 2011).	
2	n.a.	Reestablishment /extension of seagrass friendly anchoring devices in appropriate zones of the property, accompanied by upgrade of communication and enforcement activities aimed at boat/yacht owners.	
3	n.a.	Finalization, approval and effective implementation of an integrated management plan for the property (see WHC, 2011).	
4	n.a.	Upgrade of the sewage treatment plants of Ibiza and Platja d’en Bossa (see WHC, 2011).	
5	n.a.	Establishment of an integrated monitoring system for the property that particularly focuses on key threats to the integrity of its OUV (see WHC, 2011).	
6	n.a.	Extension of the property (see WHC, 2011).	
7	n.a.	A monitoring program on posidonia meadows needs to be developed in order to assess anchoring and sewage impacts and thus implement appropriate measures.	

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