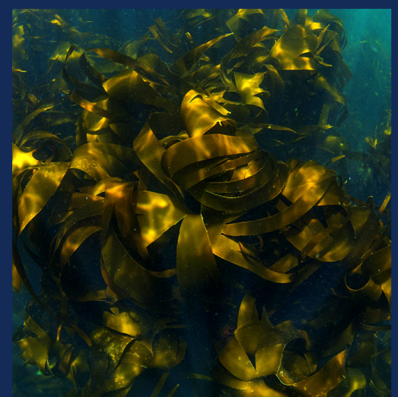
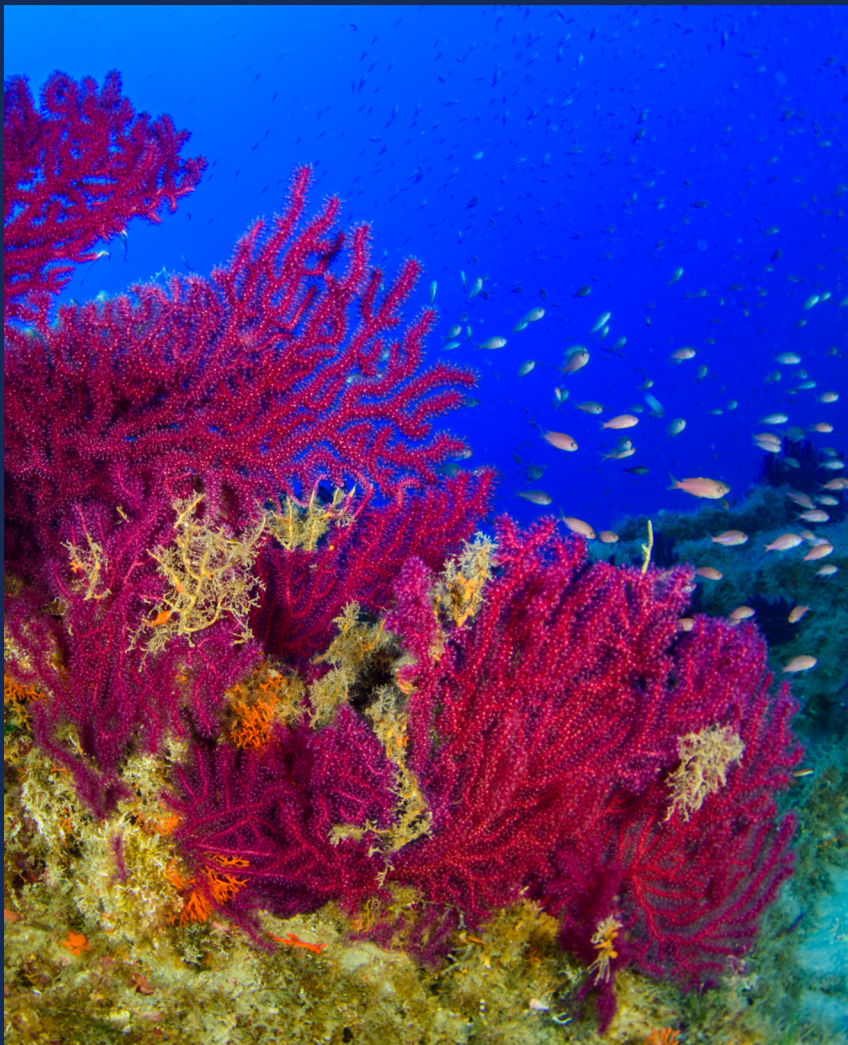


Unprotected Marine Treasures

*An Oceana proposal to protect 15 marine
biodiversity hotspots in Europe*



Marine biodiversity hotspots in danger

2020 is a critical year for nature and the protection of our ocean, in terms of important conservation targets converging, both at European Union (EU) and international levels:

- reaching at least 10% protection of coastal and marine areas (Aichi Target 11),
- achieving the Good Environmental Status of EU waters under the Marine Strategy Framework Directive (MSFD),
- halting biodiversity loss (EU 2020 Biodiversity Strategy) and
- ending overfishing (EU Common Fisheries Policy).

Despite several examples of threatened species recovery, such as harbour seals in Kattegat and bluefin tuna in the Mediterranean¹, the overall situation in most EU countries is indisputable: **marine targets have been missed and the overall health of our ocean is not improving.** It is absolutely clear that governments must increase their ambition concerning ocean protection, which will in turn bring significant benefits not only for marine biodiversity, but also for local communities, and for climate adaptation.

Oceana strongly supports a global target to protect **30% of the world's ocean** as marine protected areas (MPAs),² under high or full protection, to safeguard the global ocean on which we all depend. Several European countries have already endorsed this target, and Oceana's proposals can help to achieve it.

The climate emergency also forces us to **prioritise the conservation of so-called 'blue carbon' habitats** (e.g., kelp forests and seagrass beds) that play a critical role in sequestering carbon and fighting climate change.

Over the last 15 years, Oceana has carried out research across European waters with the aim of supporting the conservation and management of Europe's rich and threatened marine biodiversity. These at-sea expeditions have gathered data from the surface to the seafloor, through surveys with remotely operated vehicles (ROVs), SCUBA divers, infauna grab sampling, and, in some cases, multibeam echosounders and Conductivity, Temperature, and Depth (CTD) devices. Many of Oceana's expeditions have focused particularly on lesser known and deeper waters. Based on the research results and the best available scientific information, Oceana has developed specific conservation proposals for priority marine sites and made recommendations for their management.

This document provides an overview of **key sites of ecological importance** which Oceana has proposed for protection based on its expedition data, but which remain unprotected. Oceana has developed MPA proposals for each of these biodiversity hotspots that range from the Baltic to the Mediterranean Sea, as follows:

Baltic Sea

1. The Quark (Finland, Sweden)
2. The Sound (Denmark, Sweden)
3. Kattegat trench (Denmark, Sweden)

North Sea

4. Northern Danish waters (Denmark)
5. Norwegian Trench (Norway)
6. Brown Bank (Netherlands)
7. Aberdeenshire (United Kingdom)

Southwestern waters

8. Galician Atlantic coast (Spain)
9. Cape São Vicente (Portugal)
10. Waters off Doñana (Spain)
11. Canary Islands seamounts & El Hierro (Spain)

Mediterranean Sea

12. Cabliers Bank (Algeria, Morocco, Spain)
13. Palos Bank (Spain)
14. Mallorca Channel seamounts (Spain)
15. Aeolian Islands (Italy)

Importantly, the protection of these special places would **contribute to meeting marine conservation targets** in the European countries concerned, by addressing identified ecological gaps (notably in deeper areas), by strengthening the coherence of MPA networks, and by helping to achieve greater coverage of ocean protection. Oceana's proposals are based particularly on evidence of threatened marine habitats and species recognised under EU laws (such as the Habitats Directive) and Regional Seas Conventions (i.e., the Helsinki Convention (HELCOM), the Oslo-Paris Convention (OSPAR) and the Barcelona Convention).



Celebrating 15 years of expeditions

Since 2005, Oceana has explored European seas from the northernmost waters of the Baltic Sea to the easternmost waters of the Mediterranean Sea, and the southernmost European Atlantic waters. Oceana has documented places of high natural value, compiling extensive data, images, and videos that describe the rich biodiversity and threatened ecosystems present in European marine waters. Using the best available knowledge is crucial to protect and manage marine ecosystems and the services they provide and to achieve and maintain healthy seas. This year, we are celebrating 15 years of Oceana expeditions in Europe. Visit: eu.oceana.org/celebrating-15-years-expeditions



Baltic Sea



The Baltic Sea is one of the most unusual and fragile seas in the world. It is characterised by unique biodiversity and relatively simple ecosystems, in which each species plays an important role in maintaining the structure and dynamics of the entire system. It is one of the most polluted sea areas in the world.

16.7% of Baltic Sea waters are designated as MPAs.³ However, offshore and transboundary protections are lacking.

1. The Quark

A sea of fladas and reefs

(Finland, Sweden)

The Quark is a shallow, narrow sub-basin that separates the nearly-freshwater Bothnian Bay from the more saline Bothnian Sea. This area, located between Finland and Sweden, has an average depth of 22 m and reaches its deepest point at 133 m in the open sea.

Natural values: The Quark is a unique and ecologically valuable area. It represents an area for breeding or migration of various fish and bird species and is home to threatened species and habitats, such as sandbanks, reefs and fladas, which are highly productive shallow marine lagoons, typical in the Quark region and hotspots of biodiversity in the Baltic Sea.⁴ The area is also home to marine mammals, such as grey seals (*Halichoerus grypus*) and ringed seals (*Phoca hispida*). Its importance is recognised within Finland and Sweden, and by the designation of parts of the Quark as a UNESCO World Natural Heritage Site.

Oceana findings: Oceana carried out three expeditions in the Quark, in 2011, 2013 and 2018. The most recent and detailed surveys documented multiple habitat types, including habitats that had previously been well-researched, such as the vulnerable fladas and coral stonewort (*Chara tomentosa*) meadows, as well as lesser known habitats, such as polychaete bottoms and offshore stone reefs, covered by green and brown macroalgae. Many of the habitats found in the Quark are classified as threatened and/or priorities for protection under the Habitats Directive, HELCOM and the Finnish national Red List of threatened habitat types (e.g., reefs, fladas and sandbanks).



Meadow of coral stonewort (*Chara tomentosa*), Quark, Finland. © OCEANA/ Carlos Minguell

Main specific threats: eutrophication, invasive species, maritime traffic, sand extraction and underwater noise.

Oceana proposal: Oceana proposes that Finland and Sweden **establish a transboundary MPA** in the Quark sub-basin. Critically, this MPA should be underpinned by a joint management plan addressing the key habitats and species and the threats they face – which are very similar on both sides of the border.

2. The Sound

A transboundary mosaic of habitats

(Denmark, Sweden)

The Sound is a narrow strait – just 4 km at its narrowest point – that lies between Denmark and Sweden. Its waters are shallow, averaging 12 m and reaching a maximum of just 53 m.

Natural values: The waters of the Sound host a unique mosaic of marine communities, within a relatively small area. This rich diversity is due to the combined influence of the North Sea and the Baltic Sea and a longstanding prohibition on towed fishing gear (including bottom trawls) in most of the area that has greatly benefitted marine life in the region, including species and communities that have disappeared from adjacent waters. The Sound acts as a refuge for a variety of vulnerable and valuable species such as cod (*Gadus morhua*), horse mussels (*Modiolus modiolus*),⁵ and sea pens (Pennatulacea).

Oceana findings: Oceana expeditions in 2011, 2012, 2013 and 2016 documented ecologically important habitats, some of them listed under HELCOM and the Habitats Directive, such as bubbling reefs, kelp forests, sea pen fields, stone reefs, mussel beds, sandbanks, haplooms beds,⁶ and seagrass beds.



Sugar kelp (*Saccharina latissima*) Northern Sound, Sweden © OCEANA/ Carlos Minguell

Main specific threats: bottom-contact fishing gears, maritime traffic, and sand extraction.

Oceana proposal: In order to secure the survival of key species and habitats, it is essential that Denmark and Sweden **put in place a transboundary MPA** covering the entire Sound area, supported by a transnational management plan covering all key species and habitats, and with stronger, transboundary protection measures addressing all human activities.

3. Kattegat Trench

A deep haplooms sanctuary

(Denmark, Sweden)

Located in the central part of the Kattegat, which spans 45 km, the deep Kattegat Trench and the surrounding slopes are mostly characterised by soft bottoms, of mud or mixed mud-sand, although rocks and reefs also occur in some areas. The deepest part of the trench is 151 m, while the surrounding areas range from 20 to 40 m deep.

Natural values: The communities and species inhabiting the deep parts of the trench include haplooms and mussel beds, sponge aggregations, and sea pen fields. The deep trench is also known for harbouring reefs and bubbling reefs, and for the presence of harbour porpoises (*Phocoena phocoena*).

Oceana findings: Oceana expeditions in 2011 and 2012 documented various rare benthic communities and species, some listed under HELCOM, OSPAR, and the Habitats Directive. These features included haplooms beds, mussel beds, offshore stone reefs, soft coral gardens and, in the deeper areas, sponge aggregations and sea pen fields. Species such as cod and European eel (*Anguilla anguilla*) are also found here.



Soft coral garden (*Alcyonium digitatum*), offshore reef, Kattegat trench, Denmark © OCEANA/ Carlos Minguell

Main specific threats: bottom-contact fishing gears.

Oceana proposal: Oceana proposes the protection of a transboundary area of more than 5000 km², which includes both Danish and Swedish Natura 2000 sites, covering the deep trench in Kattegat and the surrounding areas, including some offshore reefs.

In the Baltic Sea, “protection is however not evenly distributed between sub-basins or between coasts and open sea.” HELCOM⁷



© OCEANA/ Carlos Minguell

North Sea



The North Sea is one of the most biologically productive seas in the world. It is relatively shallow (with an average depth of 90 m), descending to a maximum depth of 725 m to the north. It hosts a wide variety of habitats, such as bays, estuaries, fjords, mudflats, sandbanks, pockmarks, and rocky bottoms, which sustain valuable marine ecosystems such as cold-water reefs, kelp forests, and seagrass beds, among many others. It is also one of the busiest, most highly disturbed seas in the world.

21.2% of North Sea waters are designated as MPAs.³ However, habitats listed as threatened, such as coral gardens and soft bottoms are under-represented in the North Sea MPA network.

4. Northern Danish waters

Soft sediment and other offshore treasures

(Denmark)

The northern waters of the Danish North Sea extend from the west coast of the northern part of the Jutland peninsula, northwards to the Skagerrak, and westwards to Little Fisher Bank and Jutland Bank. These waters cover a wide range of depths, reaching down to 480 m in the region of the Skagerrak.

Natural values: The area encompasses a wide variety of seabed types and is characterised by higher biodiversity levels than many other parts of the North Sea, with a richness of benthic communities that comprise hundreds of species and diverse habitat types. Some biodiversity hotspots are known to occur, such as stone reefs and bubbling reefs.⁸

Oceana findings: Oceana expeditions in 2016 and 2017 documented valuable marine features, including some considered priorities for conservation under the Habitats Directive, the MSFD, and OSPAR. Offshore stone reefs and sandbank areas were researched. Key findings included a previously undocumented bubbling reef inside the Store Rev Natura 2000 site, and mussel beds, an offshore kelp forest and sea pen fields, in both protected and unprotected offshore areas. Cod (*Gadus morhua*) was commonly documented in offshore coral gardens. A juvenile European eel (*Anguilla anguilla*) was also spotted on a stone reef in an unprotected area. This species is 'Critically Endangered' according to the IUCN Red List of Threatened Species and is listed as threatened by OSPAR⁹.



Kelp forest (*Laminaria hyperborea*), Jutland Bank. © OCEANA/ Carlos Minguell

Main specific threats: bottom-contact fishing gears, oil and gas exploitation, sand extraction, shipping, and windfarms.

Oceana proposal: Oceana proposes the **designation of new MPAs and/or the enlargement of existing MPAs** to safeguard newly-discovered but unprotected locations with features of high ecological value, notably kelp forests and sea pens. Additionally, **unprotected but priority features inside MPAs should be officially added onto each site list**, to grant them protected status. The protection of all priority features inside MPAs must be secured through more robust and targeted management measures.

5. Norwegian Trench

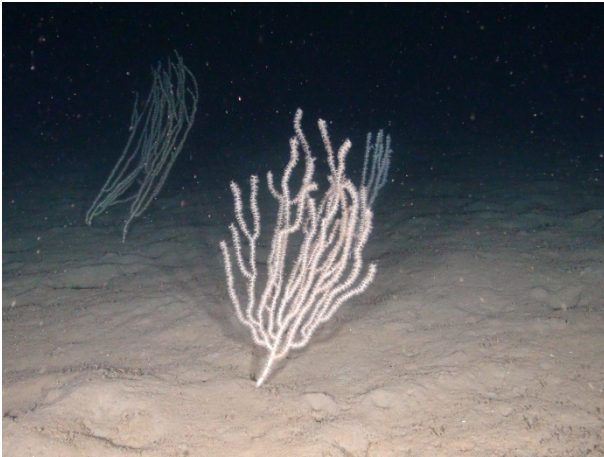
Unseen bamboo coral gardens

(Norway)

The Norwegian Trench (also known as the Norwegian Deep) is the largest depression in the North Sea, extending for around 900 km along the Norwegian coast. It reaches depths of roughly 700 m, representing the deepest part of the otherwise shallow North Sea.

Natural values: The Norwegian North Sea is very rich in terms of the species it contains, and hosts assemblages not found elsewhere in the North Sea. Its waters are home to a variety of deep-sea habitats, such as bamboo coral gardens and deep-sea sponge aggregations. Other important and productive ecosystems are found in shallower waters along the coast, such as kelp forests and eelgrass meadows, which support a diversity of associated species.

Oceana findings: Oceana expeditions in 2016 and 2017 documented priority species and habitats listed by OSPAR, such as coral gardens (gorgonians, black corals), rhodolith beds, deep-sea sponge aggregations, sea pen fields, seagrass beds, cod, and thornback ray (*Raja clavata*). Vast forests of kelps and stone reefs were also recorded. The most noteworthy finding was a garden of bamboo coral (*Isidella lofotensis*), a Vulnerable Marine Ecosystem (VME) indicator species. The gardens that it forms are listed as 'Endangered' on the Norwegian Red List of Ecosystems and Habitat Types,¹⁰ and provide an essential fish habitat for various commercial species. Oceana's research provided the first-ever *in situ* footage of this threatened habitat in North Sea waters.



Bamboo corals (*Isidella lofotensis*), off Karmøy © OCEANA

Main specific threats: bottom-contact fishing gears, oil and gas exploitation, and shipping.

Oceana proposal: Oceana recommends that **new MPAs be designated** in both shallow and deep-water areas, to safeguard threatened species and habitats (such as the bamboo coral forest), essential fish habitat (EFH) areas, and vulnerable marine ecosystems. Oceana also urges Norway to **dedicate resources to study the seabed of the Norwegian Trench** to identify other priority features for conservation and management, as it has done in other marine areas of Norway.

6. Brown Bank

Unexpected ross worm reefs

(Netherlands, United Kingdom)

Brown Bank (also known as Brown Ridge) is a ridge formed by a series of large-scale sandbanks in Dutch and UK waters of the southern North Sea. The ridge rises approximately 20 m above the surrounding seabed, with the deepest parts at around 60 m and the shallowest at 16 m.

Natural values: Brown Bank has long been recognised as an area of ecological interest, due mainly to the high abundance of cetaceans and seabirds in the area, and as a spawning ground for commercial species, such as cod. The UK side lies within a Natura 2000 site designated to protect a single species, harbour porpoise (*Phocoena phocoena*). However, no protection is in place for the Dutch side, although it qualifies for inclusion in the Natura 2000 network due to the high number of seabirds that it supports. Oceana focused its research on the benthos in this area to shed light on its importance and the possible interlinkages between seabed and pelagic ecosystems.

Oceana findings: Oceana expeditions in 2016 and 2017 recorded species of commercial and conservation interest on the sandbanks, such as cod, for which the area provides spawning/nursery habitat. The most noteworthy discovery was the presence, in Dutch waters, of biogenic reefs formed by ross worm (*Sabellaria spinulosa*). Brown Bank represents the only known Dutch location of this fragile habitat, which is listed as threatened by OSPAR.¹¹



Edible crab (*Cancer pagurus*) in a *Sabellaria spinulosa* reef, Dutch waters of Brown Bank © OCEANA

Main specific threats: bottom-contact fishing gears, oil and gas exploitation, shipping, and windfarms.

Oceana proposal: Oceana recommends that the Dutch waters of **Brown Bank be protected as a matter of priority**, to safeguard the fragile ross worm reefs. Additionally, Oceana urges the Netherlands and the UK governments to **carry out comprehensive benthic habitat mapping of the Brown Bank**, to identify any further ross worm reefs and to assess their condition and extent.

One of the most noteworthy discoveries of Oceana's expedition to the Brown Bank was the presence of the only known biogenic reefs formed by Sabellaria spinulosa in Dutch waters.

7. Aberdeenshire

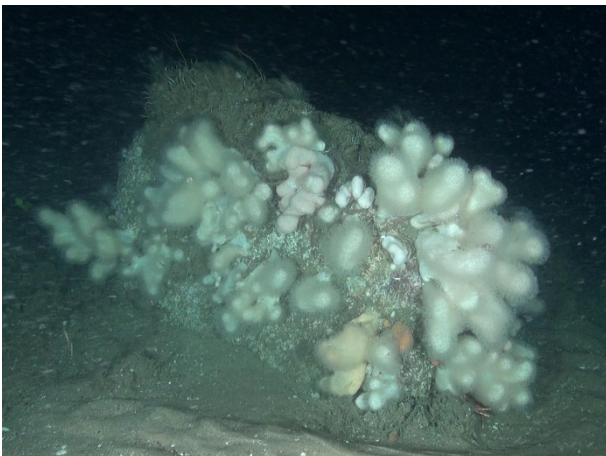
Fragile reefs beyond proposed protection

(United Kingdom)

The waters surrounding Aberdeenshire, located on the northeast coast of Scotland, are characterised by a wide range of geological and geomorphological features that, in turn, host a diverse array of marine biotypes and species. One area of interest is the Southern Trench, a large-scale seabed incision that reaches depths of 244 m.

Natural values: The area of the Southern Trench is considered ecologically important due to the occurrence of burrowed mud habitats, fronts, shelf deeps, minke whales, and geodiversity features. On the basis of all these features, the Scottish Government has proposed the designation of the Southern Trench as a Nature Conservation Marine Protected Area.

Oceana findings: Oceana's expedition in 2017 documented multiple habitat types, some listed by OSPAR and under national legislation, both inside and outside the proposed protected area boundaries. These included brittlestar beds, sea pen field communities, kelp forests, soft coral gardens, stone reefs, sea caves, and *Sabellaria spinulosa* reefs. Cod, sharks (*Squalus acanthias*) and rays (*Raja clavata*, *R. montagui*) were also found here.



Sabellaria spinulosa aggregation covered by soft corals (*Alcyonium digitatum*), off Aberdeenshire © OCEANA

Main specific threats: bottom-contact fishing gears, oil and gas exploitation, pollution, shipping, and windfarms.

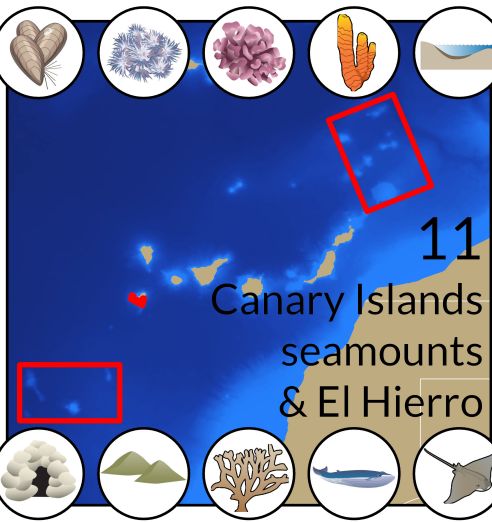
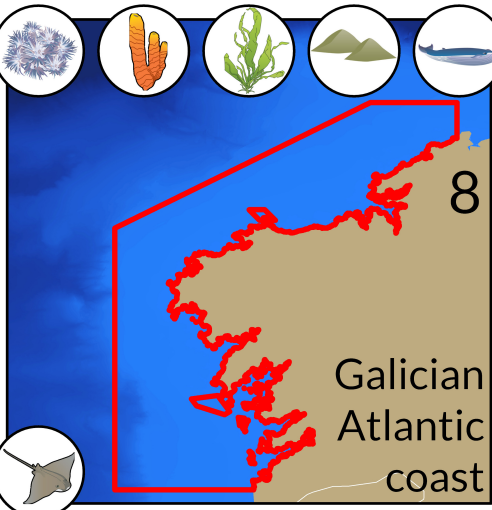
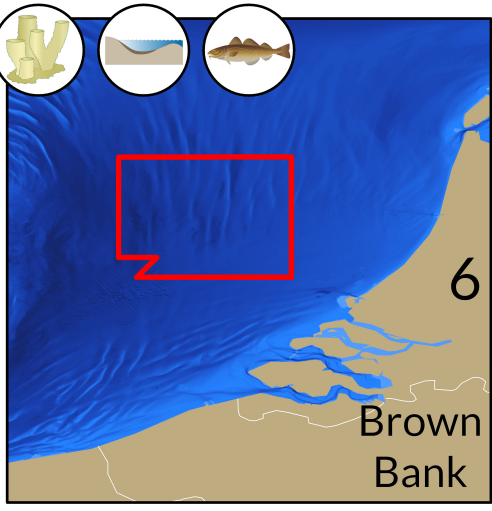
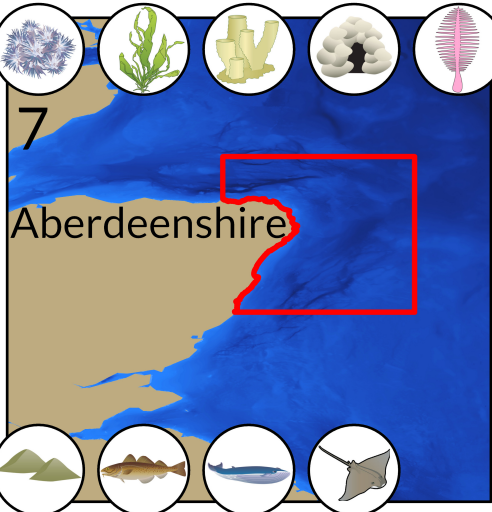
Oceana proposal: Oceana strongly supports the designation of the proposed Southern Trench MPA and proposes that some **additional features be officially recognised** as present within the proposed site, such as *S. spinulosa* reefs and additional

locations of sea pen fields. Additionally, the **proposed Southern Trench MPA boundaries should be enlarged to the south**, to encompass unprotected areas of *S. spinulosa* reefs, kelp forests and sea caves, among others. Oceana submitted these recommendations, supported by the expedition data, to the Scottish Government during the public consultation for the protection of the site.¹²

*Habitats formed by macroalgae, like kelp forests, cover less than 10% of the area of land-based forests, but store the same amount of CO₂. They play a critical role in the fight against climate change.*¹³



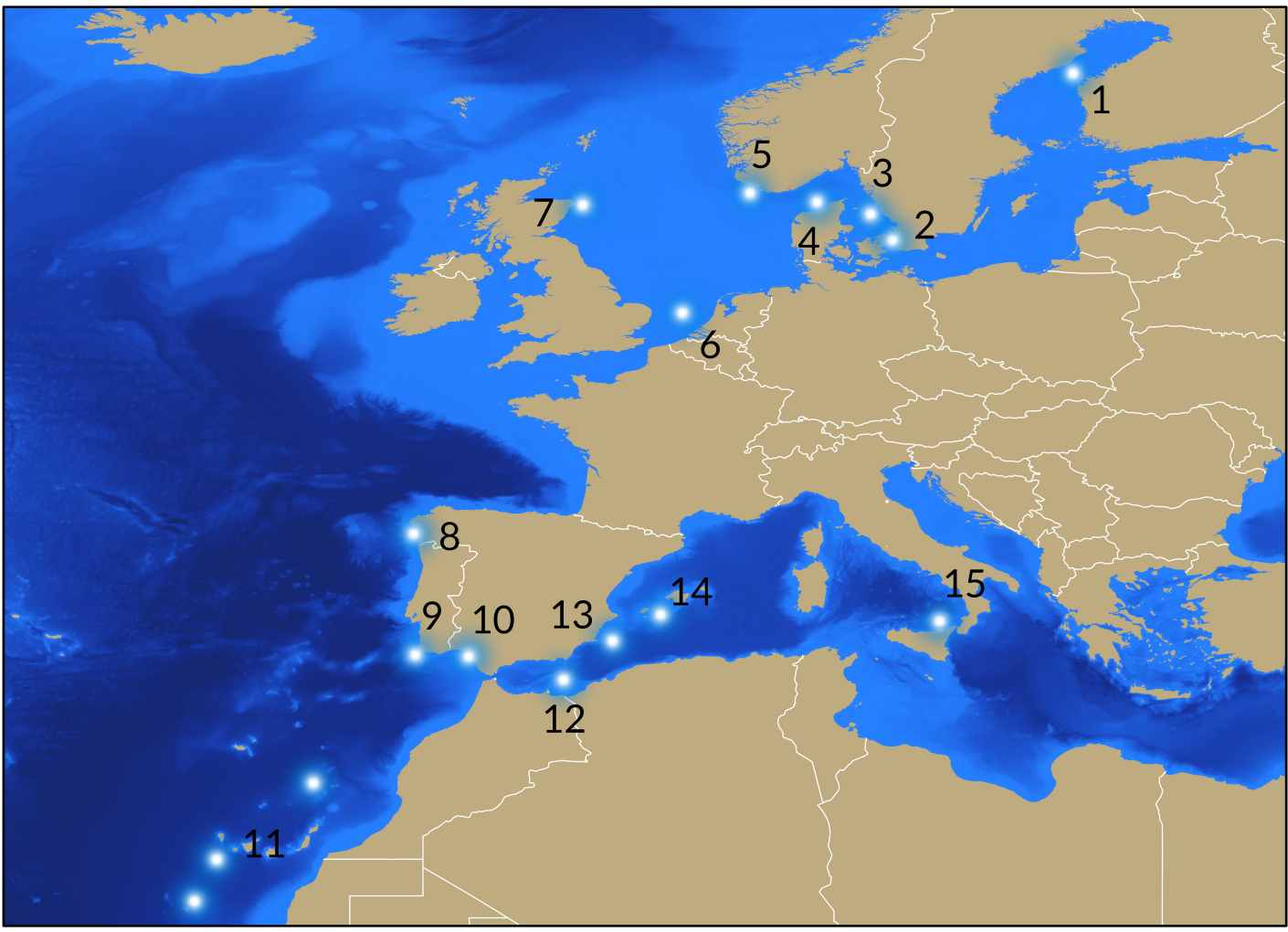
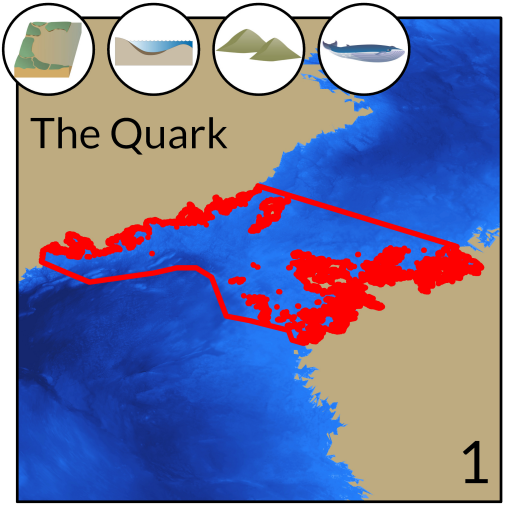
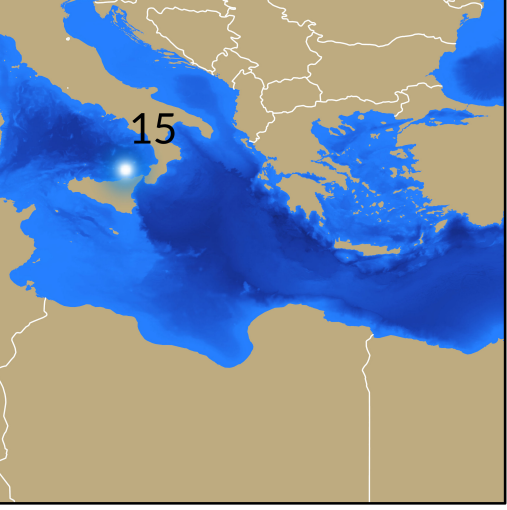
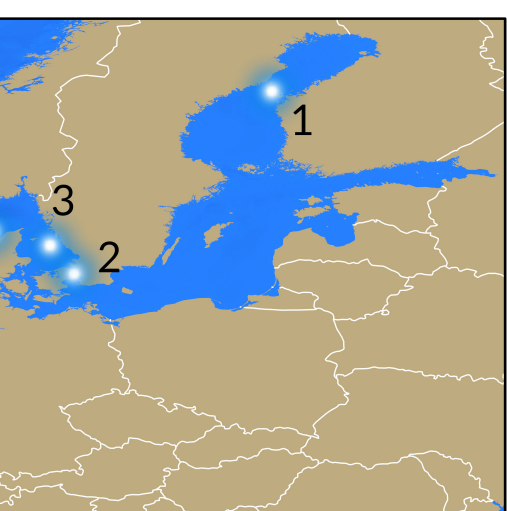
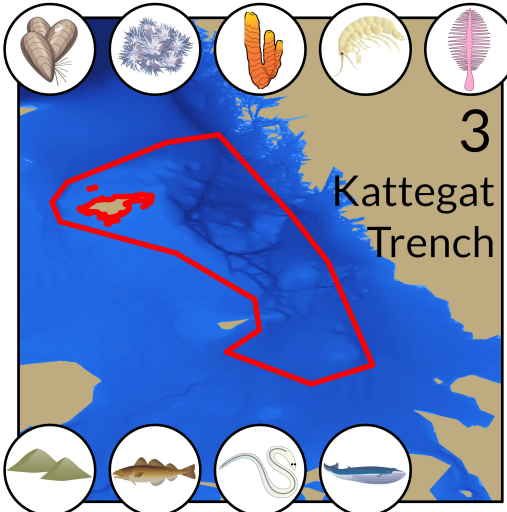
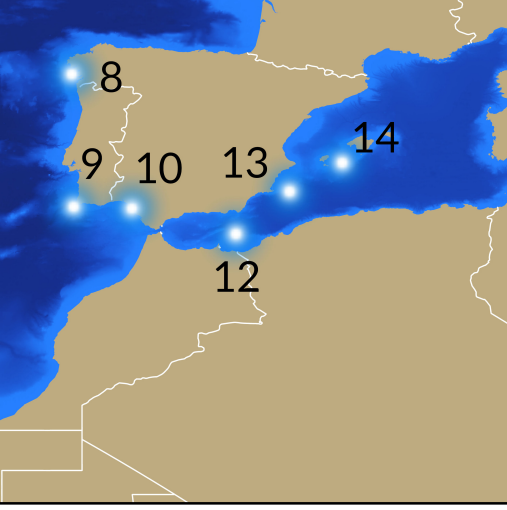
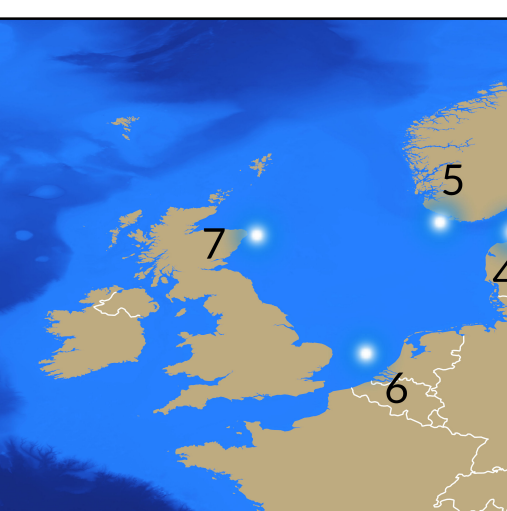
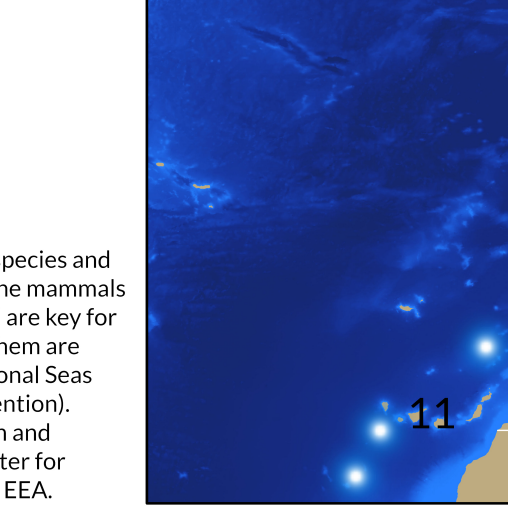
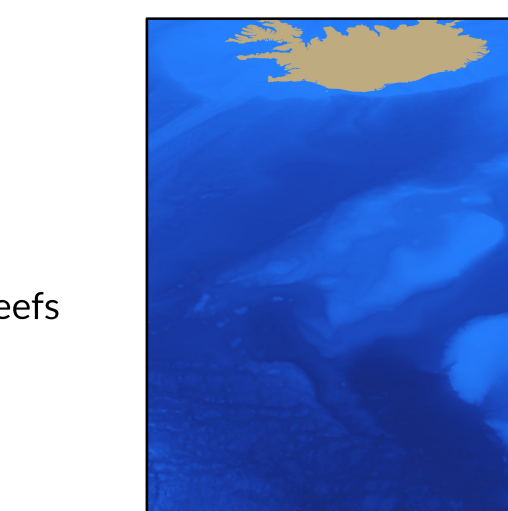
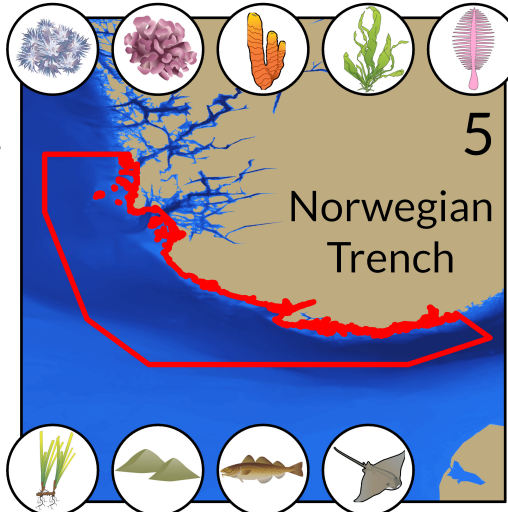
© OCEANA/ Carlos Minguell



- Key habitats:**
- Biogenic reefs
 - Bubbling reefs/pockmarks
 - Coral gardens
 - Coralligenous/rhodolith beds
 - Deep-sea sponges
 - Engineer amphipods
 - Fladas
 - Kelp forests
 - Sabellaria reefs
 - Sandbanks
 - Sea caves
 - Sea pen fields
 - Seagrass beds
 - Seamounts/banks/stone reefs
 - White coral reefs

- Key species:**
- Cod
 - Corals
 - European eel
 - Marine mammals
 - Sharks/rays

All of the features represented on this map, both species and habitats, have been documented by Oceana (marine mammals are also based on other available information) and are key for the conservation of the areas identified. Most of them are either protected under EU legislation and/or Regional Seas Conventions (HELCOM, OSPAR, Barcelona Convention). Symbols in the map are courtesy of the Integration and Application Network, University of Maryland Center for Environmental Science. Maps sources: EMODnet, EEA.



Southwestern waters



The southwestern waters of Europe cover a wide range of depths and temperatures. Many different marine ecosystems can be found from the north-western coast of Spain to the Canary Islands, from north to south, and from coastal waters to very deep bottoms. These waters are managed under European regulatory frameworks and OSPAR, except for the Canary Islands, which are currently outside the OSPAR maritime area.¹⁴

4.7% of these waters are designated as MPAs.³ This coverage is **far below the 10% target for protection**, as committed to by these countries under the UN Convention on Biological Diversity.

8. Galician Atlantic coast

The world's densest yellow tree coral forests (Spain)

The Galician Atlantic coast comprises diverse marine ecosystems, from estuaries and sandy shores, to deep rocky bottoms. In these deeper waters, rocky banks are found, which shelter marine life. Among the most impressive habitats found in these banks are forests of yellow tree coral (*Dendrophyllia cornigera*). This stony coral species is present in the waters of the eastern Atlantic and the entire Mediterranean Sea and grows to form three-dimensional branched colonies and aggregations of variable densities, at depths ranging from 40 m to almost 600 m.¹⁵

Natural values: The ecological importance of these waters is evidenced by the intense fishing activity here, targeting fish, crustacean and mollusc species of high commercial value. Sandbanks, kelp forests, rhodolith beds, sea pen fields and coral gardens occur. From the coast to the deep banks, these waters are also known for the abundance of cetaceans they harbour. Oceana documented multiple habitats in this area,¹⁶ and among them, dense aggregations of yellow tree corals.

Oceana findings: Oceana's expedition in 2008 recorded the densest known forests of yellow tree coral in several banks along the Galician Atlantic coast. This habitat, listed as threatened under OSPAR and eligible for protection under the Habitats Directive, harbours a high diversity of species, including large deep-sea sponges, coral gardens (gorgonians and black corals), fishes and molluscs. The tops of some banks were covered by kelp forests. Various species of cetaceans were also spotted (e.g., *Delphinus delphis*, *Balaenoptera acutorostrata*).¹⁷ Mushroom sponge (*Artemisina transiens*), a species previously thought to be extinct, was re-discovered in association with these Galician forests.¹⁸



Yellow tree coral (*Dendrophyllia cornigera*) forest, Villar de Fuentes bank, Galicia © OCEANA

Main specific threats: bottom-contact fishing gears.

Oceana proposal: Part of the Galician area where these corals occur is protected under the Birds Directive only, and protection should be extended to include seabed habitats. Oceana proposes the **enlargement of Islas Atlánticas National Park** to include the Sisargas Islands and the surrounding banks, and the **creation of new MPAs** to protect other banks (e.g., Villar de Fuentes and Bermeo banks) where similar forests are found, to safeguard these rich and vulnerable ecosystems.

9. Cape São Vicente

Colourful gorgonian gardens

(Portugal)

The marine area off Cape São Vicente, the southwesternmost point of Portugal on the Algarve coast, is a very exposed area with a narrow continental shelf.¹⁹ These waters harbour the muddy São Vicente and Portimão canyons and shallower rocky bottoms off Sagres.

Natural values: The area encompasses part of a system of corridors that connect Atlantic and Mediterranean waters.¹⁹ Gorgonians are known as the main habitat-forming species in shallow waters, and their aggregations host an abundance and diversity of marine species.²⁰ Muddy bottoms harbour species of commercial interest, such as Norway lobster (*Nephrops norvegicus*) and hake (*Merluccius merluccius*), while gorgonian forests occur on rocky beds. Both muddy and rocky bottoms in the area represent important artisanal and industrial fishing grounds.

Oceana findings: Oceana expeditions in 2011 and 2012 documented a wide range of rich habitat types, from São Vicente canyon to the rocky

bottoms south of Sagres and muddy head of Portimão canyon. Among the main communities recorded were sea pen fields, stone reefs, coral gardens, such as black coral forests and mixed gorgonian gardens, deep-sea sponge aggregations, engineer amphipod (*Ampeliscidae*)⁶ aggregations, and caves and overhangs with red coral (*Corallium rubrum*).^{21,22}



Mixed gorgonian garden (*Eunicella* spp., *Leptogorgia* spp.), Sagres © OCEANA/ Carlos Minguell

Main specific threats: bottom-contact fishing gears and shipping.

Oceana proposal: Oceana proposes that an **MPA be designated in these waters**, in which key benthic and pelagic threatened species and habitats occur. Many of the habitats documented in the waters of São Vicente are listed for protection under both OSPAR and the Habitats Directive. Designating this area as protected would contribute to Portugal's targets for marine environmental protection.

10. Waters off Doñana

A very shallow coral forest

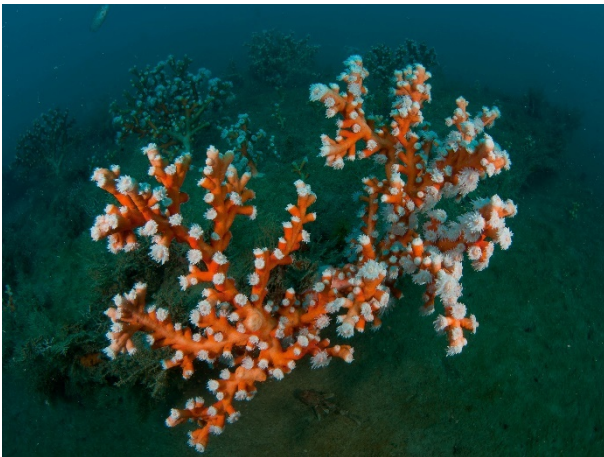
(Spain)

Orange tree coral, *Dendrophyllia ramea*, is a three-dimensional stony coral species found in waters of the eastern Atlantic and in patchy locations in the Mediterranean Sea. It is a shallow-water species, typically found at depths ranging from 20 to 100 m on rocky bottoms, with exceptional records of it from muddy bottoms in the eastern Mediterranean Sea.²³

Natural values: The waters in front of the iconic Doñana National Park harbour a rich mosaic of habitats, including orange tree coral forests, gorgonian gardens and highly productive soft bottoms, from which commercially important fish and mollusc species are captured. Orange tree coral

creates habitats in which many species shelter and feed, due to the three-dimensional and branched shape of its colonies, which can grow to more than 1 m high. These colonies can form aggregations that create very rich ecosystems.

Oceana findings: Oceana expeditions in 2007, 2009 and 2010 documented impressive orange tree coral forests, a type of coral garden listed by OSPAR and the Habitats Directive, in the waters in front of and to the south of Doñana National Park. These habitats were recorded at a very shallow depth of 15 m below the surface, which is unusual for this species, and can be explained by the high turbidity of the waters in this area. Oceana also documented coralligenous concretions, gorgonians, and threatened species such as the *Elisella paraplexauroides* and *Astroydes calycularis* corals, thornback ray (*Raja clavata*), and cod.



Dendrophyllia ramea forest, off Doñana © OCEANA/ Carlos Suárez

Main specific threats: bottom-contact fishing gears and SCUBA diving.

Oceana proposal: Oceana proposes the **seaward enlargement of Doñana National Park**, to protect the rich marine diversity of the adjacent waters and to increase the ecological value of this highly protected area. This measure will also ensure the protection of these vulnerable communities from the intensive fishing activity occurring in these waters, by implementing ecosystem-based management of human activities.

11. Canary Islands seamounts & El Hierro

A remote paradise for sponges and corals (Spain)

To the north and south of the Canary Islands, clusters of tall seamounts rise from very deep bottoms, at around 2000 to 4000 m depth. The peaks of some of these seamounts nearly reach the surface. The volcanic island of El Hierro, also surrounded by very deep bottoms, can also be defined as an 'emerged seamount'.

Natural values: Seamounts are widely known as hotspots of marine biodiversity, as they create oceanographic conditions which supply food and nutrients and provide shelter and habitat for marine life across a wide range of depths. The waters surrounding the Canary Island seamounts are home to many species of cetaceans and turtles. Oceana has documented very diverse and rich ecosystems on these bottoms. In the past, pelagic fishes and cephalopod species were targeted by fishing activities around these seamounts.²⁴

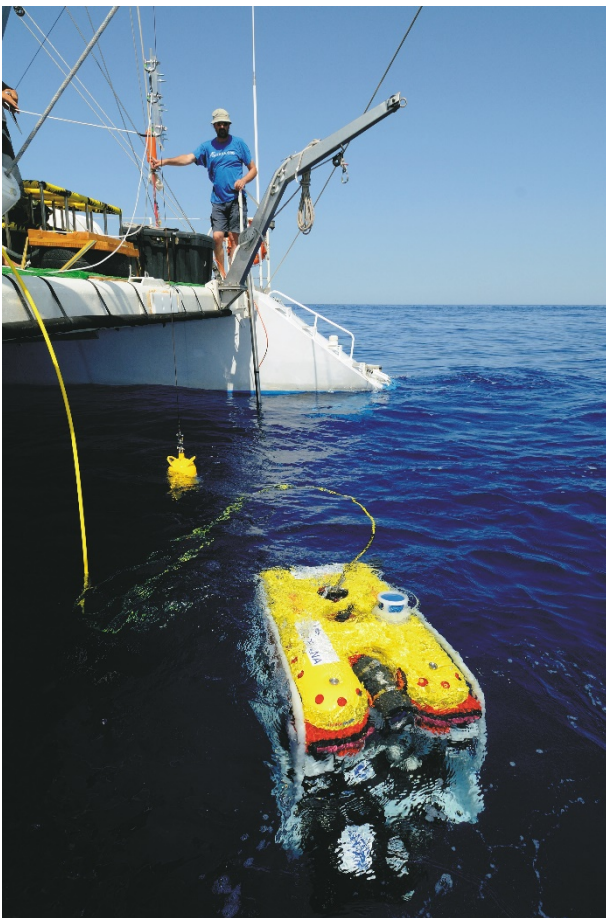
Oceana findings: Oceana expeditions in 2009 and 2014 documented the waters of El Hierro, two seamounts to the north (Dacia and Tritón), and two seamounts to the south (Bimbache and Echo) that are part of the Sahara seamount cluster. The sites were characterised by a high diversity of ecosystems, including vulnerable species and habitats that are listed for protection under the Habitats Directive, such as sandbanks, sea caves, deep-sea sponge aggregations, oyster reefs, coralligenous concretions, coral gardens (black corals, gorgonians, bamboo corals) and white coral reefs, along with sharks, turtles, dolphins, and whales.



Black coral (Stichopathes sp.) forest, Dacia seamount © OCEANA

Main specific threats: bottom-contact fishing gears (El Hierro).

Oceana proposal: Oceana proposes the designation of two large remote MPAs to protect the seamounts to the north and south of the Canary Islands and ensure the conservation of the great variety of ecosystems they harbour. Oceana also proposes the designation of El Hierro as the first entirely marine National Park in Spain, to provide protection to sponge and coral communities, cetaceans, and migratory species.



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Mediterranean Sea



The Mediterranean Sea is a biodiversity hotspot under significant pressure from a variety of human activities. With an overfishing rate of close to 80% for assessed Mediterranean fish stocks,²⁵ the basin is by far the largest global tourism destination,²⁶ and supports 30% of the world's marine traffic routes, including 25% of international oil transport.²⁷ Conserving marine ecosystems is therefore a challenge in the region, and actions by governments have so far been insufficient to halt biodiversity loss and meet policy targets. More efforts are required notably to expand marine protected areas and manage them effectively.

MPAs in the Mediterranean have mostly been designated in its northern and western parts, particularly in coastal and pelagic environments. Consequently, the southern shore and deep-sea habitats are not adequately represented in the MPA network.

12. Cabliers Bank

A pristine and growing coral reef

(Algeria, Morocco, Spain)

Cabliers Bank is located in the Alboran Sea (Western Mediterranean). This exceptional feature is a 25 km long group of mounds topped by living cold-water coral reefs, formed by white corals (*Lophelia pertusa* and *Madrepora oculata*).²⁸

Natural values: Live and large coral reefs are uncommon in Mediterranean waters, and Cabliers Bank is unique in this sea, due to its size and condition. White coral reefs are key habitats for benthic fauna, as they create three-dimensional habitats for deep-sea life, which remain even once the corals have died. Cabliers Bank is the largest and only known coral mound province in the Mediterranean Sea with growing reefs.²⁸ Pelagic species, such as turtles and cetaceans, can be spotted in these waters.

Oceana findings: Oceana's expedition in 2011 documented two mounds in the Cabliers Bank, Catifas and Cabliers. Living reef structures of more than 1 m high were documented, accompanied by coral gardens (black corals, gorgonians), large sponges and many other species.²⁹ The *L. pertusa* and *M. oculata* white corals, some black coral species, and the habitats they form are listed for protection under the Barcelona Convention, and are also considered to be VME indicators by the General Fisheries Commission for the Mediterranean (GFCM). Oceana also discovered a new species of glass sponge, the lollipop sponge *Sympagella delauzei* during its expedition in the area.³⁰



White corals (*Madrepora oculata* and *Lophelia pertusa*), Cabliers Bank © OCEANA

Main specific threats: bottom-contact fishing gears and marine litter.

Oceana proposal: Oceana proposes that Cabliers Bank be protected through the creation of an offshore deep-sea transboundary area, to conserve this valuable and near-pristine ecosystem. Additionally, a Fisheries Restricted Area (FRA) under the GFCM could be designated to protect the fragile coral ecosystems (VMEs) from adverse impacts of bottom fisheries.

13. Palos Bank

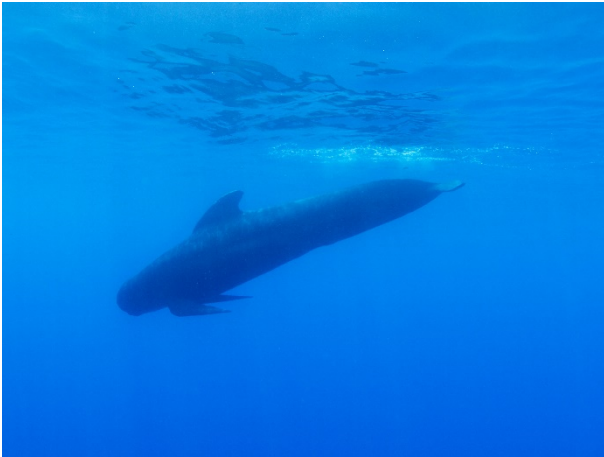
A seamount covered by soft corals

(Spain)

Palos Bank is a seamount that lies 55 km off the southeast coast of Spain. It rises from the seabed from a depth of over 2000 m, reaching up to 100 m below the surface.

Natural values: The bank is known by fishermen who target tuna and tuna-like species as well as swordfish. Cetaceans, such as pilot whale (*Globicephala melas*), can also be spotted in its waters. Its bottoms harbour multiple species of corals, including soft corals, bamboo corals, white corals and black corals, as well as oyster biogenic reefs and crinoid beds.³¹ These habitats have been documented by Oceana (see below) and by Spain, under the ongoing LIFE INTEMARES project,³² through surveys of both the seamount and the adjacent pockmark area to the north.

Oceana findings: Oceana expeditions in 2007, 2010 and 2012 provided the first records of the benthic ecosystems of Palos Bank, from its peak to deeper areas. These included red gorgonians (*Paramuricea clavata*) and soft corals (*Alcyonium digitatum* and *Nephteidae*) forming coral gardens that covered the shallowest areas, while many other coral species were found in deeper areas. Some of these coral species and the habitats they form are protected under the Barcelona Convention. Deep-sea sponges and rare species were recorded, including a new species to science, the giant foraminifer *Spiculosphon oceana*. A group of pilot whales was spotted during one of the expeditions to the area.



Pilot whale (*Globicephala melas*), Palos Bank © OCEANA/ Juan Cuetos

Main specific threats: bottom-contact fishing gears.

Oceana proposal: Oceana proposes that Palos Bank be **designated as an offshore MPA** on the basis of ecological features listed in the Habitats Directive and the Barcelona Convention. The rich pelagic and benthic biodiversity found on this seamount merit targeted measures of protection.

14. Mallorca Channel seamounts

A refuge for a bamboo coral forest (Spain)

The Mallorca Channel seamounts (Emile Baudot, Ausias March and Ses Olives) are three of the most prominent elevations in the Balearic Sea. Emile Baudot, to the south of the channel, rises roughly 800 m high from 1000 m below sea level, while Ses Olives and Ausias March, located in a shallower area to the east of Ibiza and Formentera, are approximately 500 m and 300 m high respectively.

Natural values: These waters are known to harbour important pelagic species, such as sperm whales (*Physeter macrocephalus*), loggerhead turtles (*Caretta caretta*), swordfish (*Xiphias gladius*) and bluefin tuna (*Thunnus thynnus*). Oceana contributed to the knowledge about the rich habitats and species of these seamounts, including an extraordinarily dense bamboo coral (*Isidella elongata*) forest.³³ Currently, the area is one of the locations being studied by Spain under the LIFE INTEMARES project,³² which has documented important habitats in the area, such as rhodolith beds, corals and pockmarks.

Oceana findings: Five Oceana expeditions in the area (in 2006, 2007, 2010, 2013 and 2014) focused mainly on documenting the rich benthic life on and around the three seamounts. The most significant

findings include rhodolith beds and coralligenous concretions, coral gardens (black corals, gorgonians), white coral framework, sea pen fields, deep-sea caves, deep-sea sponges, engineer amphipod (*Ampeliscidae*)⁶ beds, and oyster reefs. Oceana also discovered, in the pockmark area between Ses Olives and Ausias March, one of the densest and healthiest bamboo coral (*Isidella elongata*) forests remaining in the Mediterranean Sea. This species is 'Critically Endangered' according to the IUCN Red List of Threatened Species and is recognised as a VME under the GFCM. Occasional sightings of sperm whales, turtles, and devil ray (*Mobula mobular*) occurred while surveying the area.



Bamboo coral (*Isidella elongata*) colonies, Ses Olives © OCEANA

Main specific threats: bottom-contact fishing gears.

Oceana proposal: Oceana proposes **the designation of two large offshore MPAs** to protect these seamounts, considering their habitat type under the Habitats Directive, and to give protection to all the valuable pelagic and benthic species and habitats present in the three Mallorca Channel seamounts. The area also represents a valuable area under GFCM, to protect the VME indicator species that occur on the seamounts from the impacts of bottom-trawl fisheries in the area.

15. Aeolian Islands

A volcanic hotspot for marine life

(Italy)

The Aeolian Islands are an archipelago of seven main emerged volcanoes (Alicudi, Filicudi, Salina, Lipari, Vulcano, Panarea, and Stromboli), situated off the north coast of Sicily in the southeastern Tyrrhenian Sea. Together with several adjacent volcanic seamounts and banks, they form a ring-like structure known as the Aeolian Arc.

Natural values: The natural value of the Aeolians has long been recognised, and it was designated as a UNESCO World Heritage site in 2001. The waters surrounding these volcanic islands are characterised by steeply-sloped bottoms that host a wide array of habitats – including seagrass beds, seamounts, and hydrothermal vents – and are home to iconic species such as loggerhead sea turtle, sperm whale, swordfish, and bluefin tuna. Oceana findings helped to improve the previously limited knowledge of deep-sea ecosystems around the Aeolian Islands.

Oceana findings: Oceana’s expeditions in 2008 and 2018 documented a wide array of threatened, rare, and other key species and habitats around the seven Aeolian Islands and the Eolo seamount. Many of the habitats and species found are listed under the Habitats Directive and the Barcelona Convention. These features include seagrass beds, sea caves, coralligenous concretions, rhodolith beds, kelp forests, oyster reefs, coral gardens (black corals, gorgonians), sea pen fields, structures formed by hydrothermal activity (bubbling reefs), and deep-sea sponges. The most remarkable discovery was a large forest of bamboo coral (*Isidella elongata*), comparable in density and condition to the bamboo forest previously discovered by Oceana in the Mallorca Channel.



Mediterranean gorgonian (*Paramuricea clavata*) garden, Lipari, Sicily © OCEANA/ Juan Cuetos

Main specific threats: bottom-contact fishing gears, and recreational shipping.

Oceana proposal: The Aeolian Islands have long been recognised by the Italian government as a potential area for designation as an MPA.³⁴ Oceana, having significantly added to scientific knowledge about the ecological importance of these waters, strongly supports **the protection of Aeolian waters down to 1000 m depth**. Similarly to the Mallorca Channel site, this area is important for the protection of VMEs, as it hosts important coral species listed by the GFCM, such as remarkably dense colonies of ‘Critically Endangered’ bamboo coral.

“Dark Habitats are considered as sensitive habitats (...) and constitute veritable reservoirs of biodiversity that, therefore, must be protected and need further attention.” UNEP-MAP-RAC/SPA³⁵



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Learn more *about the ecologically valuable places described in this document*

Overview of Oceana's expeditions, visit eu.oceana.org/expeditions

Oceana's expedition reports, visit eu.oceana.org/publications

1. The Quark	• Report Protection beyond borders: An opportunity for the Quark (2019)
2. The Sound	• Report The Sound: Biodiversity, threats, and transboundary protection (2019)
3. Kattegat Trench	• Report Oceana proposal for a marine protected area. The Kattegat Trench (2014) • Report Conservation proposals for ecologically important areas in the Baltic Sea (2011)
4. Northern Danish waters	• Report Protecting the North Sea: Northern Danish waters (2019)
5. Norwegian trench	• Report Protecting the North Sea: Norway (2019)
6. Brown Bank	• Report Protecting the North Sea: Brown Bank (2019)
7. Aberdeenshire	• Report Protecting the North Sea: Aberdeenshire (2019)
8. Galician Atlantic coast	• Background document OSPAR Workshop on the improvement of the definitions of habitats (2011) • Report Propuesta de áreas marinas de importancia ecológica. Zona galáico-cantábrica (2009, in Spanish)
9. Cape São Vicente	• Poster Predicting Coral Gardens habitats in the Southwest coast of Portugal (2013) • Background document OSPAR Workshop on the improvement of the definitions of habitats (2011)
10. Waters off Doñana	• Factsheet Parques Nacionales Marinos (2017, in Spanish) • Report Golfo de Cádiz: Costa de Doñana (2011, in Spanish) • Background document OSPAR Workshop on the improvement of the definitions of habitats (2011) • Report Doñana and the Gulf of Cádiz (2010)
11. Canary Islands seamounts & El Hierro	• Factsheet Parques Nacionales Marinos (2017, in Spanish) • Factsheet Viaje a las profundidades de El Hierro (2016, in Spanish) • Report "Atlantic Seamounts" - El Hierro y montañas submarinas (2014, in Spanish) • Poster Preliminary data on deep-sea benthic habitats documented in four Macaronesian seamounts (2014) • Report Propuesta de áreas marinas protegidas de importancia ecológica: Islas Canarias (2011, in Spanish) • Background document OSPAR Workshop on the improvement of the definitions of habitats (2011)
12. Cabliers Bank	• Abstract Identification of seamounts-like features for Mediterranean marine habitats and threatened species (2012)
13. Palos Bank	• Report Expedition 2014 Balearic Islands: Cabrera National Park and Mallorca Channel Seamounts (2015) • Report Montes submarinos del Mediterráneo: Seco de Palos (2011, in Spanish) • Report Montañas submarinas de las Islas Baleares: Canal de Mallorca (2011, in Spanish)
14. Mallorca Channel seamounts	• Factsheet Parques nacionales marinos (2017, in Spanish) • Report Seamounts of the Balearic Islands 2010. Proposal for a Marine Protected Area in the Mallorca Channel (Western Mediterranean) (2010)
15. Aeolian Islands	• Report Towards the Creation of a Marine Protected Area in the Aeolian Islands (2018)

Together with the 15 priority places highlighted in this document, Oceana has documented and identified many other areas that harbour features of ecological importance, such as habitats and species listed for protection under the Habitats Directive and the Regional Seas Conventions, as well as features designated as Vulnerable Marine Ecosystems and areas that act as essential fish habitats. The protection of these sites would also represent important steps towards achieving marine conservation targets. Some examples of these other places documented by Oceana include the **Lebanese canyons**, the **Stone Sponge Seamount** (Balearic Sea), the **Alboran Sea seamounts** (Western Mediterranean), the **Jaizkibel marine area** (Cantabrian Sea), the **Cap Breton canyons** (Bay of Biscay) and the **Borkum Stones reefs** (Netherlands), among others.

Find out more about our habitats protection work, visit eu.oceana.org/habitats-protection

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