

**VALUABLE PRACTICE: Definition of elements that conform the Marine Green Infrastructure in the POEM**

**Description**

Marine Green Infrastructures (MGI) elements are included in the POEM as one of the uses and activities considered as “the listed or additional elements that should form part of the green infrastructure of Article 15 of Law 42/2007 of 13 December 2007 on Natural Heritage and Biodiversity”. These elements have been integrated in the POEM as a selection of natural and seminatural elements that enable and ensure ecological connectivity and ecosystem functionality, mitigation and adaptation to the effects of climate change, defragmentation of strategic areas for connectivity, and restoration of degraded ecosystems. For the selection of these elements an identification and mapping have been carried out for the 5 marine demarcations. This is included as factsheets with the description, cartography and ecosystem services that provides each element and these factsheets have been included as an annex of the diagnosis of each marine demarcation. As an MSP measure included in the POEM, the list of elements will be updated during the first cycle of MSP integrating new elements not considered in the first selection, such as restoration areas. Additionally, its incorporation into the forthcoming spatial analyses will be carried out in the context of the POEM.

**Practice typology**

(i) Measure

**Topics addressed**

<b>Main</b>	B. Climate Change adaptation [B.1. Green Infrastructures to enhance coastal-resilience (B.1.1. Green Infrastructures: Creation and maintenance of Nature-based solutions: wetlands, salt marshes, seagrass meadows, maërl beds, mangroves, dunes, etc.)]
<b>Secondary</b>	A. Climate change mitigation [A.4. Blue carbon sinks] D. Biodiversity and ecosystem protection and restoration [D1. A coherent network of marine protected areas (D.1.4 Elements that improve marine connectivity (i.e. submarine canyons)) and D.2. Restoring marine and coastal ecosystems]

**Sectors/Activity involved**

Nature protection and restoration, landscape protection, coastal protection and, indirectly, fishing, aquaculture, offshore renewable energy, port activities, maritime transport, cables and pipelines.

**Stakeholders involved**

The elaboration of the list of the MGI elements included in the POEM was developed by the MSP Competent Authority. The work of implementation and update of measure OEM3 “Definition, and incorporation in the POEM of the set of elements that make up the marine green infrastructure” will be carried out with the support of scientific institutions.

Additionally, measure OEM5 of the POEM aims to “create working groups to address management issues at the appropriate detail and scale”. These groups will involve administrative stakeholders from various departments (biodiversity, fisheries, navy, and technical institutions and research institutions) at the national, regional, and local level. One of the topics to be addressed will be: Peripheral protection zones of Priority Use Areas and High Potential Areas Biodiversity, the role of MGI within the POEM and management criteria and provisions for its appropriate conservation and coexistence with different uses and activities. Other subgroup is expected to assess the environmental services provided by marine ecosystems and how they are affected by maritime uses and activities, which is directly linked to MGI.

**Geographical scope**

MGI elements have been mapped for the 5 Marine Demarcations.



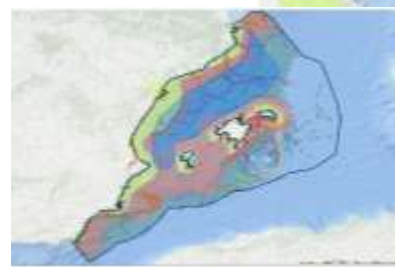
**Figure 1.** Surface occupied by MGI in the Canary marine demarcation.

**Figure 2.** Surface occupied by MGI in the North Atlantic marine demarcation.



**Figure 3.** Surface occupied by MGI in the South Atlantic marine demarcation.

**Figure 4.** Surface occupied by MGI in the Strait and Alboran marine demarcation.



**Figure 5.** Surface occupied by MGI in the Levantine-balearic marine demarcation.

**Governance context**

The MGI framework is included in the Law 42/2007 of 13 December 2007 on Natural Heritage and Biodiversity which indicates in its article 15 that “...to ensure the ecological connectivity and restoration of the Spanish territory will develop a State Strategy for Green Infrastructure, Ecological Connectivity and Restoration...”. This Strategy was approved in 2021 at the national level, establishing guidelines for the identification of the green infrastructure.

The competent authority for MSP in Spain is the same one responsible for the implementation of the mentioned strategy.

**How this MSP practice can support the EU Green Deal**

The MGI aims to enhance and ensure connectivity, mitigate and adapt to the effects of climate change, defragmentation of strategic areas and the restoration of degraded ecosystems. This concept is directly related to protection and restoration, in the list of MGI elements there are some elements identified that directly contribute to the topic, such as: MPA by different protected tools (national, European and international policy); Community Interest Habitats; Geological marine elements; and other important areas of connectivity, among others. The role that these elements bring to



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the marine environment is not only about conserving areas of high biodiversity value, but also about improving the connectivity of species and habitats, and enhancing the ecosystem services that these elements provide.

Regarding climate change mitigation and adaptation, the selection of some MGI that contribute to this topic as nature-based solutions has been included in all marine demarcations, such as some habitats of Community Interest like 1120 (*Posidonia* beds (*Posidonia oceanicae*)) which contribute to mitigate some of the adverse effects that climate change can cause, such as erosion, and regulating atmospheric CO<sub>2</sub>.

### Challenges/gaps/inconsistencies still to be addressed

One of the issues to take into consideration is the data gaps. Having adequate data to illustrate each of the identified elements is not easy as there is no homogeneity of data for all marine demarcations. For example, the cartographic layer containing information on habitats of community interest or species is not continuous for any of the marine demarcations. This happens because projects have often been focused on the study of localised areas within a marine demarcation, normally associated with projects for Natura 2000 sites. In addition, the working scales used to obtain this cartography are different for each marine demarcation, so it is not easy to homogenise and illustrate some of the information. Additionally, some information has not been included yet, due to the fact that there was not cartography available yet, for example, for restoration areas.

Another gap encountered is the limitation of some of the criteria to include MGI elements in the POEM. The selection of these elements has its origin in the list of elements approved in the State Strategy for Green Infrastructure, Ecological Connectivity and Restoration, from which the elements for which cartographic information existed for the marine environment were selected. However, for some of the elements, it is not certain whether or not they should be included in this list of MGI given their nature. This implies that a specific analysis of the criteria for inclusion of these elements has not yet been established and is expected to be carried out during this first MSP cycle.

The fact that some elements that are part of the MGI does not give them protected status unless they have it by other means (i.e. if they are as a marine protected area or are included in it, for example a submarine canyon inside a protected area). Their inclusion in MGI acknowledges their significance in marine conservation, without implying specific measures to address conflicts or impacts from activities and uses, although they will be taken into consideration.

### Replicability /Elements which can be capitalised

The methodology developed for the selection of the elements that conform the MGI in Spain, can be replicated in other countries.

As mentioned, the State Strategy for Green Infrastructure, Ecological Connectivity and Restoration is the guidance document for the development of MGI. This Strategy has 8 goals, which are divided into action lines. It also includes the list of the possible elements that can conform terrestrial and marine Green Infrastructure.

For the development of the MSP plans, an analysis of the goals of the Strategy was carried out, in order to evaluate and select the elements of Strategy that can be applied to the marine environment. The following goals were selected:

- ✓ Action Line 1.05 within Goal 1, seeks to strengthen and improve connectivity, as well as prevent its loss, in the marine

environment. In relation to ecosystem services.

- ✓ Action Line 3.01 of Target 3 proposes to identify, classify and map the key areas for the provision of ecosystem services of the elements of the Green Infrastructure.
- ✓ Goal 6 has as its line of action 6.07 the integration of Green Infrastructure in strategic instruments, planning and management of the marine and coastal environment.

This led to the elaboration of a list of MGI elements for the marine environment maintaining the same structure of typologies of elements as indicated in the Strategy. This was complemented by the best existing cartography used for the description of each element in factsheets. Additionally, a qualitative assessment of the elements was carried out in order to identify the supply, regulation and cultural services provided by each of them.

The list of the elements that conforms MGI included in the POEM is structured as following (it has to be mentioned that not all elements of the list are present in all marine demarcations):

#### 01 Natura 2000 network sites:

- 0101 Site of Community Importance (SCI) / Special Area of Conservation (SAC)
- 0102 Special Protection Area (SPA)
- 0103 Corridors and areas of high connectivity between habitat types of Community interest:
- 010301 Habitat 1130: Sandbanks permanently covered by shallow, seawater
- 010302 Habitat 1120: *Posidonia* meadows (*Posidonia oceanicae*)
- 010303 Habitat 1170: Reefs
- 010304 Habitat 1180: Underwater structures caused by outgassing
- 010305 Habitat 8330: Submerged or semi-submerged sea caves

#### 02 Protected natural areas

- 0201 Marine Protected Area
- 0202 National Park
- 0203 Other protected areas

#### 03 Areas Protected by regional and sub-regional land-use planning and management

- 0301 Wetlands of International Importance under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (RAMSAR)
- 0302 OSPAR Protected Areas of the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR)
- 0303 Specially Protected Areas of Mediterranean Importance (SPAMI) of the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean (CMS)
- 0304 Natural Sites on the World Heritage List of the UNESCO Convention concerning the Protection of the World Cultural and Natural Heritage.
- 0305 Biosphere Reserves

#### 04 Areas with environmental management of the Public Domain

- 0401 Maritime-terrestrial Public Domain
- 0402 Cartography of flood zones, areas of significant potential risk of flooding (ARPSIS)

#### 05 Elements of the marine environment

- 0501 Submarine banks or elevations
- 0502 Submarine canyons and channels
- 0503 Ridges and escarpments
- 0504 Submarine outgassing
- 0505 Continental shelf (certain neritic areas)
- 0506 Slope areas
- 0507 Marine currents

#### 06 Other areas important for the conservation of biodiversity and the provision of ecosystem services

- 0601 Marine fishery reserves
- 0602 Specially Protected Wildlife and Threatened Species range areas and critical areas designated in Recovery Plans
- 0603 Areas identified as ecologically vulnerable and ecologically at risk on the coast

#### 07 Other areas important for connectivity

- 0701 Migratory routes and dispersal areas (birds, cetaceans, marine larval and juvenile dispersal areas)

#### 08 Wetland protection

- 0801 Areas sensitive to urban water purification

Next steps will be focused on the selection of the criteria to integrate this list of elements in the final version of the list of MGI by expert consultation.