



VALUABLE PRACTICE: Definition of High Potential Areas for aquaculture

Description

Zoning in aquaculture aims to plan and manage its sustainable development from an environmental, biological, social and economic perspective. For this purpose, High Potential Areas (HPA) have been identified and designated in the POEM. These areas are considered to be highly suitable for the development of aquaculture facilities, they play a crucial role in making aquaculture production compatible with the preservation of the marine environment based on their suitability and environmental considerations, resource use can be effectively optimized, environmental impact on vulnerable ecosystems minimized, and medium and long-term strategic planning facilitated. To improve the organization of zoning in aquaculture, the competent authorities of the Autonomous Communities may declare Areas of Interest for Marine Cultures (ZICM - for its initials in Spanish) and Areas of Interest for Aquaculture (ZIA - for its initials in Spanish) in the HPAs for aquaculture defined in the POEM (POEM's measure AC1). The regional authorities may also develop tools for their organization and management (POEM's measure AC2), as well as actions related to spatial planning in the area in the framework of the Sustainable Aquaculture Development Strategy 2021-2030 (POEM's measure AC3).

Practice typology

(i) Measure + (iii) Process-related practice + (iv) zoning

Topics addressed

Main	C. Sustainable sea-food production [C.2 Sustainable aquaculture and shellfish production]
Secondary	B. Climate change adaptation [B.3. Anticipation of climate change-related effects (B.3.2 Identification of areas to be used in future by specific sectors, due to climate change (e.g. fisheries, aquaculture, maritime routes, etc.))].

Sectors/Activity involved

Aquaculture, nature protection and restoration and, indirectly, coastal and maritime tourism, recreation, fishing, offshore renewable energy, maritime defence, marine industry.

Stakeholders involved

At a national level, the representative from aquaculture was involved in the inter-ministerial working group of MSP since the beginning of the development of the POEM. Additionally, the competent authorities of the Autonomous Communities (CCAA - by its initials in Spanish), through the National Marine Crops Advisory Board (JACUMAR), participate in the process providing aquaculture data to the MSP Competent Authority to be included in the POEM.

Governance context

In Spain, the main entity in charge of coordinating and regulating aquaculture at the strategic level is the Ministry of Agriculture, Fisheries and Food, specifically through the General Secretariat for Fisheries, which is the competent authority in matters of fishing and aquaculture at the national level.

However, planning and management of aquaculture is a responsibility of the Autonomous Communities, which have regulations for the management of the activity of aquaculture establishments, although the general guidelines are established at the national level. The POEM therefore tried to homogenize the zoning of the different Autonomous Communities for aquaculture at the national level integrating them in the HPA for aquaculture.

Geographical scope

HPAs for aquaculture are defined in the 5 Marine Demarcations.

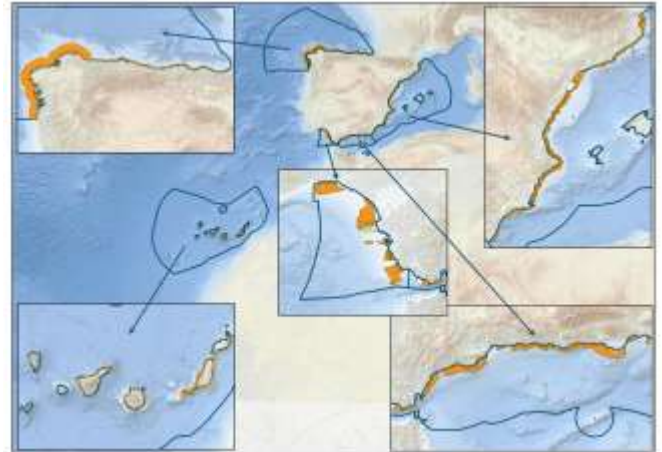


Figure 1. Surface occupied by High Potential Areas for aquaculture in Spain.

How this MSP practice can support the EU Green Deal

The aspect on which this practice mainly supports the EGD is in C. Sustainable sea-food production through C.2. Sustainable aquaculture and shellfish production by mean of identify the most suitable areas for the development of this activity considering criteria of sustainable development, enhancing resource efficiency, and fostering responsible blue economy growth. By designing a spatial planning of aquaculture, environmental conservation and protection of the marine ecosystem are intended to achieve, as well as the needs for resilience, adaptation, and mitigation of climate change.

In addition, zoning in aquaculture in Spain aims to foster a multi-use approach to sea space utilization for both aquaculture and other marine activities such as renewable energy generation; and furthermore, seeks to promote climate-friendly practices, like seaweed farming, which actively absorbs carbon dioxide, effectively addressing climate change while sustaining the industry.

Challenges/gaps/inconsistencies still to be addressed

It is necessary to promote the contribution of aquaculture to the good environmental status, and promote its multiple environmental services. Furthermore, to face the challenges of climate change, it is crucial to implement coordinated initiatives, based on solid scientific evidence, as well as the participation and effective dialogue of all the actors involved for the analysis and management of risks. It is also necessary to quantify the contribution of aquaculture to mitigating the effects of climate change and boosting its ecosystem services.

In the zoning processes, a certain lack of definition of objectives and spatial and temporal scope is observed; little consensus on technical criteria; in addition to interterritorial inconsistencies in the interpretation of interactions and synergies with other activities and uses. The lack of systematics in the Strategic Environmental Assessment procedure and the limited availability of dynamic risk assessment models are also challenges to be resolved.

A clear challenge comes from the integration of ZICM and ZIA defined by the regional authorities into a common framework and common categories at the national level (HPA). This may imply the use of different criteria and the loss of knowledge and detail in the process of homogenization at the national level in the POEM. For instance, regional government may define different kind of categories of zones for aquaculture, the variables and criteria to identify these categories may be different. However, in the POEM, these different categories may all be encompassed by an HPA, losing

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the detail given by each category.

Some dispositions established by the POEM, as the consideration of the carrying capacity of the area, face the challenge of lack of data and knowledge. In addition, zones defined within the service areas of the ports have not been included, as these waters are outside the scope of the POEM. The defined zones respect the perimeter and geographical location established by the Autonomous Communities.

There are some considerations regarding the effects of planned activities in areas established for aquaculture:

- ✓ The effects of aquaculture on seagrass meadows and maërl beds have not been adequately considered; the possible indirect effects on seabed and the negative interaction with cetaceans, particularly with the bottlenose dolphin.
- ✓ Potential chemical contamination of water. Aquaculture not compatible with the quality of bathing water. The impact of aquaculture areas on the coastal environment would be relevant.

It should be noted that some existing aquaculture facilities are located within HPA, and similarly other aquaculture farms are located outside the HPA for aquaculture. Existing aquaculture uses are safeguarded under the conditions under which they have been authorized or declared. Therefore, the POEM does not establish any additional regulations or conditions on existing aquaculture uses (either inside or outside the High Potential Areas), and the provisions exclusively affect the possible development of future aquaculture facilities.

Replicability /Elements which can be capitalised

The replicability of this practice relies in the governance system in place. This practice is valuable for those systems in which general guidelines are established by the national administrations but the planning and management of the activity is up to the regions, as a way to homogenise the criteria at the same time that it gives flexibility for adapting to the different contexts.

HPAs for marine aquaculture are considered for their high suitability for the development of aquaculture facilities based on sectoral and spatial analyses. The POEM includes an Inventory of existing uses with aquaculture establishments located in the sea; the declared Shellfish Production Areas and the declared Areas of Interest. In addition, an Inventory of future uses is also included, with potential Zones and preferred Areas (which are encompassed as HPA):

- ✓ Potential zones, defined according to non-limiting parameters and criteria for the activity.
- ✓ Conditioned potential zones, which may present limitations due to parameters, other uses or regulatory limitations.
- ✓ Preferential areas, without limitations for activity a priori, are candidates to host establishments and are the subject of detailed study for their declaration as Areas of Interest in the near future.
- ✓ Conditioned preferential areas, which may present limitations due to certain criteria, technical or regulatory limitations, and which must be analysed on a case-by-case basis to accommodate establishments and for their consideration as areas of interest.
- ✓ Zones of interest declared by the different Autonomous Communities: ZIA and ZICM.

Due to the ideal nature of the HPA for the development of marine aquaculture, it will be promoted that the future development of the sector be directed primarily to these spaces.

However, this does not limit the development of aquaculture facilities outside the established areas, as long as these other possible locations are considered in accordance with the rest of the criteria and conditions established in the plans. Therefore:

- ✓ The promoters of aquaculture activity will locate, if possible, their possible projects for future marine aquaculture facilities, within the zones established as HPA for aquaculture.
- ✓ Similarly, the competent aquaculture authorities will grant, if possible, authorizations for future marine aquaculture facilities, within the areas established as HPA for aquaculture.

The criteria to address interactions with other uses are as follows:

- ✓ In those HPA for aquaculture, which overlap with areas of priority use for the protection of biodiversity, it will be ensured that the facilities do not endanger the conservation values for which the protected marine space has been declared, and attention will be paid to what is established in the corresponding management plan.
- ✓ In those HPA for aquaculture, which overlap with HPA for the conservation of biodiversity, efforts will be made to ensure that the facilities do not endanger conservation values:
 - i. When they are valuable areas for seabirds, possible synergies will be studied and work will be done to coexistence of both uses.
 - ii. When they are areas with the presence of species of community interest, aquaculture will be developed considering the necessary limitations to ensure conservation.
 - iii. When they are areas with the presence of habitats of community interest, the location of new facilities on these habitats will be avoided.
- ✓ In cases where an HPA for aquaculture overlaps with protected marine spaces of the Natura 2000 Network, the projects developed must carry out a detailed analysis of the technically and environmentally viable alternatives, and provide a justification of the main reasons for the solution adopted, considering the effects of the project on such space.
- ✓ When the HPA for aquaculture overlap with areas of priority use for national defense, it will be ensured that the facilities are not located in the areas of maneuvers or military exercises.
- ✓ In those HPA for aquaculture, which overlap with areas of priority use for the protection of underwater cultural heritage, it will be ensured that the facilities do not produce any impact on the underwater cultural heritage, and those safety distances and preventive measures will be established as appropriate.
- ✓ In those HPA for aquaculture, which overlap with areas of priority use for landscape protection around elements of cultural interest located on the coast, aquaculture will be developed considering properly defined landscape integration parameters.
- ✓ The competent administrations will consider the carrying capacity of the marine environment and the cumulative effect of all the facilities present in the area.
- ✓ In the case of HPA that overlap with areas of priority use for the extraction of aggregates, the competent administrations will prioritize the authorization of aquaculture facilities outside these HPA, or will be developed considering the safety distances and preventive measures that may be appropriate