

**VALUABLE PRACTICE: Ecologically significant marine underwater areas (EMMA) in Finland****Description**

The Finnish MSP plan identifies areas with significant underwater natural values (EMMAs), which are significant especially in terms of their biodiversity, vulnerability, and uniqueness of the biotopes they host. All planning decisions made in the areas require careful consideration of the natural values and the impacts of the activity on the ecosystems. EMMA areas are not protection areas, but their status is likely to be reconsidered in the future when considering the extension or addition of protected areas.

The EMMA work takes advantage of the vast amount of data on marine species collected within the Finnish Inventory Programme for the Underwater Marine Environment (VELMU). The VELMU programme has been running since 2004 and has already collected observations from more than 170 000 sites. VELMU data together with data from other sources on themes such as coastal habitats, geology and breeding areas for fish collates all the information into an easy to use and understand spatial data set with descriptions of the valuable marine areas. Areas important for birds, marine mammals and terrestrial natural habitats are also mentioned in the descriptions. Altogether, 87 significant areas were identified ranging in size from less than 1 to almost 600 square kilometres. The EMMA areas were produced by experts from the Finnish Environment Institute (SYKE) with the aid of experts from other national research organizations and the planners from regional councils for the MSP process.

The areas were identified based on the criteria of the Ecologically or Biologically Significant Marine Areas -process by the UN Convention on Biological Diversity with minor modifications. These include for example, the uniqueness, rarity or high representativeness and the biodiversity of the areas.

Shortly the workflow was as follows:

- ✓ First the experts at the SYKE and Metsähallitus identified areas with underwater nature values. Species distribution models were created for approximately 100 taxa based on the VELMU data and data on the marine environment such as salinity and the seabed type. In addition, data on other relevant topics such as habitat types, fish spawning sites and human actions and pressures at sea was compiled.
- ✓ These data sets were then collated in a modelling exercise using the Zonation software, to identify the areas with most (and least) meaningful nature values¹. The areas with the highest priority nature values (the best 3 % of the whole area) together with specific key areas of biodiversity hotspots identified directly from the VELMU data were used to create the first draft of the EMMA areas.
- ✓ The work continued as a collaboration of the VELMU-consortium members, who based on expert knowledge, data on the marine environment and the VELMU data and knowledge from scientific literature created the proposal for precise demarcations of the EMMA areas and filled the descriptions for each area. This work was followed by workshops and meetings where multiple experts from the VELMU collaboration, coastal regional councils and from national research institutes were engaged in the validation of the proposal and to add information on relevant topics such as fish spawning sites and marine geology.
- ✓ Based on the collaboration both the areas and their descriptions were modified when needed. Then a systematic approach was used to secure that all areas fulfilled the set criteria for EMMAs. Not all areas where important nature values were present were in the end identified as EMMAs. Valuable areas identified by the model where field observations were missing were left out. The EMMAs will be updated in the upcoming years and the updated

information will be include in to the second cycle of MSP in Finland.

- ✓ Finally, the data set of the EMMA areas was handed to the MSP planners. First a workshop was organized between the MSP planners and the EMMA experts, where the purpose and ways of presenting EMMAs were discussed. In further discussions between the MSP planners, a decision was made to generalize the spatial demarcation of EMMAs to match the scale of the Finnish MSP plan. In addition, a few other important nature areas, which were not considered EMMAs, were included under the same map marking in the MSP plan called Ecologically significant marine underwater areas.

Practice typology

(iv) Zoning

Topics addressed

Main	D. Biodiversity and ecosystem protection and restoration
Secondary	B. Climate change adaption
	C. Sustainable sea-food production

Sectors/Activity involved

Nature protection and restoration, indirectly also fishing as many of the areas are also important fish spawning areas.

Stakeholders involved

The stakeholder involvement took place in multiple stages, first within the VELMU consortium and later expanded to administrative personnel, planners from regional councils, and experts on thematic fields such as geology and fish and marine biology from national research institutes. Both national and regional workshops and meetings were organized.

The stakeholder involvement followed the initial analysis step, where the first draft of the EMMA areas was created. After this the main objective was to add information that was seen as relevant for the demarcation of EMMA areas and to validate the areas and their descriptions. The participants supported this objective by bringing in expertise from different thematic fields and points of views.

Geographical scope

National (Finnish maritime areas).

Governance context

There are multiple national and international programmes, strategies and legislation on natural values in marine areas (such as Natura 2000, EU Biodiversity Strategy and areas protected under the Nature Conservation Act), which together with various forms of cooperation create the conditions for preserving, protecting and enhancing the environment and nature in MSP. MSP in Finland does not have the mandate to set up new protected areas and the existing areas are shown in the background information of the plan. There is a continuing collaboration between the authorities responsible for MSP and nature protection. The existing protection areas and the nature values connected to them affected the planning decisions regarding the identification of suitable and/or potential areas for different marines uses. The Land Use and Building Act (132/1999) sets the objective for MSP to achieve of a good status of the marine environment and defines that MSP needs to consider the conservation, protection, and restoration of the marine environment and nature. In practice, MSP plays an important role as a platform for collaborative planning that guides towards a more systemic approach in marine areas.



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How this MSP practice can support the EU Green Deal

The practice supports the protection of biodiversity and ecosystem in the marine areas. Although EMMAs are not protected areas, they are areas where special consideration of the value of nature is required in all actions and planning decisions. The areas are also useful tools in guiding the discussion on how to reach the 30 by 30 objectives for the marine areas. Additionally, by making nature values visible on the MSP plan map, the plan raises awareness among planners and stakeholders on the importance and spatial distribution of underwater nature values. The detailed description of each site provides the change to easily identify the criteria that make the area valuable, which supports the use of the information in decision-making.

By supporting the protection of the marine environment, EMMAs also indirectly support the protection of important fish spawning sites, which are crucial for the sustainability of the fishing sector. Underwater nature will also protect the coastal areas and support carbon sequestration into the ecosystems, therefore contributing to climate change mitigation and adaptation to the related effects in the future.

Challenges/gaps/inconsistencies still to be addressed

Although the distribution of EMMAs cover the whole sea area of Finland, there are likely to be important underwater natural values outside of the demarcated areas as well. Although the modelling did identify potential valuable areas in multiple locations, only areas where sufficient field observations were available could be defined as EMMAs.

The analysis is done at the national scale, which can leave out local level details and important areas. A more localized and smaller-scale application of the EMMA works has been implemented on the capital region of Finland (Helsinki – Espoo) to identify local ecologically significant marine underwater areas (PEMMA). The identification of such areas for all regions would be beneficial all Finnish sea areas. This work might benefit the more detailed planning in the territorial sea area carried out by coastal regional councils and municipalities.

Replicability /Elements which can be capitalised

The delineation of EMMA areas can be replicated to other countries. When applied it is important to consider, that the approach is heavily dependent on the field data collected in the VELMU program and other data sources such as the marine geological data from the Geological Survey of Finland and data on endangered species from the Metsähallitus and the Finnish Environment Institute. If similar data is not available, the implementation of the process would require substantial investments into data collection.

Some elements which can still be easily capitalised:

- ✓ The concept of areas with significant nature values, which are not protection areas, can be beneficial for bringing nature values into the discussion outside of protected areas. Replicating this way of thinking can be a successful approach to raising awareness and discussion on the importance of supporting marine biodiversity and ecosystems in all maritime activities.
- ✓ The modelling is done using a spatial prioritization analysis software Zonation, which is openly available for all users