

### Results of testing the Pan Baltic Scope approach to marine GI mapping

The map illustrates the results of testing the Pan Baltic Scope approach to marine GI mapping based on available spatial data. Green colour indicates the 30 % of the Baltic Sea area which represents the highest ecological and ecosystem service supply value - the areas possibly forming marine GI.

The proposed concept of marine GI can support planners in applying ecosystem-based approach in MSP as well as nature conservation authorities in assessing coherence of the MPA network. However, the methodology, proposed by the Pan Baltic Scope project, needs to be developed further to include a connectivity analysis of ecologically valuable areas, a more comprehensive ecosystem service assessment and an improvement in input data quality.

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Cover photo credit: Latvian Institute of Aquatic Ecology

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**Pan Baltic Scope** is a collaboration between 12 planning authorities and organisations from around the Baltic Sea. We work towards bringing better maritime spatial plans in the Baltic Sea Region. Find our result at [www.panbalticscope.eu](http://www.panbalticscope.eu)



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# Marine Green Infrastructure – what it is and how to map it?

**The Pan Baltic Scope project defines marine green infrastructure (GI) as a spatial network of ecologically valuable areas which are significant for the maintenance of ecosystems' health and resilience, biodiversity conservation and multiple delivery of ecosystem services essential for human well-being.**

A typical example of marine GI is shallow vegetated habitats, like reefs, which contribute to improvement to environmental quality and human well-being by filtration of nutrients, carbon sequestration, controlling of erosion rates as well as providing nursery and spawning ground for fish and habitats for various species.

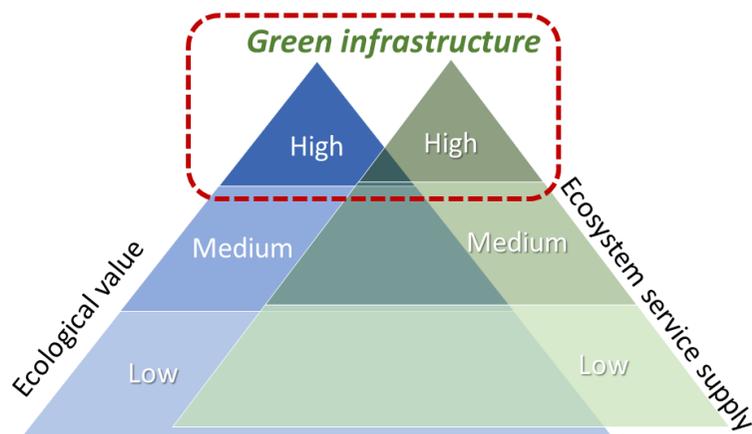
## Why to map?

Deployment of GI in terrestrial as well as marine areas is recognised as a key tool for halting the loss of biodiversity and implementing the objectives of EU Biodiversity Strategy 2020. However, unlike in the case of terrestrial ecosystems, mapping marine GI is still a novelty. The Pan Baltic Scope project has taken a challenge to develop a concept for marine GI applicable in maritime spatial planning and to test GI mapping at the Baltic Sea scale.

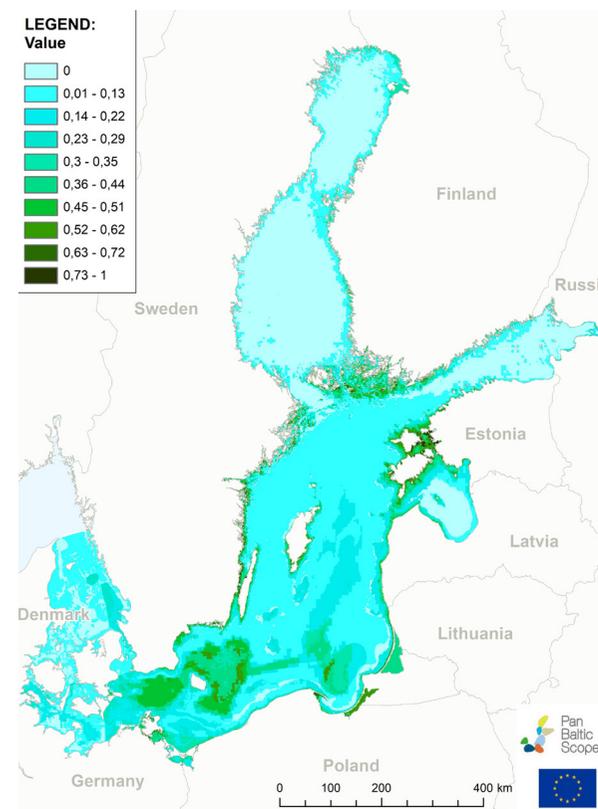
## How to map?

The main steps followed by the Pan Baltic Scope project in mapping marine GI:

1. **Identification of the components forming marine GI** and selection of suitable data sets for GI mapping;
2. **Mapping areas of high ecological value:** the selection of relevant assessment criteria; the assessment of marine ecosystem components against the selected criteria; the development of an aggregated ecological value map;
3. **Mapping ecosystem service supply potential:** the selection of ecosystem services relevant in the context of marine GI; the assessment of marine ecosystem components against the selected ecosystem services; the development of an aggregated ecosystem services map;
4. **Development of the GI map** by integrating the results of mapping ecological value and ecosystem services.



The Pan Baltic Scope project applied the regionally harmonised data provided by the HELCOM Maps and Data services, which reflects distribution of more than 30 ecosystem components (e.g. benthic habitats, birds, fish, mammals). Moreover, the project in co-operation with HELCOM produced new pan-Baltic maps of essential fish habitats representing spawning, recruitment and nursery areas of commercially important fish species: cod, sprat, herring as well as European and Baltic flounder. The aggregated maps of essential fish habitats and other groups of ecosystem components were used to identify areas of high ecological value as well as ecosystem structure, which has potential to deliver various services.



Aggregated map of the essential fish habitats, produced by the Pan Baltic Scope project