Pan Baltic Scope

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Mapping of marine green infrastructure

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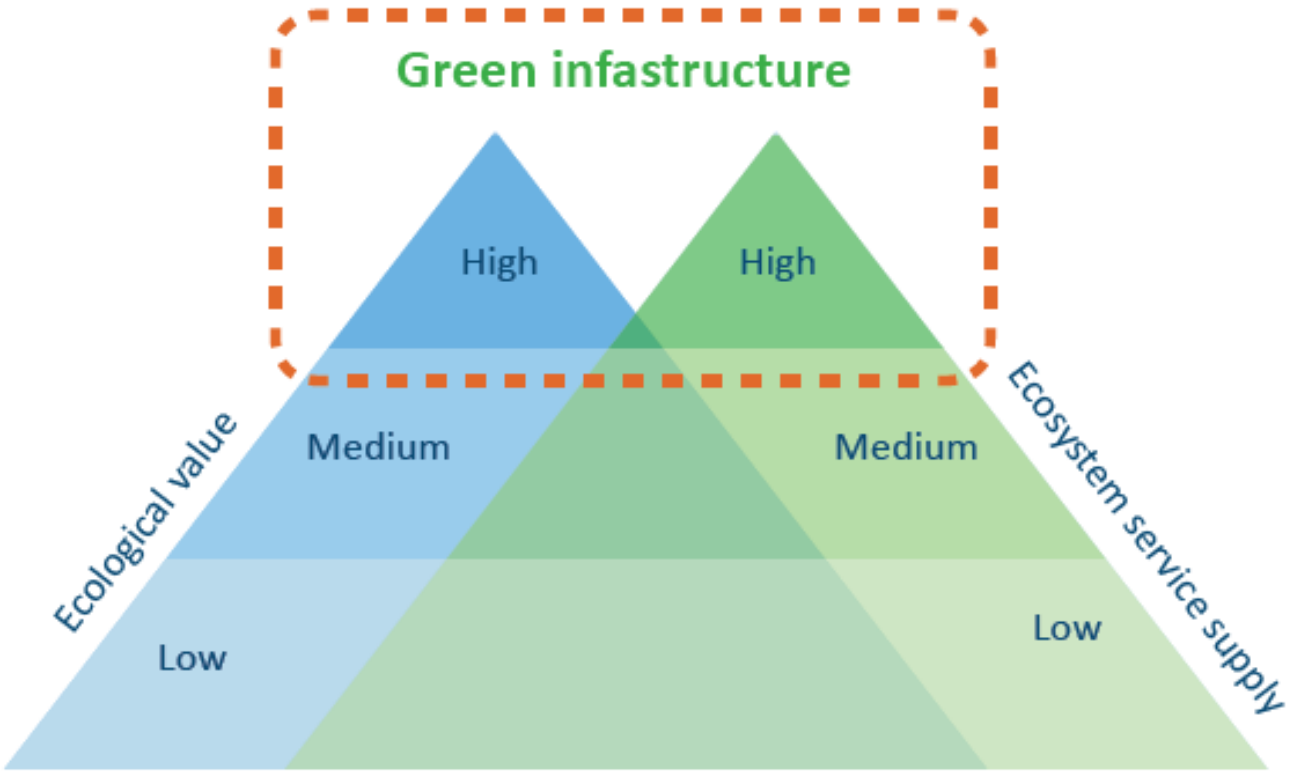
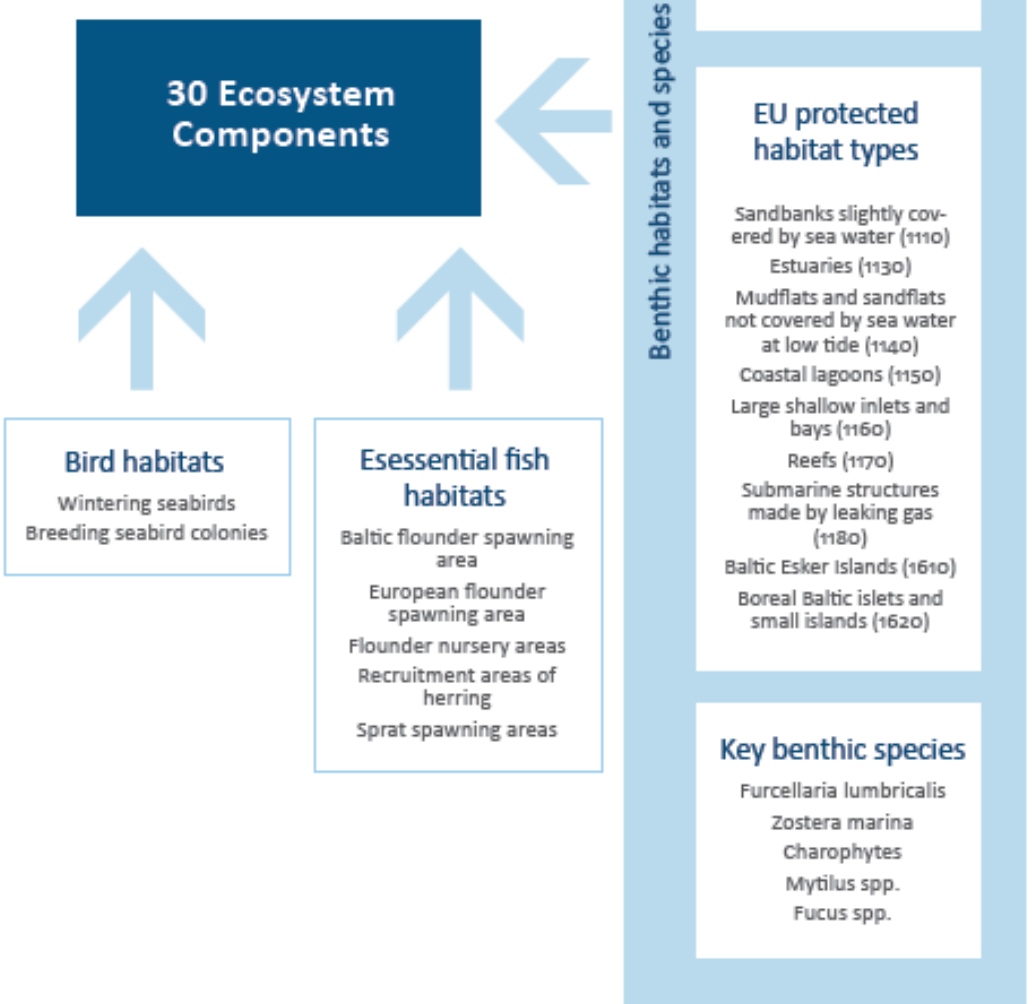


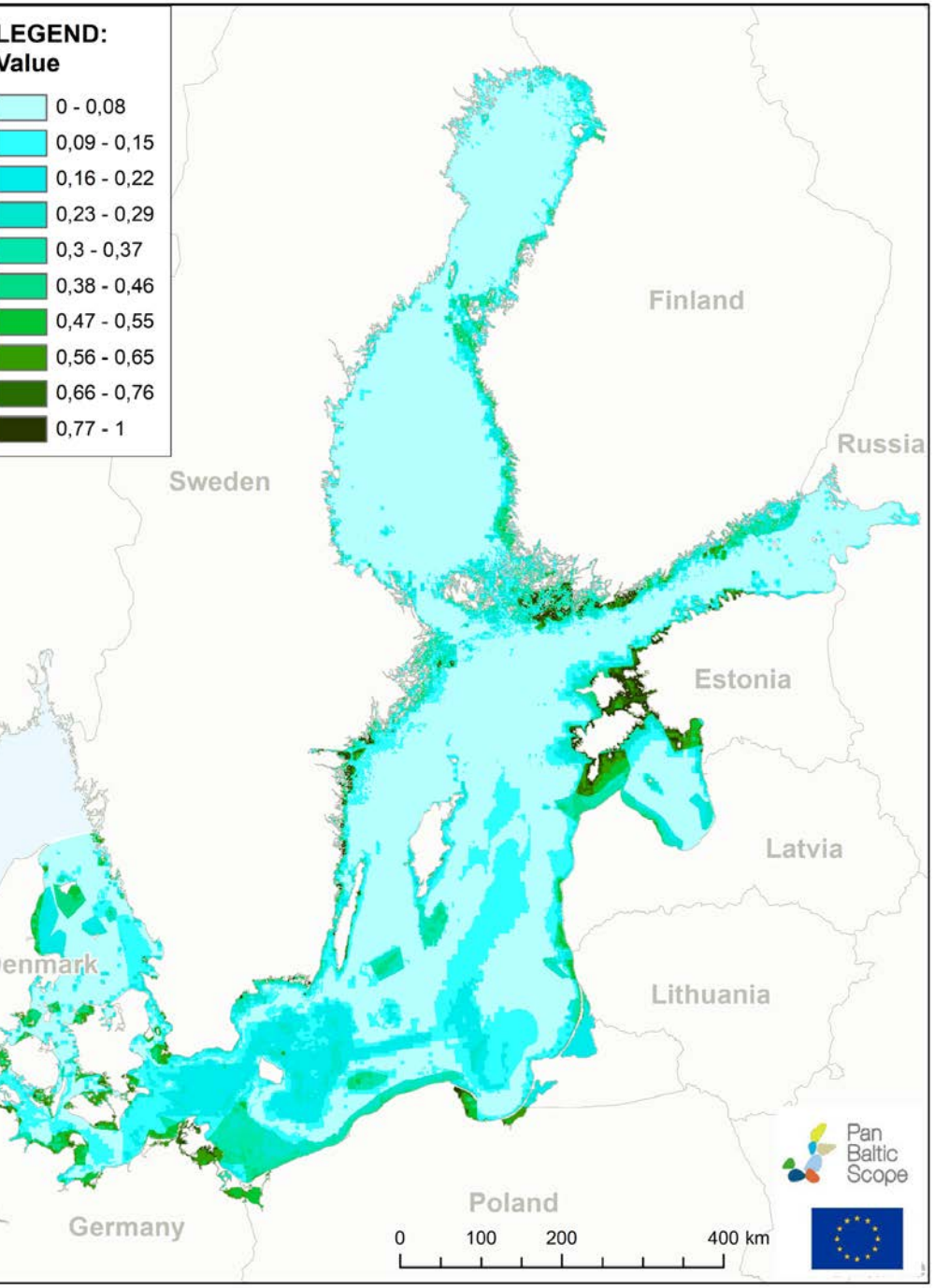
The Pan Baltic Scope project defines marine GI as a spatial network of ecologically valuable areas which are significant for the maintenance of ecosystems' health and resilience, biodiversity conservation and multiple delivery of ecosystem services essential for human well-being

GI mapping included the following steps:

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.

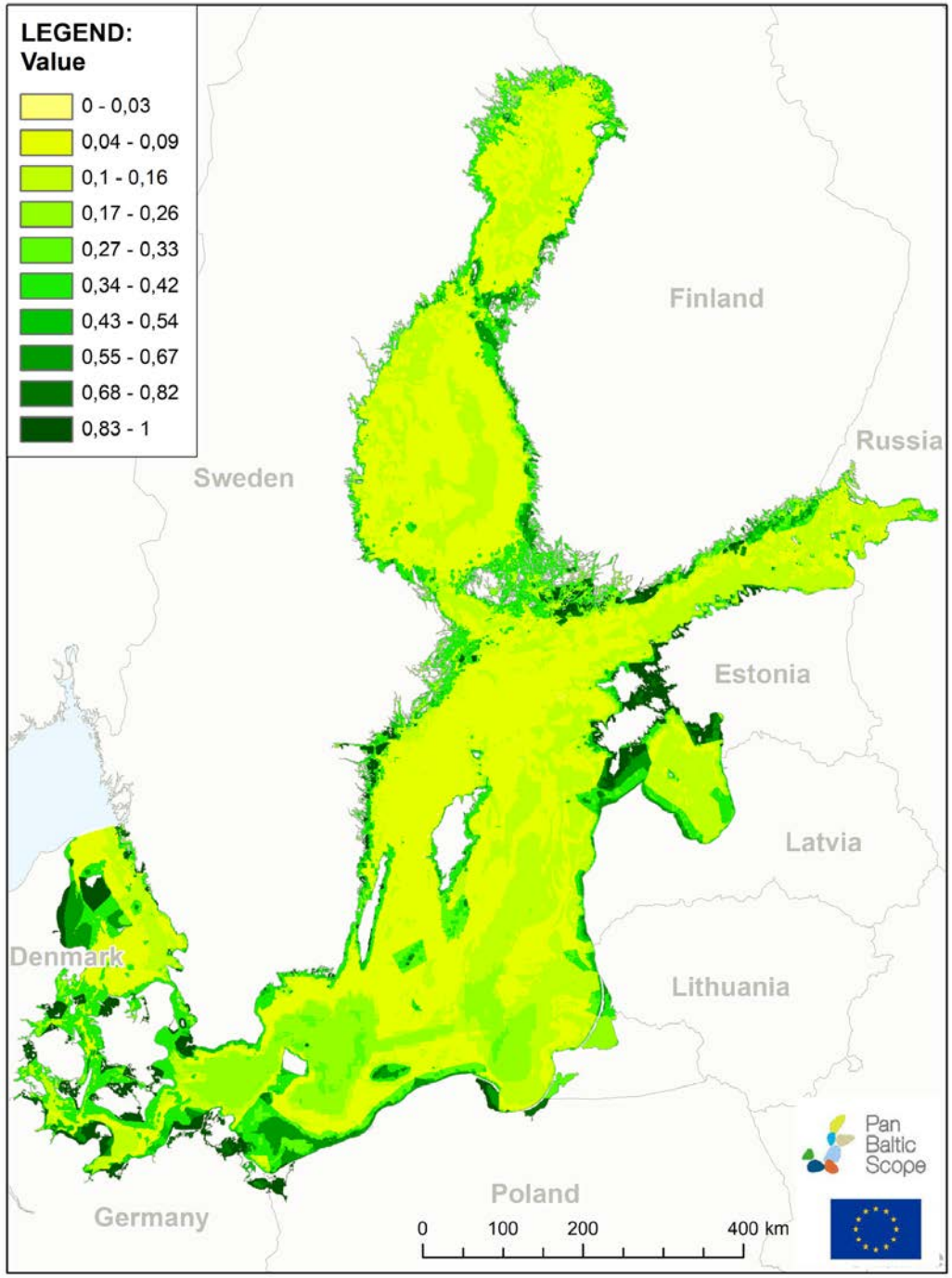
Data layers on ecosystem components





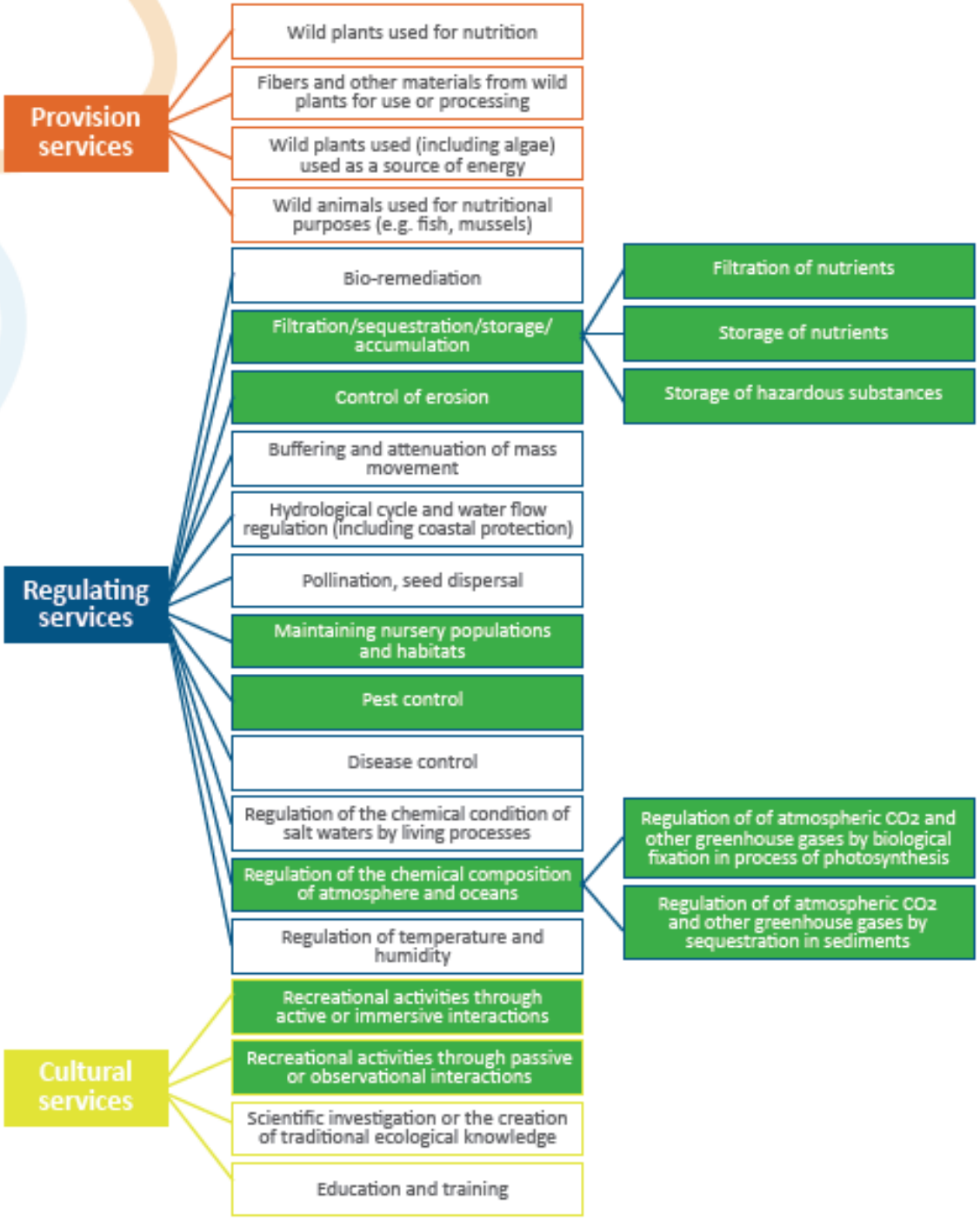
Aggregated map of ecological value, including:

- Benthic habitats and species
- Essential fish habitats
- Bird habitats
- Marine mammals habitats

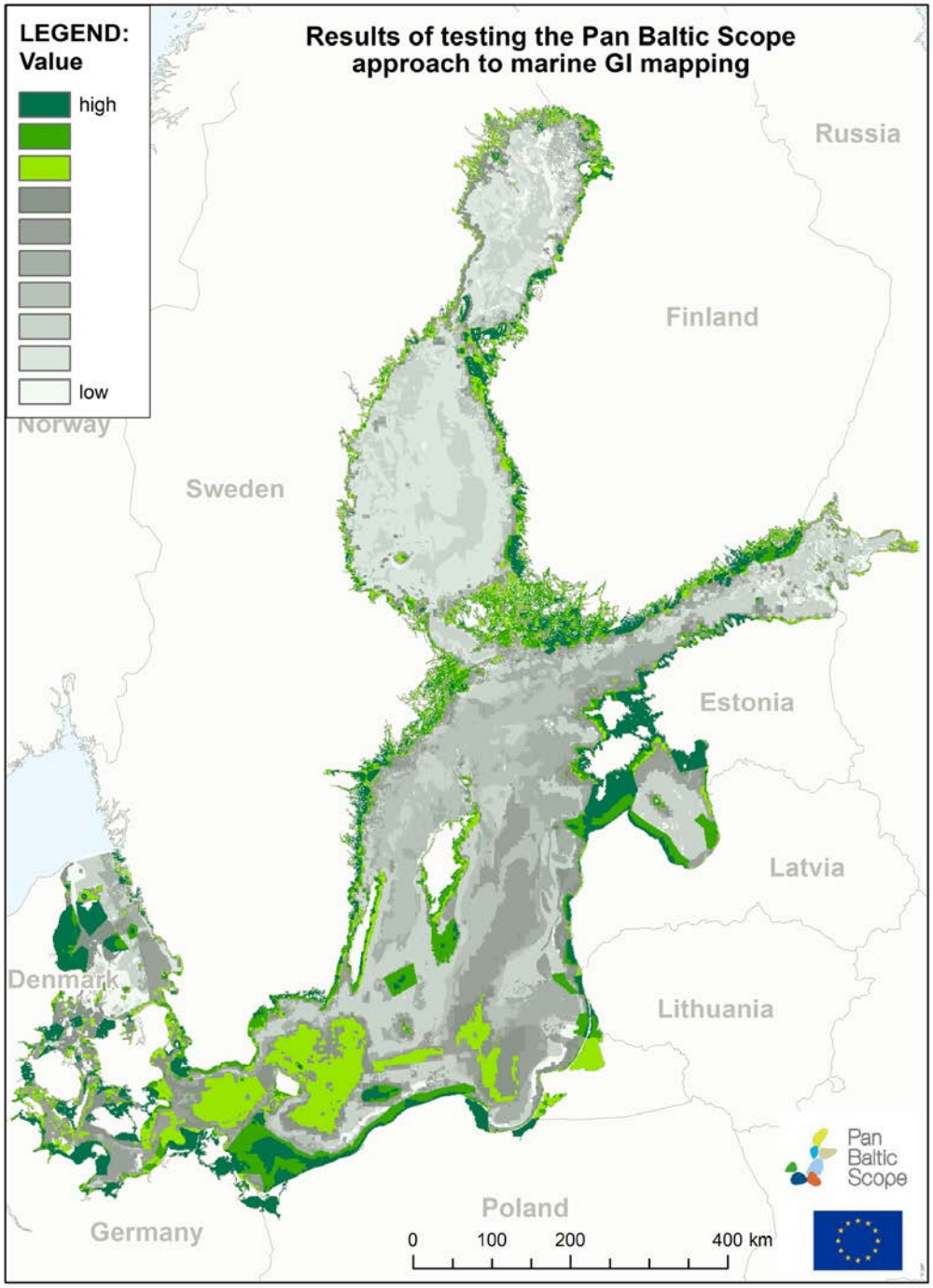


Aggregated map of of the ecosystem service supply potential, including:

- Provision services
- Regulating services
- Cultural services



Ecosystem services potentially relevant for mapping marine GI (including those available and assessed in project)



Green color indicates the 30 % of the Baltic Sea area which represents the highest ecological and ecosystem service supply value (the most valuable areas in dark green, other highly valuable areas in light green)

Conclusions from GI mapping:

1. GI mapping **can contribute towards a holistic perspective**, linking MSP to the maintenance of biodiversity and environmental management.
2. Both MSP and the development of the MPA network relates to marine GI. In a longer perspective it would be possible **to link these processes with conservation and development targets**.
3. MSP has potential to contribute to such targets and GI mapping is one step in that direction. To reach this, **further dialogue which links planning and management is needed**, as well as common development of knowledge of the Baltic ecosystems.

Relevant recommendations for future:

1. Apply the Green Infrastructure concept in the MSP and SEA processes to support implementation of the ecosystem-based approach. **The information on marine Green Infrastructure shall be considered to guide away the potentially harmful developments from ecologically valuable/sensitive areas.**
2. Take into consideration the Green Infrastructure concept to **improve coherence of existing MPA network** by assessing the connectivity of network and identification of sites of high ecological value – **this information can guide the field investigations of potential new MPAs.**

Relevant recommendations for future:

3. Develop further the marine Green Infrastructure concept and mapping methods **to increase the knowledge base** on functioning of marine ecosystem and relational understanding of socio-ecological systems. **This shall include the connectivity analysis as part of the ecological value mapping as well as more elaborated approach to ecosystem service mapping.**

4. Produce up to date **Baltic scale maps on distribution and abundance of key components of the ecosystem** (birds, mammals, benthos) using the same approach as applied in the Pan Baltic Scope project for Essential Fish Habitats (EFH) mapping.

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Thank you!

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