

BALANCE

Towards an ecosystem-based approach to
management of the Baltic Sea

22nd of September 2008

Stockholm, Sweden

Denmark
Estonia
Finland
Germany
Latvia
Lithuania
Norway
Poland
Sweden

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The BALANCE project

- 19 partners & 10 countries
- 2½ year (2005 to 2007)
- Aim: develop tools for informed marine planning/management

Main activities:

- Collation of marine environmental & anthropogenic data
- Baltic seafloor mapping
- Biodiversity assessment
- Marine spatial planning



BSR INTERREG IIIB region from space,
Source: SeaWiFS Project, NASA/Goddard Space Flight Centre and
ORBIMAGE



Marine landscapes – Characterising the sea

Basic layers:

Seabed sediments

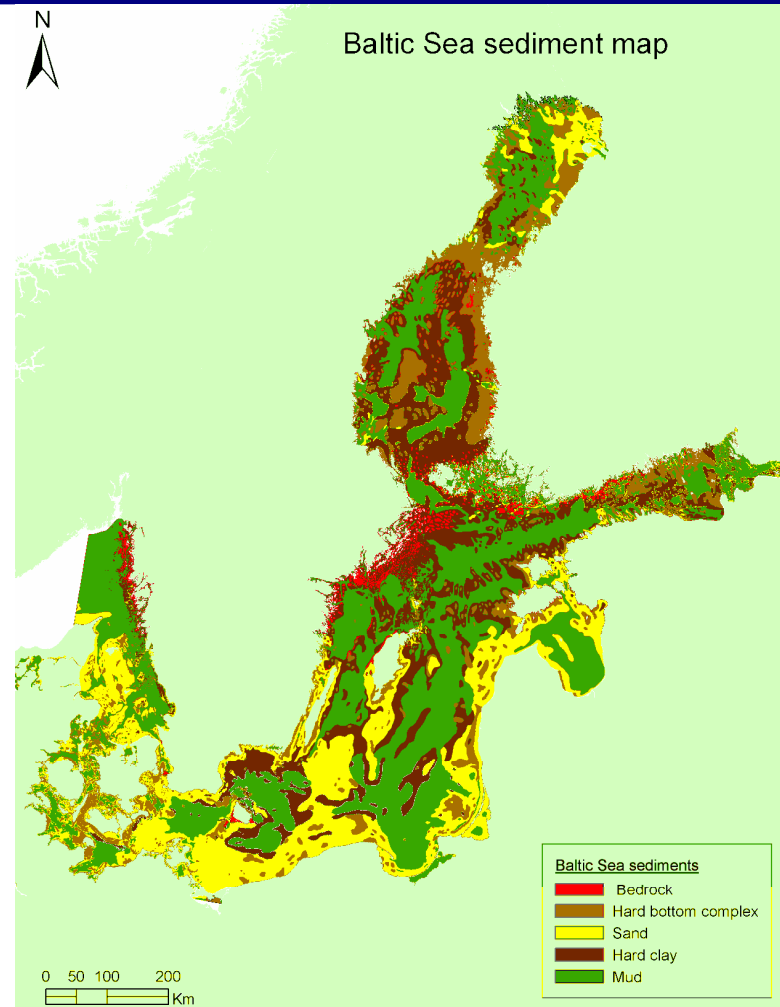
Secondary layers:

Temperature

Wave exposure

Ice cover

Current velocity



Marine landscapes – Characterising the sea

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Photic depth

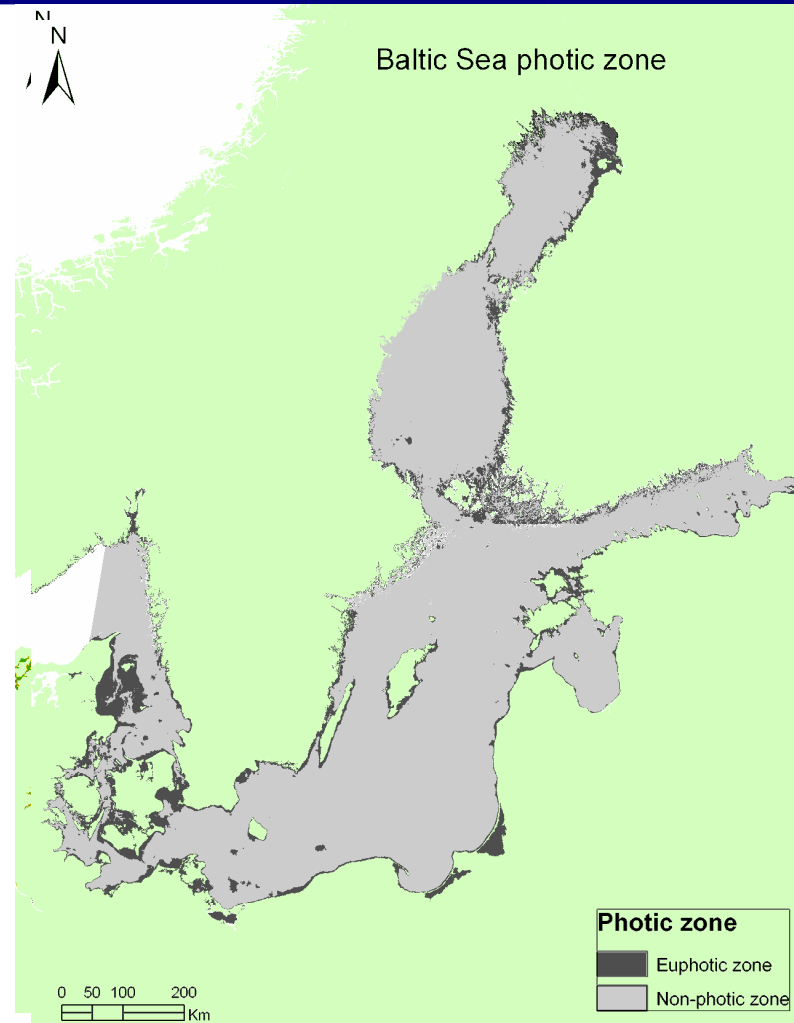
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Bottom salinity

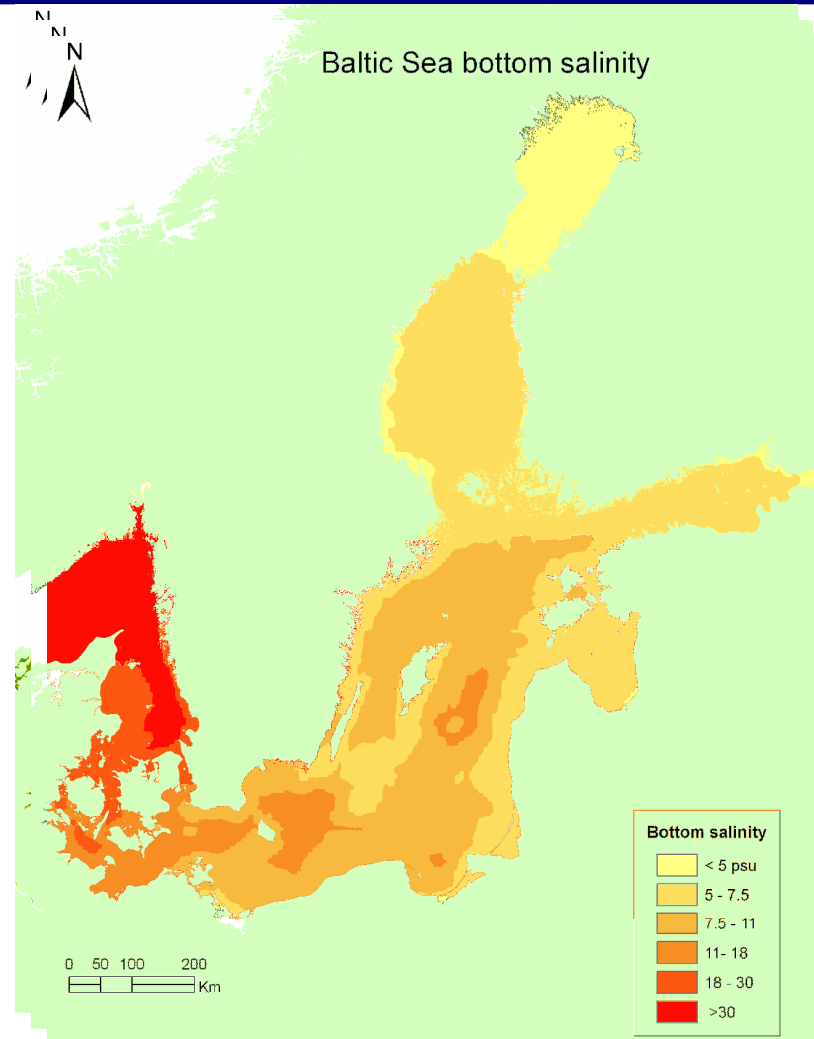
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Marine landscapes – Characterising the sea

Basic layers:

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Bottom salinity

Bathymetry

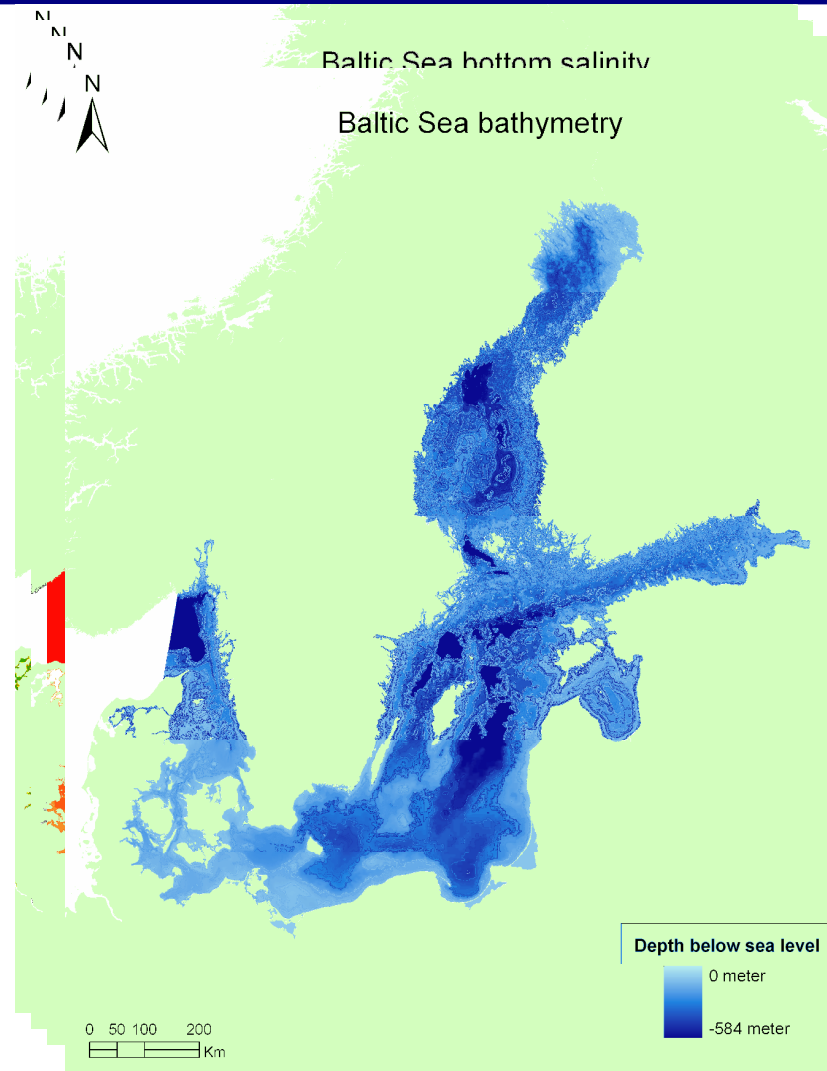
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Marine landscapes

Features

It is a broad scale environmental characterisation of the sea floor

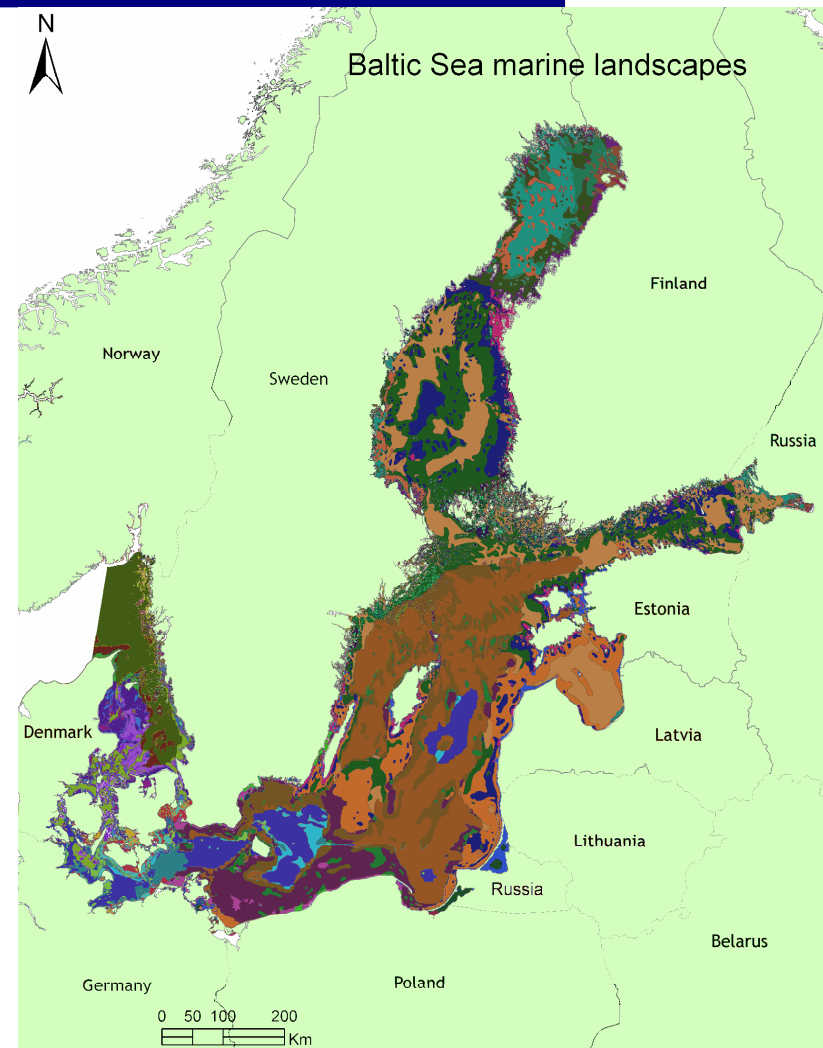
Provide a full coverage map

Validated with biological data

Fits with existing EU requirements

60 benthic landscapes identified

Concept will be expanded to cover the European Seas

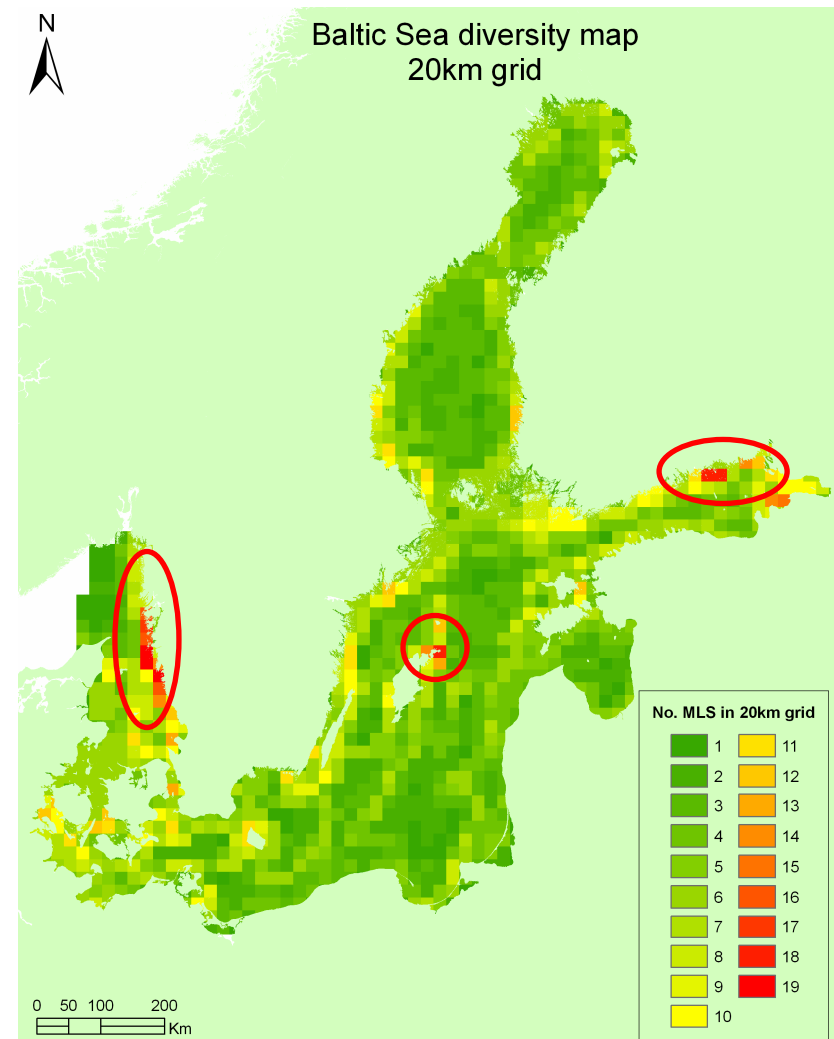


Application I – Complexity index

Features

Show the diversity or complexity

Indicative of potential biological
"hotspots"



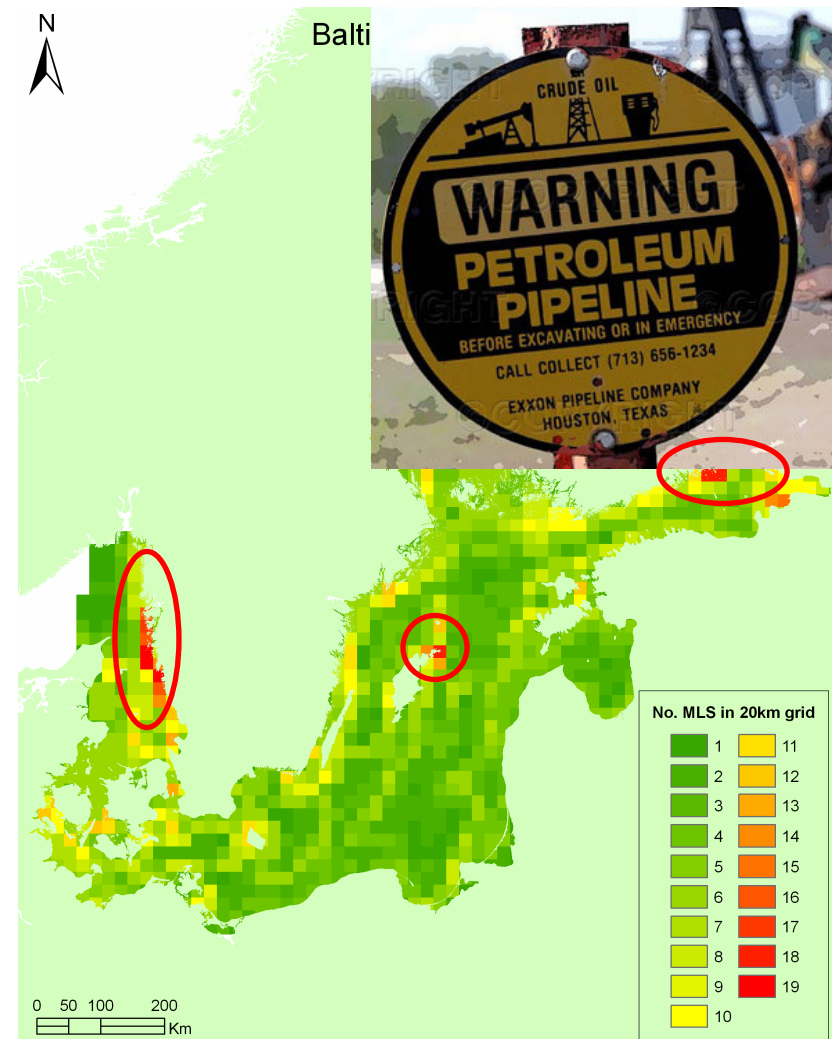
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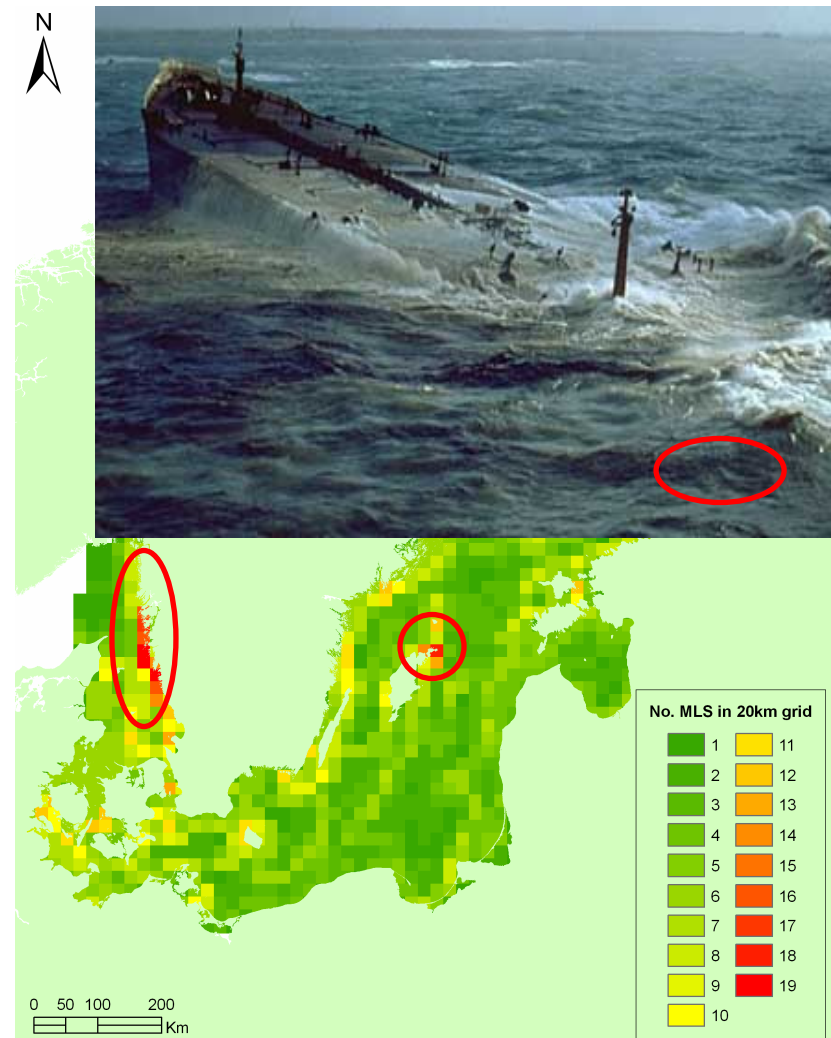
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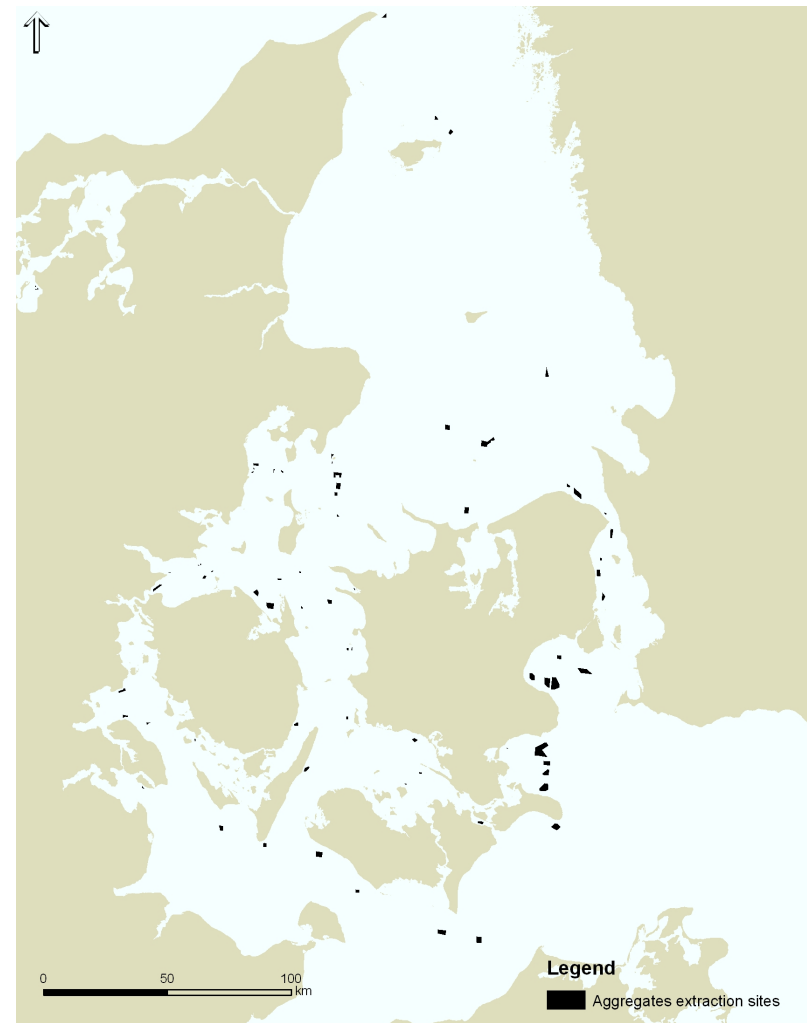
Applicable for informing preparedness
& response to oil spills



Application II – Assessing multiple pressures

Aggregates & wind-farming:

68 sites for aggregate extraction

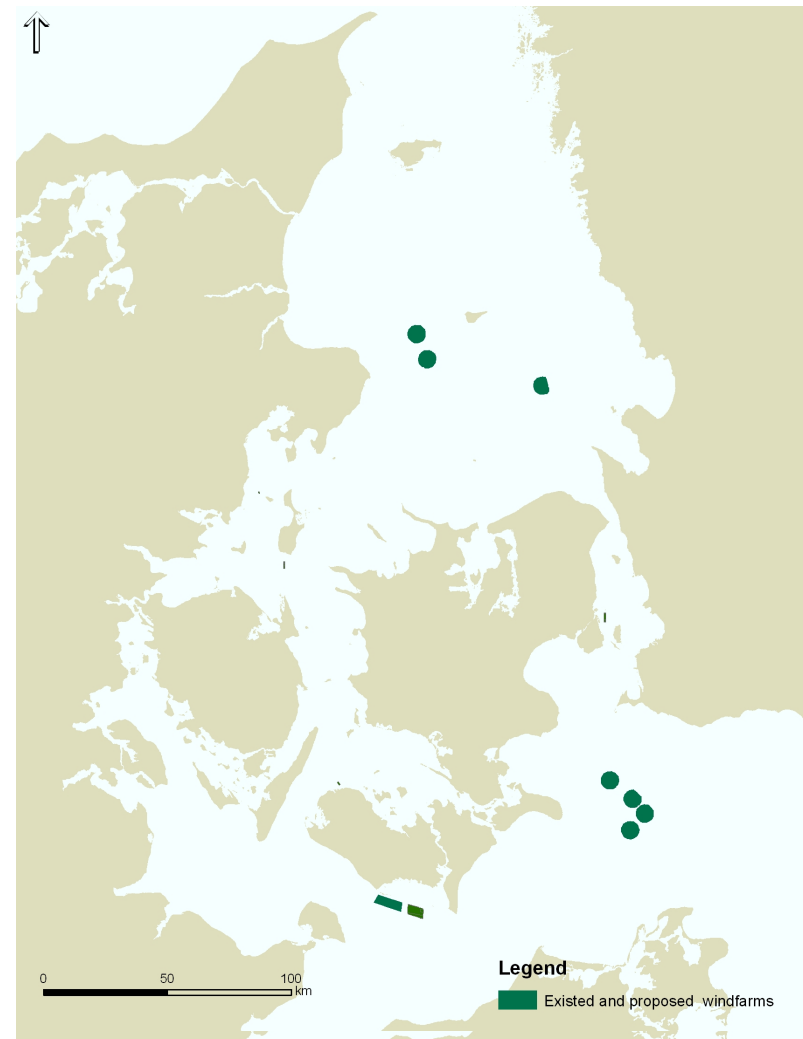


Application II – Assessing multiple pressures

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13 sites for off-shore windfarms



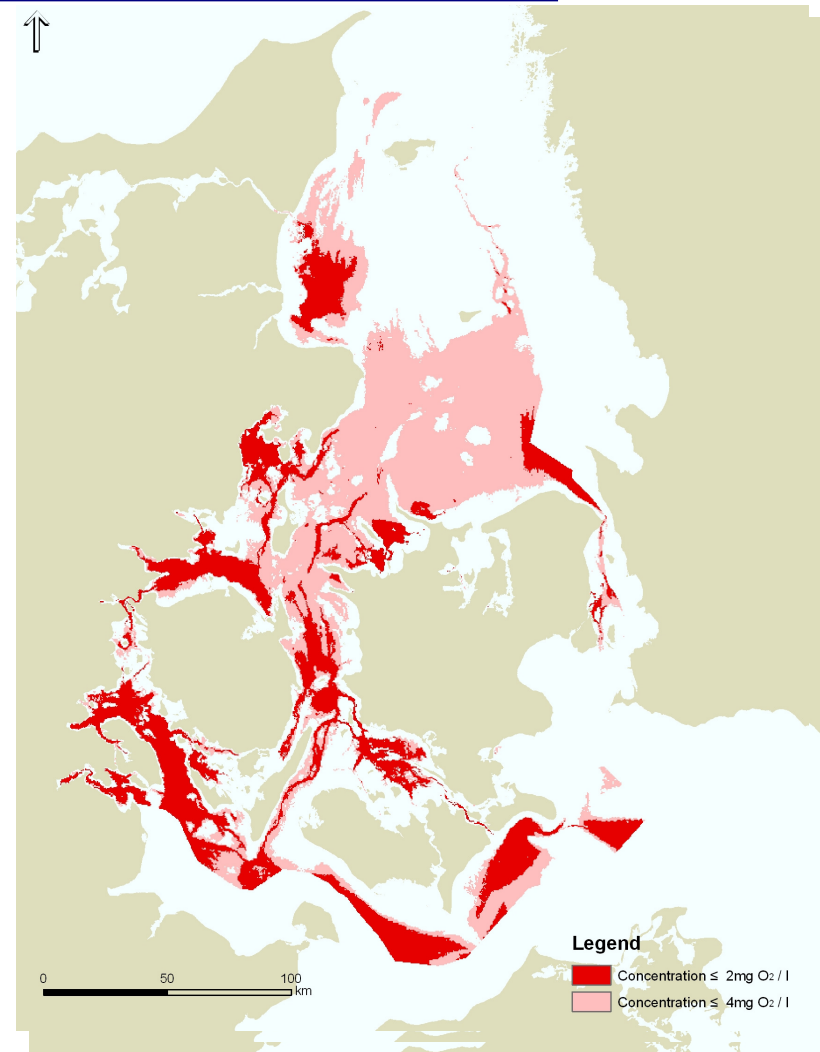
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Environmental pressures e.g.
oxygen depletion



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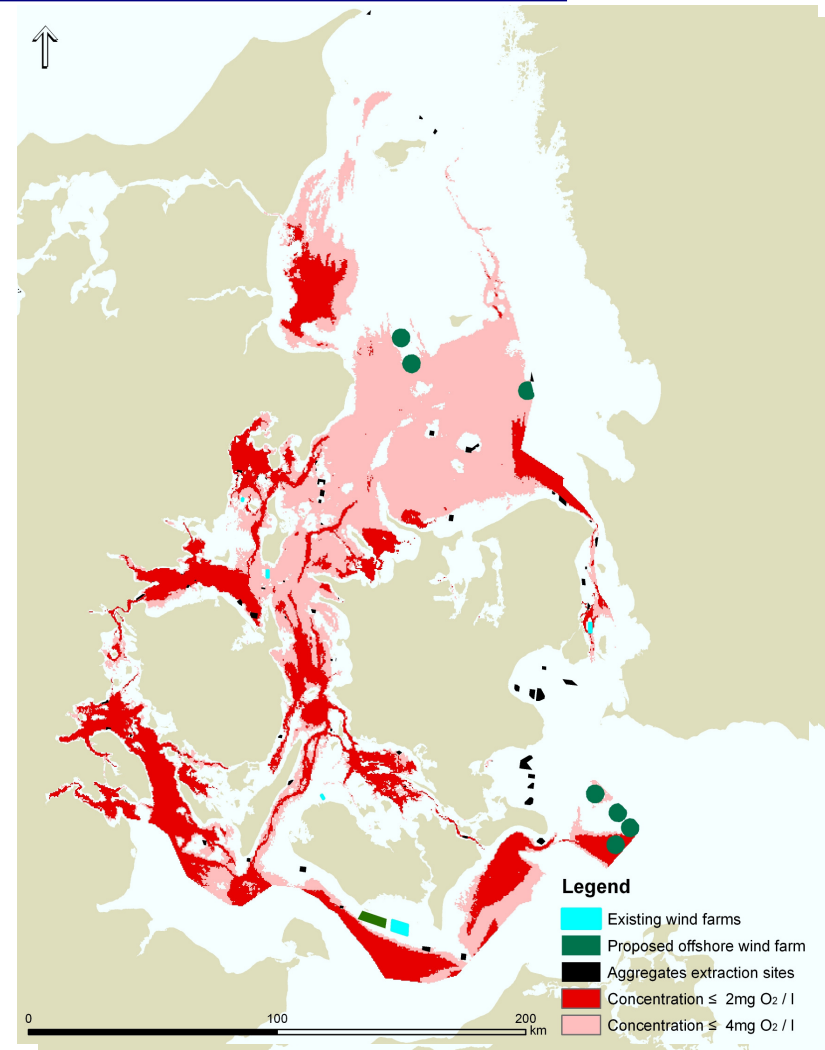
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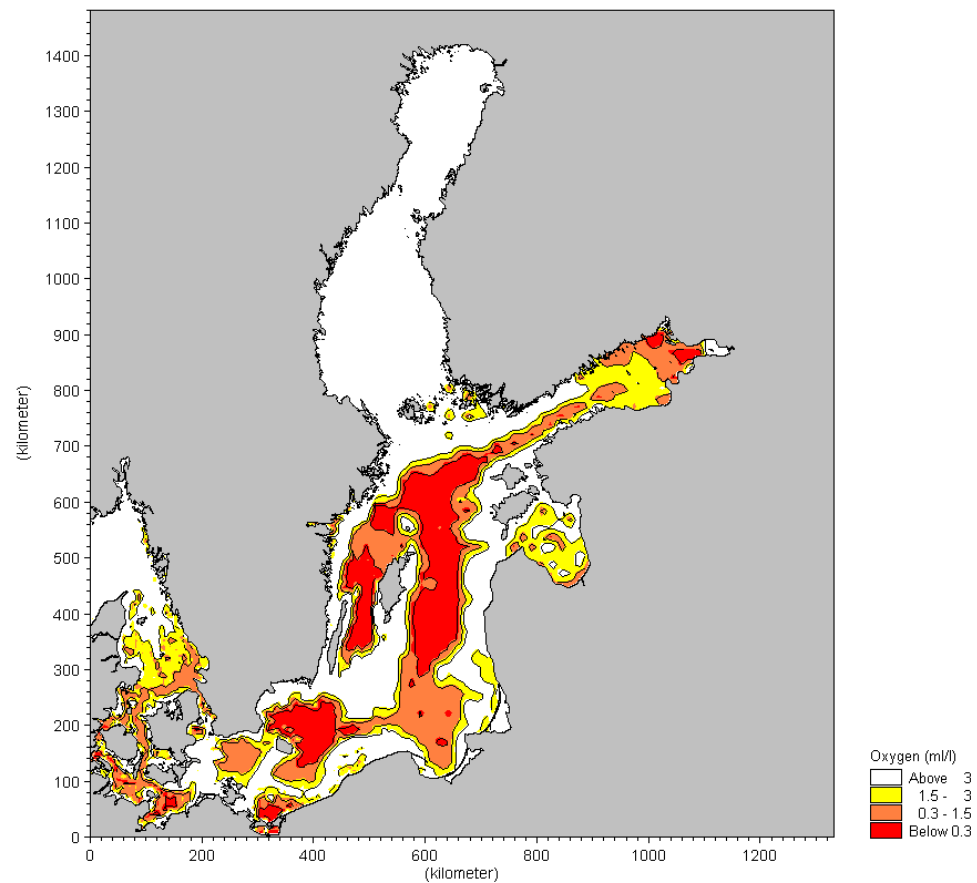
Environmental pressures e.g.
oxygen depletion

68% of these human activities are
in areas with no oxygen depletion

Influencing specific landscapes e.g.
>50% of "Non-photoc sand at 7,5-
11psu"

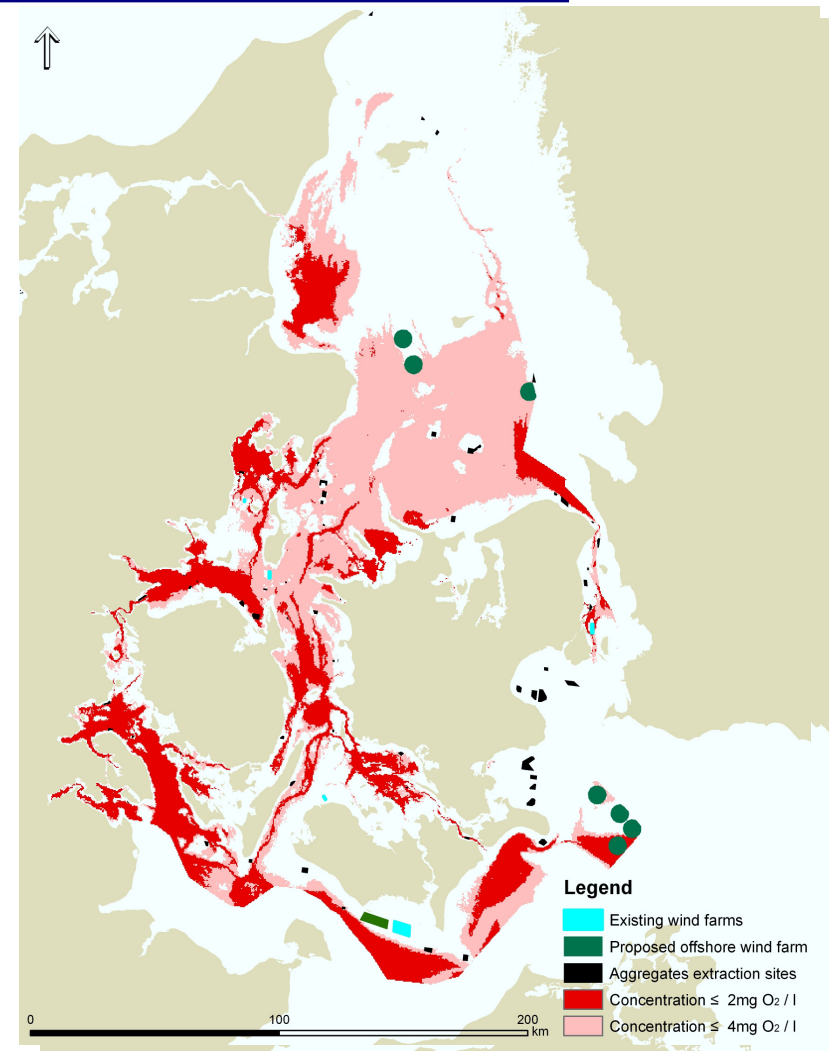


Application II – Assessing multiple pressures



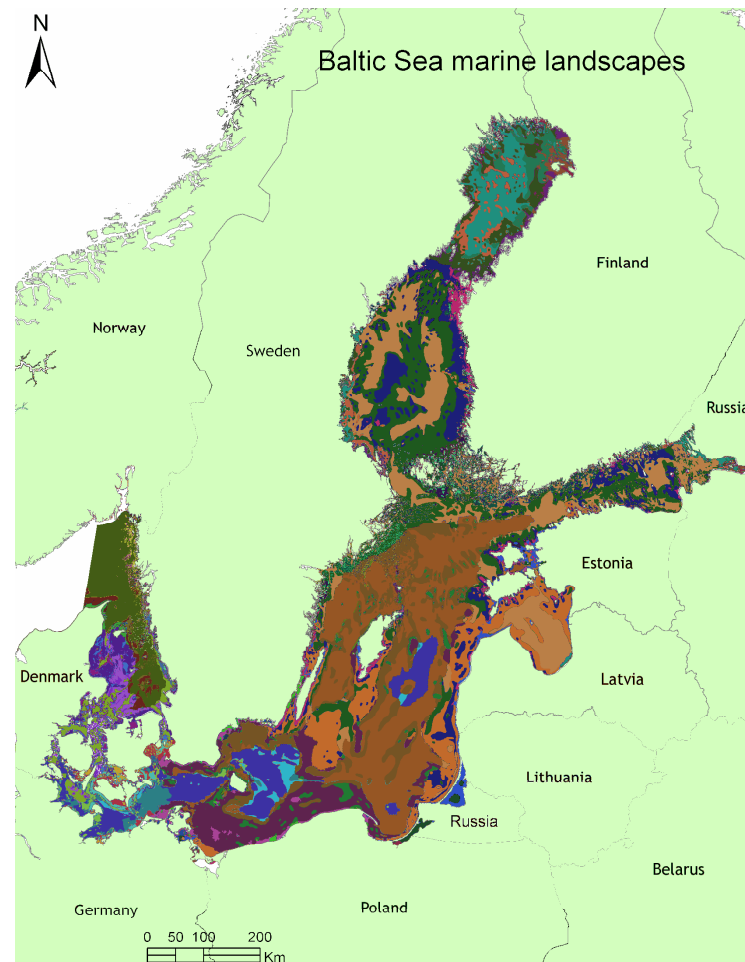
Oxygen depletion in August 2002

Source: DHI Water – Environment – Health, SNS & SEPA



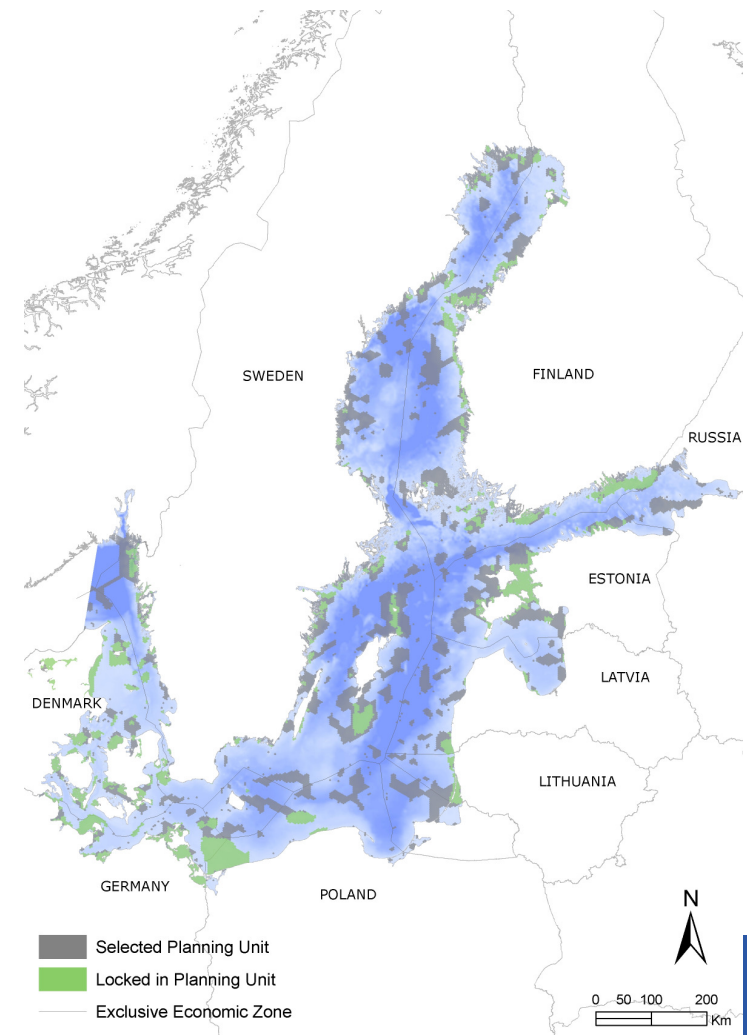
Application III– Systematic regional site selection

1. Meet conservation goals:
 - All marine landscapes ($\geq 20\%$)
 - Species and habitats ($\geq X\%$)
2. Build on existing MPA network
- 3. Take socio-economic aspects and suitability into account**
4. Ensure representation in all sub-regions and an even distribution between countries



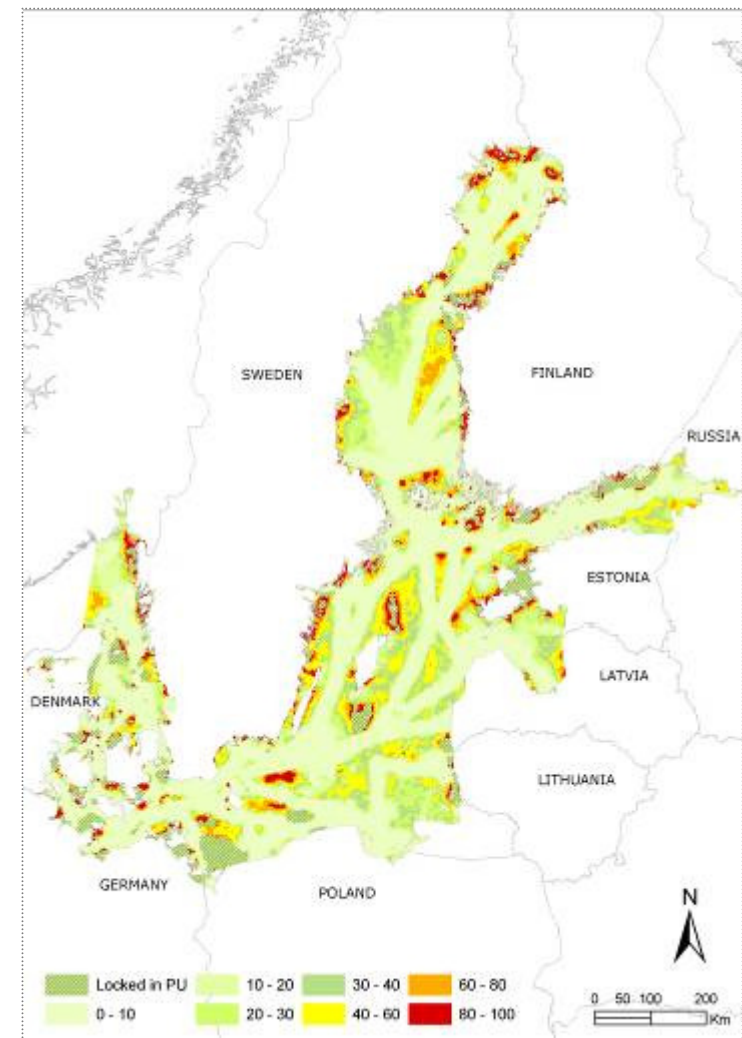
Application III– Systematic regional site selection

- There are many alternative scenarios
- It is possible to consider both conservation needs and socio-economic aspects simultaneously (identify most/least suitable sites)
- A regional systematic approach to site selection is possible!



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Application IV – Zoning

■ General Management Zone

The General Use Zone allows all types of human activities to take place with exception of those specifically prohibited by law

■ Targeted Management Zone

The Targeted Management Zone is an area subject to restrictions that extend further from the “normal” use of an area, [Examples: Natura 2000 sites, ship-lanes, temporal fisheries closures.](#)

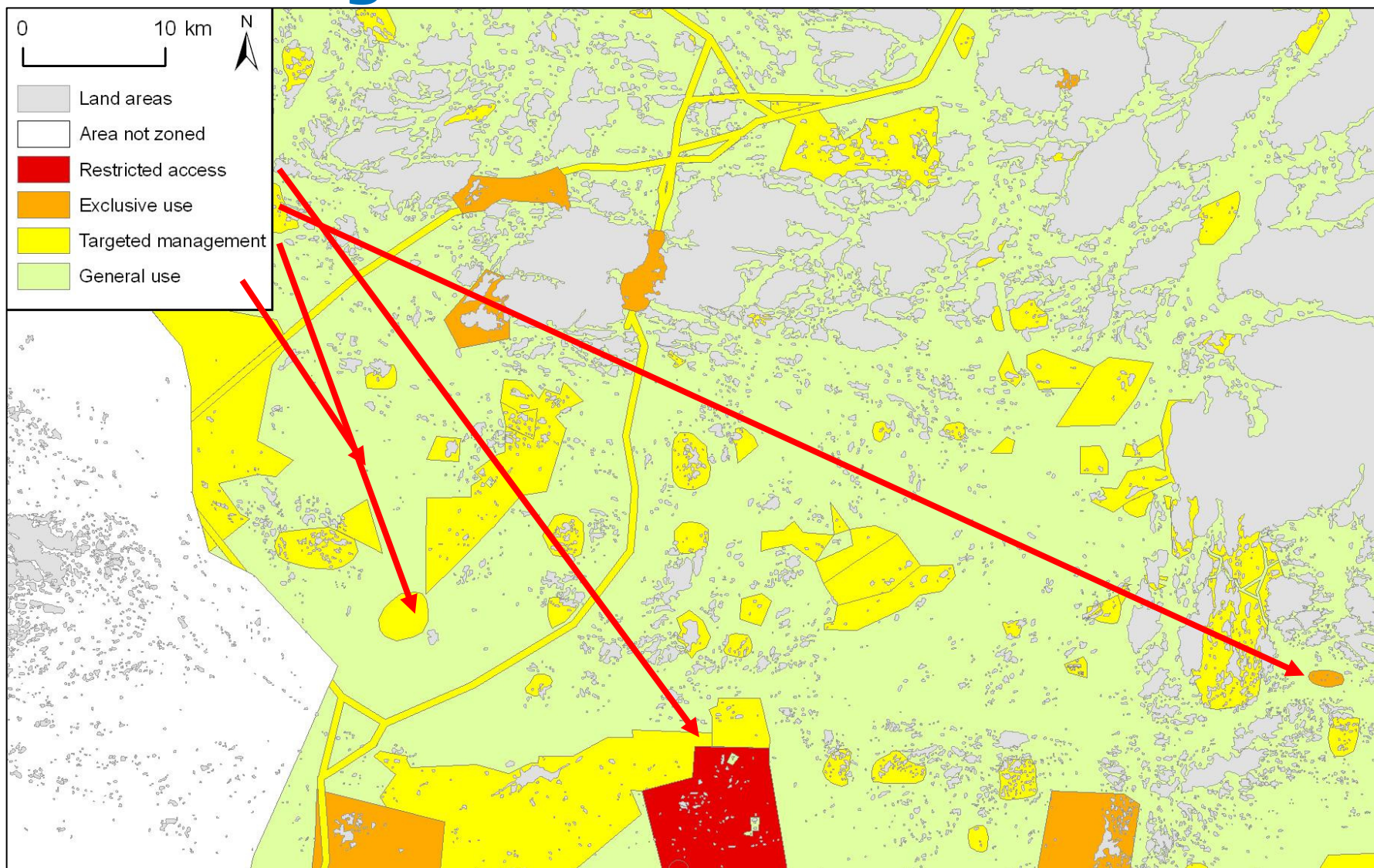
■ Exclusive Use Zone

Within this zone only one type of human activity is allowed at a time, either permanently or temporary. [Examples: off-shore wind parks, fish farms](#)

■ Restricted Access zone

A no-go zone. All entry is prohibited, except in an emergency or when first receiving a permission to enter. [Examples: Cultural heritage, seal protection areas, strict nature reserves, military training areas.](#)

Zoning – The Archipelago Sea



Lessons learnt

- Marine data (ecological and socio-economic) can be harmonised and shared even in a multiple state and stakeholder context and are essential for informed management.
- Coherent ecological relevant maps can be developed at a Regional scale and are essential for:
 - supporting a true ecosystem-based approach to management.
 - planning human uses and assessing the sum of multiple pressures (spatial).
- **Do not plan on a blue background!** Sustainable development depends on informed planning and management.

Lessons learnt

- It is possible to apply a systematic regional approach to planning and management
- Need to formulate and agree on overall principles, goals, targets and criteria
- Next step: implementation of an integrated marine spatial plan operating at the Regional Sea, national and regional scale with the appropriate national and sectoral partnerships

A Regional integrated approach needed!

- The protection and sustainable use of the Baltic Sea ecosystem is a regional responsibility.
- Only with joint regional effort will we be able to ensure a *long-term sustainable development through protecting the ecosystem...*
- ...and fulfil international and regional conventions and agreements. (*Habitats Directive, HELCOM BSAP, Maritime Directive, Marine Strategy Directive, etc.*)
- Implementation depends on e.g. EU, HELCOM and contracting parties.



To create enough space for both humans and nature we need to apply a regional integrated approach!

Thank you

