# HELCOM work on development of Baltic MPA network

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VASAB VISION & STRATEGIES AROUND THE BALTIC SEA

Baltic SCOPE Towards coherence and cross-border solutions in Baltic Maritime Spatial Plans

EUROPEAN UNION European Maritime and Fisheries Fund

ICES CIEM

#BalticMSP

# CBD Aichi Strategic Goal C

## Target 11

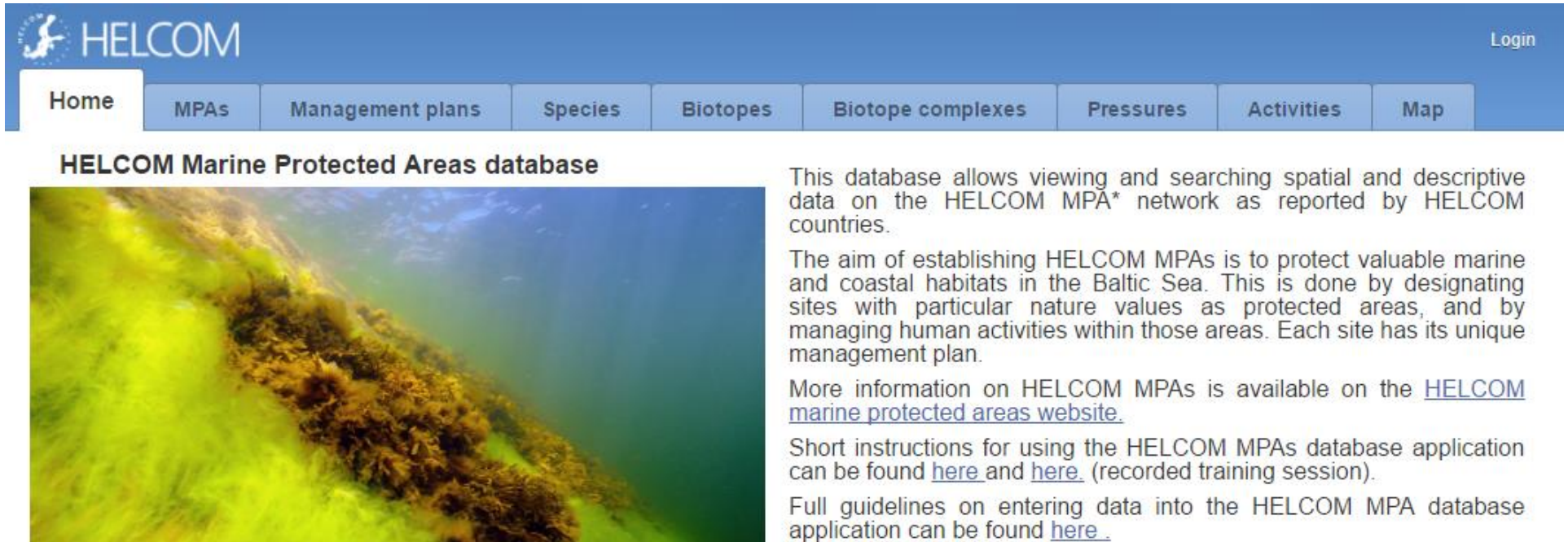
At least 10 per cent of… coastal and marine areas are conserved through

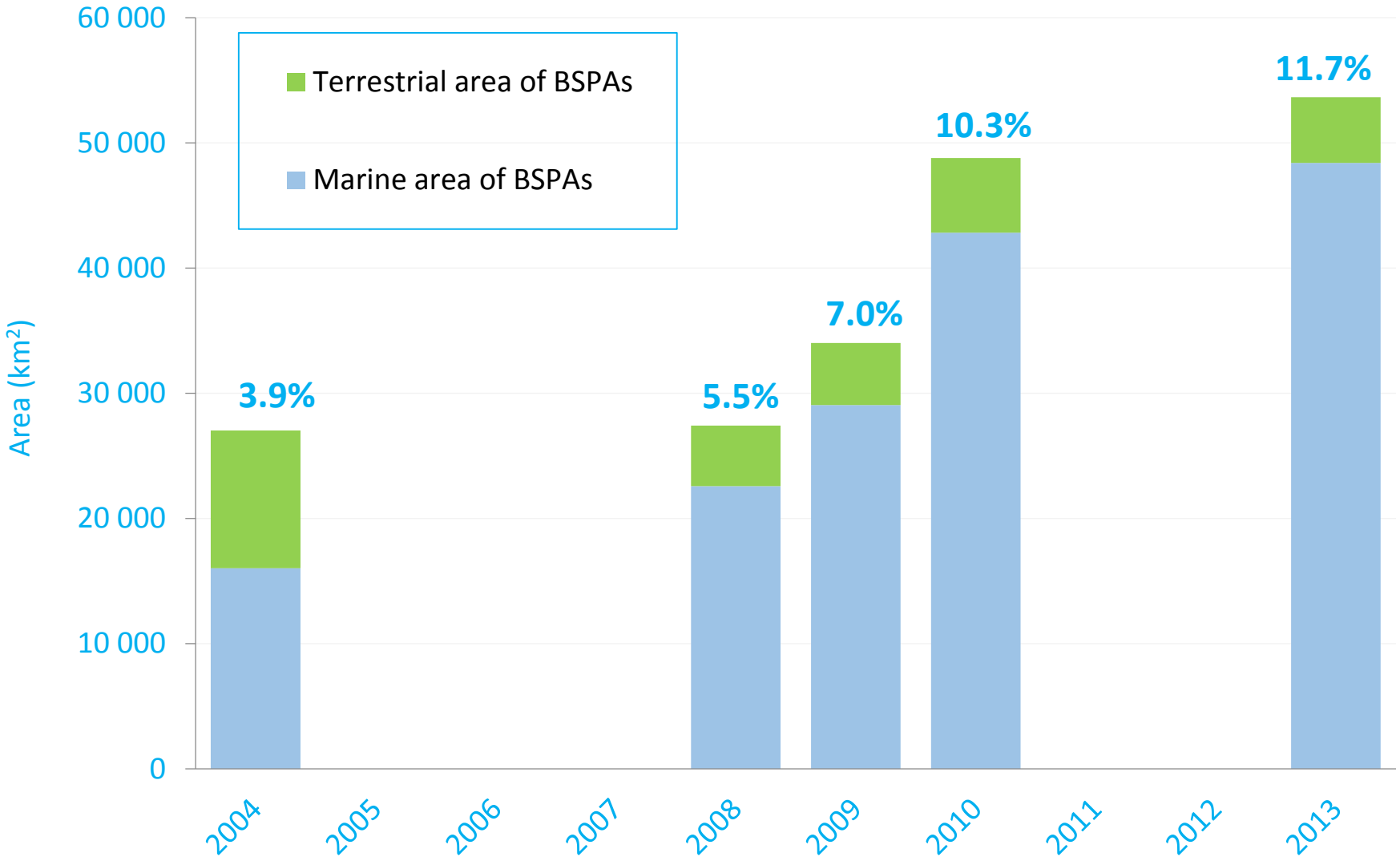
1) effectively managed
2) ecologically representative and
3) well connected

systems of protected areas

# HELCOM MPAs

- 1994: A network of 62 HELCOM Baltic Sea Protected Areas
- from 2014 called HELCOM MPAs
- Most HELCOM MPAs are Natura 2000 sites
- See HELCOM Map Service (maps.helcom.fi)






Parks & Wildlife Finland

Development of the HELCOM MPAs since 2004.
Percent values above columns describe only marine areas of the network.



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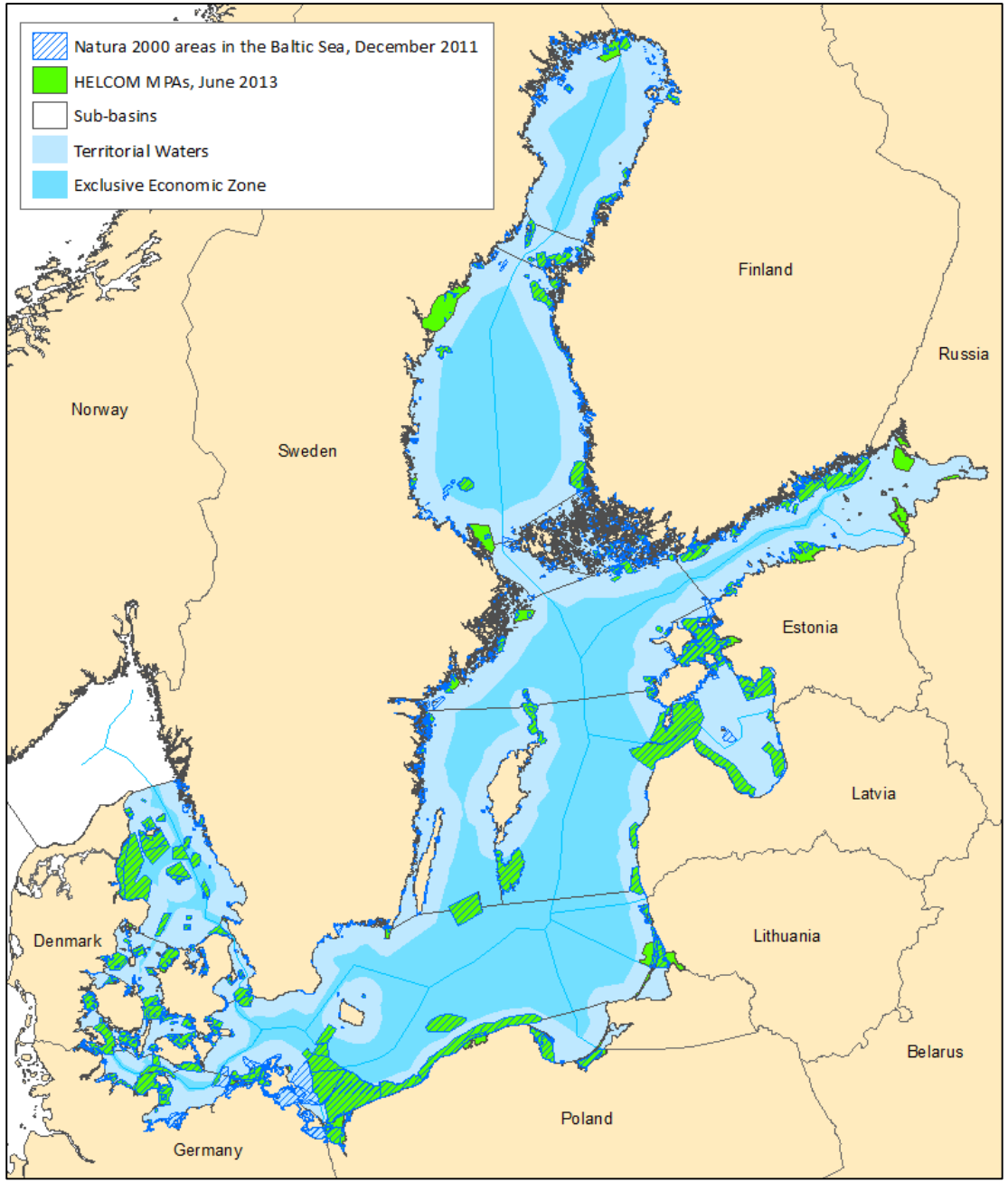
# HELCOM MPAs

- 174 HELCOM MPAs
- Ca. 54 000 km$^2$
- 11.7 % of the Baltic Sea area
- 17 % of the TW
- 4.6 % of the EEZ

Protected sea area:

- GER 36%
- PL 25%
- DK 23%
- EE 17%
- LV 15%
- LT 15%
- FI 7%
- SE 5%
- RU 4%



# International studies say: MPAs do work, but…

"Of the 1306 MPAs studied worldwide, only 31 % were achieving their objectives."

Kelleher et al. (1995) A Global Representative System of Marine Protected Areas.
Vol. 1-4, Envir. Dept World Bank. Washington DC USA

"Most MPAs are '*paper parks*' "

Jameson et al. (2002): The three screen doors: can marine "protected" areas be effective?
Mar Poll Bull 44: 1177-1183

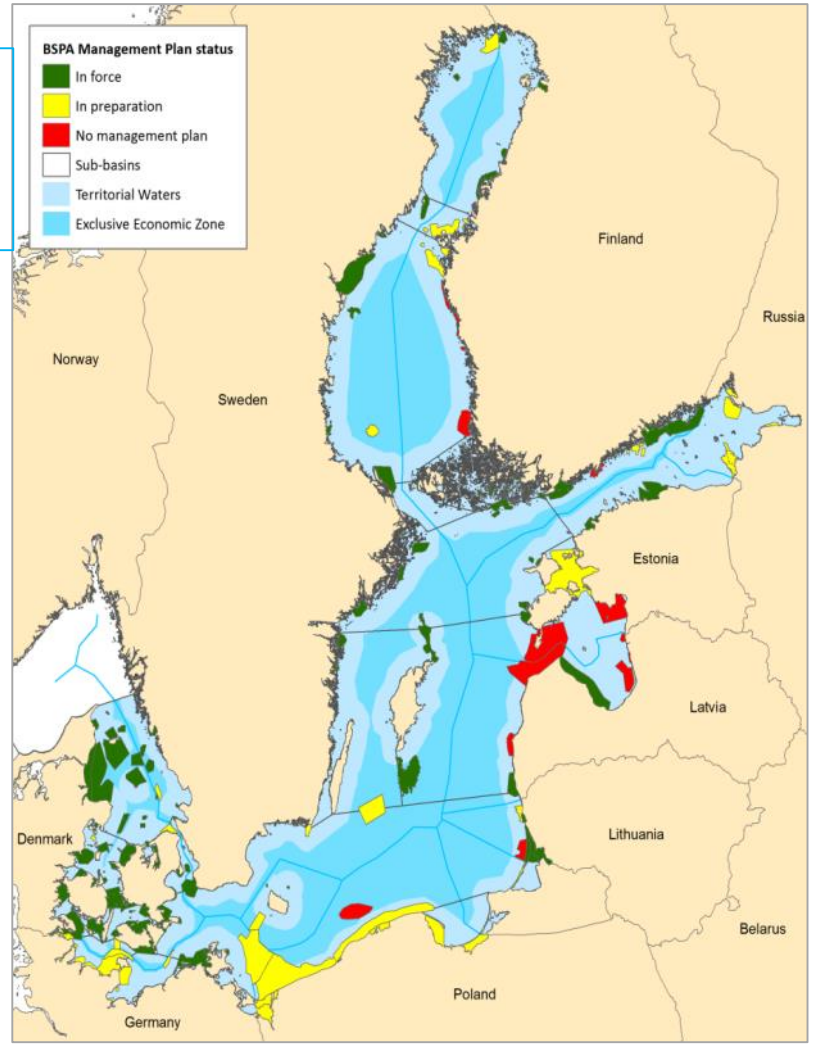
"There is a strong need of a radical reform of the European Natura 2000 network."

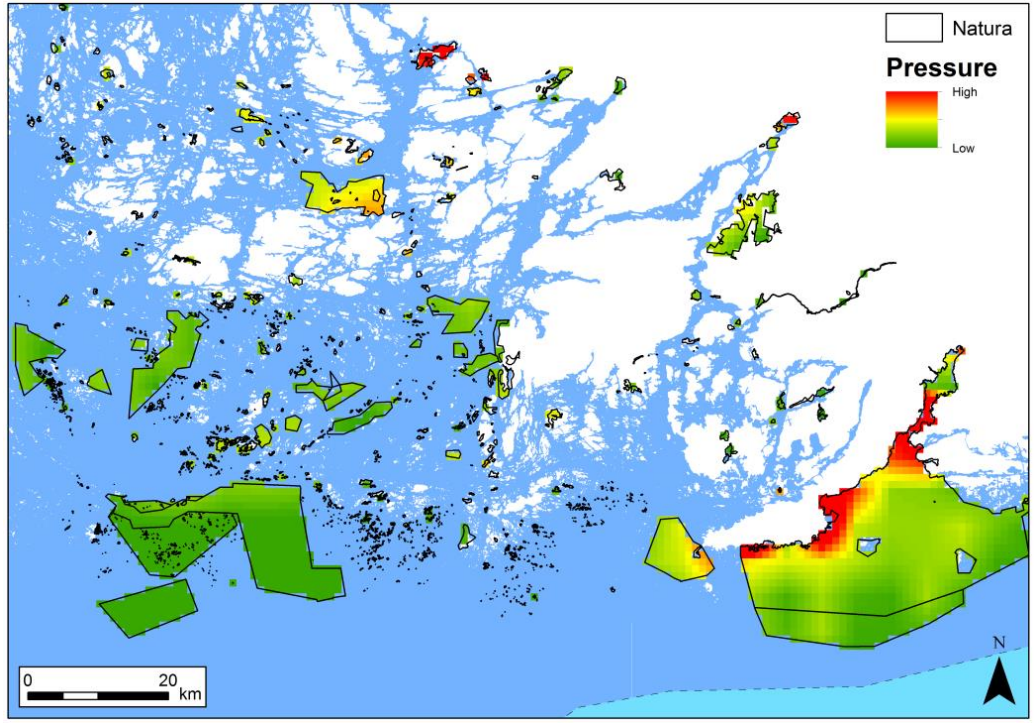
Position paper by the European Marine Board (Olsen et al. 2013)

*Esben Moland Olsen, Univ. Agder, Norway*

# Crucial question:
# Are the MPA networks coherent and well managed?

- 65 % of the HELCOM MPAs: a management plan in force
- 26 %: a management plan in preparation
- 9 %: no management plan



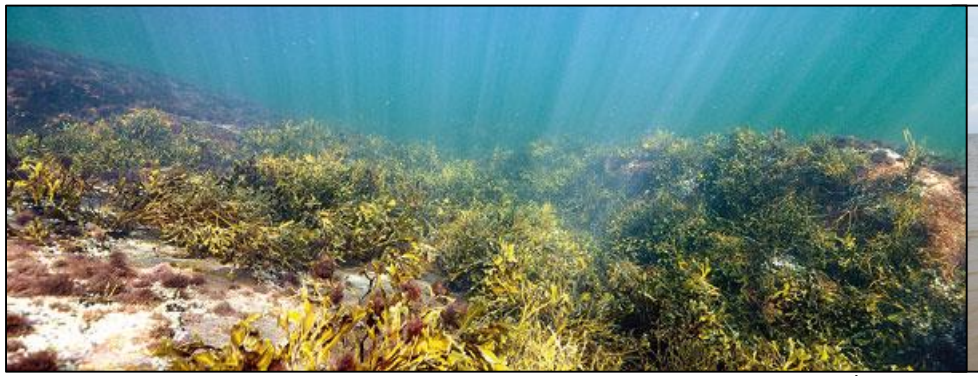

To make the management effective:
We need information on the marine biota - and on human pressures

SYKE

*“**Lack of data** is a major obstacle for the development of an ecologically coherent MPA-network in the Baltic Sea”*

*- HELCOM 2010*

# How to locate the most valuable habitats?



Reefs

M. Westerbom

Underwater sand banks

Lagoons

Estuaries

# How to locate important and rare species?

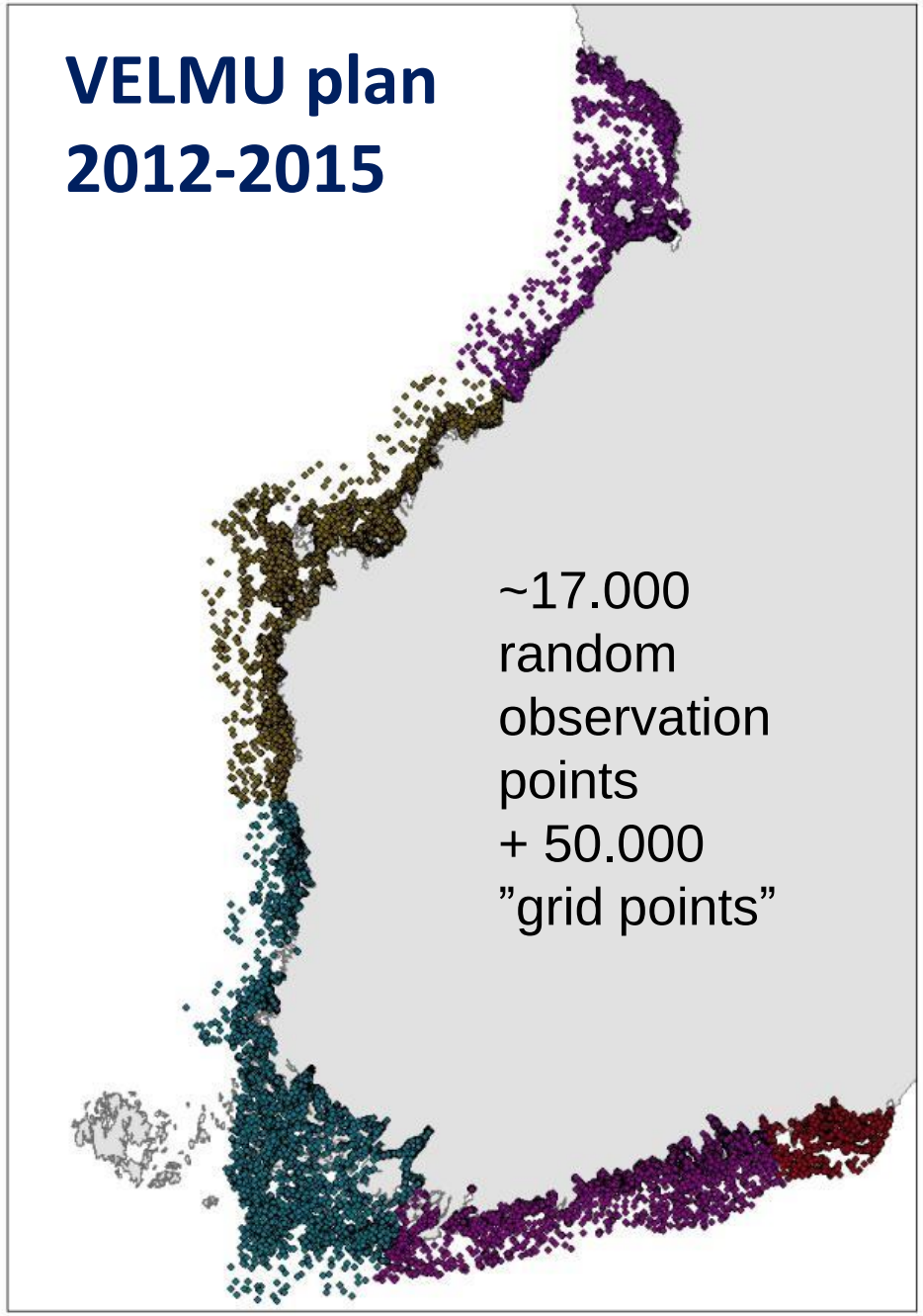
Bladderwrack
*Fucus vesiculosus*

Eelgrass *Zostera marina*

*Hippuris tetraphylla*

Blue mussel
*Mytilus trossulus*

# The Finnish solution: The VELMU Programme



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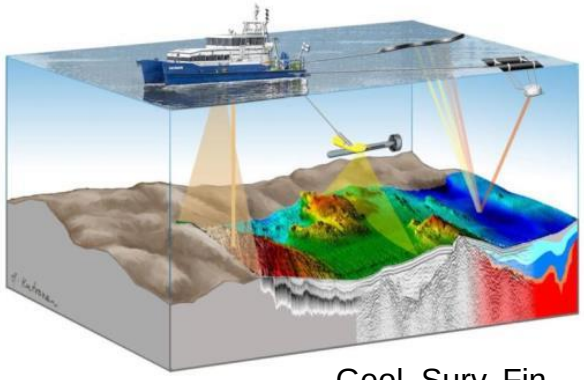
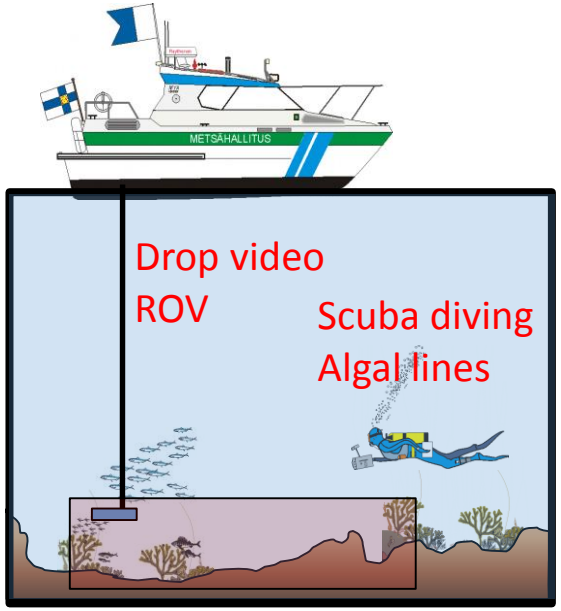
# Data collection

- Bottom topography, geology
- Habitats
- Algae and water plants
- Invertebrates
- Fish spawning areas



Geol. Surv. Fin.
/ H. Kutvonen

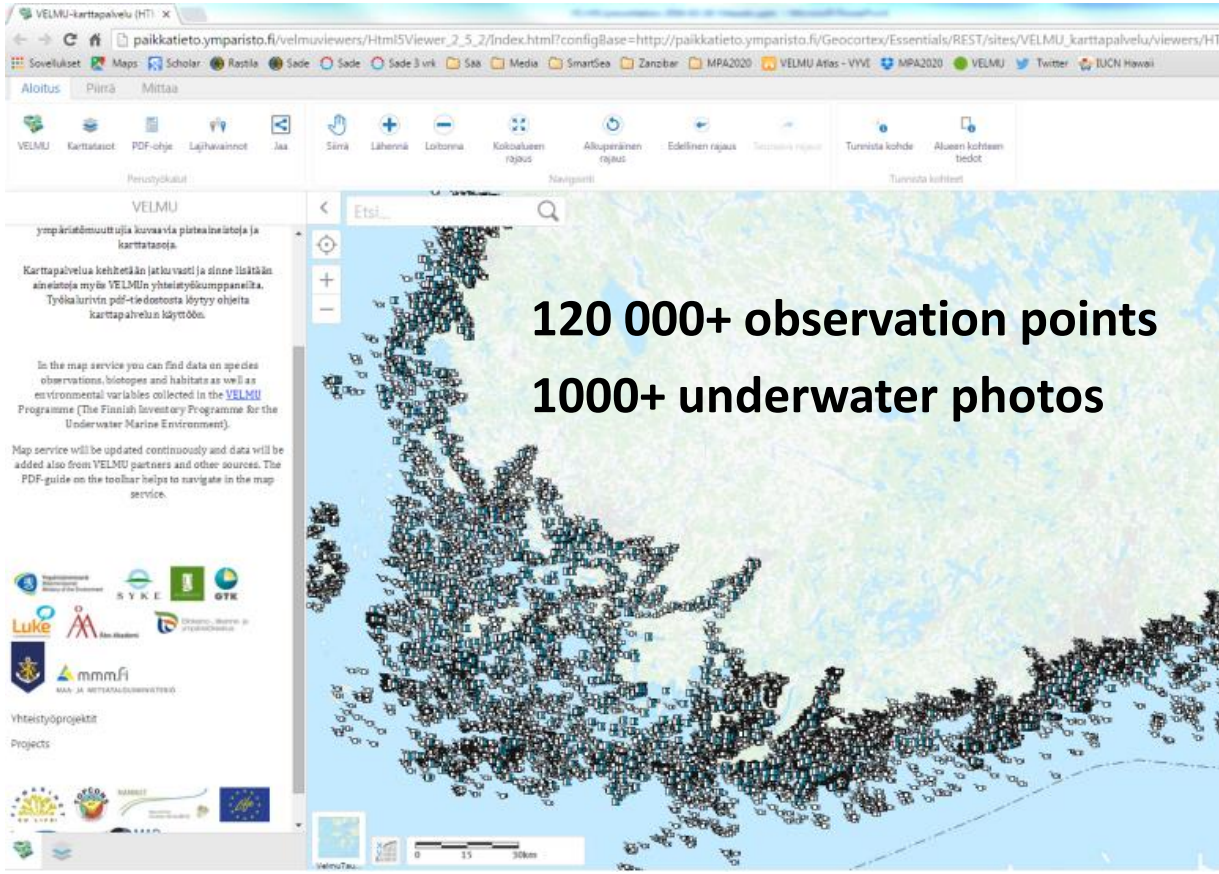
Geological
echosounding methods




Parks & Wildlife Finland

Benthic sampling
Sampling of fish larvae

# VELMU Map Portal



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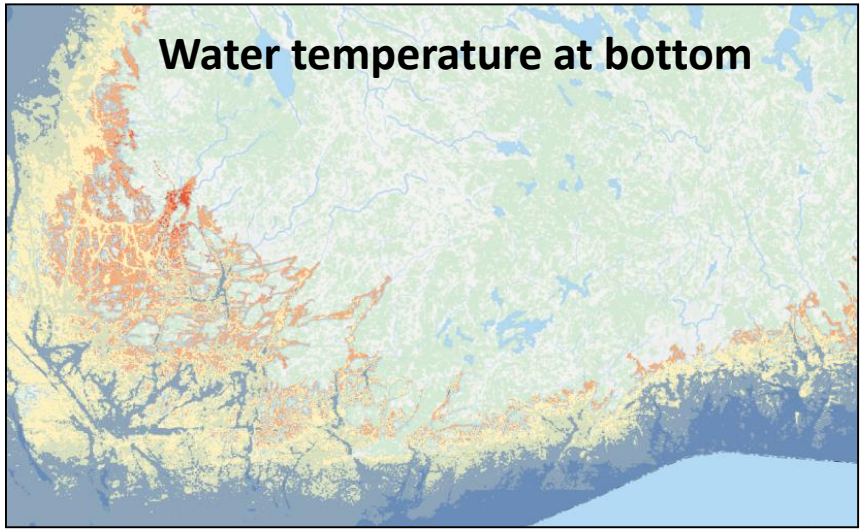
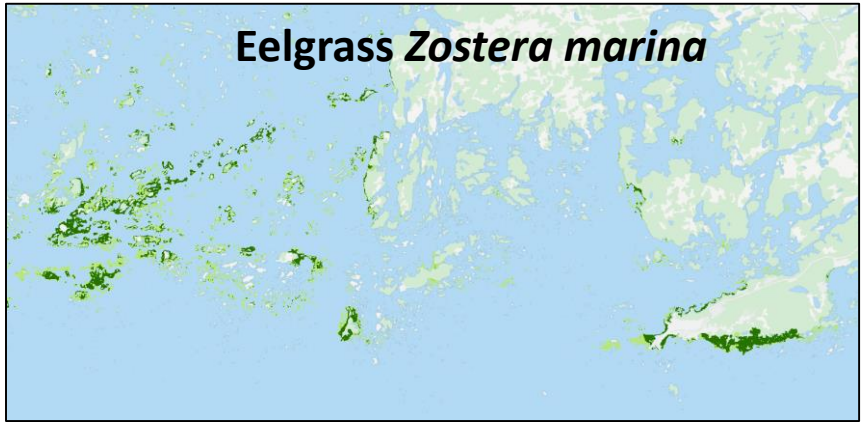
## Models

Environment & Species

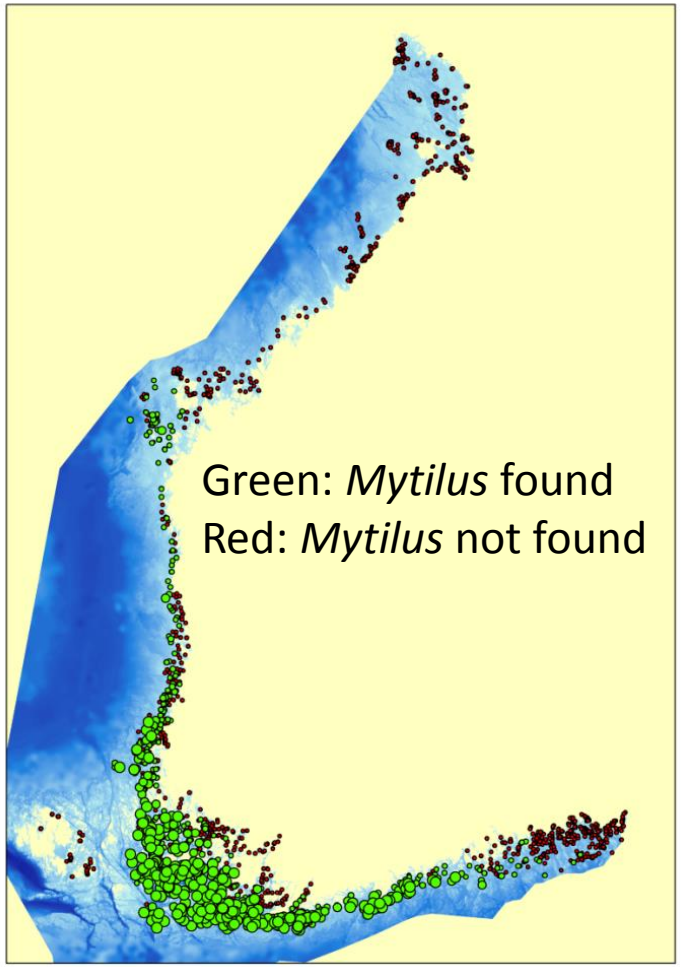



Elina Virtanen, SYKE

## Geographical distribution

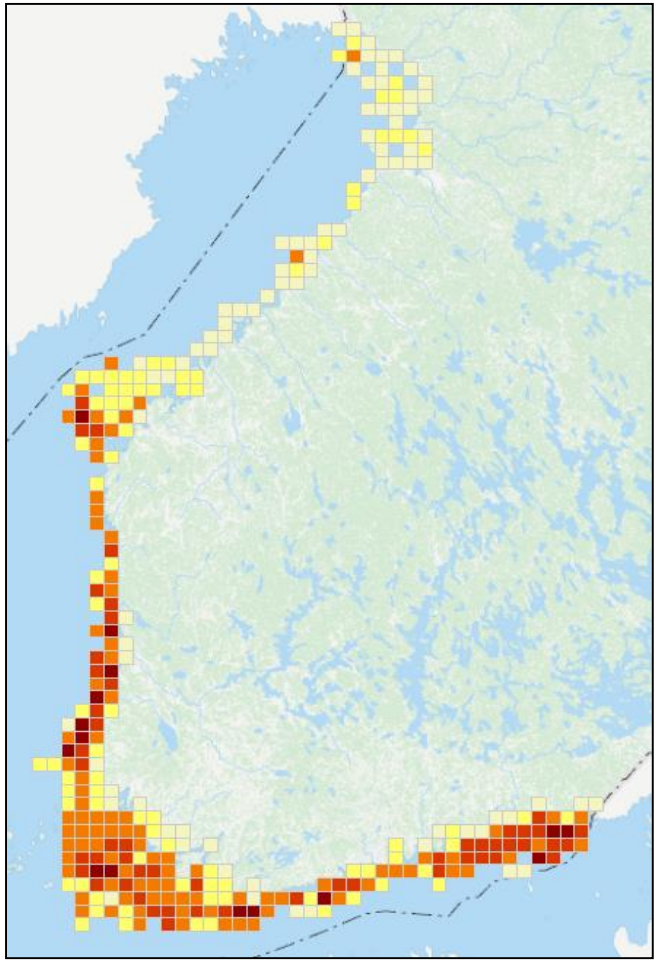
Blue mussel *Mytilus trossulus*




Markku Viitasalo, SYKE

## Biodiversity maps

Number of algal genera



Lasse Kurvinen, Parks & Wildlife Finland



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# paikkatieto.ymparisto.fi/velmu

Google: ”VELMU map portal”

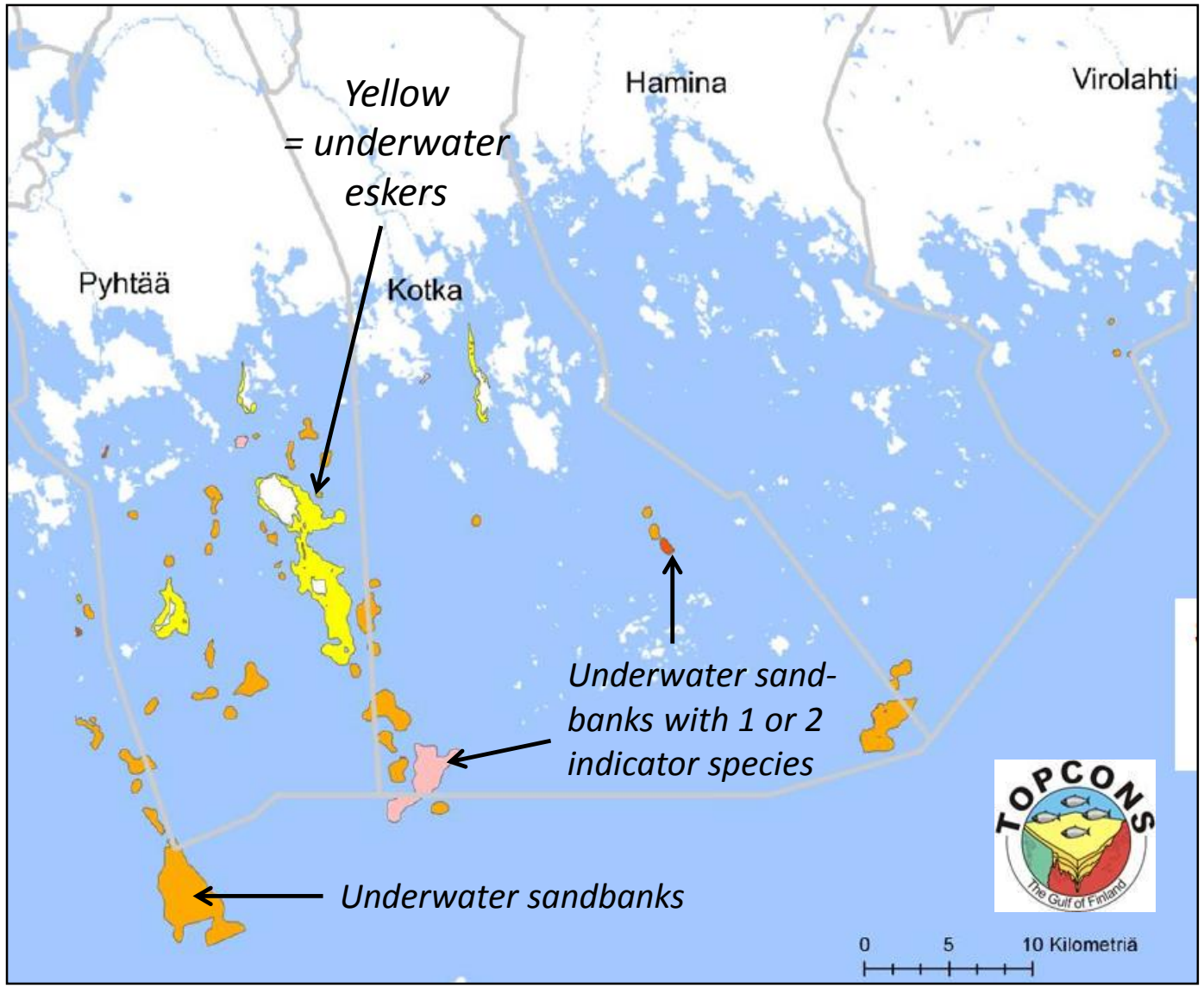
# How to integrate marine conservation (and MPA network development) in MSP?

# Read: How to take habitats and species into account in MSP?

# MSP in practice: Kymmene regional plan

## Underwater eskers and sandbanks

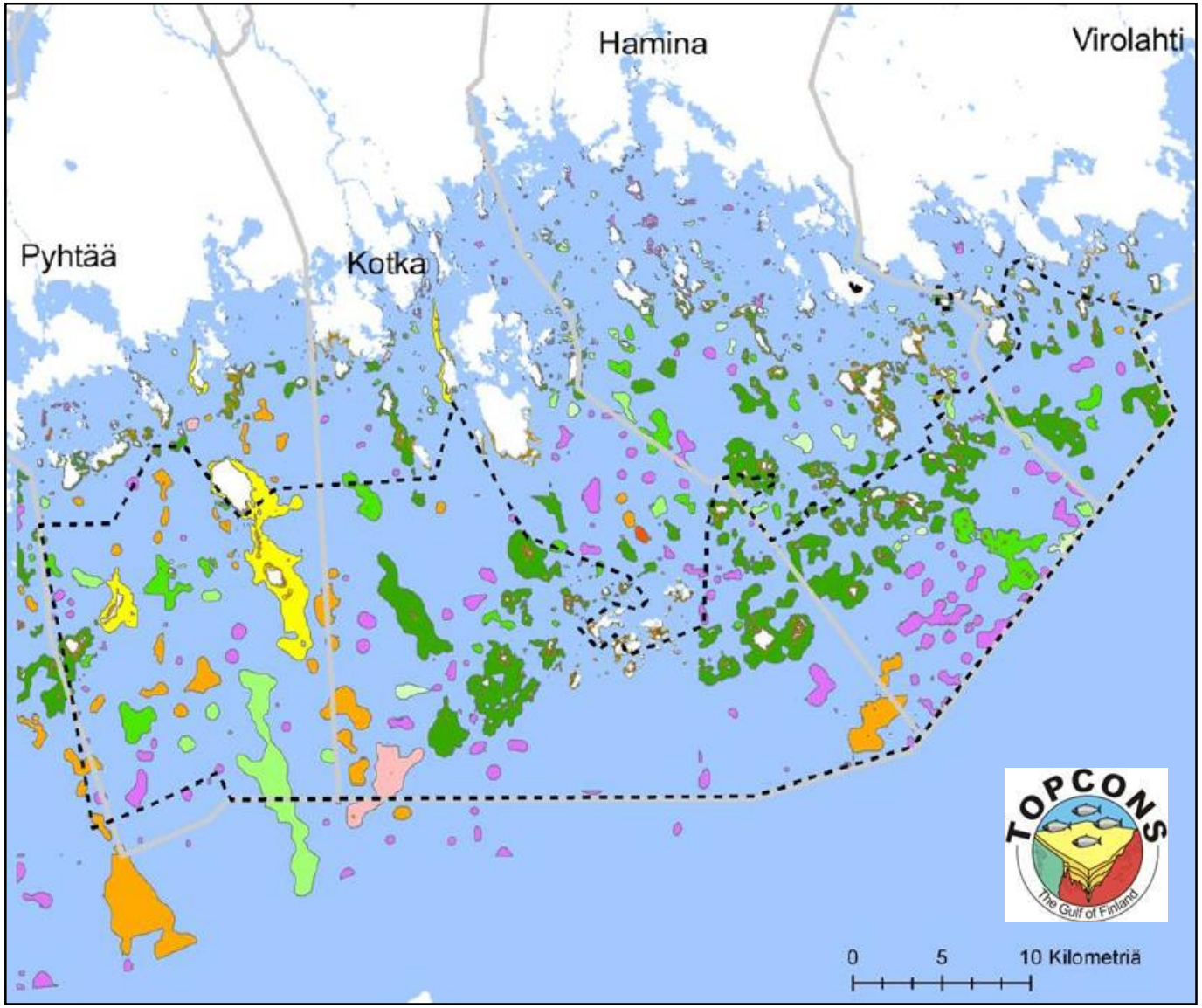
and their indicator pecies



# MSP in practice: Kymmene regional plan

## Summary graphs

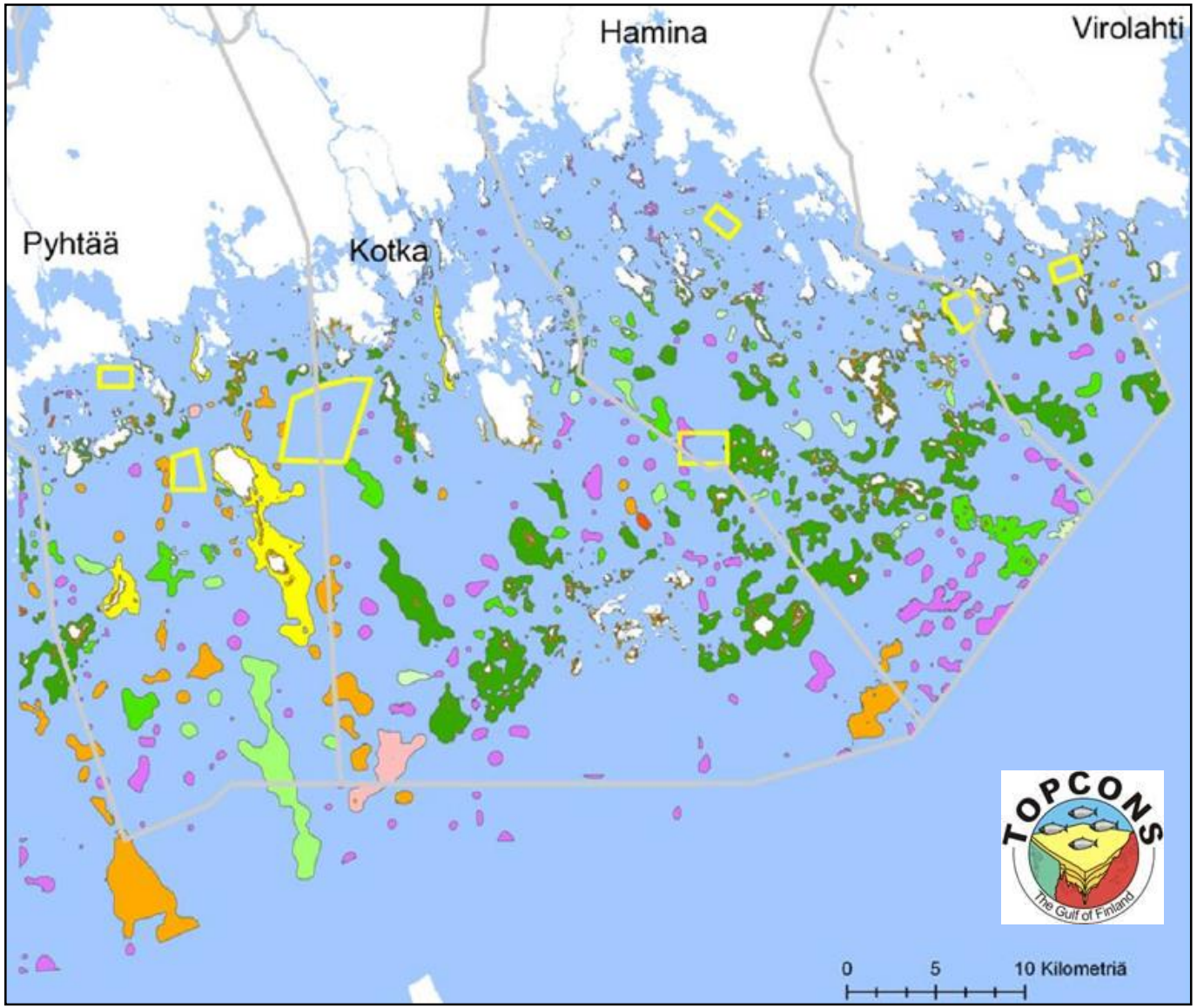
Eskers, sandbanks, reefs, bladderwracks and indicator species



# MSP in practice: Kymmene regional plan

## Summary graphs

Where to allow dredging and landfill?

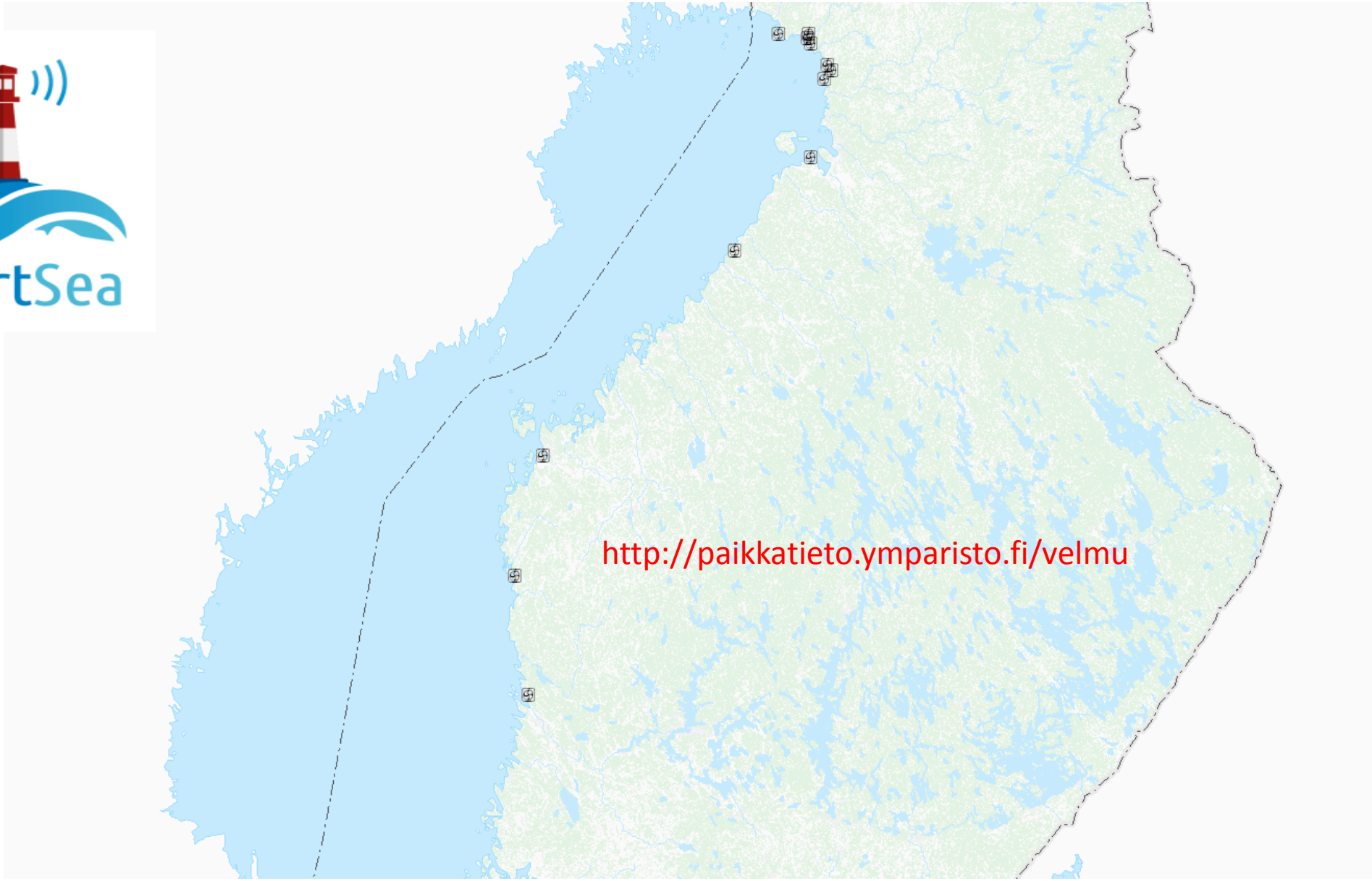


# Gulf of Bothnia as Resource for Sustainable Growth

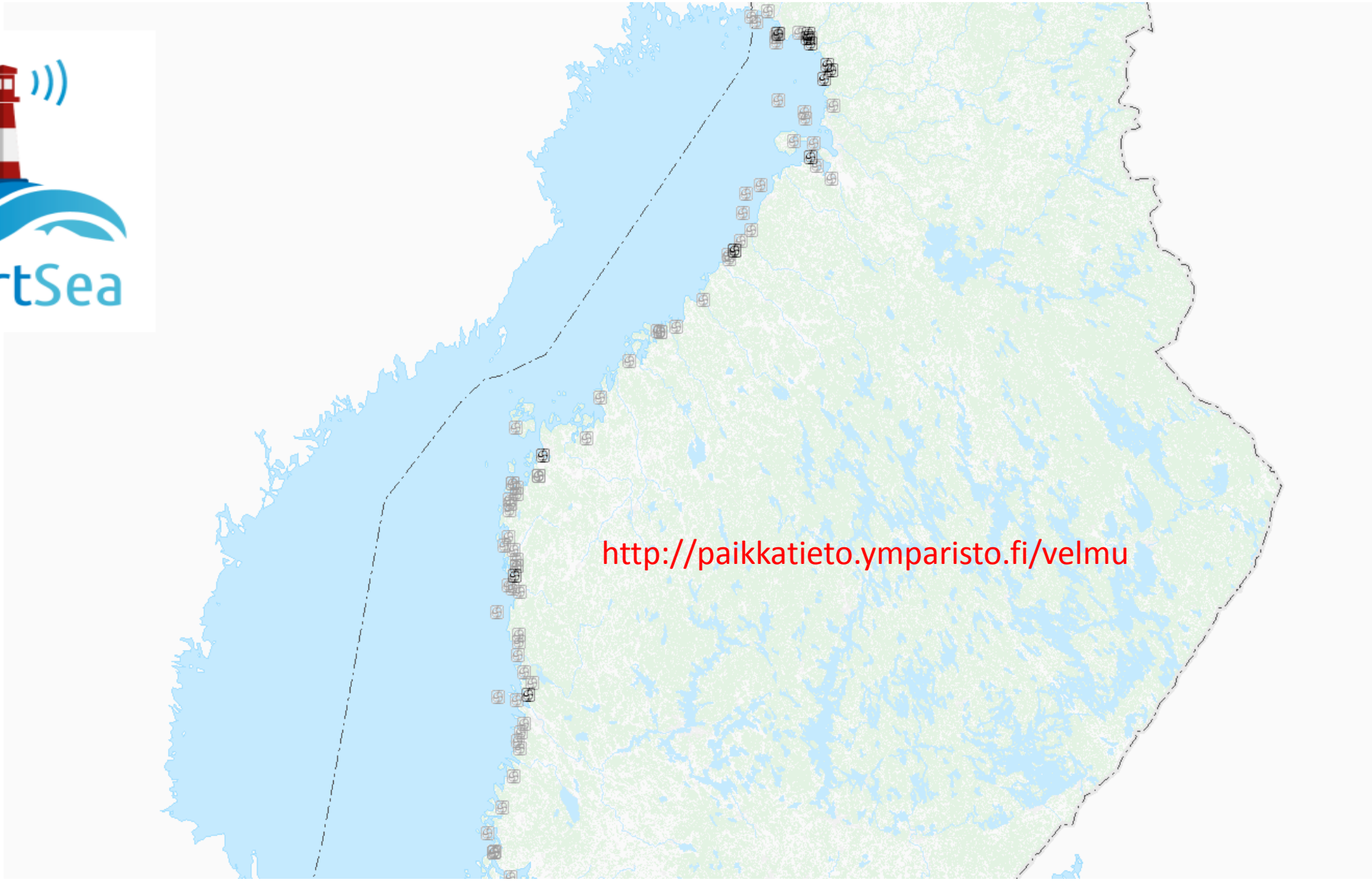
smartsea.fmi.fi

- Strategic Research Council funding
- 8.5 milj. € (2015-2020)
- 8 Finnish Institutes
- Coordinator Finnish Meteorology Institute, Jari Haapala

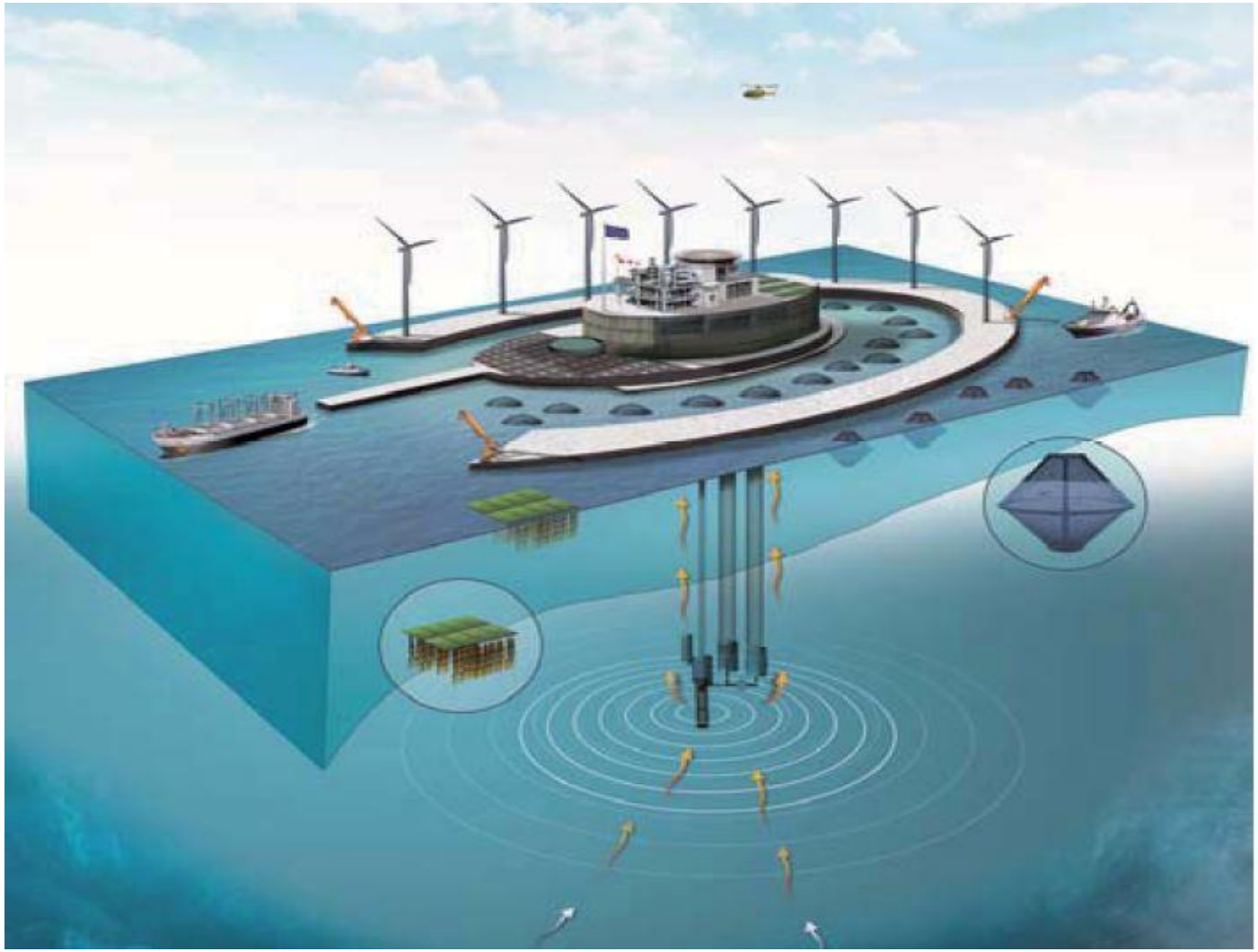
# Windpower in use



# Windpower under planning



# ”Multi-use of ocean’s space”



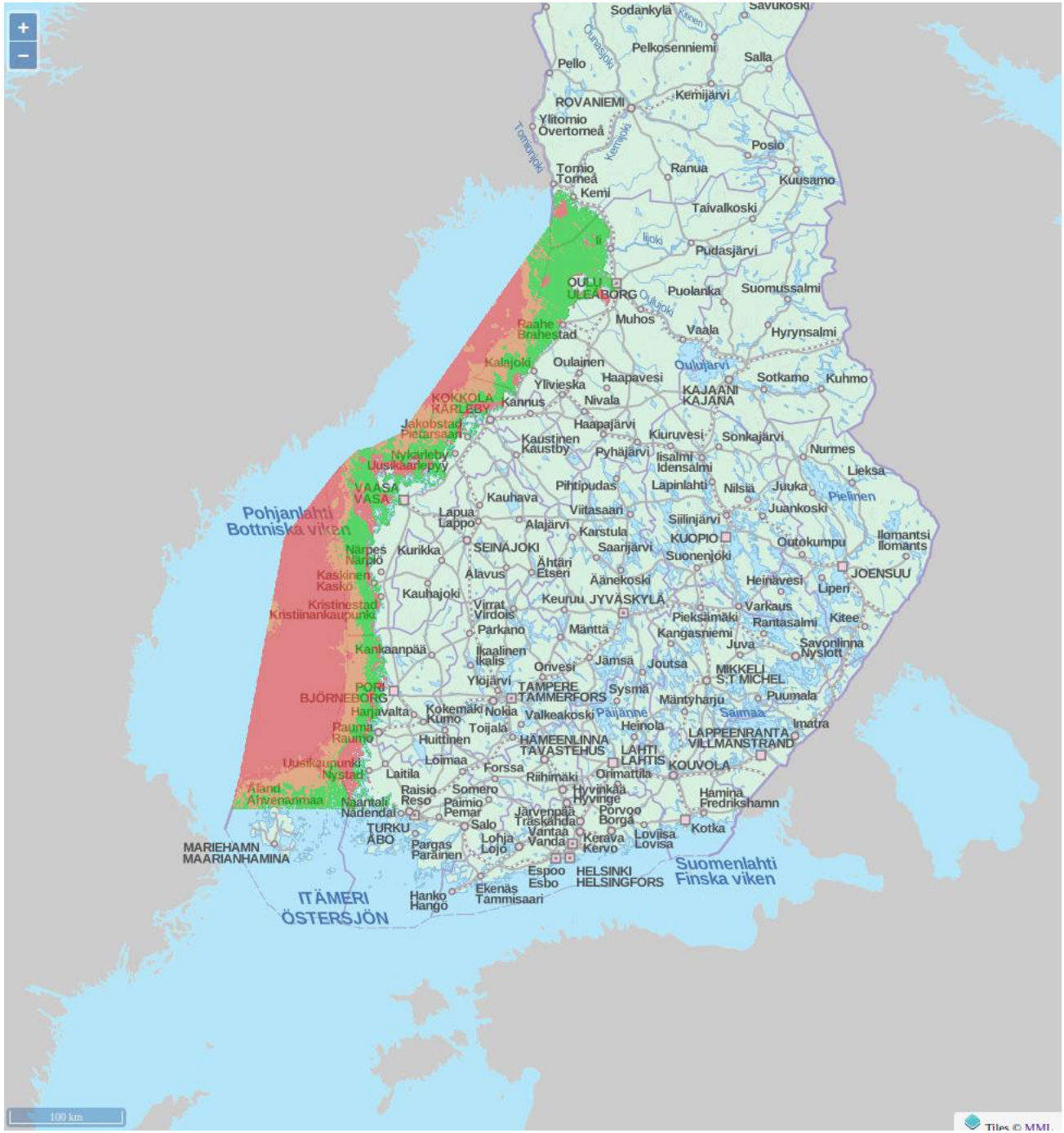
Green and Blue concept http://www.troposplatform.eu/

# ”Multi-use of ocean’s space” - SmartSea

- Can wind power and fish farming be combined?
- Where should such “Blue Growth Oases” be located

VTT / Jaakko Heinonen

# Marine Spatial Planning tool




SmartSea

MSP tool development

- Protected areas
- Fisheries
- Offshore wind farms
- Fish farming
- Geoenergy extraction
- Disposal of dredged material
- Coastal turism
- Seabed mining

**Explain site**

Point

**Value**

- No value
- Some value
- Valuable
- High value

**Suitability**

- Not suitable
- Suitable with conditions
- Suitable

**Displaying** Plan A

**Allocation**

- Current use
- New allocation

**Impacts**

Point

Compute here impacts (pros, cons) for selected plan and selected point/area.

**Please note! This is work-in-progress and not a public page. Data is bogus etc.**

M. Viitasalo et al., 2nd MSP Forum, Riga 24.11.2016

## EU directives & HELCOM:

**Harmonize the adjacent MSPs**
**Develop MPA network together**

## What to do in practice?

*Make a Baltic scale prioritization of nature values.*
*Share responsibilities.*

# A holistic view is necessary

*© Visa Hietalahti*



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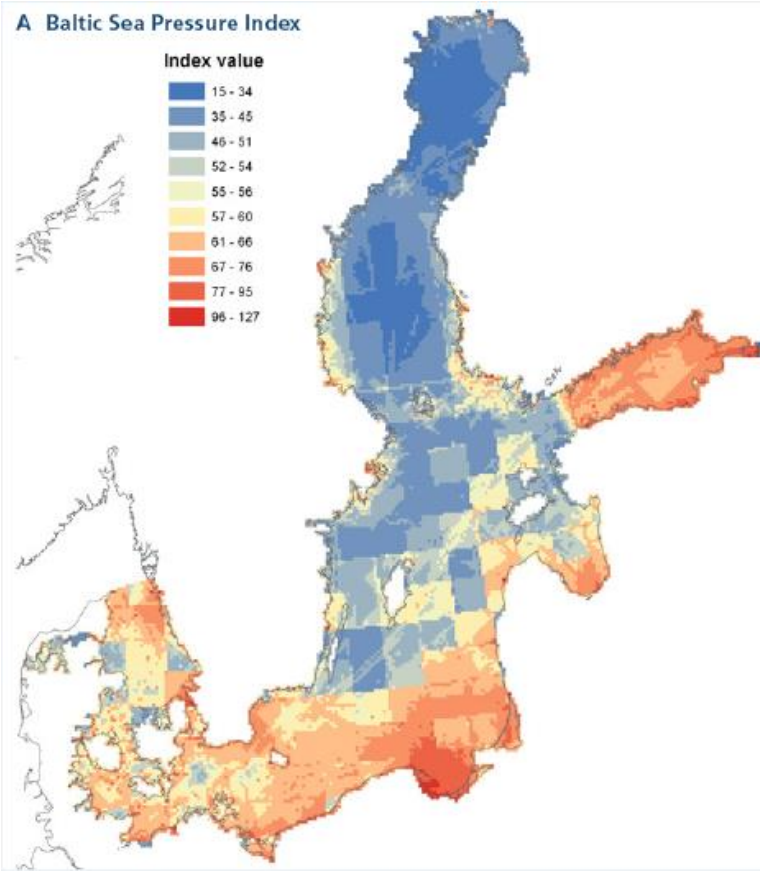
# HELCOM HOLAS I

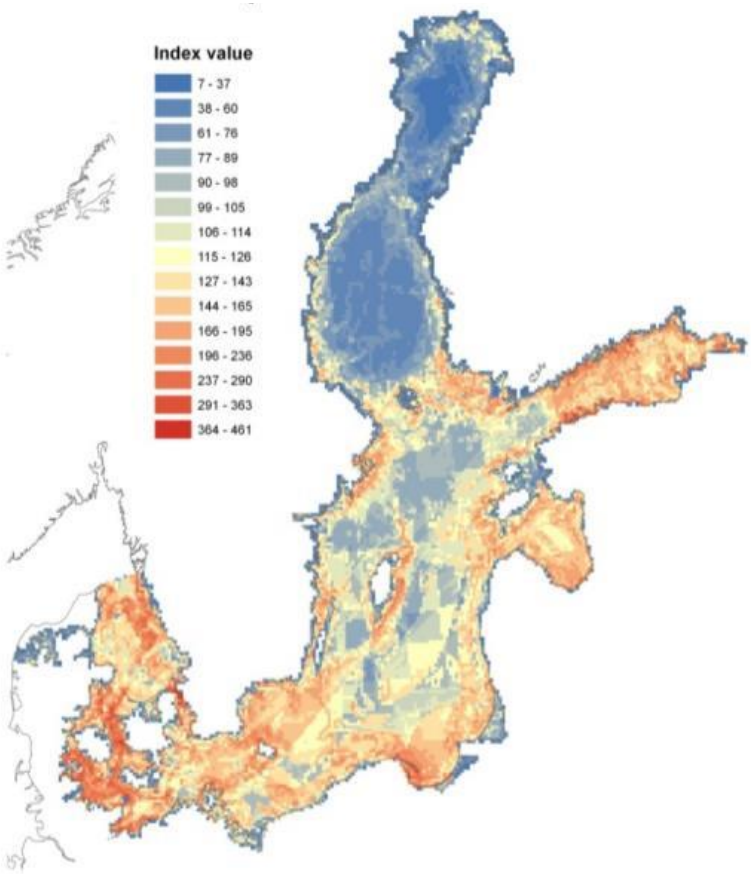
## Baltic Sea Pressure index

Summed intensity of pressures




## Baltic Sea Impact Index

Pressure and ecosystem data combined using Impact scores




*Korpinen et al 2012. Ecological Indicators 15:105-114.*



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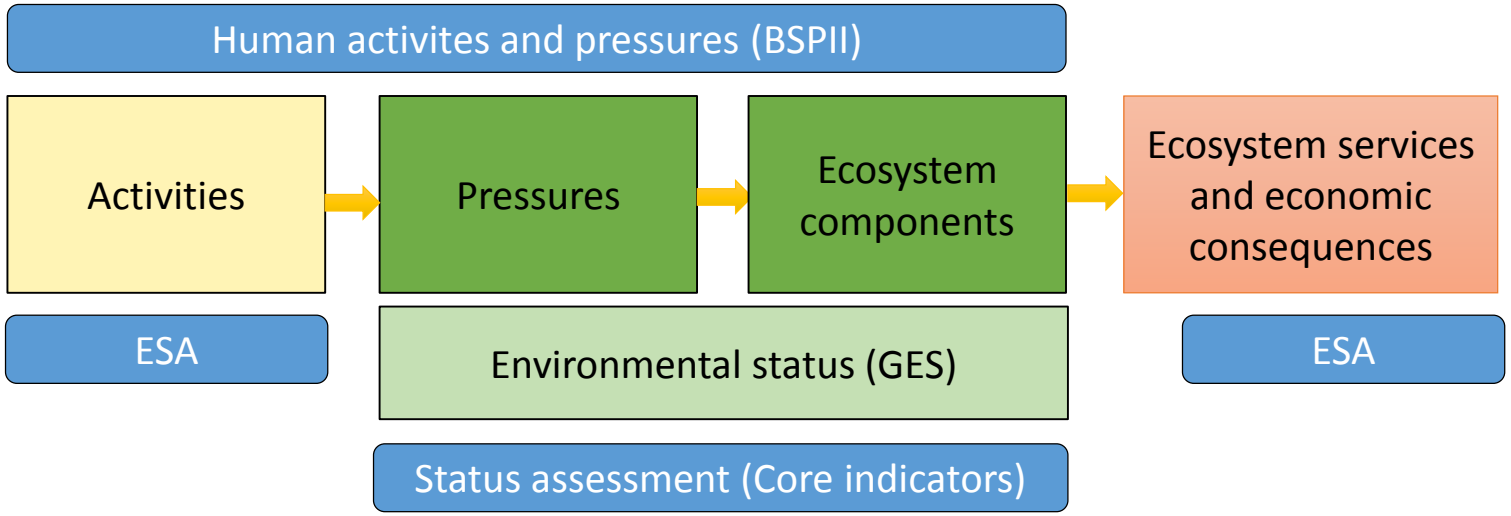
# HELCOM HOLAS II

- will bring the integrated assessment to the next level
- substantial improvement of data; developing of scientific methods




**Release of first results mid-2017**

**Updated results and final report mid-2018**



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# CONCLUSIONS

- Development of MPA networks = an integral part of MSP
- A holistic, Pan-Baltic approach is necessary in both MSP and MPA network development
- Ecosystem-Based and Integrated Management of human activities is a common goal for several policies. MSP is a tool that can help to achieve this.

Mats Westerbom

# *Thank you for your attention!*

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