



# BONUS BASMATI

Baltic Sea Maritime Spatial Planning  
for Sustainable Ecosystem Services

## Ekosistēmas pakalpojumi un komunikācijas atbalsta rīks jūras telpiskajā plānošanā

**Solvita Strāķe**  
Latvijas Hidroekoloģijas institūts

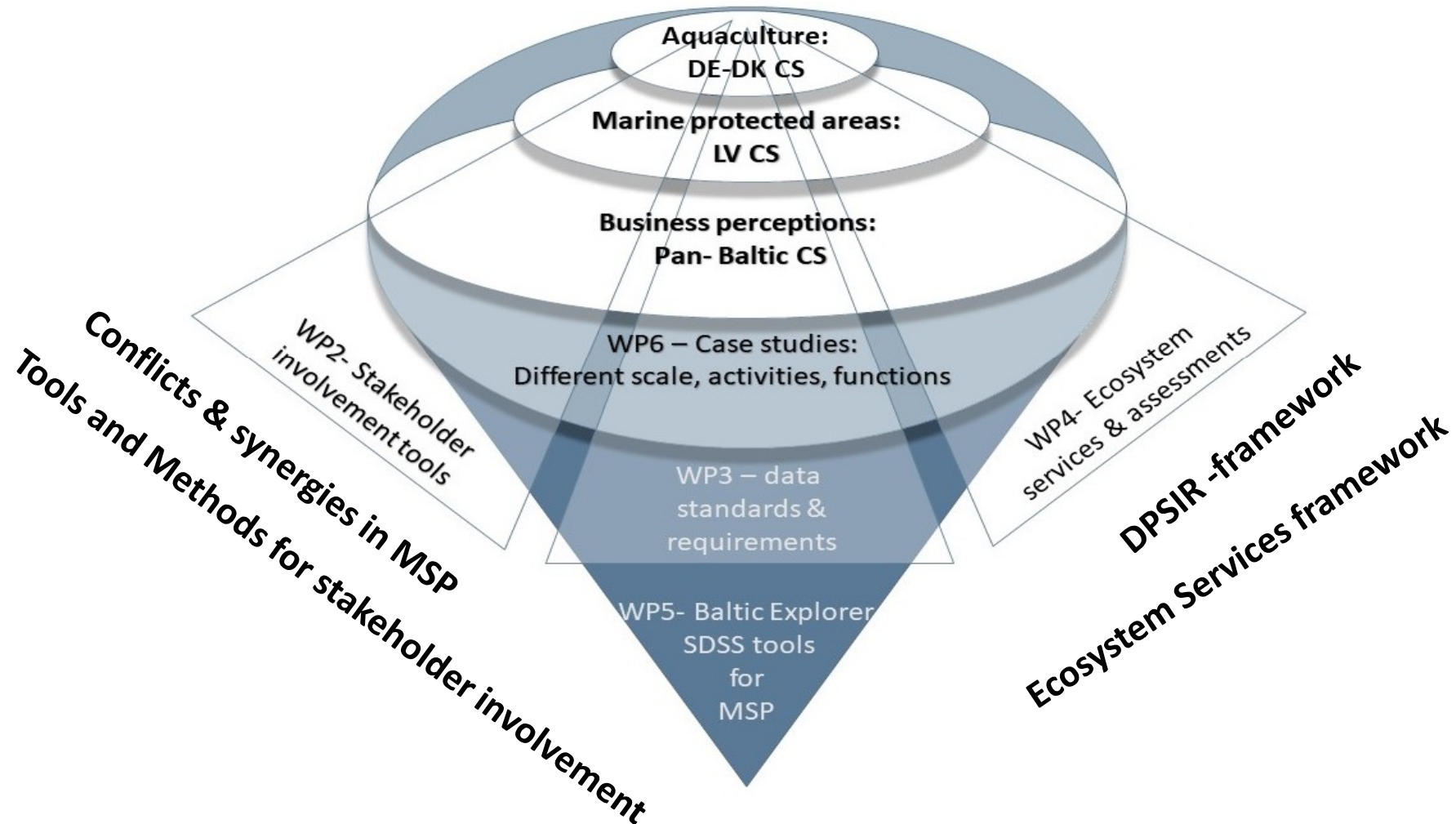


## **Baltic Sea Maritime Spatial Planning for Sustainable Ecosystem Services, BONUS BASMATI**

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- Dr. geogr. Juris Aigars, LHEI
- Dr. biol. Ingrīda Puriņa, LHEI
- Dr. sc.ing. Maija Viška, LHEI
- Msc. Aurēlija Armoškaite
- Kristīne Pakalniete, vadošā pētniece, SIA AKTiiVS Ltd. - Economic Research and Consultancy for Water and Biodiversity Protection

## **BONUS BASMATI**

- **Baltijas jūras teritorija**
  - Jūras Telpiskā Plānošana (JTP)
  - Jūras un piekrastes **ekosistēmas pakalpojumi** JTP kontekstā
- Baltijas jūras reģiona **pārvaldības sistēmu** analīze
- **Baltic Explorer** - lēmumu pieņemšanas instruments, kas atvieglo JTP procesu Baltijas jūrā



## WP 2: Pārvaldība un JTP

Table 3—6 Conflicts and Synergies in the Latvian Case - Offshore Wind energy and hydrocarbon extraction.

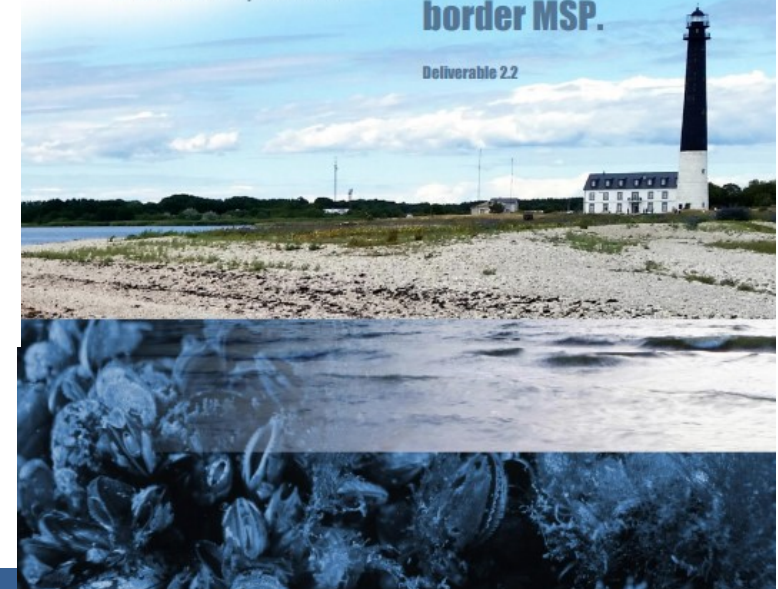
Type of Conflict & Synergies	Latvian Case
<i>Marine use related conflicts / synergies</i>	<p><b>Synergy</b></p> <ul style="list-style-type: none"> <li>• Infrastructure may provide refuge for marine life from predators and fishermen (Cordes et al 2016, Bergström et al 2018);</li> <li>• Hard substrate provided by the infrastructure may enhance the marine environment in the area (ICES 2016).</li> </ul> <p><b>Conflicts</b></p> <ul style="list-style-type: none"> <li>• Short term impacts (physical disturbance and noise) can affect the marine environment adversely (Cordes et al 2016, Bergström et al 2018), in particular species with very low recovery rates;</li> <li>• Some members of the public find wind farms unsightly claim they spoil the seascape of a protected area (Karydis 2013);</li> <li>• Introduction of new habitats may increase connectedness of ecosystems and attract invasive species.</li> </ul>



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**Thematic Scoping/Vision Document: report outlining the main conflict and potential synergy areas in cross-border MSP.**

Deliverable 2.2



# WP 3 Datu prasība un pieejamība JTP

- Discussion of standards regarding data properties
  - Spatial scale, time scale, level of confidence
  - Spatial resolution, quality
- Meta data: Higher quality demands

Project data in Baltic Sea Atlas available

Data sorted in

- ➔ Ecosystem conditions
- ➔ Ecosystem services
- ➔ Human activities and uses
- ➔ Benefits and values
- ➔ Effects, Pressures and Responses

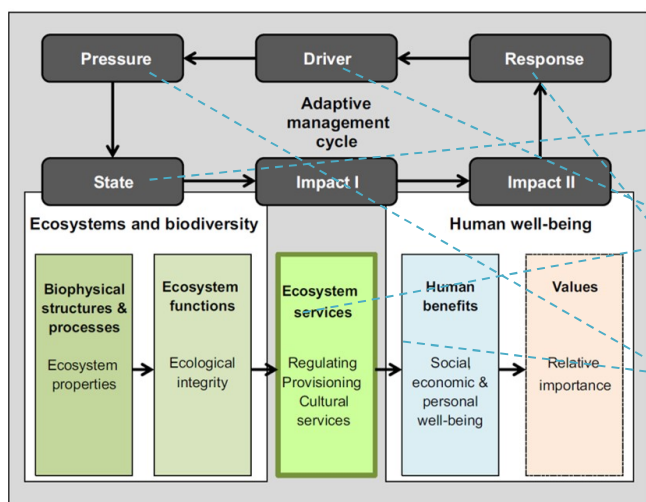


LEIBNIZ-INSTITUT FÜR  
OSTSEEFORSCHUNG  
WARNEMÜNDE

**IOW**  
Baltic Sea Atlas

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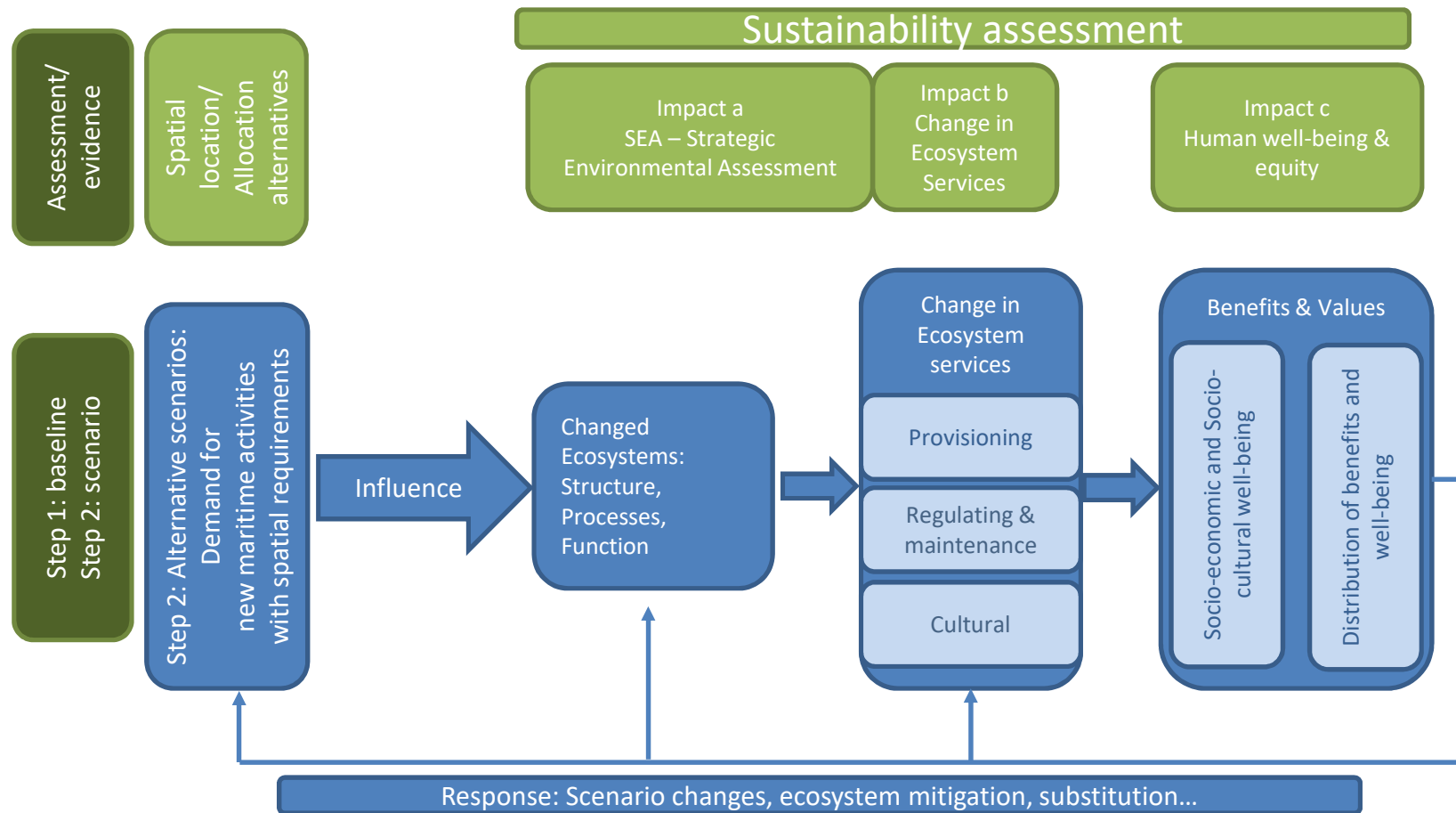


DPSIR management cycle (Müller & Burkhard 2012)

# WP 4 Igtspējīga novērtējuma ietvara struktūra un koncepts JTP



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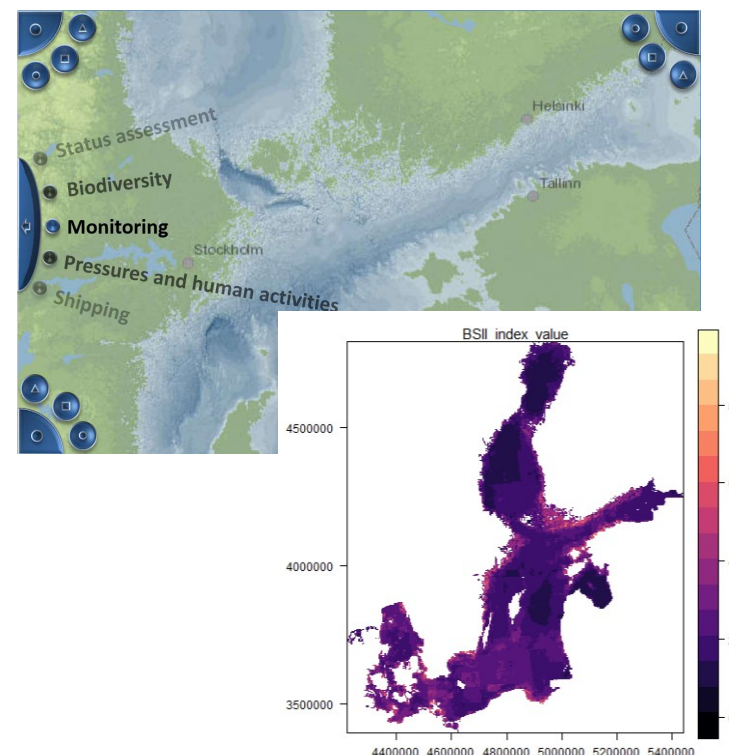


# WP 5 Baltic Explorer – lēmumu pieņemšanas instruments JTP



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- Funkciju mērķi:
  - kumulatīvā ietekme
  - vietas piemērotības un līdzāspastāvēšanas (co-location) analīze
  - AJT vērtīgo vietu vizualizācija pēc definētiem kritērijiem bentiskajiem biotopiem
  - Atbalsts sadarbības plānošanai
  - Adaptēts strādāt ar lielām touch-screen ierīcēm
- Tīmekļa lietojumprogramma, bezmaksas tiešsaistes piekļuve



*Baltic Explorer konceptuāla versija*



# WP6 Case studies (pilotregioni)



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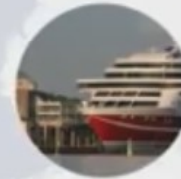
The BONUS BASMATI project

involves stakeholders in three Baltic Sea case studies.

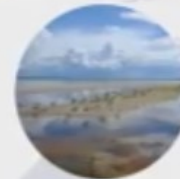


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Business perceptions



Marine protected areas



Aquaculture

**Case Studies**

**Goal**  
Establishing environmentally and socioeconomically efficient locations of MPAs and sea use scenarios

Defining siting criteria specific to goal (environmental factors)

Data collection and analysis (environmental)

Identifying eliminating criteria and environmentally suitable territories for potential MPAs

Current situation; elaborating alternative scenarios of sea uses; GIS data (biological, physical, socioeconomic)

Assessing environmental and socioeconomic impacts of alternative sea use scenarios

Evaluating the scenarios

Ranking of sites

13.5.2019

Suitability maps



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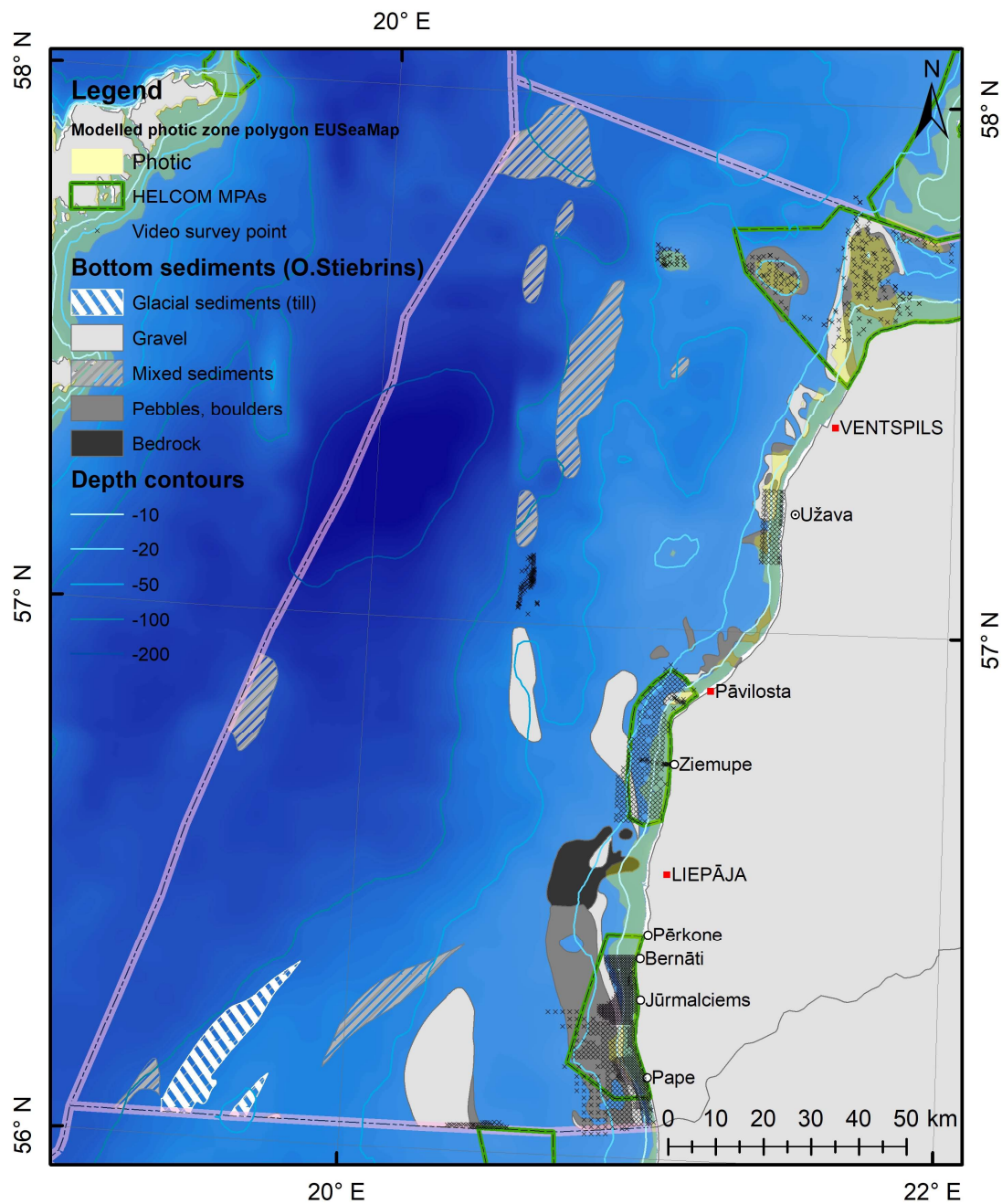
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## Specifications for case study designs

Deliverable 6.2



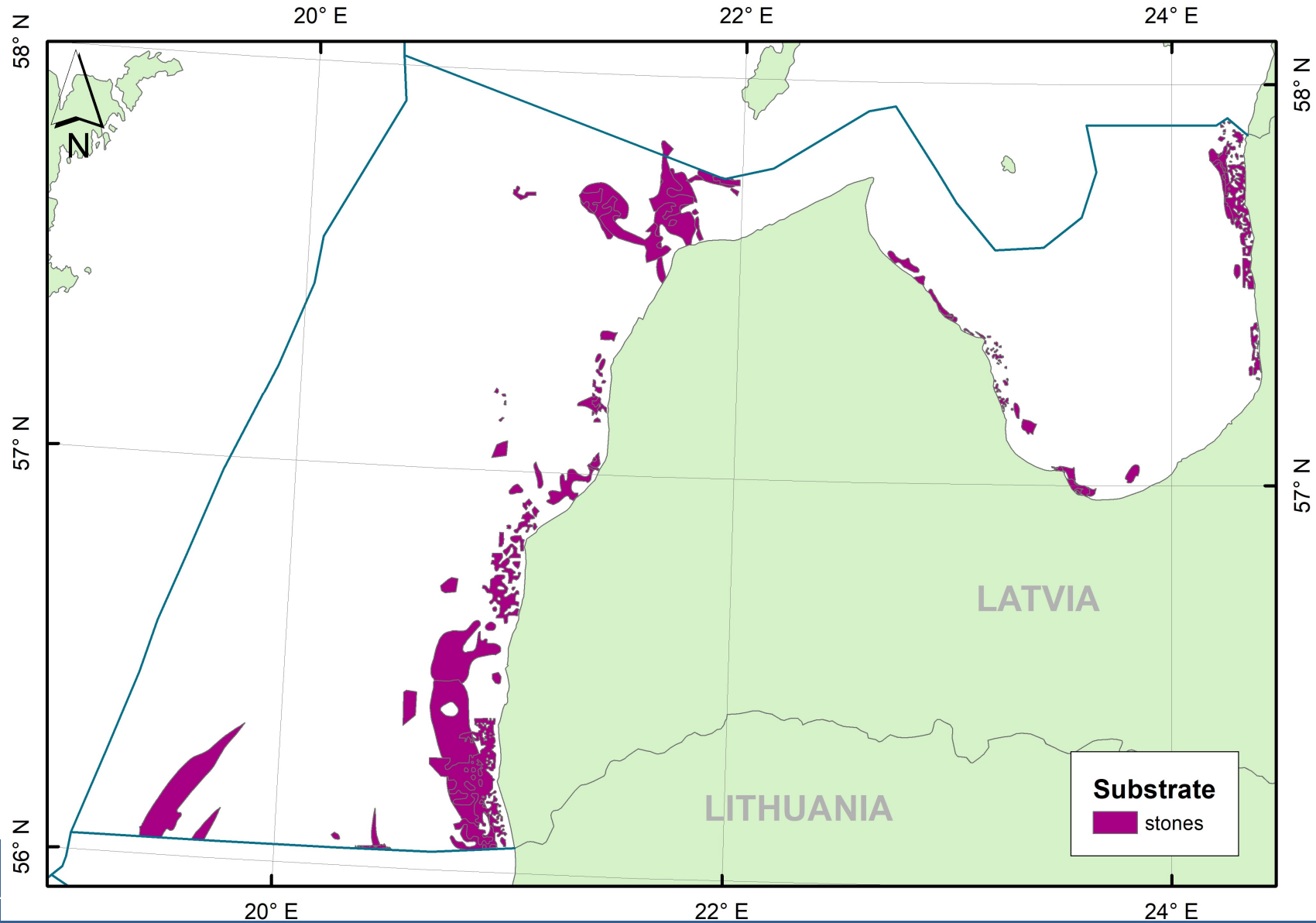
# Vides datu analīze: ģeoloģija

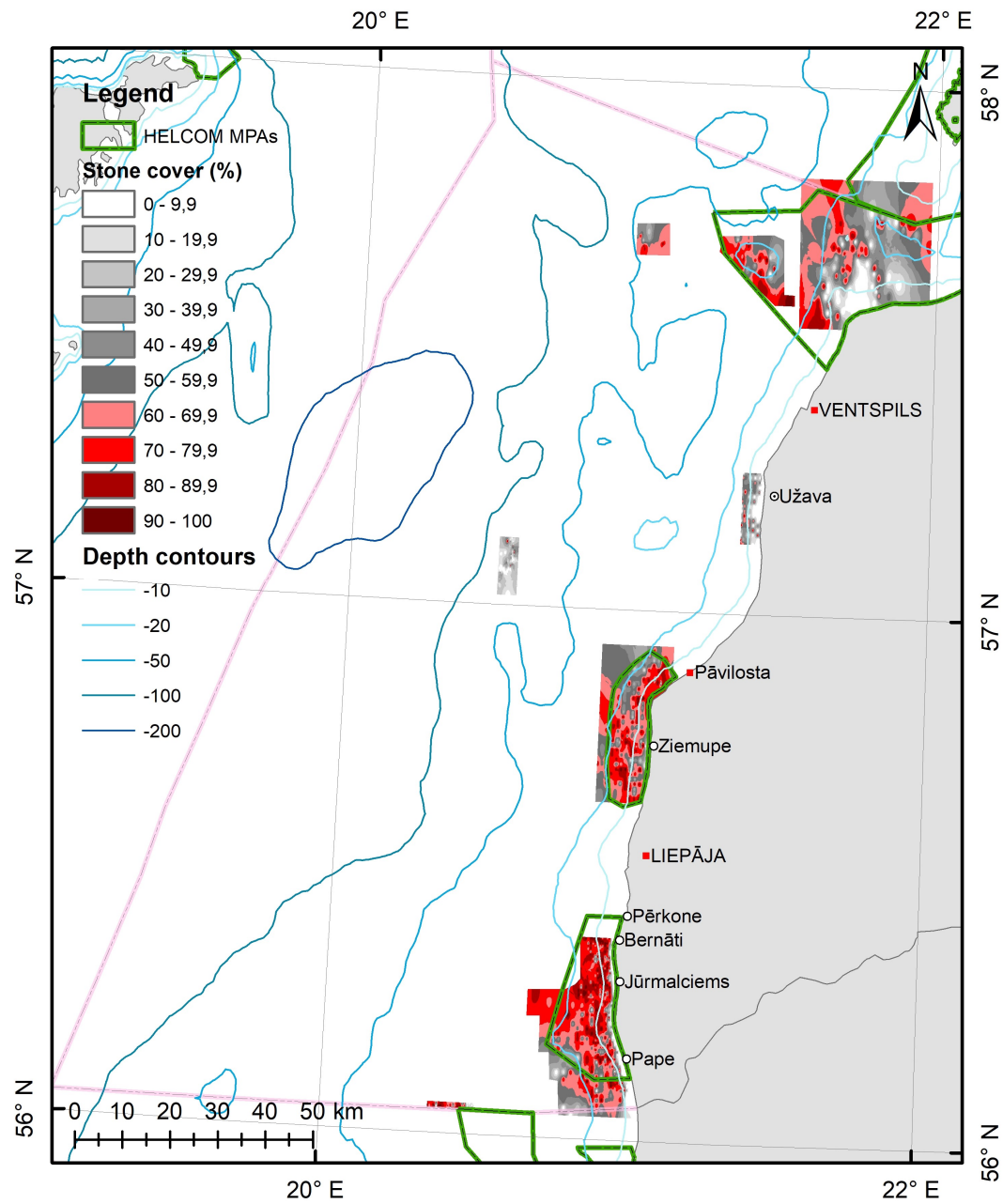
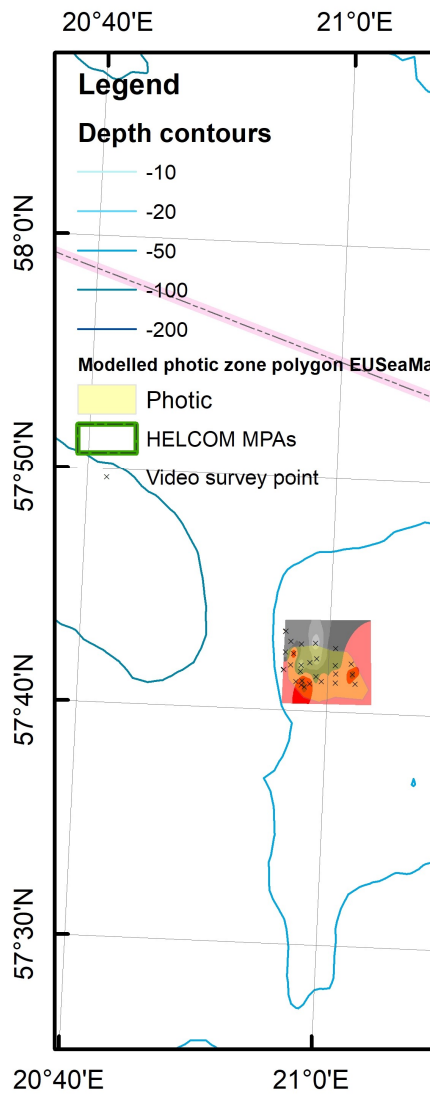


# LV case study



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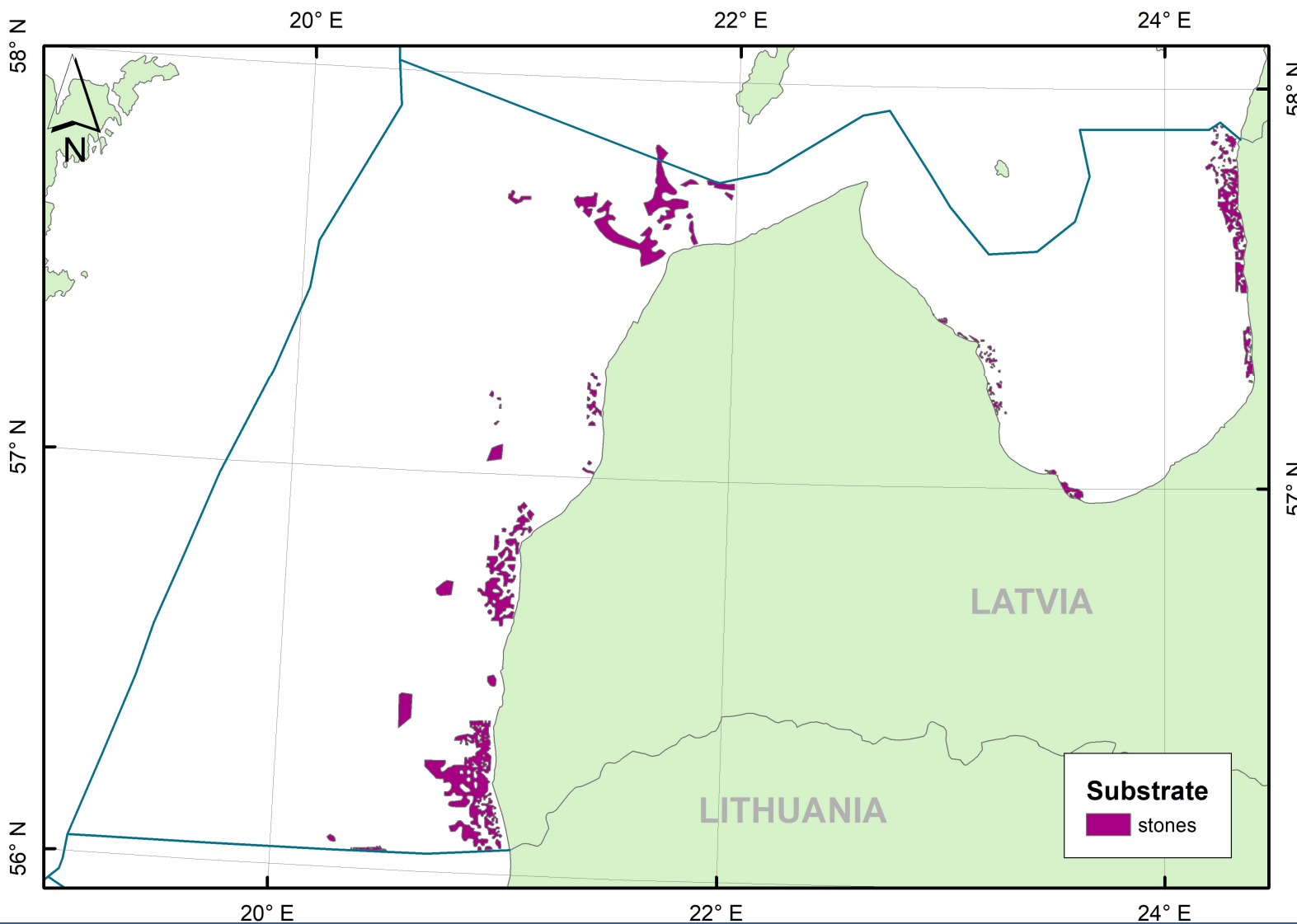




# LV case study (stones 60%)



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# Benthic habitats in Latvian case study according with HELCOM HUB classification system (2013)



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AA.M1V Baltic photic mixed substrate characterized by mixed epibenthic macrocommunity

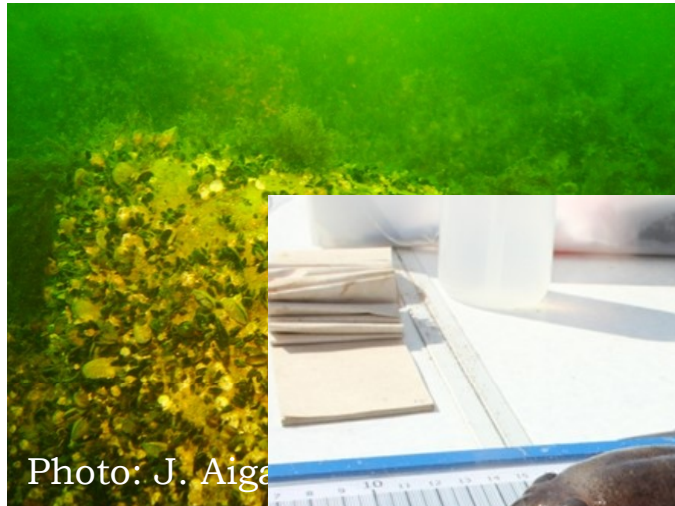
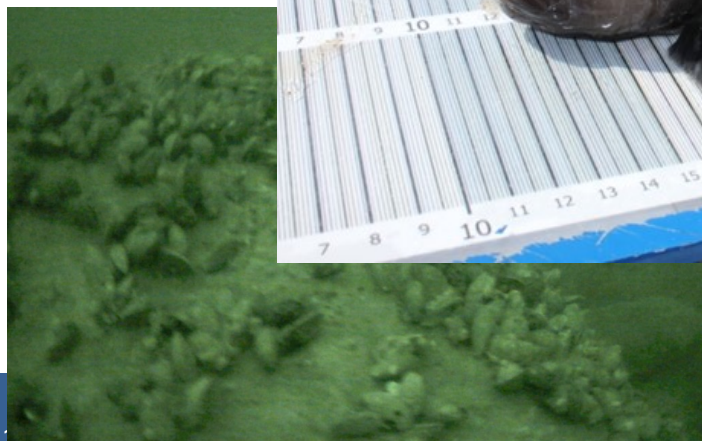


Photo: J. Aigars



AB.M1V Baltic aphotic



macrocommunity





## Analīzes elementi un soļi

### Funkcionālo attiecību un vērtību noteikšana, un novērtēšana dažādos scenārijos

DPSI elementi scenārijos.

Ekosistēmas komponenti – dzīvotnes veidojošie bentiskie biotopi - (struktūra un funkcijas).

- Jūras lietojuma veidi un to veidotais Spiediens (saraksts, sasaiste, sasaistes novērtējums)
- Ekosistēmas funkcijas un (gala) EP (Sasaiste [bentiskie biotopi ⇒ funkcijas ⇒ EP], sasaistes novērtējums)
- Sociālekonomiskais novērtējums/ labumu novērtējums no (gala) EP (Sasaiste [Gala EP ⇒ Labumi un Vērtības]; labumu novērtējums).

Telpisko datu sistēmas uzbūvēšana DPSI modelim



# Ekosistēmas komponenti un bentiskie biotopi (struktūra)



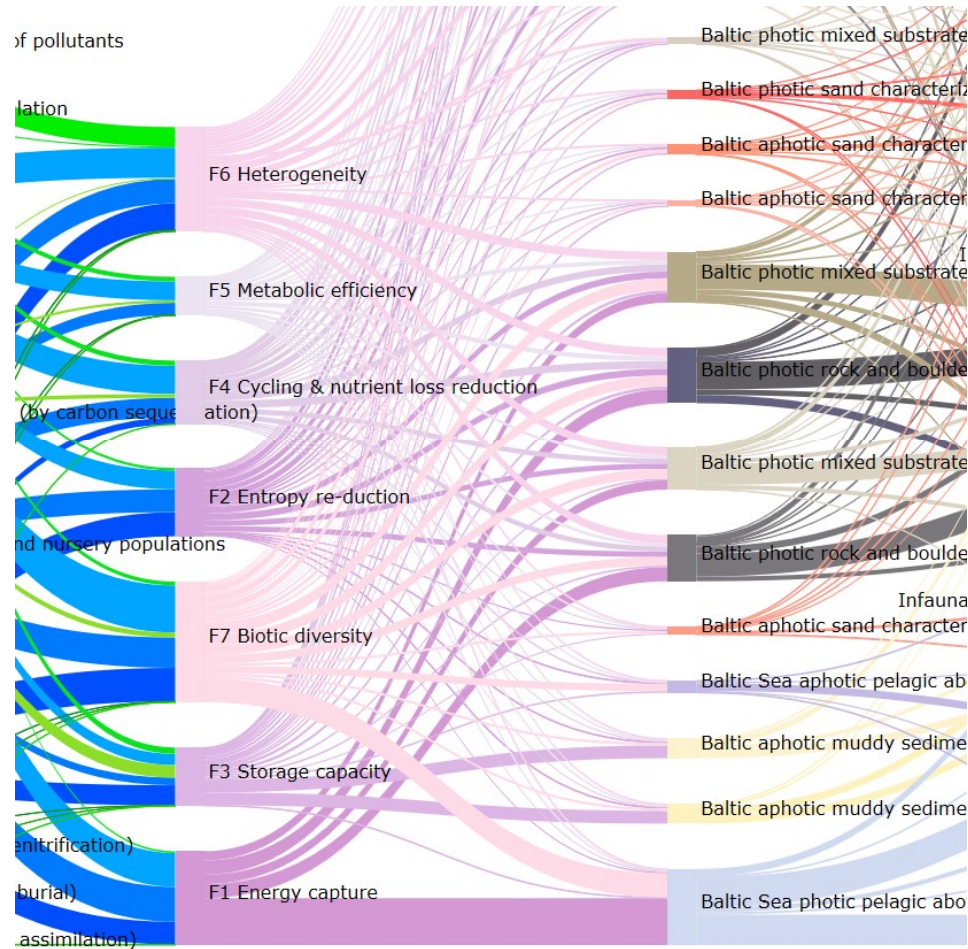
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# Bentisko biotopu funkcijas



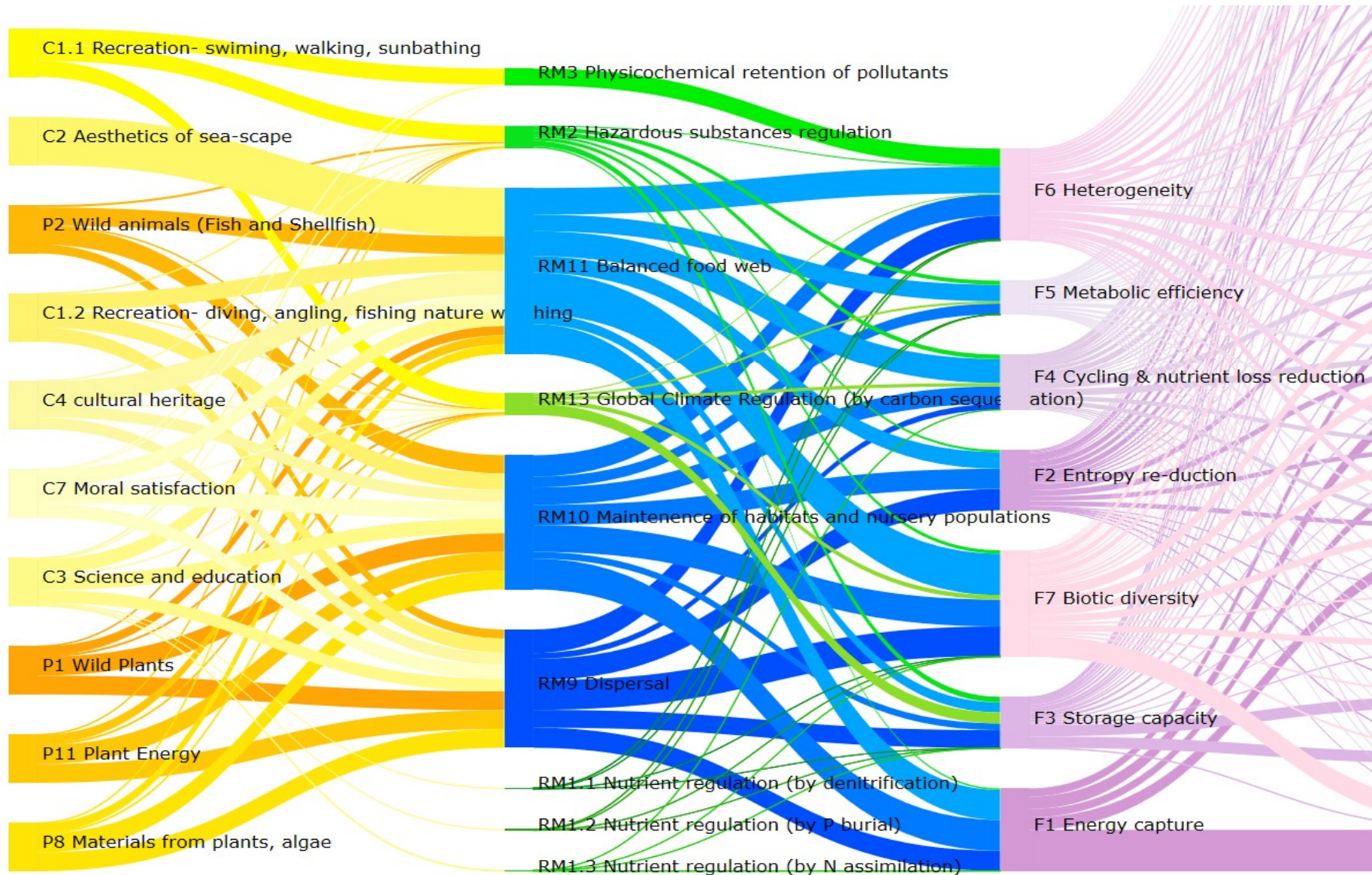
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# Ekosistēmas pakalpojumi



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## Nākamie soļi

- Indikatori, kuri balstīti uz datiem
- Jūras lietojuma veidi (Drivers) un sasaiste ar to radīto Spiedienu
- Scenāriji
- Sociālekonomiskā analīze/ monetārais novērtējums gala EP





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DENMARK



**AARHUS**  
UNIVERSITY



**NLS**  
FINNISH GEOSPATIAL  
RESEARCH INSTITUTE  
FGI



**LATVIJAS**  
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**Nordregio**



Turun yliopisto  
University of Turku