Mapping cultural ecosystem services: approach in MAREA project
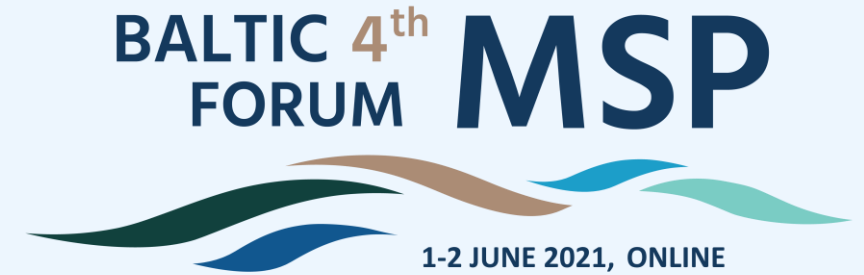
Agnese Reķe, Baltic Environmental Forum – Latvia

agnese.reke@bef.lv

BALTIC 4th FORUM MSP

1-2 JUNE 2021, ONLINE

Interreg
Baltic Sea Region

EUROPEAN REGIONAL DEVELOPMENT FUND
EUROPEAN UNION

LAND SEA ACT

CAPACITY4MSP

Ministry of Environmental Protection and Regional Development
Republic of Latvia

VASAB
VISION & STRATEGIES AROUND THE BALTIC SEA

About the project

MAREA project is developing and testing novel concepts of ecosystem services mapping, environmental accounting and sustainability assessment in order to support the development of sustainable, ecosystem-based planning approach in two pilot areas – Gulf of Riga and Gulf of Finland[*].
All project results will be embeded into synthetic decision-support geoportal.

Project lead partner: Finnish Environment Institute SYKE
Project partners: University of Tartu, Pellervo Economic Research
PTT, Baltic Environmental Forum - Latvia
Funded by: Central Baltic Programme 2014-2020
Operational time: 06/2020-12/2022
Project website: marea.balticseaportal.net

[*] Some results will be available for the whole Baltic Sea

Ecosystem services approach

Ecosystem services = nature's contributions to human well-being

Provisioning services

Regulating services

Cultural services

Related to materials & energy we get from nature

Related to ecosystem functions that sustain stable environment around us

Human-nature interactions, the non-material benefits (e.g. opportunity to do some leisure activities – to fish, hike, kiteboard etc., enjoy landscape, relax by being in nature)

Challenges in mapping cultural ecosystem services

- Cultural ecosystem services (CES) bind together elements from social and ecological concepts.

- Mapping of regulating & provisioning services is usually supported by vast amount of environmental data. Mapping of CES demands more than environmental data.

How to quantify something that is strongly based on human preferences and personal experience?

Mapping cultural ecosystem services by using participatory GIS

Participatory GIS (PGIS) surveys as a solution for cultural ecosystem services' mapping
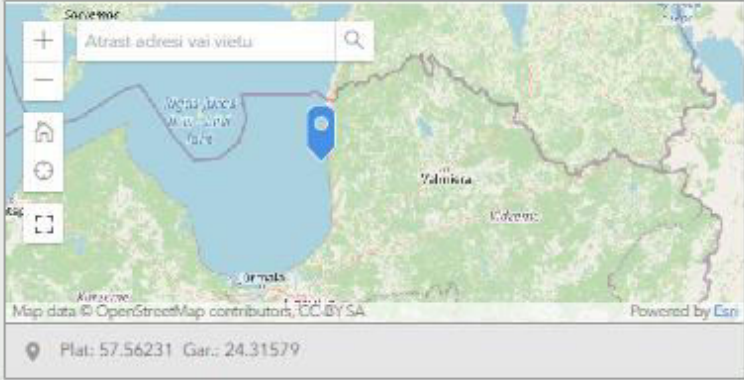
Mapping the CES supply potential in Latvian-Estonian coastline in MAREA = PGIS survey + data on environmental characteristics and public infrastructure

1. Step – PGIS survey

Target audience: people who tend to visit Estonian and Latvian coastline in their free time

Mapping scope: whole Latvian and Estonian coastline

In picture: *PGIS survey example from another project (LAND-SEA-ACT)*

Mapping cultural ecosystem services in MAREA project

Objectives of the survey related to mapping CES:
1. Generate an overview of the use of CES in the study area
2. Describe the spatial distribution of CES, identifying hotspots for different activities and investigate potential interaction

3. Determine the characteristics (environment and infrastructure) that shape coastal suitability for CES supply

1. **Survey Section**
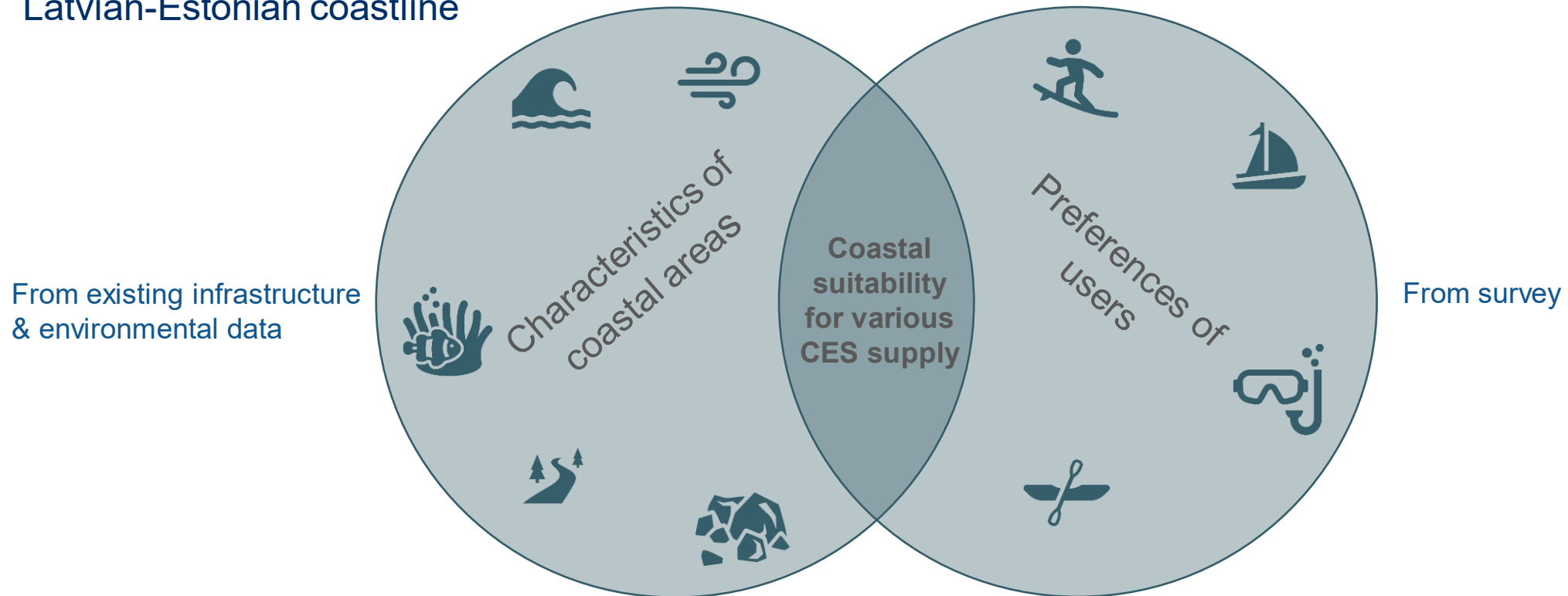Respondents mark places they visit to do certain leisure activities by the coast

2. Survey Section
Respondents answer questions about environmental and infrastructure-related charasterictics that influence the choice of the place they visit to do their favorite leisure activities

2. Step - Combining survey results with environmental data & modelling

PGIS survey results + data on environmental characteristics = model of CES supply potential in whole Latvian-Estonian coastline

From existing infrastructure & environmental data

Characteristics of coastal areas

Coastal suitability for various CES supply

Preferences of users

From survey

3. Step (final result) – suitability map for coastal CES supply