



REPUBLIC OF ESTONIA
MINISTRY OF FINANCE

Estonian MSP

Integrating ecosystem services to the MSP

Lembe Reiman

Adviser of the Planning Department

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**Our future sea relies
on the decisions
that we take today**



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The Estonian Maritime Spatial Plan

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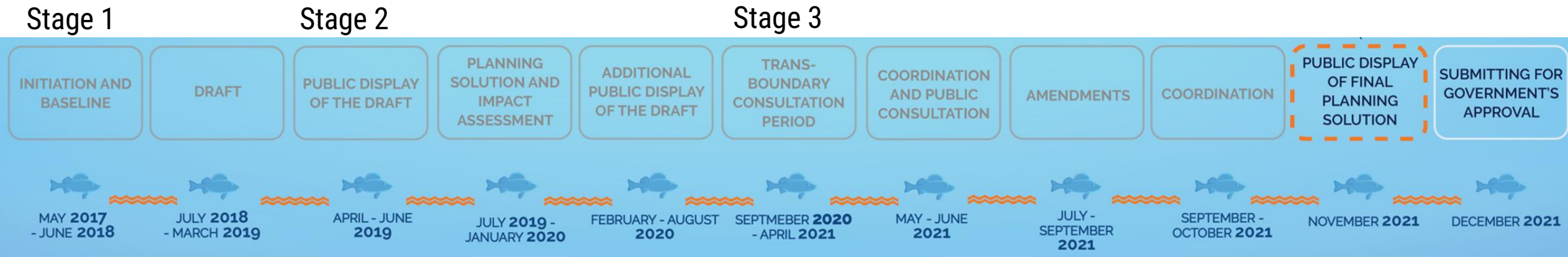
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2. Estonian MSP: timeline / focus / marine uses



Timeline of the Estonian MSP



Focus of the MSP

- Strategical spatial development document at the state level.
- The primary focus - combined use and new uses.
- The plan was adopted in accordance with the Planning Act and is a legally binding thematic plan.
- Gives **guidelines** and **conditions** to next phases.

Marine uses in MSP

- Fisheries
- **Aquaculture (Fish farming, shellfish- and algae farming)**
- Maritime transport
- Maritime rescue and guarding the state border
- **Renewable energy production**
- Seabed infrastructure
- Marine tourism and recreation
- Protected natural objects
- Marine culture
- Cultural monuments
- National defence
- Mineral resources
- Dumping
- Permanent connections (Tallinn-Helsinki; Saaremaa)
- Land-sea interactions

Best available data

Baseline studies: compiling all existing information together with scientists and additional studies

Stakeholder engagement: throughout the process via online participatory mapping (“Call for ideas”); thematic working groups (on environment, cultural heritage etc); public consultations; thematic events (e.g. Tallinn Maritime Days); media presence; supporting different EU projects for cross-border cooperation.

New maritime spatial plan to reach government soon



The Scroby Sands Wind Farm off the coast of eastern England. Source: Martin Pettitt/Flickr.com

NEWS

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The new maritime spatial plan, which aims to permit more off-shore wind farms, should reach the government for approval soon. There was no need to change the plan substantially after being put up for public appeals and discussion in early November.

Legacy nutrients

NP



**Mussel and
macroalgal
cultivation**



**Harvesting &
nutrient removal**

Innovation

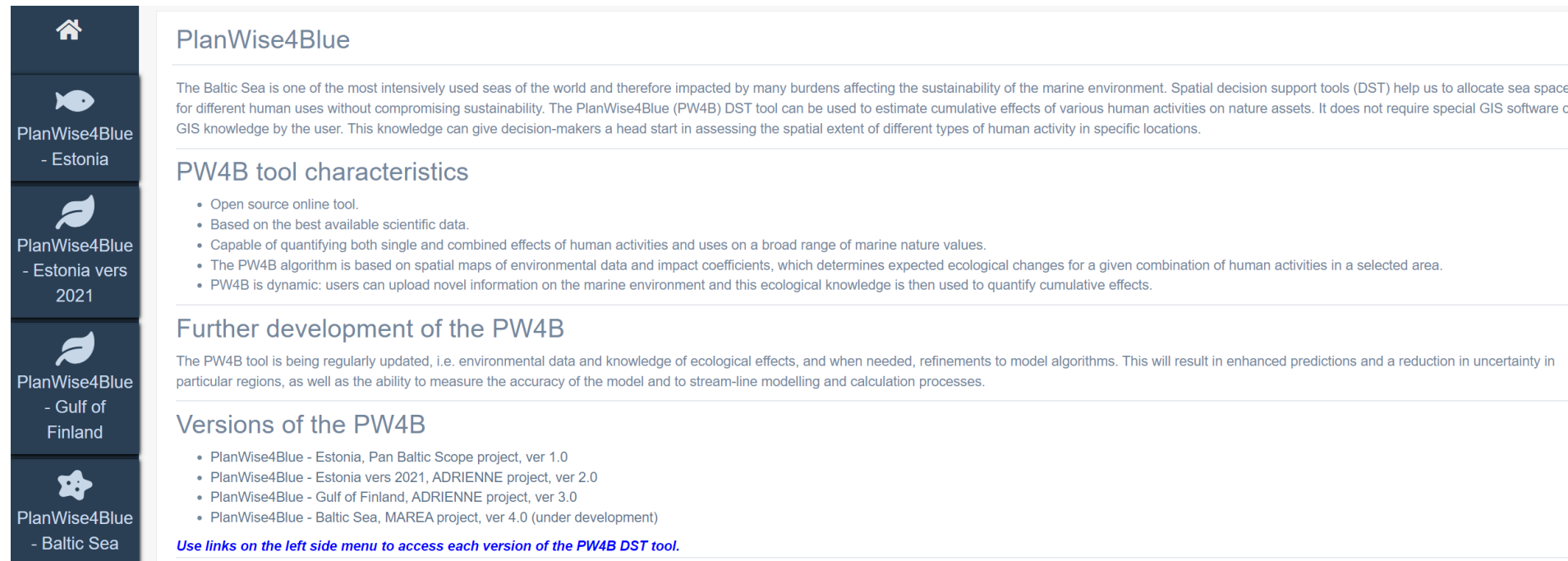
Mussels are small in the Baltic Sea region.

Farming technologies are being currently optimized as well as meat extraction processes is being developed



PlanWise4Blue tool to assess environmental impacts

The tool quantifies cumulative human impacts on key ecosystem elements at 1 km² spatial scale



PlanWise4Blue

The Baltic Sea is one of the most intensively used seas of the world and therefore impacted by many burdens affecting the sustainability of the marine environment. Spatial decision support tools (DST) help us to allocate sea space for different human uses without compromising sustainability. The PlanWise4Blue (PW4B) DST tool can be used to estimate cumulative effects of various human activities on nature assets. It does not require special GIS software or GIS knowledge by the user. This knowledge can give decision-makers a head start in assessing the spatial extent of different types of human activity in specific locations.

PW4B tool characteristics

- Open source online tool.
- Based on the best available scientific data.
- Capable of quantifying both single and combined effects of human activities and uses on a broad range of marine nature values.
- The PW4B algorithm is based on spatial maps of environmental data and impact coefficients, which determines expected ecological changes for a given combination of human activities in a selected area.
- PW4B is dynamic: users can upload novel information on the marine environment and this ecological knowledge is then used to quantify cumulative effects.

Further development of the PW4B

The PW4B tool is being regularly updated, i.e. environmental data and knowledge of ecological effects, and when needed, refinements to model algorithms. This will result in enhanced predictions and a reduction in uncertainty in particular regions, as well as the ability to measure the accuracy of the model and to stream-line modelling and calculation processes.

Versions of the PW4B

- PlanWise4Blue - Estonia, Pan Baltic Scope project, ver 1.0
- PlanWise4Blue - Estonia vers 2021, ADRIENNE project, ver 2.0
- PlanWise4Blue - Gulf of Finland, ADRIENNE project, ver 3.0
- PlanWise4Blue - Baltic Sea, MAREA project, ver 4.0 (under development)

Use links on the left side menu to access each version of the PW4B DST tool.

3. Ecosystem services and ecosystem based approach



Ecosystem services in Estonian MSP

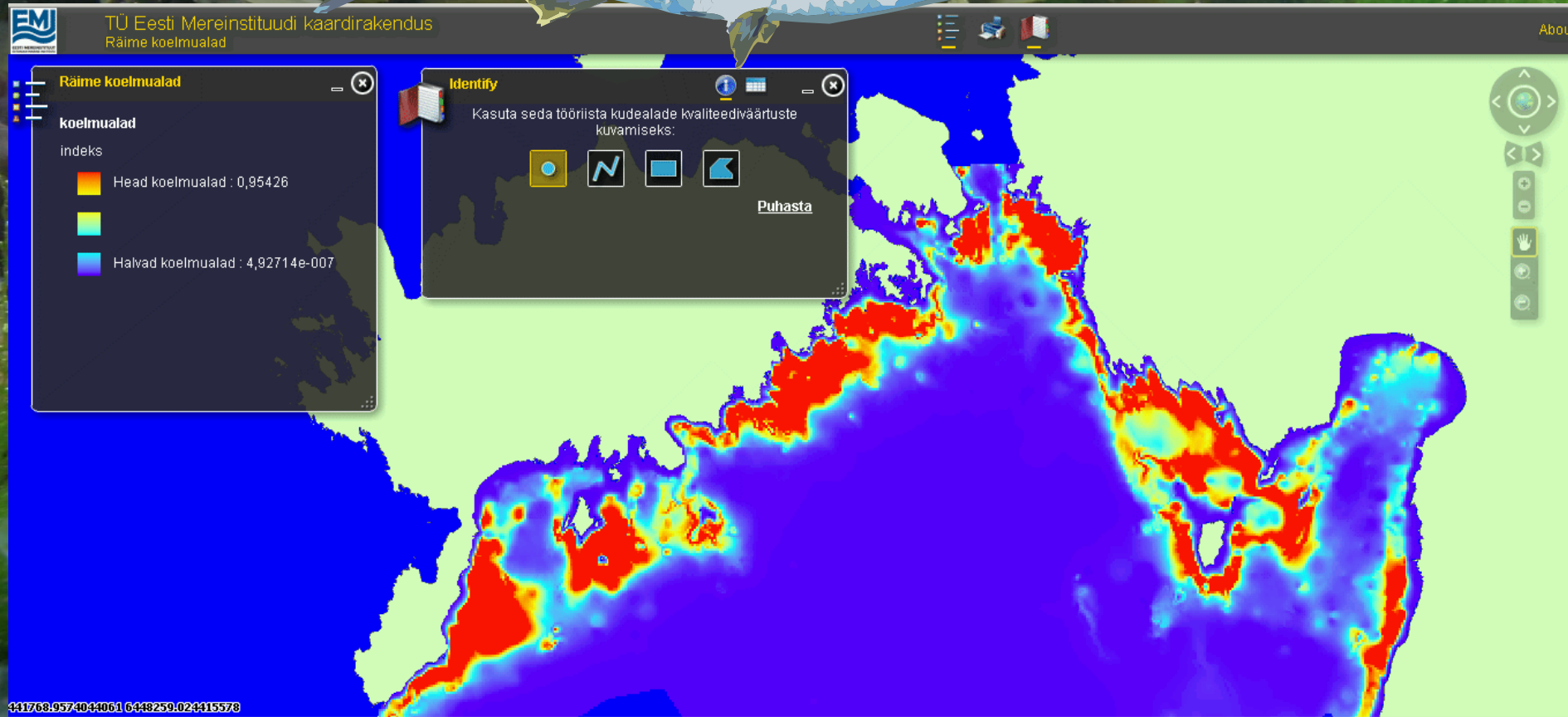
Ecosystem service: features of ecosystems necessary for people, such as food, recreation facilities, climate-control features, etc. Ecosystem services are valued but generally not sold (they have no market value).

Ecosystem based approach: according to the Convention on Biological Diversity, the ecosystem-based approach is a strategy for the integrated management of land, water and living resources that pays equal attention to both protection and sustainable use.

Our approach in MSP was to find balance between the protection and sustainable use of marine resources using best available data.



An example of ecosystem service: Herring spawning areas

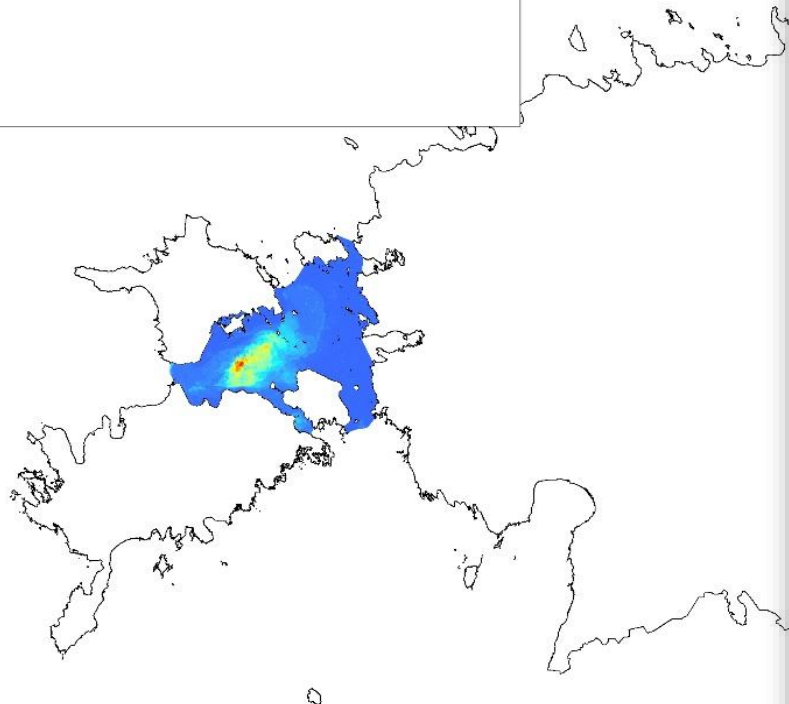


$$\text{Piksli rahaline väärtus} = \text{Piksli mitterahaline väärtus} \times \frac{\text{Eesti summaarne esmakokkuostu hind}}{\text{Eesti summaarne teenuse mitterahaline väärtus}}$$

An example of ecosystem service: Macroalgal resources

Furcellaria lumbricalis lahtise vormi biomass

Value
High : 50
Low : 0



Mapping cultural heritage in Estonian MSP

THE SEA-RELATED SOCIO-CULTURAL VALUES OF LÄÄNE-VIRU COUNTY



MAPPING THE MEANING AND VALUES OF MARITIME CULTURE

AIM
UNDERSTAND WHAT THE SEA MEANS TO THE PEOPLE,
WHAT VALUE DOES THE SEA AND COAST CARRY

METHOD
WORKSHOP WITH LOCALS OF EVERY COUNTY

RESULTS

- THERE ARE MANY NEW AND EMERGING MARITIME CULTURES ALONG WITH TRADITIONAL SAILING, SHIP BUILDING AND FISHING
- ALL NEW CULTURES – LIKE SURFING, DIVING ETC – ALSO HAVE AN INTEREST ON COAST AND SEA
- THE LOCAL CULTURAL ESSENCE IS VERY DIFFERENT IN EVERY COUNTY – DEPENDING ON ITS HISTORY, THE CHARACTERS OF THE LOCAL SEA AND COAST



LÄÄNE COUNTY



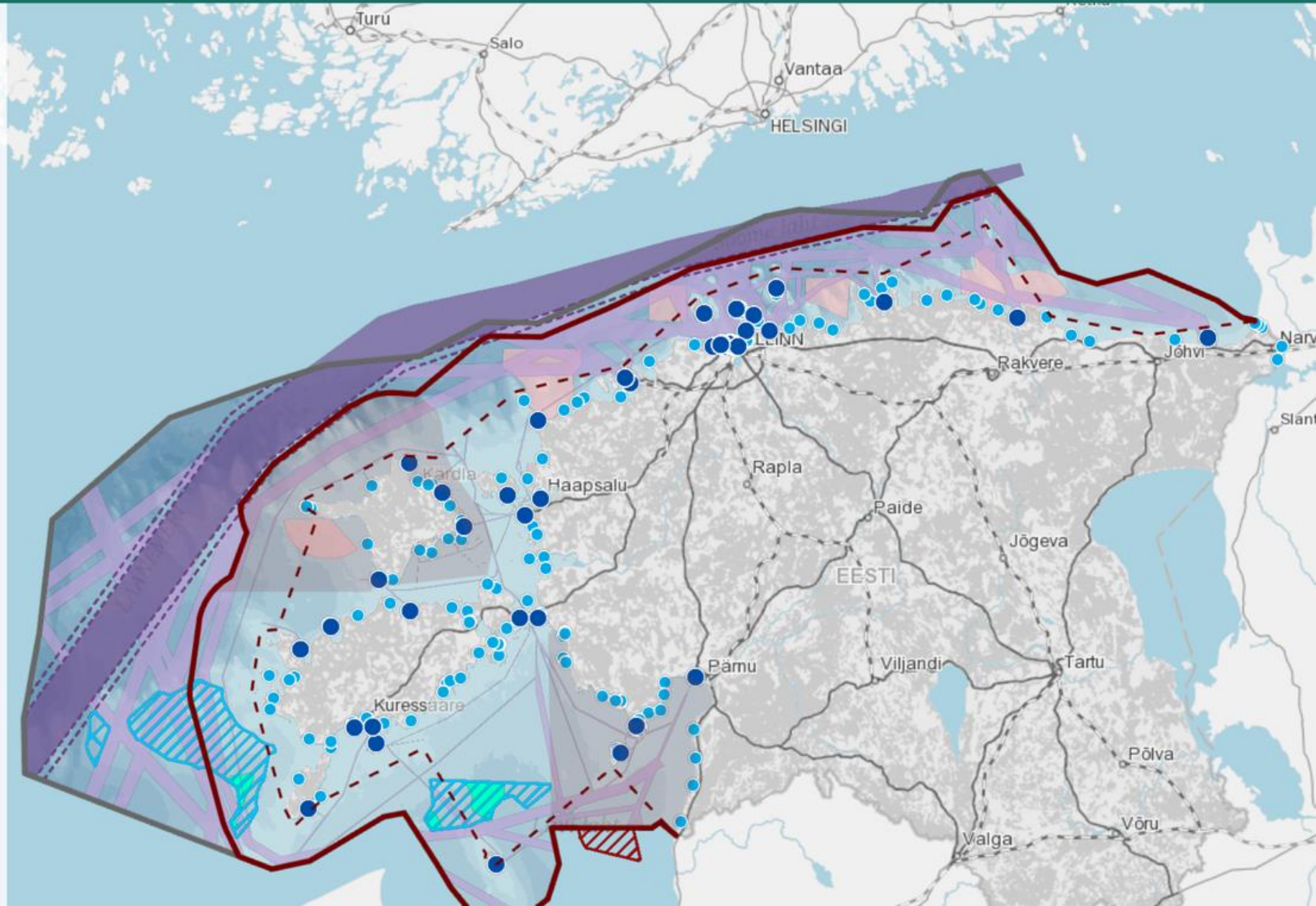
LÄÄNE-VIRU COUNTY

4. MSP in action



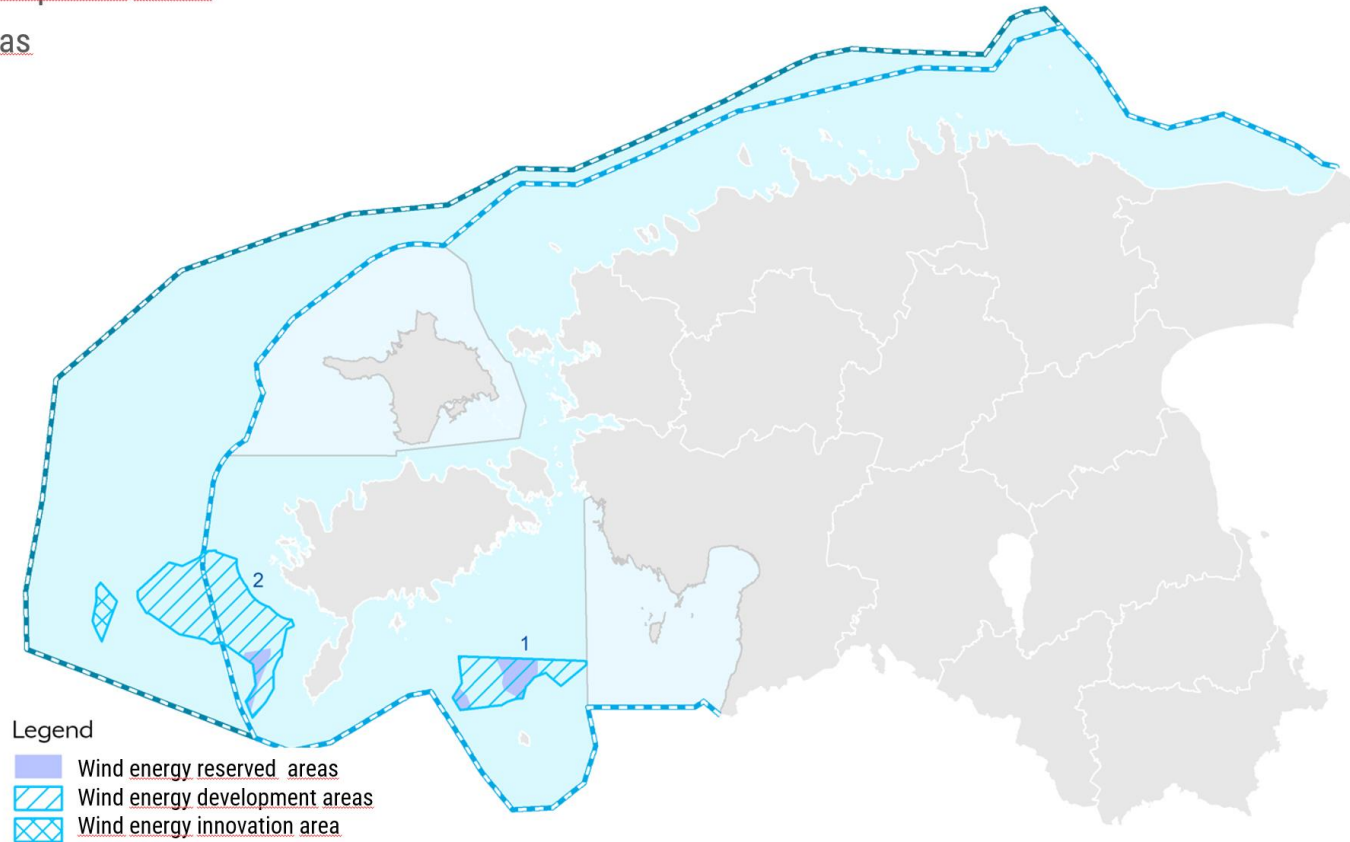
MSP OUTPUT DATA

- Preservation areas for archaeological finds
- Wind energy innovation area
- Wind energy development areas
- Wind energy reserve area
- International water traffic area
- Safety margin
- Water traffic area
- Section of shore for unobstructed views
- Conceptual locations of cable corridors in MSP area
- Natural growth potential of seashell
 - High : 100
 - Low : 0
- Natural growth potential of algae
 - High : 100
 - Low : 0
- Edible green algae (*Ulva Intestinalis*) growth potential
 - Ideal
 - Unsuitable
- Restricted areas for seashell and algae farming (02.2020)
- Restricted areas for fish farming (02.2020)



Developing offshore windfarms

Wind energy development areas
and reserved areas



April 2021



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HENDRIKSON & KO

How to build offshore in Estonia?

- application for a superficies licence
- environmental impact assessment
- issuing a superficies licence
- building permit
- use and occupancy permit



EIA for OWF

Studies required:

- noise-related impacts
- heat, vibration, magnetic field impacts
- impact on the living environment of fish
- impact on the living environment of seals
- impact on birds
- impact on bats
- geological surveys
- landscape and visual impacts
- cultural heritage

Cooperation required:

- To protecting national borders
- to avoid disturbances in navigation systems
- the impact on vessel traffic
- overlapping with trawl fishing

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Thank you for listening!

Any questions?

Lembe Reiman

Lembe.Reiman@fin.ee

