BALTIC 4th FORUM MSP

1-2 JUNE 2021, ONLINE

MSP data in the Baltic Sea Region supporting cumulative impacts assessments

Joni Kaitaranta, Data Coordinator at HELCOM Secretariat

Interreg Baltic Sea Region

EUROPEAN UNION

EUROPEAN REGIONAL DEVELOPMENT FUND

LAND SEA ACT

CAPACITY4MSP

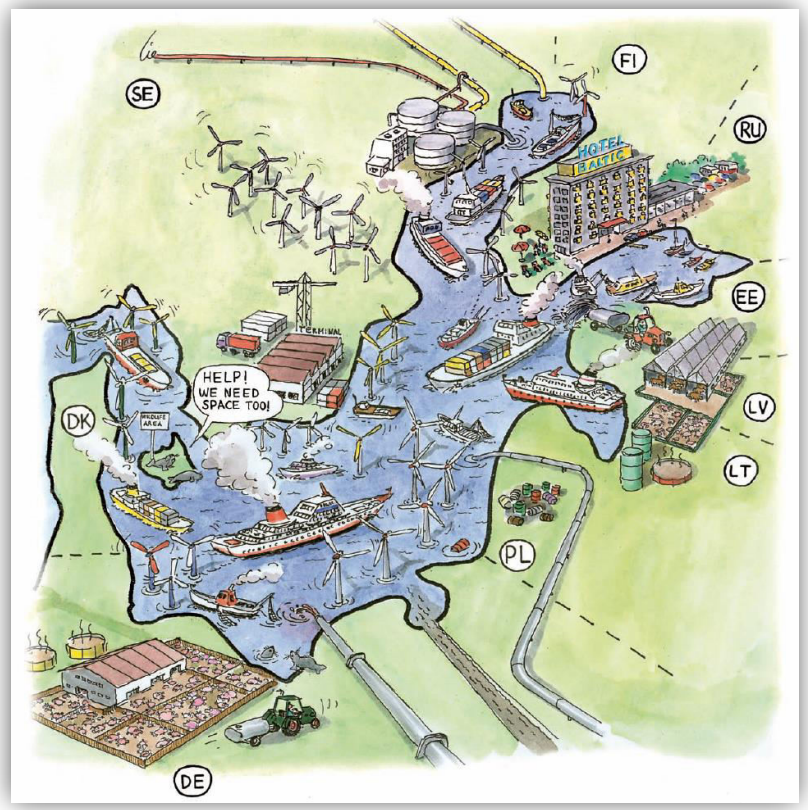
Ministry of Environmental Protection and Regional Development Republic of Latvia

VASAB VISION & STRATEGIES AROUND THE BALTIC SEA

Introduction

- The Baltic Sea has several uses and activities – increase in **competition** for space and **environment is negatively affected** by the intense exploitation and cumulative impacts
- Need for **evidence-based decision making**

→ **data and analysis** demands assessment schemes



© WWF Germany
Illustration: Eric Liebermann

Challenges

- Access data
- Assessment schemes development → what to do with the data?

How to access data that supports MSP and cumulative impact assessment tools?

HELCOM Map and Data service and BASEMAPS

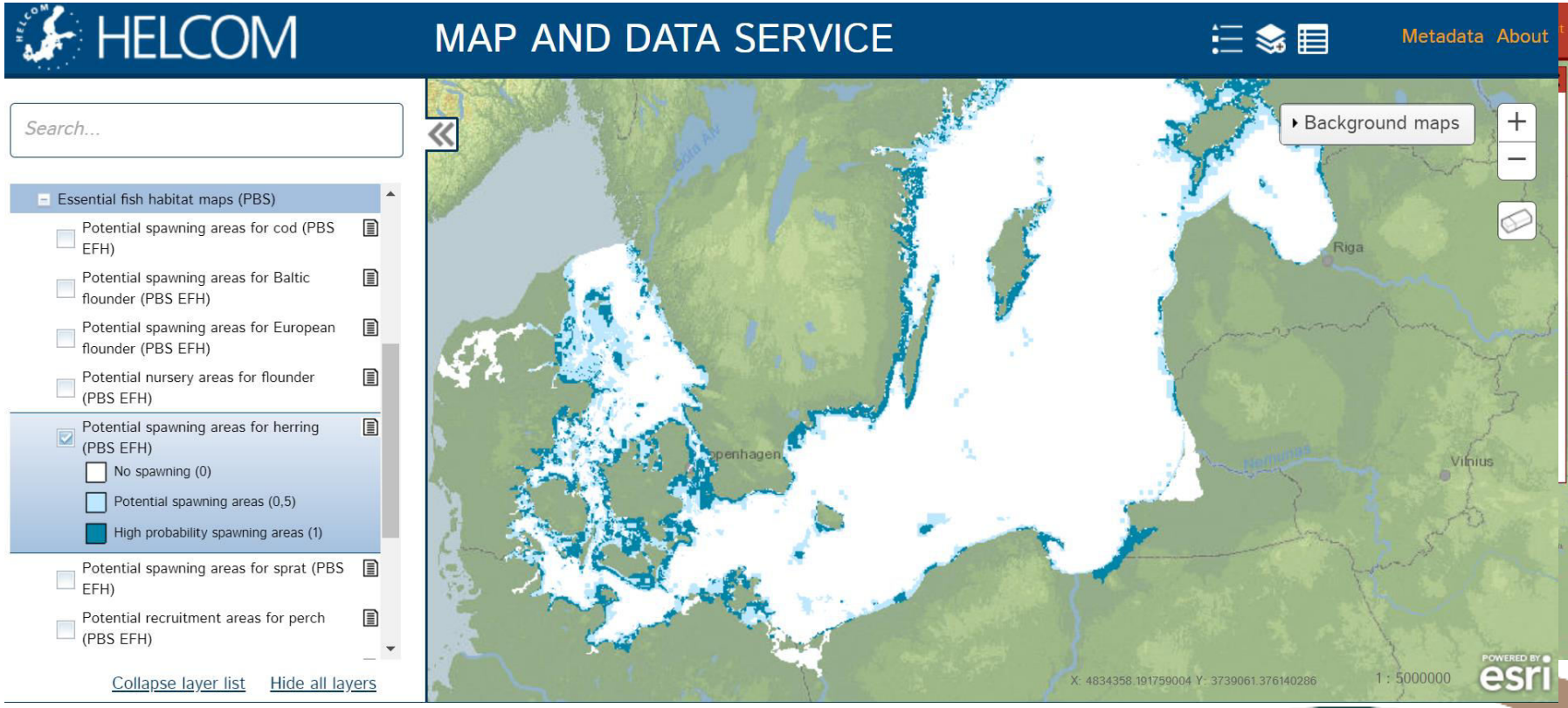
Baltic Sea up-to-date data for MSP

→ human activities and MSP plans

→environment?

→Based on national data and modeling outputs

→Harmonized data: regional / European level data products



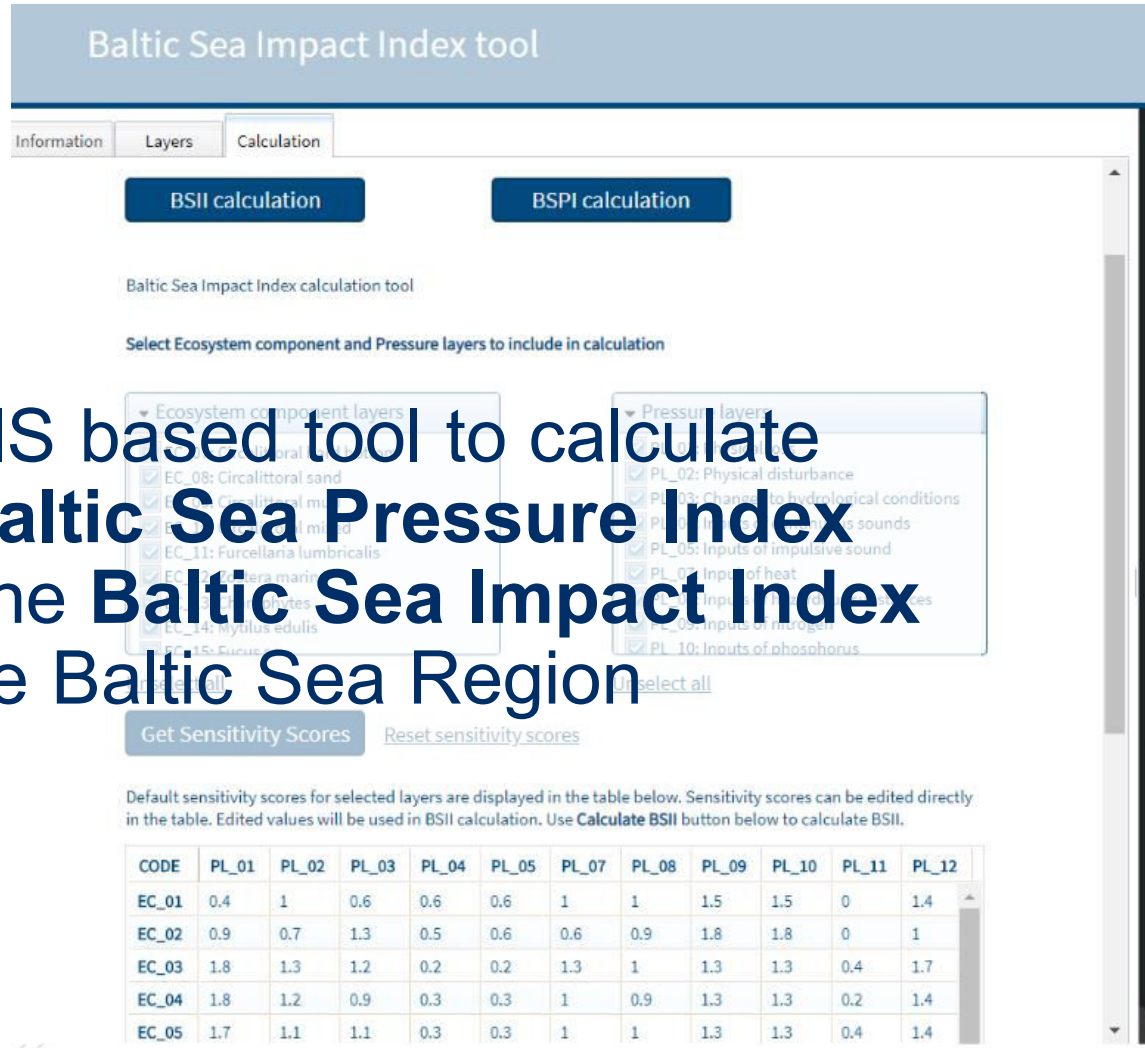
Challenges

- Access data
- Assessment schemes development

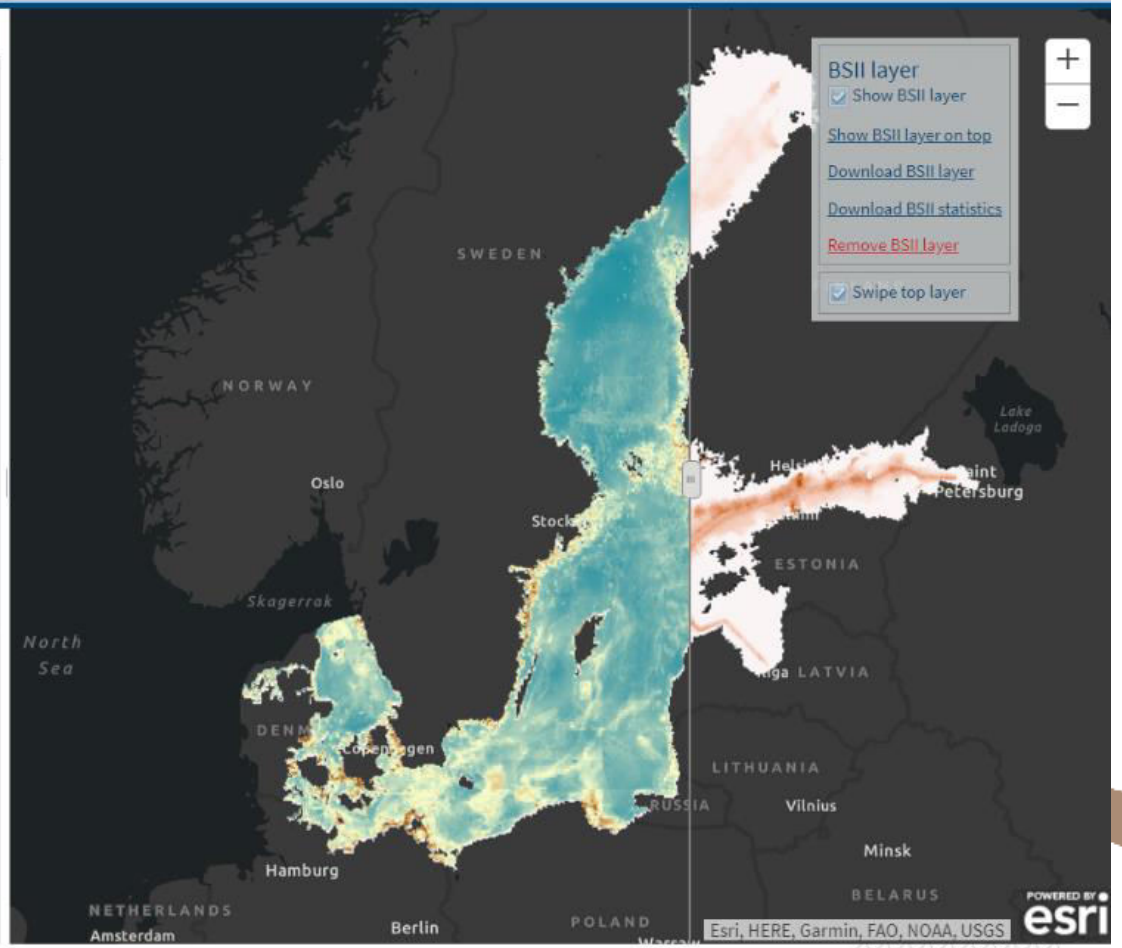
How different approaches to address those challenges have been used in the Baltic Sea Region for CIA?

Baltic Sea Impact Index Tool (HELCOM)

ArcGIS based tool to calculate the **Baltic Sea Pressure Index** and the **Baltic Sea Impact Index** for the Baltic Sea Region



CODE	PL_01	PL_02	PL_03	PL_04	PL_05	PL_07	PL_08	PL_09	PL_10	PL_11	PL_12
EC_01	0.4	1	0.6	0.6	0.6	1	1	1.5	1.5	0	1.4
EC_02	0.9	0.7	1.3	0.5	0.6	0.6	0.9	1.8	1.8	0	1
EC_03	1.8	1.3	1.2	0.2	0.2	1.3	1	1.3	1.3	0.4	1.7
EC_04	1.8	1.2	0.9	0.3	0.3	1	0.9	1.3	1.3	0.2	1.4
EC_05	1.7	1.1	1.1	0.3	0.3	1	1	1.3	1.3	0.4	1.4

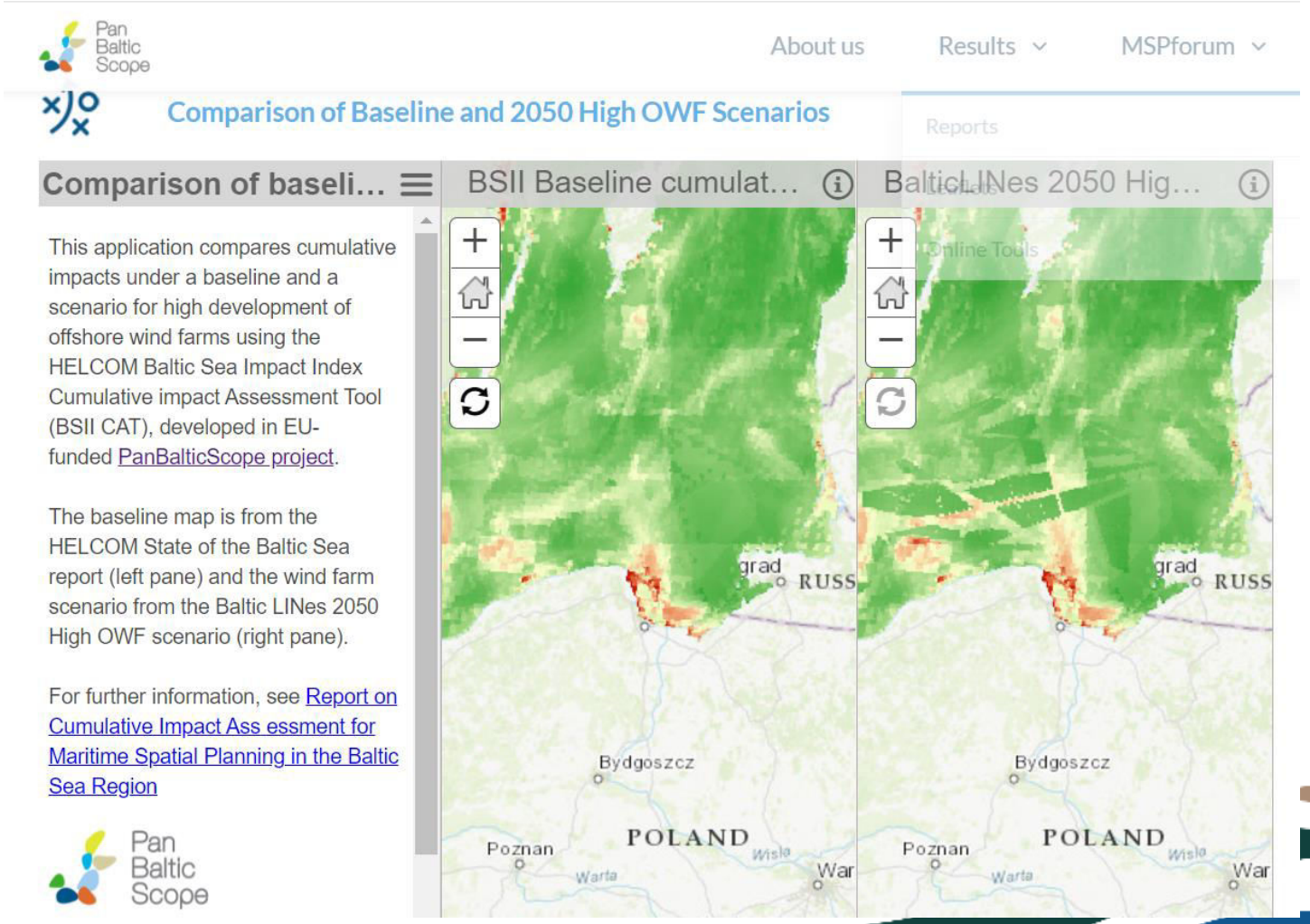


Baltic Sea Impact Index Tool

- The tool uses pressures and ecosystem raster layers and sensitivity score table as input data
- input data and results are at the resolution of 1x1 km grid for the whole Baltic ~430 000 km^2
- http://maps.helcom.fi/website/bsii/
- The online BSII tool is **open source**: https://github.com/helcomsecretariat/Cumulative-impact-Assessment-Toolbox

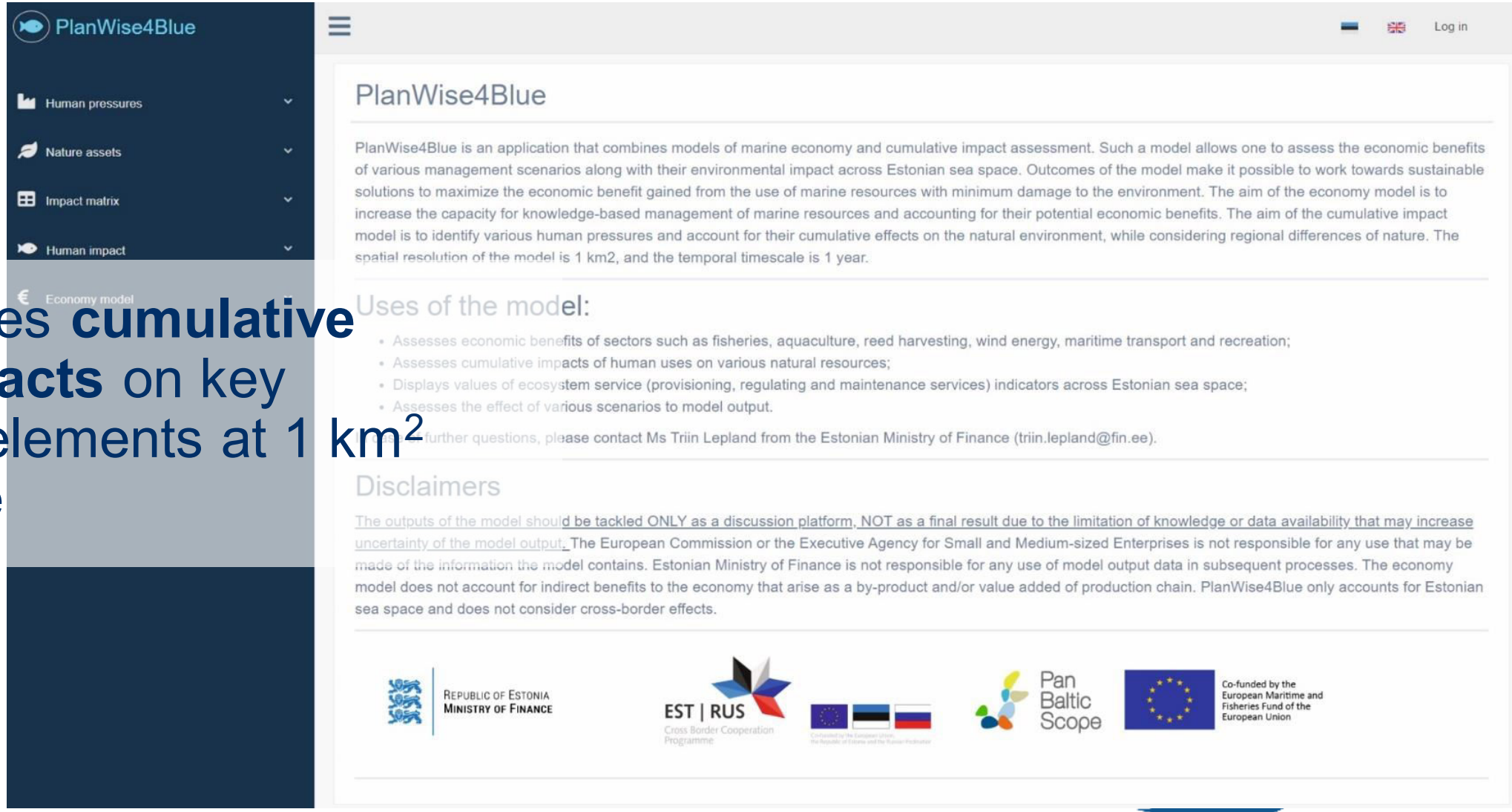
Baltic Sea Impact Index Tool: usage

- The tool was used in HOLAS2 to **assess areas which are most impacted by human activities**
- The tool was **used to compare different offshore wind energy production** development scenarios in PanBalticScope project



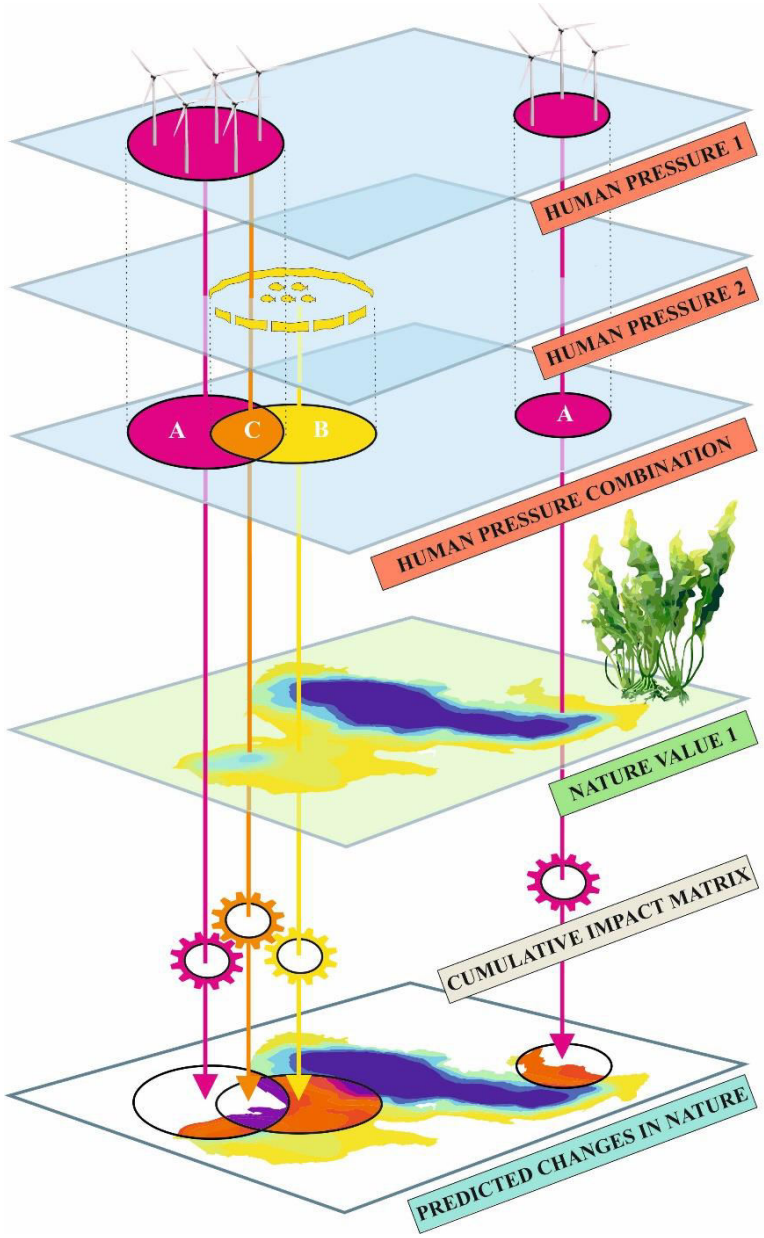
PlanWise4Blue (EE)

Tool quantifies **cumulative human impacts** on key ecosystem elements at 1 km^2 spatial scale



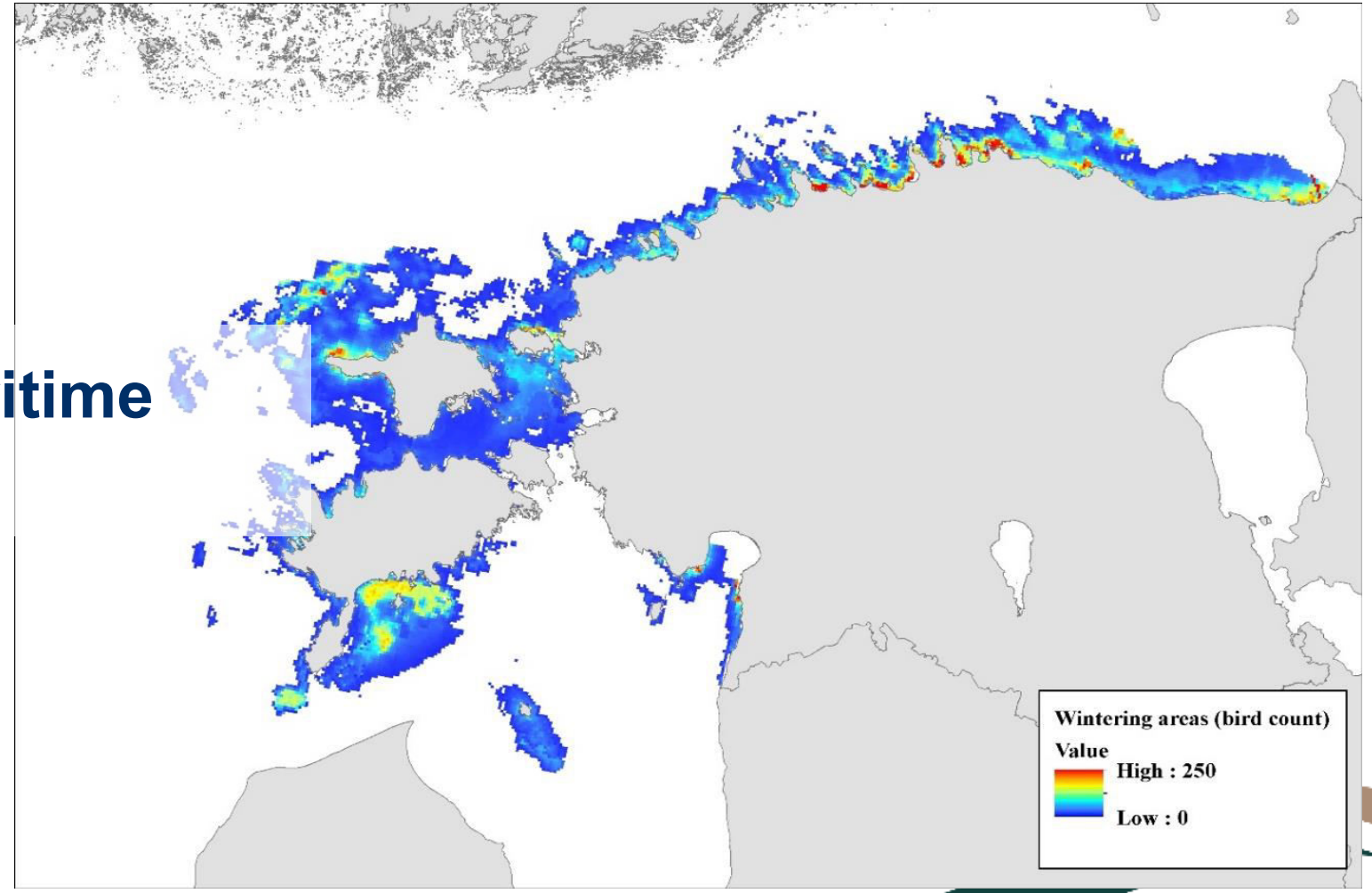
PlanWise4Blue

- The tool **combines** layers of key **NATURE ASSET values** based on the **current best available data and knowledge**
- **Contain rules** (knowledge) on how different human pressures affect different nature assets
- USERS can **UPLOAD polygons of human use**



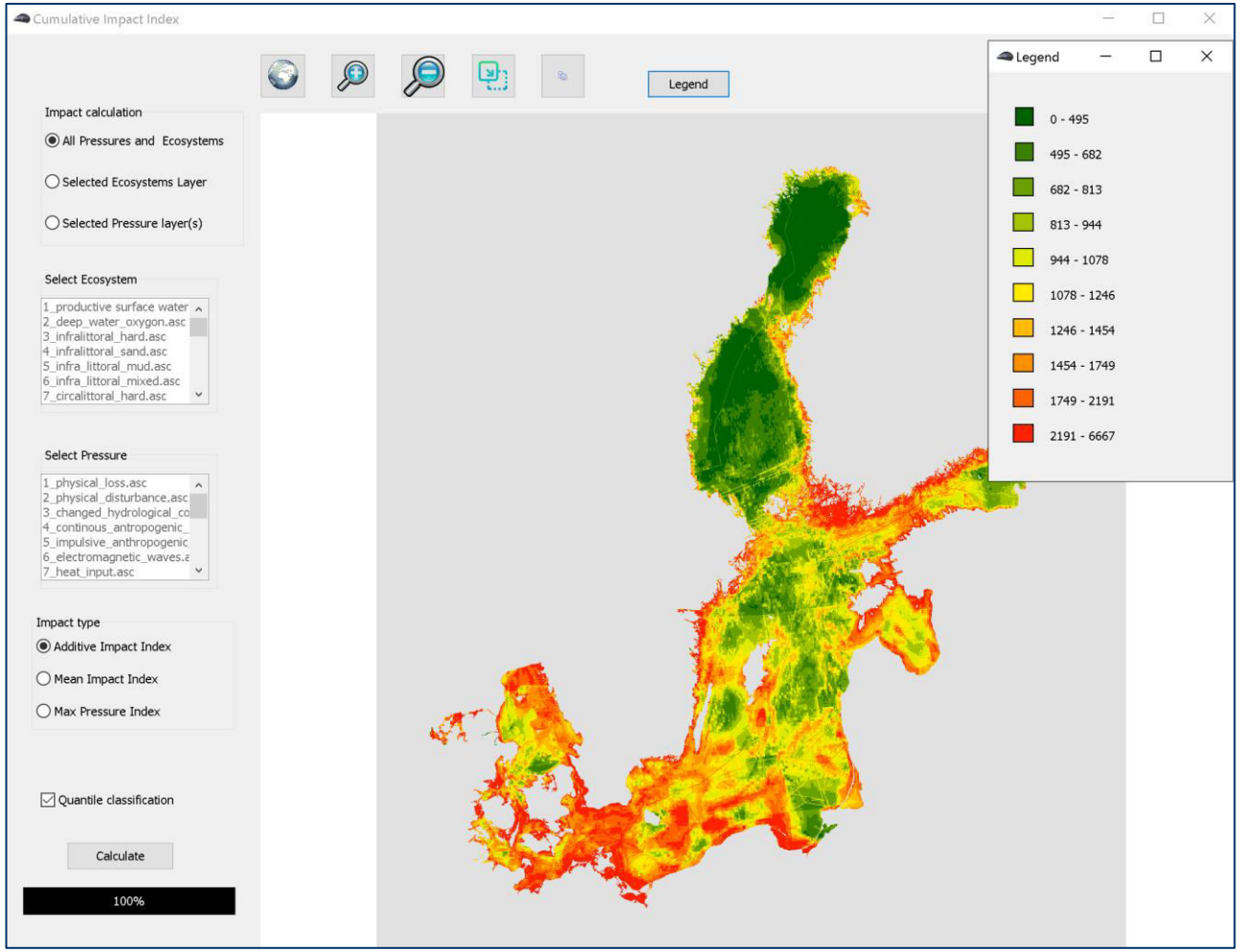
PlanWise4Blue use

Tested in Estonian Maritime Spatial Planning



Mytilus (AAU)

General purpose tool for **cumulative impact assessment** and the spatial scope spans from local sea areas over regional seas like the Baltic Sea to global level

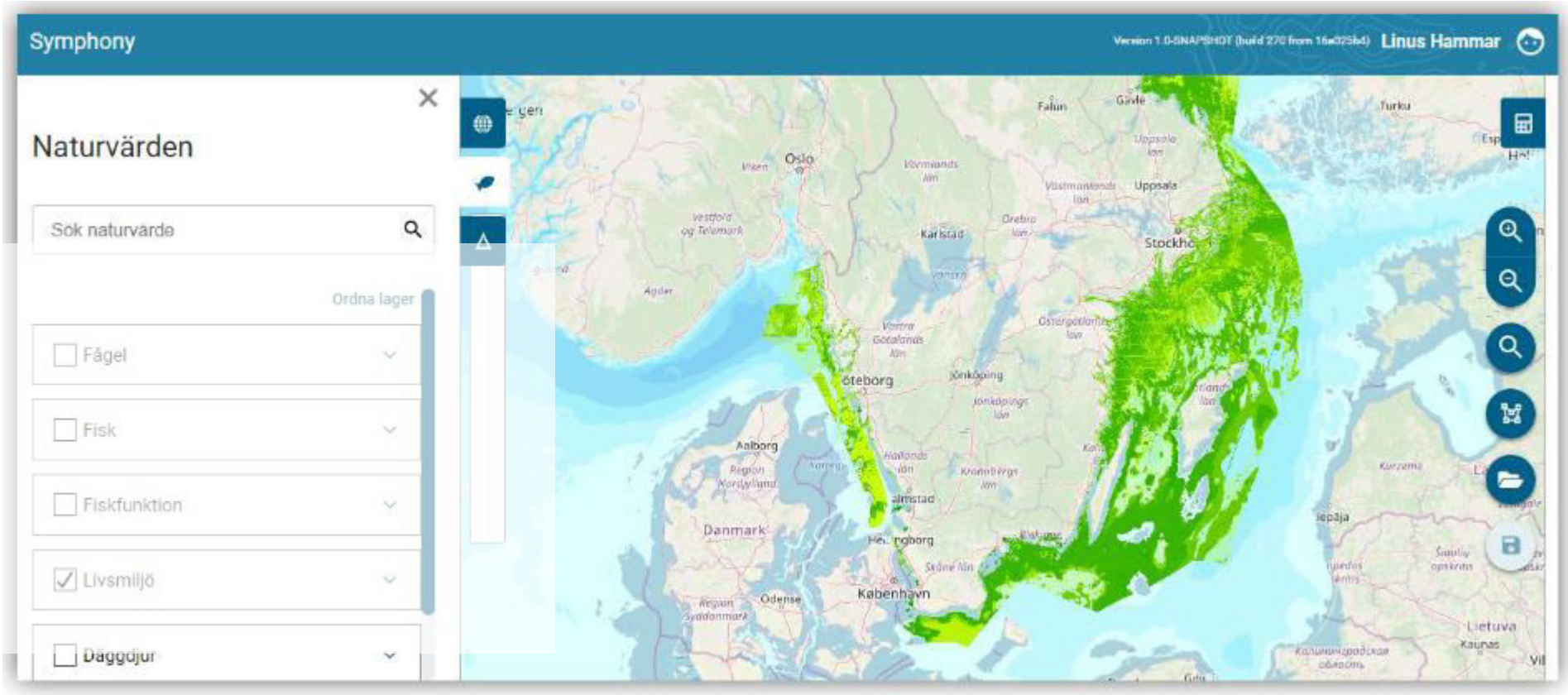


Mytilus

- All map results are in principle in the **same spatial resolution as the provided input data** and results can be aggregated into larger spatial units like Baltic Sea sub-basins
- MYTILUS is scenario-based supporting assessments of alternative plans
- MYTILUS support a broad range of calculation principles and also includes tools to assess conflicts and synergies between maritime uses
- MYTILUS is an independent desktop application running under Windows 10 – is **free and open source**

Symphony (SE)

Developed for the Swedish MSP in 2015 and continuously developed



Symphony

- 40 pressures and 32 ecosystem component layers as raster files – GeoTIFF, which are downsampled to Symphony grid.
- Results are provided at the resolution of 250 x 250m grid
- It is owned by SwAM and is open source, but not published yet.

Symphony use

- MSP
  - Evaluation planning alternatives
  - Communication
  - SEA document
- International work
  - Nairobi Convention – WIO Symphony
  - South Africa
  - UN Ocean Conference 2022 voluntary commitment

Conclusion

- **Existing tools are rather similar**:
  - Based on Halpern type of method
  - Need spatial data, as good resolution as possible
- For the whole Baltic scale, **there is need to acquire data products that cover large areas rather than pointwise raw data**

  → Modelled results, extended surveys are needed
- It would be beneficial to harmonize the approaches by **picking up the best elements of each tools**
  - Within HELCOM this work is underway to develop Spatial Pressure and Impact Assessment tool (SPIA) for upcoming State of the Baltic Sea report (HOLAS III in 2023)

BALTIC 4th FORUM MSP

1-2 JUNE 2021, ONLINE

Delivering MSP
Interactions and Capacities Across All Levels

Interreg Baltic Sea Region

EUROPEAN UNION
EUROPEAN REGIONAL DEVELOPMENT FUND

LAND SEA ACT

CAPACITY4MSP

Ministry of Environmental Protection and Regional Development Republic of Latvia

VASAB
VISION & STRATEGIES AROUND THE BALTIC SEA