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Estonian economic model – how much does the marine space cost?

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Swedish Agency
for Marine and
Water Management



Ministry of Environmental
Protection and Regional
Development
of the Republic of Latvia

DANISH MARITIME AUTHORITY



REPUBLIC OF ESTONIA
MINISTRY OF FINANCE



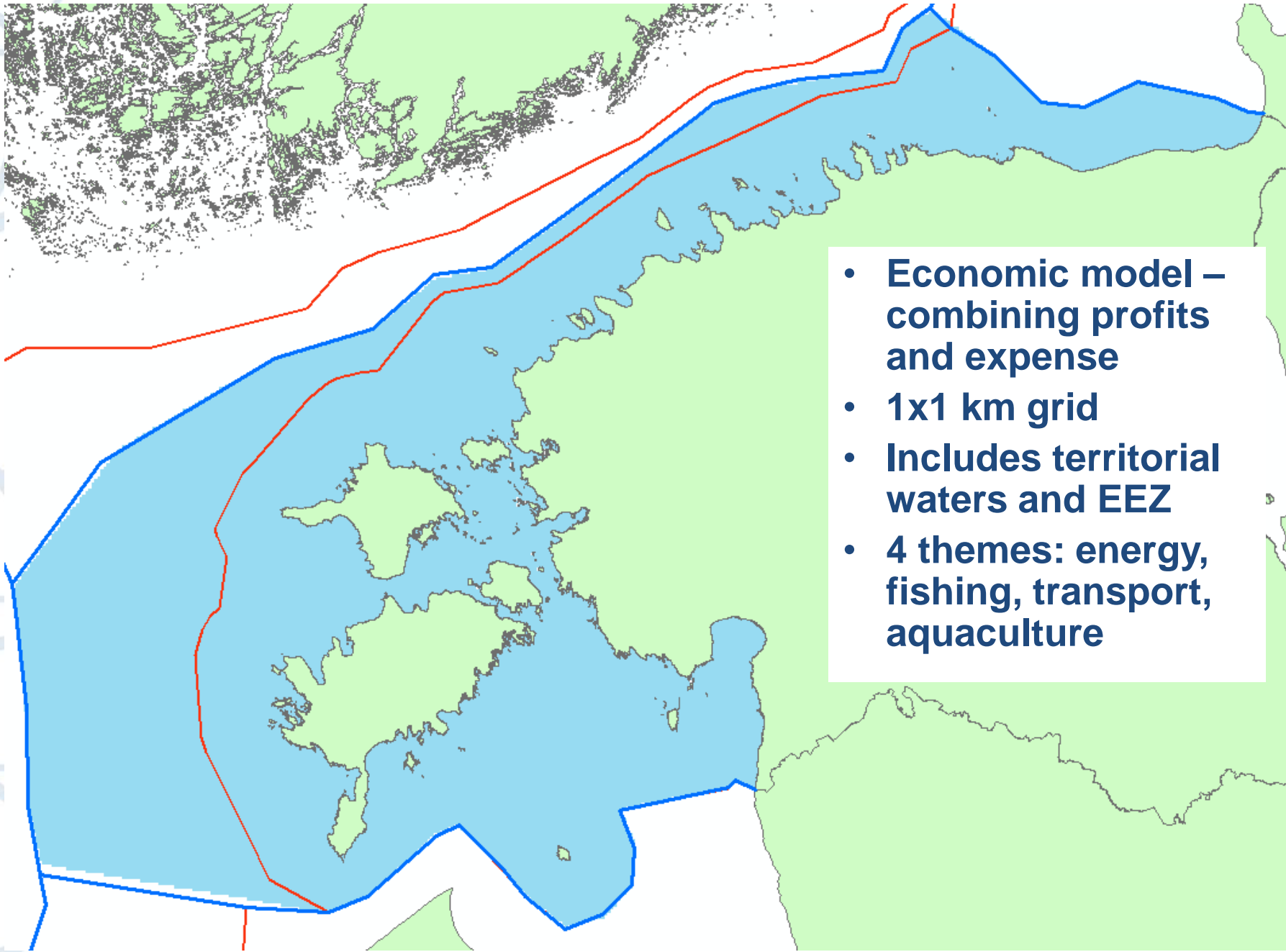
Nordregio



SATAKUNTALIITTO
The Regional Council of Satakunta



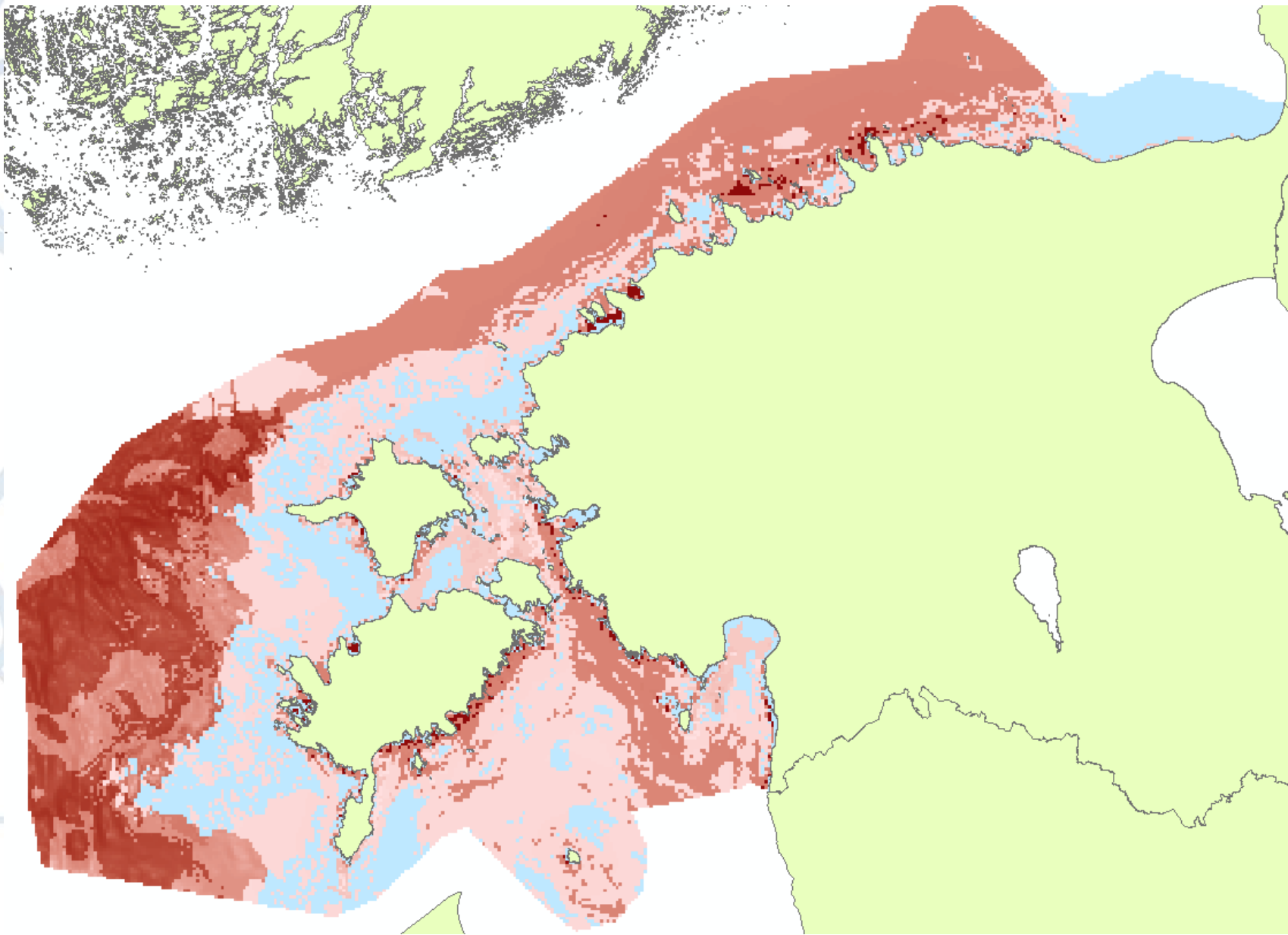
Ålands
landskapsregering



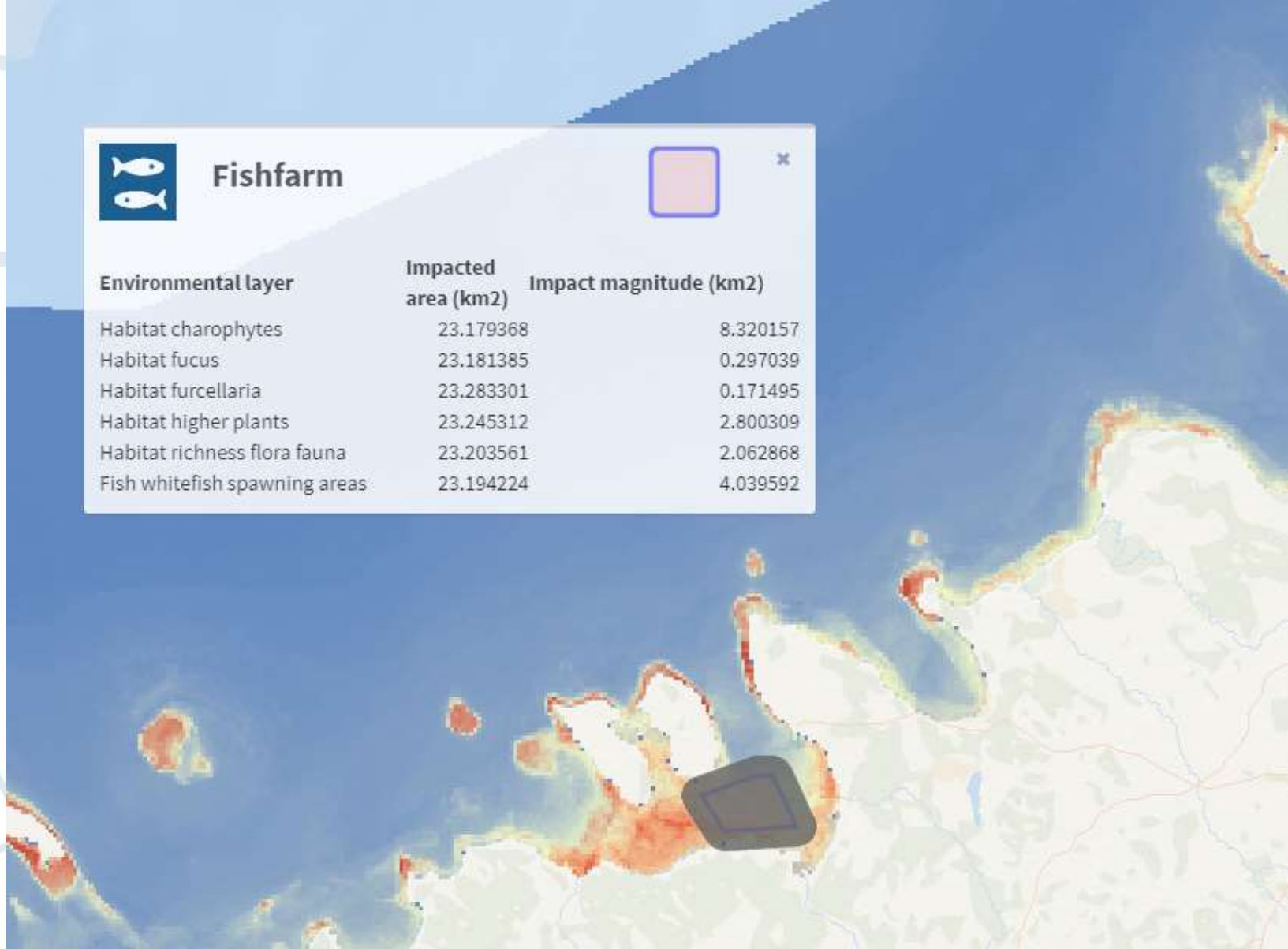
- **Economic model – combining profits and expense**
- **1x1 km grid**
- **Includes territorial waters and EEZ**
- **4 themes: energy, fishing, transport, aquaculture**

Cumulative impact online tool

- **Combines layers of key ecosystem values.**
- **Contain rules (knowledge) on how different human uses/pressures affect different ecosystem elements.**
- **Planners can draw polygons of human use, define their intensity and then portal interactively quantifies impacts at 200 m spatial scale.**



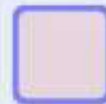
Economic model: Max profit from aquaculture (government and business)



Cumulative impact tool

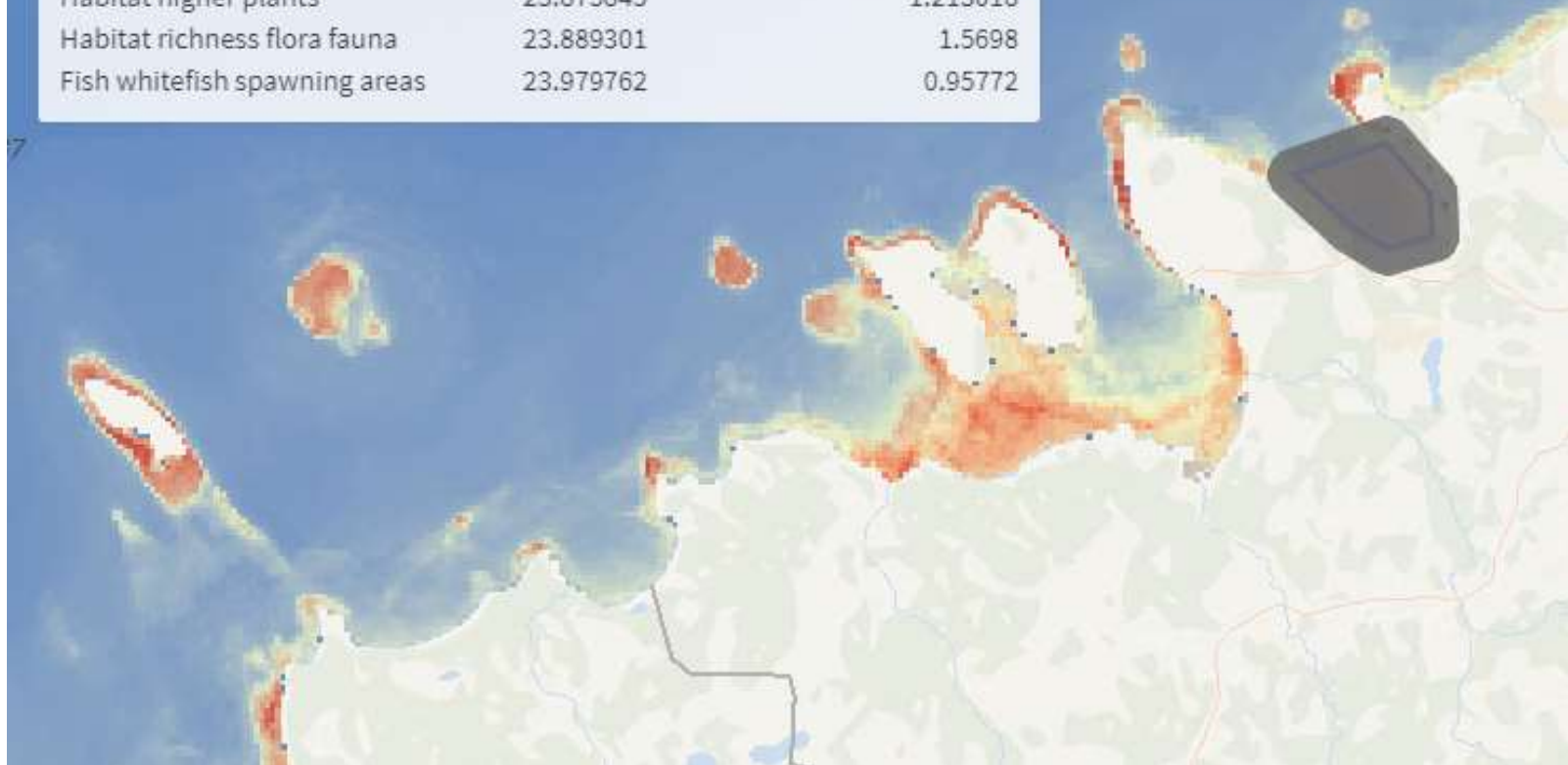


Fishfarm



x

Environmental layer	Impacted area (km2)	Impact magnitude (km2)
Habitat charophytes	24.012154	2.001906
Habitat fucus	23.976017	0.429839
Habitat furcellaria	24.028485	0.204095
Habitat higher plants	23.875845	1.213018
Habitat richness flora fauna	23.889301	1.5698
Fish whitefish spawning areas	23.979762	0.95772



Cumulative impact tool

Next steps

- **Combine two models**
- **User friendly interface – online tool**
- **Develop results further**
 - Include ecosystem services e.g.:
 - baltic herring spawning areas as provisioning service;
 - seaweed biomass as provisioning service;
 - sea shell growth rate as provisioning service;
 - eutrophication indicators;
 - recreational services
 - ...



Recreational services

How should we take recreational services into consideration?



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THANK YOU!

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