HASPS HORIZONTAL ACTION "SPATIAL PLANNING" SUPPORT

SeaGIS 2.0

Sustainable development of the marine environment

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Johnny Berglund, Project manager, County Administrative Board of Västerbotten
Matti Sahla, GIS modeling expert, Metsähallitus

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SeaGIS - Support for ecosystem based planning of the marine environment using GIS

Cooperation between Swedish and Finish authorities in the Northern Quark area

2015-2018

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Cross-border solutions for integrated maritime governance

Activities

1. MSP data and participation
2. Regional goals for Blue Growth
3. State of the environment – Nature protection
4. Ecosystem services
5. Cooperation - Oil spill protection
6. Establishment of the map service

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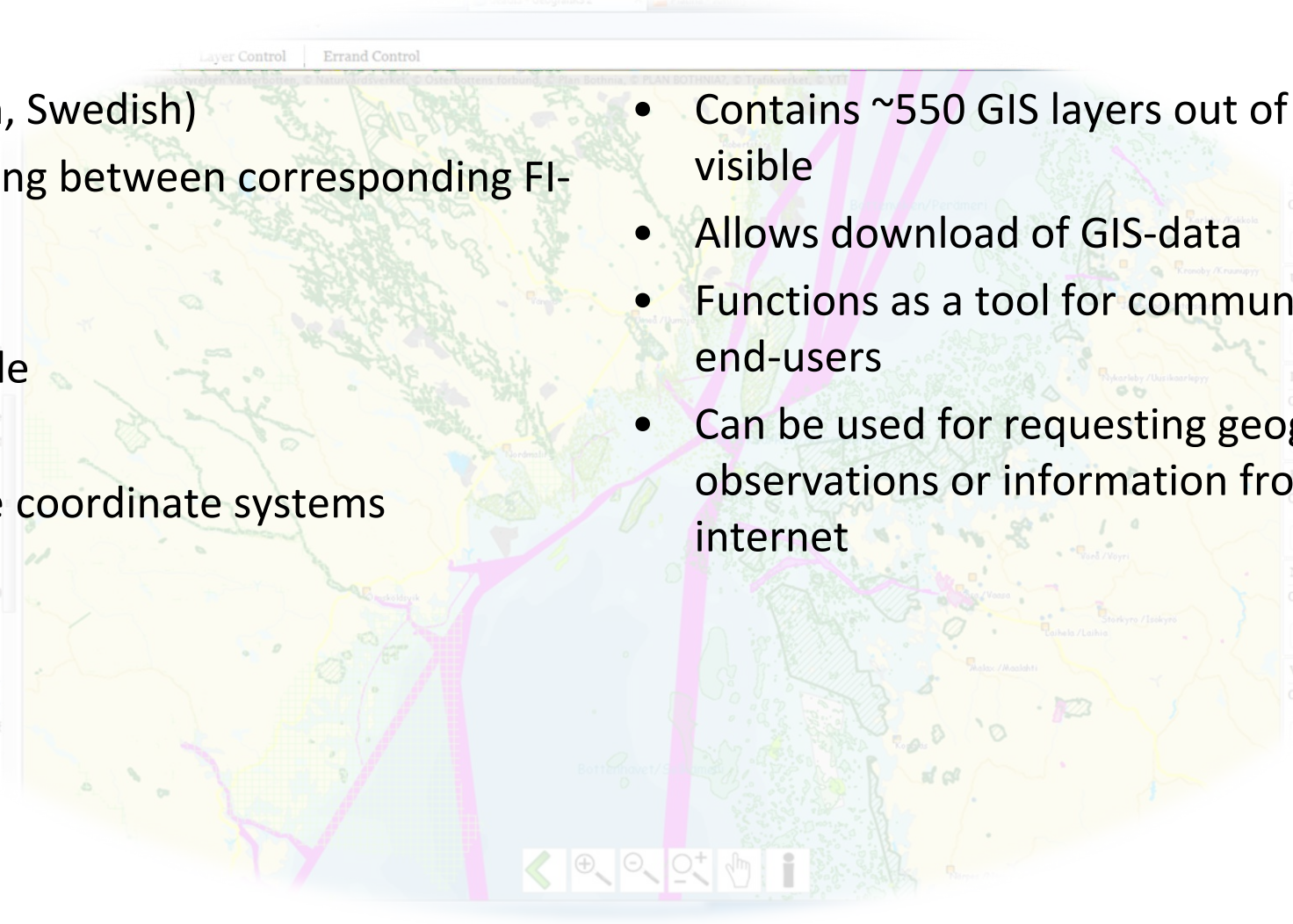
SeaGIS map service

- Bilingual (Finnish, Swedish)
- Harmonized styling between corresponding FI-SE data
- Transboundary
- Open & accessible
- Meets INSPIRE
- Open to multiple coordinate systems

- Contains ~550 GIS layers out of which 300 visible
- Allows download of GIS-data
- Functions as a tool for communication between end-users
- Can be used for requesting geographical observations or information from public over internet



Content

Select
-by point, line or area

Measure
-distances
-areas

Search
-point, line, area
-text

Tools
-Coordinates
- *Show*
- *Go to*
- *Check*
-Map contrast

Layer control

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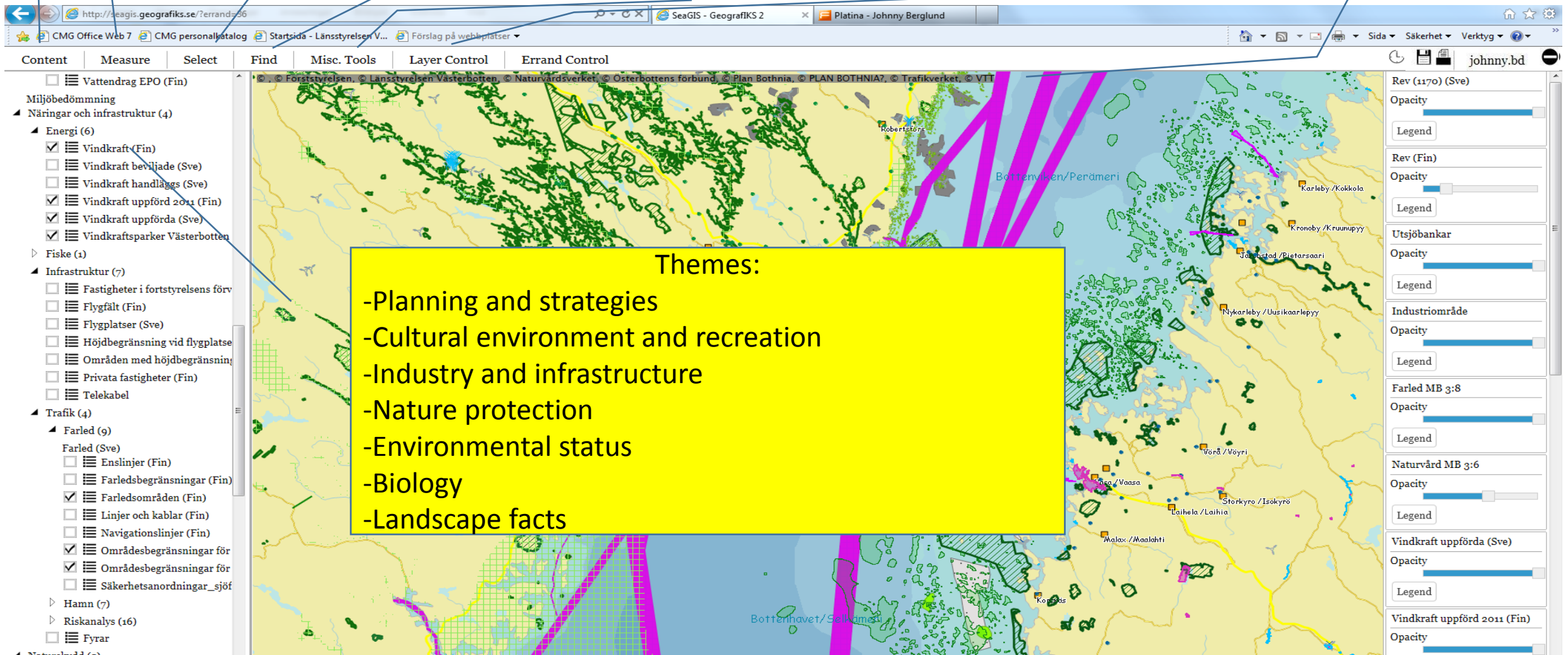
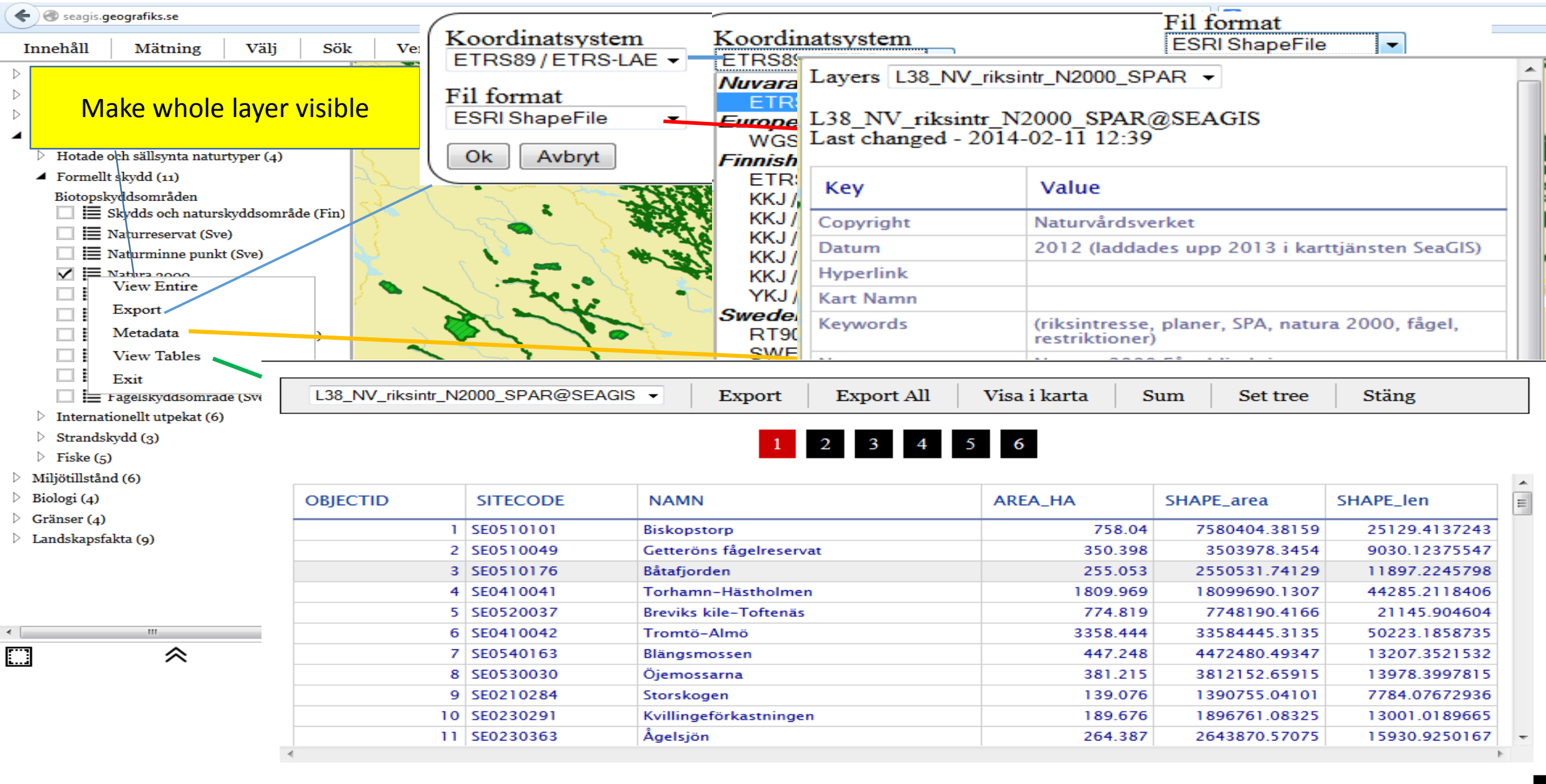


Themes:
-Planning and strategies
-Cultural environment and recreation
-Industry and infrastructure
-Nature protection
-Environmental status
-Biology
-Landscape facts

Natura 2000



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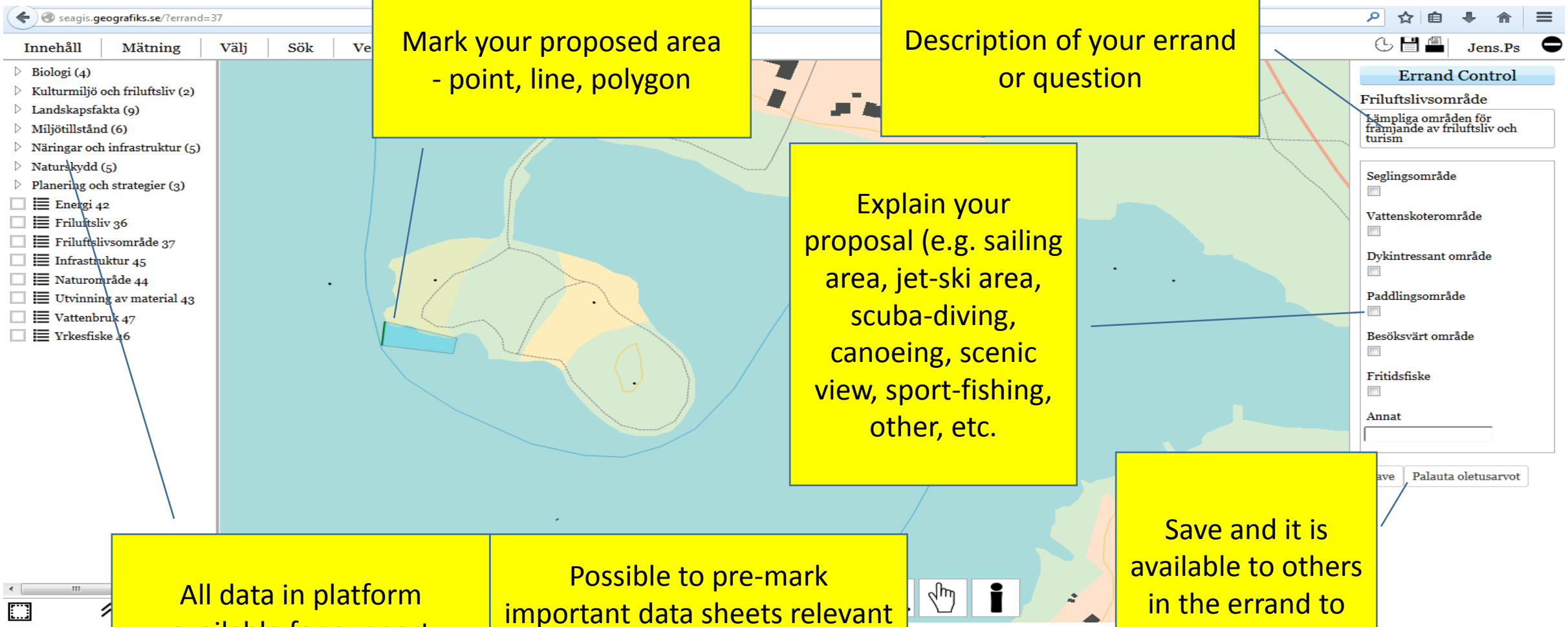
1	SE0510101	Biskopstorp	758.04	7580404.38159	25129.4137243
2	SE0510049	Getteröns fågelreservat	350.398	3503978.3454	9030.12375547
3	SE0510176	Båtafjorden	255.053	2550531.74129	11897.2245798
4	SE0410041	Torhamn–Hästholmen	1809.969	18099690.1307	44285.2118406
5	SE0520037	Breviks kile–Toftenäs	774.819	7748190.4166	21145.904604
6	SE0410042	Tromtö–Almö	3358.444	33584445.3135	50223.1858735
7	SE0540163	Blängsmossen	447.248	4472480.49347	13207.3521532
8	SE0530030	Öjemossarna	381.215	3812152.65915	13978.3997815
9	SE0210284	Storskogen	139.076	1390755.04101	7784.07672936
10	SE0230291	Kvillingeförkastningen	189.676	1896761.08325	13001.0189665
11	SE0230363	Ågelsjön	264.387	2643870.57075	15930.9250167

Errands and communication

between administrations, municipalities or with the public
e.g. *'Propose new recreation areas'*



Mark your proposed area - point, line, polygon

Description of your errand or question

Explain your proposal (e.g. sailing area, jet-ski area, scuba-diving, canoeing, scenic view, sport-fishing, other, etc.

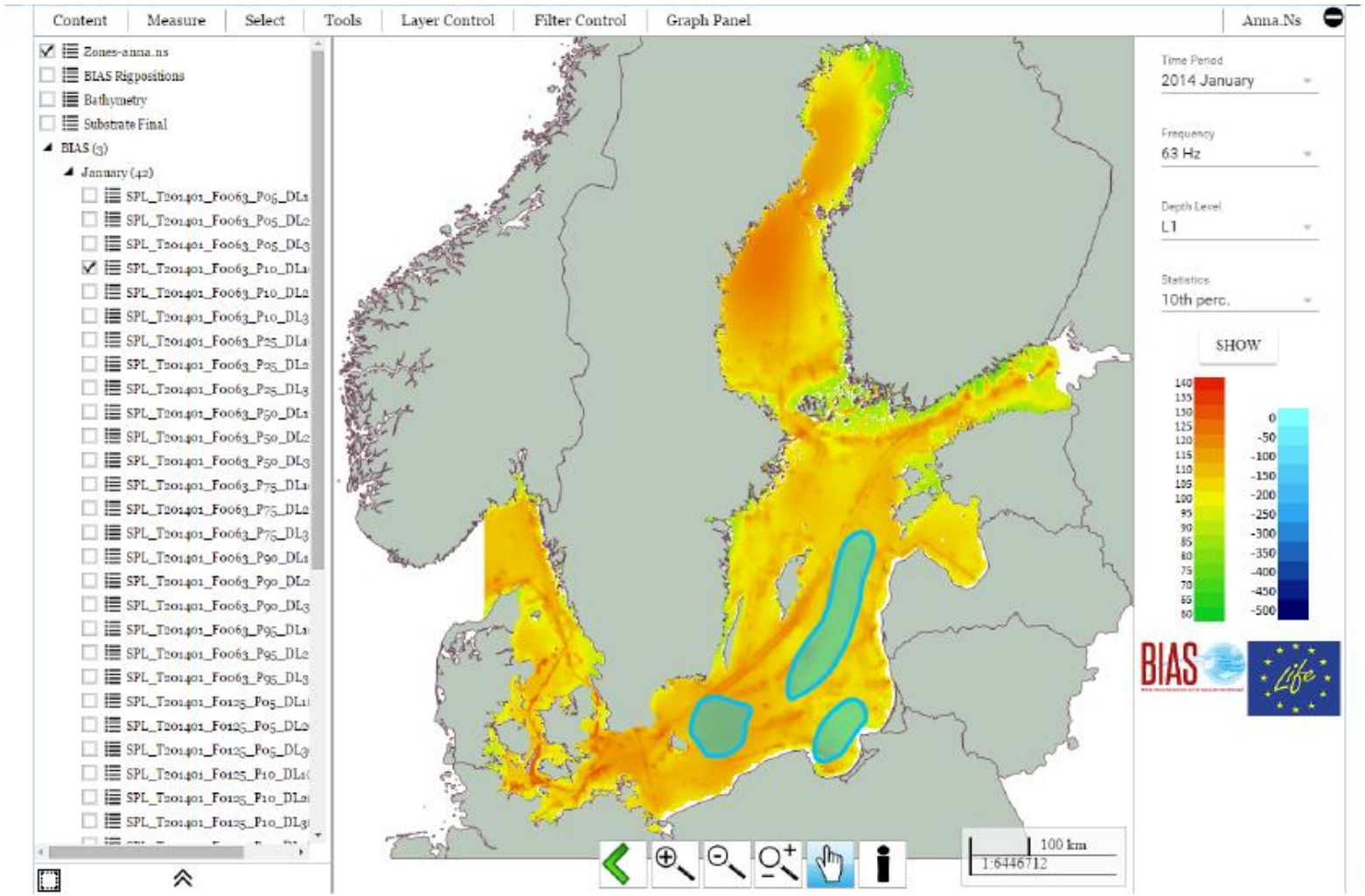
All data in platform available for support

Possible to pre-mark important data sheets relevant to question at hand

Save and it is available to others in the errand to have a look at

Update on the BIAS GIS-based planning tool

for ambient underwater noise in the Baltic Sea



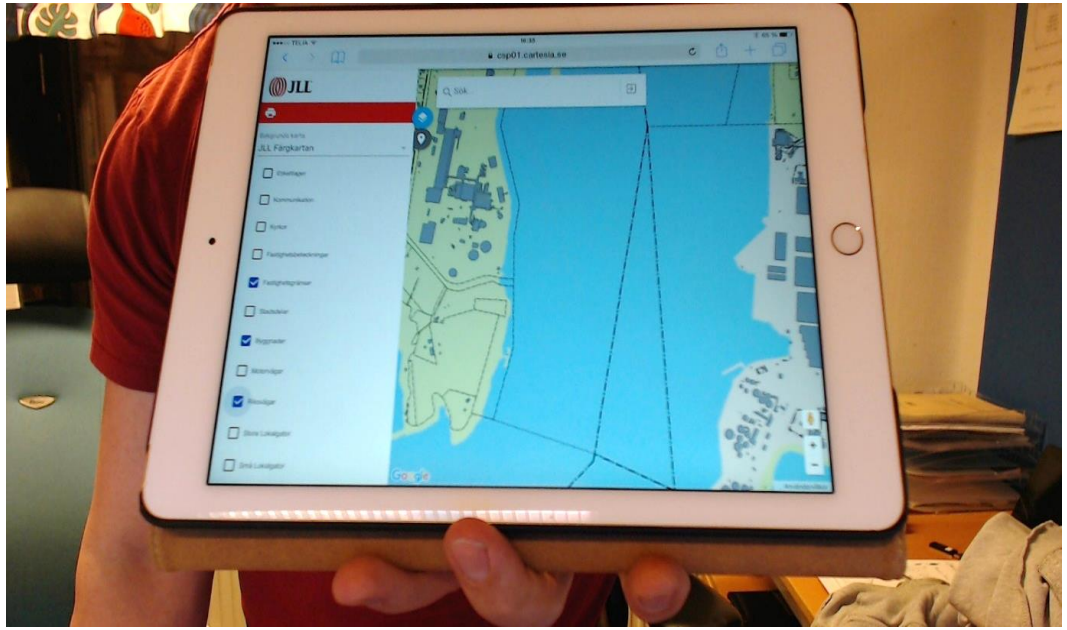
BIAS

Baltic Sea Information on the Acoustic Soundscape

Establishment of the Map Service

Developing SeaGIS 2.0

- WMS and WFS consumption
- Tile-cache download
- Increased geographical coverage
- Use of orthophoto or satellite images
- Adapting to mobile devices



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State of the Environment – Nature Protection

Expected results by the end of 2016

A. GIS – data on **marine Natura 2000 habitats and species** gathered and improved

   A. Protection level of marine Natura 2000 habitats and species are evaluated

   B. Human pressures are assessed for selected Natura 2000 habitats and species

B. Consistent set of **environmental variables** is created throughout the project area

C. Selected **HUB – biotopes** are modeled throughout the project area
   Models of the most common HUB –biotopes are combined to form a map that covers the bottom of the whole study area

   A. Protection level of selected HUB -biotopes is evaluated

   B. Human pressures are assessed for selected HUB –biotopes

Natura 2000 habitats in the Gulf of Bothnia region

Natura code	Habitat	Fin	Sve	Included
1110	Sublitoral sandbanks	*no data*	*no data*	-
1130	Estuaries	*in progress*	*ok -*	*check*
1140	Intertidal mudflats and sandflats	*not occurring*	*ok*	-
1150	Coastal lagoons	*ok -*	*ok*	*check*
1160	Large inlets and bays	*no data*	*ok -*	*check*
1170	Reefs	*ok -*	*ok -*	*check*
1620	Small islands and skerries	*in progress*	*ok*	*check*
1630	Baltic coastal meadows	*in progress*	*in progress*	*check*
1640	Sandy beaches with perenn vegetation	*in progress*	*in progress*	*check*
9030	Natural forests on land-upheavel coasts	*in progress*	*in progress*	*check*

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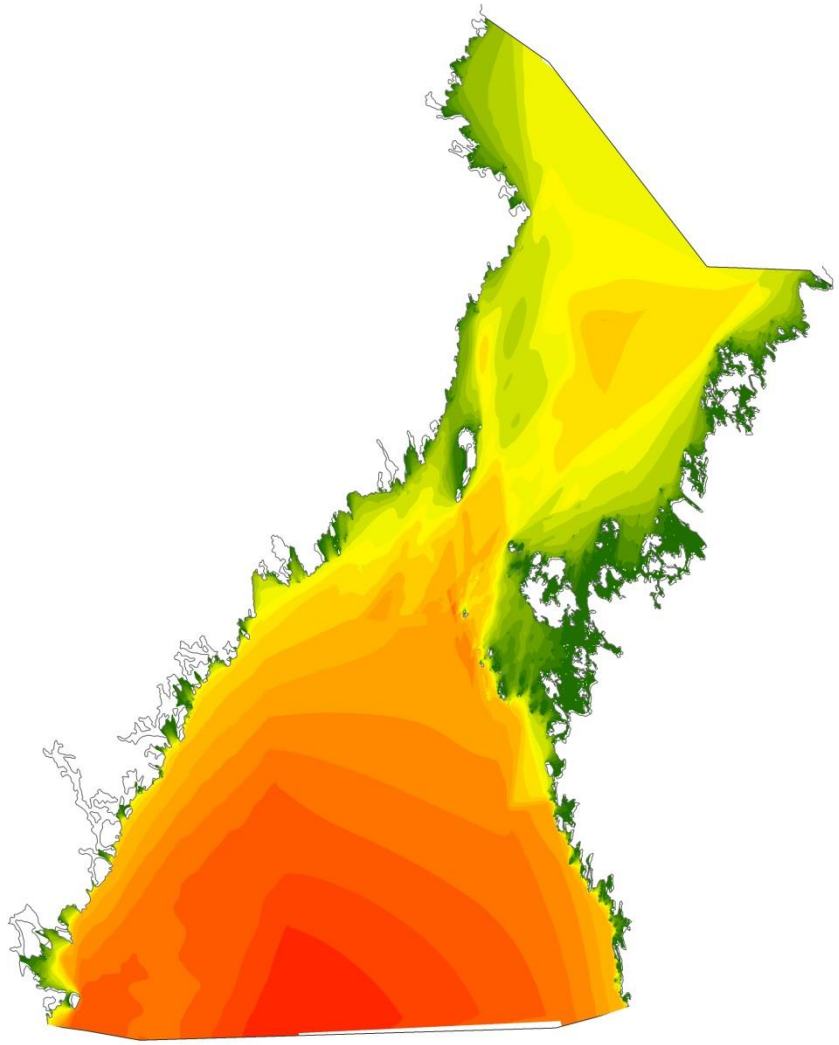
Environmental variables

- Depth
- Surface exposure
- Ice sum and Ice on the botton
- Secchi
- Light on bottom
- Nitrogen
- Phosphorus
- PH
- Salinity on surface
- Bottom temperature
- Turbidity



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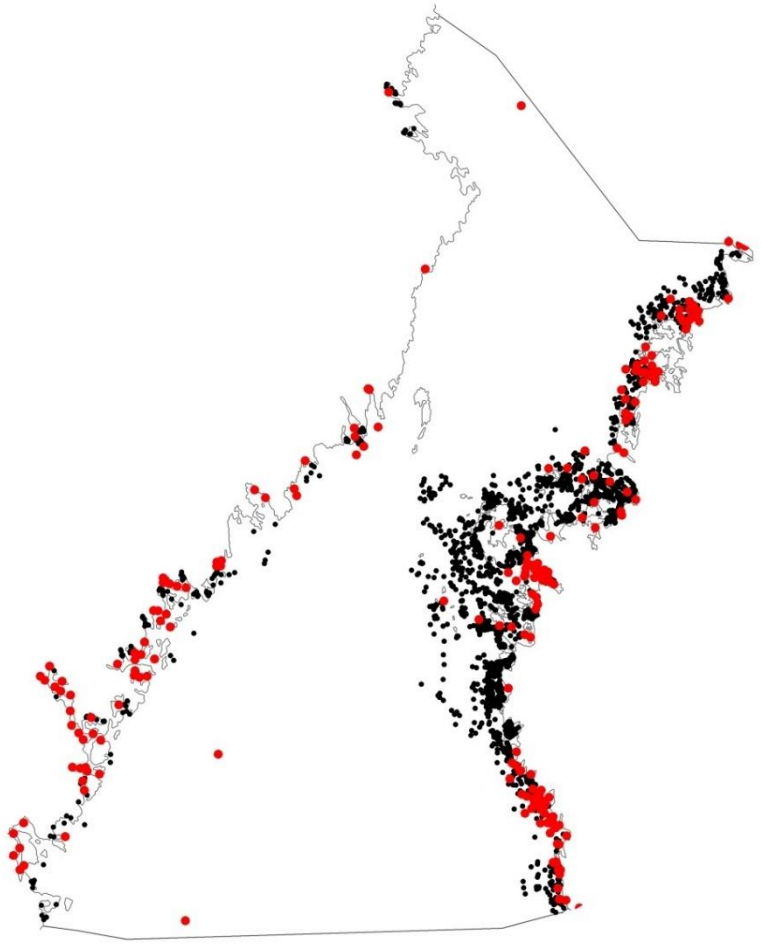
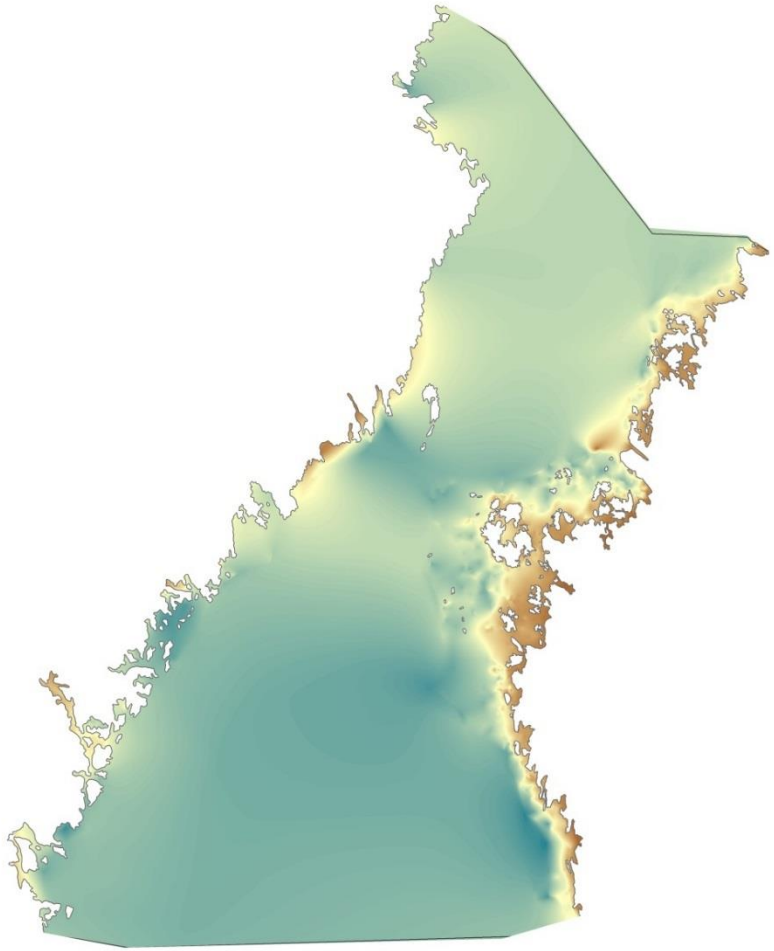
Collecting available data for creating environmental gradients.
Secchi will be used with depth to calculate light availability in the bottom





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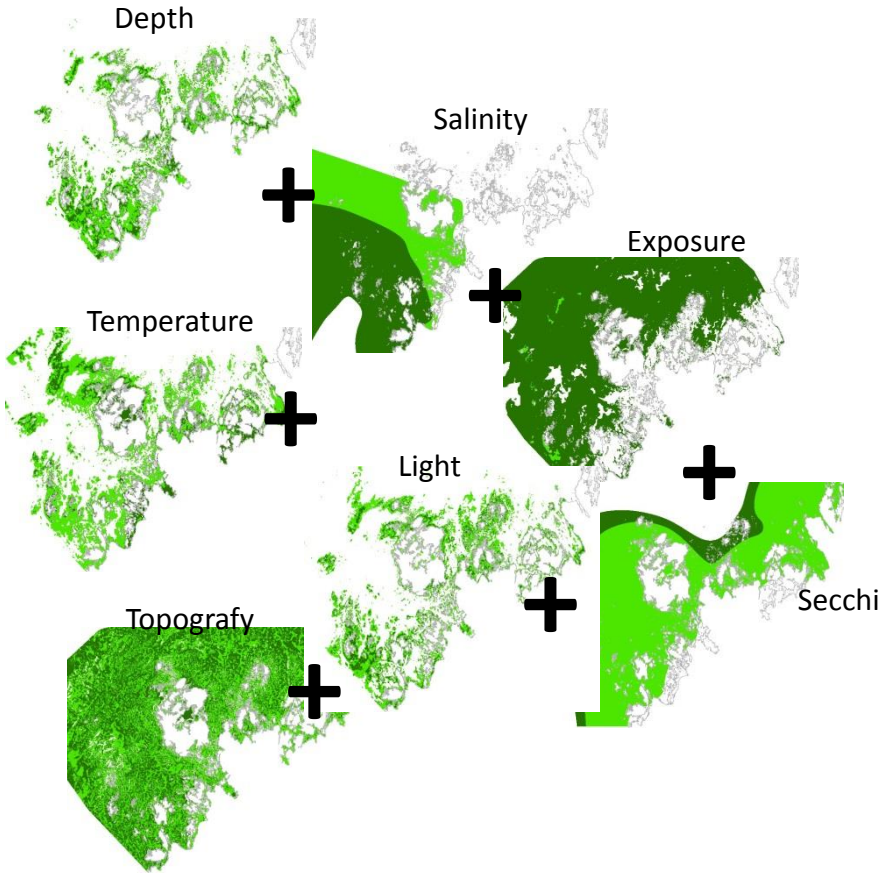
Suitable areas determined with each environmental variable are combined to show most favorable areas for the HUB



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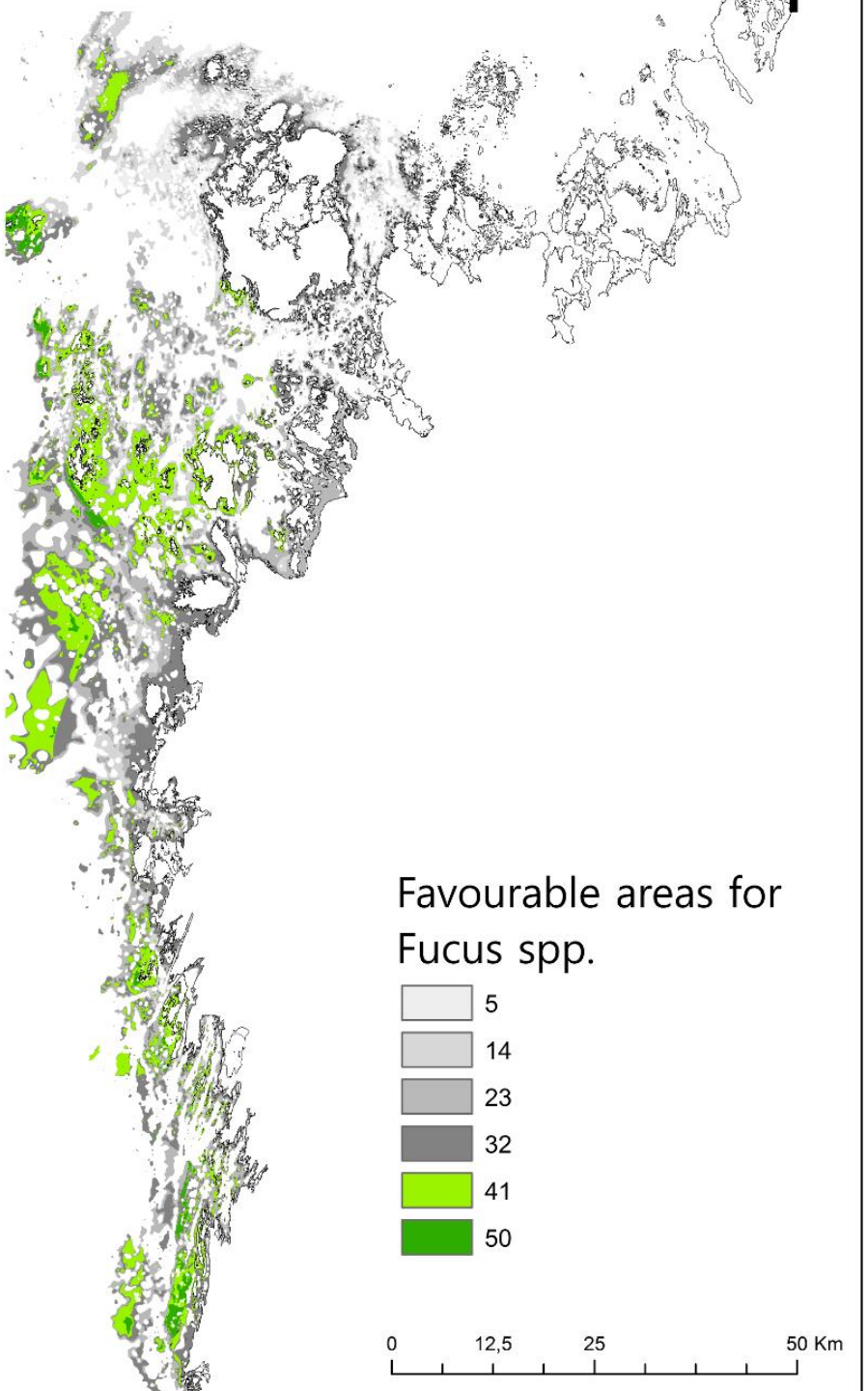
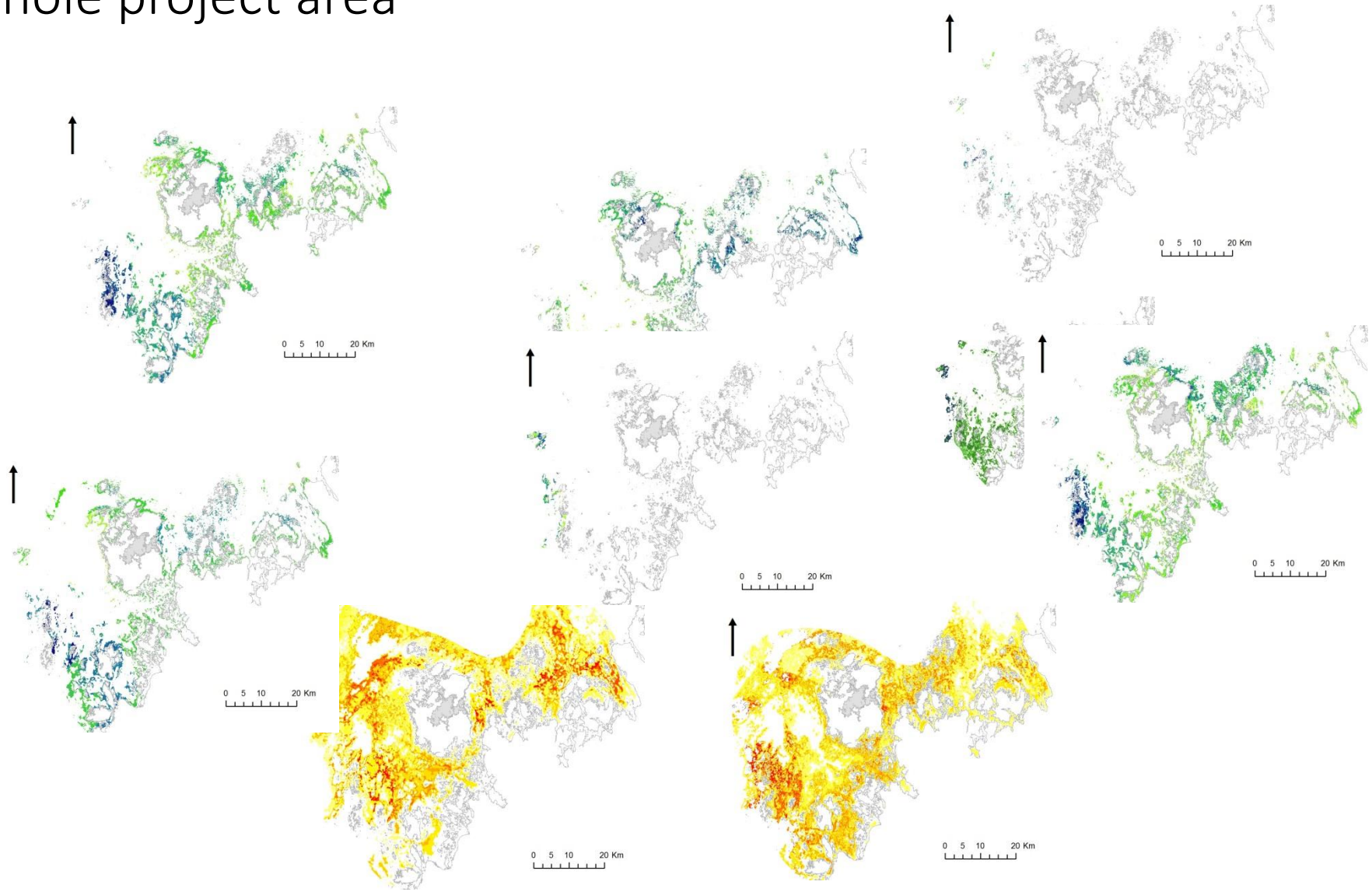


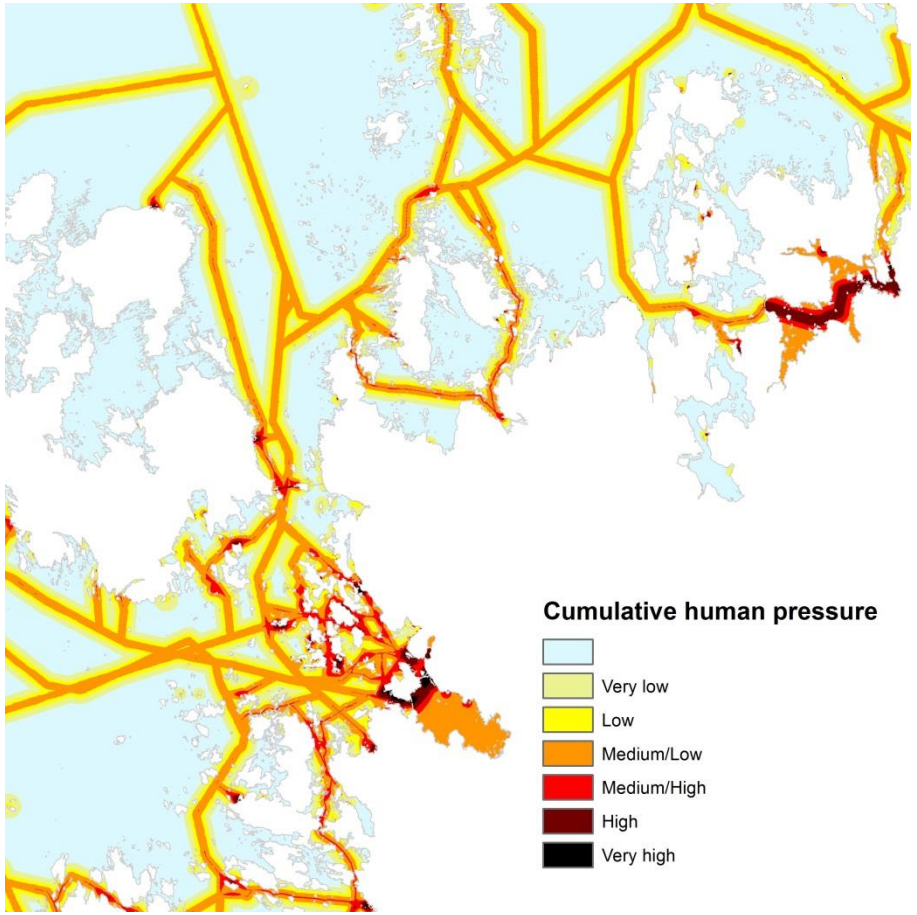
Most important and most common HUB biotopes will be modeled for the whole project area



Human pressure modeling

With cumulative human pressure modeling we will evaluate potential impacts on HUB – biotopes, N2000 habitats and protected areas.

We aim for detailed pressure modeling taking distance from the sources and depth into account.



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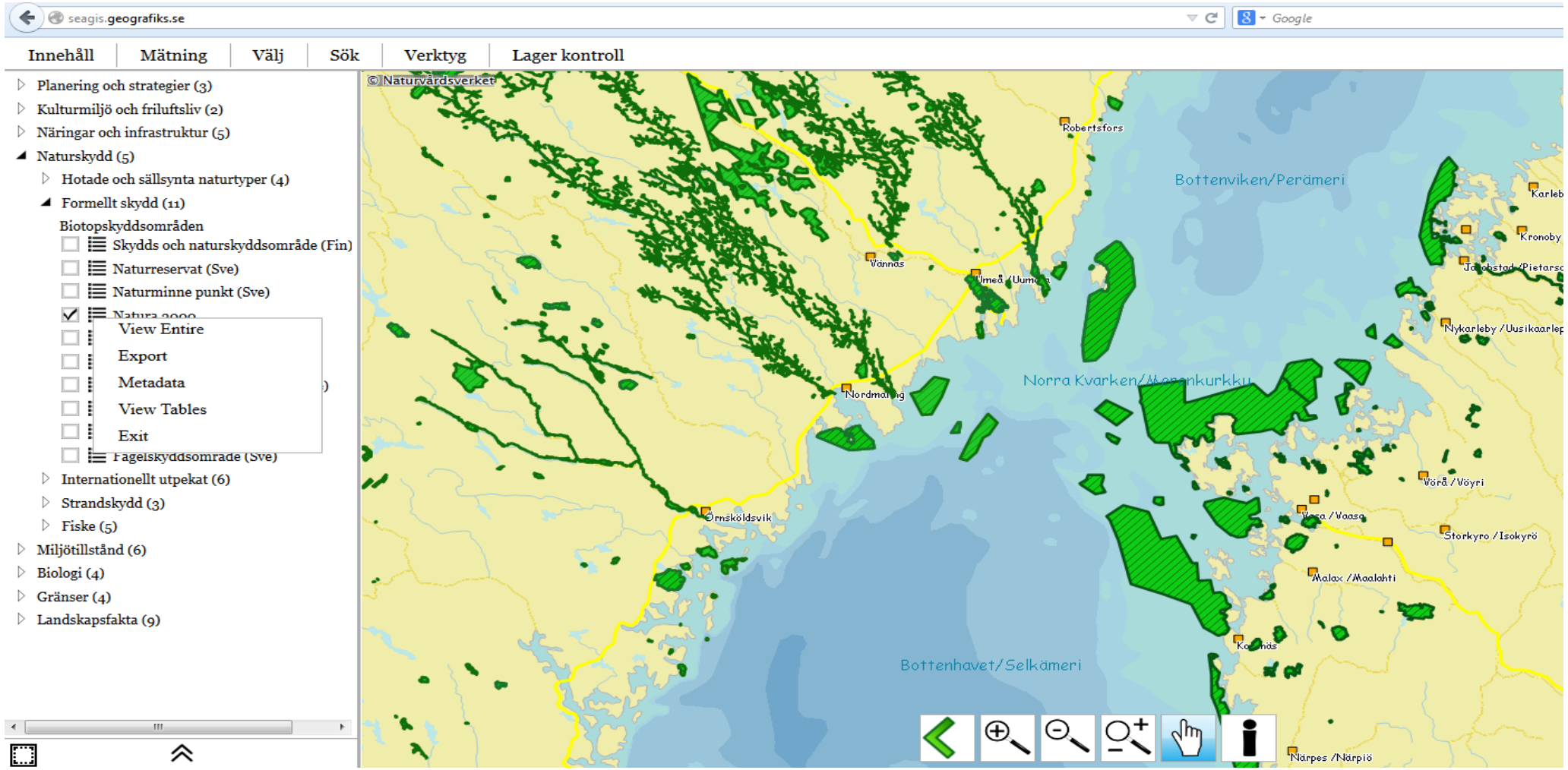
Protection level of selected N2000 habitats and HUB -biotopes is evaluated



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www.seagis.org

Thank you for listening!

Johnny Berglund

Project manager SeaGIS 2.0

County Administrative Board of Västerbotten

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