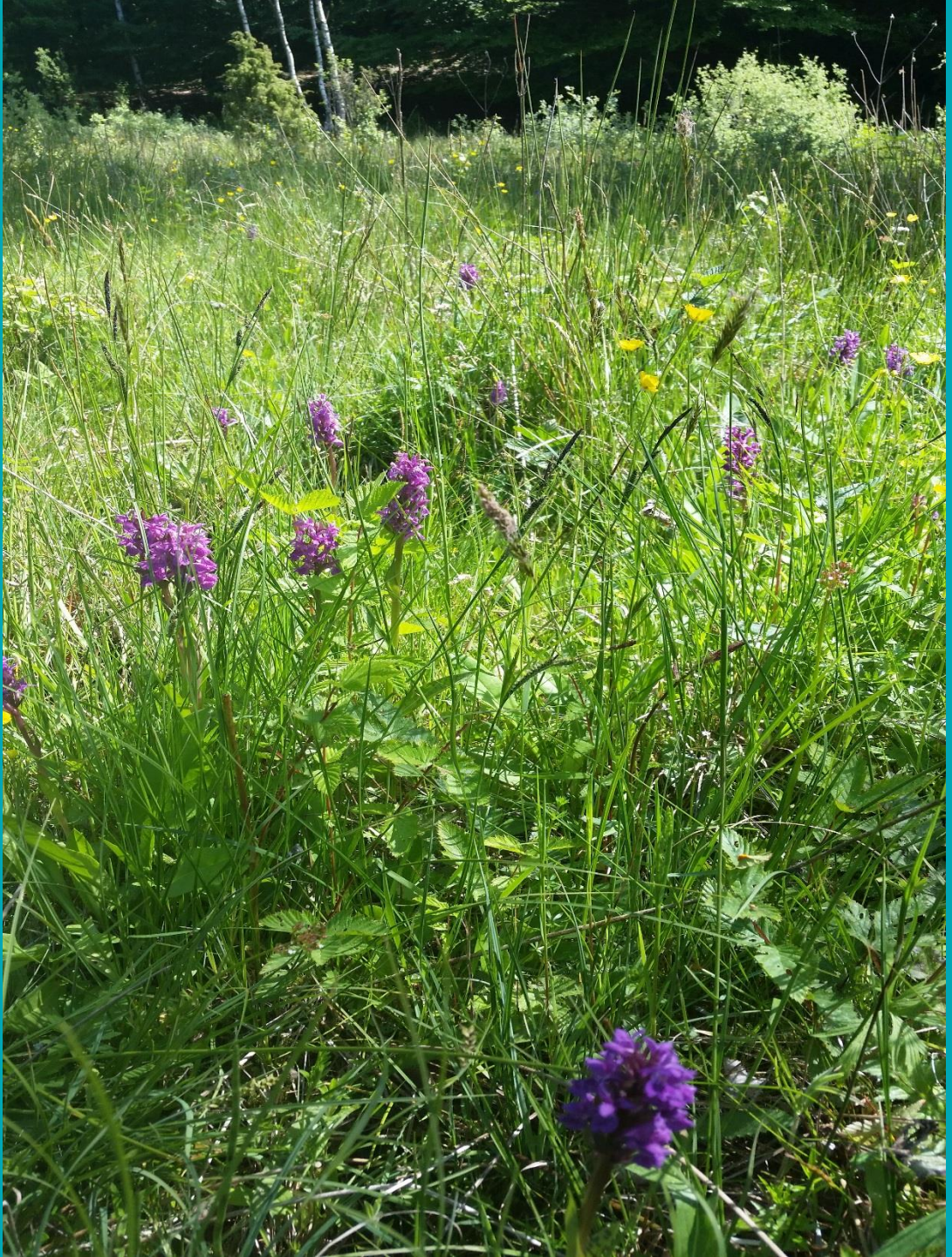

Miljø- og Fødevareministeriet
NaturErhvervstyrelsen

AARHUS
UNIVERSITY
DEPARTMENT OF BIOSCIENCE

High Nature Value (HNV) in Denmark

Targeting biodiversity

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Why spend time and money developing a HNV map?

Achieve the best possible targeting of seminatural areal rich in biodiversity

Main focus on support for grazing and cutting (conservation of grasslands) under the Rural Development Program

A total spending of around 25 million euro pr. year. Payment pr. ha for either grazing or cutting (support rate 113-347 euro/ha)

The support measure has the sole purpose of promoting biodiversity. The problem was:

- Too little evidence of biodiversity effect on areas outside Natura 2000. Inside N2000 monitoring is put into system, and there is 252 action plans.
- Some areas with 5-10-15 years of support, where ploughed up afterwards thereby resetting biodiversity values.
- 340.000 ha of semi-natural grasslands (freshwater meadows, salt meadows, dry grasslands and heathland) need grazing or cutting, but there is only budget to 90-100.000 ha. More than 50 % are outside Natura 2000.

The new HNV map for Denmark must point out HNV areas, and make it possible to prioritize the best of these if budgets are limited

Why not use a more simple approach?

In some countries statistics on farm trade and income was enough to point out HNV areas (low income – high biodiversity) ➡ long time ago in Denmark

In other countries HNV areas could be pointed out from satellite or aerial photos (large coherent areas of semi-natural grasslands) ➡ Not in Denmark where biodiversity rich seminatural grasslands are spread out on many farms, both hobby farmers, part time farmers and professional farmers, and semi-natural areas are often fragmented and not easy to separate (from the air) from more intensive grasslands with low biodiversity value.

We had to develop our own approach

Aarhus University, DCE developed the HNV map in the period 2012-14

The goal set by the Danish AgriFish Agency was:

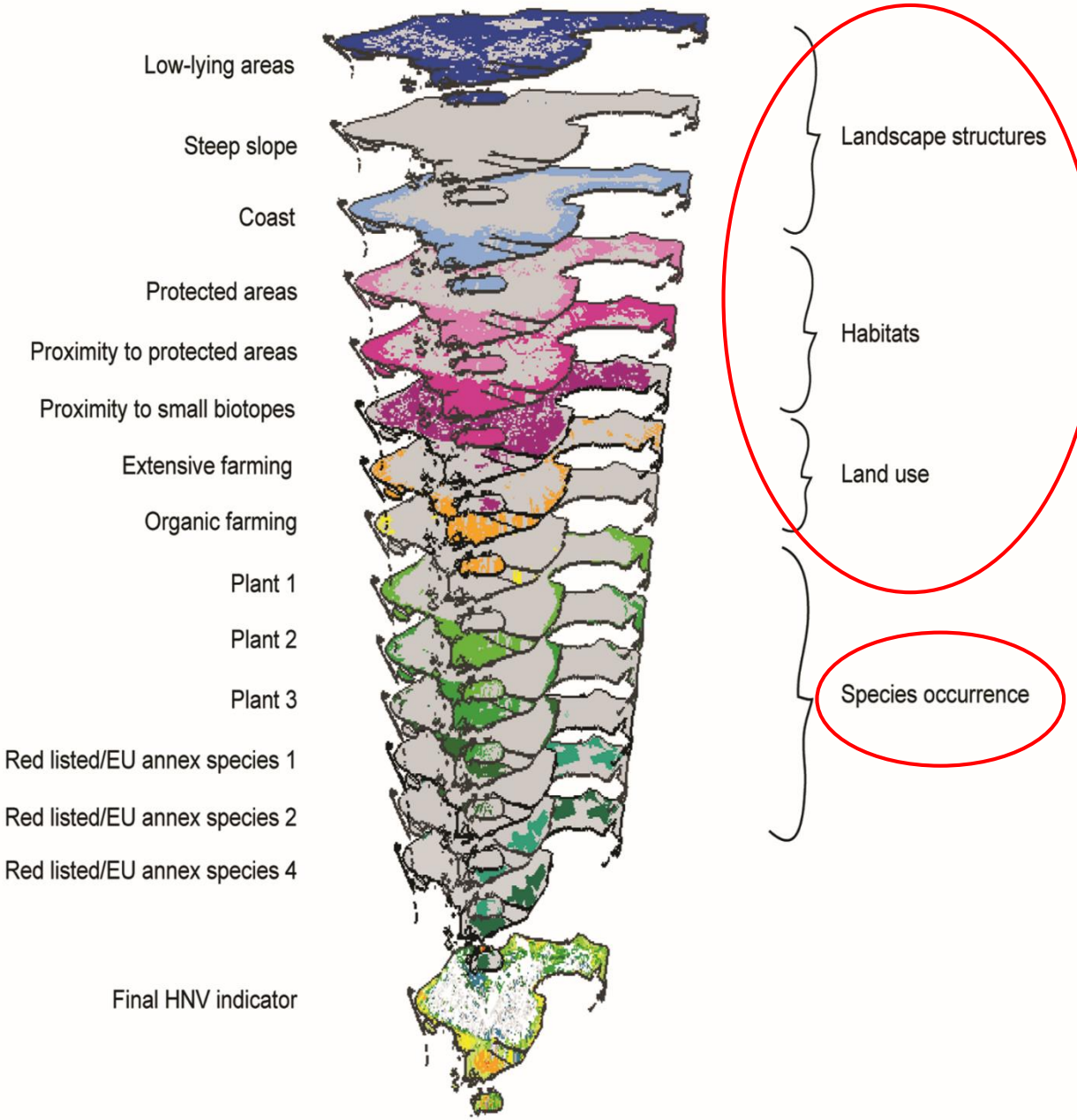
1. Target areas with high biodiversity (efficient spending of public money)
2. Easy to understand for the farmer
3. Easy to administrate

An attempt to combine science and public administration

Map content

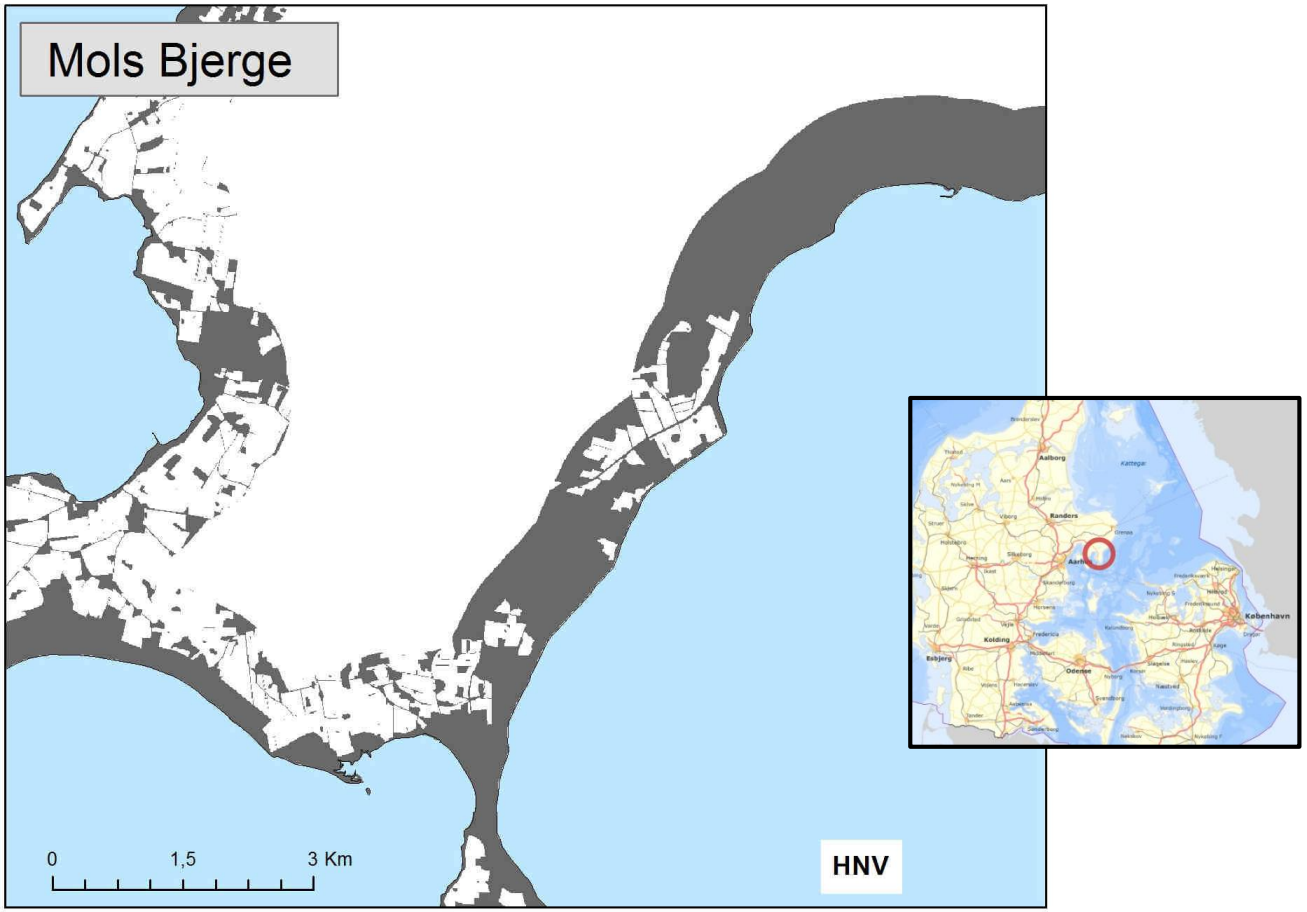
The HNV indicator consists of set of parameters with documented relation to biodiversity.

Each parameter is registered on a map (scale 10×10m), where presence of a parameter scores 1 and no presence 0.



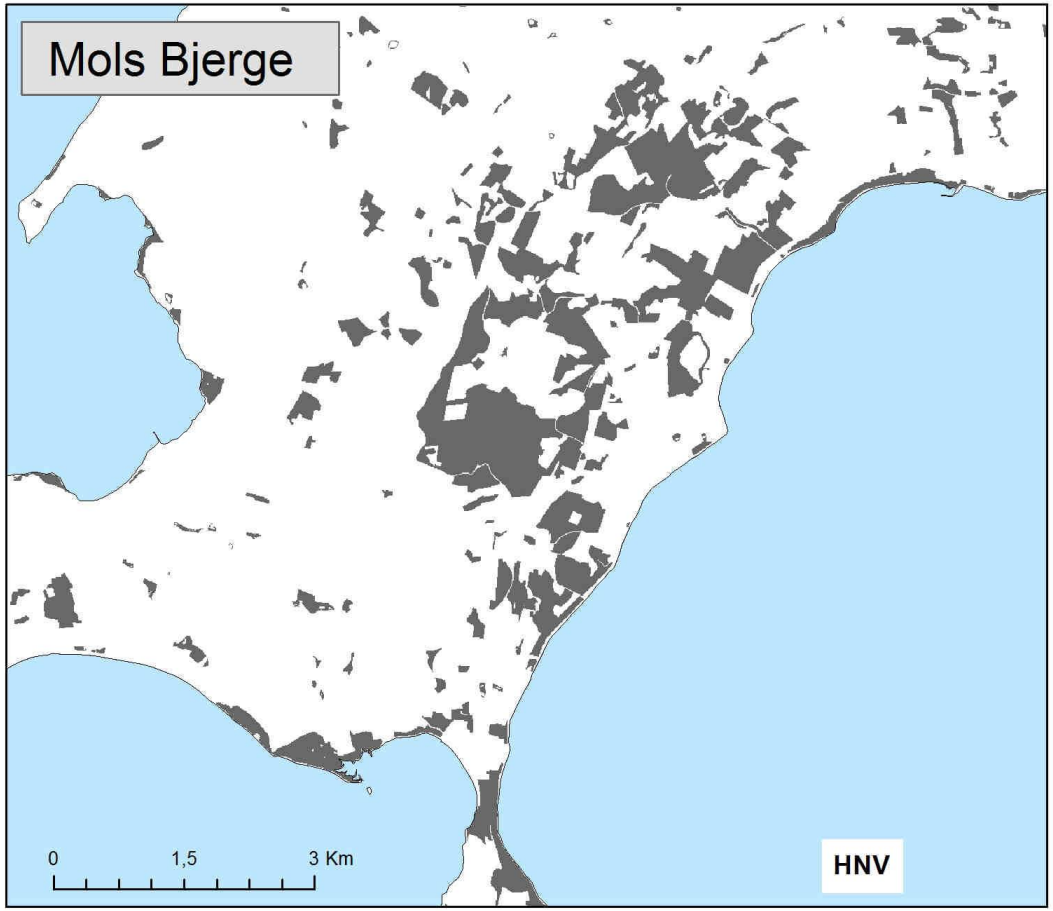
Category 1

Landscape structures: Proximity to **coast**, lowlying areas and steep slopes



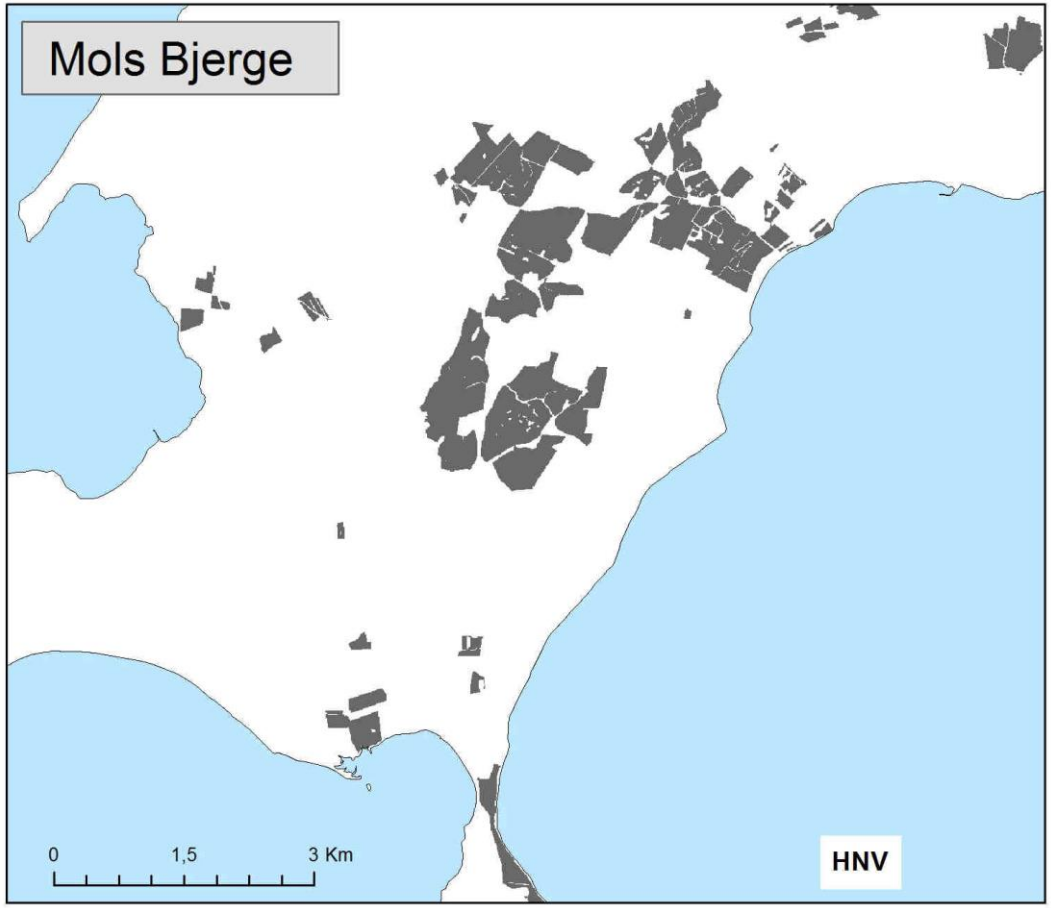
Category 2

Habitats: Protected nature, near protected nature and near landscape elements (e.g. hedgerows and forest)



Category 3

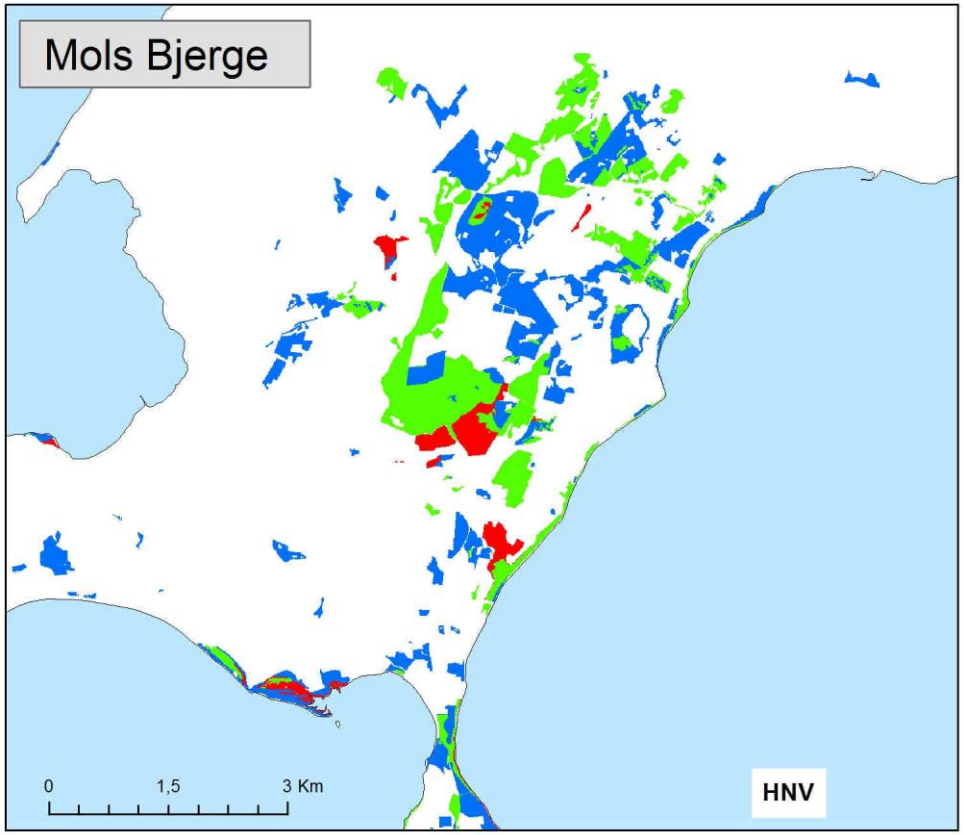
Land use: Organic fields and Extensive farming



Category 4

Presence of characteristic or threatened species – 6 layers

Plant indicator 1 - 2 - 3



Data from Authorities
- Municipalities
- State

Category 4, continued

Presence of characteristic or threatened species – 6 layers

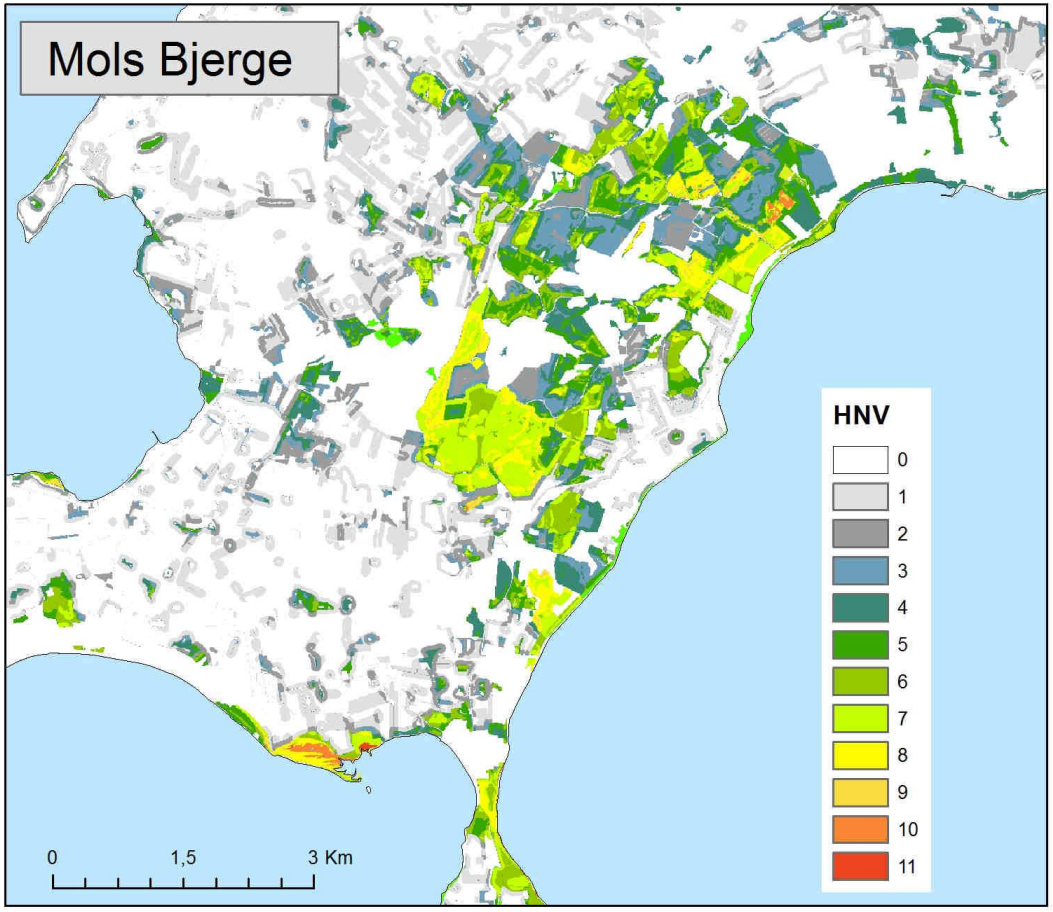
Redlisted species and species protected by the Habitats Directive

3 layers
- Minimum 1 species
- Minimum 2 species
- Minimum 4 species

Data from authorities **and volunteers**

Databased expert evaluation of highly mobile species, and *poor* data

Final HNV-score



The HNV map – into the real life of farmers

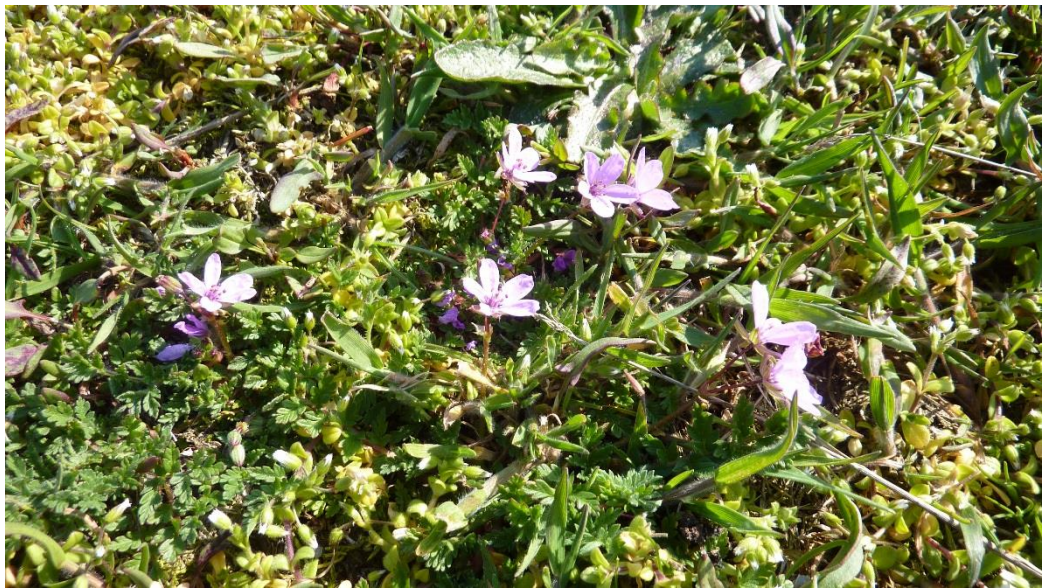
To apply for support outside Natura 2000 the farmer must comply with (The application system itself control these demands):

The HNV score must be between 5 and 13. Below 5 there is not enough evidence of high nature value.

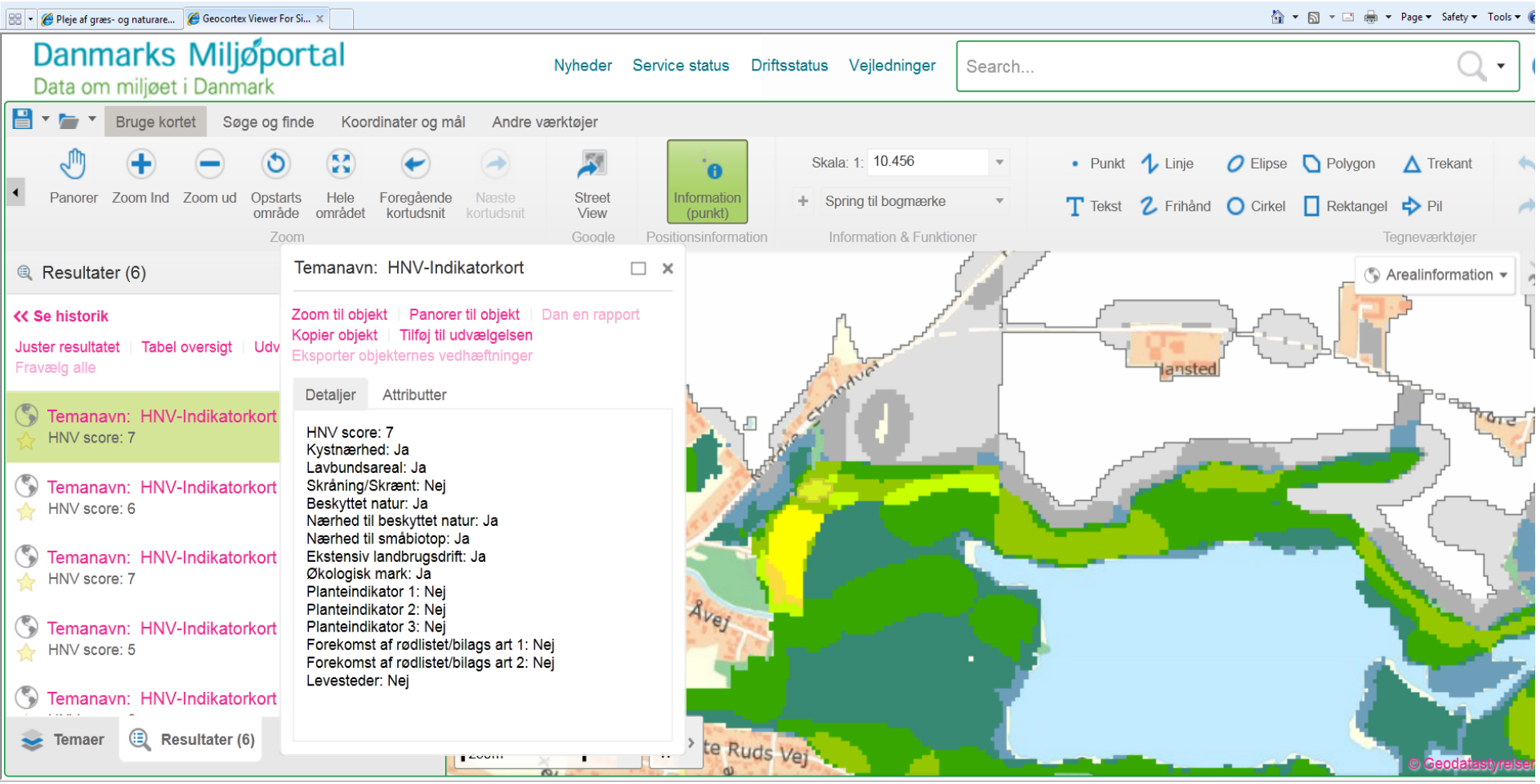
0,1 ha of HNV score (5-13) is enough to apply for the whole field.
This limit is set to target the best areas, more than to reach the average.

In case of a limited budget, priority is given to areas with the highest HNV scores

The IT system can handle this without manual case by case management!



You can see the parameters your area scores on



Yearly update makes it trustworthy

- Data is downloaded from different systems every 1. of September (for all 14 parameters)

- The HNV map is developing continuously (new data available, old data on the way out – connection to other biodiversity projects)

- The focus on using all available data that meets the quality demands makes it harder to evaluate upon actual (on the ground) development

Evaluation – Can we use the HNV map

- The HNV map is designed to present the best available data at any time. This means that fluctuation in HNV scores and the total HNV area is – until now – mostly dependant on new data improving the map.

- The number of hectares of HNV areas supported shows an effect.

Positive effects of the HNV map:

It is possible to target support for biodiversity to the areas with the highest nature value.

The HNV map has increased discussion of and awareness of biodiversity value because of the incentive for the farmer to increase the HNV score (e.g. register red listed/annex species, or to influence local municipalities to register character plants).

There is a "value for money" argument to show politicians when RDP means are divided between different priorities eg. biodiversity, climate, environment, rural life and other investments. And when means is set aside to argument for keeping the door open for applicants outside Natura 2000.

Challenges with respect to identification, monitoring and assesment of HNV areas

Identification - The main challenges was

- to develop a map that could take into account the lack of knowledge on species on some HNV areas. Therefore 8 parameters with no direct link to registered species was included.
- To implement all accessible species data with the sufficient quality.
- To include mobile species, like birds and butterfly's.
- To demarcate which species are not included, e.g. forest and aquatic species.
- To exclude mistakes when handling “big data” every year.

Monitoring and assessment

It was from the beginning decided to develop a map, that included all quality data to point out HNV areas, and to rank them in terms of their nature value. As a result new data is flowing into the map every year (as well as old data leaving) making a simple assessment of the development in the quality of HNV areas based on the GIS map difficult.

Assessment of the number of hectares with HNV areas and their development is possible, but must not be over interpreted. Monitoring instruments have to be developed further.

The number of hectares with RDP support for HNV areas is a very meaningful assessment, and will – amongst other data - be reflected in the coming RDP evaluation of HNV farmland.

HNV map for Denmark - Any questions?