# IDENTIFYING AND MONITORING HNV-FARMLAND IN FINLAND - DEFINING THE MOST VALUABLE REGIONS AND A NATIONAL HNV-INDICATOR

## 1. Introduction

- The EU Commission requires that Member States identify their areas of High Nature Value Farmlands according to the guidelines produced by IEEP[1]. The area and quality of the HNV areas also need to be reported regularly.

- In Finland, both identifying and monitoring the HNV-areas have been studied in a research project during 2007-2008.

- For a general pattern we classified all *municipalities* based on a set of characteristics reflecting their HNV-value.

- For monitoring purposes we are developing a method to rank individual farms according to their HNV-value.

## 2. Identifying the HNV-areas in Finland

- We used cluster analysis with K-means –division method to classify the Finnish municipalities (n=413).

- Municipalities were divided into three groups (clusters) according to their characteristics reflecting HNV-value.

- We used data from four sources: national grassland inventory, farm statistics, CORINE land cover and species data of farmland birds.

- The same analysis was conducted twice for different data sets, because no bird data was available from Northern Finland (Fig. 1 B).

### Results

- According to the cluster analysis the most valuable farmland areas of Finland are located in the Åland Islands, SW Finland and the coastal areas near Oulu (Fig. 1).

- There is a general trend of decreasing HNV-value from south to north and from coast to inland (Fig. 1–2).

## 3. Developing a national HNV-indicator

- Will be completed by the end of 2008.

- The indicator for the amount of HNV-areas is based completely on farm statistics data

- We produced six farm level variables that reflect the general HNV-quality of a farm (Table 1).

- The values for these variables will be calculated from the statistics data for each individual farm.

- For each variable we develop a scoring system much resembling the case study in France[2].

- Scores will be counted for each farm and they will be ranked according to their sums.

- The total UAA of farms above a set minimum score will be regarded as HNV-area.

- Monitoring can be arranged by repeating the analysis with the same data and settings.

**Janne Heliölä[1]**
**Mikko Kuussaari[1]**
**Juha Tiainen[2]**
**Irina Herzon[3]**

[1]Finnish Environment Institute,
 P.O.Box 140, 00251 Helsinki, Finland
[2]Finnish Game and Fisheries Research Institute,
 P.O.Box 2, 00791 Helsinki, Finland
[3]Dept. of Applied Biology, University of Helsinki,
 P.O.Box 27, 00014 Helsinki, Finland
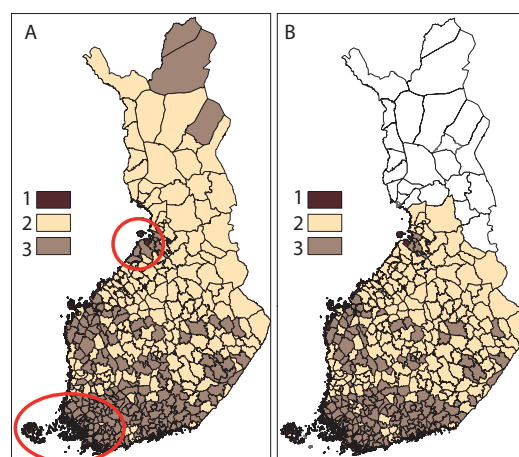 e-mail: janne.heliola@ymparisto.fi

Fig. 1. Finnish municipalities classified according to their HNV-value by cluster analysis.
1 = most valuable areas,
2 = least valuable areas,
3 = intermediately valuable areas
A. Without farmland bird data
B. Including bird data in the analysis



Valuable grasslands | Permanent pastures | Contracts for A-E special measures | Mosaic landscapes

Field edge density | Organic farming | Livestock farms (cattle, sheep, horses) | Diversity of farmland birds
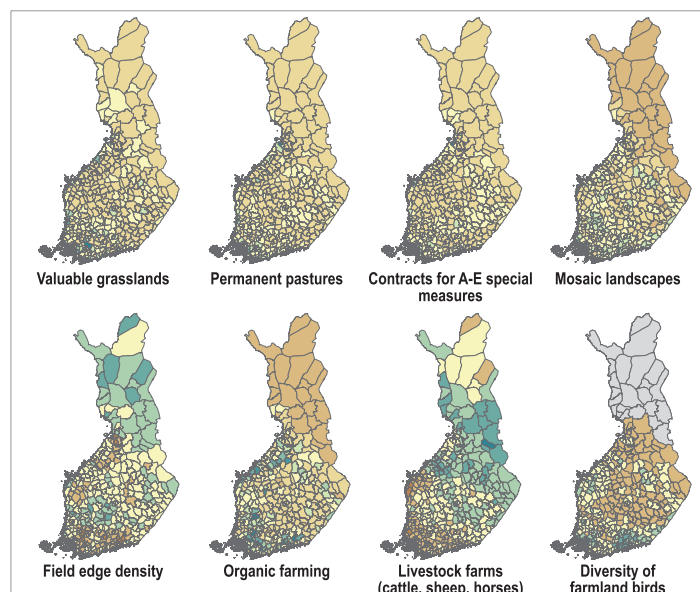
Fig. 2. The eight individual indicators used to classify the Finnish municipalities according to their HNV-value. Brown colour indicates lowest (poor) values, green colour highest (good) values.

Table 1. Farm level information used for the national HNV-indicator

| Highest scores | Lowest scores |
|---|---|
| Livestock farms | Arable crop farms |
| Farming area largely semi-natural grasslands | No semi-natural grasslands |
| Permanent grasslands | No permanent grasslands |
| Agreement on A-E special support | No agreements on special supports |
| Fields are small, fragmented parcels | Large, uniform field parcels |
| Proportion of intensive crops (cereals etc.) small | Specialized in intensive crops |

**References**
[1] Cooper, T. et al. 2007. Final report for the study on HNV indicators for evaluation. Report prepared by the Institute for European Environmental Policy for DG Agriculture. Contract notice 2006–G4-04.
[2] Pointereau, P. et al. 2007. Identification of High Nature Value farmland in France through statistical information and farm practice surveys. JRC Scientific and Technical Reports. EUR 22786 EN.

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