Activities in data collection and analysis for nature conservation in Hungary

Situation of wetlands in Hungary

- before river regulations in the last century, 24 % (of what is Hungary today) was a flood plain
- today wetlands cover appr. 2% of the territory of the country
- today the flood plain of embanked rivers covers 150,000 hectares
- along the river stretches without dikes approximately 70,000 hectares, and along brooks and streamlets some 430,000 hectares are temporarily flooded

Situation of wetlands in Hungary

As a consequence of Hungary's geographical position, geomorphology and centripetal river network,

- 96 percent of its surface water reserves come from neighbouring countries,
- this has a determinative effect on the quantitative and qualitative parameters of these waters

To base the management for protection of wetlands data need (examples)

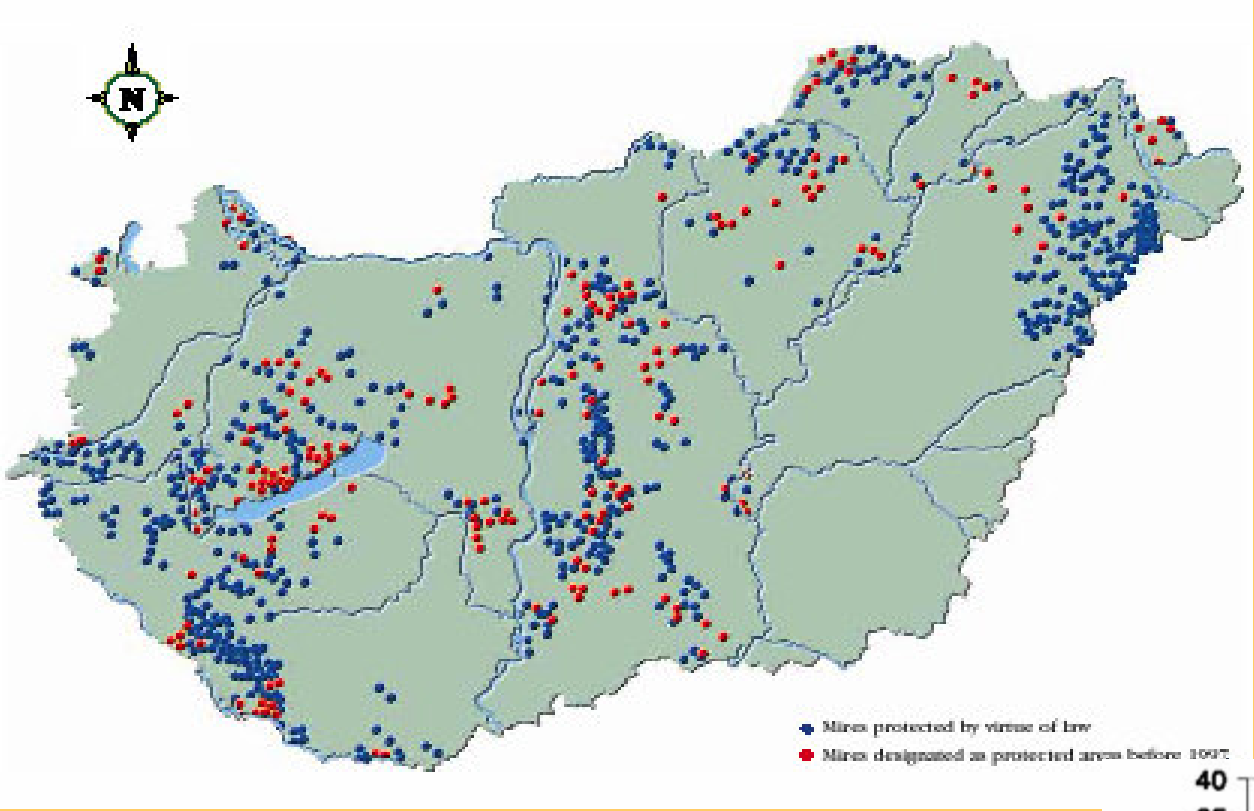
- Inventories of natural values (cadastre of mires and alkaline lakes)
- Knowledge of natural processes, changes, threatening factors
  - Monitoring (Hungarian Biodiversity Monitoring Network)
  - Complex data analysis (methods, GIS, cooperation with other environmental monitoring networks, effects of management activities)
- Cooperation of diferent sectors (WFD)

Legal backround

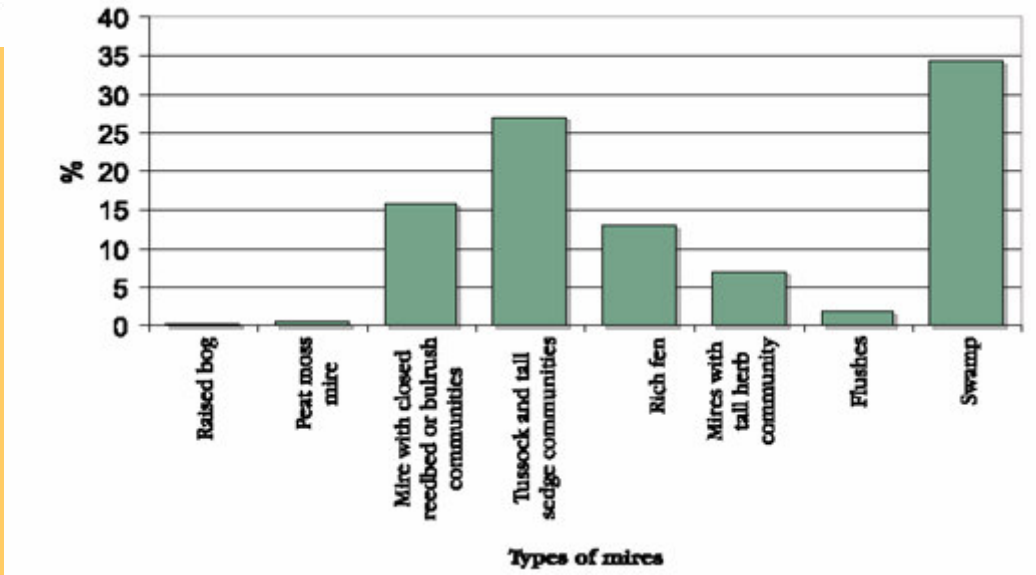
Act on Nature Conservation (No. LIII of 1996)

- **Strictly protected areas** are those nature reserves that require higher level of protection.
- **Protected natural areas** are any area declared to be protected or strictly protected by the Act on Nature Conservation or any other provision of law.
- "**Ex lege**" protected areas are clarified in Article 23.

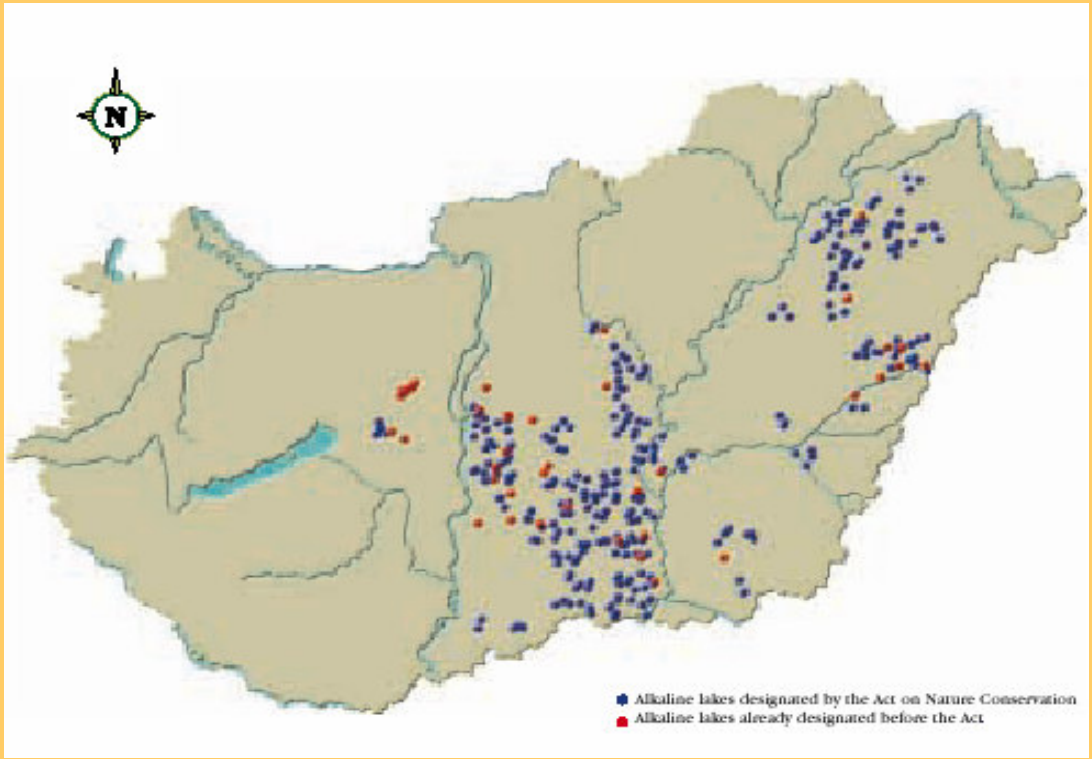
Mires in Hungary



Raised bog
Peat moss mire
Mire with close reedbed
Tussock and tall sedge communities
Rich fens
Mire with tall herb community
Flushes
Swamp



Alkaline lakes in Hungary



Hungarian Biodiversity Monitoring System (HBMS)

Programme of HBMS - Projects

I. Monitoring of protected and threatened plant and animal species

II. Monitoring of aquatic habitats, wetlands and their communities

III. Monitoring of habitat types in Hungary

IV. Monitoring of populations of invasive plant and animal species

V. Monitoring of selected sites of the Hungarian Forest Reserve Network

VI. Regional monitoring of the biota of the Kis-Balaton wetlands

VII. Regional monitoring of the Szigetköz wetlands

VIII. Monitoring of salt-affected habitat types

IX. Monitoring of dry grasslands

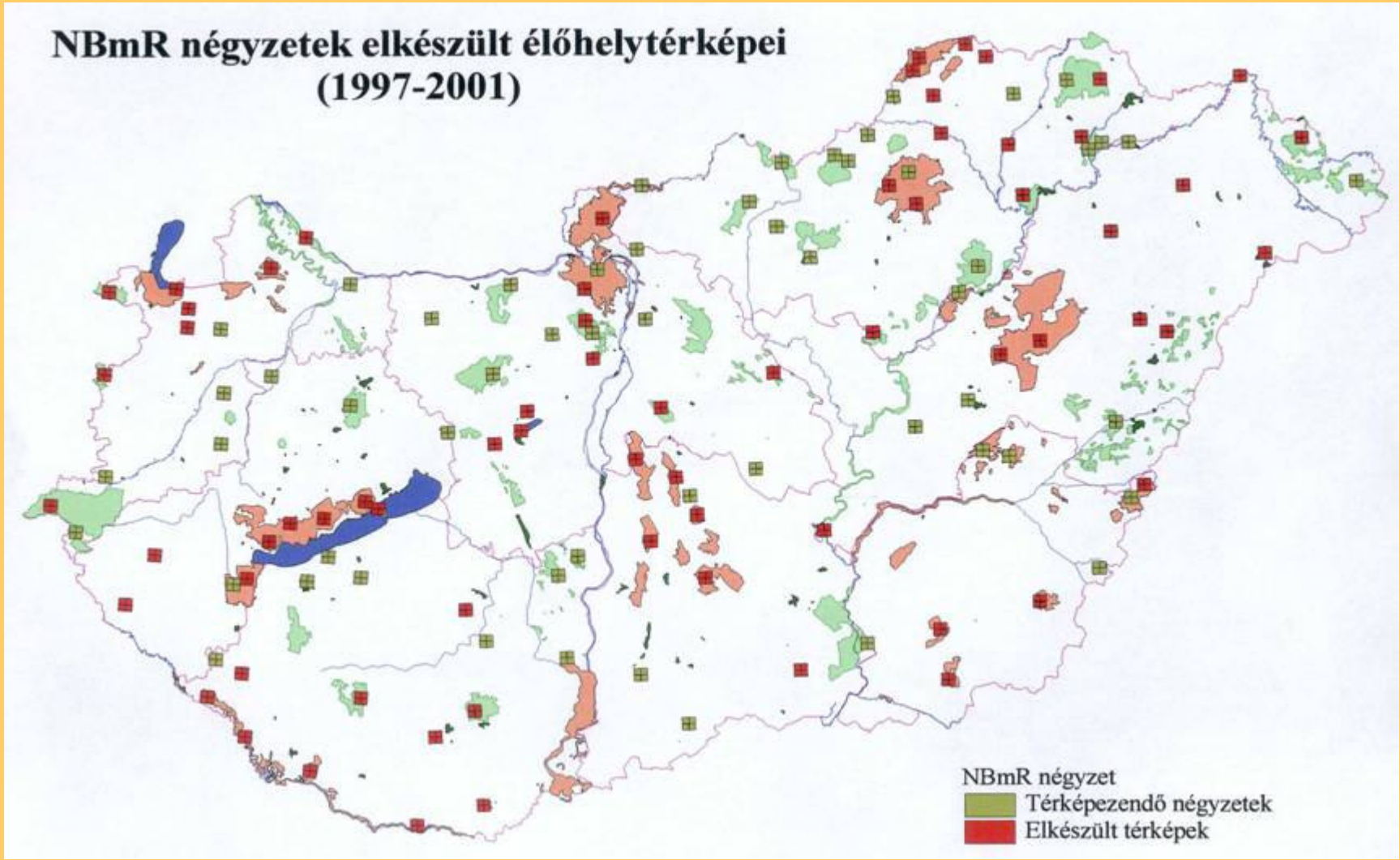
X. Monitoring of mountain hay meadows

Water related components

- habitats
- plant associations
- plant species
- mammals
- birds
- reptiles
- amphibian
- fishes
- aquatic invertebrates
- dragonflies
- butterflies on wet meadows
- crustaceans

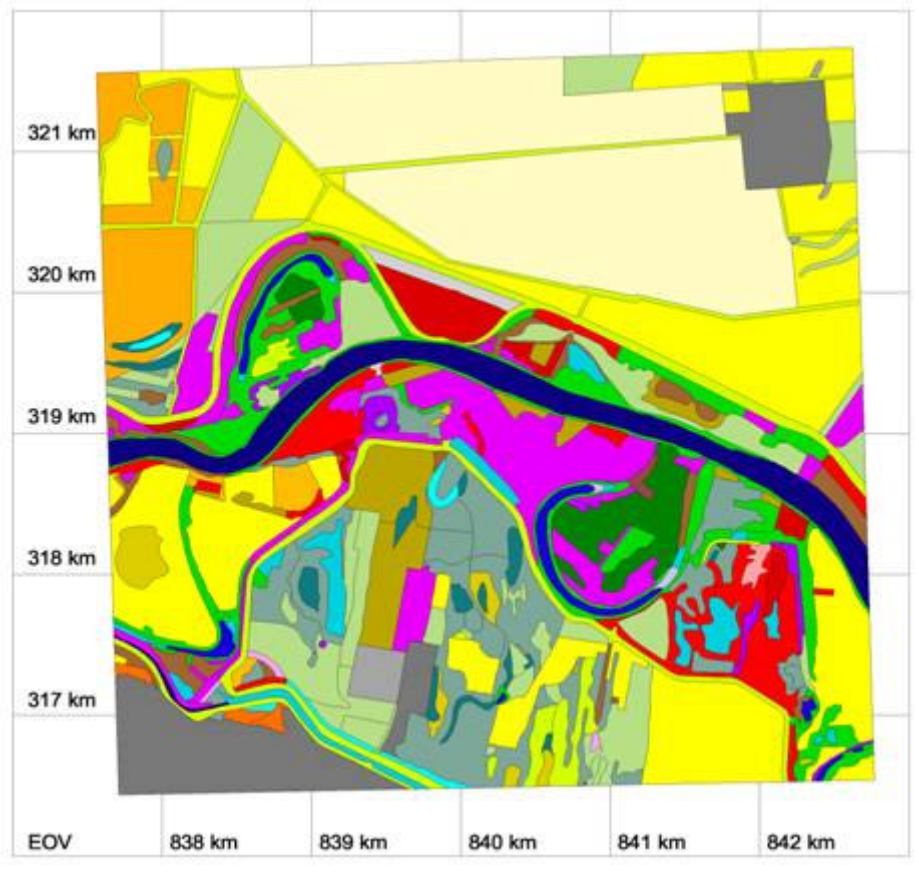
Mapping habitats at 1:25000 scale

124 plots of 5x5 km selected, remapped every 8 years

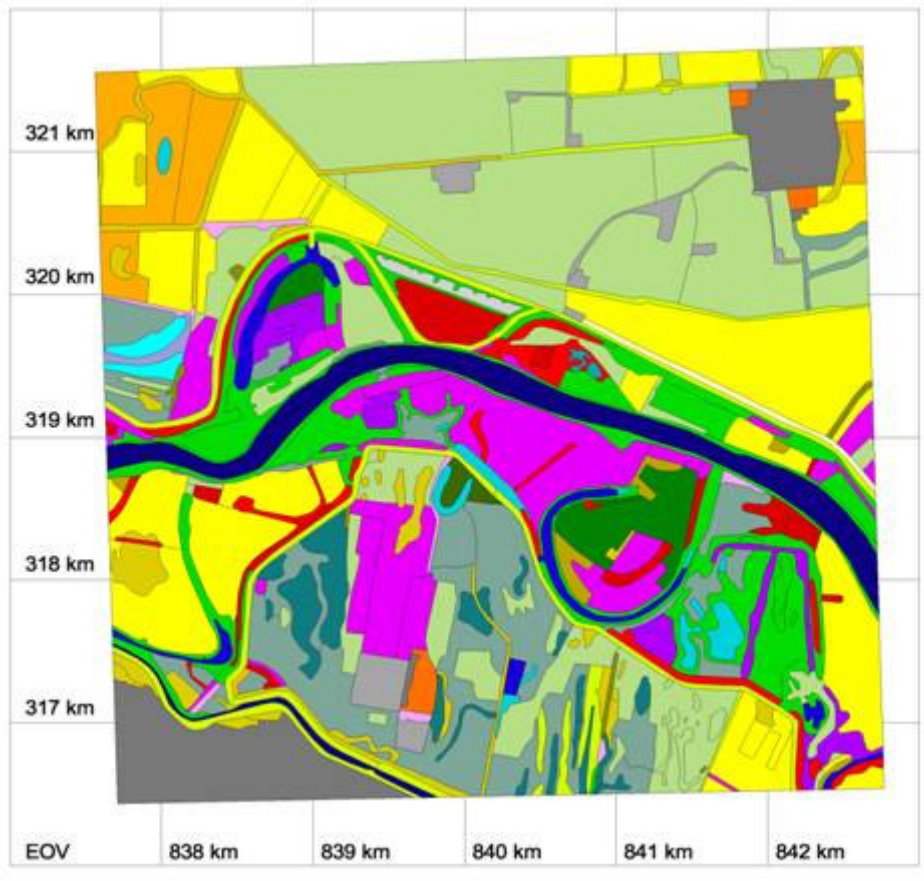


Re-mapped plot at Tiszabercel

1996

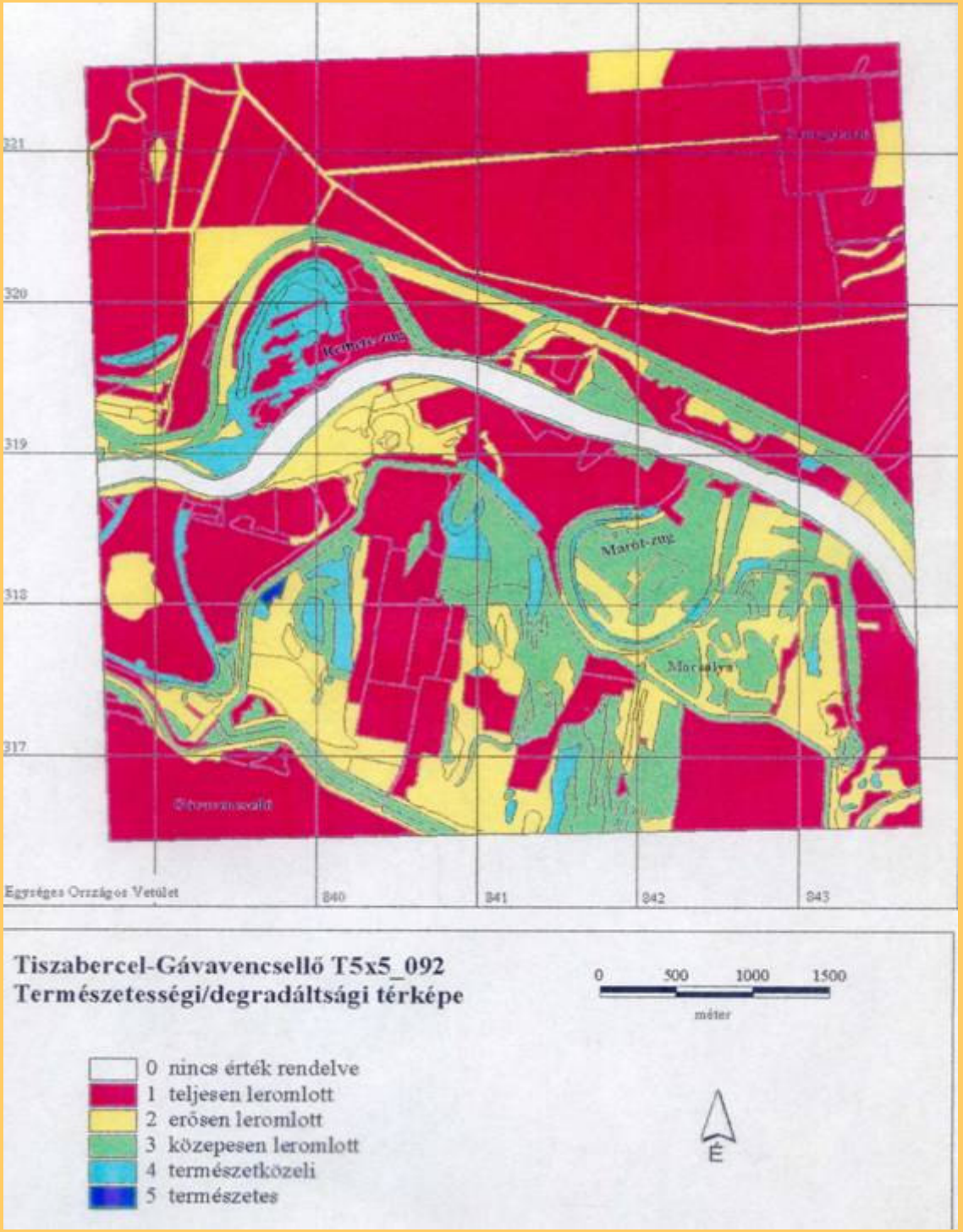


2000



Degradation map

Each polygon is classified according to degradation level during mapping

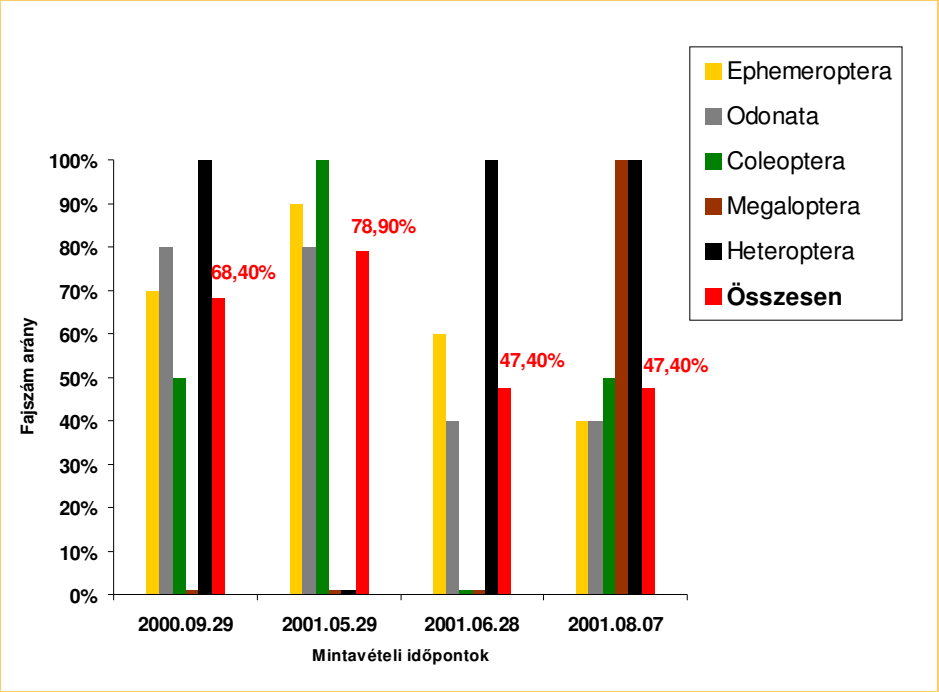


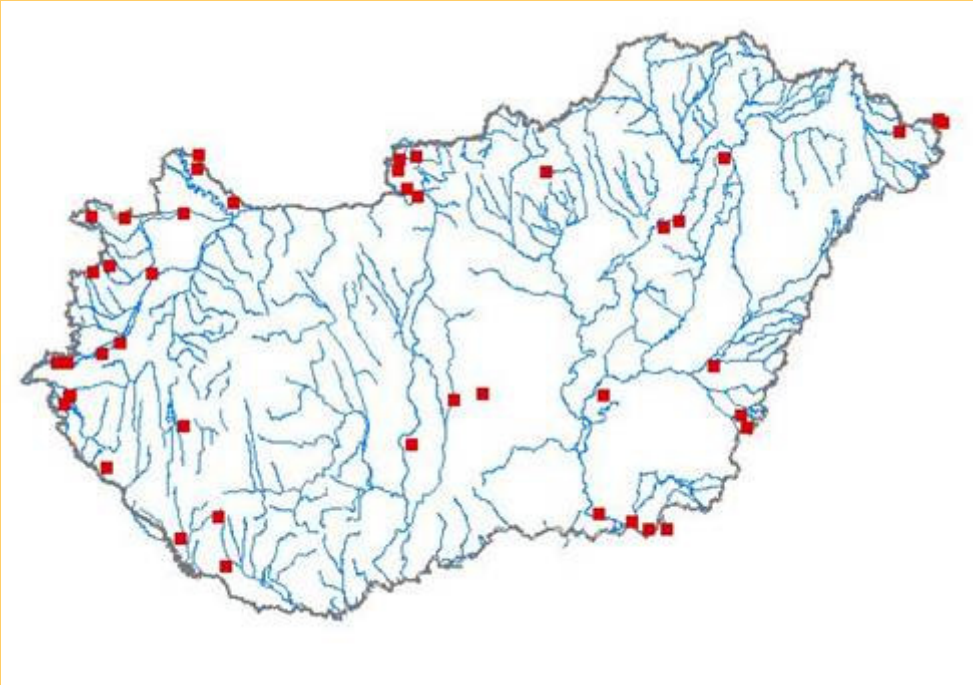
Monitoring of Macrozoobentos

4 sampling / year

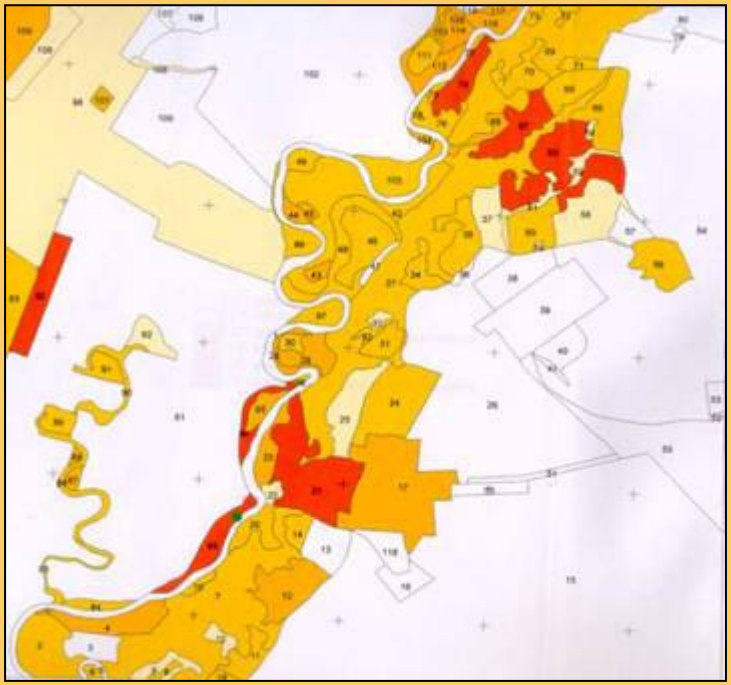
standardised methodology

data analyses for testing the protocol





Invasive species (threatening factors)



Solidago gigantea & S. canadensis area map in a sample plot of 5x5 km

Water Framework Directive

Directive 2000/60/EC

The purpose of this Directive is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater which:

.....

- prevents further deterioration and protects and enhances the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystems

.....

Water Framework Directive
(examples)

- Water quality monitoring (biological components)
  - reference conditions and areas
  - (macrophyta, macrozoobentos, fishes, algae)
- protected areas (Natura 2000)
- ground water dependent ecosystems

(groundwater quantitative status)

Water Framework Directive

- to ensure the good status quantitative status of groundwater body
- the level of groundwater is not subject to anthropogenic alterations such as would result in:

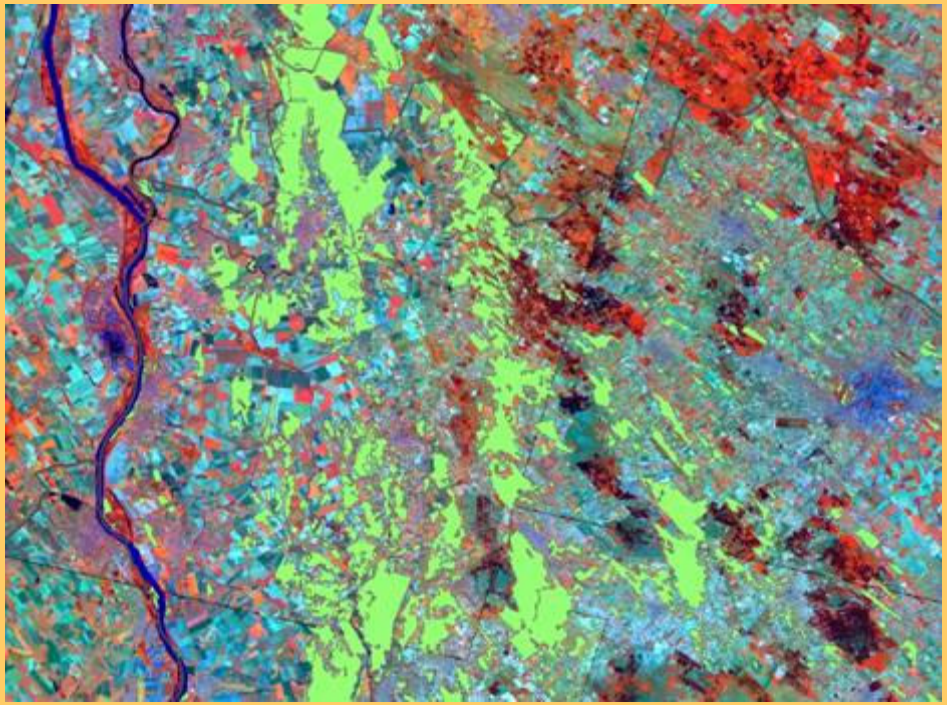
  .....

  - any significant damage to terrestrial ecosystems which depend directly on the groundwater body,

  .....

Water Framework Directive

ground water dependent ecosystems



Data need to give basis for nature conservation activities