



TEWN

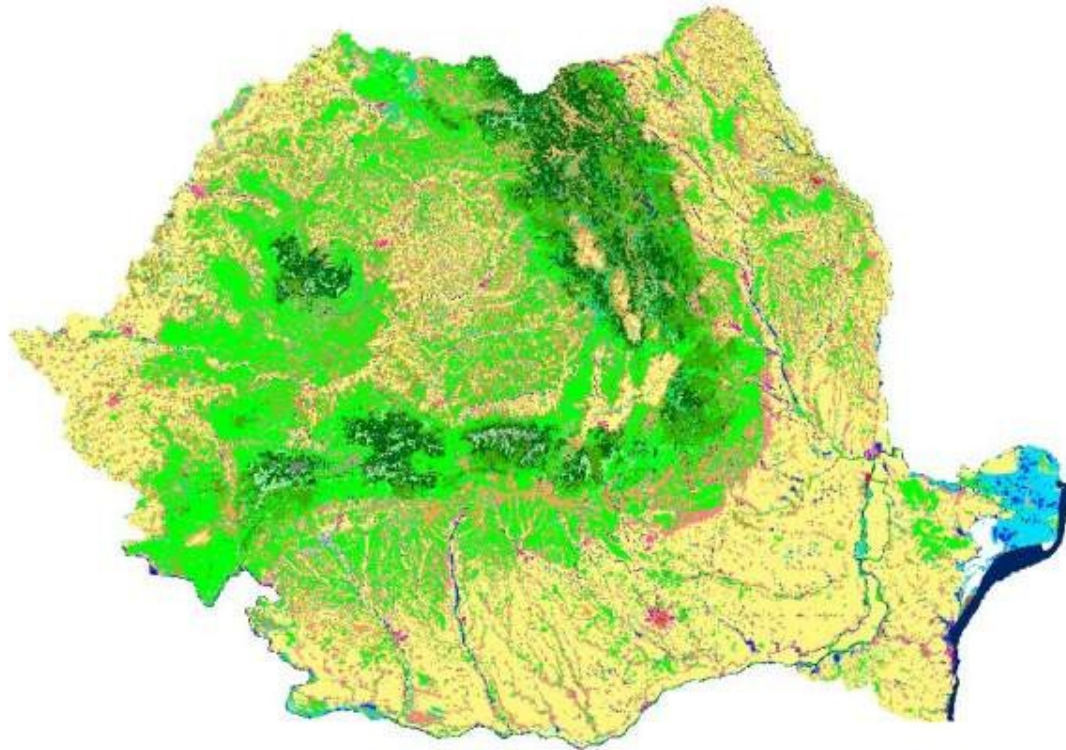
Working towards Wildlife Networks in Romania



Csaba Domokos
Bucharest, 25th of November 2009

Why is this issue important for Romania?

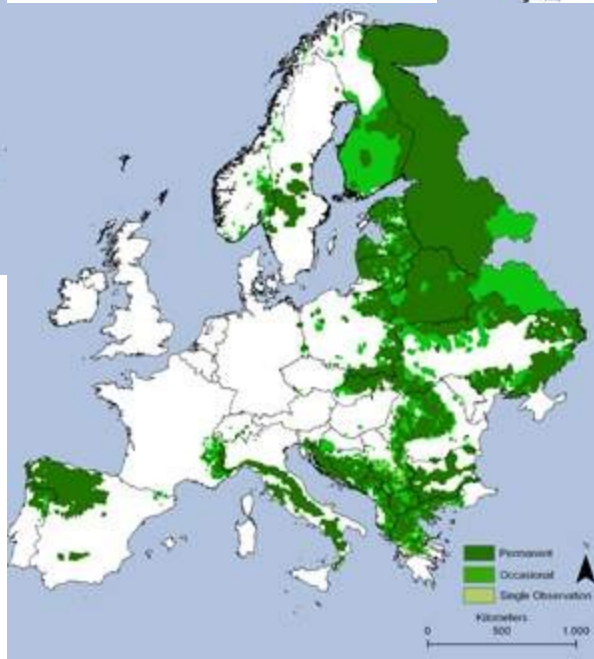
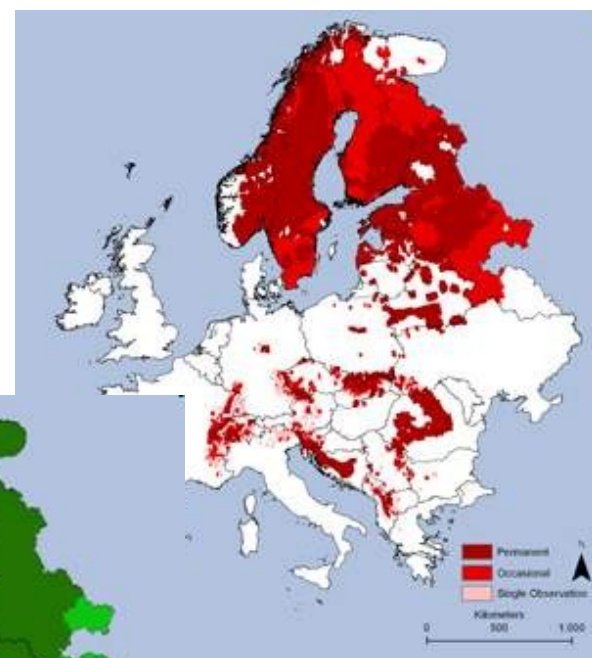
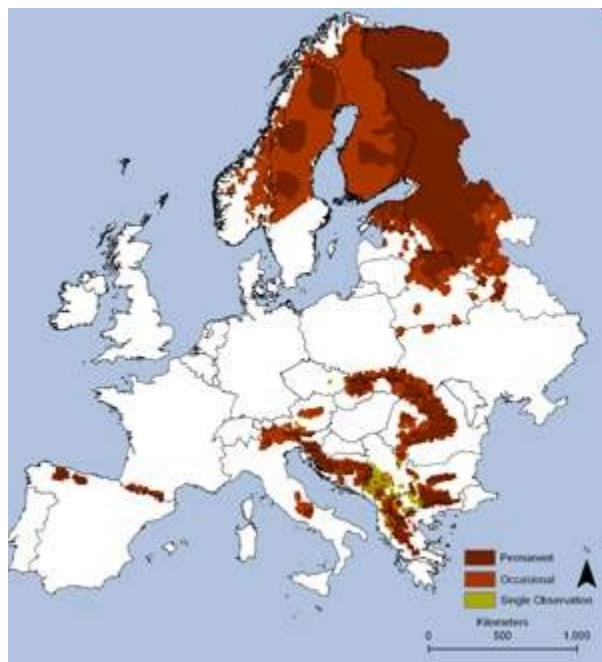
Romania is one of the few European countries that still has extensive natural habitats and vital (and viable) populations of species that elsewhere in Europe have become extinct or are on the brink of extinction.



- In green: natural and semi-natural habitats in Romania, according to the Corine Land Cover 2006 -

Why is this issue important for Romania?

According to official data, Romania still houses impressive percentages of the populations of the top European large carnivores: Brown bear, Eurasian lynx and wolf - species highly susceptible to road effects due to great spatial requirements and long-distance movements and dispersal.



KORA/LCIE 2007

Why is this issue important for Romania?

On the other hand:



- the current Romanian road network, with all existing roads -

Why is this issue important for Romania?

The total length of the existing Romanian roads is of 198.760 km. Roads are classified as follows:

Highways	261 km
National roads (including European roads)	16062 km
County roads	34668 km
Communal roads (in parishes)	27781 km
Roads within cities	22328 km
Roads within communes (parishes)	97660 km

Why is this issue important for Romania?

Impact of roads on animals

Construction of modern roads – apart from their obvious interference with the landscape – has a permanent impact on wildlife. Some of the negative effects include:

- **disabling or hindering movements of many animal and plant species (ecological barrier effect)**
- **mortality of animals on roads**
- alteration or destruction of habitats along the roads
- range and population expansion of alien and synanthropic species
- opens access to previously inaccessible areas (increased human presence and activity). Also, roads act as 'catalysts' of land transformation into built-up areas.



Why is this issue important for Romania?

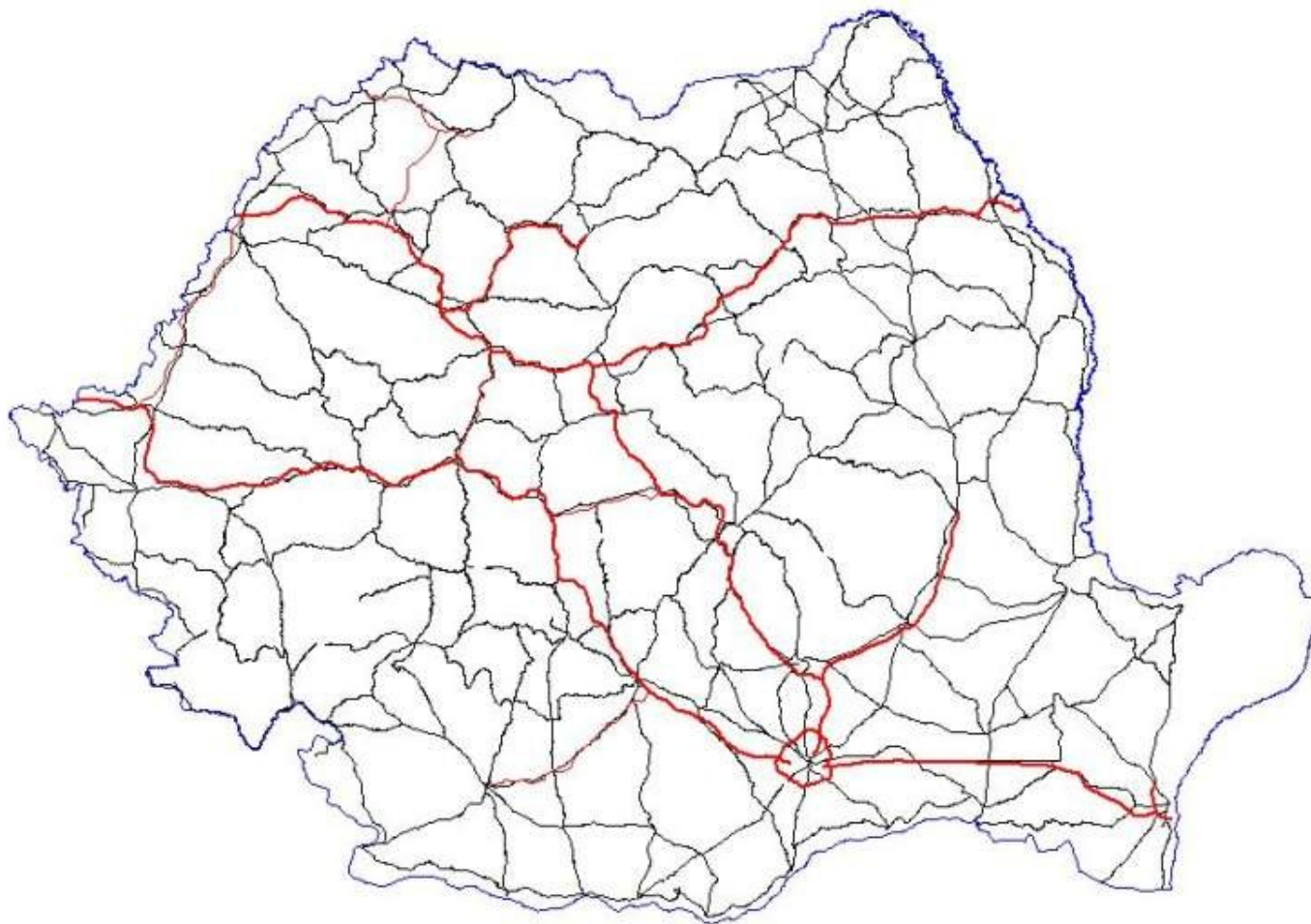
Impact of roads on animals

Consequences of the ecological barrier effect:

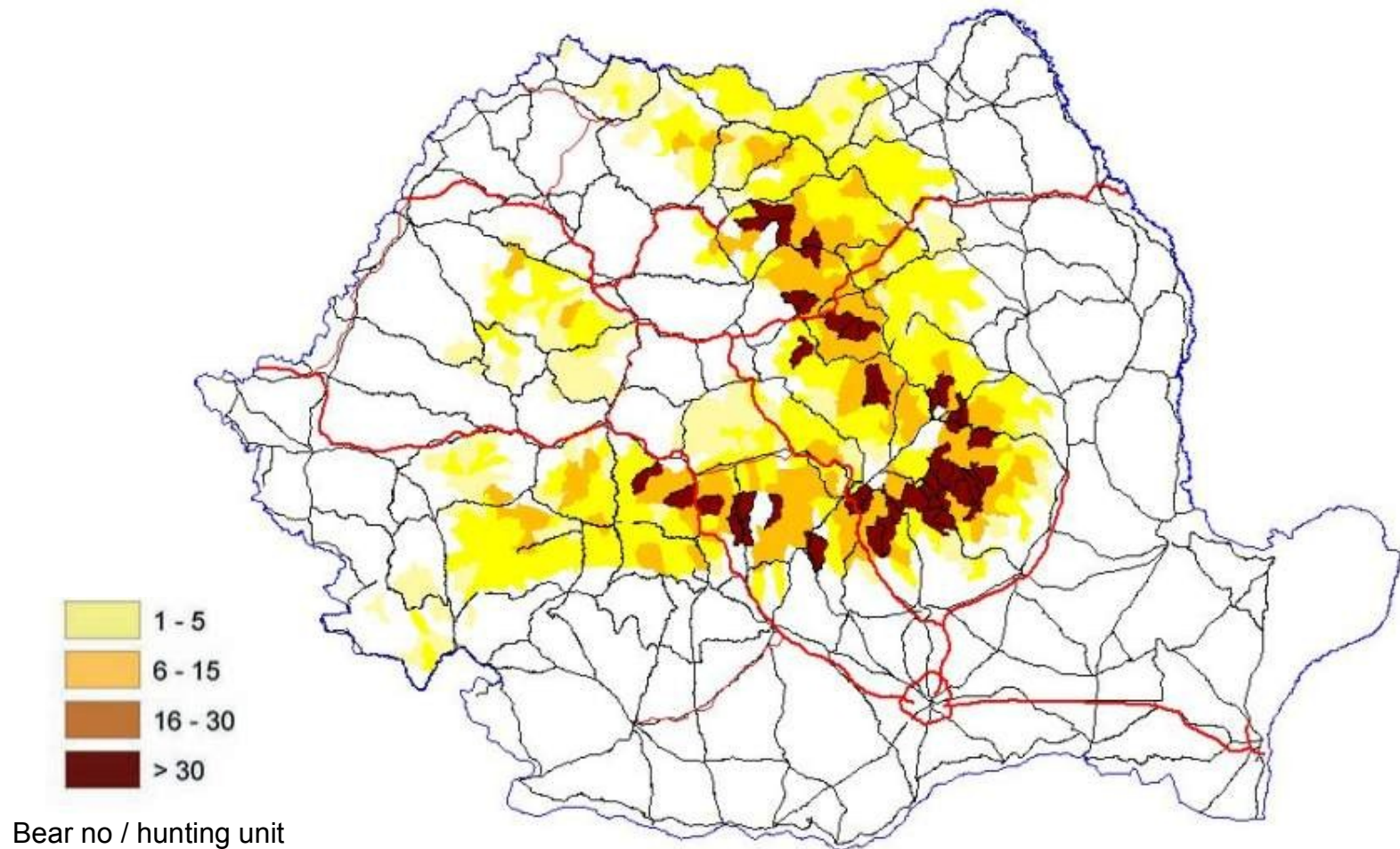
- fragmentation and isolation of plant communities and animal populations**
- limitation of opportunities of animals to move and feed within their home ranges**
- restricting or disabling long-distance movements and dispersal of animals**
- limitation of gene flow and decrease in genetic variability of a population**
- extinction of local populations and decrease in biodiversity of areas crossed by roads**

What are the chances of fragmentation happening in Romania?

Existing and planned road network of interest (national roads – including European roads, express ways and highways)

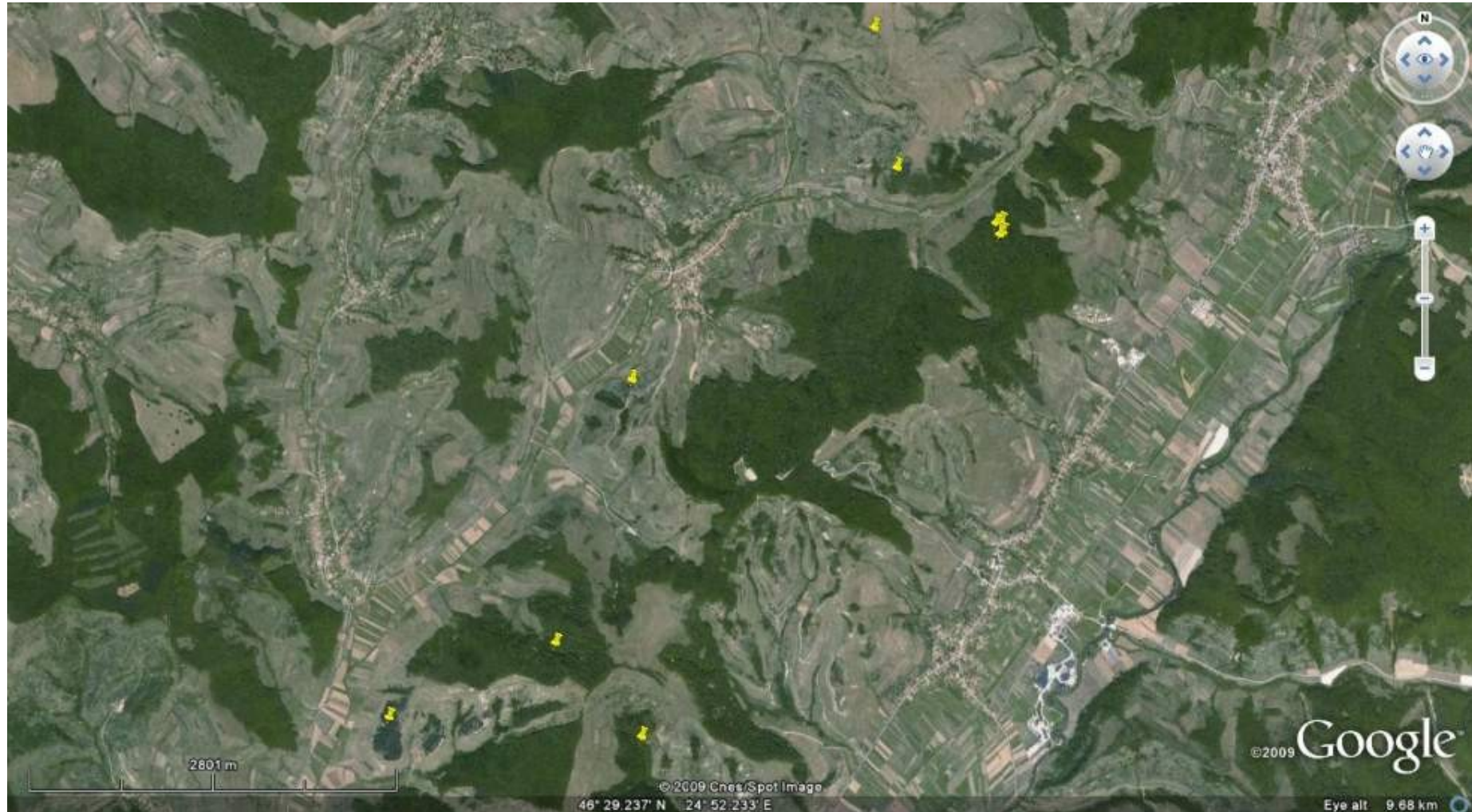


What is the impact of fragmentation on bears in Romania?



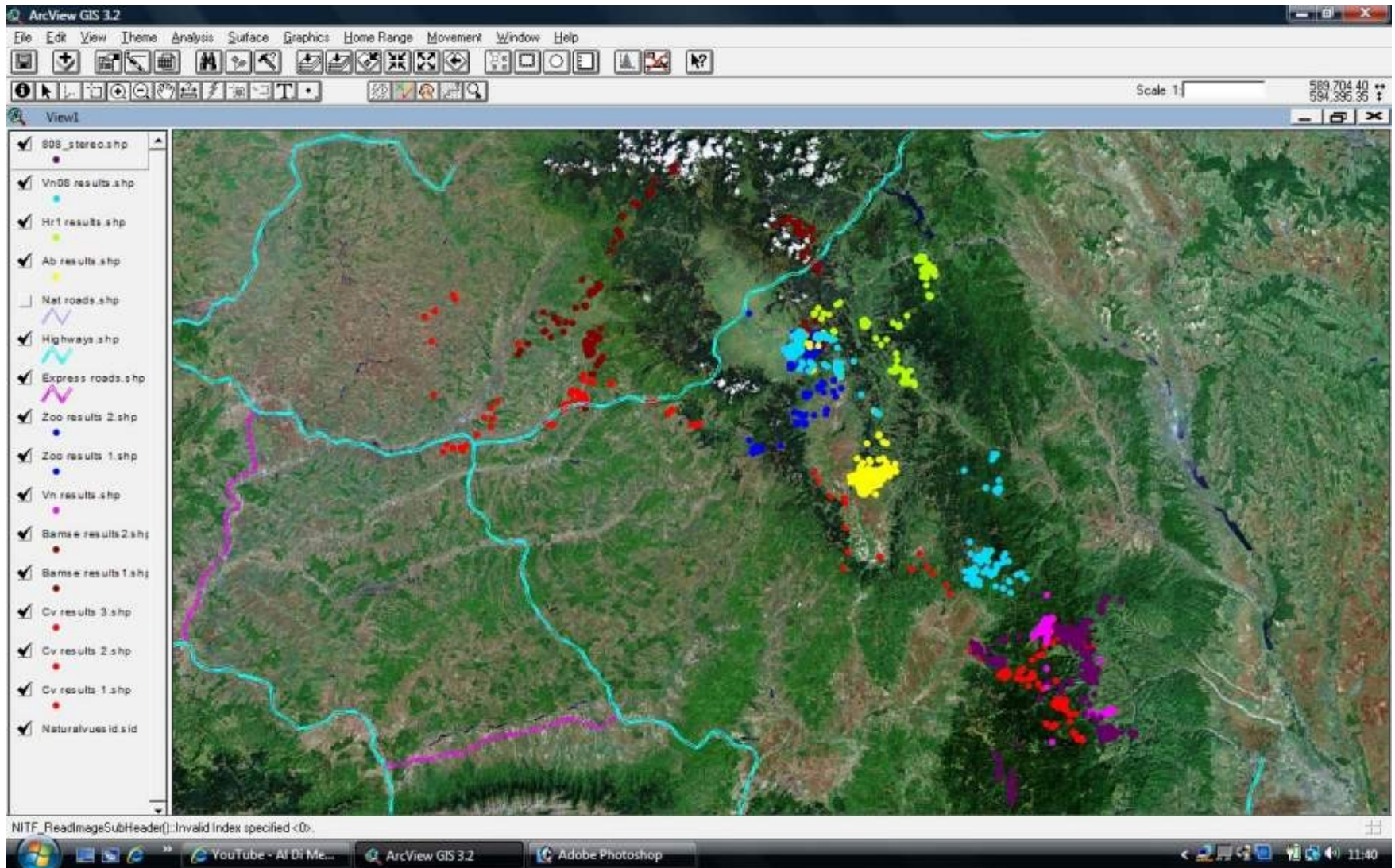
National road network of interest, overlaid with the official Brown bear distribution data of Romania (2005)

What is the impact of fragmentation on bears in Romania?



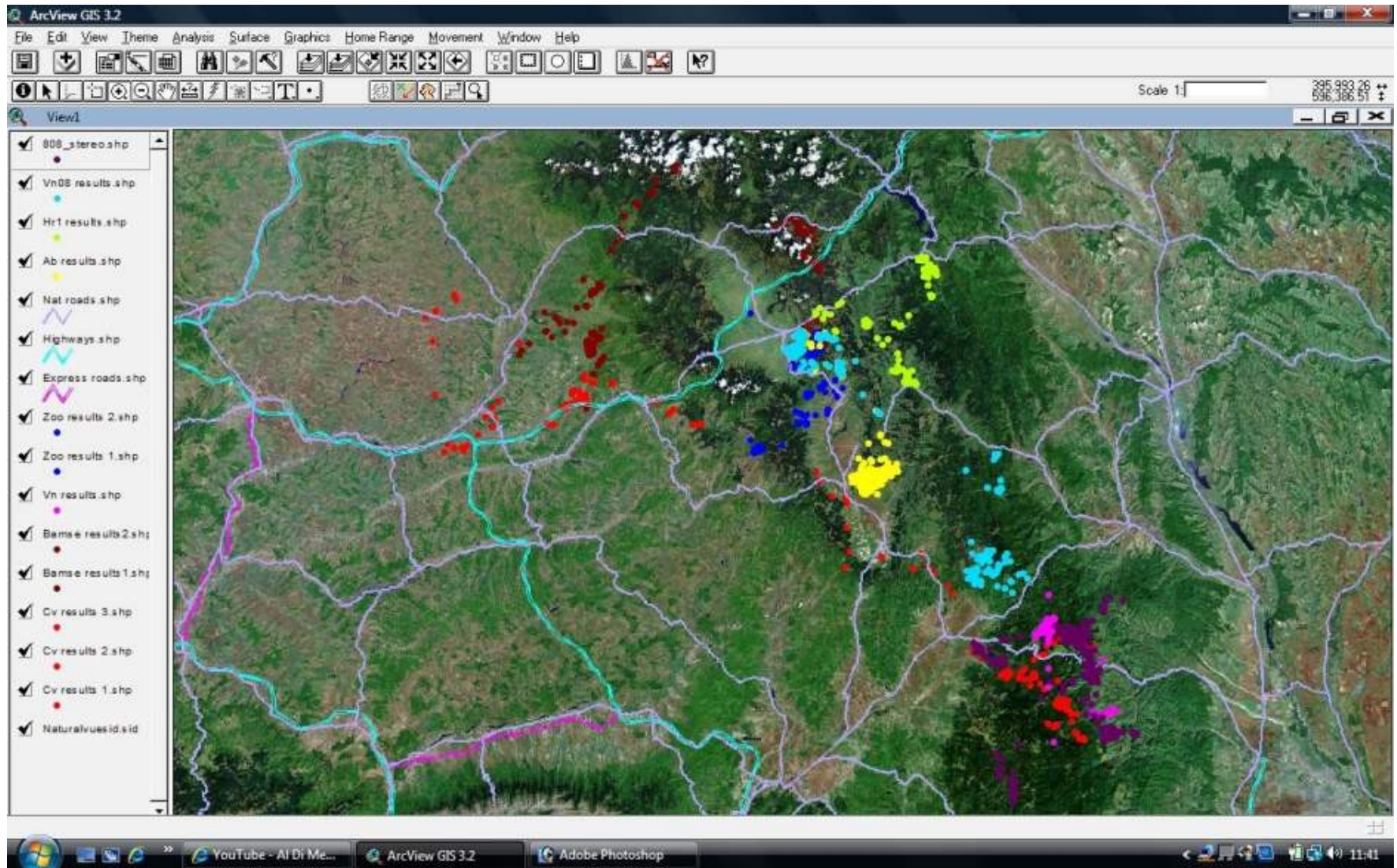
Bear den locations in an area that will be isolated by the Tg. Mures-Iasi highway

What is the impact of fragmentation on bears in Romania? (planned route of the Tg Mures-Iasi highway)



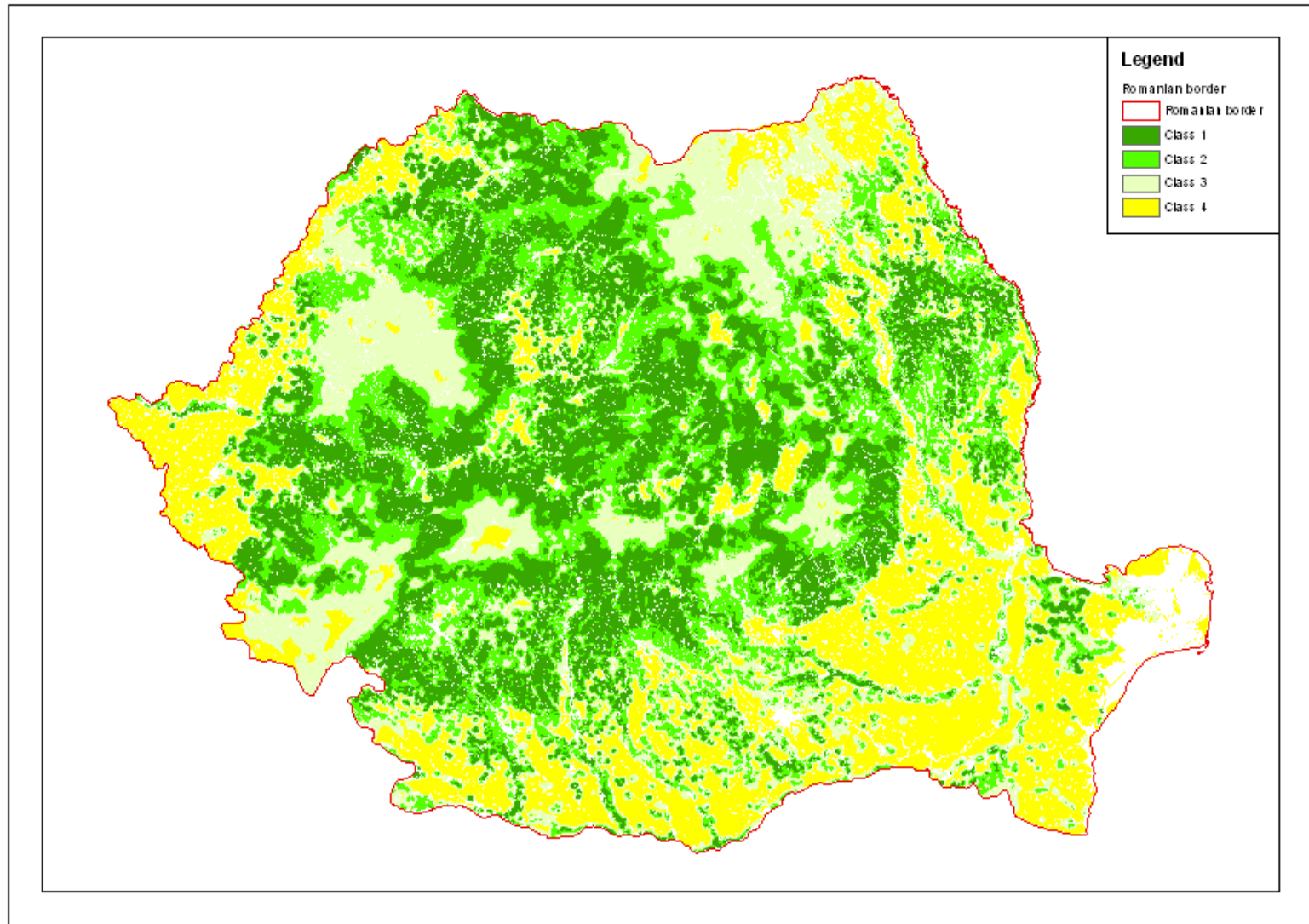
Brown bear telemetry data, overlaid on planned highway routes – data provided by Leonardo Bereczky, ACNV

What is the impact of fragmentation on bears in Romania?



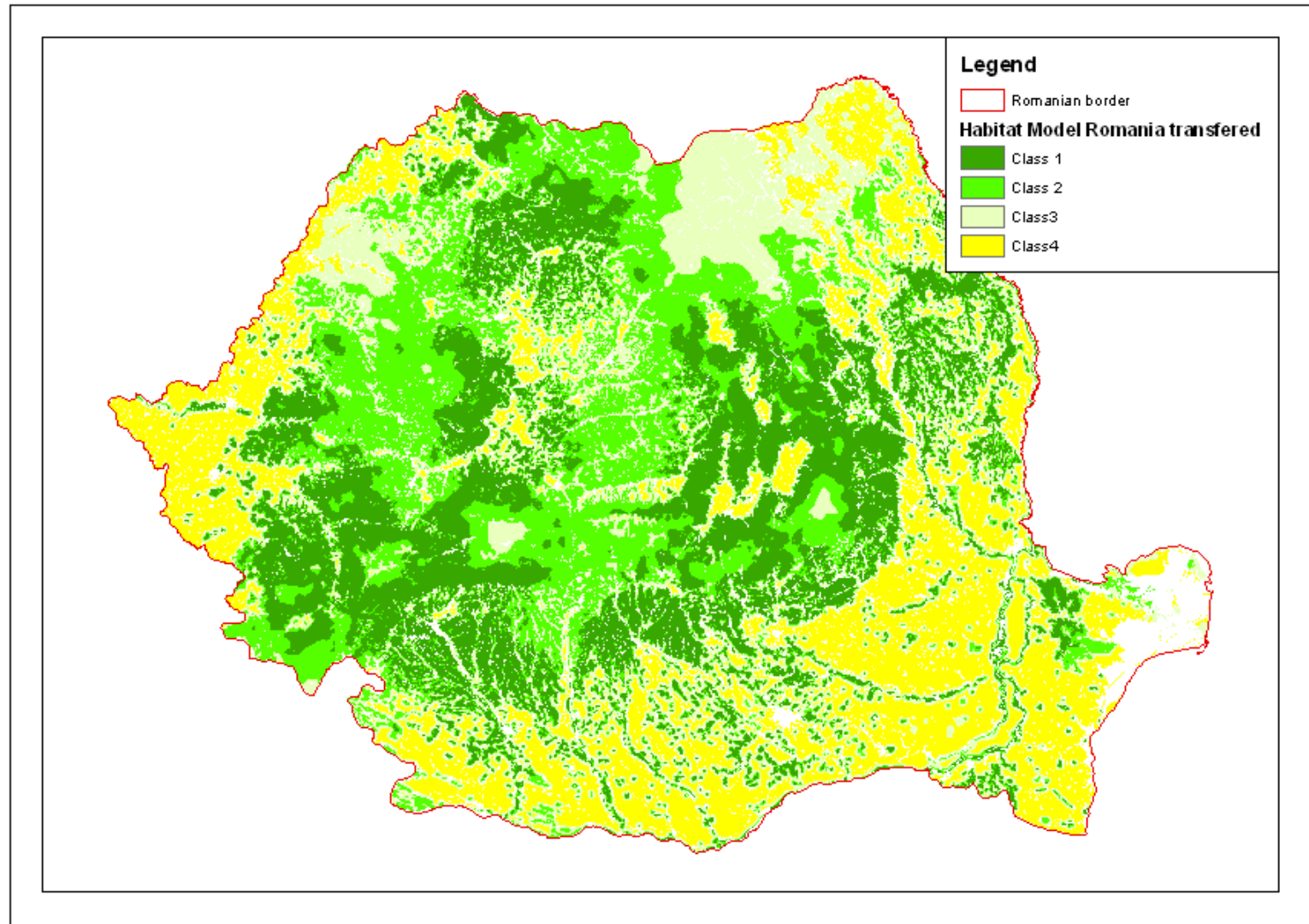
Brown bear telemetry data, overlaid on all road network of interest – data provided by Leonardo Bereczky, ACNV

What is the impact of fragmentation on bears in Romania?



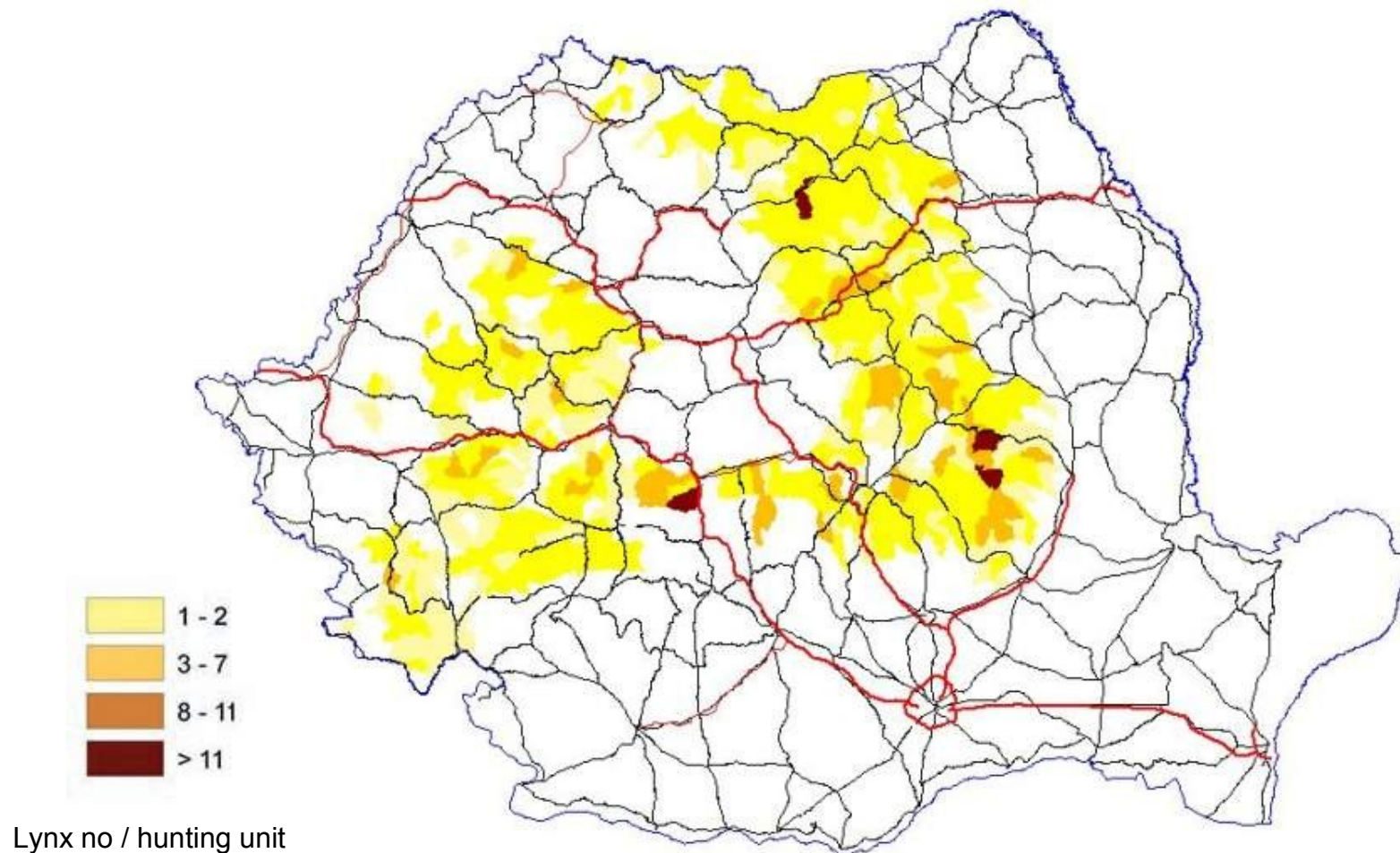
Brown bear habitat suitability analysis for Romania - based on density estimations (hunting management)

What is the impact of fragmentation on bears in Romania?



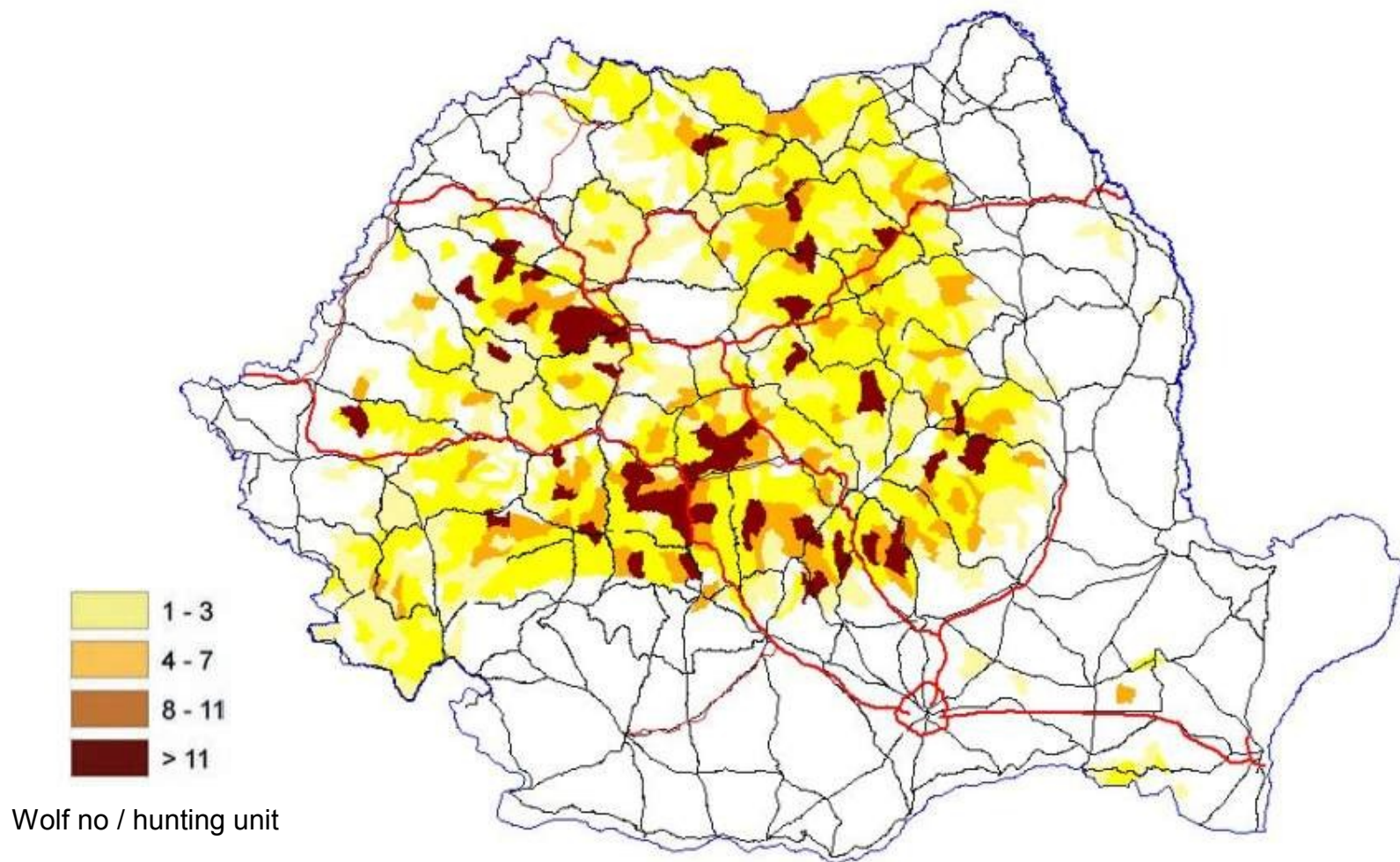
Brown bear habitat suitability analysis for Romania - based on bear locations from Bulgaria

What is the impact of fragmentation on lynx in Romania?



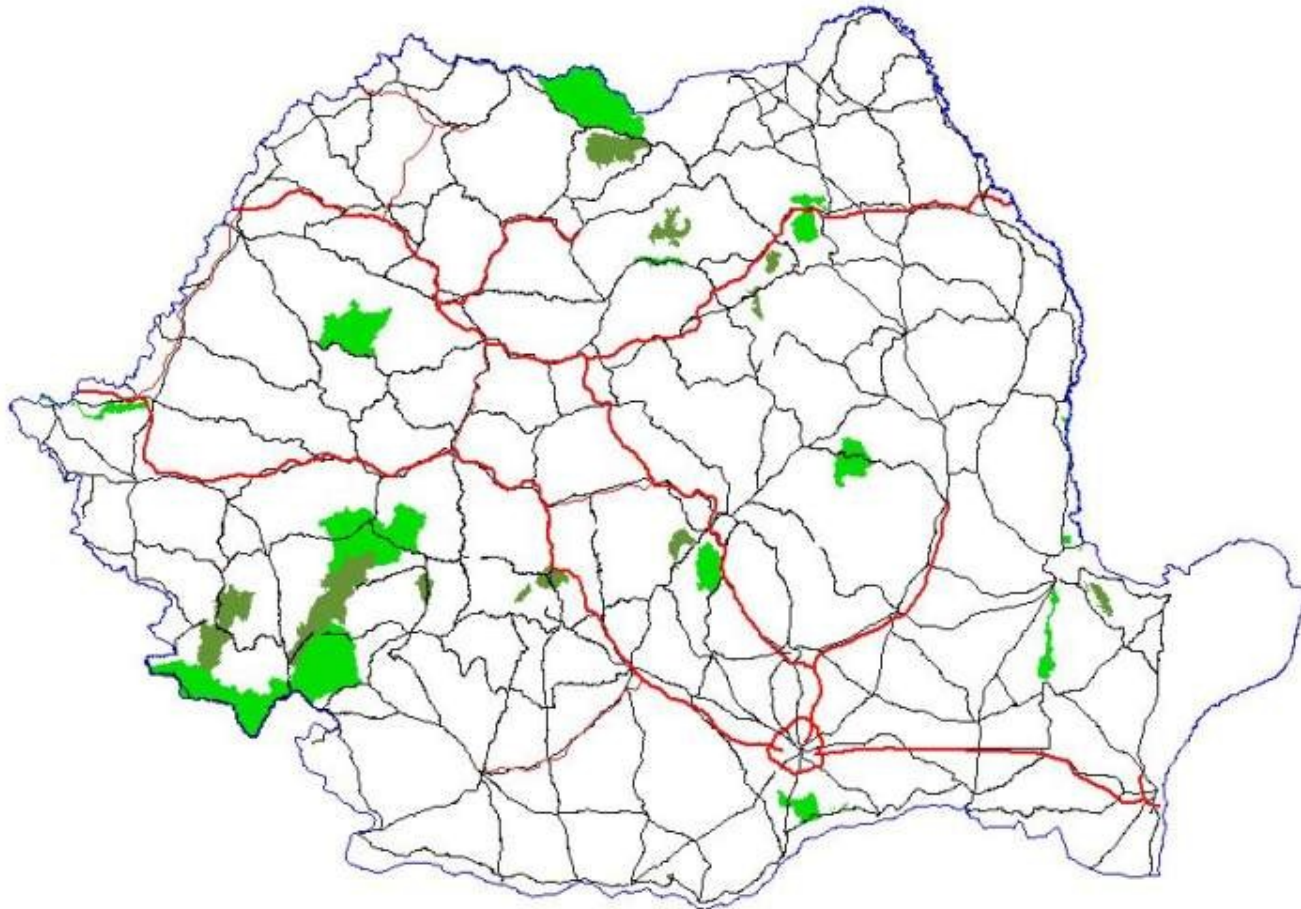
National road network of interest, overlaid with the official Eurasian lynx distribution data of Romania (2003)

What is the impact of fragmentation on wolves in Romania?



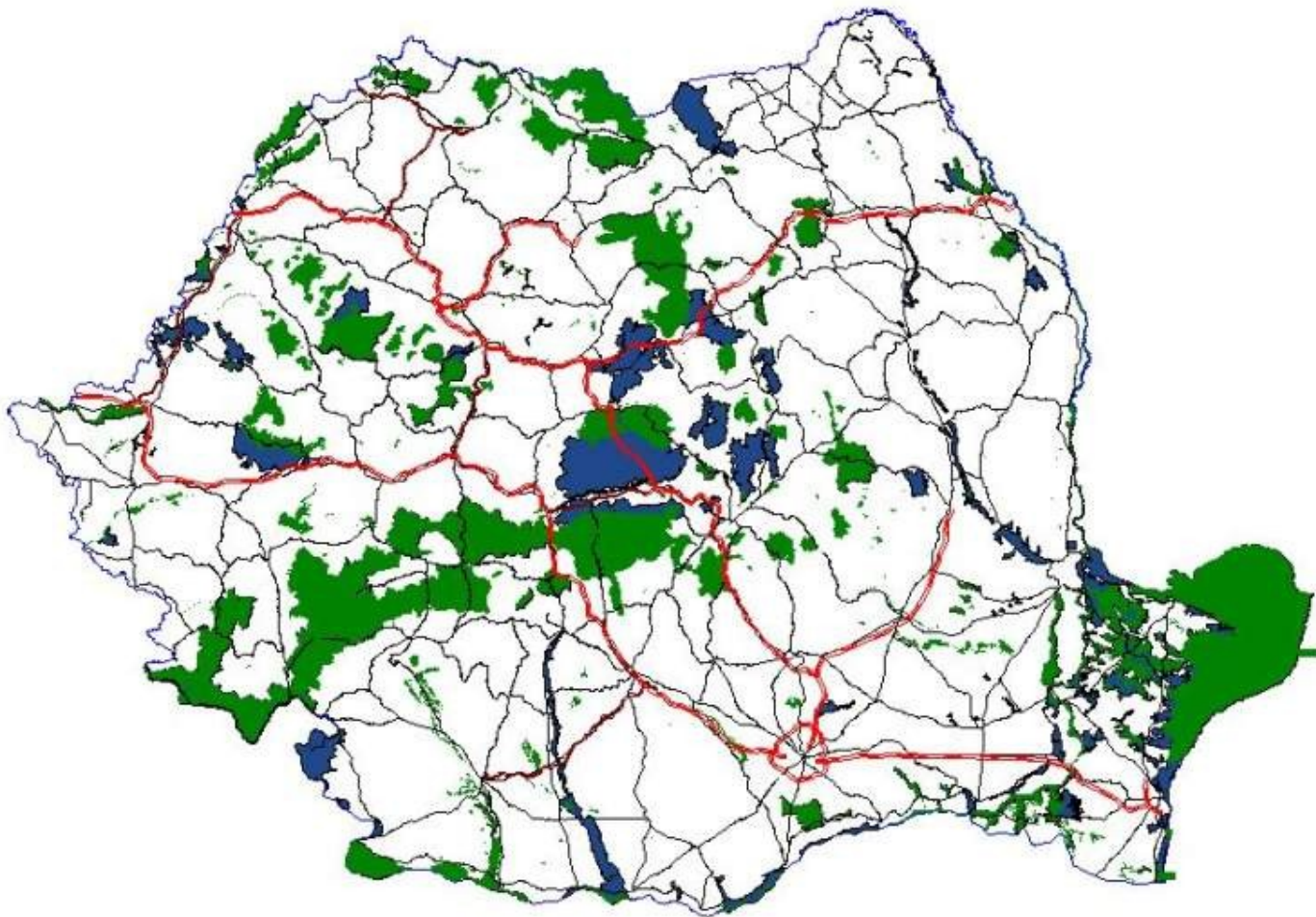
National road network of interest, overlaid with the official Wolf distribution data of Romania (2003)

What are the chances of fragmentation happening in Romania?



National road network of interest, overlaid with National Parks and Nature Parks

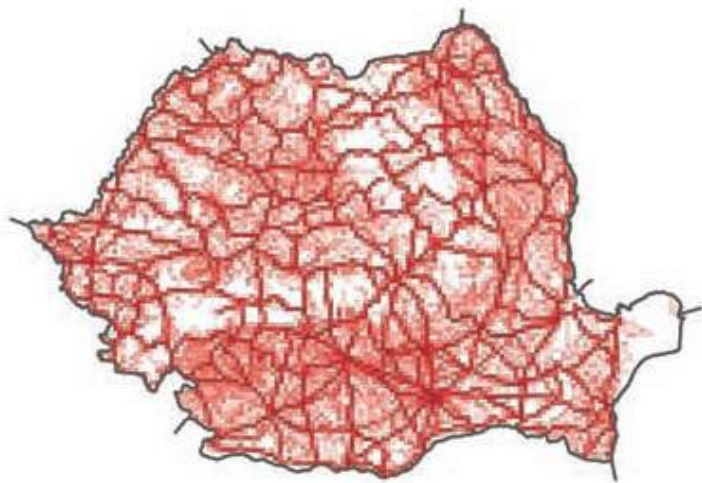
What are the chances of fragmentation happening in Romania?



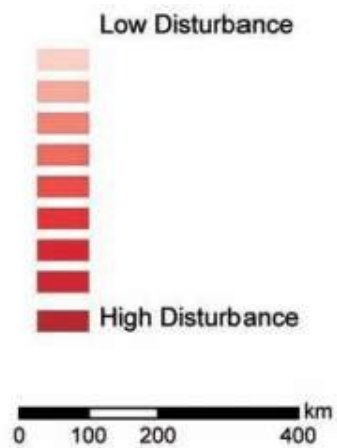
National road network of interest, overlaid with the existing Natura 2000 network

What are the chances of fragmentation happening in Romania?

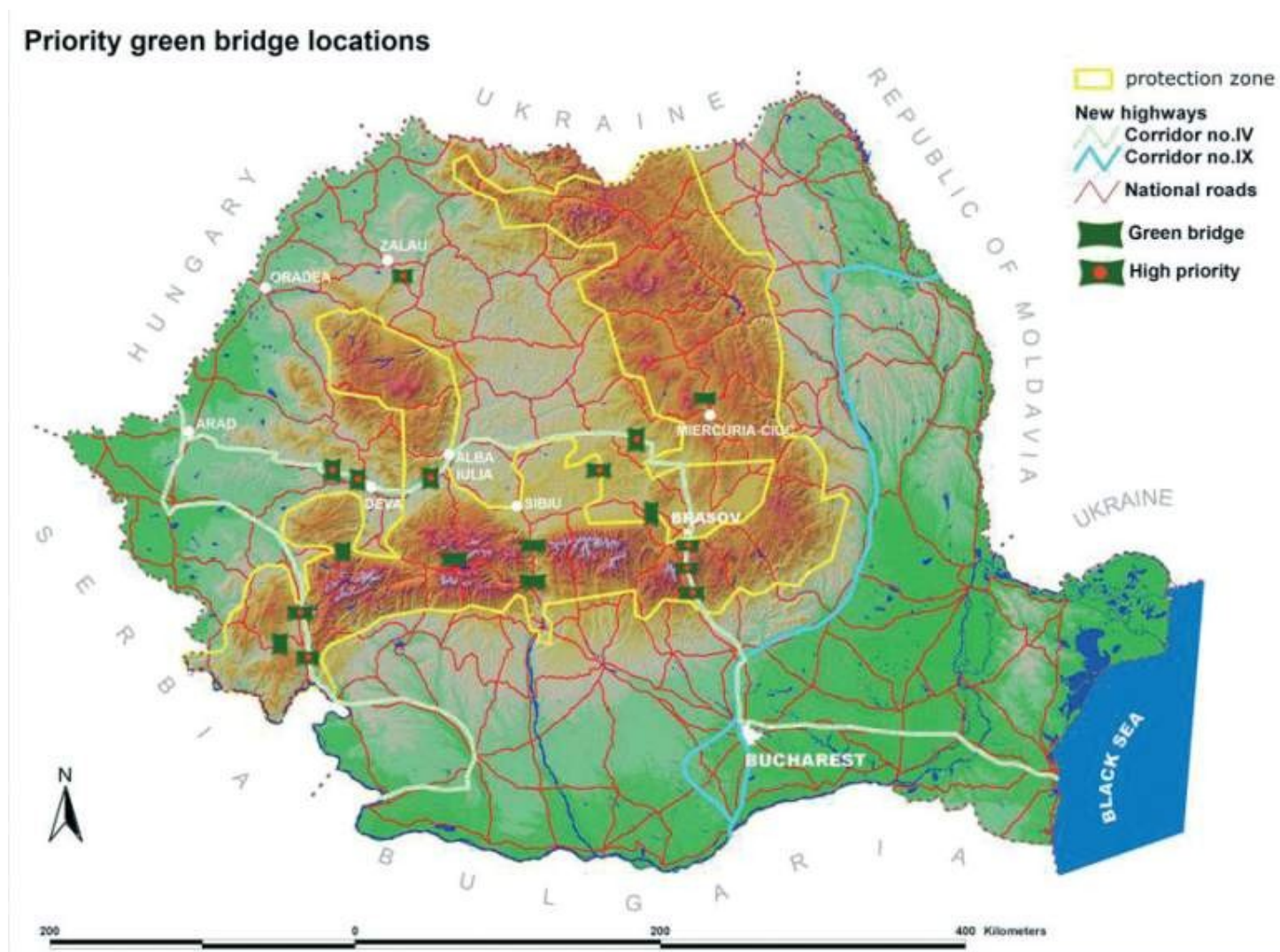
Infrastructure Disturbance



Safeguarding the Romanian Carpathian Ecological network (2006)

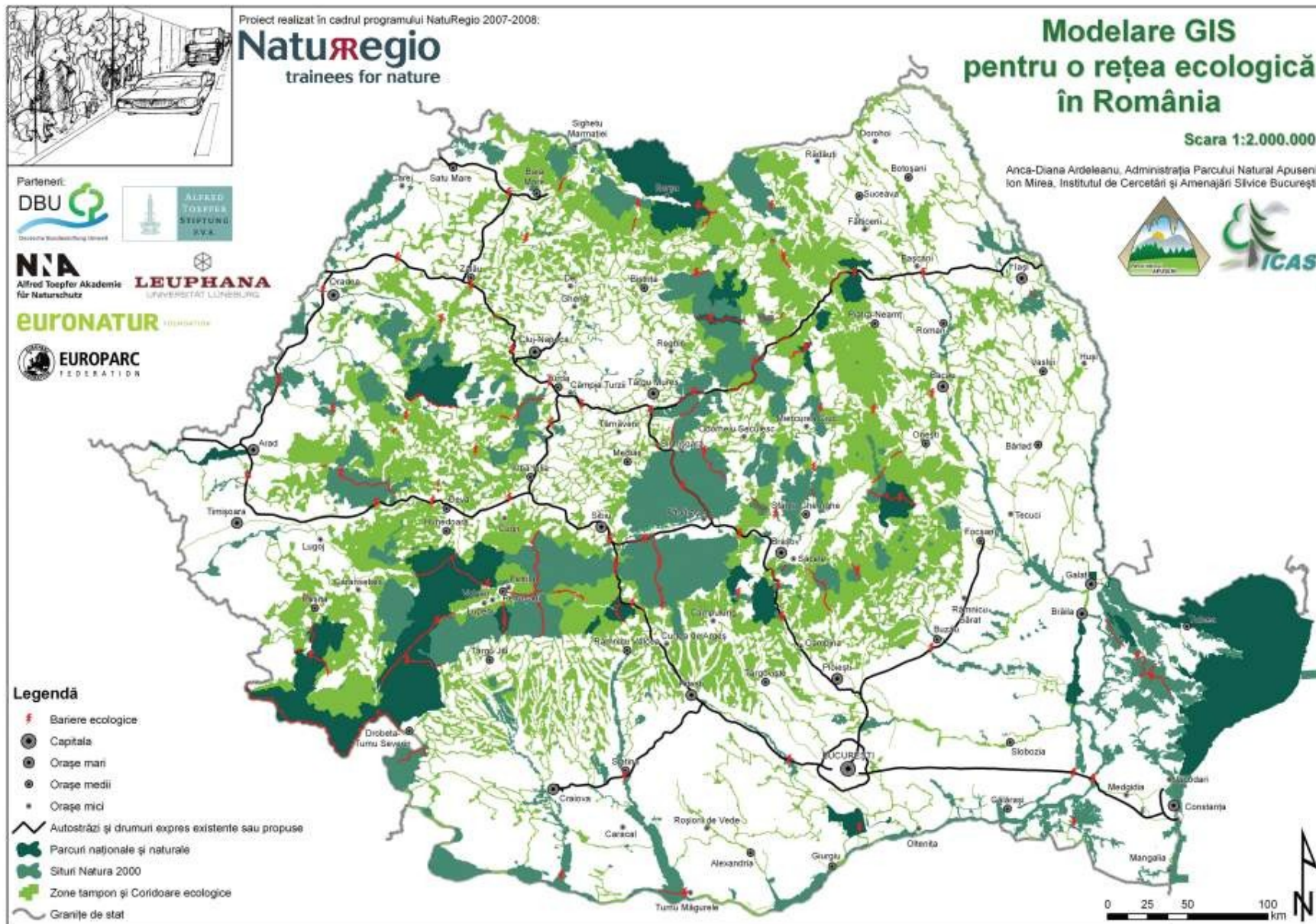


What are the chances of fragmentation happening in Romania?



Map showing priority locations for green bridges for large mammals on existing and planned major roads and railways. The exact positioning needs to be determined according to animal movements and lay of the land.

What are the chances of fragmentation happening in Romania?



What can we offer through the TEWN project?

- Case study for Romania, also detailing the existing and future hotspots, where habitat fragmentation will occur due to the transport infrastructure – and therefore mitigation measures are needed
- international expertise and experience

The TEWN project is jointly implemented by:



euRONATUR



Mammal Research Institute
Polish Academy of Sciences
Białowieża



And financially supported by

