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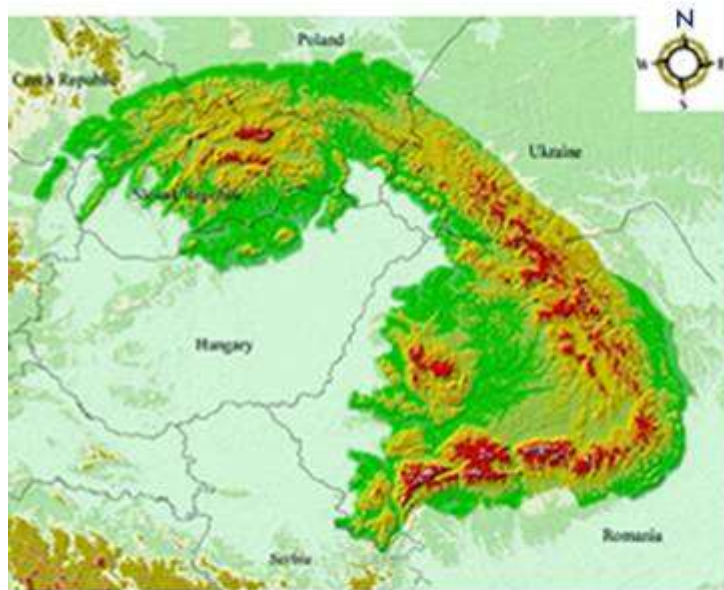
**Open borders for bears between
Romanian and Ukrainian Carpathians**

**Andriy-Taras Bashta,
Institute of Ecology of the Carpathians, Lviv, Ukraine**

Brown bear ecological network development in the Carpathians: Maramures case study



The Carpathians – one of the last region in Europe to support viable populations of large carnivores



Carpathian Ecoregion



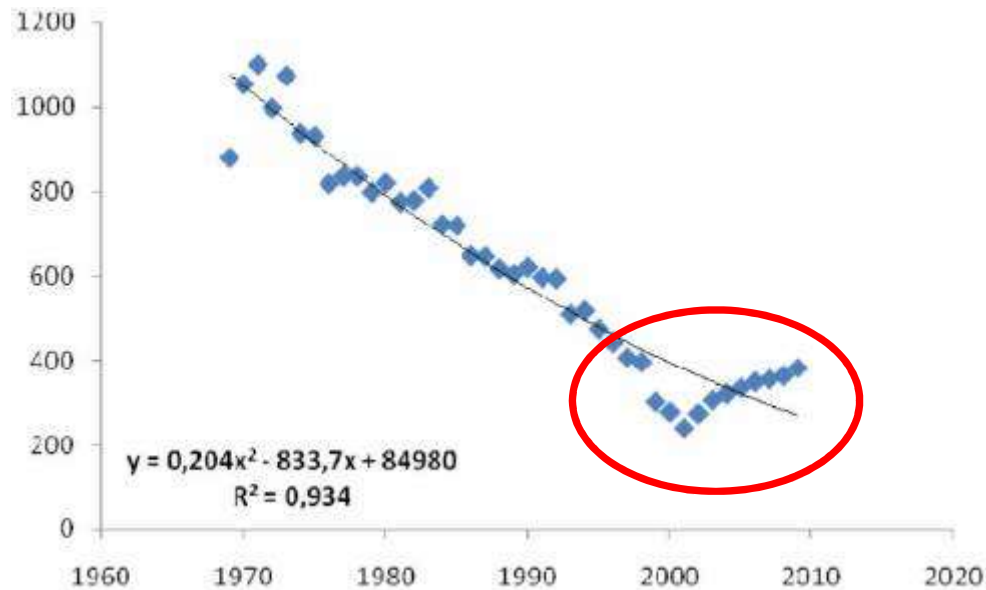
- Legend:**
- Carpathian Countries
 - Carpathian Mountains



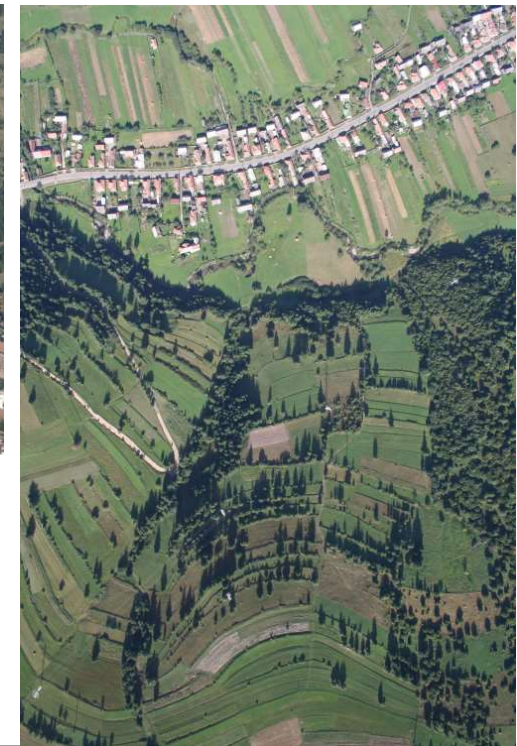
- The main reasons of decreasing or extinction of large carnivore species populations are illegal hunting and loss or degradation of their habitats.



- Quantitative dynamics of brown bear in the Ukrainian Carpathians (by Delehan et al., 2012)



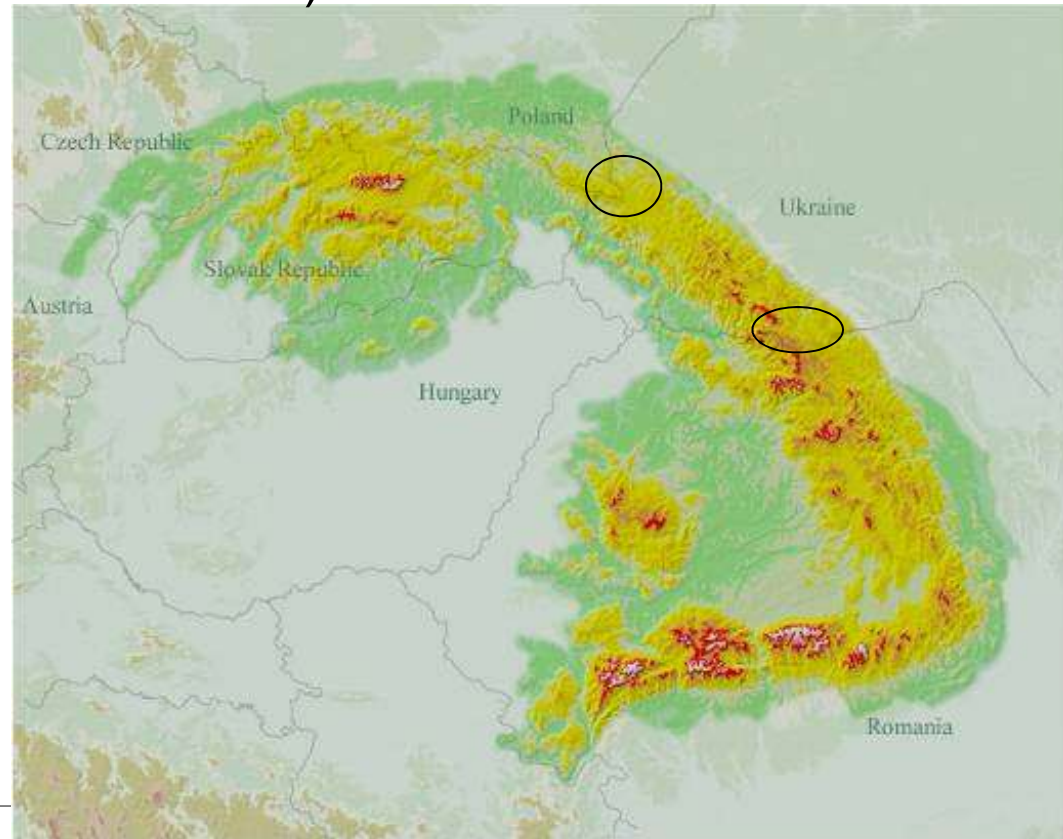
Today about 200 bears in UA Carpathians





Ukraine is critically important country for survival of entire brown bear population in the Carpathians

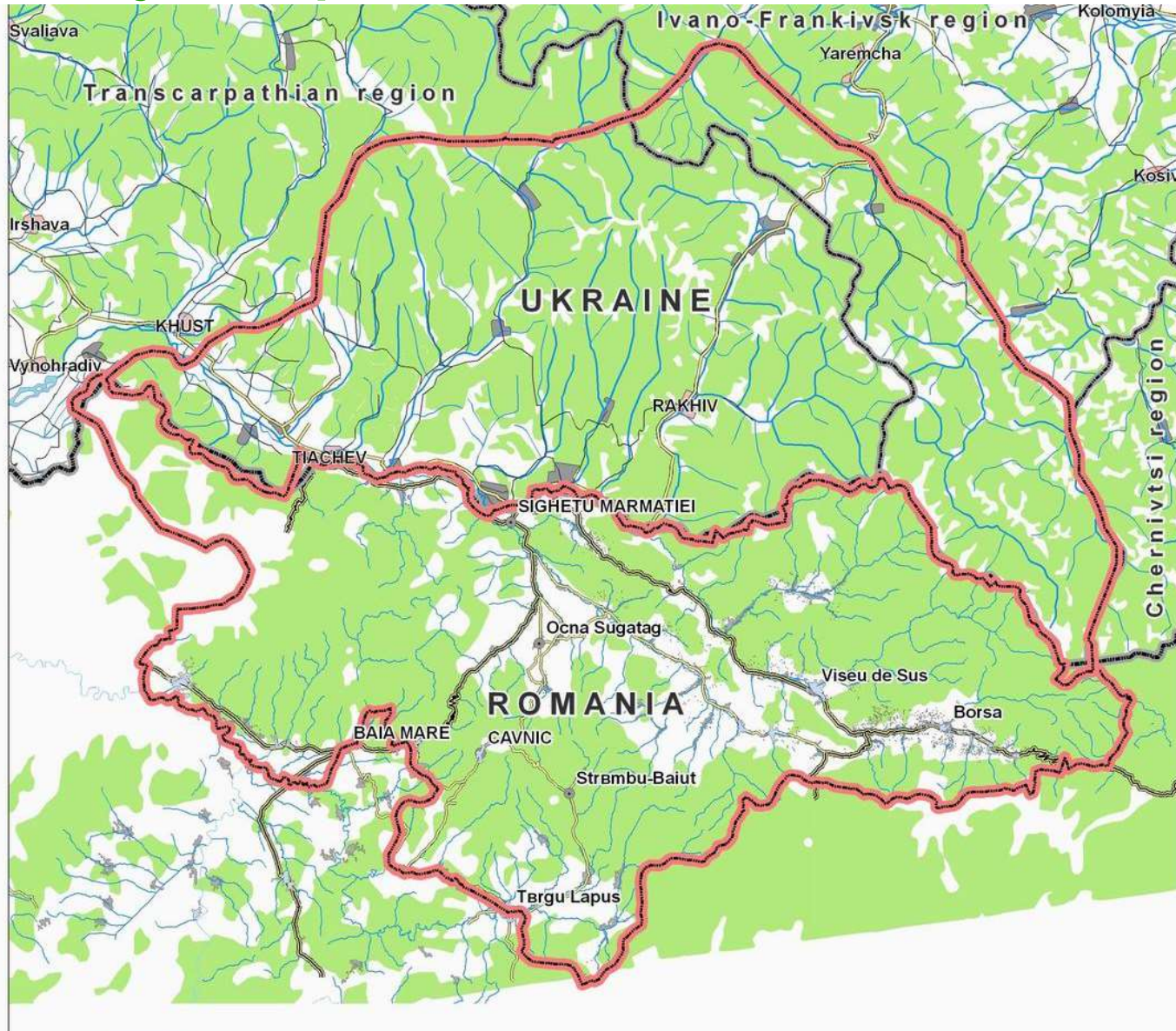
- There are two centers of the brown bear occurrence on the territory of Ukrainian Carpathians in general:
 - - western (near the Polish border);
 - - eastern (near the Romanian border).

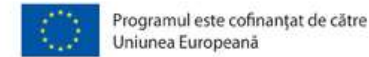




Maramuresh

Project implementation area - 1,067,400 ha

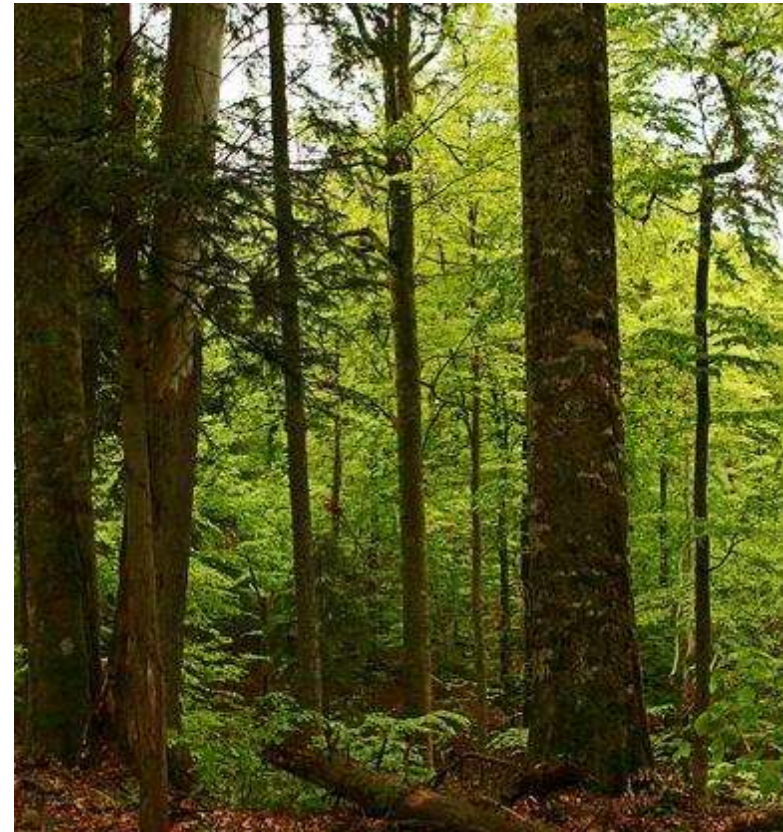




Identification of critical habitats and movement corridors for bears

Mapping the habitats and distribution of brown bears within the project implementation area

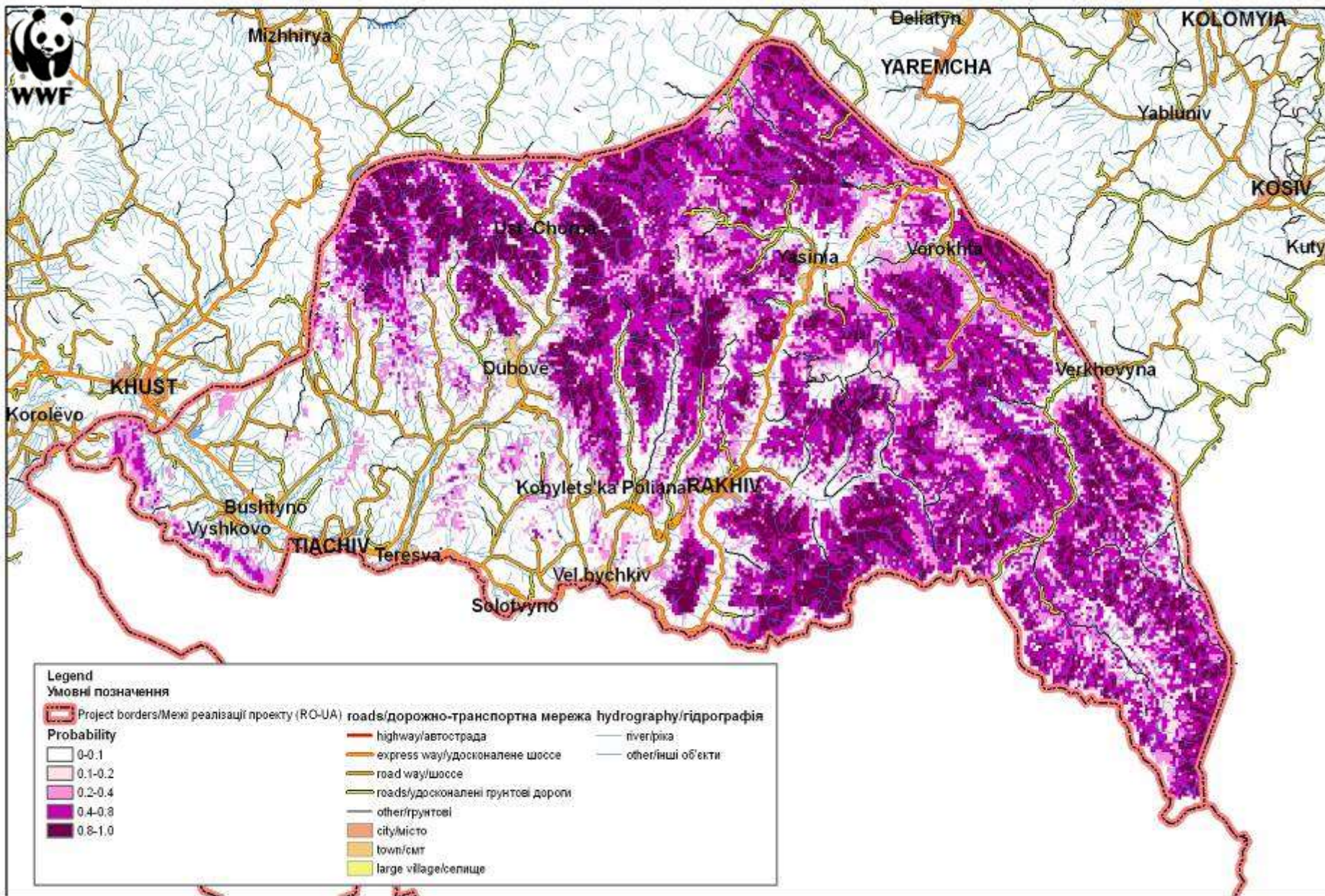
- Stakeholder consultation - consultation seminars and questionnaires applied
- Digital model of the field (GIS)
- Collected information verified by field research
- Ranking of the habitats, favourability for the species





Ranking of the habitats, analysing their favourability for the species have been performed. Analysis included:

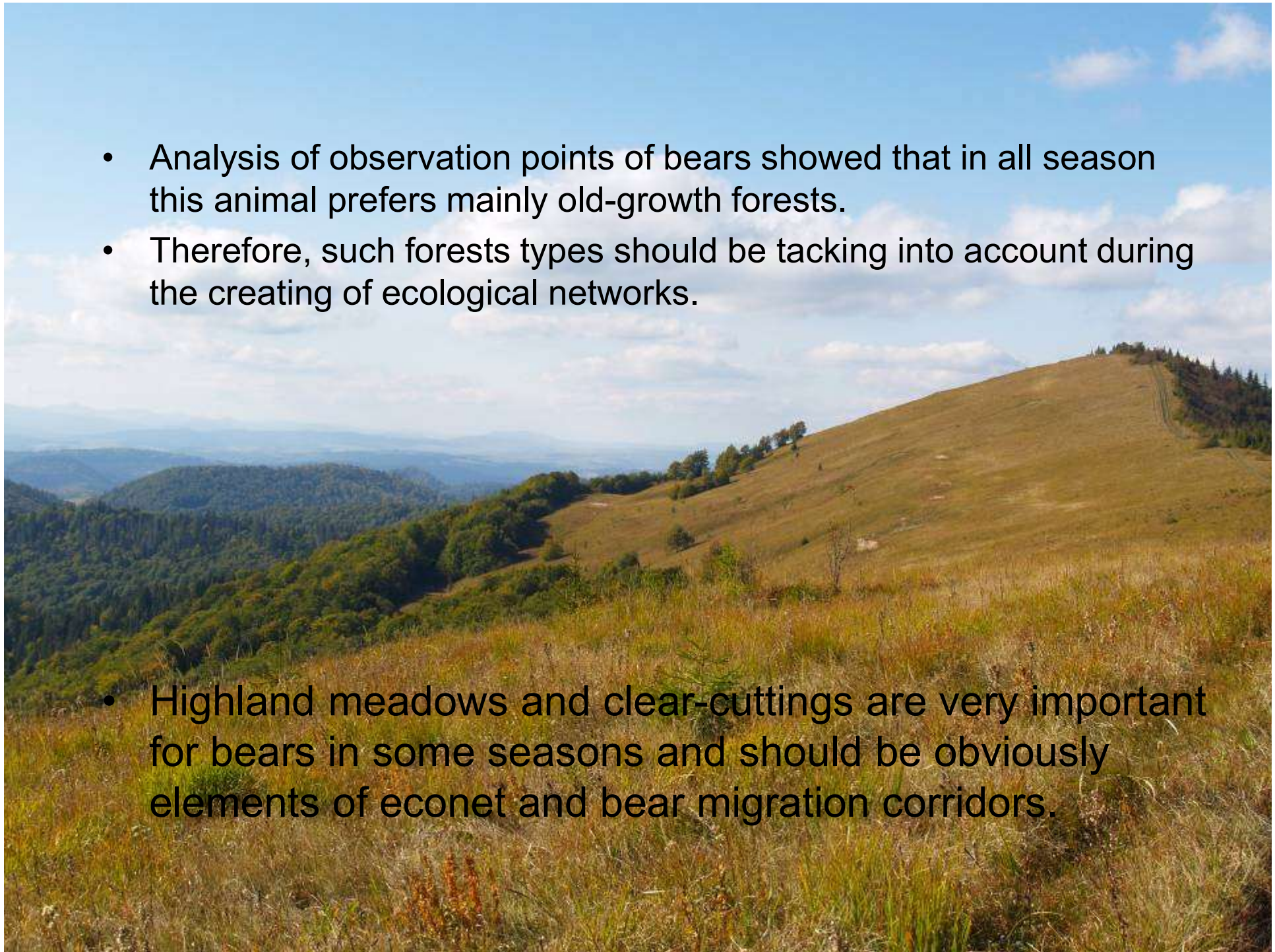
- *data concerning the types of forests, relief, hibernation and feeding areas, food availability;*
- *level of security;*
- *existing and/ or future anthropic pressures.*

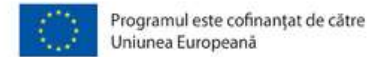


Favorability

- Analysis of observation points of bears showed that in all season this animal prefers mainly old-growth forests.
- Therefore, such forests types should be tacking into account during the creating of ecological networks.

- Highland meadows and clear-cuttings are very important for bears in some seasons and should be obviously elements of econet and bear migration corridors.





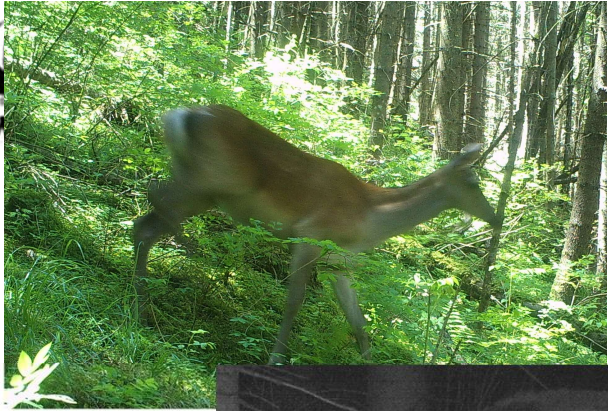
Identification of critical habitats and movement corridors for bears

Monitoring the bears - establish dispersion and population dynamics

- **Network of volunteer observers - field assessment**
 - **Capturing and equipping 5 bears with collars – monitoring their daily and seasonal movements**
 - **Monitoring of potential ecological corridors by using motion sensor and infrared spotlight video cameras**
 - **Develop maps with dispersion and habitat use by brown bear**
-









Uway 2013-07-22 08:54:26

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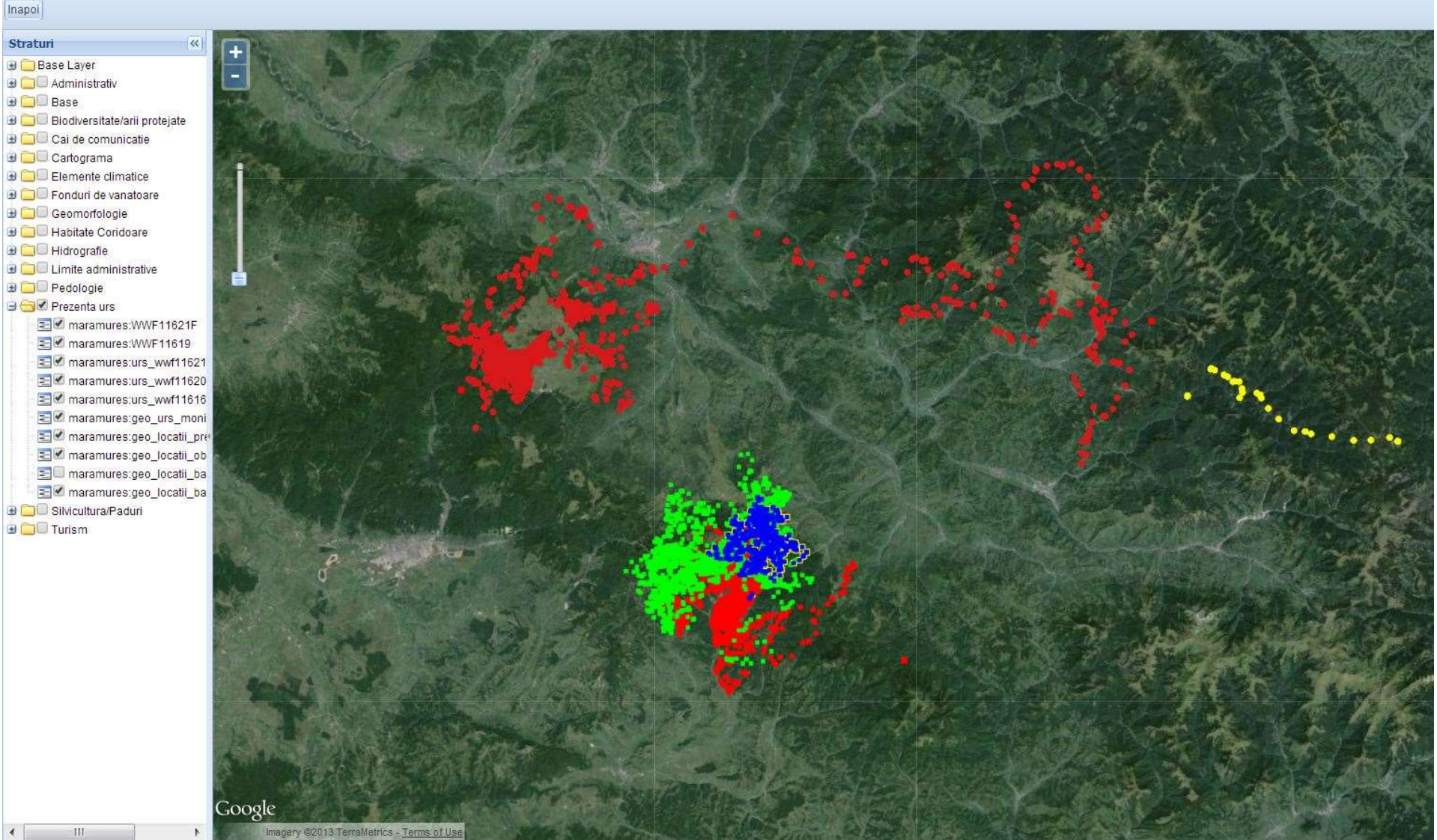


Methods

- Trapping bears in specialized cages
- Tranquilization
- Collaring
- Monitoring/tracking using GPS







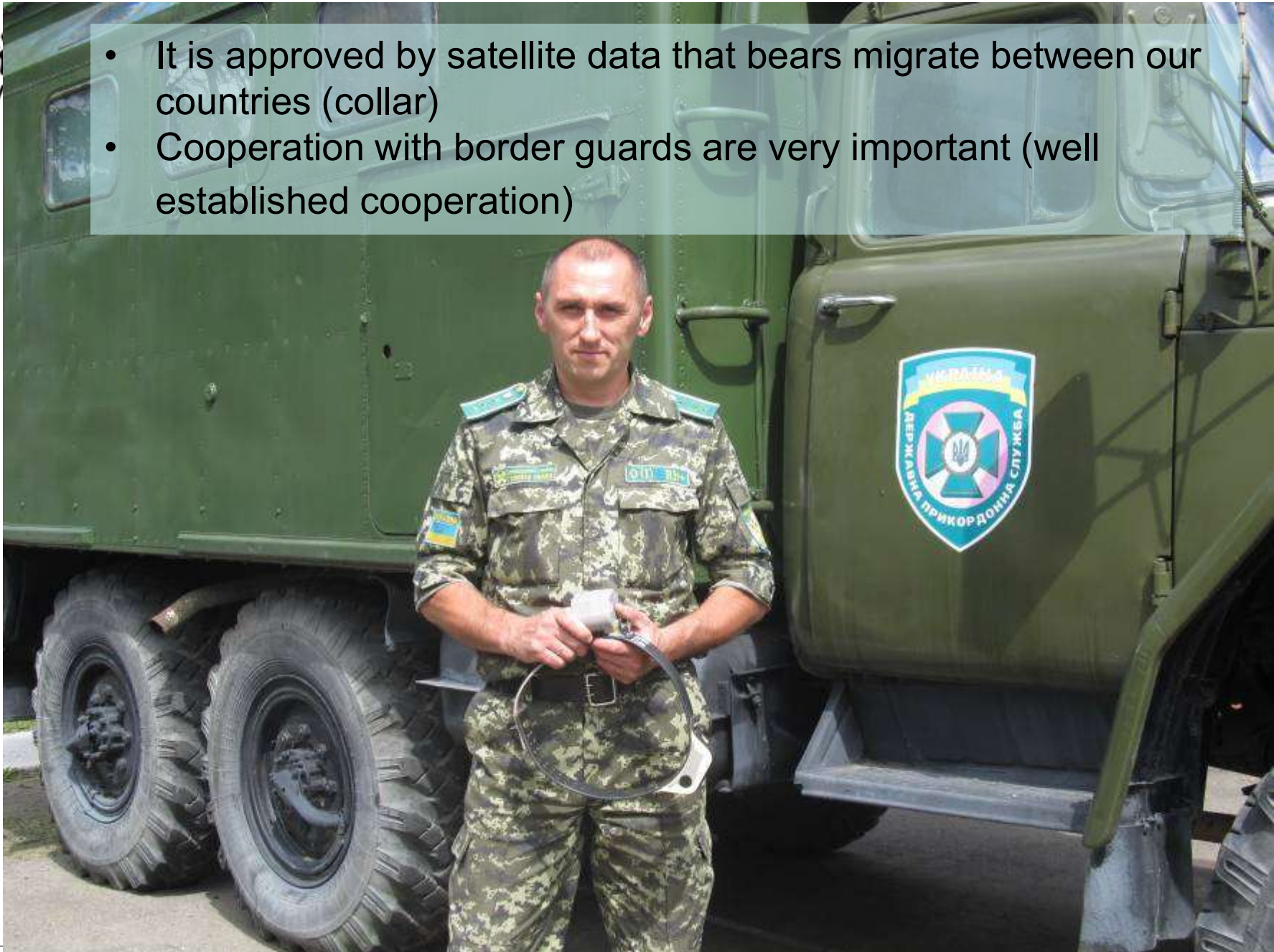


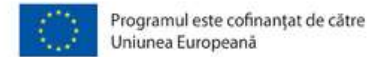
The screenshot displays the Google Earth interface with the following elements:

- Map Area:** Shows a satellite view of a mountainous region in Romania. Key locations labeled include Kobylets'ka Polyana, Rakhiv, Velykyi Bychkiv, Sighetu Marmăției, Ocna Șugatag, Poienile de sub Munte, and Vișeu de Sus. A network of yellow lines represents movement tracks, with a red square marker in the upper right and a green square marker in the lower left.
- Left Sidebar:** Lists tracking equipment:
 - antena8
 - antena9
 - antena10
 - Collar11616 (GPS Plus - <http://www.vectronic->)
 - Collar11616 (GPS Plus - <http://www.vectronic->)
 - Collar11620 (GPS Plus - <http://www.vectronic->)
 - Collar11621 (GPS Plus - <http://www.vectronic->)
 - Collar11621 (GPS Plus - <http://www.vectronic->)
 - Collar11623 (GPS Plus - <http://www.vectronic->)
 - Collar11623 (GPS Plus - <http://www.vectronic->)
- Layers Panel:** Includes 'Earth Gallery' and 'Layers' with options for Photos, Roads, 3D Buildings, and Ocean.
- Bottom Panel:** Shows the 'Tour Guide' button, copyright information for Google and the US Dept of State Geographer, and coordinates: 47°55'31.83" N, 24°33'29.88" E, with an elevation of 3621 ft and eye alt of 48.68 mi.
- Taskbar:** Displays the Windows taskbar with various application icons and a system tray showing the time as 9:52 PM on 24/10/2016.



- It is approved by satellite data that bears migrate between our countries (collar)
- Cooperation with border guards are very important (well established cooperation)

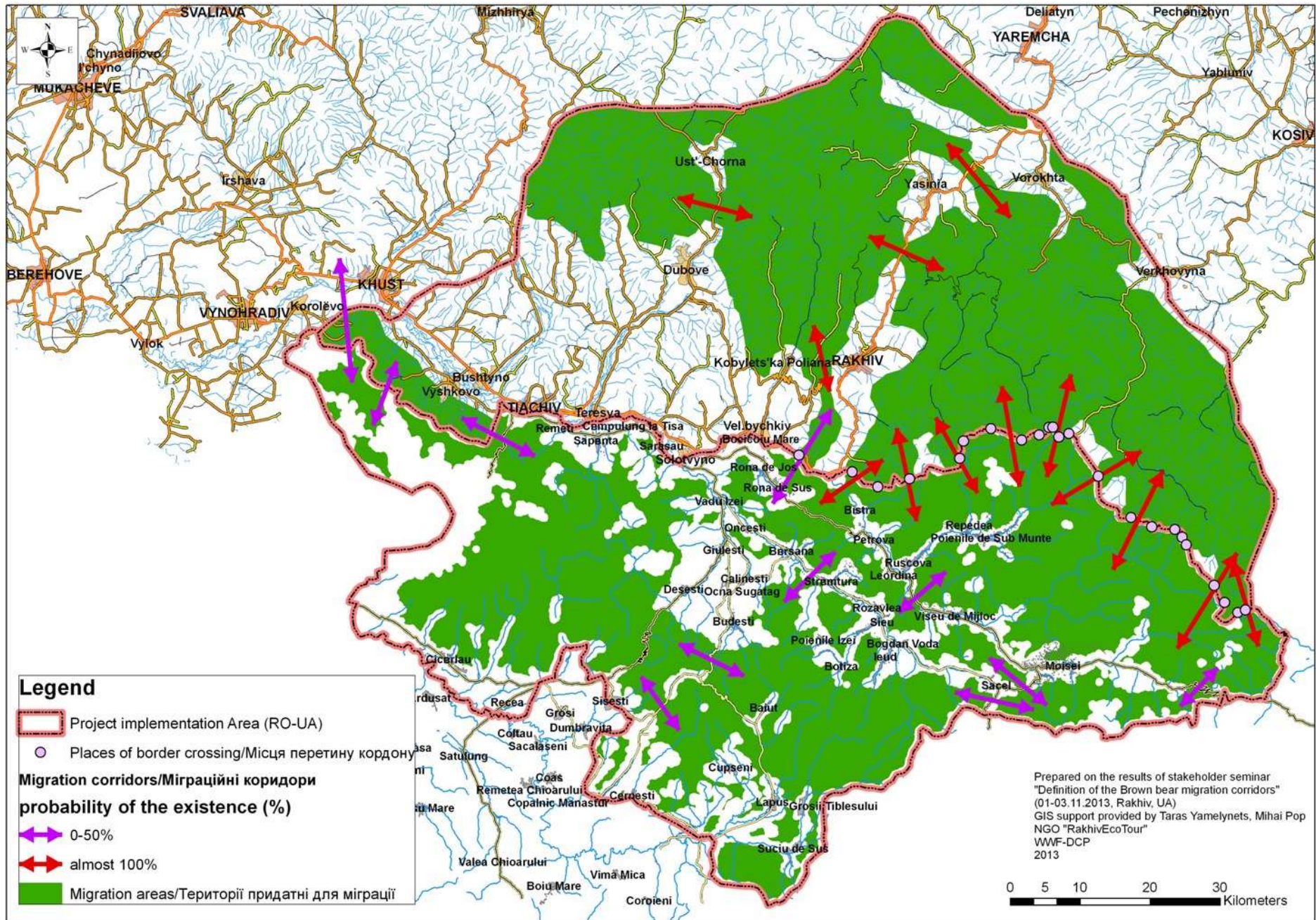


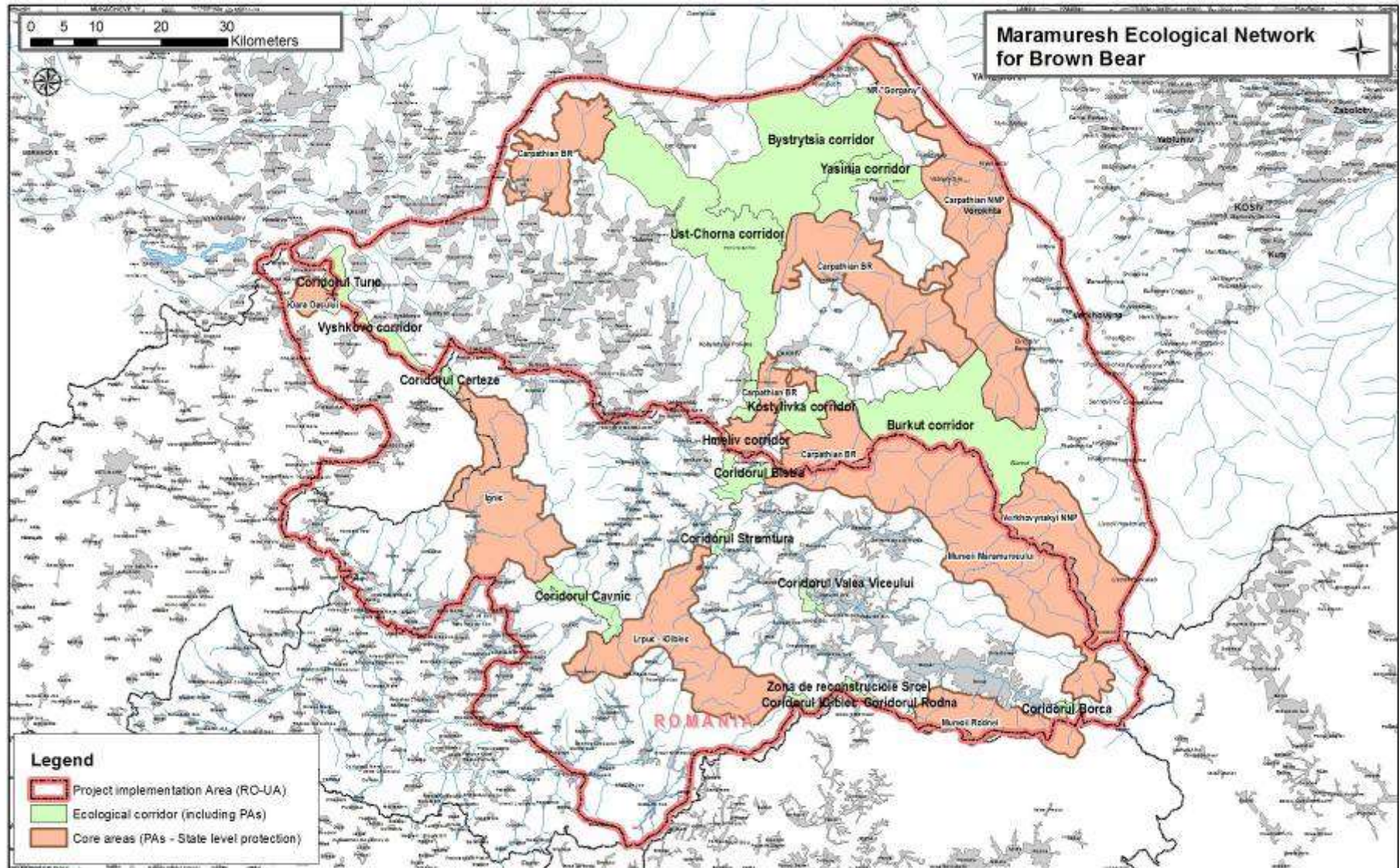


Identification of critical habitats and movement corridors for bears

Define trans-boundary ecological network of corridors

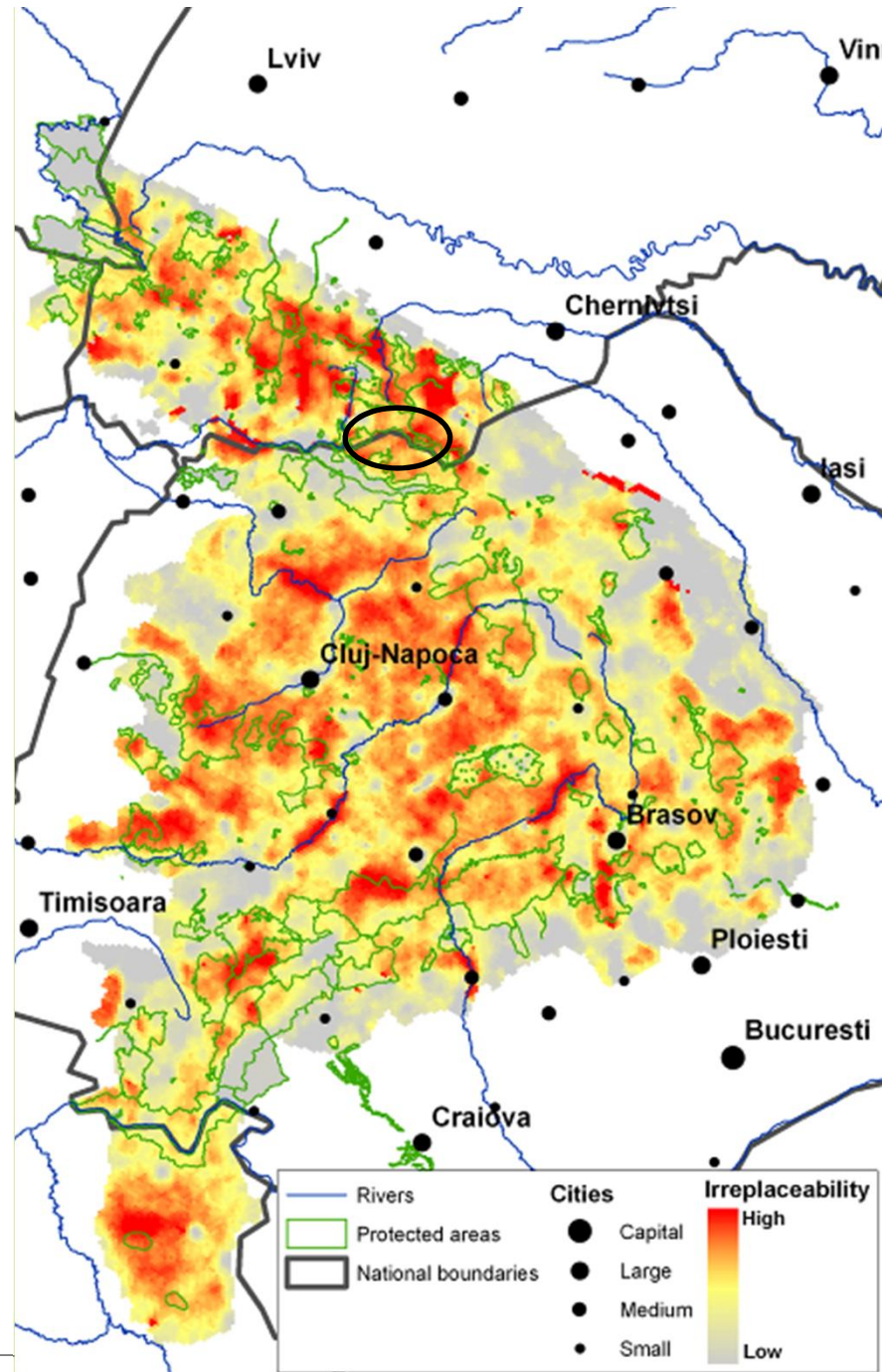
-professionals and key stakeholders from both countries – worked together establishing the map of the corridors







One of the most critical areas for biodiversity conservation in the Eastern Carpathians





Main threats for bear linked to human directly:

- Poaching;
- Disturbance while collecting berries and mushrooms, unregulated recreation.

Threats indirectly from human activities:

- Favorable habitat degradation caused by the decrease in the area of continuous forest areas;
- Disturbance of animals during forestry and other operations;
- Reduced access to food;
- High-density transport routes (motorways construction).



Poaching

- Till 2014: on average (data from the last five years) about 15 bears are killed by poachers each year in the Ukrainian Carpathians, of which 50% (7-8 individuals) killed near the Ukrainian-Romanian border in Maramures (Rahiv area).
- The reason - 50% for the trophy (skin + skeleton), 40% - skin + skeleton + meat or meat and only 10% (fat + other parts of the body).
- Pay for poaching: rich people of Kyiv and the eastern part of Ukraine, the high price.
- Since 2015: bear poaching decreased in 50%.

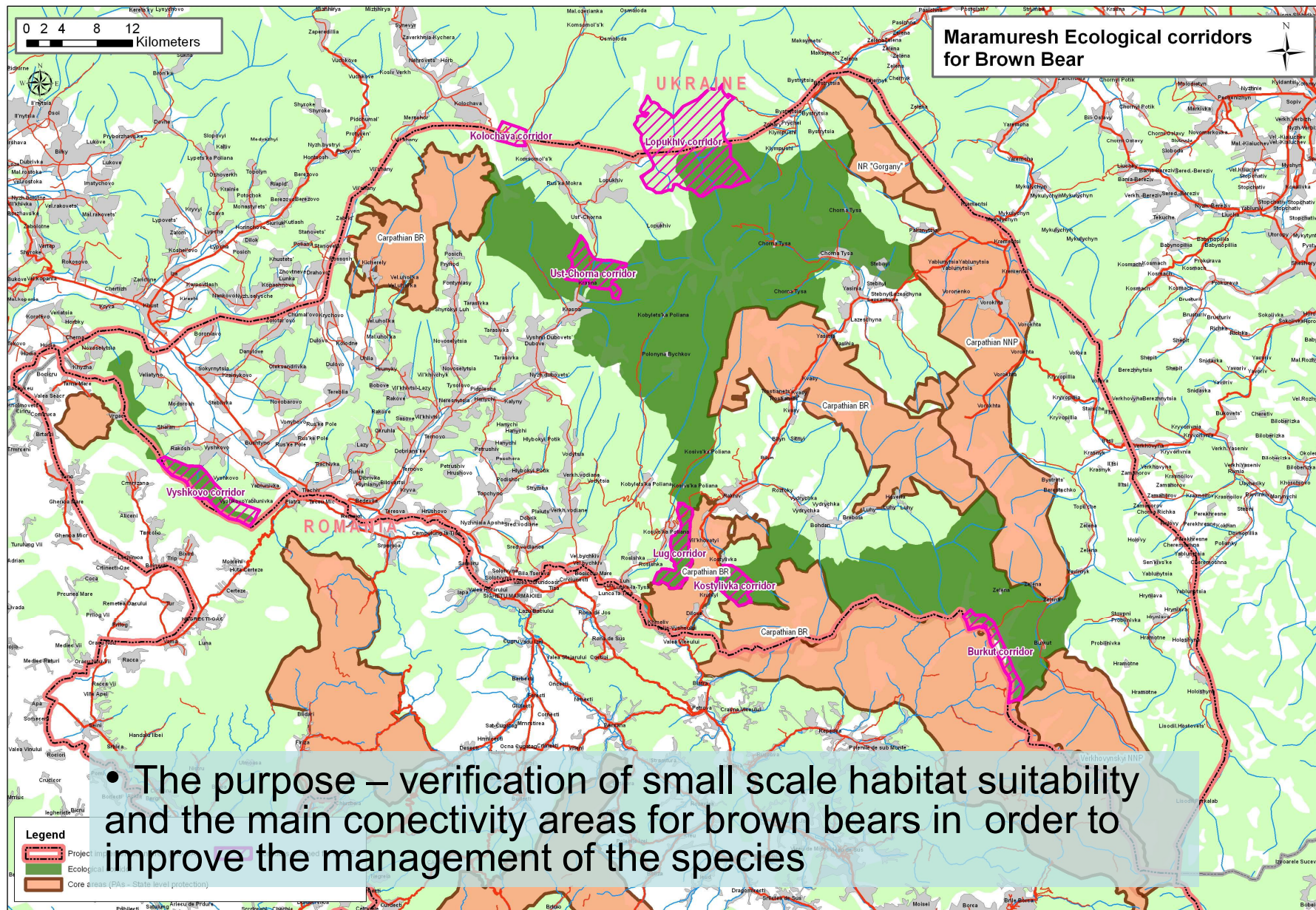


- Protected areas do not provide sufficient protection for large mammals;
- Individual areas of some mammals or their families often exceed the size of the protected area;
- Especially outside the protected areas of mammals exposed to various negative factors;
- One of the solutions to the problem - the creation of ecological corridors (national and cross-border) between protected areas.



The key measures to maintain the population of brown bears in the Ukrainian Carpathians

- Optimization and effective conservation of habitats of the brown bear.
- Increasing the efficiency of protection (anti-poaching).
- Ensuring the possibility of safe movement and seasonal migration of bears.
- Ecoeducational activities.
- Research as a background for protection.
- International cooperation / coordination for the protection of the brown bear.





Відкриті кордони для ведмедів між
Українськими та Румунськими
Карпатами



Thank you!

*Clever bear is more efficient in
nature than stupid human*