



INTEGRATED TRANSPORT PLANNING

Screen biodiversity and ecological corridors in early stages of the project



Grey wolf (*Canis lupus*) photographed in the area of the planned Tîrgu Mureș-Iași highway route ©Milvus Association

PILOT AREA: Tîrgu Mureș-Iași (Romania)

Stage of the infrastructure project:

- 1** Scoping / Early planning
- 2** Planning
- 3** Construction
- 4** Operation, monitoring & maintenance

Effective mitigation measures are, ideally, incorporated in the highway's technical plans before the actual construction of the highway begins - ensuring that these costs are considered and measures are implemented from the very beginning. The work done in the Tîrgu Mureș-Iași pilot area offers a good example of monitoring and suggested measures to be taken in the Scoping/Early planning stage of an infrastructure project.

Measure proposed

Effective mitigation measures based on sound scientific data are incorporated in the highway's technical plans before the actual construction of the highway begins.

Effective mitigation measures need to be based on sound scientific data. Technical solutions (e.g. viaducts, bridges) implemented only because of topographic (or other, not wildlife-related) considerations will not automatically benefit wildlife, unless these are built in the right locations (on or close to functional ecological corridors) and, at the same time, meet a set of minimum requirements which make them adequate for wildlife crossings. In order to ensure a high permeability of the future highway, on-purpose wildlife crossing structures (for example, green bridges) need to be built in key locations, understood as being placed on or close to functional ecological corridors or suitable habitats. Once the key locations are identified, the next step is to adapt standard technical parameters to local conditions. For example, the standard highway fencing is easily climbed by brown bears or jumped over by red deer, putting both human passengers and wildlife at risk; human waste or roadside vegetation can attract a number of wildlife species close to or onto the highway, thus, again, endangering both people and animals.

Pilot area: Tîrgu Mureș-Iași (Romania)

The Tîrgu Mureș-Iași Pilot Area in Romania is somewhat unique among the target locations of the TRANSGREEN project. Construction work has not yet begun for

the planned Tîrgu Mureş-Iaşi-Ungheni (A8) highway. Moreover, the Feasibility Study of the planned highway needs to be revised and updated. This qualifies the infrastructure work as being in its early planning stage. This gives the pilot area leaders, Milvus Association, an opportunity to intervene in a timely manner and to attempt to positively influence the planning process, thus minimizing the future highway's potential negative impacts on local communities, on both wildlife species and on natural habitats of national and EU importance.

Key species

The pilot area represents vital habitat for 3 large carnivore species, brown bear (*Ursus arctos*), grey wolf (*Canis lupus*), Eurasian lynx (*Lynx lynx*). It is also crucial for a number of other species and habitats of national and EU importance.



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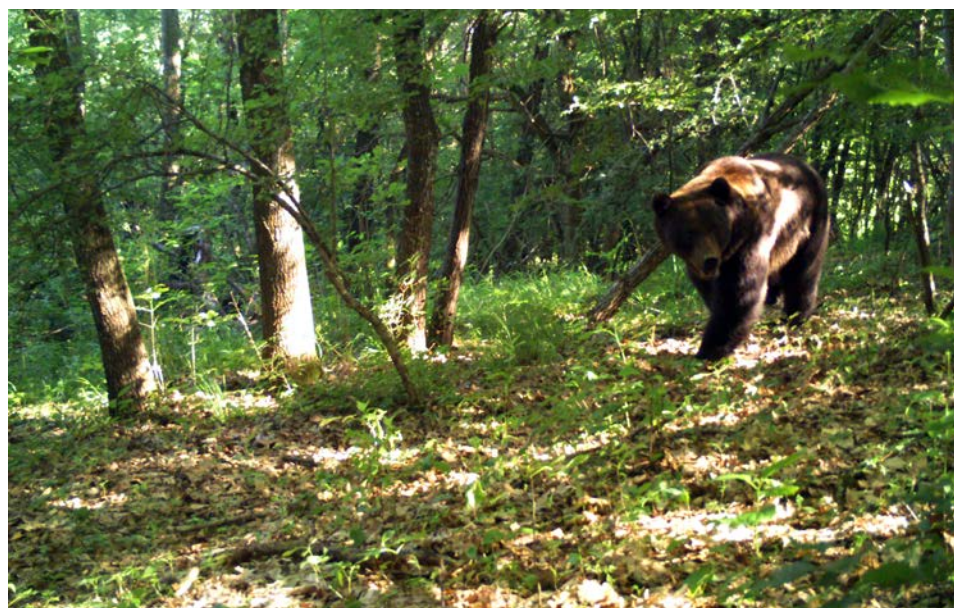
Photo results indicate a significant presence of mammal species

Number of photos



3703 OF WILD UNGULATES
roe deer, red deer, wild boar

675 OF SMALL / MID-SIZED CARNIVORES
European wildcats, European badgers, red foxes, otters, beech marten, pine marten



One of the 273 brown bear (*Ursus arctos*) photos taken with motion-triggered cameras along the planned highway ©Milvus Association

Steps taken in the first stages of TRANSGREEN project

The goal is to identify key future fragmentation hotspots, where adequate mitigation measures will need to be implemented. Thus, efforts within the TRANSGREEN project have been so far directed mainly towards identifying functional ecological corridors and suitable habitats that are intersected by the planned highway route, for a number of species (large carnivores, large herbivores, meso-carnivores and more).

The methodology used consisted of a long-term monitoring of the planned highway route with the help of motion-triggered cameras. This methodology has the advantage of being non-invasive and useful in mapping large mammal species in extended areas, with relatively little investment of physical effort and time. The planned highway route has been divided into 1 km-long segments, where 1 motion-triggered camera per segment was installed, at a distance of <100 m from the actual planned route. Cameras were placed in locations conducive for large mammal movements or in locations already indicated as suitable by the presence of tracks and other signs of the animals' presence. Each segment has been surveyed for at least 1 month.