



Local Cross-Sectoral Operational Plan

Zakarpattia Region, Ukraine

Part of Output T2.2 “Local Cross-Sectoral Operational Plans”

December, 2022



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Local Cross-Sectoral Operation Plan Zakarpattia Region (Ukraine)

Part of Output T2.2 “Local Cross-Sectoral Operational Plans”

SaveGREEN “Safeguarding the functionality of transnationally important ecological corridors in the Danube basin”

Danube Transnational Programme, DTP3-314-2.3

December 2022



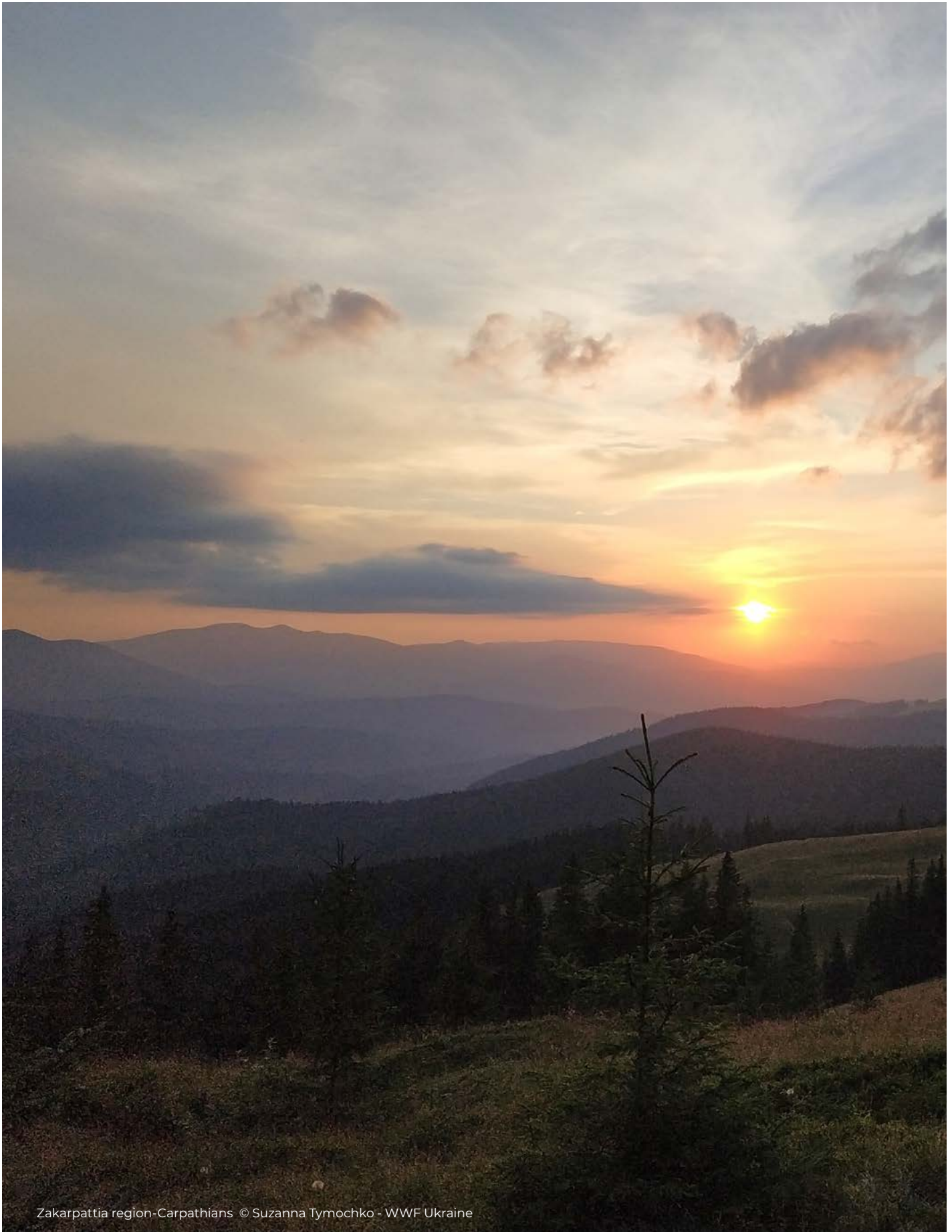
About SaveGREEN

The SaveGREEN project, funded by the Interreg Danube Transnational Programme is focused on the identification, collection, and promotion of the best solutions for safeguarding ecological corridors in the Carpathians and further mountain ranges in the Danube region. Currently, ecological corridors in the region are under threat due to the lack of adequate planning of economic development initiatives. Therefore, basing its work on integrated planning, SaveGREEN will monitor the impact of mitigation measures in 8 pilot areas and derive proper recommendations for follow-up actions and policy design.

www.interreg-danube.eu/savegreen

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Zakarpattia region-Carpathians © Suzanna Tymochko - WWF Ukraine

Executive summary

An important objective within the SaveGREEN project was to elaborate a Cross-Sectoral Operational Plan for the pilot areas. The goal of the “CSOP” was to identify the major threats/pressures to connectivity and the general objectives to address them, as well as relevant sectors and main stakeholders/actors focusing on the pilot site.

The two major threats discussed for this pilot area are barrier effects and land-use changes in agricultural land.

The barrier effect in Zakarpattia region can be triggered by increasing the traffic performance through, first of all, increasing of speed on motor roads and railroads. As the existing motor road infrastructure crosses settlements where speed is limited to 50 km/h, the solution is considered to build a completely new road, which bypasses all settlements. However, the lack of funds combined with difficult geological conditions keeps these plans within the preliminary survey stage. If the decision to construct such a road is taken it will be subject to EIA. Moreover, there are plans to reconstruct the existing roads, and build a new by-pass road (Beregovo by-pass). The projects include the repair, reconstruction and construction of new culverts, small bridges and other structures used by wild animals for migration. The monitoring of such projects allows preventing the construction of new barriers for migratory animals and improvement of migration conditions at existing structures by providing consultations to the authorities and involving the public in the decision-making process.

The lack of constant monitoring of animal mortality on the roads/railroads of the region appears to require additional efforts to be taken by the SaveGREEN team, which is the only constant actor in the process of ongoing identification of critical areas and

preparing the recommendations to prevent and decrease traffic accidents and animal mortality.

Second major threat concerns the modern land-use changes, especially critical migration areas, such as river valleys, forest bottlenecks, parts of mountain ridges, agricultural landscapes such as pastures, hayfields, abandoned orchards etc.

First of all, the hayfields and pastures, especially in the mountain and sub-montane parts of the region, are often covered in self-seeding woods and play an essential role as ecological corridors for migration and feeding areas of different animal species. Their transformation into arable lands (especially the creation of large arable areas), which is much more likely to occur in plains and the sub-montane areas, will definitely affect biodiversity (degradation) and may worsen habitat and migration conditions for some sensitive animal species (Eurasian lynx *Lynx lynx*, Common quail *Coturnix coturnix*, Corncrake *Crex crex*, Lapwing *Vanellus vanellus*, Whinchat *Saxicola rubetra*, and Common stonechat *Saxicola torquata*). In addition, meadow ecosystems are important trophic habitats of some other species, such as Red deer *Cervus elaphus*, Lesser spotted eagle *Aquila pomarina*, etc.

Six main problems have been identified; the main measures and actions are proposed in the section 5 Problems, Measures and Actions.

In the descriptive part, we gave a detailed description of the natural and landscape features within the Zakarpattia region.

Overall suggestions on the current situation in the region/country as well as connectivity and infrastructure development have been provided as conclusions.

An aerial photograph of a landscape featuring rolling hills and a dense forest. A thick layer of fog or mist is visible, partially obscuring the lower parts of the hills and the forest. The sky is clear with a few wispy clouds. The overall tone is somewhat muted, with a mix of greens, browns, and greys.

CHAPTER 1 **Introduction**

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The main objective of the SaveGREEN project was to develop concrete solutions to preserve, improve or restore the functionality of key ecological corridors in the Carpathian, Alpine and Bulgarian mountain valleys, where human activities as well as critical points for wildlife migration concentrate and thus conflicts are at their highest.

As the proposed approach is to foster cross-sectoral and transnational cooperation and building of knowhow for integrated planning at landscape level, general pressures or threats to consider when landscape connectivity is of concern was paired with connectivity-specific objectives.

By screening each sector of interest, we highlighted the potential sectoral impacts – an important reference for managers to investigate the present or potential problems that needs to be addressed by targeted measures. At pilot area level, the local experts worked with stakeholders to identify and prioritize these problems and to propose measures to overcome them through specific actions, informed also by the situations in the other project pilot areas and by constant collaboration with project partners and external experts.

This common logical framework that facilitates the logical path from pressures/threats to particular actions forms the structure of the Cross Sectoral Operational Plans (CSOPs), which represents the original response of SaveGREEN to threats to connectivity and the basis for implementation of practical measures in the 8 pilot areas of the project.

Working directly with stakeholder groups in the pilot areas and involving them actively, in a participatory manner, in the development of the CSOPs of the pilot areas should create long-lasting ownership of the plans and ease the future implementation.

The CSOPs are addressing the complex issue of landscape connectivity and should

be considering medium to long-term effort. While some of the actions have been (partially) implemented during the SaveGREEN project, most of them still need to be implemented. Moreover, constant assessment and adaptation of actions is needed to respond to the dynamic of the multitude of factors impacting the landscapes, as well as to the capacity, resources and available know-how of the stakeholders.

SaveGREEN proposed the CSOPs as an informal tool to foster inter-sectoral cooperation and synchronized specific actions at landscape level. Working directly with stakeholder groups in the pilot areas and involving them actively, in a participatory manner, in the development of the CSOPs of the pilot areas should create long-lasting ownership of the plans and ease the future implementation, irrespective of the formal agreements.

At the same time, the logical framework of the CSOPs will ensure an easy integration within the local/regional sectoral (management) plans while ensuring synergies between them, which is significantly lacked at present. Basically, by filtering CSOPs by any of the sector of interest, one will gain access to a sectoral action plan for connectivity. Naturally, whenever the case, the measures of the CSOPs could be taken on board by the management plans of protected areas.

By identifying the specific problems and needed actions on the ground, CSOPs are a valuable instrument to pinpoint the potential gaps and lacks at legislative and funding capacity levels, which should lay the basis for the adaptation at national or European levels.

Paired with the Multi-sectoral online datasets for the pilot areas, with the On-line library of multi-sectoral solutions for ensuring the functionality of ecological corridors and with the Handbook, we hope that the CSOPs will become a significant resource for replication and adaptation in the Danube Region and beyond, whenever the scope is to safeguard the connectivity at landscape level.



CHAPTER 2

Natural and landscape features

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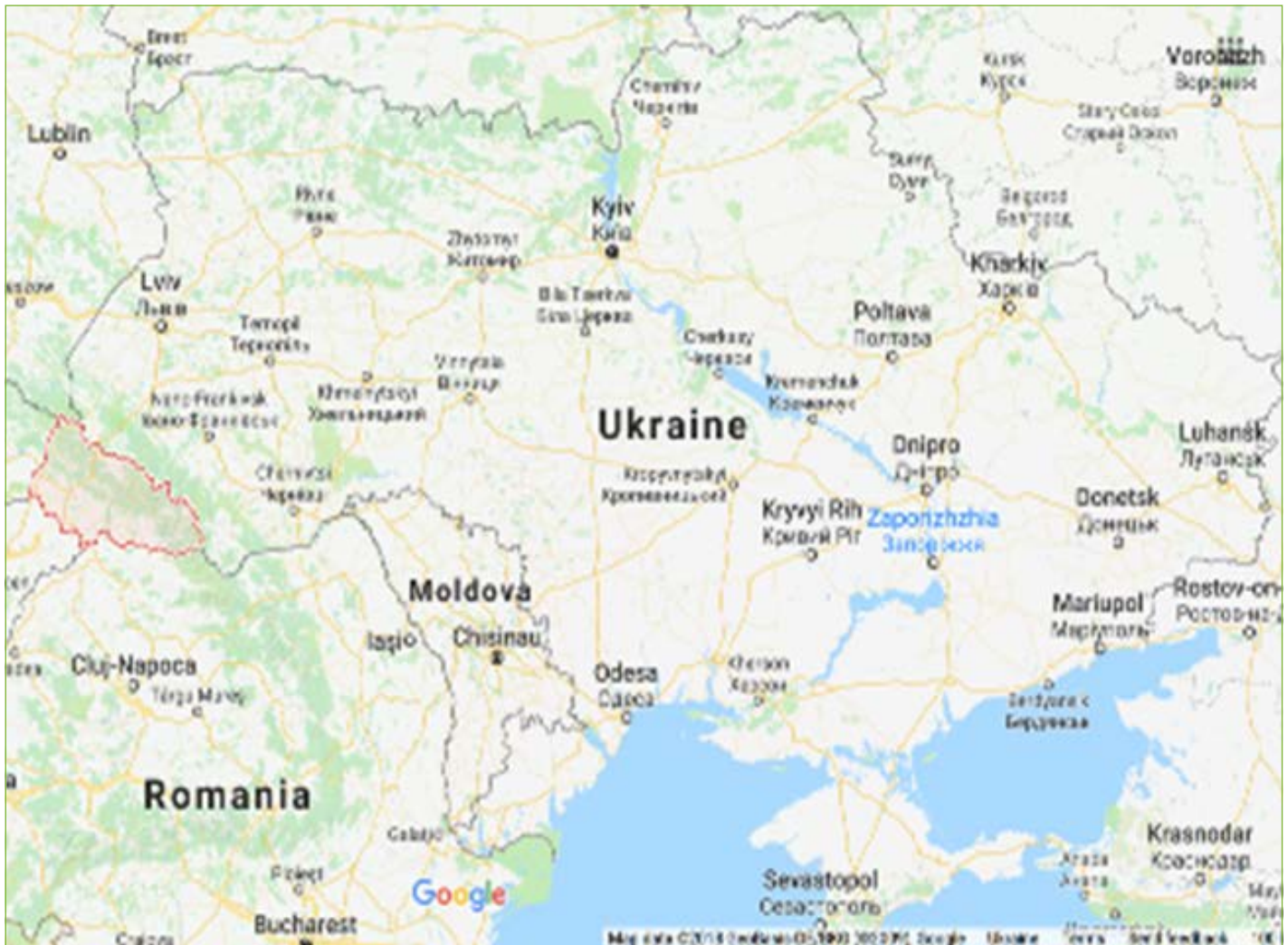


Figure 1: Geographic location of the Zakarpatska region within Ukraine

The Zakarpattia region (Transcarpathian Oblast) is located in the Southwest of Ukraine. In the north, it borders Lviv, in the east Ivano-Frankivsk regions of Ukraine, in the south it borders Romania, in the southwest Hungary, in the west Slovakia, and in the northwest Poland. The administrative centre is the city of Uzhgorod.

In physical and geographical terms, this territory is located on the south-western slopes of the Ukrainian Carpathians and its adjacent Transcarpathian lowland, and covers an area of 12,780 km². Such a geographic location leads to a wide variety

of natural conditions: mountains, foothills, river valleys and lowlands – almost all major forms of landscape relief can be found here. It has an important geographical location, entirely belongs to the Tisza River catchment, the largest left tributary of the Danube.

About 80% of the territory of this land is formed by mountains, creating from the southwest to the southeast the Vododilnyi mountain range, the Gorgany, the Svydovets, the Chornohora, the Polonynskiy range, the Rakhiv Massif and the Volcanic Carpathians. In the Chornohora mountain range, there is Mount Hoverla (2,061 m)



that is the highest peak of the oblast and the whole of Ukraine. Transcarpathia is connected with other regions by the Yablunytskyi, Vyshkivskyi, Uzhotskyi, Veretskyi and Volovetskyi passes of altitudes between 931 and 1,014 metres above sea level. The south-western part of the region is covered with the Transcarpathian Lowland (100-120 metres above sea level).

9,429 rivers and streams flow through the territory of this region. The Tisza (the

Danube's left tributary) is the longest river. Within the territory of the region, its length is 240 km. The longest tributaries include the Borzhava, the Rika, the Tereblia and the Teresva. The next largest rivers are the Latorytsia and the Uzh that fall within the Bodrog River. In the region, there are 137 natural lakes, mostly of glacial and landslide origin; Synevyr is the largest of them.

Useful minerals of the region: deposits of polymetals, alunites, perlites, zeolites and



rhyolites; the Solotvyno rock-salt deposit is considered to be important; kaolin mining is carried out here, 13 deposits of carbonate raw materials (marbled limestone, dolomite, marble) were found. More than 360 mineral water springs different in chemical composition and medicinal properties were discovered and examined.

In the territory of Zakarpattia oblast, near the village of Dilove, Rahiv district, there is located the geographical centre of Europe.

The climate of Transcarpathia is temperate-continental, and the very word “temperate” in this term corresponds to reality. In this area, nothing is too much or too little: there is enough sun in summer and enough snow in winter, and the inter-seasonal weather tends to be less harmful than steady rains. Within the territory of the plain, air gets warmer than in the mountains during a year. In July, the average temperature is +20°C, and in January – -4°C. In general, the climate is much warmer than in other regions of Ukraine located at the same latitude.

The unique natural ecosystem of the Carpathian biosphere preserve belongs to the most valuable ecosystems of the Earth and has been included in the international system of UNESCO biosphere reserves. The mountainous part of the region forms 80% of its area and includes three groups of asymmetric ridges with rather steep south-western slopes, where numerous valleys are cut through by mountain rivers. All rivers and streams formed in the valleys and gorges of the mountains, and in Zakarpatska region over 9,000 belong to the Tisza River Basin and act as its tributaries. The most precious treasure of the region is its forest, which covers more than a half of its territory. The region comprises a high number of species included in the Red Data Book of Ukraine: 182 species of animals (out of 233 in total) and 213 species (out of 538 species). As of January 1 2017, there are 465 nature reserves declared in the Zakarpatska region, covering 183,496 ha (14.2% of the total area). 34 Protected Areas within the 465 nature reserves have a national designation and cover 160,000 ha. The large mammals Wild cat *Felis silvestris*, and Eurasian lynx *Lynx lynx* fall under the category of Vulnerable; Brown bear *Ursus arctos* fall under the category of Endangered category in Ukraine. The wolf *Canis lupus* has no protection status according to the Red Book of Ukraine.

CHAPTER 3

Threat/Pressure 1:

NEW INFRASTRUCTURE PROJECTS
MAY INCREASE THE BARRIER EFFECT

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The main threat caused by linear infrastructure is the barrier effect – roads with high traffic density and high-speed railways are basically impossible to pass for most species, which in turn limits their ability to move around the landscape in search of food, shelter, mating partners, etc. Naturally, all of this negatively affects entire populations and threatens their survival. The barrier effect can have physical or behavioural character: (1) physical barriers are usually associated with completely fenced roads and railways; (2) behavioural barriers mostly occur in larger species and lie in various avoidance patterns, when animals do not use at all areas near roads or railways or avoid crossing large open spaces.

Specifics of the barrier effect threat/pressure in the Zakarpattia region:

The Zakarpattia region is used as the main gate from Ukraine to Hungary, Slovakia, Czech Republic, Austria, Western Balkans and Italy. Major transport flows cross both the Carpathian mountain ridges and the Zakarpatska (Tisza) plain. The existing infrastructure, including roads, provides necessary traffic performance for the existing passenger and freight traffic.

There are plans to increase traffic performance, with primarily increasing the speed on motor roads and railroads. As the existing motor road infrastructure crosses settlements where speed is limited to 50 km/h, the solution is considered to build a completely new road which by-passes all settlements. However, the lack of funds combined with difficult geological conditions keeps these plans within the preliminary survey stage. If the decision to construct such a road is taken it will be subject to EIA.

The Road State Agency (Ukravtodor) is planning to reconstruct the M-06 Kiev-Chop road, which will lead through the Zakarpattia region. This new design will include the road into the technical category 1-B (section length of 22.3 km) with a 4-lane concrete roadway (2x7.5 m). In addition, four traffic interchanges will be built; three existing overpasses across the

railway tracks will be reconstructed; two new pedestrian bridges will be built, and new lighting and other traffic safety systems are planned to be built in a couple of years in the region. Currently, this project is postponed due to military actions in Ukraine, the lack of resources and secondary priority.

Although there were no major projects of new road construction in Zakarpattia region, there are projects to reconstruct the existing roads and construct a new by-pass road (Beregovo by-pass). The projects include the repair, reconstruction and construction of new culverts, small bridges and other structures used by wild animals for migration. The monitoring of such projects allows preventing the construction of new barriers for migratory animals and improvement of migration conditions at existing structures by providing consultations to the authorities and involving the public in the decision-making process.

The National Police statistic data of traffic accidents caused by animals within this part of motorway (length approx. 130 km) shows that during 2006-2016, there were 41 reported motor vehicle collisions. These new planned highways in the fragmented lowland forests as well as in the mountain biodiversity hotspots of the Zakarpattia region could have deleterious consequences on large carnivores' migration. According to the current scheme of highway location, it even may affect several conservation areas within these two regions.

The lack of constant monitoring of animal mortality on the roads/railroads of the region requires additional efforts to be taken by SaveGEEN team, which is the only constant actor in the process of ongoing identification of critical areas and preparing the recommendations to prevent and decrease traffic accidents and animal mortality.

Modern land-use changes often threaten critical migration areas, such as river valleys, forest bottlenecks, parts of mountain ridges, agricultural landscapes such as pastures, hayfields, abandoned orchards etc. Monitoring

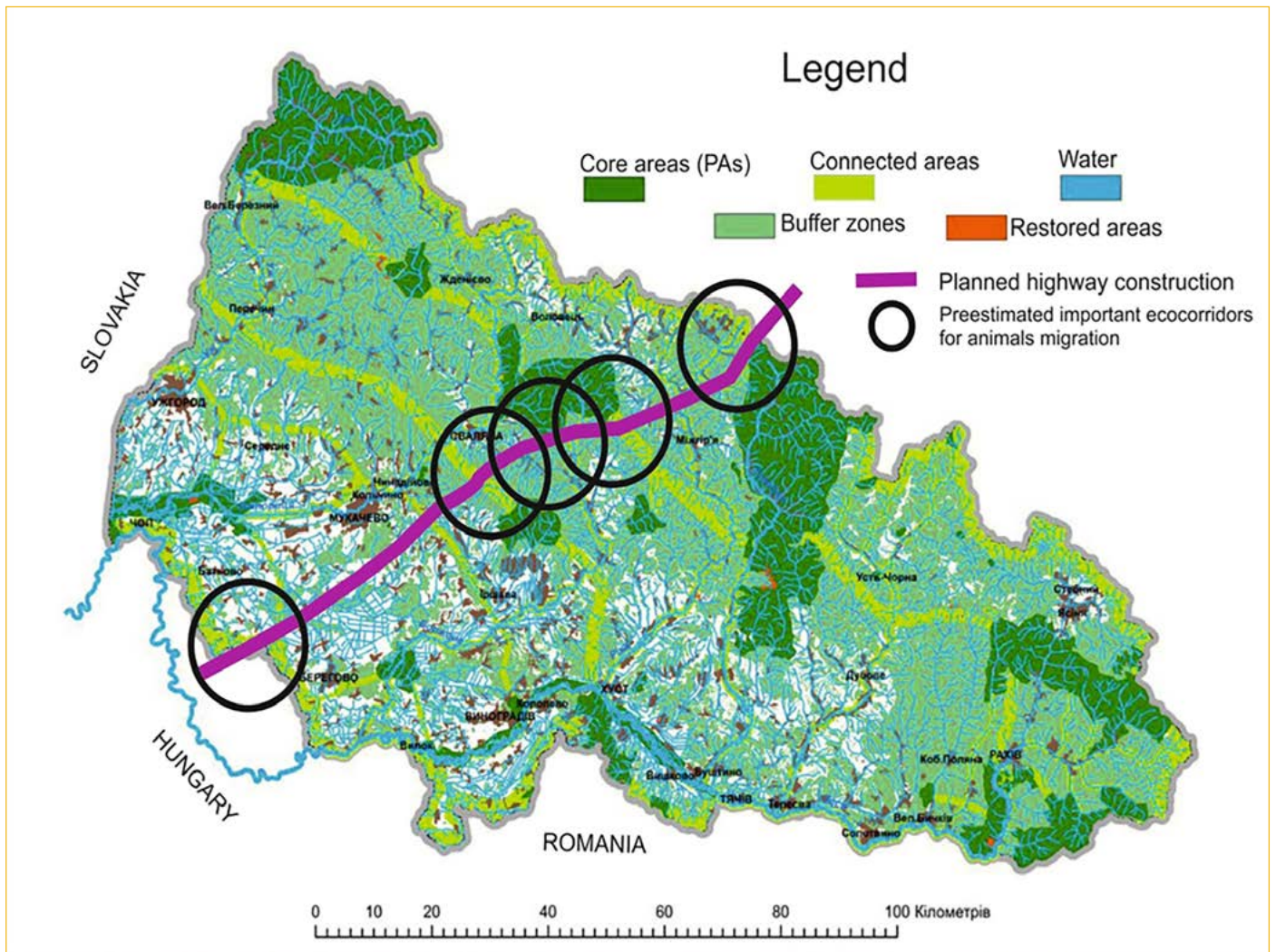


Figure 2: Ecological network of the Zakarpattia region and planned highway construction with its potential environmental impact

of critical areas and application of the existing legal instruments to protect such critical areas should be combined with the establishment of protected areas and the adoption of new legislation (on Emerald Network, on preserving traditional land-use practices etc.).

The full-scale war started on February 24 with the Russian invasion and rocket strikes hitting critical infrastructure caused essential changes in the plans of the Ukrainian government related to road infrastructure development. There were a number of attacks on major airports (Ivano-Frankivsk airport is fully destroyed) and railway infrastructure in the Lviv and Zakarpattia regions. There are

major changes in the road traffic in Ukraine with shifts of export and import flows from the southern part of Ukraine (linked to ports of Odesa, Kherson, Mykolayiv, Pivdenne, Mariupol, Berdyansk and Melitopol, which are either occupied by the Russian Army or fully blocked by the Russian Navy) to the western part of Ukraine. The roads connecting Ukraine with Russian Federation and Belarus are blocked completely.

It is necessary to note that the share of potentially dangerous freights (including oil products, liquefied gas, chemicals) on the roads of Western Ukraine also increased due to the fact that this is the only possible route of supply.

However, the increase in importance and intensification of traffic flow in the western part of Ukraine is not expected to cause any essential change in road network in short-term perspective in terms of new motor road and railway construction and changes in infrastructure and traffic regulation. There are the following reasons for this:

- » Deep drop in the economy caused by war (appr. 30 % in 2022¹);
- » Risks of attacks on road infrastructure (there were numerous rocket attacks on railway infrastructure);
- » Lack of state and regional funds for any works related to roads except maintenance and repair of critical road infrastructure;
- » High risks for private investments in the road infrastructure in the time of war;
- » Priority of recovery of critical road infrastructure in retaken regions heavily destroyed by Russian invasion (Kyiv, Chernihiv, Sumy, Zhytomyr regions, etc.).

Aims:

- » Prevent the build-up of new barriers on the roads and barriers associated with river banks and rivers themselves (dams), through monitoring of road reconstruction/ construction/repair and construction activities associated with rivers;
- » Support the permeability of natural ecosystems crossed by road networks and other man-made structures using monitoring and public participation process.
- » Eliminate barriers and replacement of the existing road structures for the ones that are more favourable for animal migrations through providing expert advice.

- » Provide general monitoring of project area and follow-up of decisions, which can potentially affect animal migrations in the region.
- » Identify critical areas.
- » Decrease the number of accidents with wild animals and decrease the number of road-kills in the region by taking efficient prevention and mitigation measures (established speed regime, road signs, and improved range of vision).
- » Critical areas are protected by schemes of preservation of the existing land-use and improvement of migration conditions. New legislation on the Emerald Network regime has been adopted. Existing legal schemes are actively used to protect the critical migration areas of the region. SEA and EIA procedures are properly used.
- » Poaching intensity is decreased and does not affect migration of animals at any essential level.

General Objectives set to address the threats are:

1.1. Ensure the existing permeability of road infrastructure and improve it

1.2. All new projects include measures, which ensure the migration of wild animals

1.3. Assign a legal status and develop coherent regulations for wildlife passages

1.4. Increase the permeability of roads/ railroads that are subject to reconstruction/ repair (if necessary)

1.5. Enforce efficient laws to combat poaching

1.6. Adopt necessary legislation (including Emerald Network) and efficient use of existing (especially SEA, EIA instruments)

¹ <https://www.ebrd.com/news/2022/war-in-ukraine-and-inflation-slow-growth-in-ebrd-regions.html>



CHAPTER 4

Threat/Pressure 2:

CHANGES IN AGRICULTURAL LAND
USE MAY ALTER MIGRATION ROUTES
AND INCREASE THE BARRIER EFFECT

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Specifics of the threat/pressure in the Zakarpattia region:

Total area of agricultural lands in the Zakarpattia region is 4,510 hectares (35 % of the total area of the region). There are 200,000 hectares of arable lands in the region (44.4 % of agricultural lands of the region)², while Ukraine has the highest percentage of arable lands in the world (56% of the area)³. Almost all arable lands are concentrated in Zakarpatska lowland (part of Pannonian plain) and neighbouring sub-montane lands.

Concentration of arable lands determines the migration routes of animals, especially large carnivores such as brown bear *Ursus arctos*, Eurasian lynx *Lynx lynx*, and wolf *Canis lupus*, all of which normally avoid these areas and herbivores, which can use arable lands as a source of food.

War and occupation of important agricultural areas in Southern and Eastern Ukraine including Kherson, Zaporizhya, Luhansk, Donetsk, Kharkiv regions and the Crimea caused a serious loss of both arable lands and agricultural stock. Kherson and Zaporizhya (seaside of Azov) were the two regions that specialized in growing vegetables and fruits, while others specialized in grain-crops. There were huge storage facilities for grains and vegetables in the occupied areas. Ukraine does not have access to this food stock anymore, and neither to agricultural lands.

The war and the following economic crisis caused essential shortages in the food supply in Ukraine and global rise in food prices. The government has taken a decision to increase the food production by simplification the process of transformation of public hayfields and pastures into “arable” category (“sale cropping lands”). The hayfields and pastures, especially in the mountain and sub-montane parts of the region, are often covered in self-seeding woods and play an essential role as ecological corridors for migration and feeding areas for different animal species. Their transformation into arable lands (especially the creation of large arable areas), which is much more likely to occur in plains and the sub-montane areas, will definitely affect biodiversity (degradation) and may worsen the habitat and migration conditions of some sensitive animal species (Eurasian lynx *Lynx lynx*, Wild cat *Felis sylvestris*, Common quail *Coturnix coturnix*, Corncrake *Crex crex*, Lapwing *Vanellus vanellus*, Whinchat *Saxicola rubetra*, and Common stonechat *Saxicola torquata*). In addition, meadow ecosystems are important trophic habitats of some other species, such as Red deer *Cervus elaphus*, Black stork *Ciconia nigra*, Lesser spotted eagle *Aquila pomarina*, etc.

Such transformation of the legal status of lands will be possible when the State Land Cadastre opens for different users, including state bodies. Now the Cadastre is unavailable as it contains geodata, which are considered to be secret in war-time. High prices for food caused numerous cases of illegal ploughing of public hayfields and pastures even before the war.

² <https://agropolit.com/spetsproekty/705-zemelnyy-dovidnik-ukrayini--baza-danih-pro-zemelnyy-fond-krayini>

³ <https://kirovohradska.land.gov.ua/vyznacheno-reitynh-krain-lideriv-za-rivnem-rozoranosti-zemel-v-sviti/v>



CHAPTER 5

Problems / Measures / Actions

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Problems	Measures	Actions (monitoring, policy)
<p>Problem 1. Increasing barrier effect of existing linear features caused by structural interventions</p>	<ol style="list-style-type: none"> 1. Monitoring of road reconstruction project in the Zakarpattia region. 2. Monitoring of river valley permeability (sections important for wildlife migration). 3. Monitoring of river valley permeability (sections important for wildlife migration). 4. Participation in the decision-making process. 	<ul style="list-style-type: none"> » Monitoring of information in EIA register (access to EIA register is denied for the time of war. The information is provided by The Ministry of Environment and Departments of Ecology upon written request), web-site of State Road Service in the Zakarpattia region, regional and local mass-media etc.; a. Communication with The State Road Service in the Zakarpatska region, Department of Ecology and Natural Resources of Zakarpatska region, local stakeholders; b. Monitoring of key sections in-situ (by SaveGreen expert); c. Analysis of project documentation preparation of recommendations and proposals to design layouts and specifications, participation in EIA process with submission of necessary claims and proposals
<p>Problem 2. Wildlife mortalities associated with linear infrastructures (including electric power lines)</p>	<ol style="list-style-type: none"> 1. Warning train conductors on road-kill/accident-danger areas 2. Warning drivers about road-kill/accident-danger areas 3. Increase drivers/ conductors' visibility on roads/railways 4. Special measures to avoid bats' mortalities 5. Special measures to avoid amphibians & reptiles' mortalities 6. Collection and process of data to understand incidents/accidents critical sectors 7. Develop and use an integrated database as a decision-supporting tool to address traffic incidents (to implement/ adjust measures to prevent wildlife traffic-kills, damages, human casualties) 	<ol style="list-style-type: none"> 1a. Collection of reliable information about railway animal mortality. 1b. Identification of critical areas. 1c. Provision of information to Railways Administration and discussing necessary actions. 1d. Provision of information to train conductors. 2a. Collection of information on road accidents and animal mortality on roads. 2b. Identification of critical areas. 2c. Consultations with The State Road Service in the Zakarpattia region and The National Police regional office. 2d. Installation of warning road signs and speed limitation (in case of efficiency). 3a. Inspection of roads and provision of information about sections with inappropriate visibility to the State Road Service and Railways Administration. 4a. Field inspections, collection and analysis of accidents records, identification of critical areas, separate recording of accidents with animals. 5a. Identification of critical areas and preparation of recommendation on culvert design alteration/ reconstruction/protective barriers assembling. 6. Field inspections, collection and analysis of accidents records, identification of critical areas, separate recording of accidents with animals. 7. Studying, field tests, dissemination among stakeholders.

<p>Problem 3. Reduced landscape permeability caused by changes in land-use</p>	<ol style="list-style-type: none"> 1. Enforce legislation on changes in land-use towards increasing permeability 2. Facilitate/support changes in land-use toward increasing high permeable categories 3. Fencing regulations and promoting non-fenced areas 4. Prevent/control spreading invasive plant & animal species and renaturation of invaded/degraded lands 	<ol style="list-style-type: none"> 1a. Monitoring of critical areas and addressing the potential harmful land-use changes by addressing the responsible authorities, campaigning, publications in mass-media, negotiations. 1b. Law-enforcement by police, The State Ecological Inspectorate, local administrations. 2a. Elaboration and adoption of legislation, which simplifies changes in land-use favourable for support of animal migrations. 3a. Elaboration and adoption of legislation, which regulates fencing and restricts fences in the areas important for animal migration. 3b. Promotion of “non-fenced” areas among people in Ukraine. 4a. Allocation of funds for invasive plants/animal control. 4b. Consultations with stakeholders and stimulating stakeholders’ involvement in invasive plant control. 4c. Development of renaturation programmes and their implementation.
<p>Problem 4. Lack of coherent monitoring and adaptation</p>	<ol style="list-style-type: none"> 1. Development of integrated monitoring programme – procedures, database, indicators, assessment 	<ol style="list-style-type: none"> 1a. Development of nationwide monitoring programmes for key species (bear, lynx, wolf) by the Ministry of Environmental Protection to be applied by administrations of protected areas, regional environmental departments and other key actors. 1b. Establishment of monitoring system for animal mortality on the roads to be applied by The Department of Ecology of the Zakarpattia region and The National Police.
<p>Problem 5. Bad species management</p>	<ol style="list-style-type: none"> 1. Poaching prevention and control 	<ol style="list-style-type: none"> 1a. Improvement of legislation related to investigation and prosecution of poachers. 1b. Development of new tools against poaching (including labelling of trophies, campaigning, and remote video recording to be used as evidence)

<p>Problem 6. Legislation gaps and legal enforcement</p>	<p>1. Ecological corridor status, land use obligations, and sustainable forestry practices are properly addressed in the legislation, SEA and EIA procedures are properly used</p>	<p>1a. Adoption of Law on The Emerald Network of Ukraine. 1b. Development of new legislation, which provides legal barriers for harmful changes of land-use on the territories of migration corridors. 1c. Forest areas which serve as migration corridors receive appropriate status as reproductive areas for wildlife, representative areas through:</p> <ul style="list-style-type: none"> » Identification of critical areas » Provision of information to forestry enterprises and regional forestry administration » Negotiating necessary status of critical areas » Making changes to forestry forest management plans <p>1d. Adoption of new Law on Environmental Control, which includes additional mandate for the state Environmental Inspectorate.</p>
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A photo trap capture of a wild lynx in the Yasyniansky Forest © WWF-Ukraine



CHAPTER 6

Conclusions

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Transport is a major field of interference between human activity and biodiversity, since transportation may induce physical fragmentation of natural environments and habitats. Transport system covering large distances affects biodiversity locally and regionally. Direct impacts include road kills (mostly mammals), disturbance (falling of roadside trees, increased noise), spills and contaminated runoff. In addition to these direct impacts, improved access to remote areas may lead to unsustainable resource exploitation.

The potential negative impacts of transportation on the environment can be listed as degradation of air quality, greenhouse gas emissions, increased threat of global climate change, degradation of water resources, noise and habitat loss and fragmentation.

The habitat loss and its fragmentation occur because of motorways and other intensively used arterial roads, and major railways create impassable barriers for animals.

Such barriers then separate the originally continuous distribution areas into smaller and mutually isolated islands that are no longer able to ensure the conditions for long-term survival of populations. This process is more and more becoming a serious threat. Habitat fragmentation caused by transport infrastructure, thus, becomes a key issue for survival of many species. Species inhabiting large areas in relatively small numbers are threatened the most. Large mammals will inevitably belong to the most endangered species. The impact of habitat fragmentation significantly increases under the conditions of climate change, which brings modifications to habitats, and by doing so it also shifts in ranges or relocations of both individuals and populations into new areas.

On June 30 2018, the Government of Ukraine adopted Resolution No. 430-p. "On Approval of the National Transport Strategy of Ukraine for the Period until 2030". The adopted strategy defines that the priorities of the integrated formation of transport policy and effective public



administration, as well as the main directions of development of the transport industry for the period up to 2030, and is aimed at the creation of a safe and functioning transport sector integrated into the world transport network. This way, the need in transportation and improving the business environment to ensure the competitiveness and efficiency of the national economy is satisfied. One of the key points of this strategy is to ensure the conduct of strategic environmental assessment during the development of plans

and programmes for the development of the transport sector, primarily ensuring during the planning, design and construction of transport infrastructure the development of alternatives to prevent or minimize negative impact on the environment, forests, territories and of nature reserve fund, including the construction of special wildlife passages and protective barriers in places of migration of wild animals. One of the related activities is that the draft State Standard of Ukraine “Roads. Wildlife crossings. Requirements for design” is on hold.



Overall suggestions on current situation in the region/country on connectivity and infrastructure development:

1. There is no appropriate monitoring system for connectivity in Ukraine. There are its fragments, but the entire system is missing in principle. SaveGREEN, together with another thematic project for large carnivores, have minor monitoring elements; however, they are insufficient even for the Ukrainian part of

the Carpathians and can serve as a base for building up monitoring systems, but cannot serve as the whole system.

2. Even before large-scale war the plans of Ukraine to develop the network of roads since 2014 (beginning of Russian invasion in the Crimea and Donbas region) due to very limited financial resources and inaccessibility of EU funds Ukraine focused mostly on repair and reconstruction of existing road network. There were only few projects of construction of new roads (Lviv by-pass and Zhytomyr connection), but they were not implemented due to the beginning of large-scale war in 2022.
3. Lack of appropriate monitoring does not allow providing sufficient data about ecosystems connectivity and barrier effect of national road network. Such data could be an argument for the decision-makers.
4. When there is lack of funds even to support the existing road network and for ecological research projects, the position of Ukrainian government is not very active. COVID restrictions and war changed the behaviour essentially, both in terms of people and national and regional priorities, funds etc.
5. In these conditions, there should be a focus on support of the existing cooperation and work and develop the sphere related to legislation (however, it is quite difficult to persuade decision makers to deal with legislation related to nature protection when they need to deal with energy security, food security and support of army). It is reflected in the proposed CSOP.
6. Considering the plans of Ukraine to join EU so that the EU legislation will be part of the Ukrainian legislation and taking into account that the war has changed the state of things and possible risks of post-war reconstruction which will not take nature as a priority, there is a need to reconsider and very likely change the priorities of connectivity work in Ukraine and plans for the future.

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PILOT AREAS:

Austria

- 1 Kobernausser forest
- 2 Pötsching (Alpine-Carpathian Corridor)

Czech Republic/Slovakia

- 3 Beskydy-Kysuce CZ-SK cross-border area

Hungary/Slovakia

- 4 Novohrad-Nógrád SK-HU cross-border area

Ukraine

- 5 Zakarpattia region

Romania

- 6 Mureş valley (Arad-Deva)
- 7 Mureş Valley (Târgu Mureş – Târgu Neamţ)

Bulgaria

- 8 Rila-Verila-Kraishte corridor



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Project partners:

Austria: WWF Central and Eastern Europe (Lead Partner), Environment Agency Austria

Bulgaria: Black Sea NGO Network, Bulgarian Biodiversity Foundation

Czech Republic: Friends of the Earth Czech Republic – Carnivore Conservation Programme, Transport Research Centre Czech Republic

Hungary: CEEweb for Biodiversity, Hungarian University for Agriculture and Life Sciences

Romania: Zarand Association, EPC Environmental Consultancy Ltd., WWF Romania

Slovakia: Slovak University of Technology in Bratislava – SPECTRA Centre of Excellence of EU

Associated Strategic Partners:

Austria: Ministry for Climate Action, Environment, Energy, Mobility, Innovation, and Technology

Bulgaria: Ministry of Agriculture, Food and Forestry – Executive Forest Agency, Southwestern State Enterprise SE – Blagoevgrad

Czech Republic: Ministry of the Environment, Nature Conservation Agency

France: Infrastructure and Ecology Network Europe (IENE)

Germany: Bavarian State Ministry of the Environment and Consumer Protection

Greece: Egnatia ODOS S.A.

Hungary: National Infrastructure Developing Private Company Ltd. (NIF Ltd.), Ministry of Agriculture, Danube-Ipoly National Park Directorate

Romania: Ministry of Environment, Waters and Forests, Ministry of Public Works, Development and Administration, Ministry of Transport, Infrastructure and Communications

Slovakia: State Nature Conservancy, Ministry of Environment, Ministry of Transport and Construction, National Motorway Company

Ukraine: M.P. Shulgin State Road Research Institute State Enterprise – DerzhdorNDI SE, Department of Ecology and Nature Resources of Zakarpattia Oblast Administration

SaveGREEN “Safeguarding the functionality of transnationally important ecological corridors in the Danube basin”

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