



REPORT: CONNECTIVITY CONSERVATION WORKSHOP -GUIDING THE

CARPATHIAN REGION

Jointly organized by the BearConnect Project, Center for Large Landscape Conservation, and IUCN WCPA Connectivity Conservation Specialist Group



Alpin Resort, Poiana Brasov (Romania), 4-6 November 2019

Introduction

From 4-7 November 2019, over 50 scientists, conservation experts, natural resource managers, and policymakers from 13 countries gathered in Poiana Brasov to advance the practice of connectivity conservation in Romania and the wider Carpathian Mountains; one of Europe's most

biodiverse and intact ecosystems. Convened under the leadership of the BearConnect Project Research Consortium, the Center for Large Landscape Conservation IUCN WCPA and the Connectivity Conservation Specialist Group (CCSG), the workshop brought together stakeholders diverse to participate in an innovative exercise using field data, results from spatial, genetic and ecological analyses, and the now published <u>IUCN</u>



<u>Guidelines for Conserving Connectivity through Ecological Networks and Corridors</u> to contribute to more effective ecological connectivity conservation.¹

This was reinforced by high-quality field data and results from spatial and ecological analyses. The area of focus for the workshop was the ecological network of protected areas in Romania known as the "green circulatory system of the Carpathians" that ensures ecological connectivity among the core areas of <u>Bucegi Natural Park</u>, the <u>Piatra Craiului National Park</u>, Natura 2000 sites <u>"Bucegi ROSCI0013"</u>, <u>"Postavaru ROSCI0207</u>", <u>"Piatra Mare ROSCI0195</u>", <u>"Ciucas ROSCI0038</u>", <u>"Leaota ROSCI0102</u>" (see maps below).

This report herewith details the background, process, and outcomes of the workshop.

Background

The Carpathian Mountains in Central and Eastern Europe are one of the world's most biodiverse and intact wild places, stretching across seven countries (Czech Republic, Hungary, Poland, Romania, Serbia, Slovakia, and Ukraine). Covering land five times the size of Switzerland, the Carpathians are home to over 40% of continental Europe's brown bear population (estimated at over 7,000 individuals) - excluding Russia and Belarus - and crisscrossing some of the last remaining virgin and old growth forests.² However, suitable habitat across the region is fragmented and increasingly impacted by human activities that can act as barriers to accessing food, water, and mates - and subsequently gene flow, as well as increasingly leading to human-wildlife conflict. In Romania, recent

¹ "Ecological Connectivity is the unimpeded movement of species and the flow of natural processes that sustain life on Earth" (Definition adopted by the Convention on Migratory Species in Resolution 12.26 (REV. COP13) in February 2020).

² See <u>https://ec.europa.eu/environment/nature/conservation/species/carnivores/conservation_status.htm</u>.

and anticipated development of higher-capacity road infrastructure is likely to fragment brown bear populations, perhaps for the first time.

Faced with this impending threat, conservation measures for bears increasingly focus on the maintenance of ecological connectivity and specific objectives of the workshop included:

- 1. Evaluation of available spatially explicit ecological data and research results about brown bears in the region to identify priority areas for conservation of in-situ biodiversity and connectivity, and comparison of this information to the extent, configuration, and management of the current ecological network;
- 2. Use of selected case study areas within the Romanian Carpathians to apply, test, and refine the IUCN Guidelines for connectivity conservation through ecological networks and corridors;
- 3. Formulation of a replicable approach for designing more effective and enduring ecological networks that maintain, enhance, and restore connectivity across landscapes and better conserve biodiversity; and
- 4. Production of a summary document of workshop outcomes tailored for the broader scientific community, as well as European and regional policy-makers and managers.

Workshop process

Group presentations

To establish the basis of understanding among all participants, initial presentations were provided about the relevant science, policy, and management for innovative ecological connectivity conservation approaches across the Carpathians. Presentations included:

- Overview of the BearConnect Project (Marta De Barba, BearConnect Coordinator, Laboratoire d'Ecologie Alpine, France);
- Connectivity conservation and innovation for the Carpathians (Gary Tabor, Chair of the IUCN WCPA Connectivity Conservation Specialist Group and President of the Center for Large Landscape Conservation);
- An overview of protected and conserved areas in the Carpathians, and opportunities for applying new data and research (Ancuta Fedorca, Romanian National Institute for Research and Development in Forestry "Marin Dracea" and Member of the IUCN WCPA Connectivity Conservation Specialist Group);
- Where brown bears are located and where they move: Mapping genetic and telemetry locations in the Carpathians (Marta De Barba);
- Why and how are landscape connectivity analyses undertaken (Niko Balkenhol, University of Göttingen);
- Brown bear distribution modelling under global changes (Pablo Lucas, Polish Academy of Sciences);
- Modelling connectivity between protected areas (Trishna Dutta, University of Göttingen);
- IUCN Guidelines for conserving connectivity through ecological networks and corridors (Jodi Hilty, President/Chief Scientist, Yellowstone to Yukon Conservation Initiative and Deputy Chair of the IUCN WCPA Connectivity Conservation Specialist Group and Stephen Woodley, IUCN WCPA Thematic Vice Chair for Science and Biodiversity);

- *Linear transportation Infrastructure and the environment* (Deborah Kmon-Davidson, Associate Director, Center for Large Landscape Conservation and Gary Tabor);
- Connectivity conservation and international/regional Multilateral Environmental Agreements (Aaron Laur, International Connectivity Program Officer, Center for Large Landscape Conservation and Zack Wurtzebach, Conservation Social Scientist, Center for Large Landscape Conservation;
- LIFE SAFE-CROSSING Project: Preventing wildlife-vehicle collisions through best-practices for priority species in Southeast Europe (Mihai Fedorca, Romanian National Institute for Research and Development in Forestry "Marin Dracea"); and
- Case study of landscape genetics in Romania (Ancuta Fedorca).



<u>Case studies and breakout groups</u>

Thereafter, breakout groups convened - each assembled to ensure a mix of participants with science, policy, and management expertise - for the remainder of the meeting to focus on one of three case studies:

- Case study 1: COLD RIVER CORRIDORS (Paraul Rece) facilitated by Jodi Hilty;
- Case study 2: CARRIAGE ROAD CORRIDOR (Drumul Carului) facilitated by Stephen Woodley; and
- **4** Case study 3: DRACULA'S CORRIDOR (Castelul Bran) facilitated by Zack Wurtzebach.

The selection of these case studies is based on minimum criteria identified by INCDS Marin Dracea and BearConnect partners, as well as taking into high consideration the Romanian National Biodiversity Strategy and Action Plan stating that *"The natural protected areas and the ecological corridors must be mandatorily highlighted by the National Agency of Cadastral and Land Registration in the national, regional and local plans for land management and urbanism, in the cadastral plans, and in the land registers"*. Until now, three ecological corridors have been established for large carnivores between Piatra Craiului National Park and Bucegi Natural Park. While the corridors are included in the Territory Management Plan of Braşov County, they have not yet been approved according to the provisions of Government Emergency Ordinance no. 57/2007 with amendments and supplements by Law no. 49/2011 that provide the national legislative framework for ecological corridors. Ecological network – The green circulatory system of the Carpathians Case study 1: Cold river corridors (S) and (NW), Case study 2 Dracula's corridor, Case study 3 Carriage road corridors (SW) and (NE)



Supporting materials were collected and prepared in advance of the workshop by INCDS Marin Dracea and the Center for Large Landscape Conservation to respond broadly to the number of activities described below. Extensive datasets and accompanying maps were also provided by INCDS Marin Dracea from work on various research projects funded either by national or international mechanisms, including <u>COREHABS</u>, Life for Bear, Life Safe Crossing, and Nucleu (ANCSI).

Each breakout group was supported by a Facilitator and Rapporteur as participants worked through the step-by-step series of activities that sought to guide discussions as follows:

- 1. Recording basic information for each ecological corridor;
- 2. Delineating an approximate geographic space for the ecological corridor(s);
- Prioritizing the connectivity aspects of the ecological corridor(s) from greatest to least concern;
- 4. Describing the contribution of the ecological corridor(s) to the ecological network;
- 5. Determining core objectives for the ecological corridor(s);
- Identifying existing and/or proposing governance requirements for the ecological corridor(s);
- 7. Defining the legal and other mechanisms for the ecological corridor(s);
- 8. Outlining the conditions to coordinate tenure rights for the ecological corridor(s); and
- 9. Identifying main aspects of consideration and action according to three specific categories Design, Governance, and Management.

Outcomes

In full group discussions, participants were able to identify concrete measures to be undertaken for each case study in the three specific categories:

"Design" is the approximate boundaries of the ecological corridor(s). This category is based on the best available science (such as GPS telemetry data, genetics, models, etc.), as well as existing and anticipated landscape conditions (such as intact lands, human-wildlife conflict, human development), and associated planning as available. Importantly, it is also necessary to consider how the ecological corridor is part of and contributes to the overall ecological network at the local, sub-regional, national, European regional, and continental scale.

"Governance" pertains to the existing policy structures, the persisting gaps, and requirements to fill them. This includes recognizing involvement in decision-making, and the individuals and structures in place that allow for coordination across boundaries and jurisdictions that can be both separate and overlapping. In short, governance provides the structure for accomplishing results on the ground.

"Management" is the actions undertaken at the most appropriate level that lead to substantive outcomes on the ground. It is the implementation of governance, and includes the regulations, plans, procedures, and actions that assigned authorities take and/or do not take.



Case study 1: COLD RIVER CORRIDORS

This area was chosen for its role in maintaining ecological connectivity between Bucegi Mountains, Piatra Craiului Mountains, Ciucas Mountains, Tampa Mountain, Piatra Mare Mountains and multiple Natura 2000 sites. The first component is "Cold River Corridor Rasnov (NW)" ensuring connections between <u>Bucegi Natural Park</u> (IUCN Protected Area Category V) measuring 32,663

hectares, Natura 2000 site "<u>Postavaru ROSCI0207</u>" and Natura 2000 sites "<u>Piatra Mare ROSCI0195</u>". The second component is "Cold River Corridor (S)" that maintains connectivity between of <u>Bucegi</u> <u>Natural Park</u> and the Baiului Mountains (no protected status) and the adjacent Natura 2000 sites "<u>Piatra Mare ROSCI0195</u>" and "<u>Ciucas ROSCI0038</u>". Resident and native species in the area include brown bear, wolf, lynx, roe deer, red deer, and wild boar. There are currently numerous wildlifevehicle collisions registered annually in both components. For example, national road DN1 has traffic volumes of over 31,000 vehicles every 24 hours in high travel seasons and dissects Cold River Corridor (S). Furthermore, the foreseen construction of a Transylvania Highway will fragment both "Cold River Corridor (S)" and "Cold River Corridor Rasnov (NW)" where proper mitigation measures could be instituted starting at the design stage.

The main conclusions regarding "Design" of COLD RIVER CORRIDORS are that the identified space of the ecological corridor is:

- 1. Large enough and wide enough to ensure multispecies ecological connectivity;
- 2. A matrix of uses, including Protected Areas, Natura 2000 Areas, and other areas without formal designation;
- 3. Highly intact, and should remain so to ensure maximum quality; and
- 4. Existing human-bear conflict zones should be considered.

The main conclusions reached about the "Governance" of COLD RIVER CORRIDORS are that:

- The ecological corridor should be included as part of the update to the County Level Master Plan;
- There is a need to inform, support, and enable decisions that would allow the Ministry of Environment, Water and Forest - with the approval of the Romanian Academy of Science - to include the ecological corridor in national ecological connectivity legislation. Requirements for this include:
 - a. Early and regular conversations with the Romanian Academy of Science;
 - b. Strategic and early involvement of the Romanian Ministry of Environment, Water and Forest, Ministry of Agriculture, Ministry of Development, Ministry of Transport, and other relevant ministries and agencies;
 - c. Engaging with the European Landowners Organization (ELO); and
 - d. Suggesting to the Ministry of Environment, Water and Forest and the Romanian Academy of Science that COLD RIVER CORRIDOR could be used as a pilot project to test and demonstrate appropriate mechanisms for the designation of ecological corridors in line with the *IUCN Guidelines for connectivity conservation through ecological networks and corridors*.
- 3. As regards invoking and implementing Articles 6.3 and 6.4 of the EU Habitat Directive, consider how to undertake, and develop methods for applying a full spectrum of available tools to engage with the European Union Commission, and other relevant bodies;
- 4. Develop and convene a local and subregional connectivity conservation stakeholder group that represents interests as far as possible;
- 5. Develop and convene a "Connectivity Conservation Working Group" coordinated by the Ministry of Environment, Water and Forest to include all necessary stakeholders;

- 6. Align with initiatives across the European Union that are focused on ecological corridor conservation; and
- 7. Utilize and improve upon existing Environmental Impact Assessment (EIA) processes, including new focus on assessing environmental impacts in all EIA processes from the local to European Union-wide level such as for linear transportation infrastructure based on best-practices and guidance from IUCN and other authoritative institutions, processes, and experts.



Conclusions reached about "Management" for COLD RIVER CORRIDORS include:

- 1. <u>Regarding any existing infrastructure and/or future highways projected to be constructed:</u>
 - a. It is highly important to consider the safety of both people (such as pedestrian crossings and separation from traffic) and wildlife (such as mitigation measures like overpasses and underpasses) when building the road;
 - b. If the highway were to be built in as straight an alignment as possible through the mountains, tunnels and open span bridges should be favored and can serve as one but not the only way for natural features to be protected and serve to minimize impacts on wildlife. This would then also include:
 - Effectively utilizing fencing near wildlife crossings (both natural and artificial);
 - Providing for sufficient wildlife crossings, ideally with no more than 1 km between each crossing opportunity;
 - Focusing especially on minimization of impacts in valleys where most movement takes place and where permeability can be maximized; and
 - Following global best-practices for the designing wildlife-friendly linear transportation infrastructure.
 - c. Incorporate costs of wildlife crossings into initial plans and maximize trade-offs and any benefits as much as possible to receive concessions and achieve conservation goals across the entire landscape; and
 - d. Actively plan and manage all aspects of road construction, including:

- Tenure holders;
- Construction companies, and
- Other contractors and workers.
- 2. <u>Regarding non-infrastructure and highway issues, it is important to:</u>
 - a. Preserve traditional land uses, including
 - Forestry according to national legal provisions;
 - Game management according to legal provisions; and
 - o Grazing.
 - b. Prevent new human settlements and associated impacts, including especially:
 - Fences;
 - Roads; and
 - Houses.
 - c. Manage any existing building and settlements, including the enforcement of forest and pasture zoning regulations as a component of current and future county master plans.
 - d. Actively manage the forest to:
 - Maintain current healthy relationships among stakeholders, including further enhancing partnerships between the forest administrations, hunting managers, and private landowners;
 - Maintain positive and good practices, including for timber, watershed, and special protection zones, such as bear hibernation areas; and
 - Improve management of recreation, such as enforcing off-roading restrictions and rules.
 - e. Regarding the management of conflicts, it is important to consider how best to deal with both single and multi-species issues for:
 - Bears, including managing human waste and access to crops;
 - Wild boar, including feeding areas;
 - Sheep, including how to limit their numbers on designated areas; and
 - Shepherd dogs and stray dogs, including identifying the responsible authorities and necessary regulations for limiting numbers and access to certain areas.

A number of <u>general conclusions</u> for COLD RIVER CORRIDORS were also reached concerning how to achieve the best results for the outlined **Design**, **Governance**, and **Management** categories. These include:

- 1. Improve upon the current and available data sets;
- 2. Consider the number and type of data sets required, such as for multiple species movement, human-wildlife conflict, various threats to structural and functional ecological connectivity, etc.;
- 3. Carefully identify all necessary stakeholders and undertake outreach early and often;

- 4. Be proactive and undertake multiple, parallel efforts at local, county, sub-regional, national, and European level;
- 5. Engage as soon as possible with the European Union Commission, EU Parliamentarians, and other EU bodies and research institutions;
- 6. Devise engagement and coordination mechanisms, including municipalities and counties, national and natural parks, hunting and forest administrations, etc.;
- 7. Work from the lowest level of government (Brasov municipal government) and then scaleup to the entire county, surrounding counties, and beyond in a manner similar to the following:
 - a. Brasov municipal level;

- b. County level with a multi-stakeholder advisory group;
- c. Multi-county collaboration;
- d. Joint efforts with groups at national level (see for example promoting COREHABS results, building on existing and forming new alliances (see for example the Carpathian Convention, IUCN Regional Offices in Europe, NGOs, etc.);
- e. Carpathian regional cooperation; and
- f. European level with components of the EU, including EU Commission departments, Habitat Directive officers, scientific research bodies, EU parliamentarians and environment related caucuses, the European Landowners Organization (ELO), and available coordination mechanisms.



Case study 2: CARRIAGE ROAD CORRIDOR

This area consists of two sections and was chosen because of its role in ensuring ecological connectivity between <u>Piatra Craiului National Park</u> (IUCN Protected Area Category II) encompassing 14,766 hectares, <u>Bucegi Natural Park</u> (IUCN PA Category V) covering 32,663 hectares and Natura 2000 site "<u>Leaota ROSCI0102</u>". Although only a small part of the area remains functional, species presence and movement have been confirmed through direct observation and presence of feces. Resident and native species include brown bear, wolf, lynx, roe deer, red deer, and wild boar.

The main conclusions regarding **"Design"** of the CARRIAGE ROAD CORRIDOR are that the identified space of the ecological corridor is a good representation of the existing ecological corridor, whereas there are multiple "pinch points" for movement. However, additional information and a multi-species approach would be useful beyond just brown bear-related data;

The main conclusions regarding "Governance" of the CARRIAGE ROAD CORRIDOR are that:

- It is necessary to seize opportunities that are available under Article 14 of the Protected Areas Act of Romania. This will allow for operationalization of the existing mandate to allow for officially designating ecological corridors;
- 2. In this connection, the goal should be set to increase local, regional, and national partnerships, work with the Carpathian Convention, and use the example of the Joint Ecological Continuum Analyzing and Mapping Initiative (JECAMI); and
- 3. It is important to regulate human activities, including through enhanced local planning, negative and/or positive incentives, and focus on the impacts and improvements of the tourism industry.

Conclusions reached about **"Management"** for the CARRIAGE ROAD CORRIDOR are focused on six specific areas of management:

- 1. Regulating human activity, specifically:
 - a. Recreation, especially off-road vehicle use;
 - b. Disposal and collection of garbage; and
 - c. Installing and improving fencing of orchards, beehives, and other food production that attracts wildlife;
- 2. Improving social acceptance through education, compensation and insurance schemes, tax breaks, branding and communications;



- 3. Emphasizing the scientific rationale of measures that are important for attaining local support;
- 4. Considering opportunities for restoration;
- 5. Instituting regular monitoring and assessment of progress; and
- 6. Emphasizing sustainable tourism by raising awareness about the ecological connectivity values of the region, and the importance of avoiding degradation of the ecosystem as the most precious resource.



Case Study 3: DRACULA'S CORRIDOR

This area was selected because it was included two decades ago as one of the three ecological corridors established for large carnivores between Piatra Craiului National Park and Bucegi Natural Park and also included in the Territorial Management Plan of Braşov County.

The area ensures connectivity between <u>Piatra Craiului National Park</u> (IUCN Protected Area Category II) encompassing 14,766 hectares and <u>Bucegi Natural Park</u> (IUCN Protected Area V) covering 32,663 hectares. Species presence and movement have been confirmed by direct observations and feces occurrence. However, the corridor now only has a low level of functionality since its "pinch point" is bisected by a very crowded road, an unpaved parking lot with a retaining as the only opening, and Bran Castle and adjacent buildings located directly therein. Brown bear are the only resident and native species in the area.

The main conclusions regarding "Design" of DRACULA'S CORRIDOR are that:

 The area – the structural basis for connectivity - should not be any smaller than currently delineated;

- 2. It may no longer be functionally viable due to increasing automobile traffic and human encroachment at the "pinch point", but mitigation measures should be undertaken for maintaining structural integrity as the primary goal; and
- 3. It should at least be maintained in its current state and enhanced if recommendations can be translated into action;

The main conclusions about "Governance" for DRACULA'S CORRIDOR are:

- 1. The current land use/zoning plan designates the area as a "Wildlife Corridor". Although this is now in question due to decreasing evidence, a number of measures can be taken to enhance its viability, including:
 - a. At the "pinch point", do not allow new development along the road or around the castle;
 - b. Limit the density of development on surrounding hillsides;
 - c. Maintain and enhance existing forest cover;
 - d. Identify key areas of land in the municipal plan that should not be subdivided and/or protected;
 - e. Identify and select compatible uses within the area; and
 - f. Undertake a cumulative impact assessment to better understand the diversity of threats posed, and the relevant actors and their responsibilities;

The main conclusions regarding "Management" of DRACULA'S CORRIDOR are that:

- 1. The parking lot serving as the remaining opening to the forest is only used during the day when there are many visitors to the castle. The municipality should be advised to leave it unpaved and unfenced to keep it as natural as possible;
- 2. Private landowners in the area could be offered tax incentives to remove fencing that can serve to increase permeability;
- 3. An outreach and engagement campaign for human-wildlife co-existence through "Bear Aware Education" (in collaboration with the National Institute of Science, National Park authorities, NGOs, and the municipality) could be the most effective way to increase understanding and action among residents, second homeowners, tourism operators, and tourists. Over the long-term, the campaign could be promoted alongside eco-tourism and citizen science. This could include education about:
 - a. Human-bear conflict issues;
 - b. Trash management;
 - c. Placement of bear-proof trash cans;
 - d. Agricultural management practices, including beekeeping;
 - e. Orchard management; and
 - f. Livestock management, including electric fencing.
- The management status of nearby forest cover should be clarified since the necessary regulations and/or enforcement is dependent on the type of forest management regime in place;
- 5. Increased forestry management beyond what is already designated as forest management area should be undertaken to ensure that forest cover is maintained and expanded;

- 6. Options should be explored for purchasing portions and/or whole properties adjacent to the road or hillside parcels;
- 7. Long-term data collection, monitoring, and ground-truthing will need to be instituted to determine current functional connectivity of the corridor and the success of any proposed management actions; and
- 8. To better understand if long-term management is even an option, it will be necessary to enhance focus on the role of the corridor in the context of the larger ecological network, including developing indicators and assessment of bear movement, gene flow, demographic connectivity, and community and political will.



Communication strategies

During final group discussions, workshop participants also proposed a number of ways that the importance, efforts, and impacts of increased connectivity conservation measures could be communicated and promoted. They include:

- Tailoring messages that describe the benefits of ecological connectivity in local, Carpathian region, European, and global contexts;
- Nesting initiatives within ongoing and future work under the Carpathian Convention;
- Increasing awareness of the ecological importance of the region and creating demand for and investment in its conservation instead of its development/fragmentation as a tourist destination;
- Utilize the land, ecosystems, and local to global cultural significance of the Carpathian region as the primary branding device, and not brown bears; and
- Promoting ecological corridors and ecological networks in Romania and throughout the Carpathians through a slogan and program such as "The Jewel of Europe" where smart conservation and development meet. Main messages to be communicated include that ecological connectivity brings together people and animals, and that the value of these ecological corridors and networks is vital to all of the Carpathians region and Europe to ensure that as much habitat and as many species as possible can be protected.

Overall conclusions

Reflecting on the process and results of the workshop, a number of general conclusions were identified as follows:

- Be proactive and take initiative to set the agenda before someone else does, engage in discussions, and promote ecological connectivity initiatives at multiple levels and in a diversity of ways.
- There are many organizations that have related initiatives already underway, and joint efforts are most prudent to avoid reinventing the wheel and duplicating efforts.
- As available, utilize existing governance and management structures or build new coordination mechanisms that involve the largest possible number of stakeholders that can be scaled from local to European levels and vice versa.
- The data sets provided to the workshop, while of high quality, could be adjusted and/or improved.
- More datasets for additional species, as well as aggregated data for multiple species, threats to connectivity, human-wildlife conflict, etc. would assist to bolster the defendable scientific evidence of this important work.
- It is important to prioritize the corridors, areas, and species of focus (especially species of interest across the EU and charismatic species that attract funding) to ensure the most effective use of limited resources that achieve the greatest impacts.
- When preparing future workshops, it is important to have involvement and attendance of all necessary stakeholders and to carefully consider the value and applicability of various management tools – including sustainable use of natural resources (forestry hunting, agriculture etc.) – to maintain, enhance, and restore ecological connectivity.
- The workshop activities although it is difficult to be methodical when everyone wants to quickly propose solutions - were well-framed to draw from and align with the IUCN Guidelines for connectivity conservation through ecological networks and corridors.
- The initial nine activities undertaken during the workshop were ample to catalyze discussion, understanding, and priority setting.
- Subsequent steps to then adequately prepare for the actual design, governance, and management of the ecological corridor include:
 - Preparing a long-term strategy to underpin the persistent management of the ecological corridor(s);
 - Listing the possible/requisite management actions to ensure conservation of ecological connectivity;
 - Proposing quantifiable metrics for implementing the ecological corridor(s); and
- Recommending specific monitoring, evaluation, and reporting requirements to regularly track effectiveness of the ecological corridor(s).
 - There are multiple and growing opportunities for joint initiatives and funding to ensure collaboration and enduring results of the workshop, including opportunities for a "Carpathian Connectivity Initiative", "European Ecological Connectivity Coalition", etc.

The Carpathian region is fortunate - due to forest and wildlife management up to today – to be <u>a "dark spot" on the map at night</u> and every square meter that remains this way will count toward it being a "bright spot" on the conservation map in the future.

Next steps

This report is intended to be used across Romania to inform productive conversations among local, regional, and national authorities. Furthermore, the conclusions are provided to motivate action beyond national borders as Romania increases it leadership toward achieving connectivity conservation across Europe and globally. The partners look forward to continuing collaboration for the Carpathian Mountains and conducting further workshops to apply and ground truth the IUCN Guidelines that ensure delivery of consistent connectivity practices effectively tailored to specific contexts around the world.



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