

Interreg
Danube Region



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ForestConnect Project - Towards a Climate-smart Forest Connectivity for Large Carnivores in the Balkan-Carpathian-Dinaric Region

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On-line

15th Meeting of the Carpathian Convention Implementation Committee



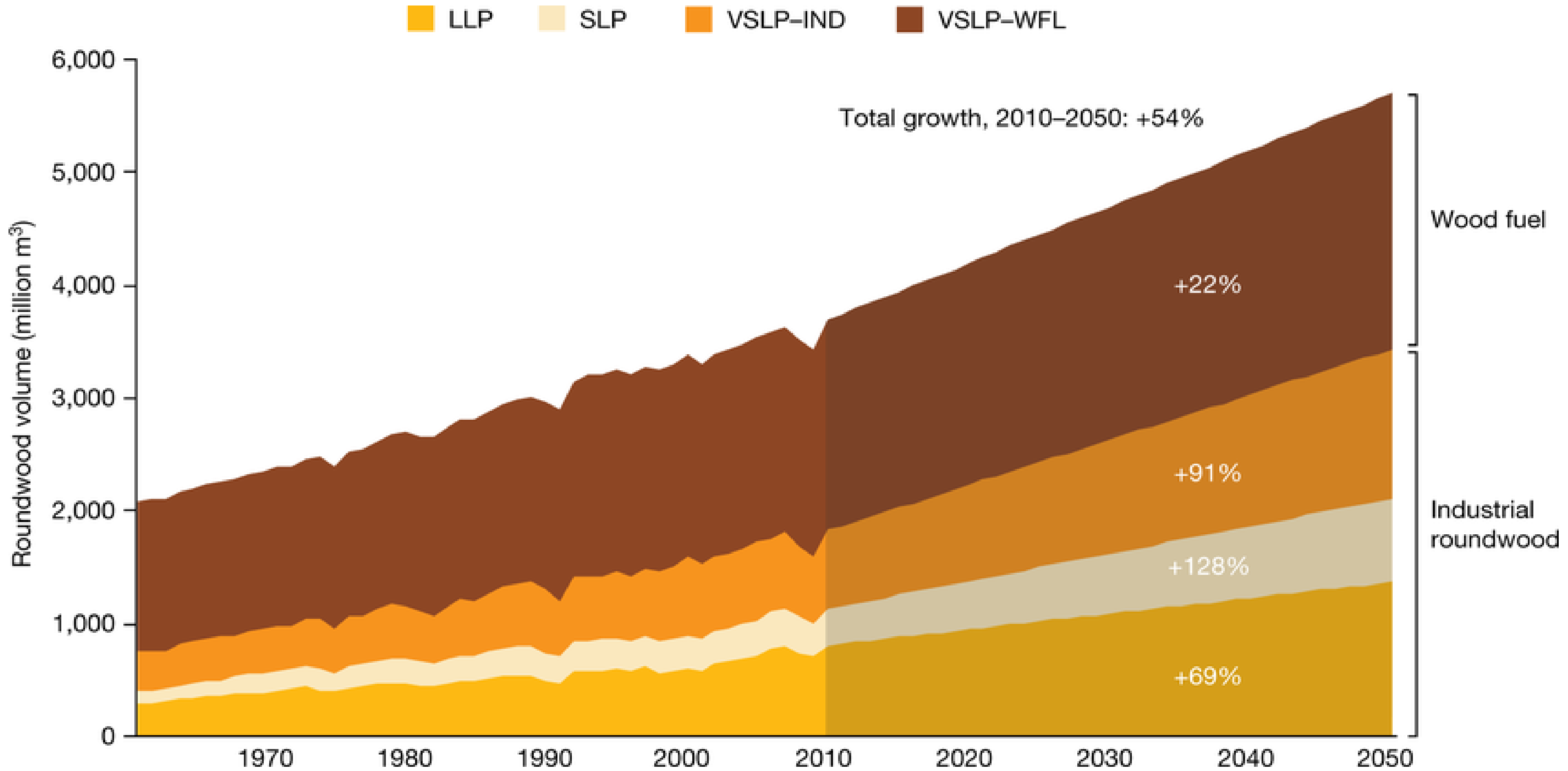
The presentation will cover:

1. **Threats to our forest dependent biodiversity**
2. **Past conservation efforts related to LCs & connectivity**
3. **ForestConnect Project**



1. Threats to our forest dependent biodiversity





LLP includes sawn wood, wood panels and other industrial round wood; SLP refers to paper and paperboard products; VSLP-IND refers to wastes of other wood product manufactured that are burned for energy; and VSLP-WFL refers to wood harvested to burn for energy.

IUCN – CMP (+CCPAMETT)

- List of PAs and contacts
- Biogeographical distribution
- Ownership overview
- Landuse overview
- Staff overview
- Budget overview
- Main values for which the protected area was designated
- Protected Area Threats
- Networking among protected areas
- Experience in project implementation

1. Residential and commercial development within the protected area (Threats from human settlements or other non-agricultural land uses with a substantial footprint)	
1.1 Housing and settlement	34.23%
1.2 Commercial and industrial areas	25.89%
1.3 Tourism and recreation infrastructure	39.29%
2. Agriculture and aquaculture within the protected area (Threats from farming and grazing as a result of agricultural expansion and intensification, including silviculture, mariculture and aquaculture)	
2.1 Annual and perennial non-timber crop cultivation	22.92%
2.2 Wood and pulp plantations	25.6%
2.3 Livestock farming and grazing	30.06%
2.4 Marine and freshwater aquaculture	12.8%
3. Energy production and mining within a protected area (Threats from production of non-biological resources)	
3.1 Oil and gas drilling	10.71%
3.2 Mining and quarrying	25.89%
3.3 Hydropower dams	21.13%
3.4 Wind farms	13.99%
3.5 Other	11.9%
4. Transportation and service corridors within the protected area (Threats from long narrow transport corridors and the vehicles that use them, including associated wildlife mortality)	
4.1 Roads and railroads (include road-killed animals)	38.39%
4.2 Utility and service lines (e.g. electricity cables, telephone lines, etc.)	32.74%
4.3 Shipping lanes and canals	13.39%
4.4 Flight paths	9.82%
5. Biological resource use and harm within the protected area (Threats from consumptive use of "wild" biological resources including both deliberate and unintentional harvesting effects; also persecution or control of specific species - this includes hunting and killing of animals)	
5.1 Hunting, killing and collecting terrestrial animals (including killing of animals as a result of human-wildlife conflict)	39.88%
5.2 Gathering terrestrial plants or plant products (non-timber)	30.65%
5.3 Logging and wood harvesting	46.43%
5.4 Fishing, killing and harvesting aquatic resources	29.17%
6. Human intrusions and disturbance within the protected area (Threats from human activities that alter, destroy or disturb habitats and species associated with non-consumptive uses of biological resources)	
6.1 Recreational activities (including extreme sports) and tourism	38.39%
6.2 Ski infrastructure, developments	20.24%
6.3 War, civil unrest and military exercises	5.36%
6.4 Research, education and other work-related activities in protected areas	27.08%

7.5 Other "edge effects" on park values	23.81%
7.6 Loss of keystone species (e.g. top predators, pollinators etc.)	27.68%
8. Invasive and other problematic species and genes (Threats from terrestrial and aquatic non-native and native plants, animals, pathogens / microbes or genetic materials that have or are predicted to have harmful effects on biodiversity following introduction, spread and / or increase)	
8.1 Invasive non-native / alien plants (weeds)	38.69%
8.2 Invasive non-native / alien animals	24.4%
8.3 Pathogens (non-native or native but creating new / increased problems)	17.88%
8.4 Introduced genetic material (e.g. genetically modified organisms)	10.12%
9. Pollution entering or generated within the protected area (Threats from introduction of exotic and / or excess materials or energy from point and non-point sources)	
9.1 Household sewage and urban waste water	31.25%
9.2 Sewage and waste water from protected area facilities (e.g. toilets, hotels, etc)	25%
9.3 Industrial, mining and military effluents and discharges (e.g. poor water quality discharge from dams, e.g. unnatural temperatures, de-oxygenated, other pollution)	18.75%
9.4 Agricultural and forestry effluents (e.g. excess fertilizers or pesticides)	26.79%
9.5 Garbage and solid waste	41.96%
9.6 Air-borne pollutants	26.19%
9.7 Excess energy (e.g. heat pollution, lights, etc.)	16.96%
10. Geological events (Geological events may be part of natural disturbance regimes in many ecosystems. But they can be a threat if a species or habitat is damaged and has lost its resilience and is vulnerable to disturbance. Management capacity to respond to some of these changes may be limited.)	
10.1 Volcanoes	3.8%
10.2 Earthquakes	7.74%
10.3 Avalanches / Landslides	17.28%
10.4 Erosion and siltation / deposition (e.g. shoreline or riverbed changes)	35.12%
11. Climate change and severe weather (Threats from long-term climatic changes which may be linked to global warming and other severe climatic / weather events outside of the natural range of variation)	
11.1 Habitat shifting and alteration	24.4%
11.2 Droughts	30.36%
11.3 Temperature extremes	29.76%
11.4 Storms and flooding	30.95%
11.5 Changes in species behaviour (e.g. bears stop hibernating)	19.64%
12. Specific cultural and social threats	
12.1 Loss of cultural links, traditional knowledge and / or management practices	43.45%





2. Past conservation efforts related to LCs & connectivity

The International Action Plan

Ministry of Climate and Environment | CARPATHIAN CONVENTION | UN environment programme | eurac research

Sixth Meeting of the Conference of the Parties to the Framework Convention on the Protection and Sustainable Development of the Carpathians
CC/COP6/DOC9/FINAL DRAFT

INTERNATIONAL ACTION PLAN ON CONSERVATION OF LARGE CARNIVORES AND ENSURING ECOLOGICAL CONNECTIVITY IN THE CARPATHIANS



INTRODUCTION, LEGAL BACKGROUND AND IMPLEMENTATION

The Carpathians are a range of mountains in Central and Eastern Europe, stretching across seven countries in the form of an arch, starting in the north-east of the Czech Republic, continuing through the whole Slovak Republic, southern Poland, eastern Hungary as well as the west of Ukraine and Romania, and then going south to the eastern part of Serbia.

The Carpathian region is one of Europe's last great wilderness areas, with exceptional levels of biodiversity, extensive tracts of old-growth forest and one of the most important and biggest large carnivore populations in Europe. It is estimated that over 7,200 brown bears, 3,000 grey wolves, and 2,350 Eurasian lynxes currently existing in the Carpathian region (Chapron et al., 2014).

The above-mentioned species require extensive, non-fragmented habitats to establish their large home ranges and to allow long-distance movements to satisfy their biological and ecological needs. However, the sizes of habitats and their connectivity are being challenged by increasing pressures of current and future development of transport and other types of infrastructure in the Carpathian region.

Furthermore, despite their functional role as ecosystem keystone species and their long-term protection in some countries, human-carnivore conflicts can occur.

The large carnivore species existing in human-dominated landscapes often face a multidimensional problem, ranging from human-caused mortality to habitat loss and fragmentation. Compared to other





INTERNATIONAL ACTION PLAN ON CONSERVATION OF LARGE CARNIVORES AND ENSURING ECOLOGICAL CONNECTIVITY IN THE CARPATHIANS

www.interreg-danube.eu/connectgreen Project co-funded by European Union Funds (ERDF, IPA)



DECISION COP6/9
Conservation and sustainable use of biological and landscape diversity
Article 4 of the Carpathian Convention

The Conference of the Parties

1. *Adopts* the International Action Plan on Conservation of Large Carnivores and Ensuring Ecological Connectivity and *encourages* the Parties, the WG Biodiversity and other stakeholders, with support of the Secretariat, to ensure smooth implementation of the Plan;

6. *Welcomes* the implementation of the project ConnectGREEN - Restoring and managing ecological corridors in mountains as the green infrastructure in the Danube basin, funded by the Interreg Danube Transnational Programme; *encourages* the Parties to promote and use the results of the project, as appropriate, *thanks* the WWF Romania and other partners, especially CEEweb for continued support in implementing the project;

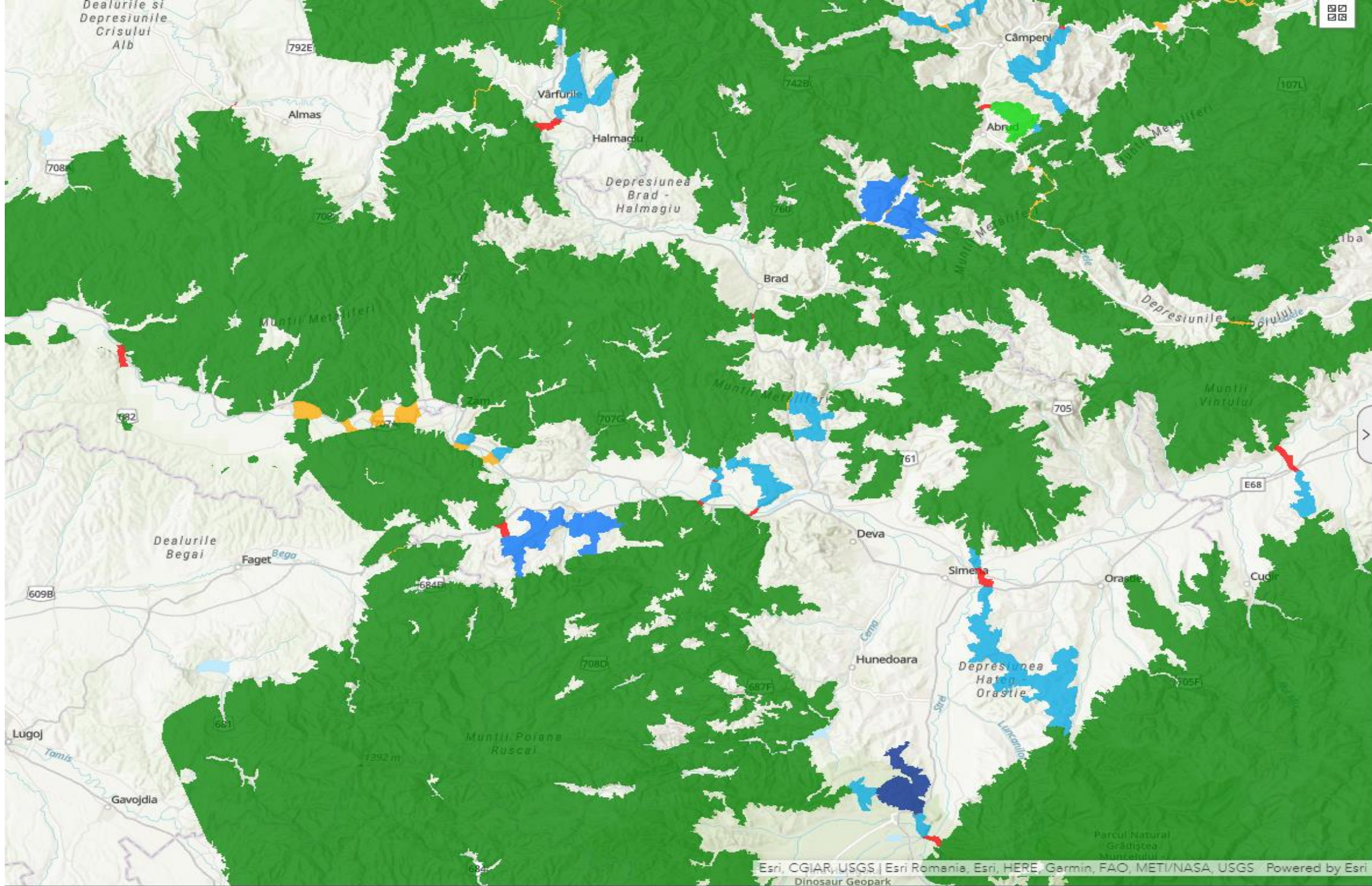
Harmonised methodology for ID ecological corridors

METHODOLOGY
for Identification of Ecological Corridors
in the Carpathian Countries by Using
Large Carnivores as Umbrella Species

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Interreg Danube Transnational Programme
ConnectGREEN

Project co-funded by European Union Funds (ERDF, IPA)



Ecological network for large carnivores in the Carpathians

Favorable and suitable habitats

- continuous favorable area
- other suitable area

Movement / migration zones

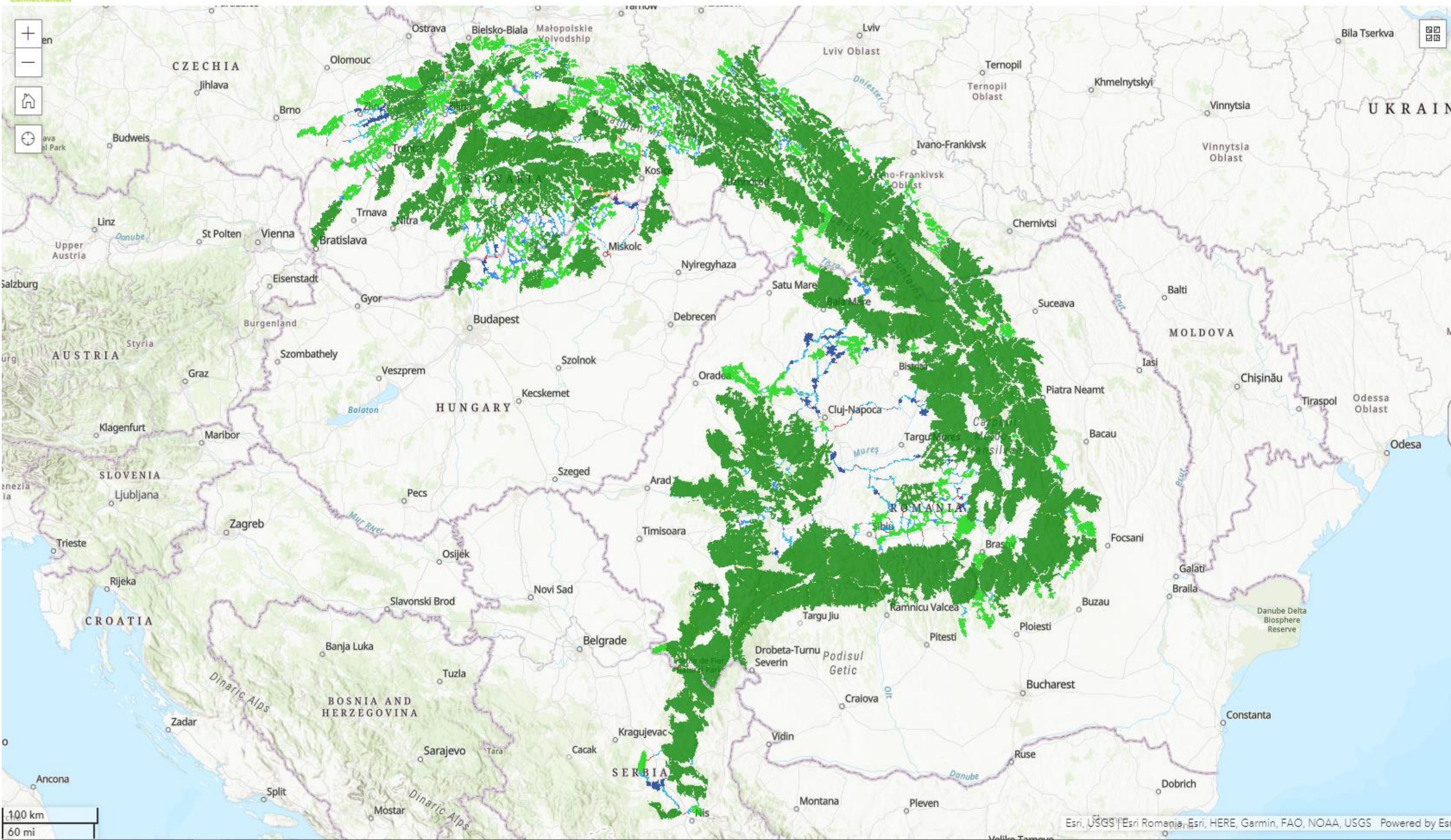
- linkage area
- corridor
- stepping stone

Critical zones

- critical connectivity sector
- critical connectivity area

Interreg Danube Transnational Programme
ConnectGREEN

<https://experience.arcgis.com/experience/03da1f6f67404518b3efe0d11f444e5a>



☞ Pilot sites

👁 Ecological network

📏 Zoom to

⤴ Increase opacity

⤵ Decrease opacity

Ecological network for large carnivores in the Carpathians

Favorable and suitable habitats

- 🟩 continuous favorable area
- 🟨 other suitable area

Movement / migration zones

- 🟦 linkage area
- 🟨 corridor
- 🟩 stepping stone

Critical zones

- 🔴 critical connectivity sector
- 🟠 critical connectivity area



3. The ForestConnect project

15 project partners from 7 countries

Enhancing transnational coordination and collaboration among the the Carpathians, Balkans, and Dinarides to address common challenges and needs in protecting and preserving ecological corridors for large carnivores (LCs).



Project partners

Austria

Carinthia University of Applied Sciences

Bulgaria

WWF Bulgaria, Northwestern State Forest Enterprise, Executive Forest Agency

Montenegro

Public Enterprise for National parks, Center for Protection and Research of Birds

Serbia

WWF Adria-Serbia, "Emblem" Civil Association

Slovakia

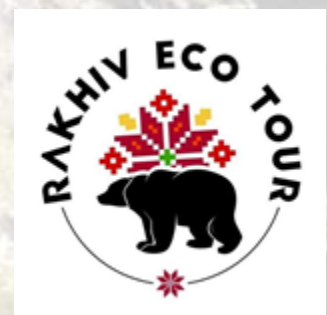
WWF Slovakia, Slovak Paradise NP Administration

Romania

WWF Romania, University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca, Cluj Environmental Protection Agency

Ukraine

NGO "Rakhiv Ecotour", The Carpathian Biodiversity Reserve



Карпатський біосферний заповідник



Objectives

Project Management

Project Core Team - PM, FM, CM (WWF RS)

WWF BG

Specific Objective 1

New tools and technologies in transnational monitoring of large carnivores forests

WWF RO

Activity 1.1 Cluj Uni RO
Activity 1.2 WWF RO
Activity 1.3 WWF RO

Specific Objective 2

Heterogeneity, connectivity and climate resilience of large carnivores' forests

WWF BG

Activity 2.1 WWF BG
Activity 2.2 WWF SK
Activity 2.3 Cluj Uni RO (PP5)
Activity 2.4 Cluj Uni RO (PP5)

Specific Objective 3

Promote capacity and cooperation for integrated LC climate-smart forest connectivity across eco-regions

Carinthia Uni

Activity 3.1 Carinthia Uni (PP9)
Activity 3.2 WWF BG
Activity 3.3 WWF Adria RS



ForestConnect: expected results (1)

- **Upscale existing technological tools** to help forest and protected areas managers to visualise complexity of ongoing processes (ecological, social, etc.) and implement climate-resilient measures to facilitate LCs movements in forest corridors.
 - a shared Balkan-Carpathian GIS database - expand the Carpathian Countries Integrated Biodiversity Information System (<https://ccibis.org/>)
 - an online viewer “human-wildlife conflict hotspots” to visualize potential conflict areas along transnational forest corridors.
 - a digital Twin Model - creates a digital replica of an existing area that will allow to create projected situation in the future considering climate change and species and habitat distribution and informs planning.
- **A Strategic Plan to give a harmonized answer to the climate change challenges** faced by the Protected areas/Natura 2000 managers at the Carpathian / Dinaric / Balkans regions will be developed
- **Guidelines on preserving forest-grassland mosaic ecosystem along ecological corridors**, and assess related services which they provide and their role of in the local economies will guide conservation practitioners how to 1) jointly manage transnational mosaic habitats and improve landscape permeability for LCs and 2) implement measures to improve climate resilience of national protected areas

ForestConnect: expected results (2)

- **Knowledge sharing and increased institutional capacity** to meet the future challenges related to the preservation and conservation of large carnivores in the target areas in the context of climate change, and to uptake and sustain the project results.
- At least 30 organizations are expected to cooperate across borders - forestry authorities, protected areas authorities, academia, civil society, international organizations and their networks.
 - 3 peer exchange visits to foster learning between project partners
 - regional workshop on population-based approach for monitoring and management of LCs
 - webinar for knowledge sharing with other mountain regions through networks of protected areas (CNPAs, the Network of Protected Areas Dinarides, IUCN WCPA, Europarks).





Thank you!



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<https://www.researchgate.net/profile/Cristian-Remus-Papp>