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FACTSHEET

A 2020 perspective on ecological connectivity in the Carpathians

REPUBLIC OF SERBIA

The territory of Serbia, together with the mountainous part of Bulgaria, represents one of the six European centers of **biodiversity**, according to IUCN criteria. Inside Serbia, the Carpathian region is the „hot spot" for mammalian fauna, among them the following "strictly protected species": Lynx (*Lynx lynx*) brown bear (*Ursus arctos*) otter (*Lutra lutra*) and entire bat fauna (*Chiroptera*). Some game species are also in the focus of protection, conservation and sustainable use, such as wolf (*Canis lupus*), red deer (*Cervus elaphus*) and chamois (*Rupicapra rupicapra balcanica*).

Ecological connectivity is a topic of growing importance in Serbia, due to the geographical position of the country and the ongoing development of transport infrastructure and settlements. Having that in mind, ConnectGREEN can play a leading role in preserving the Serbian part of the Carpathian region as a unique part of European nature and wildlife, unbroken where it is possible, and connected, where necessary.

Pieces of the connectivity puzzle: ecological corridors identified

Serbia has identified several ecological corridors.

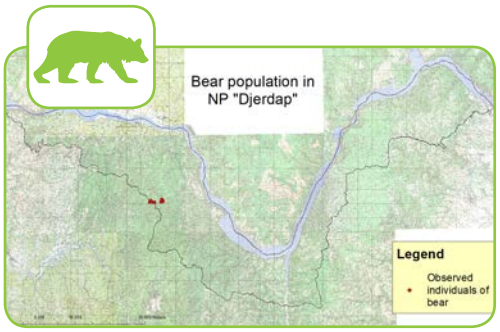
Until now, ecological corridors have only been identified and mapped in the territory of the **Autonomy Province of Vojvodina** (and the role these play for national, regional and international connectivity) within the geodatabase of the Institute for Nature Conservation of Vojvodina Province. This corresponds to around 25% of the entire territory of the Republic of Serbia.

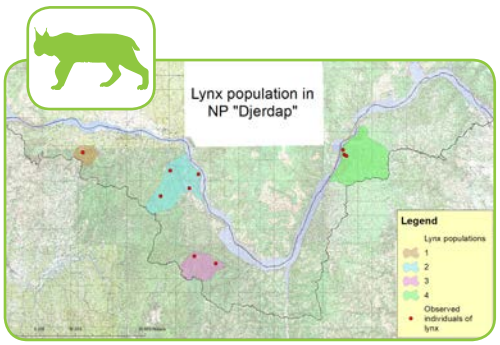
The following **rivers** in Serbia with coastal belts are (only) listed in the Bylaw on ecological network as ecological corridors of international importance: Danube, Tisa, Sava, Drina, South and Great Morava, Tamiš, Kereš, Zlatica, Karaš, Nera, Brzava, Moravica, Bosut and Studva.

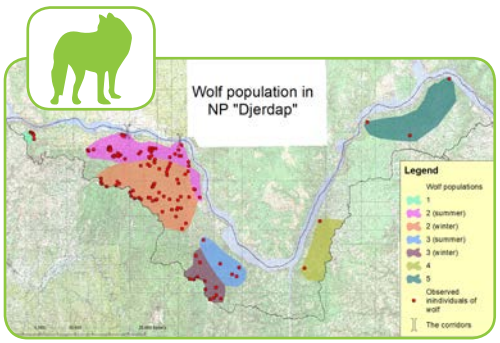
On the territory of the **central and southern parts of Serbia** there are no general monitoring activities that could lead to the identification of eco-corridors. Certain surveillance activities and observations are in progress, but they are not in direct connection with the ecological network.

There is an **ongoing NATURA 2000 project** in Serbia, which will identify the country's ecological network as well as further ecological corridors therein.

As part of the ConnectGREEN project, eco-corridors of Serbia's 3 large carnivores were identified and mapped in the **National Park Djerdap** pilot area.







© National Park Djerdap

Legislation

In Serbian legislation the regulation of the ecological network and connectivity management as an inter-sectoral issue are not defined in Serbian law.

There is also lacking agreement and awareness among the wider public regarding the significance of ecological networks.

In the **Nature Protection Act (2009, 2010, 2016)** the protection and management of ecological corridors is not clearly defined.

In the **Regulation on ecological network (2010)** ecological corridors are defined as a part of the ecological network, and the basic protection measures are listed.

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In recent years, however, ministries are trying to improve the current situation by enforcing new strategies, laws and action plans which should be adopted in the near future.

Main types of barriers

Main types of barriers in Serbia are:

- transport infrastructure – roads, railway, waterways
- water courses
- settlements and built-up areas
- non-forest land cover
- fences

An integral assessment of transport infrastructure or any other barriers for wildlife movement has not been done in Serbia. Several localised studies have been done, but they are not embedded within a larger network.

So far, no mitigation measures (wildlife crossings) have been implemented on existing motorways and railways.

However, some pioneering steps are being made in Serbian planning practices towards defining obligations for identifying eco-corridors, which can lead to the construction of green bridges at crucial crossing points. By changing existing planning methodology, IAUS has introduced more than 5 spatial/urban plans that propose measures for building green bridges. This practice will hopefully soon be established as a statewide obligation through future national legislation.

Current situation of connectivity

Formal status since 2010	Gaps to be filled	Steps forward
The ecological network of protected areas in Serbia was formally established in 2010. There is an ongoing process to expand this ecological network.	The gap between development of the existing protected areas and possible ecological corridors exists, but with proper measures it can be significantly improved. The ecological network in Serbia is currently is not efficiently interconnected. Above all, there are too few established and functional corridors, which results in an ecological network which consists of numerous isolated patches.	In order to avoid irreversible landscape changes and make corridor restoration possible for the future generations, Serbia has participated in several EU-based projects on the topic of preservation and improvement of ecological connectivity. In recent years, individual and state-based initiatives have improved the state of deteriorated natural corridors and decreased the potential cost of their reconstruction in the future.

Ecological Network

In Serbia, the Emerald and Natura 2000 networks, which represent Europe's most important protected areas, function only as individual patches without ecological corridors to connect them. The lack of an obligation to define and protect these ecological corridors leads to their further deterioration, which increases the cost of their future reconstruction or even leads to irreversible landscape changes, rendering them lost to upcoming generations.

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In Serbia, identifying an ecological network embedded in the cultural landscape means both singling out still existing habitat patches and recognising anthropogenic landscape elements (shelterbelts, canals, levees etc.) that function as habitats or ecological corridors. The main indicators for the importance of a habitat or corridor are their species and/or structural diversity, the presence of protected species and the longevity of the network element within the landscape. Specific indicators are: habitat types; presence of strictly protected and protected wild species; presence of bird species designated under the Birds Directive; existence of protection zones outside the boundaries of the protected areas.

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ConnectGREEN project focuses on improving ecological connectivity in relation to spatial planning based on scientific knowledge and data. The ecological corridors will be identified based on a new Carpathian-wide methodology and measures for mitigating threats to these corridors will be developed in 4 pilot sites. Apuseni mountains/Southwest Carpathians (Romania) / National park Djerdap (Serbia).

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