From gaps to success stories related to ecological connectivity identification and protection

From Gap Analysis to Best Practices, results of the ConnectGREEN project

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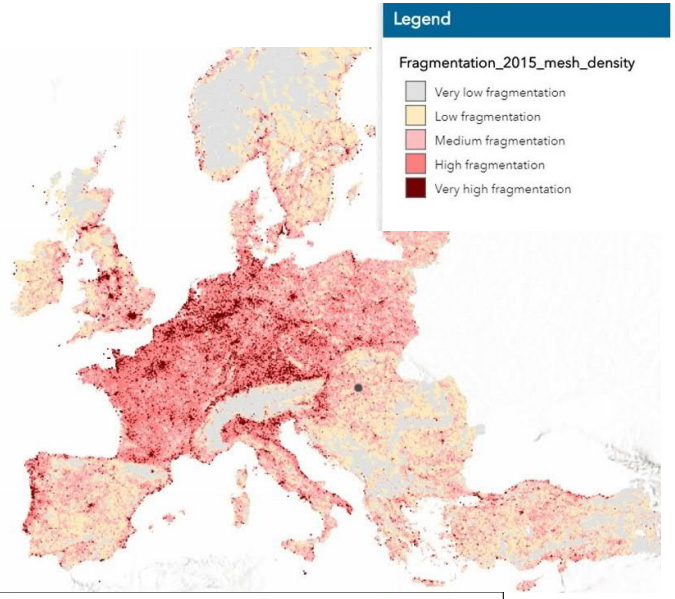
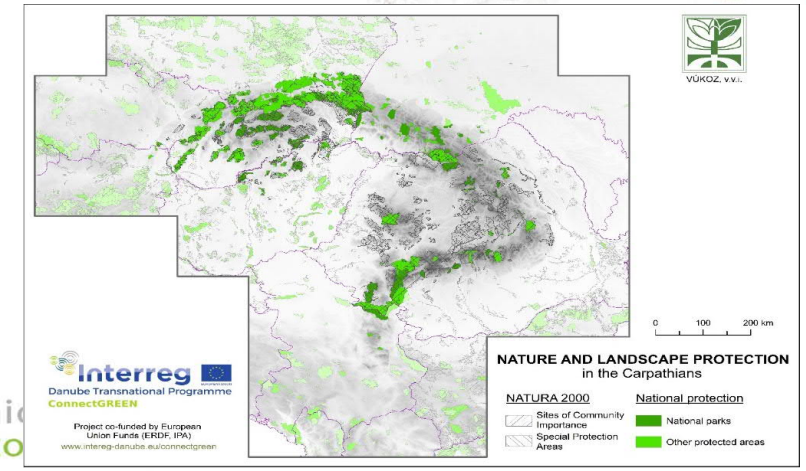
Ecological network

Long term biodiversity protection is based on ecological connectivity of protected areas.

Biotopes of most of the species consists of so-called core areas and migration corridors, which connect these areas. There are critical points – barriers which hinder the permeability of landscape.

https://www.eea.europa.eu/data-and-maps/indicators/mobility-and-urbanisation-pressure-on-ecosystems-2/assessment





Spatial planning

Spatial planning is the most important tool for balancing the needs of economy and the environment. Spatial planning offers the institutional, technical and policy framework for managing the territorial dimension of sustainability, safeguarding the values of our habitats, ecosystems and landscapes. The key role of spatial planning is to promote a more rational arrangement of activities. Spatial planning differs from one country to another, but there are major similar characteristics:

- spatial planning is concerned with identifying long- or medium-term objectives and strategies for territories,
- dealing with land use and physical development,
- it is a distinct sector of government activity, and
- it has an important coordinating role between sectoral policies (Koresawa and Konvitz, 2001).

Focus of my presentation from ConnectGreen project

- WP. 3.3.1. Review and assess the existing planning systems (planning tools and types, application of strategic management approach and stakeholder participation methods, legislation framework, monitoring and support system) at different territorial levels
- WP. 3.3.2. GAP analysis on the identification of the needs for improving the planning processes and tools related to ecological corridors identification and preservation
- WP. 3.3.3. Collect best practices about securing ecological corridors through proper stakeholder participation and planning

3.3.1.

3.3.2.

Methodology

Two questionnaires filled out by experts of the partner countries including 23 questions in the following fields:

- Comaprison analysis of the spatial planning systems
  - Legal and institutional framework of spatial planning
  - Coordination mechanisms, inclusion of local stakeholders
  - Implementation of plans, strategic planning approach, monitoring
- Gaps and problems in the identification and maintenance of ecological corridors
  - Legal framework related to ecological corridors
  - Participatory planning, inclusion of local stakeholders,
  - Ecological Network (EN) in spatial planning

3.3.1.

Legal and institutional framework of spatial planning

Slovakia	Responsible institution	Competence
National	Office of the Vice-prime minister for investment and informatisation (spatial planning) Ministry of Transport and Construction (land-use planning) Ministry of Environment (landscape planning) Ministry of Agriculture and Rural Development (rural development)	National regional development strategy Spatial development perspective Territorial System of Ecological Stability
Regional	8 Self-governmental region	Elaborates: Program of social and economic development of the self-governmental region Program of social and economic development of a group of municipalities Land-use plan of the region Land-use plan of self-governmental region Landscape – ecological plan at the regional level Land-use plan of a group of municipalities
Local	Local self-government	Elaborates: Program of social and economic development of a municipality Land-use plan of a municipality Landscape – ecologic plan at the municipal level

3.3.1.

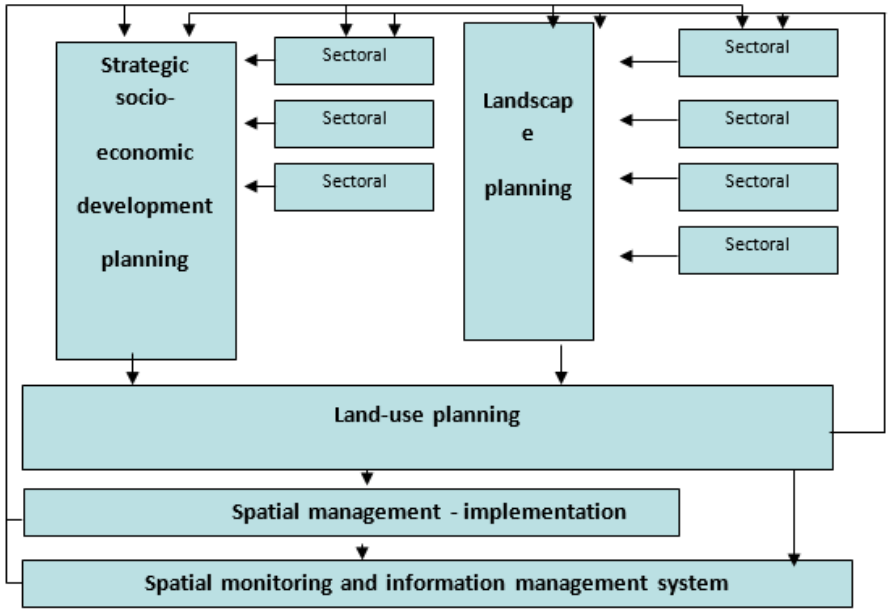
Types and hierarchy of spatial plans

Hungary	Strategic (Social, economic focus)	Land use planning instrument
National	Spatial Development Strategy	National Land Use Framework Plan
Regional	County Spatial Development Strategy	County Land Use Framework Plan
Local	Local development strategy	Land use plan
Serbia	Strategic	Land use planning instrument
National	National Urban Development Strategy	National Spatial Plan
Regional		Regional Spatial Plan
Local		Municipality Spatial Plan, General Urban Plan Plan of General Regulation, Plan of Detailed Regulation Design Project
Romania	**Strategic (Social, economic focus)**	**Land use planning instrument**
National	Spatial Development Strategy of Romania	National Spatial Plan
Regional	Regional development strategies County territorial development strategies	Regional Spatial Plans Inter County Plan; Inter-urban or Inter-communal Zone Plan; Frontier Zonal Plan; Metropolitan, peri-urban plan of major cities and municipalities.
Local	Development Strategy of the Town / Commune	- General Urban Plan of the Town / Commune

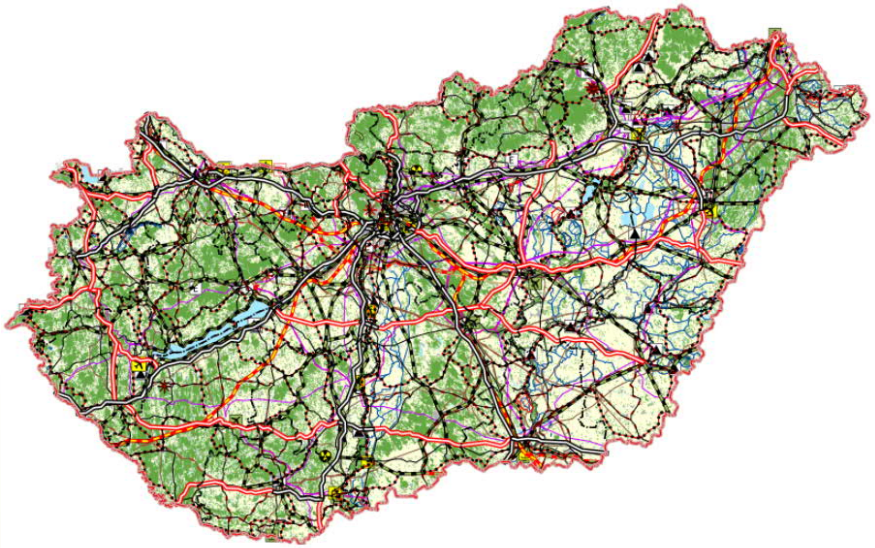
3.3.1.

Types and hierarchy of spatial plans

The system of spatial development management in Slovakia



Structural plan of the National Land Use Plan, Hungary



Problems related to spatial planning

- Limited time and „lowest price” in elaboration of spatial plans
- Inappropriate or missing general methodology of spatial plans or relation between spatial plans
- Ineffective cooperation of stakeholeders, long preparation process
- Strategic development plans are often as obligatory exercise and linked to public investment
- Lack of incentives, strong regulational focus
- Lack of data or outdated information

WP.3.3.2. GAP analysis on the identification of the needs for improving the planning processes and tools related to ecological corridors identification and preservation

- Legal framework related to ecological corridors
- Participatory planning, inclusion of local stakeholders,
- Ecological Network (EN) in spatial planning

Where are the main gaps in the ecological network-related policy framework?

Based on the answers 5 main problem areas were identified: 1. Methodology; 2. Definition; 3. Types of regulations and consistency; 4. Social agreement and conflicting interests; 5. Institutional framework.

	Czechia	Hungary	Serbia	Slovakia	Romania
Methodology	outdated methodology; the new methodology does not contain desirable changes and improvement, only copied the old one	outdated methodology			
Definition	TSES definition is not focused on ecological connectivity for animal species, it is not usable for large carnivores	old definition of ecological networks		weak and old definition of ecological networks	
Types of regulations and consistency		problems related to the realization of the plans, especially related to financing; due to strong lobby power of some stakeholders, legal regulations cannot answer appropriately specific problems or they can launch exceptional legal rules	lack of mandatory obligation to define and protect the ecological corridors; the regulation of the network management, as an intersectoral issue is not regulated	official documents dealing with ecological networks are only background not binding documents; request oriented but not obligatory documents; position of landscape ecological plan / environmental plan is weak in the system of spatial planning	irregularities, inconsistencies and legislative derogations; insufficient regulations
Social agreement and conflicting interests		the objectives of the development of ecological networks are in contrast with present developments and decision-making	lack of general social agreement; different interest groups with conflicted interests		
Institutional framework		deficient institutional framework			deficient institutional framework; poor implementation of legal provisions

Main critics regarding the ecological network development

- The weak implementation. In all cases the theoretical framework and the identification of ecological network are more or less existing, however the implementation of the plans, programs much weaker in all of the analysed cases
- Public participation is insufficient in the decision making process
- Gaps in monitoring
- Lack of financial support; lack of professional staff; lack of sufficient communication and real public participation; difficult data accessibility.

Integration of ecological corridors into spatial plans

In all the analysed countries, the EN is strongly integrated into the spatial planning system, however on different levels and forms. On regional level as special maps are the elements of the EN integrated into spatial plans with the exception of Serbia where the ecological networks are treated formally (but Voivodina spatial plan is an exceptional good example).

3.3.2.

Integration of ecological corridors into spatial plans

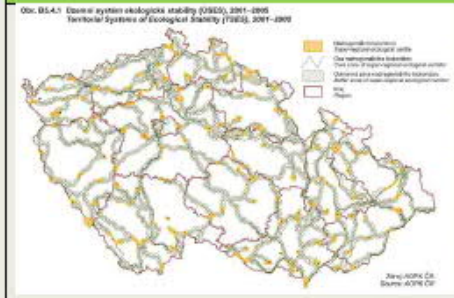
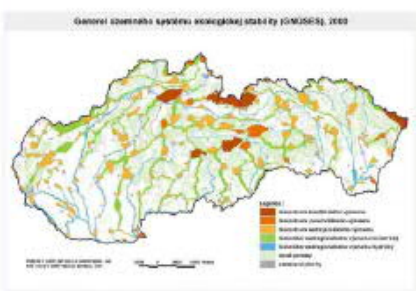
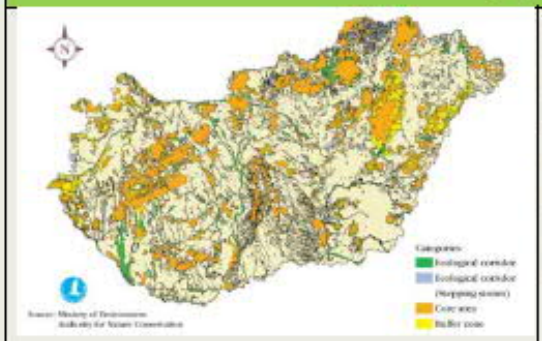
Integrating spatial planning and ecological networks	
Spatial plans with ecological networks	**Integration of ecological networks into the spatial planning**
Czechia	
 Territorial system of Ecological Stability in Czech Republic (http://www.ceeweb.org/work-areas/priority-areas/green-infrastructure/maps/	The Territorial System of Ecological Stability of the Landscape (TSES) is the only nature conservation tool constituting an ecological network in the landscape in the Czech Republic. The nature conservation tool is integrated in the spatial planning system. Act No. 114/1992 Gaz., as amended later, defines the TSES as an interconnected system of both natural and altered but still semi-natural ecosystems. The TSES consists of three basic elements – biocentres, biocorridors and interactive elements. A biocentre (existing and planned) is a habitat or a system of habitats which makes possible the permanent existence of a natural or semi-natural ecosystem. Biocorridor (biotic dispersal & migration corridors) is an area which makes possible the migration and/or dispersal between biocentres: thus, it makes a real interconnected network from isolated biocentres. The third components of TSES are interactive elements, small areas/patches/plots (often spatially isolated).
Slovakia	
 The General of the Super-regional (national level) Territorial System of Ecological Stability of the Slovak Republic (Source: SEA SR)	In Slovakia landscape – ecologic plan at the regional and municipal plan exist. Landscape ecologic plan is the document elaborated as a part of the procurement of land-use plans at regional and municipal level with the focus on landscape ecologic analyses, assessment and optimisation of functional use in the harmony with landscape ecologic potentials and limits for the development. The plans of the Territorial Systems of Ecologic Stability are in accordance with the Law on land-use planning supportive documents. As defined in the Act Nr. 543/2002 on Nature and Landscape protection: The Territorial System of Ecological Stability is such a spatial structure of interconnected ecosystems, their constituents and elements, which provides the diversity of conditions and forms of life in the landscape. This system consists of biocenters, biocorridors and interacting elements of supra-regional, regional or local importance.

Table 5. Short overview of Ecological networks from the partner countries

3.3.2.

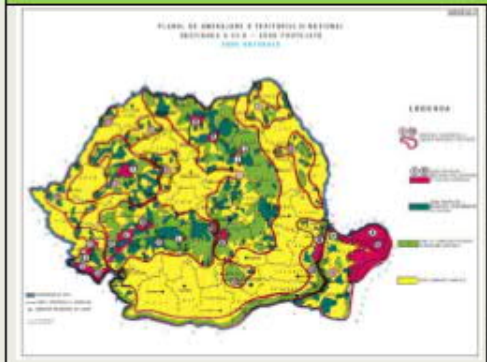
Integration of ecological corridors into spatial plans

Hungary



In Hungary the ecological network is integrated into the spatial plans. The national ecologic network zone include the core areas, the buffer zones and the ecological corridors as well. In the zone of core areas and ecological corridors the rules restrict the designation of areas for development, the placement of transport infrastructure and new surface mines, as well as the prescription that the utility lines fit into the landscape.

Romania



Nature protection areas in Romania national Spatial Plan

https://www.siugrc-cjph.ro/c/document_library/get_file?uuid=2175fc9d-e8de-4f50-bf15-92fe80187ee8&groupId=10157

In Romania Law 350/2001 on Spatial and Urban Planning specifies that territorial management aims, among others, to ensure the protection of natural and built landscapes, biodiversity conservation and the creation of ecological continuity. The basic purpose of spatial planning is to harmonize the economic, social, ecological and cultural policies at national and local level and among its objectives is that of a sustainable management of the landscape, which is a basic component of natural and cultural heritage and natural resources.

The National Plan indicates core areas of international and national importance and corridors and include international nature conservation priorities: Natura 2000, Emerald, PEEN.

The County/Regional plans determine core areas (10-100 KMp) and connecting corridors between these areas (e.g. natural river valleys, semi-natural recreation areas for local settlements). The Comprehensive Urban Plans determine the function of small habitats, woodlots, wetlands, grassland, patches, ponds (<10 Kmp) and connecting corridors (stream banks, hedgerows, field verges and ditches).

3.3.2.

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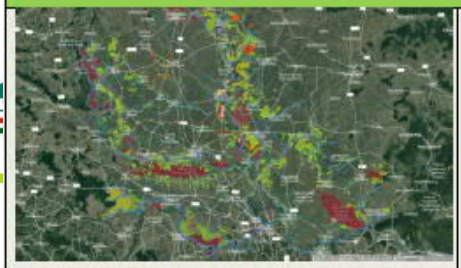
Integration of ecological corridors into spatial plans

Serbia	
 Ecologic Network of Voivodina (http://www.pzzp.rs/rs/sr/zastita-prirode/ekoloska-mreza.html)	In Serbia the Nature Protection Act (2009, 2010, 2016) the protection and management of the ecological corridors is not clearly defined, it is treated as a part of ecological network without specified obligations or restrictions. Legislation for the spatial planning and construction sector does not provide provisions relating to ecological corridors. Ecological corridors are indirectly covered by the provisions relating to the protection of nature and landscape. In spatial planning practice ecological corridors have been formally developed in spatial plans at different levels of planning.

3.3.2.

Main gaps in the integration of the ecological networks in other policy sectors

Lack of communication between the sectors, the barriers within the spatial planning and regional development sectors, barriers within the public administrations cause ineffectiveness. In Serbia the rules and recommendations related to the ecological networks are not adapted into other planning documents. Sometimes the lack of appropriate and exact measures for identification, evaluation, and protection also cause problems. As a good example, in Romania the Landscape Plan (on territorial and local levels) will operate as an integrating tool of cultural and natural heritage protection.

3.3.3.

D 3.3.3 Summary on best practices addressing ecological connectivity and spatial development

1. Introduction
2. Spatial and land use planning
   - 2.1 General aspects, problems, suggestions
   - 2.2 EU policy framework
   - 2.3 Worldwide examples
   - 2.4 Partner's examples
   - 2.5 Literature
3. Ecological network and corridors in urbanized areas and agglomeration zones
4. Ecological network and corridors in rural zones (arable land, grass land) and natural areas
5. Land stewardship and local stakeholder involvement
6. Transportation infrastructure, mitigating hard measures

3.3.3.

Spatial and land use planning

Country	Territorial System of Ecological Stabilityin the Czech Republic
Form	Policy
Type	Processual measure; Planning measure; Regulation measure; Organizational measure
Location	The Czech Republic
Field of harmonization	Ecological network and corridors in urbanized areas, agglomeration zones; Ecological network and corridors versus infrastructure corridors; Ecological network and corridors in forests; Ecological network and corridors in agricultural (arable land, grass land…)areas
Scale	Transregional
Binding of the measure	Binding according to the national law
Involved sector	Spatial planning; Transport infrastructure; Agriculture; Forest management
Phase	Planning; Design; Construction
Financing	state budget, regional budget, municipal budget
Responsible institution	Ministry of the Environment, Regional office, Municipal office

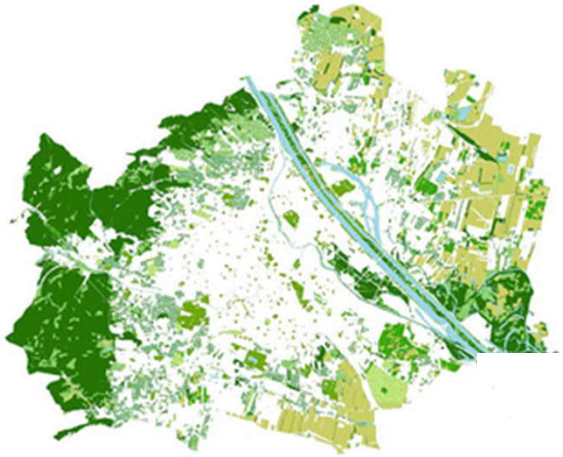
	Spatial plan for the special purpose area of the multifunctional Ecological corridor Tisa, Serbia
Type	Planning
Location	Vojvodina, Serbia
Scale	Regional
Involved sector	Spatial Planning, Nature protection
Type of countryside	All
Phase	Planning

Ecological network and corridors in urbanized areas and agglomeration zones

- Setting limits on urban growth, strict regulations on controlling construction, and greenbelt planning as a specific tool;
- Nature, landscape protection;
- Green infrastructure planning and elaboration of regional ecological corridors, and as a specific tool, greenway planning;
- Encouraging intermunicipal cooperation on comprehensive planning with single focal points of development;
- Specific compensation tools for loss of ecological values, construction.

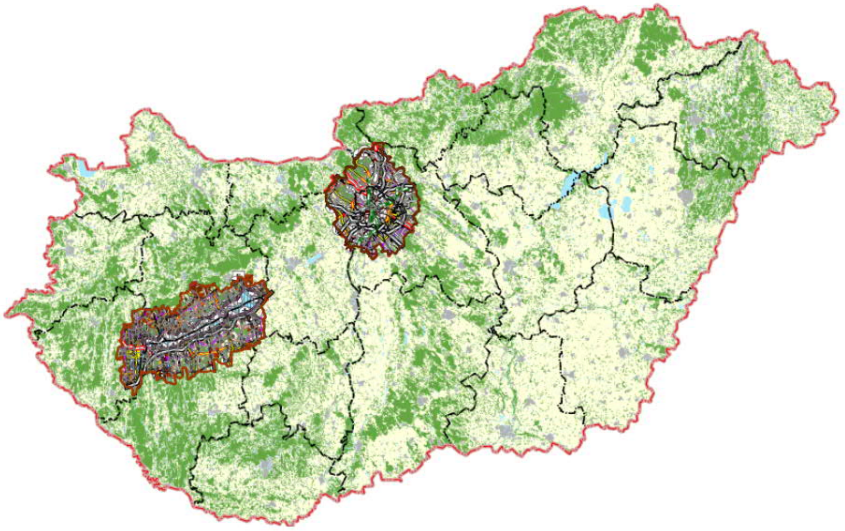
Greenbelt of Vienna

Green Space Categories	Elements
Land	498
Cemetery	58
City garden	1814
Water surface	349
Market garden, Orchard	257
Park & Green area	551
Forest	760
Wine garden	178
Meadow	1120
Total	5585

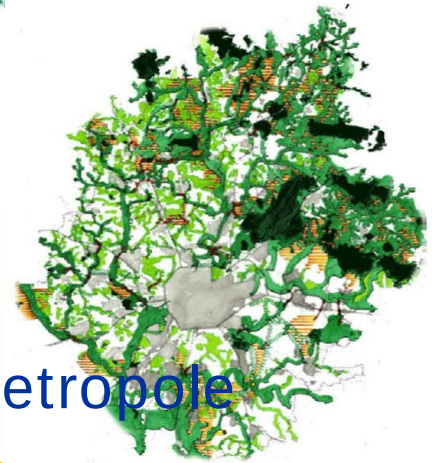


(Orsini et. Al. 2017)

Specific land use plans for Bp. agglomeration and Balaton In Hungary



Green and Blue Network of Rennes Metropole



3.3.3.

Ecological network and corridors in rural zones (arable land, grass land) and natural areas

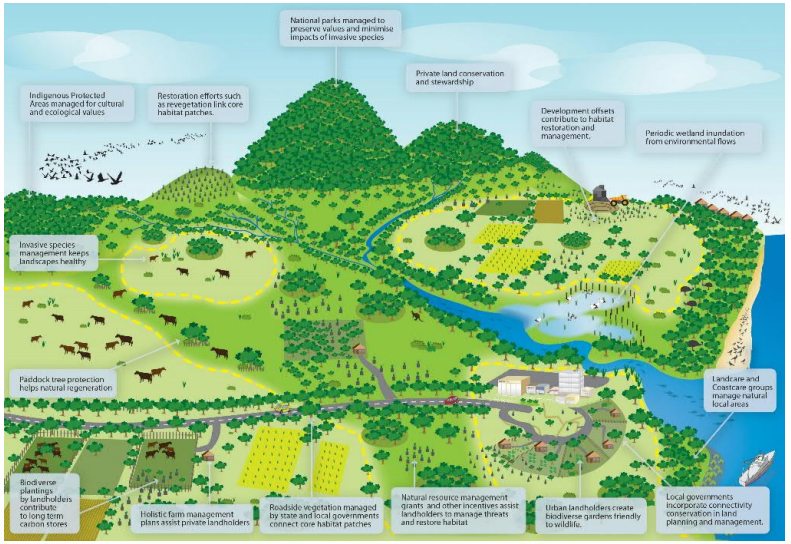
Wide range of good examples exists from local to larger scale projects, programs even almost continental scale programs for enhancing landscape connectivity

Form	COREHABS - Ecological corridor for habitats and species in Romania
Type	GIS analysis
Location	Romania
Scale	state
Involved sector	nature conservation, spatial planning, transport infrastructure, tourism, agriculture, forestry and mining
Type of countryside	all types
Phase	analysis, planning, training
Financing	state
Responsible institution	"Transilvania" University Brasov, project leader, Centre for Systemic Ecology and Sustainability Research - University of Bucharest, NIRD "Marin Cracea" - Brasov, Carpathian Foundation, Zarand Association, ACDB

3.3.3.

Land stewardship and local stakeholder involvement

- Management or property transfer
- Management support
- Private protected areas and voluntary reserves
- Conservation easements and covenant/deed restrictions
- Land management organisations and Land Trusts
- Voluntary contractual agreements
- Tax incentives
- Safe harbour agreements



Conclusions

- In spite of different conditions, traditions, models the partner countries face similar problems
- Integrated, complex aproaches are necessery
- Strong integration of ecologic aspects into early phase of spatial planning (better avoid than mitigate)
- Raising awarness - stewardship aproach

Thank you for your attantion!