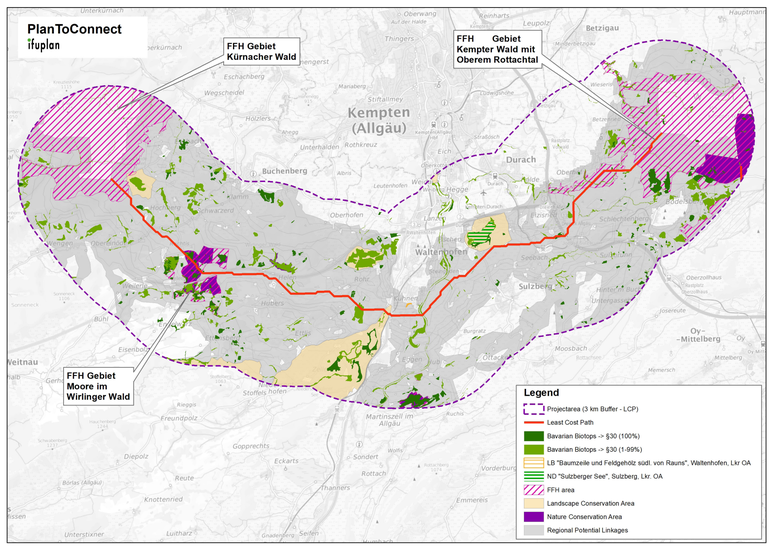
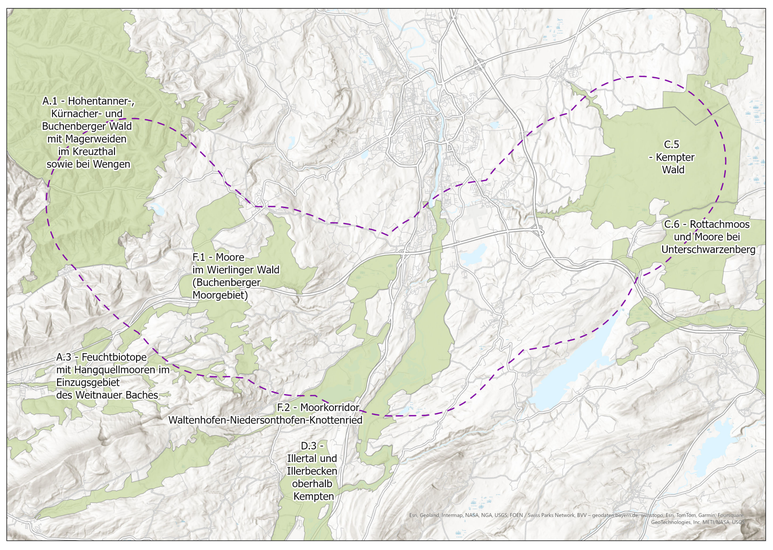
Overcoming Fragmentation:

Building a Green Infrastructure Connectivity Network crossing the Iller River Valley

Interreg
Co-funded by the European Union
Alpine Space
PlanToConnect





1 Why act here? — *Ecological connectivity in the Iller river valley south of Kempten*

Case study selection and status quo (Report 2.1.2)

The pilot region "Iller valley" is located south of Kempten in the county of Oberallgäu in the southern Bavarian governmental district of Swabia. Its size is 16,000 ha with a total length of 23 km and a width of about 6 km, with elevation ranging from 690 m in the valley floor to 915 m. The area is characterized by a strongly moving and irregular relief of peri-Alpine glacial elements (moraines, molasse hillls).
The Iller river valley cuts through a corridor that – as part of a larger connectivity corridor along the Bavarian Alpine foothills – connects two larger FFH-site on both sides of the Iller valley. Main pressures for connectivity include linear urban sprawl along the Iller river valley that encroaches on remaining settlement gaps, fragmentation through higher-ranking road infrastructure and intensive grassland agriculture.
By 2030, the federal state of Bavaria has committed to establishing a functional network of connected habitats on at least 15% of open landscapes. Consequently, regions such as the mostly non-forested Iller valley will need to initiate a process to enlarge and functionally connect their habitats in the near future.

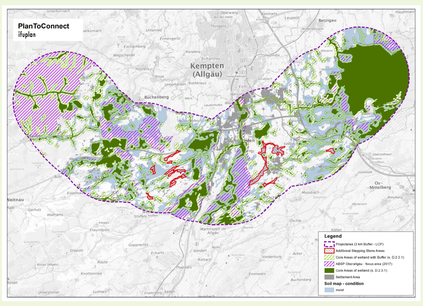
2 Case study objectives

The objective is to design a network of green infrastructure focusing on creating a semi-open connectivity corridor and to identify priority areas for conservation and restoration efforts (spatially and thematically). These priority areas include enlargements of existing ecological core areas as well as stepping stones in agricultural areas to improve connectivity between habitats. The focus is on improving structural connectivity and supporting structural diversity rather than a necessarily continuous ecological corridor. In the course of the case study, technical foundations for a regional ecological connectivity framework were elaborated and key stakeholders for a governance scheme were sensitised.

Mapping report on GBI elements, barriers and connectivity measures (Report 2.3.1)

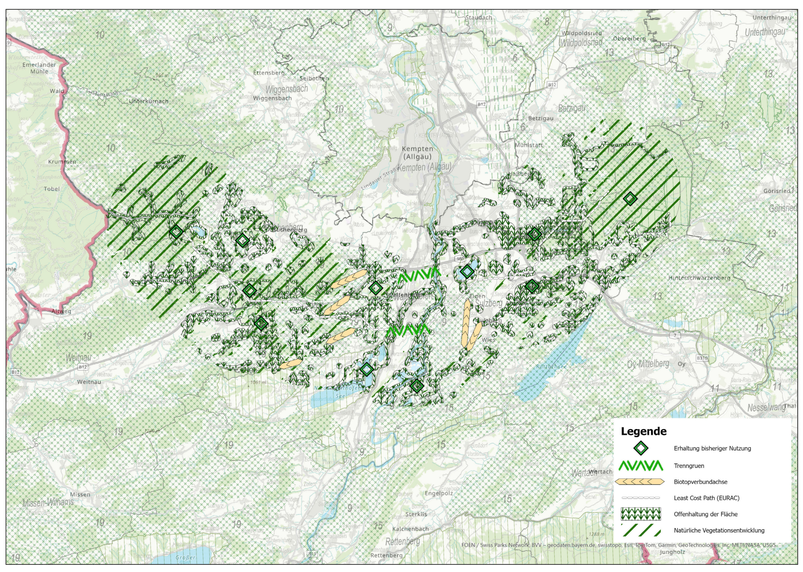
PlanToConnect

Technical Proposal and Governance Structure (Report 2.5.1)



3 Methodological approach

The case study area was derived from the Alpine-wide Structural Connectivity model and represents one of its identified regional linkages. Its delineation is based on a buffer of 3,000 m along the regional linkage between the two FFH-areas.
The methodological approach was guided by the federal and national concepts for habitat networks and green infrastructure as well as principles for area-based biodiversity conservation to identify core and expansion areas. Based on a range of regional data on biotopes, protected areas, land use and soil type, GBI elements, objectives for ecological connectivity and barriers within the local-level corridor were identified and analysed. Additionally, a distance analysis of areas of high nature conservation value was conducted to evaluate existing connectivity and consequently formulate recommendations for suitable and unsuitable areas for conservation and restoration.



4 Pilot design

More than a quarter of the pilot area is under some type of protection status. Of the total pilot area, site conditions qualify roughly 1/6 of the area as core areas, an additional 1/3 as expansion areas and another 1/6 as area suitable for stepping stones.
Key actions include protecting and enlarging core areas, strengthening functional zones with diverse conditions, and creating stepping stones to improve connectivity. Expansion areas are vital, as the small-scale core areas are vulnerable to edge effects like nutrient input and scrub encroachment. Buffer zones enhance resilience to climate change by supporting species exchange and migration. Restoration measures align with the Species and Biotope Protection Plan for Oberallgäu, though this plan currently lacks structured implementation and funding.

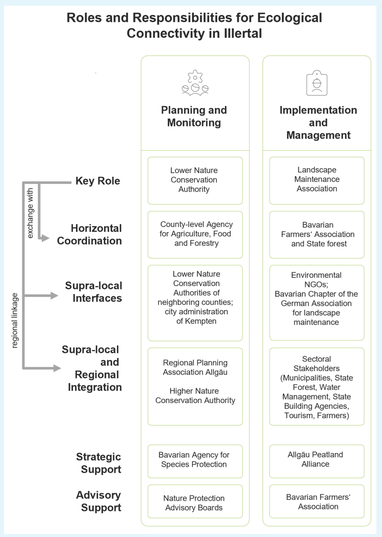
GBI-network: Land use conflicts for RE production and other threats (Report 2.4.1)

5 From concept to statutory plans

Planning tier	GBI integration measure
Regional planning level (Regionalplan Allgäu)	Add references for mapping connectivity axes, maintenance measures, and natural vegetation. Strengthen "principles" of biotope network preservation into binding "objectives." Include provisions to protect and enhance stepping-stone areas and classify suitable zones around existing habitats to improve ecological connectivity.
Municipal landscape planning	Draft a harmonised target concept that differentiates areas and structural elements that are either in already good condition (target-conform areas) or which contain valuable elements to be developed or restored (development potential). Updating existing municipal landscape plans with proposals to secure a supra-local green infrastructure network
Municipal land use planning	Delineate habitats and biotopes relevant for connectivity using proposed signatures. Adapt land use plans to promote connectivity under the National Building Law, designating areas for renaturation and ecosystem services. Apply future compensation measures to strengthen local and regional ecological networks and identify suitable compensation sites.

6 Governance & stakeholder engagement

The proposed coordination structure covers planning/ monitoring and implementation/management tasks, relying on existing institutions. The Lower Nature Conservation Authority plays a key role, coordinating with the county Agency for Agriculture, Food and Forestry and relevant agencies in neighbouring counties. The Regional Planning Association integrates the ecological network into the Regional Plan Allgäu. Implementation and management are led by the Landscape Maintenance Association Upper Allgäu, which negotiates long-term agreements with farmers on measures, funding, and technical support. Municipalities, public agencies, and environmental NGOs further support implementation within their responsibilities, strengthening regional collaboration for ecological connectivity.



PlanToConnect project website with all resources

7 Funding toolbox

Funding opportunities at the European level exist in the form of EFRE-funds 2021-2027 for Bavaria and LIFE Living Natura 2000 Projects for Bavaria.
At the national level, funds include the Federal Nature Conservation Fund, which combines the existing programmes Federal Biological Diversity Programme, Germany's Blue Belt Programme, chance.natur and testing and development projects as well as the Wilderness Fund and the new National Species Recovery Programme.
At federal state level, funding opportunities include the Bavarian Contractual Nature Conservation Programme, the Rural Development Programme, Landscape Conservation and Nature Parks Funding, and the Bavarian Nature Protection Fund.

8 Key messages for planners

Based on the case study, the following conclusions can be drawn:
For the promotion of ecological connectivity, increasing the general structural diversity in our landscapes a more feasible and realistic approach than the creation of seamlessly continuous ecological corridors.
Ecological connectivity depends strongly on land-use outside of protected areas. Therefore, reliable and long-term arrangements with land users, most notably farmers, are of crucial importance.
Existing spatial planning instruments are not applied to a sufficient degree to support ecological connectivity. Nonetheless, the capacity of current spatial planning tools to influence land use remain limited and requires a much stronger integration with effective funding mechanisms to have a tangible impact.

9 Next steps / expected impact

By the end of 2025, a proposal for a state-wide Biotope Network System will be made available that includes sites for expanding and closing gaps in the existing biotope network. Additionally, the Nature Restoration Plans and their national and federal-level implementation will create tailwinds for the preparatory work on ecological connectivity for the Iller valley conducted in PlanToConnect.

The project is co-funded by the European Union through the Interreg Alpine Space programme

Institute for Environmental Planning and Spatial Development
ifuplan

Supported by:
Federal Ministry for the Environment, Climate Action, Nature Conservation and Nuclear Safety
based on a decision of the German Bundestag