Strengthening Habitat Corridors Through Spatial Planning in Salzburg

Interreg Alpine Space — Co-funded by the European Union

PlanToConnect

1 Why act here? — *Ecological connectivity in Tennengau and Flachgau regions (Salzburg, Austria)*

The pilot region Tennengau–Flachgau (1,672 km²) lies in the Alpine and Continental biogeographical zones and forms a key corridor between the Northern Alps and pre-Alpine lowlands. The focus area, **St. Gilgen**, in Flachgau borders Upper Austria, allowing cross-municipal and interregional planning perspectives.

While several protected areas exist, ecological **connectivity is fragmented** and threatened by **urban sprawl**, **infrastructure**, **tourism**, and **climate change**. A favorable window of opportunity arises from the ongoing revision of St. Gilgen's Spatial Development Concept (REK) and the potential to use the Integrated Urban Development Concept (ISEK) for raising awareness and integrating connectivity goals.

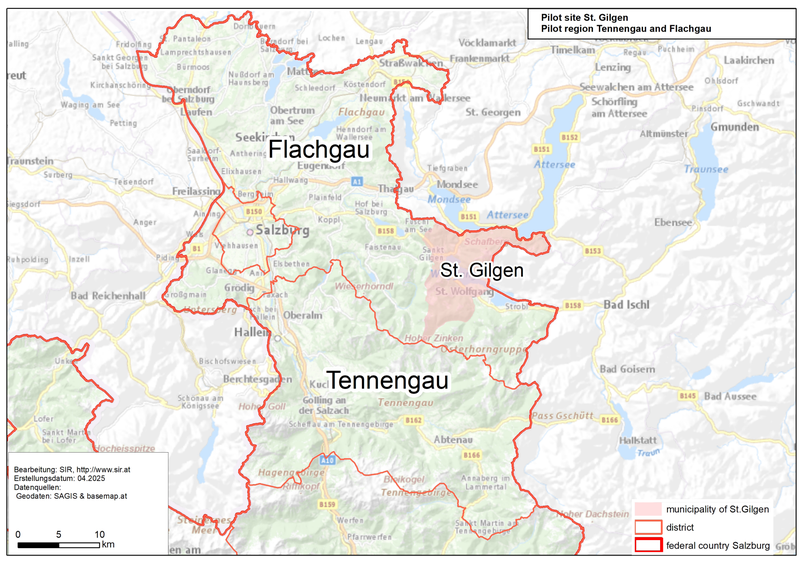

Figure 1: Pilot Region Tennengau and Flachgau with the municipality of St. Gilgen (geodata source: SAGIS & basemap.at)

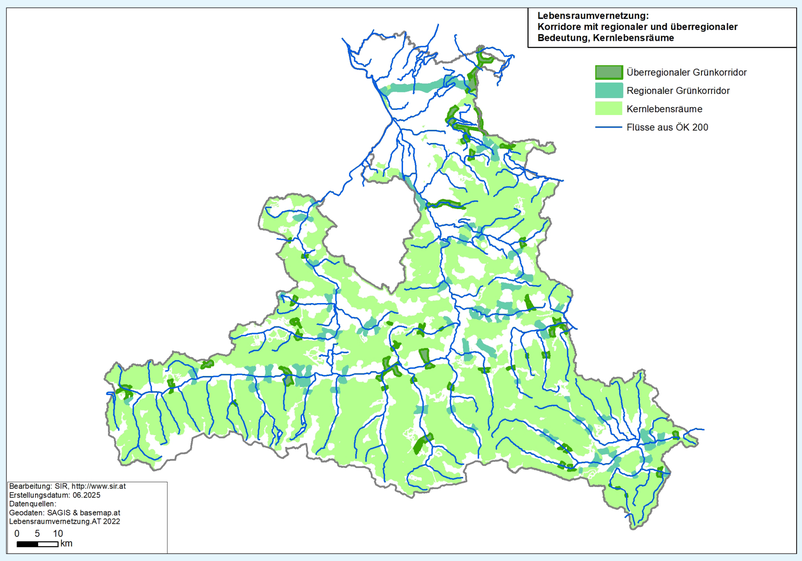

Figure 2: Interregional and regional habitat corridors and core habitats in Salzburg (geodata source: SAGIS, basemap.at & Lebensraumvernetzung.at)

2 Case study objectives

The pilot project in Tennengau and Flachgau, focusing on St. Gilgen, aims to develop and test an Alpine spatial planning strategy for ecological connectivity. The main objective is the **integration of Green and Blue Infrastructure (GBI) networks** into existing spatial and sectoral planning instruments to enhance ecological connectivity and long-term biodiversity, landscape resilience, and sustainable development. This includes developing concrete proposals for adapting planning documents and strengthening the implementation of connectivity goals at all levels.

3 Methodological approach

The identification of connectivity areas was based on the foundational "Lebensraumvernetzung Salzburg 2014" study by Leitner et al., supplemented by concepts such as SACA. The defined network connects core habitats, habitat islands, and stepping stone habitats via green space and migration corridors. These corridors were categorized as **local (~150m width), regional (~300m width), and interregional (500-1000m width)** and prioritized. Analyses were conducted at both the regional level for Tennengau and Flachgau and the municipal level for St. Gilgen to identify ecological, spatial, and governance challenges. A qualitative assessment of the corridors was carried out by developing a **connectivity index**, which considers the permeability of the landscape structure and the presence of landscape elements.

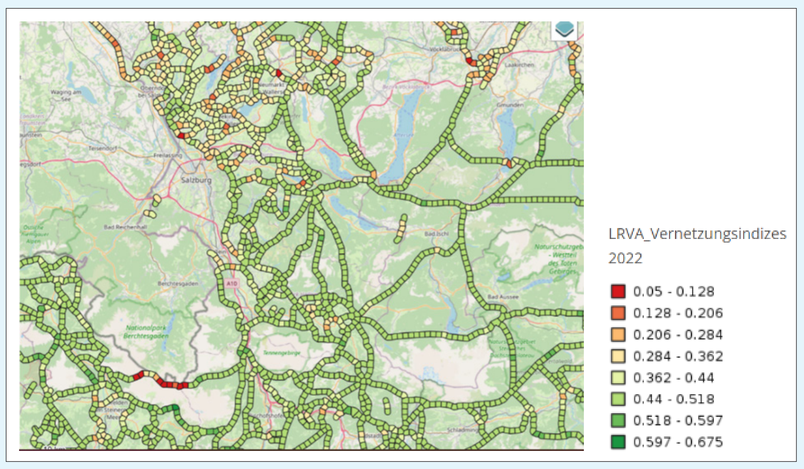

Figure 3: Connectivity index (*Absicherung und Etablierung der Lebensraumvernetzung in Österreich* Grillmayer et al. 2023)

4 Pilot design

The pilot zone encompasses the Tennengau and Flachgau regions, with St. Gilgen as a specific focus. Here, existing **core habitats and habitat islands are connected via local, regional, and interregional corridors**. Specifically, the interregional corridor in the north and the regional corridor in the west of St. Gilgen are essential for connection in the east-north-east direction. The pilot design focuses on integrating the GBI network into spatial and sectoral planning by strengthening instruments such as the Federal Development Programme (LEP), regional programmes, the Spatial Development Concept (REK), and the Integrated Urban Development Concept (ISEK). Further key actions include **improving monitoring** using standardized indices to assess corridor functionality and coordinating sectoral plans to minimize land use conflicts. The project builds on previous work like "Lebensraumvernetzung Salzburg".

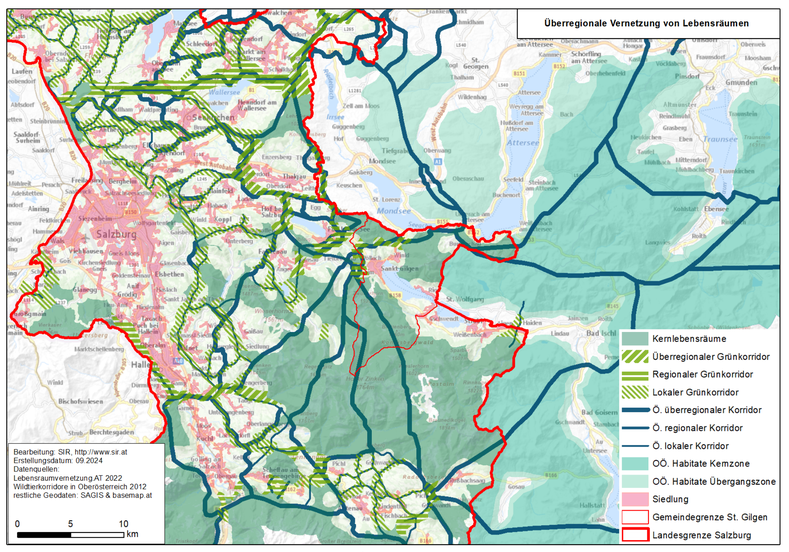

Figure 4: Interregional habitat connectivity in the case study area (geodata source: lebensraumvernetzung.at, Wildtierkorridore in Oberösterreich 2012, SAGIS & basemap.at)

5 From concept to statutory plans

Planning tier	GBI integration measures
Federal state Level	The Federal Development Programme (LEP) should make the **protection of green space and migration corridors more binding** and allow for clearer cartographic representation of all corridors (interregional, regional).
Regional Level	Regional associations should **integrate green space and migration corridor designations into their programmes**. Existing examples, like green linkages in Salzburger Seenland, show how regional planning can support connectivity, even where binding programmes are lacking.
Municipal Level	Municipal spatial development concepts (REKs) should explicitly define and map green space and migration corridors. In St. Gilgen, the upcoming REK revision offers an opportunity to align with LEP 2022 and regional goals by integrating corridors both textually and cartographically to support long-term habitat connectivity and safeguard open spaces.

6 Governance & stakeholder engagement

*Connectivity management requires strong institutional anchoring and **interdisciplinary coordination** across all planning and sectoral levels. Key actors such as the Spatial Planning Department of Land Salzburg, the St. Gilgen Municipal Council, and local planners play a central role and were involved in the process **through Regional Connectivity Working Groups (RCWG)**. Other important stakeholder categories include nature conservation organizations, agricultural representatives, private landowners, and other specialized departments. The co-design process aimed to develop a common strategy through dialogue and workshops and to **raise awareness for the importance of habitat connectivity**.*

Interest	*Influence*	*Stakeholders*
Key stakeholders		
high	*high*	*Spatial Planning Department Land Salzburg*
low	*high*	*Local planner St. Gilgen*
low	*high*	*Municipal council St. Gilgen*
Primary stakeholders		
high	*low*	*Naturschutz Land Salzburg*
low	*high*	*Landwirtschaft / Landwirtschaftskammer*
high	*low*	*Landesumweltanwaltschaft*
high	*low*	*Naturschutzbund*
Further stakeholders		
high	*low*	*Naturschutzbeauftragte:r*
low	*high*	*land owners*
low	*low*	*Salzburger Jägerschaft*
low	*low*	*Fachbereich ländliche Entwicklung / Agrarwirtschaft*
low	*low*	*Fachbereich forstliche Raumplanung*

Figure 5: Stakeholder analysis

7 Funding toolbox

Various **EU funding programs** can be mobilized to secure, maintain, and improve habitat connectivity such as LIFE, ERDF, Horizon Europe, and EAFRD or national agri-environmental schemes like the Austrian **Agri-Environmental Programme (ÖPUL)** and subsidies under the Common Agricultural Policy (CAP). Additionally, the integration of nature conservation measures through **contract-based nature conservation programs** and compensatory measures is envisioned. These instruments aim to create incentives for the protection and enhancement of corridors, particularly at the municipal level and for landowners and farmers.

8 Key messages for planners

1. **Ecological connectivity must be bindingly integrated into all planning levels:** Current regulations are often non-binding, hindering implementation.
2. **Standards and indices are crucial for monitoring and evaluation.**
3. **Sectoral plans must be coordinated:** Conflicts between connectivity goals and sectoral plans (e.g., for renewable energies) must be actively managed to minimize land use conflicts.
4. **Awareness-raising at the local level is essential:** The Integrated Urban Development Concept (ISEK) is an effective instrument for involving local actors and strengthening awareness of connectivity.
5. **Utilize existing data and maps:** Unified datasets facilitate integration into planning instruments like the Forest Development Plan.

9 Next steps / expected impact

The next steps focus on the **binding integration of connectivity goals into planning documents**. The ISEK in St. Gilgen offers a great opportunity to ensure the safeguarding of connectivity in the municipality. The ongoing revision of the REK in St. Gilgen is a primary target for comprehensive anchoring of GBI networks. Regional programs are expected to develop corresponding guidelines by 2033. **Continuous monitoring** of corridor functionality, based on standardized indices and guidelines, should be established to ensure long-term success and landscape resilience. The developed proposals serve as a **replicable model** for other Alpine regions.

Post-project timeline	
ISEK St. Gilgen	1.
Integration of connectivity goals into planning documents	2.
Revision of the REK St. Gilgen	3.
Regional programme Osterhorngruppe 2033	4.

Figure 6: Post-project timeline

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

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