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Alpine Space

PlanToConnect

Technical proposal(s) for implementing GBI connectivity networks in spatial plans and sector instruments

[Pilot Region: Trilateral transboundary pilot site (Austria-Italy-Slovenia)]

Reference in AF: D2.5.1 including outcomes of D2.2.1, D2.2.2, D2.3.1, D2.4.1

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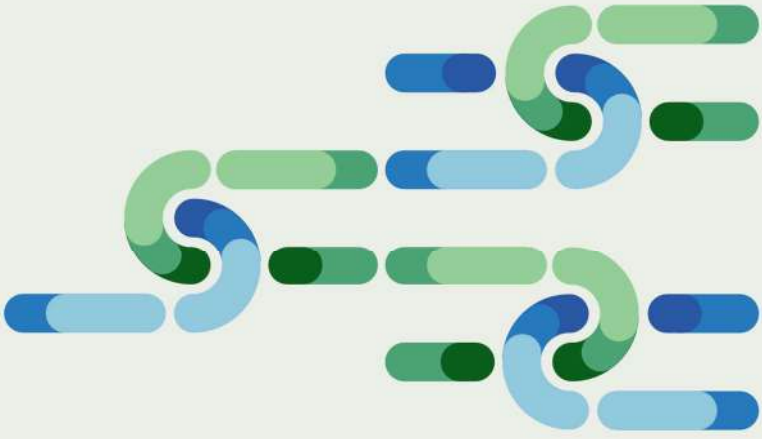

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Case Studies 4th step: Draft a technical proposal integrating the project for a GBI connectivity network into planning tools/sector plans in pilot areas. A2.2, A2.3 and A2.4 include deliverables.

Technical proposal(s) for implementing GBI connectivity networks in spatial plans and sector instruments [Pilot Region: Trilateral transboundary pilot site (**Austria-Italy-Slovenia**)]

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With contributions from participants of the stakeholder workshops in the region.

Klagenfurt, July 2025

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Glossary

“Connectivity” (structural and functional)

“Connectivity comprises two components, structural and functional connectivity. It expresses how landscapes are configurated, allowing species to move. Structural connectivity, equal to habitat continuity, is measured by analyzing landscape structure, independent of any attributes of organisms. […]. Functional connectivity is the response of the organism to the landscape elements other than its habitats (i.e. the non-habitat matrix). This definition is often used in the context of landscape ecology. A high degree of connectivity is generally linked to low fragmentation.” (EUROPEAN COMMISSION - Technical information on Green Infrastructure (GI), 6.5.2013, Glossary)

(Definition of connectivity see also Deliverable 1.1.1, chapter 8)

GBI – Green and Blue infrastructure

Green infrastructure (GI) is a strategically planned network of natural and semi-natural areas with other environmental features designed and managed to deliver a wide range of ecosystem services. It incorporates green spaces (or blue if aquatic ecosystems are concerned) and other physical features in terrestrial (including coastal) and marine areas. On land, GI is present in rural and urban settings.” (EUROPEAN COMMISSION - Green Infrastructure (GI) — Enhancing Europe’s Natural Capital, 6.5.2013

RCWG – Regional connectivity working group – a group of stakeholders from different sectors and levels, to be established in the project to discuss and validate specific corridors and connectivity measures

CB-RCWG – Cross border regional connectivity working group - Regional connectivity working group for trilateral pilot area – a group of stakeholders from different sectors and levels of the three countries **Austria**, **Italy** and **Slovenia**, to be established in the project to discuss and validate specific corridors and connectivity measures

SACA - Strategic Alpine Connectivity Areas

Executive Summary

The current technical proposal reflects on opportunities to secure strong ecological connectivity and to integrate GBI networks into spatial planning instruments in the trilateral pilot region of Austria (A), Italy (I) and Slovenia. The aim of the proposal is to highlight options for the near future for enhancing the cross-border network and especially focuses on the collaboration of the Nature Park Dobratsch in Austria with the Bilateral UNESCO Biosphere reserve Julian Alps, consisting of the Slovenian Triglav National Park and Prealpi Giulie Nature Park in Italy who acted as observers in the PlanToConnect Project. The main idea is to connect the outstanding natural values of the core habitats of the biosphere reserve with the core zone of the Austrian nature park and to enhance collaboration on nature related topics in future.

A variety of stakeholders out of public administration, different sectors, regional development agencies, public enterprises or institutes, regional associations or NGOs, private sector, research organisations or tourism boards are involved in the planning issues of the pilot area and play an important role in the integration of ecological networks into spatial planning documents at national, regional, provincial or municipal level. With their activities and decisions, they can either enhance integration of GBI elements into the planning process or build barriers to connectivity. Therefore, it is important to bring them on board and to create a common understanding of the importance of strong ecological connectivity in the region. Within this project, they were invited to several workshops and meetings to contribute their knowledge.

Based in the analysis of suitable potential linkages in the pilot area (current land use, barriers and threats) priority areas for connectivity, bottlenecks and local barriers were identified and landscape level. Those were communicated within the regional connectivity working group. The three parks work as multiplier in the distribution of the finding.

Optional planning instruments that are most feasible for the integration of GBI into planning are provided – at proposal status – and still need to be discussed and valuated by planning authorities in the three states of the pilot region. The findings were presented in a meeting of the observers and to the relevant communities in Austria.

The limitations of the study are clearly stated: In the frame of the project, it was not possible to analyse all regional and local corridors of the trilateral pilot site in detail and to reach out to all relevant stakeholders.

Therefore, recommendations for integration into spatial planning instruments are rather limited to the selected international corridor and to the Austrian part of the pilot area. However, concrete steps for further collaboration especially as cross-border level are proposed. Thus, the current report must be considered as a starting point for stepping into integrative planning in an international context and in the implementation of ecological connectivity in the next years.

Conclusions and Recommendations

There is no spatial planning instrument for transnational corridor planning in place. Every stakeholder contributes a small jigsaw piece to secure connectivity of the pilot area. In the multistakeholder setting of the pilot area, the three parks can play an important role in the coordination of biodiversity related topics and the harmonization of regional development goals. Although they do not have spatial planning mandates but have a strong stake in development discussions and planning processes. Projects within the parks must be assessed if they are in line with the targets of the nature parks or the biosphere reserve. However, the term “nature park” in the three countries is combined with different legal frameworks. The core zones of the parks to not meet at the border and are separated by peri-urban development zones.

It is recommended that the three parks in the pilot area find a suitable formal structure for enhanced collaboration and take up coordinative role to harmonize ecological goals with regional development.

Here, the biosphere concept provides an interesting option for harmonization of nature conservation and development goals due to its statutory framework. It is designed to deal with one of the most important questions the world faces today: “*How can we reconcile the conservation of biodiversity, the quest for economic and social development and the maintenance of associated cultural values”* – Seville Strategy 1996, p.3. UNESCO

While this concept is applied bilaterally in the southern part of the pilot area, the connection to the north remains is fragile. Therefore, it is recommended to evaluate the feasibility of expansion on the Austrian side of the border. Respective pre-planning activities and a stakeholder process is recommended for the Nature Park Dobratsch.

Parallel to that and meanwhile voluntary “corridor agreements” between the border communities can be made.

REPORT

1 GBI network project of transboundary trilateral pilot area (AT, I,SI)

1.1 The international pilot area Austria, Italy and Slovenia

The pilot area in the border triangle between **Austria**, **Slovenia** and **Italy** comprises the recently recognized bilateral **UNESCO Biosphere Reserve Julian Alps** (around the Triglav National Park (**Slovenia**) and the Julian Pre-Alps (**Italy**). To the north, the **Dobratsch Nature Park** (**Austria)** connects with the Karawanks in the east and the Carnic Alps in the west. The pilot area is part of the alpine biogeographical region and is characterized by Illyrian elements typical of the Southern Alps.

The pilot area offers vast natural spaces with varying degrees of protection, with the Triglav National Park and the Prealpi Giulie Natura Park representing an important core area that should remain connected to other national parks in the alpine space in the future. They already cooperate as the bilateral UNESCO Biosphere Reserve Julian Alps, which has been recently approved by UNESCO. The biosphere reserve consists of a strictly protected core zone (without human use), a buffer zone (the cultural landscape where traditional acricultural use for habitat maintenance takes place) and a transition zone (where sustainable use by communities in the reserve takes place and should be maintained). The biosphere reserve is a model region for sustainable regional development and therefore presents a promising base for careful and visionary handling of upcoming projects in the communities. Additionally, several Natura 2000 areas are located in both countries, acting as SACA 1 smaller than 300 m2.

In **Austria**, the Dobratsch Nature Park (A) is an important link in the ecological corridor system which connects the Balkans and the Karawanks with the Hohe Tauern / Central Eastern Alps. The **Austrian** part of the pilot region connects to the biosphere reserve in the south via forested mountain ridges and slopes. The Dobratsch Nature Park was established based on the Schütt-Dobratsch Natura 2000 site, a natural area created by a huge rockfall in the 14th century. In addition, wetlands, limestone meadows, alpine pastures, and vast beech and fir forests on the mountain slopes of the Karawanks complement a rich natural and semi-natural heritage. Additionally, there is a direct water connection to the Italian side via the Slizza/Gailitz river.

The Dobratsch Mountain, with its steep mountain slopes in the core zone of the nature park, offers similar habitats as in the southern part of the pilot region. The wider area of the nature park follows community boundaries and includes settlements, transport routes and other human infrastructure in the peri-urban surrounding of the City of Villach. The Gail valley floor partly separates the remaining more natural areas from each other through transport infrastructure.

The ecological network in the pilot area basically consists of two circles: the wider pilot area, which outlines the pilot site, and the selected international connective corridor which is the shortest connection between the three major protected areas. The latter area was analysed in detail.

1.1.1 The wider pilot area

The wider area consists of huge natural areas in the southern part. The Biosphere Reserve Julian Alps incorporates the whole pilot region on the **Slovenian** part. The core zone is derived from the core zone of the Triglav National Park. The buffer zone is the surrounding landscape. The transition Zone of the **Slovenian** part of the pilot site reaches the **Austrian** border.

In the Italian part of the pilot area, the Parco naturale delle Prealpi Giulie (Nature Park Julian Prealps) is part of the transboundary UNESCO Biosphere Reserve Julian Alps. It includes natural areas and borders **Slovenia** directly. The connection to **Austria** is west of the Nature Park Dobratsch; there is no direct connection within the boundaries of the pilot area.

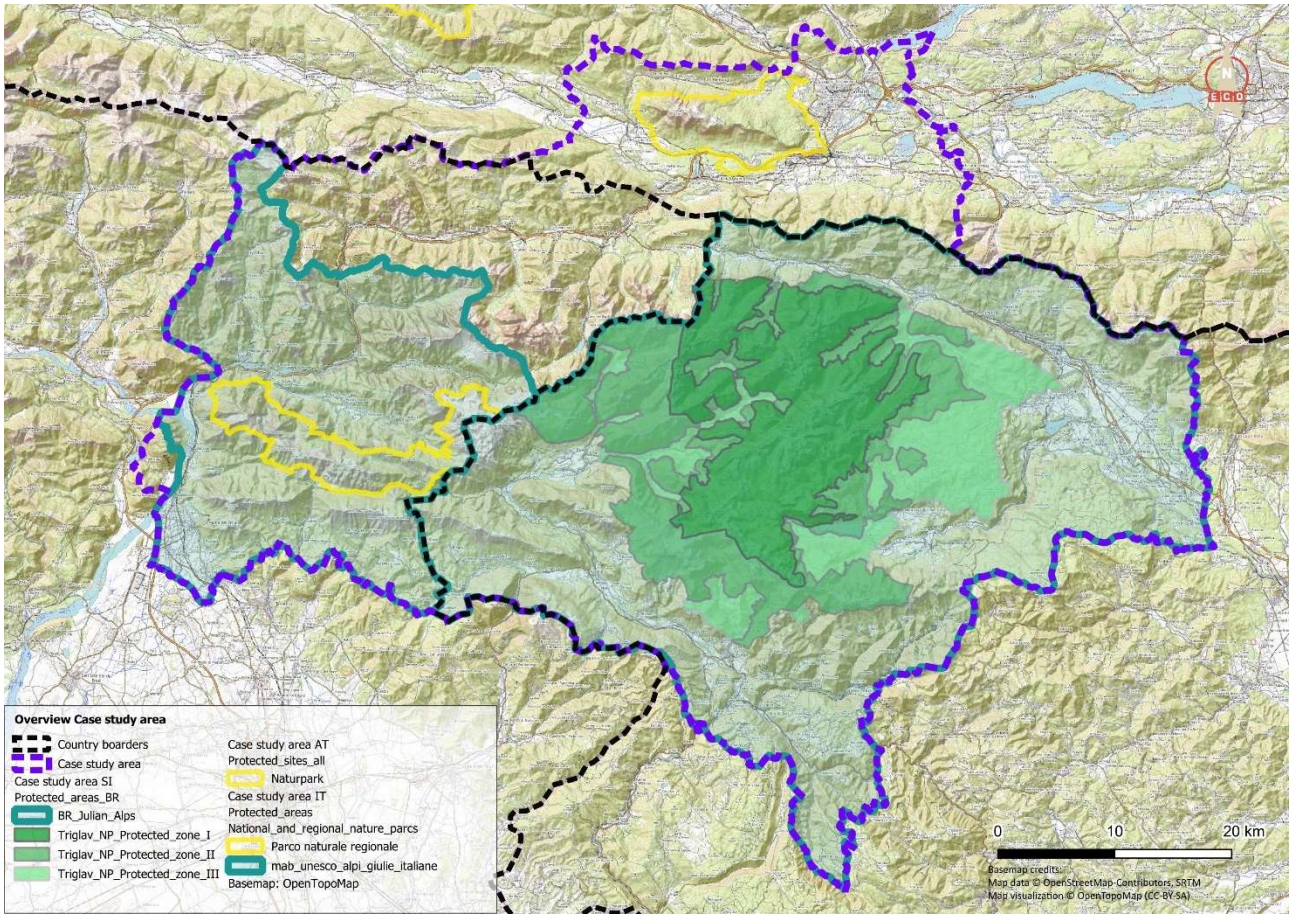

Figure 1: The Transboundary Pilot Site **Austria, Italy,** and **Slovenia** and its protected zones.

In **Austria,** the core zone of the Dobratsch Nature Park (Natura 2000 site Schütt Graschelitzen) does not reach the borders. The outer part of the **Austrian** Nature Park corresponds with the community borders of Villach, Bad Bleiberg, Nötsch, and Arnoldstein. The austrian nature park is understood as an area with special values for landscape and sustainable tourism but is not a strictly protected area. Smaller core areas like the Natura 2000 site Kokra are embedded into the forest close to the **Slovenian** border. Outside of the Dobratsch Natura Park, the Natura 2000 site Western Karawanks directly borders **Slovenia** and the transition zone of the Biosphere Reserve Julian Alps.

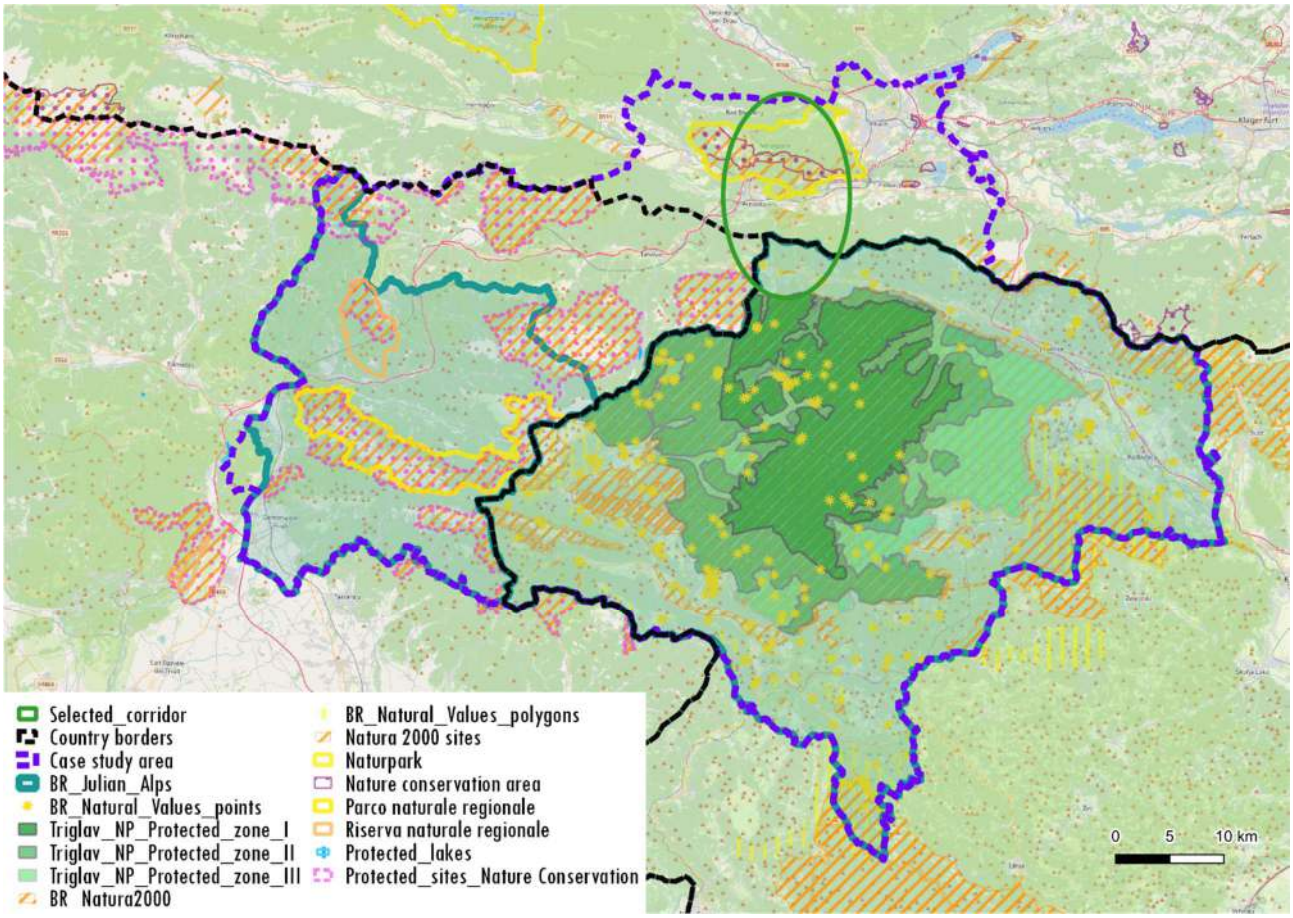

Figure 2: Protected areas in the wider pilot area

While protected areas directly connect **Italy** and **Slovenia**, in **Austria** the core zone of the Dobratsch Nature Park is more northern, separated by Gail valley and Sava valley from the core zone of Triglav National Park. Although these strict protected areas are not directly bordering within the pilot area, the connectivity is still strong and provided by a landscape of permeable forests along the trilateral border region. The steeper forest slopes of the Karawanks are dedicated as protective forests according to the forest function plan of the federal state, which means the economic forest function is not in the centre of attention.

Outstanding GBI elements exist in the wider pilot area. They represent remarkable natural values in the form of typical southern alps habitats. There is also good coverage with protected areas, some of them strictly protected. Within the pilot area, there are natural parts of beech forests, rocky areas, alpine pastures, and wetlands. In the surroundings, traditional agriculture with small patches of extensive grassland dominates. Additionally, there are large forest areas that are extensively and sustainably managed. A river network is also present, with clear water and with broad limestone riverbeds. Besides isolated peri-urban settlements, the current land use supports excellent corridor functions.

While the mountain areas in the wider frame of the pilot area are forested and mainly used extensively and the valley areas are predominantly used for traditional agriculture, some parts of the valley are intensively used for human infrastructure and activities. Particularly, the Gail valley (A) with the (peri-)urban area of Villach (A), the canal valley (I) around Tarvisio and the lower part of the Sava valley (Si) within the pilot area are more intensively used. Those areas are under constant development pressure (economic development and land use changes) and therefore, careful integrative spatial planning that considers the good ecological quality of the area is required.

Connectivity aims for the wider pilot area:

The aim of connecting the wider pilot area is to secure the good ecological connectivity of the pilot site for the future. The pilot project aims to secure the effective collaboration of the Transboundary Biosphere Reserve Julian Alps with the Nature Park Dobratsch by establishing a transboundary cooperation. Common goals and governance at the transnational as well as regional level shall be formulated on various thematic fields in regional development. The ecological connectivity and the positive state of GBI elements in the region provides a base for more collaboration and sustainable regional development.

1.1.2 The connective international corridor

According to the macroregional alpine wide connectivity model that was developed in the frame of the PlanToConnect project (see Lahner, et al 2023, D.1.1.1), there is one regional potential linkage located within the Nature Park Dobratsch (A). It connects Triglav National Park (SI) with the core zone around Dobratsch Mountain and leads further to the National Park Hohe Tauern.

This corridor was selected as a connective international corridor and further analysed. It connects the alpine core habitats in the north-south direction and runs directly through the pilot area. It is the backbone of maintaining the strong ecological connection of the wider pilot area to the large northern protected areas in the future. By zooming into this macro regional network linkage, regional connecting corridors and the integration of the GBI elements at the Italian site of the border were analysed. The ecological network elements surround the three-border site Dreiländereck, which is renowned as recreational attraction in the region.

A second north-south corridor is situated 20 km west – outside of the Nature Park and the pilot area. It connectes the italian part of the biosphere reserve with the **Austrian** park east of Hermagor.

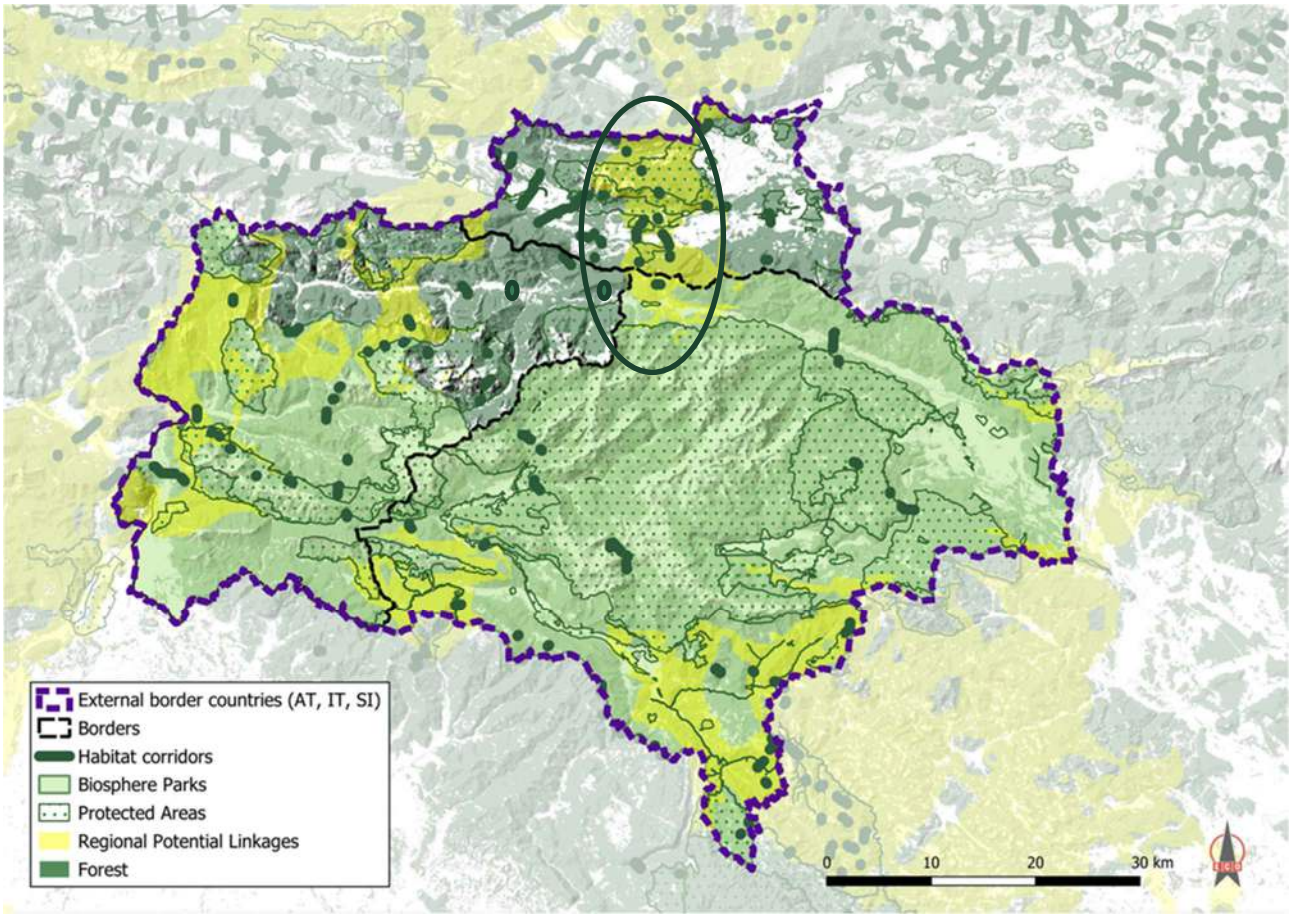

Figure 3: Selected corridor in the study area yellow marks the potential macroregional linkages) and existing GBI and corridor elements in the pilot region

The selected international corridor consists of a permeable landscape full of GBI elements. It is dominated by forest – mainly spruce and mixed beech forest, followed by open spaces with extensive meadows and alpine pastures maintained by traditional agriculture. In some areas, extensive wetlands, such as Pöckauer Moos in **Austria** and Zelenci in **Slovenia**, exist, which allow excellent connectivity and habitat quality. In **Italy**, the Natura 2000 site Lagi di Fusine is very close but not directly bordering.

The coverage of formally protected areas in the selected corridor area is low: In **Austria**, there is the N2000 site Kokra. In **Italy,** the selected corridor is not part of the nature park or the transboundary biosphere reserve. In **Slovenia** the selected corridor it is part of the transition zone of the biosphere reserve, which is not a strictly protected category.

Therefore, the current connectivity function of this corridor can be considered strong. However, the future functionality of this important ecological connection is not fully guaranteed, and this aspect should be addressed in development plans of the different spatial planning levels.

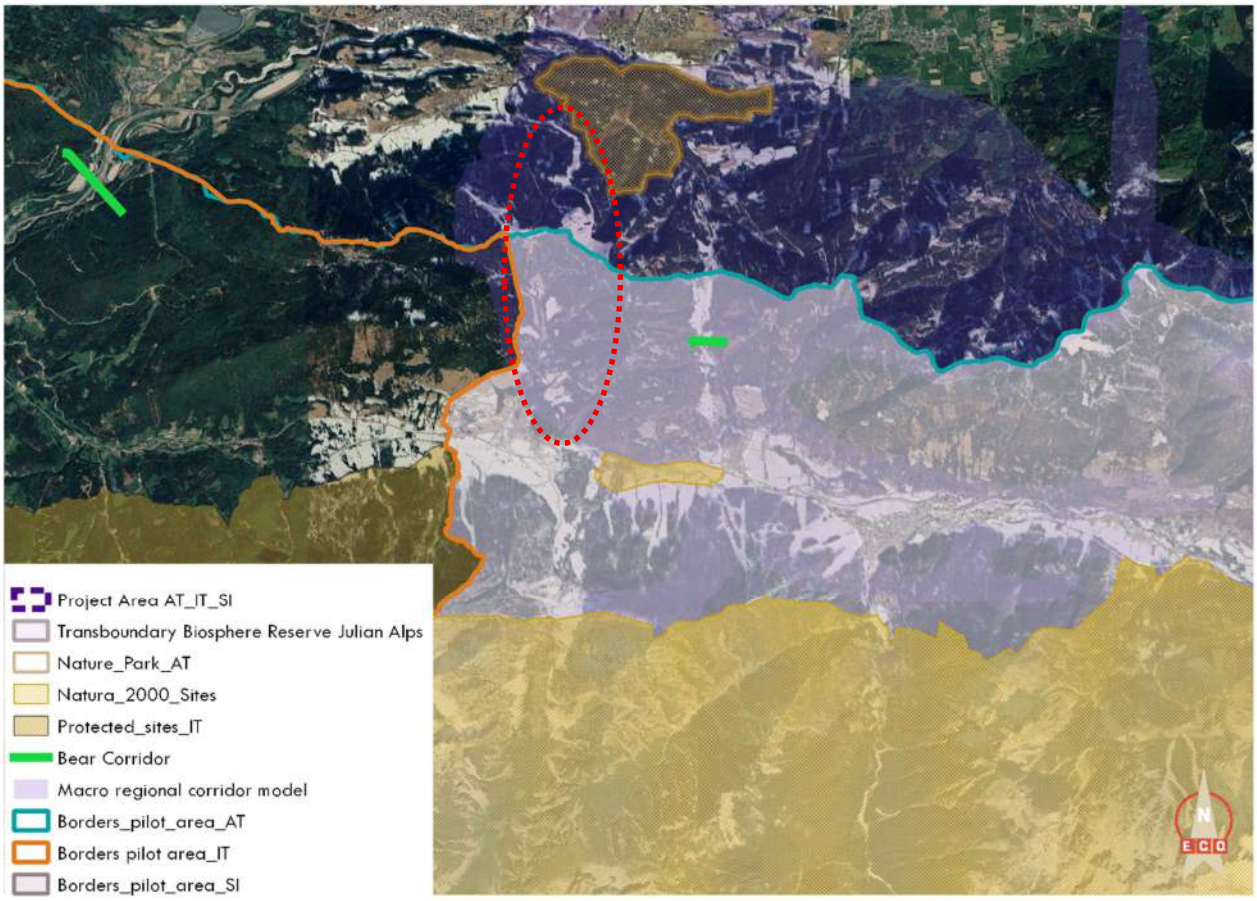

Figure 4: Zooming into the protected areas in the selected corridor area at the trilateral border. In red is the Dreiländereck, a hot spot for recreation.

All three countries already have a network of ecological corridors worked out at national or regional level. The networks are based on functional connectivity aspects and are derived from different national projects conducted by forest and wildlife departments in the past few years. Target species for these corridors were mainly ungulates.

In **Austria**, the project lebensraum.at provides a variety of national and regional corridors. They are based on “everything bigger than a hare” and are already validated by wildlife specialists. However, the legal implementation is still pending, but the layer is provided to be considered in spatial planning.

In **Slovenia,** important corridors are shown for bears. One bear corridor is identified by national forest to connect north of Podkoren. Additionally, telemetry data of lynx movement provide valuable information about the functionality of the existing corridors for this species, which is very shy and does not leave the dense forest.

In **Italy**, the permeability of the landscape was validated, and corridors in the pilot region are provided for selected species such as the smooth snake and lizards.

Within the selected corridor area in **Austria,** two national ungulate corridors connecting north-south and a third one connecting east and west along the mountain ridge of the border exist.

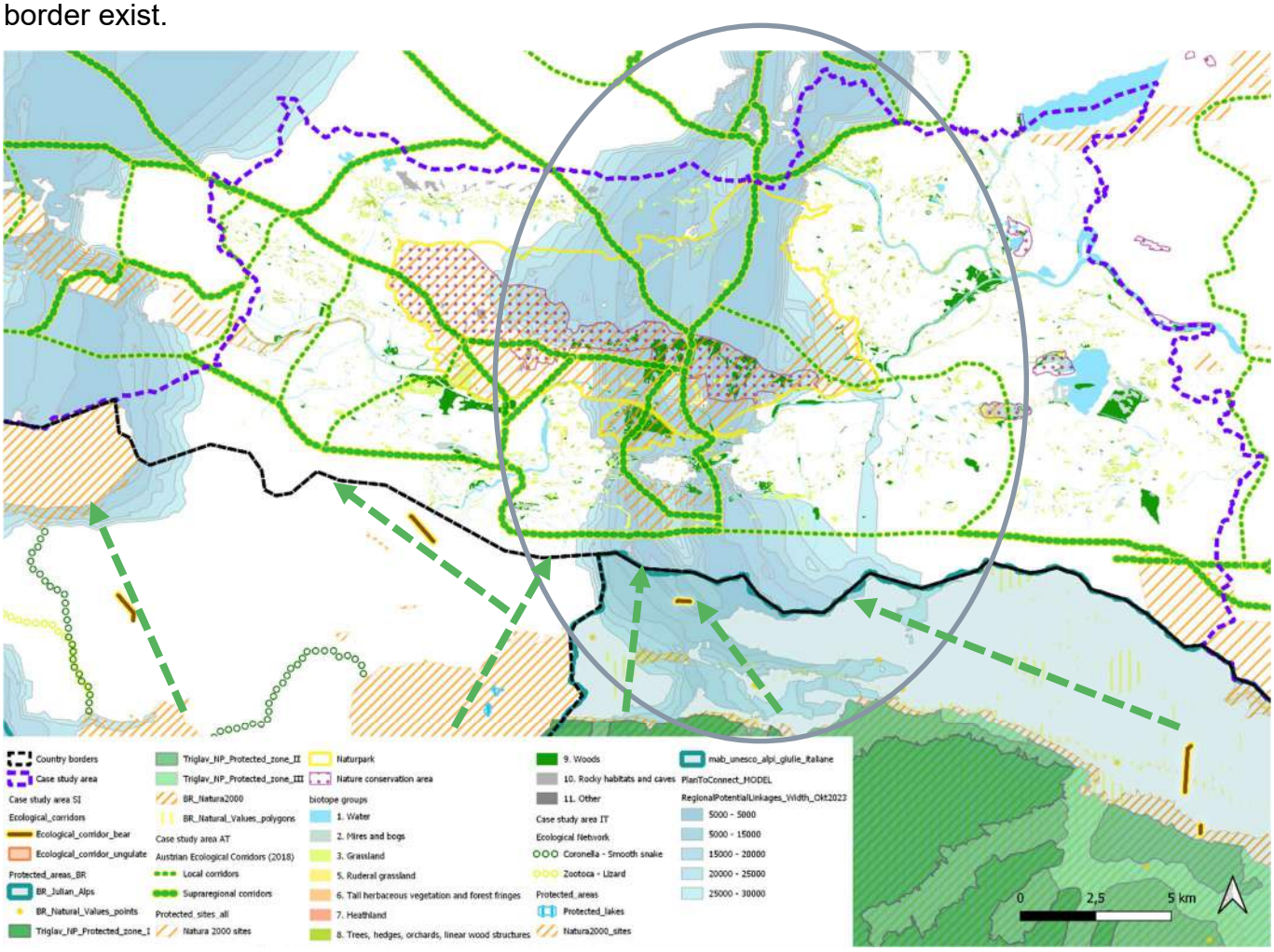

Figure 5: Protected areas, ecological corridors and mapped biotopes in **Austria**, **Italy** and **Slovenia** on the selected modelled corridor within the pilot region.

The pilot area is comprised of highly natural landuse classes. 64 % of the landuse in the area is classified as forest. 24 % is classified as either rocky or stony area. The anthropogenic influenced land cover types like “discontinuous urban fabric” and “industrial or commercial units” can be found at the edges of the pilot area and cover just 2,7 % of it. They represent the cities of Villach and settlements of lower Gail valley in **Austria**, the area around Tarvisio and Gemona in **Italy** and the area around Jesenice and the settlements of Sava valley in **Slovenia**. Additionally, the “road network” covers just 0,30 % although

important traffic connections like highways cross the three countries. Around 10 % is covered by agricultural uses like pastures, meadows, and fruit trees.

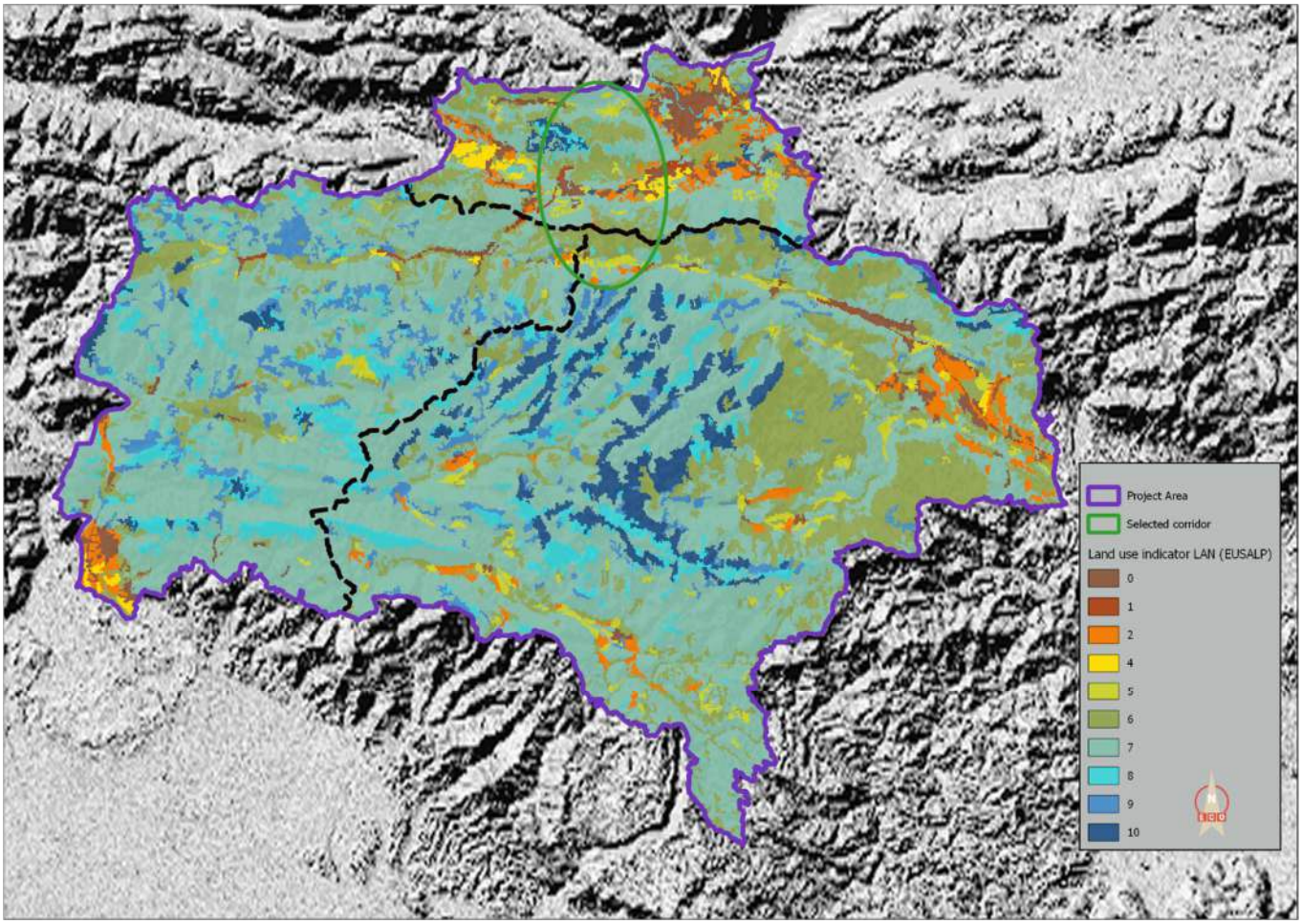

Figure 6: Land use classification of pilot area – showing anthropogenic uses (Class 0,1,2,3) at the periphery

Within the selected alpine wide corridor linkage around the trilateral border, the land use is more diverse than in the wider pilot area with the extensive natural sections. There is forest (classes 6 and 7), a slightly larger share of extensive agriculture (2 and 4), and as peri-urban settlements (0 and 1) in the valley floors.

Ecological corridors running east-west traverse the forested mountain slopes, whereas the north-south connections must cross the valleys and be delineated between existing land uses and settlements.

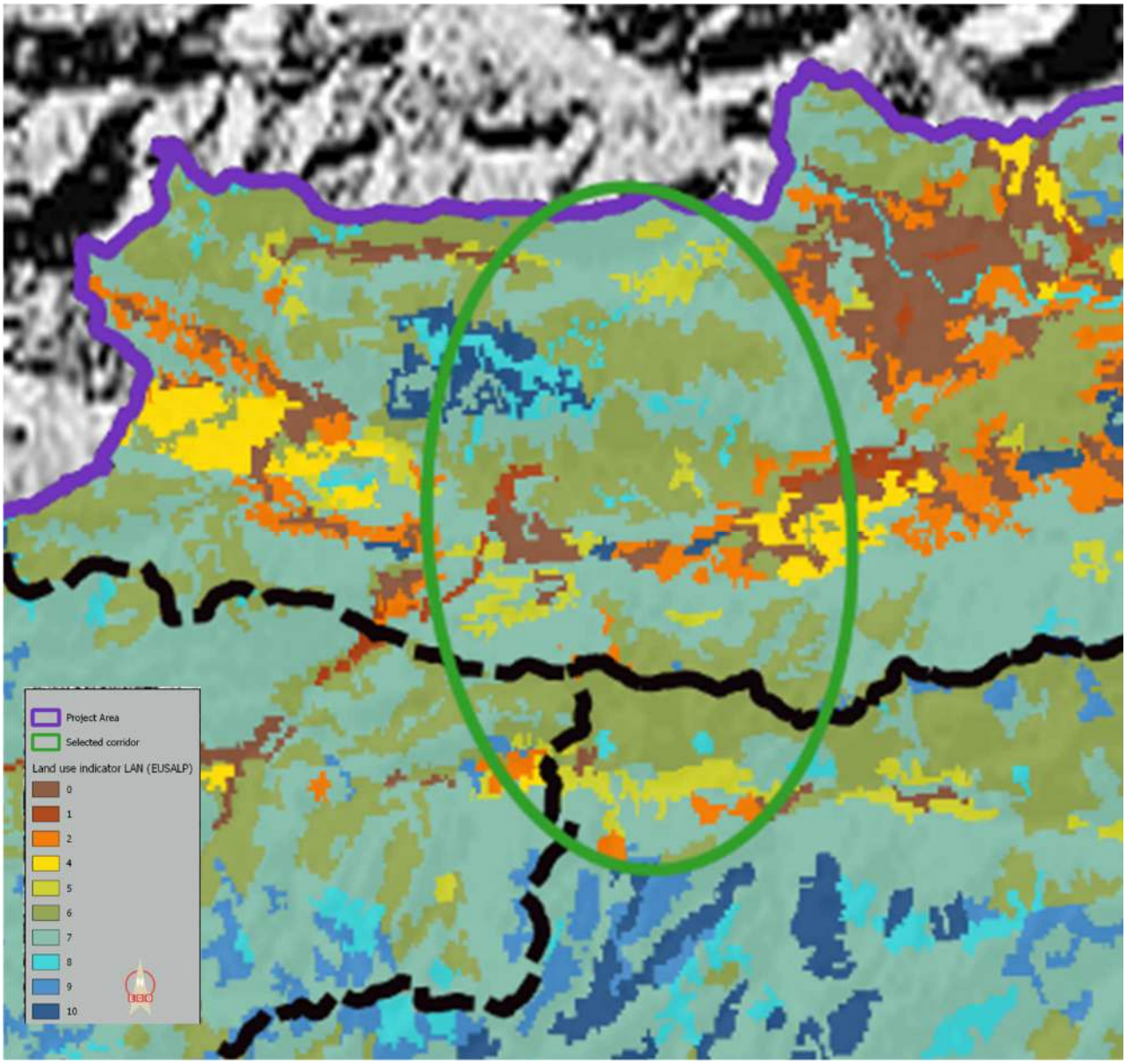

Figure 7: Land use classification of selected corridor at the trilateral border – showing different anthropogenic uses (0,1,2,4,5) basically at the valley floors and at the three-border area

Connectivity aim of the selected corridor:

In this context, the main aim for the selected corridor in the pilot site is to maintain strong connectivity into the future, to secure existing ecological corridors by integrating them into development strategies and spatial plans at regional and municipality levels, and to address bottlenecks and barriers for ecological improvement. The permeability of the

landscape is currently very good; however, it is the right time to consider how to maintain strong connectivity for the future."

In this contect it is important to mention that maintaining connectivity does not mean stopping development; rather, it presents an opportunity to foster collaboration at the international level and promote broad integration of ecological considerations."

As blue elements, the Gail River, the Gailitz River in **Austria**, the Sava River in **Slovenia** and the Fella River in **Italy** with their tributaries can be found in the area. Additionally, there are several lakes within the pilot region. In the selected corridor, the Gail River and its outlet channel flow in **Austria**. On the **Slovenia**n site, River Sava and its source Zelenci lay within in the selected corridor area.

Figure 8: Strong connectivity in Prealpi Giulie Nature Park

2 Pressures and Threats to connectivity conservation and restoration areas

A pressure is defined as an existing land use which threatens the permeability of the landscape and which is also not considered compatible with an ecological corridor. Definitions were made and compiled in D.1.4.1.

A threat is understood as potential developments in the future that might jeopardize the functionality of the ecological corridor. The potential for current threats emerges from policies strengthening renewable energies.

2.1 Main pressures

2.1.1 Pressures in the wider pilot area

Although the trilateral pilot site in **Austria**, **Italy,** and **Slovenia** mainly consists of forest, there are some pressures in the wider context. Since the wider pilot area mainly consists of steep mountain ridges and large forest patches, the valley floors are relatively narrow limiting the available space for infrastructure and settlement development.

The main pressures of the case study area were highlighted in the deliverable 2.3.1. They were analyzed via GIS analysis of Corine land use data, desktop screening of areal images, and stakeholder consultation during workshops and via a questionnaire.

Additionally, a survey was conducted by Eurac in all the pilot areas of the PlanToConnect Project. Participants were requested to rate a list of pressures for the pilot site (1 – 5, 5 for very strong pressures). According to stakeholder responses across the whole trilateral pilot site, the following pressures were mentioned for the area ranging from weak or moderate to strong:

- Removal of small landscape features
- Plant protection chemicals (pesitcides)
- Roads – highway related infrastructure
- Sports, tourism and leisure activities
- Clear cutting, removal of old trees
- Forest management – reducing old-growth forest
- Removal of dead and dying trees
- Removal of old trees
- Invasive species
- Transmission of energy – high voltage energy lines
- Hydropower dams

Many of those pressures are related to forestry practices and energy production. Although the pilot area consists of huge natural spaces, the list of pressures is surprisingly high. However, none of those pressures is rated as very strong.

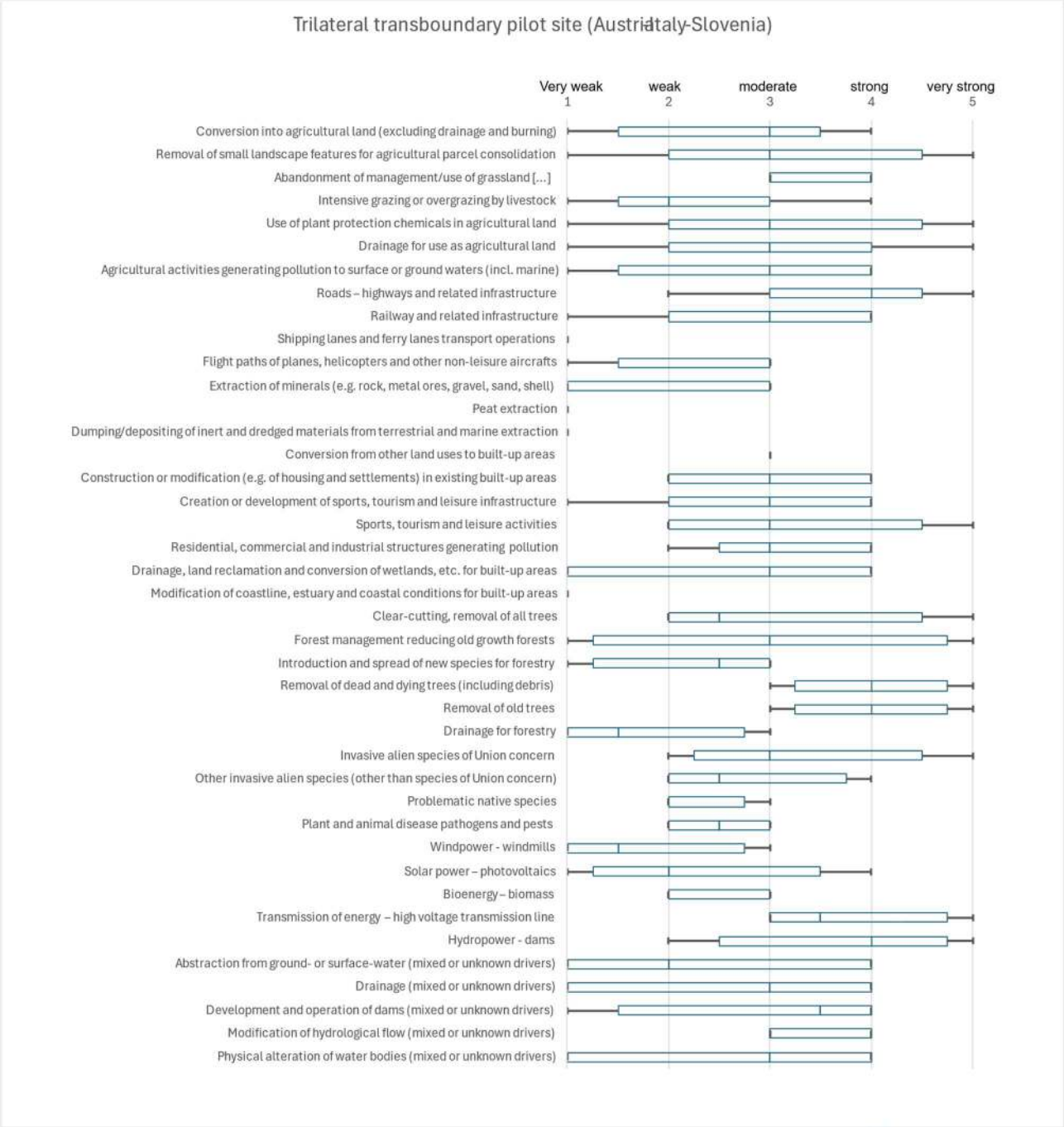

Figure 9: Evaluation of pressures by regional stakeholders via a questionnaire (Eurac, 2025)

2.1.2 Pressures within the selected corridor

Within the selected corridor, some of the pressures mentioned for the wider pilot area are also relevant:

- Removal of small landscape features – rather low
- Plant protection chemicals - unknown
- Roads – highway related infrastructure - moderate
- Sports, tourism and leisure activities - moderate
- Clear cutting, removal of old trees – moderate to high
- Forest management – reducing old grown forest – moderate to high
- Removal of dead and dying trees – moderate to high
- Removal of old trees – moderate to high
- Invasive species – moderate to high

Generally, connectivity is very strong and the landscape is permeable with high ecological quality. In the open landscape, traditional agriculture and wetlands are present. The mountain ridge in this area is not very steep, allowing for economic use of . However, small forest patches exist due to varied land ownership. The road network passes through the Sava valley, Wurzen mountain pass, and includes the main road between Arnoldstein and Fürnitz. The highway can be traversed via an existing green bridge. Sport and tourism activities are primarily concentrated around Kranjska Gora, Dreiländereck, and Laghi di Fusine.

Figure 10: Connectivity area on the **Austrian** side of the border between the Wurzen mountain pass and Dreiländereck

Figure 11: Corridor area at the Italian side of the border

Figure 12: View to the connecting corridor west of Kranjska Gora skiing area

Figure 13: Connectivity area north of Kranjska Gora

Figure 14: Ecological corridor close to Pöckau, **Austria,** reckognized as wildlife crossing area

2.2 Threats to connectivity conservation and restoration areas

Currently, there are no immediate threats to connectivity conservation, either in the wider pilot area or within the selected corridor, according to interviews were conducted with observers and the regional KEM manager in **Austria**.

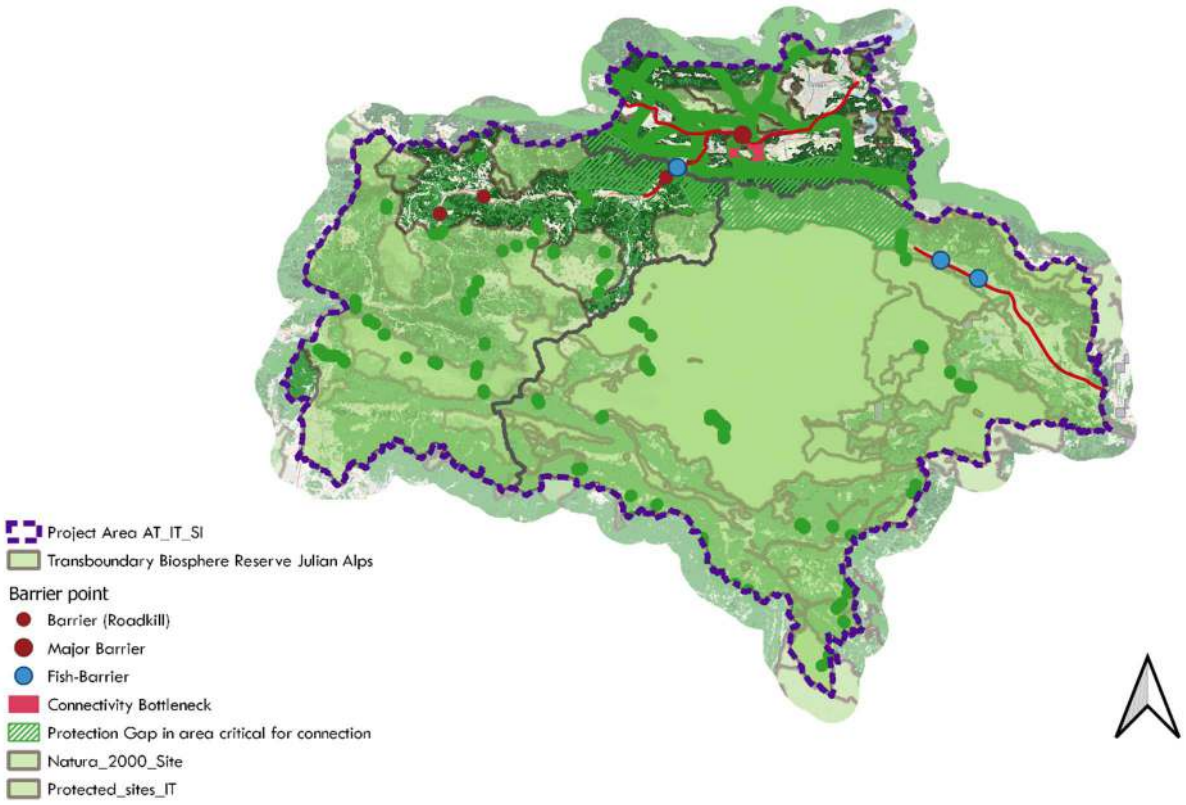

Figure 15: Bottlenecks and barriers in the connectivity system of the wider pilot area

There are no upcoming projects with regards to renewable energy production known at this stage.

In **Austria**, a recent public referendum (January 2025) led to a ban on establishing wind turbines in the alpine areas of Carinthia. Waterpower is already established at the Gail and the Gailitz river. Solar panel projects are currently not planned.

Tourism development will resume after a short break in the area of Dreiländereck, an existing skiing area that is also used for hiking and biking. The scale of these activities will most likely not compromise the strong ecological connectivity.

In **Italy,** such developments are currently not known. At the area around Laghi di Fusine, touristic events take place during the summer. Hydropower plays a role in the river Gailitz.

In **Slovenia,** no upcoming renewable energy projects are currently expected in the area of the UNESCO Biosphere reserve. Touristic activities take place around Kranjska Gora. However, the vast natural areas around provide excellent connectivity.

The connectivity of the selected international corridor is quite strong. Most parts lay within forested areas, where permeability is secured. There are no obvious restoration areas within the selected corridor. However, the long-term ecological quality of the forest areas should be addressed. Additionally, some bottlenecks should be addressed in further development of the region. Securing good connectivity for the future is the major goal. This can be addressed by implementing the corridor into the spatial planning systems of the three countries.

At the **Austrian** site of the selected international corridor, a main aim is to identify and to keep existing old forest stands. Parts of the forest, especially at the **Austrian** site are densely dominated by spruce, which might not be the original species composition. Invasive species can be found along the forest roads. The Pöckauer Moos and the wetland and forest patches between Pöckau and Riegersdorf are important for connectivity and should be considered as a protected area. Development aims of Dreiländereck should be harmonized with the existing corridor functions in municipality spatial planning.

In **Italy**, connectivity areas and wildlife corridors currently exist in the three-border area. However, the corridor under the highway close to Tarvisio represents a bottleneck, which should be addressed in further planning.

In **Slovenia**, maintaining the traditional way of agricultural is possibly unsecure. However, there are no current threats. Improvements can be made in the context of waterpower plants, which should be made permeable for fish species.

3 Connectivity measures and governance settings

3.1 Connectivity measures / action plan

To ensure long-term ecological connectivity in the cross-border region, a range of strategic action fields has been identified through stakeholder workshops and analysis conducted within the PlanToConnect project.

These proposed actions target both structural and functional aspects of connectivity and aim to strengthen the integration of green infrastructure into spatial planning across all three countries.

The following actions are recommended for the pilot region to secure strong long-term connectivity.

1. Implement core connectivity elements into spatial plans at all levels as open space (not considered for infrastructure development). Ensure extensive land use categories within the core connectivity elements (e.g. forest patches, extensive meadows, structured by landscape elements like hedges, tree rows, orchards). Keep up or improve habitat quality within those areas.
2. Keep ecological core areas covered by forest in the whole pilot region. Improve forest habitat quality
3. Enhance the protected area system by establishing strategic protected areas in bottleneck areas
4. Assess regional development goals against ecological goals within core connectivity elements
5. Establish formal structure for international collaboration

3.1.1 Implement core connectivity elements into spatal plans at all levels

Core connectivity elements must be considered as open spaces in future. They should not be considered for infrastructure development by planning authorities. They shall be addressed and implemented into national, regional and municipality planning systems. Extensive land use categories should be fixed within the core connectivity elements. These can be forest patches, extensive meadows, or structured by landscape elements like hedges, tree rows, and orchards– all these are elements of the traditional agricultural landscape in the pilot area. At the local level, habitat quality within those core connectivity areas shall be maintained in good standard or shall be improved.

A key priority is the formal integration of ecological corridor networks into national and regional spatial planning systems. This includes the institutionalisation of green and blue infrastructure elements within the relevant legal and planning frameworks of **Austria**, **Italy**, and **Slovenia**. The harmonised corridor model developed by EURAC and the

PlanToConnect team should serve as a spatial reference for planning documents at all levels. Regional and local plans such as zoning ordinances and municipal development concepts should legally incorporate the designated corridors to ensure long-term safeguarding.

In **Austria**, the aspect of legal establishment and incorporation of corridors into planning documents is particularly important due to the decentralised structure of spatial planning, where key responsibilities lie with the municipalities. As a result, municipalities play a central role in translating connectivity objectives into binding land-use decisions at the local level. The primary instrument for this is the local spatial planning framework (örtliche Raumplanung), which is governed by the Carinthian Spatial Planning Act (Kärntner Raumordnungsgesetz).

In **Austria**, municipalities are required to develop Municipal Development Concepts (Örtliche Entwicklungskonzepte, ÖEK), which define long-term spatial priorities, settlement boundaries, and open spaces. These serve as the legal basis for the zoning plan (Flächenwidmungsplan), which assigns binding land-use categories. Both instruments are crucial for safeguarding ecological corridors in municipal planning. To secure ecological corridors in the long term, it is therefore essential that these instruments—particularly the ÖEK and zoning plan—integrate and reflect the spatial structure of the connectivity network. This ensures not only legal safeguarding but also alignment with broader regional and cross-border conservation objectives.

Therefore, an integrated, landscape-scale perspective is required to ensure that corridors maintain their function over long distances, across administrative borders and land-use types. Planning decisions should explicitly address the continuity and directionality of corridors, rather than focusing solely on the conservation status of single land parcels.

3.1.2 Enhance connectivity supportive land management within core connectivity areas

In the field of landscape management and restoration, the promotion of extensive, small-scale agricultural practices with high structural diversity plays a central role. Traditional elements like hedgerows, orchards, and forest edges contribute significantly to ecological connectivity and should be preserved or reintroduced where appropriate. Degraded or fragmented areas - such as intensively farmed monocultures or tourism-dominated zones - should be identified for restoration. Underutilised or marginal lands exposed to climate pressures offer potential for fallow management or rewilding initiatives.

3.1.3 Keep ecological core areas covered by forest in the whole pilot region.

Currently, good connectivity is provided in the pilot region by large permeable forests, covering the mountain ridges. To ensure good connectivity in future, the forest areas should be kept. This is regulated by the national forest laws of all three countries and by

forest functional plans. In spatial planning, forest should not be considered as space for further development.

Additionally, forest habitat quality shall be improved within protected areas and in the core connecting areas. Old forest stands, mixed or broad leave forests should be promoted and enhanced. Forest roads should be avoided in such areas.

3.1.4 Assess regional development goals against ecological goals within core connectivity elements

Species-based corridor evaluation is another key component. The design and prioritisation of corridors must consider the specific ecological needs of target species such as red deer, brown bear, lynx, and amphibians. Functional connectivity should be evaluated not only on structural landscape features but also through expert-based assessments and field data that reflect species movement and habitat use.

In all three countries of the pilot area, it is important to designate certain areas within ecological corridors as priority zones for ecological continuity, where land-use changes that could disrupt connectivity - such as the establishment of industrial zones or large-scale photovoltaic fields - are restricted or carefully assessed. Crucially, connectivity planning must go beyond the protection of individual green areas such as forests or meadows. A structurally intact habitat patch loses its functional role if it is isolated or ends in a dead-end, for example, when a forest is directly adjacent to a commercial zone.

3.1.5 Effective barrier mitigation

Effective barrier mitigation and avoidance are essential components of connectivity planning, with a clear focus on maintaining and securing the permeability of existing corridors rather than removing infrastructure itself. This includes ensuring that critical movement pathways remain functional, particularly in areas where linear infrastructure - such as fenced highways in **Austria** - intersects ecological corridors or roadkill occurs on some sections of the national road in **Italy**. In such cases, targeted improvements such as wildlife crossings or permeability-enhancing measures should be prioritised.

3.1.6 Enhance protected area system by establishing strategic protected areas in bottleneck areas

The protected areas system of each country plays an important role in providing structural connectivity. In the pilot region, the southern part (SI, part of Italy) is covered by large protected areas that will provide core habitats for several species also in future. In the Austrian Nature Park Dobratsch, large protected areas exist around Dobratsch mountain (N2000 site Schütt-Graschelitzen) and around the Lake Faak, and a smaller one (Kokra) is located within the identified international corridor. Wetlands like Pöckauer Moor and

Finkensteiner Moor are legally protected under Carinthian Nature Protection Law (§ 8 – protection of wetlands). Those core protected areas within the Austrian part of the pilot region are rather isolated, cut off each other by transport infrastructure and peri-urban development. Bottlenecks are already visible in the lower Gail Valley, where peri urban development is a major pressure. To strengthen connectivity in future, it is recommended to establish strategic protected areas around core connectivity areas, especially in the vicinity of the border but also in the high-quality connectivity areas south of the highway.

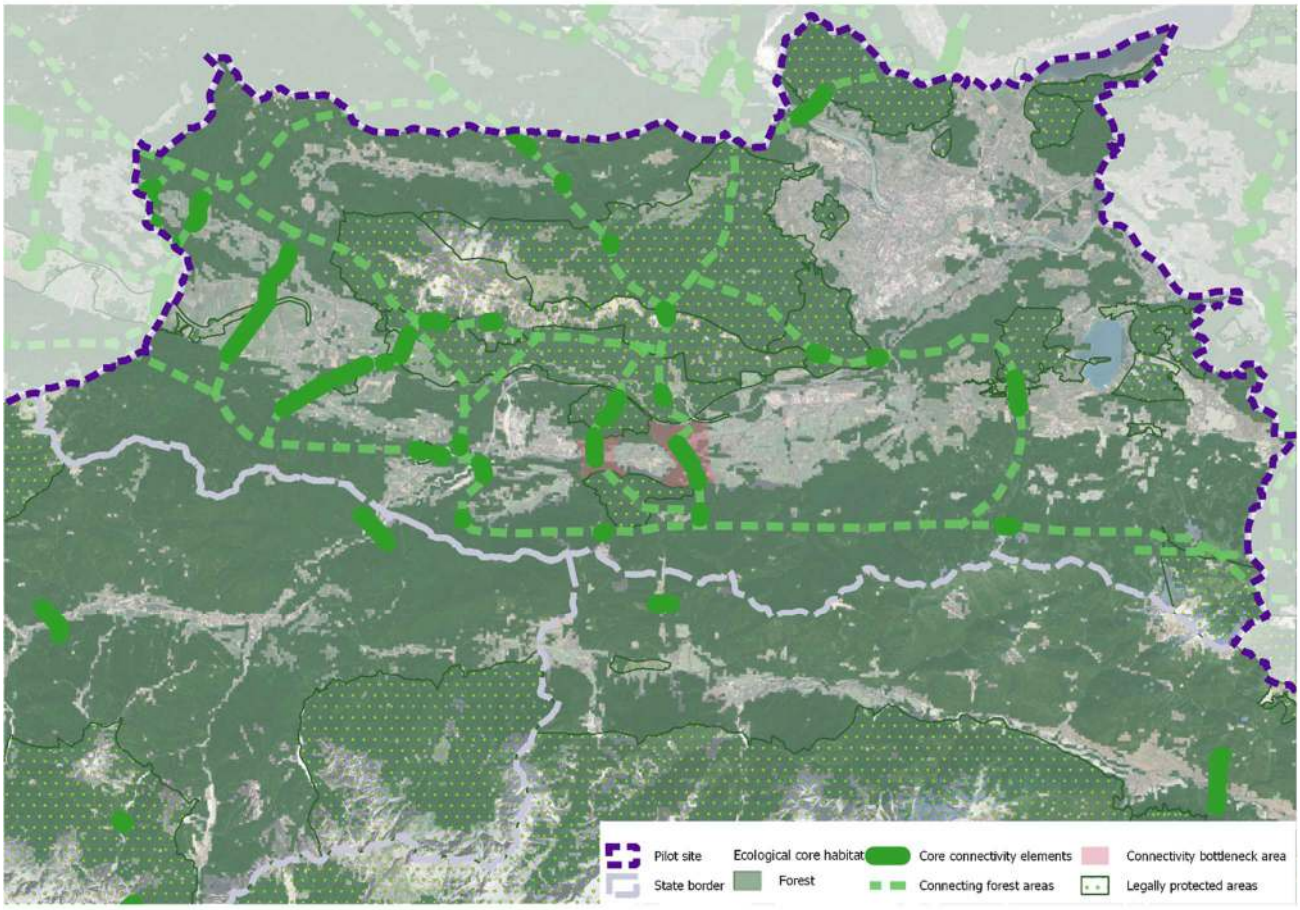

Figure 16: Connectivity elements to be secured for the future in the northern part of the pilot area

3.1.7 Establish formal structure for international collaboration

In the transboundary pilot region, no common spatial planning tools exist. There are three different national systems in place - there is no common strategy regarding ecological connectivity planning and the definition of ecological goals as well as integrating GBI elements into spatial planning. Therefore, the coordination and harmonisation of national corridor planning and definition of ecologically important zones is considered be a first

important step for international cooperation. The PlanToConnect Project has shown that ecological corridors exist across the borders – the next step would be to implement those into the national systems.

In the Bilateral UNESCO Biosphere reserve Julian Alps, the park managements provide a platform and a formalized base for collaboration between the two member states. Nature Park Dobratsch already cooperates informally via common projects. The park managements should place their interest for keeping good connectivity standards into regional development plans and communicating them to their member communities. The UNESCO concept promotes sustainable regional development for the transition zone; this could be a starting point to address the need for permeability of the landscape. The UNESCO Biosphere Reserve Julian Alps with the Nature Park Dobratsch as an Austrian partner could take up a coordinative role in large scale ecological and connectivity planning efforts.

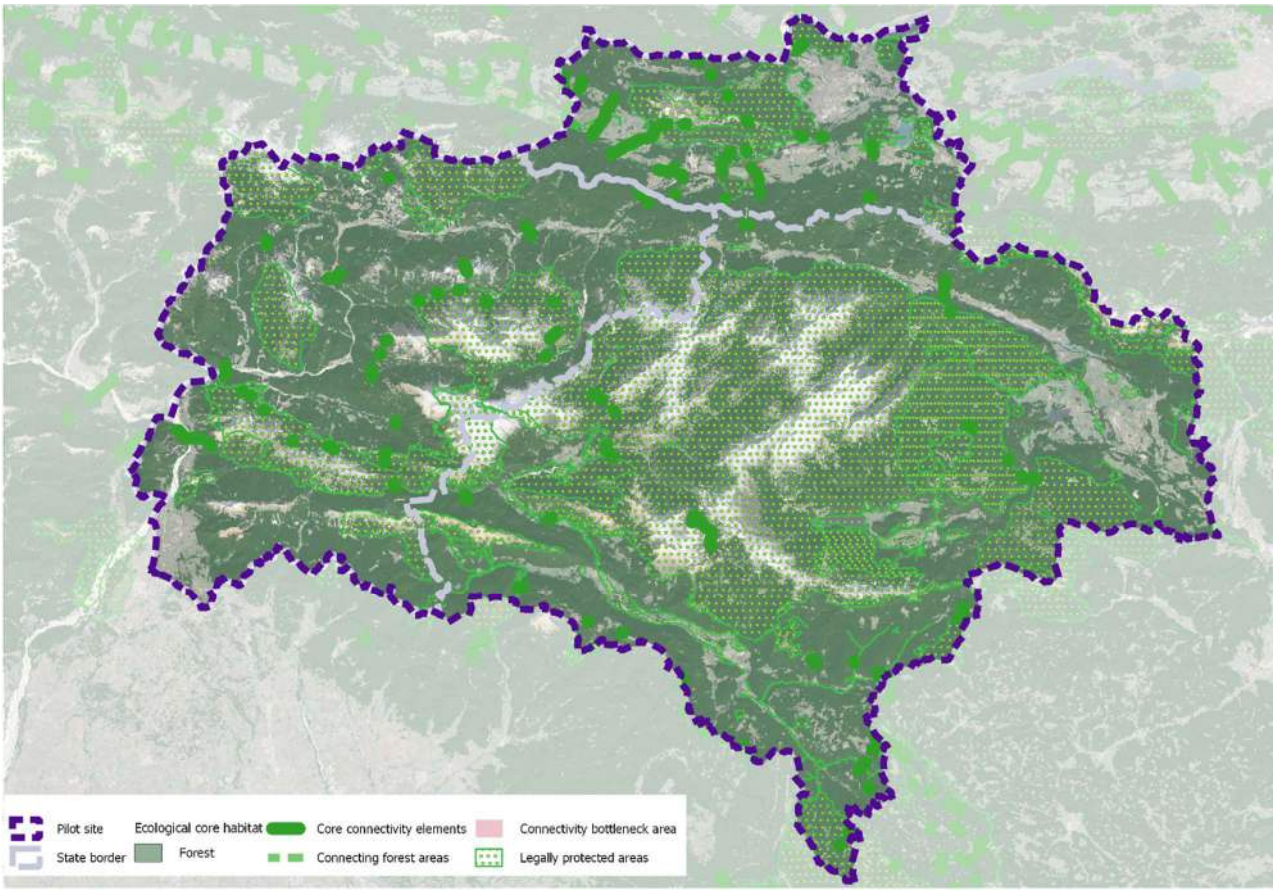

Figure 17: Connectivity action plan -: Connectivity elements to be secured for the future

The project foresees the implementation of cross-border pilot corridors in selected hotspots to test practical application. The transboundary corridor between Dobratsch Nature Park

(AT) and Triglav National Park (SI) is one example that shows the need for international cooperation. In these areas, land use, protection status, and planning measures should be jointly coordinated across national borders to ensure coherent implementation and mutual reinforcement of conservation objectives.

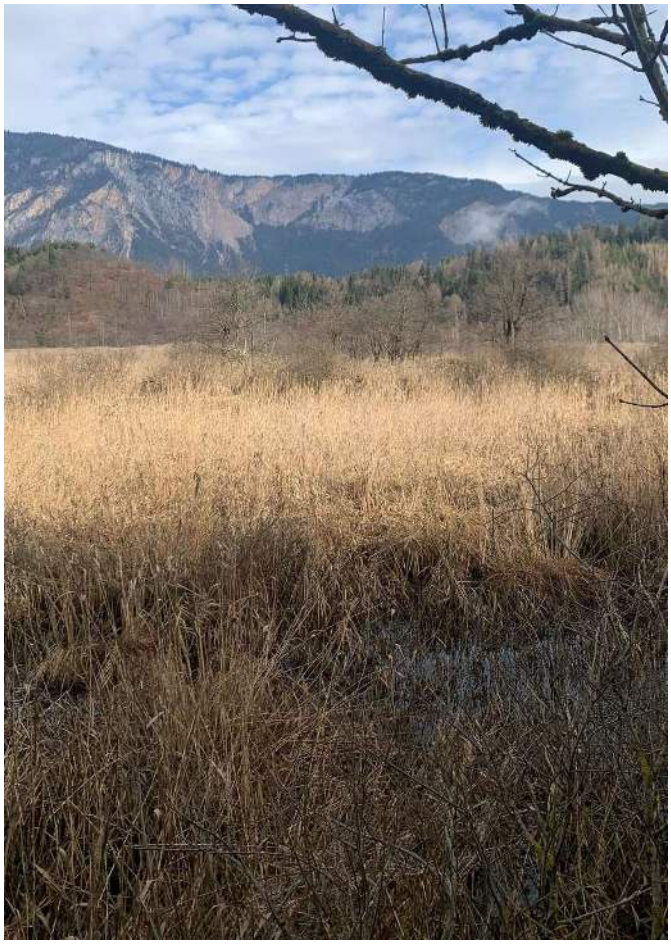

Figure 18: The Pöckauer Moos in Austria is a core connectivity element in the pilot region in Austria

In addition to the general strategic direction outlined above, stakeholders in both workshops identified several concrete legal, institutional and procedural measures that are necessary to effectively implement and safeguard ecological corridors in the long term. These recommendations can be summarised as follows:

- A **binding integration** of green, blue and agricultural ("yellow") infrastructure zones **into spatial planning instruments at national, regional and local level** is required in all three countries of the pilot are. This must be supported by up-to-date, comprehensive biotope mapping, made available across administrative levels. Digital platforms such as KAGIS in Austria should serve as central coordination tools.

- **Municipal Development Concepts (ÖEK) should be made legally binding** and include explicit goals and measures for ecological connectivity. In sensitive areas, development restrictions or zoning moratoria should be introduced—especially within core corridors. This is closely linked to the principle of inward densification and limiting urban sprawl.
- A **paradigm shift** is needed in how spatial planning perceives nature and wildlife: they should be treated not as constraints, but as the foundation for sustainable development. Nature conservation must be strengthened at the strategic planning level, including clear no-go zones for developments such as solar PV fields within ecological corridors.
- Considering climate-induced land-use changes, degraded or underused land within corridors should be **returned to nature** where appropriate, through rewilding, rewetting or fallow land management. At the same time, small-scale, biodiversity-friendly farming and greening of settlement fringes should be promoted to enhance landscape permeability.
- **Legal anchoring of corridors** in nature conservation laws is essential. Additionally, “must-have” provisions—such as obligatory wildlife crossings—should be defined within sectoral legislation and project permitting processes.
- Finally, stakeholders highlighted the need for harmonised **cross-sectoral planning standards**, formal protection of stepping-stone biotopes, and stronger cross-border coordination. Current planning approaches often remain fragmented, with each authority focusing on its own remit. A shift towards integrated, landscape-scale planning is needed to effectively protect and manage ecological connectivity in the region.

3.2 Key stakeholders

The integration of GBI and ecological connectivity into the three spatial planning systems of the case study and the implementation of ecological connectivity measures in the trilateral region relies on the coordinated involvement of a wide range of stakeholders across administrative levels and sectors. The following key stakeholder groups have been identified for the regional connectivity group in our pilot area.

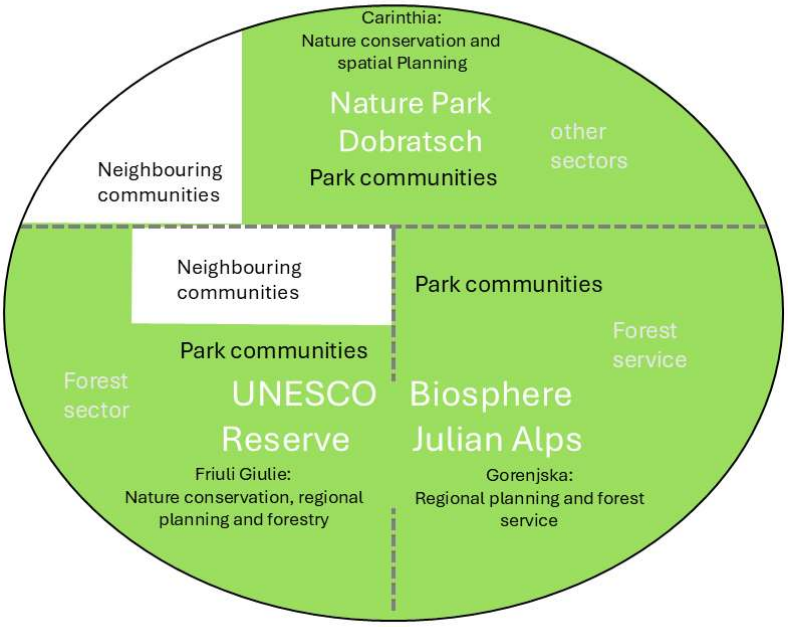

Figure 19: Simplified stakeholder map showing key responsibilities for planning and coordinating of connectivity measures in pilot region

Austria

- **Municipalities**

  Municipal governments play a central role in the spatial planning system of **Austria** and in the practical implementation of connectivity measures, particularly through their authority over local spatial planning instruments such as zoning plans and Municipal Development Concepts (ÖEK). In **Austria**, municipalities are directly responsible for land-use designations and therefore serve as key actors for safeguarding and integrating corridors at the parcel level. Their involvement is essential in ensuring local acceptance and regulatory enforcement. In the pilot area, there are currently four communities in the Nature Park Dobratsch (Arnoldstein, Bad

Bleiberg, Nötsch and Villach). In the wider pilot area, there is also the community of Finkenstein involved. West of the nature park there is the community of Hohenthurn.

- **Natura Park Dobratsch (AT)** is directly involved in the management of core natural areas and can serve as anchor points for ecological corridors. The park provides nature-related and tourism expertise as well as facilitates community cooperation in regional development but also facilitates cross-border cooperation. It can also initiate pilot projects within and beyond their boundaries. The parks does not have spatial planning competences but plays a role in regional development.
- **Protected area administration of Hohe Tauern (AT)**

  Hohe Tauern National Park (AT) is directly involved in the management of huge core natural areas in Carinthia and can serve as anchor point for ecological corridors in a wider spectrum. They contribute ecological expertise and can initiate pilot projects within and beyond their boundaries. The parks do not have spatial planning competences but play a role in regional development in in the communication with their member communities.
- **Regional planning authorities**

  At the regional level, spatial planning departments and regional development agencies are responsible for overarching planning frameworks and coordination across municipalities. They act as important intermediaries for integrating connectivity priorities into sectoral plans and funding programmes.
- **Agricultural and hunting interest groups**

  Given that many potential corridor areas are located on privately owned or agriculturally used land, the **active involvement of stakeholder organisations** representing these land users is essential. Institutions such as the **Chamber of Agriculture** and the **regional hunting associations** (e.g. Kärntner Jägerschaft) play a key mediating role between planning authorities and individual landowners. They can support awareness-raising, provide technical guidance, and help align connectivity measures with agricultural and game management interests. Their involvement is crucial to promote acceptance among the broader rural population and to facilitate voluntary implementation of measures such as biodiversity-friendly land use, removal of minor barriers (e.g. fences), or the maintenance of structural landscape elements (e.g. hedgerows, field margins). Moreover, hunting associations contribute valuable knowledge on wildlife movement patterns and can help identify conflict-sensitive zones within corridors.
- **Environmental and nature conservation authorities**

  These actors are responsible for legal implementation, species and habitat protection, and coordination of nature conservation programmes. They are

expected to integrate corridor priorities into nature conservation law and planning (e.g. Natura 2000 management, protected area expansion).

- **NGOs and civil society organisations**

  Environmental NGOs act as multipliers for awareness-raising, public engagement, and in some cases also project implementation. Their advocacy and communication efforts help build long-term support for connectivity goals at local and regional levels.

- **Cross-border coordination bodies**

  The **Regional Connectivity Working Group (RCWG)** and the **Cross-Border RCWG (CB-RCWG)** represent institutional structures developed within the PlanToConnect project to support transboundary dialogue, data harmonisation, and coordination of implementation. These platforms are essential for maintaining continuity and governance beyond the project lifetime and should be addressed by the Nature Park in the future.

Each of these stakeholder groups has a specific role in implementing connectivity measures, ranging from coordination and legal safeguarding to land management and communication. These roles will be further specified in the accompanying action sheets, which assign responsibilities to lead and supporting actors for each proposed measure.

Italy

In the Italian part of the trilateral region, several institutions play a central role in ecological connectivity:

- **Municipalities (Comuni)**

  Municipalities have planning competences over local land use and can integrate ecological corridors into municipal zoning and development plans. Their role is particularly important in ensuring continuity of corridors across settlement edges and agricultural land. In the wider pilot area, there are 15 communities, six of them are also part of the Nature Park Prealpi Giulie (Venzone, Moggio Udinese, Resiutta, Resia, Chiusaforte, Lusevera). The border community Tarvisio plays an important role for the implementation of the corridor in the three-border area. Malborghetto Valbruna and Pontebba are situated more west and connect to communties west of the Natura Park Dobratsch.

- **Friuli Venezia Giulia Region – Direzione centrale difesa dell'ambiente**

  This regional authority is responsible for nature protection, biodiversity, and environmental planning. It plays a key role in integrating ecological connectivity into the regional spatial planning framework and is a driving force in aligning regional strategies with European biodiversity goals.

- **Agricultural associations and land users**

  Given the fragmented land ownership in many corridor zones, farmer associations and private landowners play a critical role in implementing land-use compatible measures (e.g. biodiversity-friendly cultivation, fallow zones).

- **Environmental NGOs and research institutions**

  These actors (e.g. Legambiente, local universities) contribute through awareness-raising, monitoring, and the development of scientific and policy recommendations. Their involvement supports both bottom-up and expert-driven processes.

- **Parco Naturale Regionale delle Prealpi Giulie**

  This regional nature park manages core areas of ecological value and serves as a key implementation partner for connectivity measures, particularly in mountain and cross-border forested regions. With the existing bilateral UNESCO Biosphere Reserve Julian Alps there is a strong connection to the National Park Triglav in **Slovenia**. Collaboration with **Austria** is given with the Natura Park Dobratsch on selected topics in different Interreg Projects. The park does not have spatial planning competences but plays a role in regional development.

- **Cross-border coordination bodies**
  The **Regional Connectivity Working Group (RCWG)** and the **Cross-Border RCWG (CB-RCWG)** represent institutional structures developed within the PlanToConnect project to support transboundary dialogue, data harmonisation, and coordination of implementation. These platforms are essential for maintaining continuity and governance beyond the project lifetime and should be addressed by the nature park also in future. The bilateral biosphere reserve provides a formal platform.

Slovenia

In **Slovenia**, multiple public and non-state actors are involved in ecological connectivity efforts:

- **Municipalities (Občine)**

  Slovenian municipalities have planning authority and are responsible for the implementation of spatial plans that incorporate green infrastructure and connectivity elements. Their support is key for operationalising national strategies at the local level. In the trilateral pilot site, they are part of the UNESCO Biosphere reserve Julian Alps. The border community Kranjska Gora plays an important role for the implementation of direct connectivity measures.

- **Ministry of Natural Resources and Spatial Planning**

  This ministry oversees both spatial planning and environmental protection and thus plays a dual role in coordinating connectivity policies and implementing legal frameworks at the national level.

- **Institute of the Republic of Slovenia for Nature Conservation (ZRSVN)**

  The ZRSVN is the national expert body responsible for nature conservation. It provides ecological assessments, supports Natura 2000 management planning, and advises on corridor designation and integration into land use plans.

- **Infrastructure agencies (e.g. DARS for highways, SŽ for railways)**

  These agencies are crucial stakeholders when it comes to mitigating barrier effects and improving permeability (e.g. by integrating wildlife crossings in infrastructure upgrades).

- **NGOs and civil society**

  Slovenian environmental NGOs play an active role in public discourse, legal initiatives, and project implementation related to habitat protection and wildlife corridors.

- **Triglav National Park Administration**

  As a key protected area authority in the region, the Triglav NP administration supports transboundary connectivity and serves as a core area for several ecological corridors. With the existing bilateral UNESCO Biosphere Reserve Julian Alps, there is a strong connection to the Nature Park Prealpi Giulie in **Italy**. Collaboration with **Austria** is given with the Natura Park Dobratsch on selected topics in different Interreg Projects.

- **Cross-border coordination bodies**
  The **Regional Connectivity Working Group (RCWG)** and the **Cross-Border RCWG (CB-RCWG)** represent institutional structures developed within the PlanToConnect project to support transboundary dialogue, data harmonisation, and coordination of implementation. This platform can be maintained in the context of the biosphere reserve. The bilateral biosphere reserve provides a formal platform.

3.3 Governance settings

A core objective of the PlanToConnect project is the establishment of widespread ecological connectivity, aimed at integrating areas that already hold high ecological and environmental value across the territory. Achieving this goal requires the activation of shared governance frameworks involving a variety of stakeholders operating at different levels in the territory, including actors from the administration, conservation, forestry, water-management, energy, and tourism sectors. In this regard, park authorities which act as observers in our pilot area are well positioned to assume a coordinating role in the development of joint initiatives and in facilitating the formulation of agreements.

The successful implementation and long-term management of ecological corridors in the trilateral pilot region (**Austria** – **Italy**– **Slovenia**) depends on effective multi-level and transboundary governance mechanisms. While no formalised cross-border corridor agreement currently exists, several promising structures and institutional settings provide a basis for coordination and further development.

Within the framework of the PlanToConnect project, two key governance bodies were established in form of thematic working groups:

- The **Regional Connectivity Working Group (RCWG)** gathers regional and local stakeholders including representatives from spatial planning, nature conservation, protected areas, municipalities, and civil society. This group should serve as a platform to coordinate planning processes, exchange knowledge, and prepare the integration of connectivity priorities into existing planning instruments. This group was basically established for the **Austrian** component in Carinthia,
- The **Cross-Border RCWG** brings together representatives from **Austria**, **Slovenia**, and **Italy** to coordinate connectivity measures across administrative and national borders. It facilitates the harmonisation of corridor definitions (e.g. based on the EURAC corridor model), aligns planning priorities, and supports the identification of joint pilot areas. The body also promotes the long-term institutionalisation of transboundary coordination beyond the project duration.

Both groups provide a flexible, participatory governance framework and could serve as a foundation for more formalised transnational cooperation, such as voluntary corridor agreements or memoranda of understanding between protected areas and planning bodies.

- **Protected Area Cooperation**

Existing cooperation structures between protected areas—such as the bilateral UNESCO Biosphere Reserve with Triglav National Park (SI) and Prealpi Giulie Nature Park (IT)—offer another important governance layer. These institutions manage core habitats and are increasingly engaged in cross-border ecological connectivity efforts, including joint monitoring and the coordination of corridor-related measures in buffer zones. The Natura

Park Dobratsch at the **Austrian** site cooperates informally via Interreg projects with the southern Parks. As a goal for the future and to enhance trilateral cooperation, formal cooperation options should be evaluated and established. The designation of pilot corridors in the Dobratsch–Triglav region illustrates the potential for operationalising connectivity across borders with the support of protected area administrations. They act as observers in this project and would provide and existing structure for international cooperation.

All in all, the biosphere concept is feasible because goals and objectives go beyond nature conservation issues and sustainable regional development is addressed in the transition zone.

- **Local and Regional Planning Integration**

At the national and regional levels, spatial planning authorities in all three countries are responsible for translating connectivity objectives into binding instruments. However, planning competencies are highly decentralised, especially in **Austria**, where municipalities must be actively involved through their Municipal Development Concepts (ÖEK) and zoning plans. A key governance challenge lies in aligning bottom-up local planning processes with top-down ecological priorities, which requires sustained coordination and support.

In **Italy** and **Slovenia**, spatial and environmental planning is more centralised, but corridor integration still depends on effective collaboration between ministries, regional agencies, and municipalities. Voluntary agreements could serve as starting points in the pilot region, especially in areas with complex landownership and mixed-use landscapes.

Proposed Future Governance Mechanisms

- The establishment of a **trilateral biosphere reserve** could serve as an option for cross border sustainable regional development in future. Austria should assess the feasibility of such an option as a next step.
- **Institutionalisation of the Cross-Border RCWG** as a standing body under an existing regional or transnational cooperation framework (e.g. Alpine Convention, EUSALP, Interreg structure).
- **Voluntary Corridor Agreements** between neighbouring municipalities, protected areas and governments to coordinate concrete implementation and set common objectives.
- **Corridor Action Plans** annexed to existing protected area or municipal strategies, specifying responsibilities, timelines, and indicators for connectivity measures (aligned with 3.1) should be elaborated and integrated into the planning documents.
- **Legal integration** of connectivity objectives into spatial planning laws and nature conservation legislation, supported by inter-ministerial working groups or bilateral commissions.

Figure 20: RCWG meeting in Bled – strong interest in ecological connectivity among stakeholders

Figure 21: Discussion on integration into spatial planning during RCWG in Villach

3.4 Funding instruments

The implementation of connectivity conservation and restoration measures in the pilot region can be supported through a range of European, national, and regional funding instruments. Several of these are already in place and can be aligned with ecological corridor objectives, while others require adjustments or innovative targeting approaches.

Table 1: List of proposed connectivity measures in the pilot region

Connectivity measure	Funding Instrument	EU, National, Innovative	description	notes
International scale				
Evaluation of different forms of international cooperation and coordination of regional development and strengthening the GBI elements	*Interreg Alpine Space, Interreg Central Europe*	*EU, International*	*For international coordination, the three parks should start a coordinative role with regards to regional development and ecology. Options for further cooperation should be evaluated. Options for enlargement of the biosphere reserve – within the pilot regions in Italy and Austrian pilot region should be evaluated.*	*Coordinate options to formally strengthen the collaboration of the three parks with regards to sustainable development – Facilitation of stakeholder meetings, workshops*
Establishing exchange formats on topics related to connectivity at international level	*Interreg Alpine Space, Interreg Central Europe*	*EU, International*	*Continuation of RCWG – meetings at least every two years to discuss development of GBI in the pilot region. The three parks should have a coordination role as umbrella organizations linking to different stakeholders (nature conservation, forest, water and planning sectors) and their member communities.*	
National/Federal scale				
All	*regional development and biodiversity funds*	*EU, National*	*Integration of local, regional, and international ecological corridors into spatial planning documents – Proactive GBI plans available as layer for spatial planners*	*Follow up workshops to explain connectivity goals and issues to different planning actors*
Austria				
Feasibility study for Natura Park Dobratsch for options to connect to the bilateral Biosphere Reserve	*Interreg Alpine Space / National regional development and Biodiversity Funds*	*EU / National*	*Studies and stakeholder process to plan feasible goals, objectives, zoning variants (core, buffer, transition) in the Austrian part of the pilot region as well as pilot governance processes related to protected area integration, biosphere reserve planning and transboundary cooperation.*	*Align with UNESCO BR requirements and involve Triglav NP; potential for follow-up implementation project under LIFE or Interreg.*
Establishing strategic protected areas in the corridor, especially in	*Nature Conservation Funds / LIFE*	*National / EU*	*Nature conservation authority in combination with interest groups shall evaluate options for strengthening the protected area network in the corridor*	*Coordinate with Carinthian government and municipal planning;*

Connectivity measure	Funding Instrument	EU, National, Innovative	description	notes
bottlenecks (e.g. Pöckauer Moos, community of Arnoldstein)			*area. Supports land acquisition, habitat restoration or legal designation processes for protected areas. LIFE can support strategic habitat conservation.*	*potential LIFE funding for cross-border ecological value.*
Landscape programme	NAT/ÖPUL	EU, National, enrolled federally	Actively addressing landowners within the corridor areas to keep and enhance landscape elements like hedges, tree rows and extensive meadows in the corridor area.	NP Rangers can present landscape programme in the communities and via Nature Park media
Italy				
Feasibility study for Nature Park Prealpi Giulie to enlarge the Biosphere Reserve in the north-eastern border area	Interreg Alpine Space / Regional Biodiversity Funds (IT) / LIFE, CLLD	EU / National	Supports regional ecological planning and cross-border protected area expansion through feasibility studies, stakeholder engagement, and pilot planning. Studies and stakeholder process to find out feasible goals, objectives, zoning variants (core, buffer, transition) Stakeholder process to find out the feasibility to integrate the neighboring communities into the park	Synergy with Julian Alps cooperation and Prealpi Giulie NP strategy; strong cross-border potential for integrated management Feasibility check for integrating communities of Tarvisio, Malborghetto and Pontebba to address Regional development in Biosphere reserve
Slovenia				
Feasibility checks for integrating ecological connectivity areas into buffer zone of BR.	National Biodiversity Funds (SI) / LIFE	EU National	Studies and stakeholder process to find out feasible goals, objectives for corridor area in the border region	RCWG as established body, BR reserve management to take coordinative role
Regional scale				
Integrating connectivity targets in regional development plans	*Interreg Alpine Space, Interreg Central Europe*	EU/ National	Providing information about corridors to planners and providing corridor layers and GBI Elements at regional scale. stakeholder consultations with regional development agencies	Facilitations via parks possible
Integrating connectivity targets Biosphere reserve management plan and Nature Park Management Plan and Programme	National, *Interreg Alpine Space*	EU/ National	The ecological connectivity topic with goals and measures shall be addressed in the upcoming Nature Park and Biosphere Reserve Plans. Programs for stakeholder sensitization shall be integrated into activities of the parks.	Facilitations via parks possible
Local scale – concrete connectivity measures				
Working on barriers in **Austria** (Bridging Gail River channel)	LE funds, national and regional	National, regional	A new green bridge across the Gail channel (old wooden bridge currently	Facilitation via RWC and handled via respective

Connectivity measure	Funding Instrument	EU, National, Innovative	description	notes
	biodiversity funds (AT)		fenced should be renovated to allow wildlife crossing	wildlife or nature conservation sector
Harmonize development goals for the communities with corridor functions	Regional funds, LE	Regional	Integrating corridor knowledge and objectives into the upcoming municipality developments plans, presentation of corridor during stakeholder process.	Pilot community Arnoldstein is in the process of formulating its development concept.
Working on barriers in **Italy** on wider scale – (roadkill spots near Pontebba)	Life-Project or national biodiversity funds (IT)	EU, National	Green bridges to neutralize bottlenecks on the main roadkill spots	Collaboration between wildlife protection and roads sector
Working on fish barriers in Sava and Gailitz River	EU and national funds	EU, National	Fish permeability in power plants according to Water directive	Collaboration with water sector
Implementation of local ecological networks for communities in Italy	National, EU	National, Interreg	According to regional guidelines and plans	Municipalities In collaboration with University of Udine and NGOs

4 Proposal(s) for the implementation of the GBI network plan into spatial and sector planning tools

4.1 State of art of connectivity planning and implementation in the pilot area

Connectivity planning is done by different sectors and at different levels in the three countries of the trilateral pilot site.

In **Austria**, spatial planning and nature conservation are done at the federal level. There are nine different spatial planning and nature conservation laws. Guidance and recommendations are given by the national ÖROK (The **Austrian** spatial planning conference), however ecological topics are not addressed in this forum. In 2018, there was a platform called lebensraum.at, launched by the Umweltbundesamt, which is **Austria**´s most important environmental organization regarding ecological topics. At the national level, the forest law regulates forests.

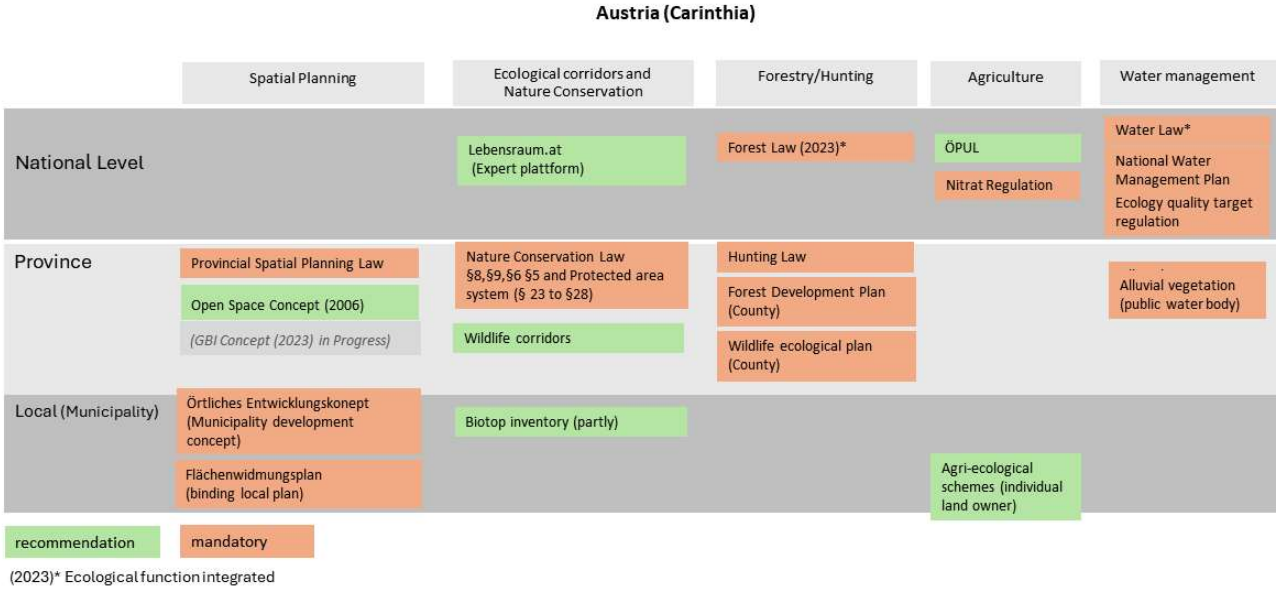

Figure 22: Legal framework of connectivity integration into sectoral plans in **Austria**

The forestry sector regulates forest habitats, and the ecological function of the forest was addressed and integrated in the forest law of 2023. However, the forestry sector is not specifically and actively addressing wildlife related issues at the planning level. In the federal spatial planning law, wildlife corridors have not been addressed or integrated into the plans. There are non-binding concepts which provide recommendations to avoid development within the open landscape and to keep natural spaces.

The nature conservation law regulates protected areas and special habitats at the federal level but does not specifically address ecological corridors. Wildlife corridors were elaborated for the whole of **Austria** in the project lebensraum.at and verified with local hunting associations. The location of these corridors is provided as a GIS Layer in the open access online GIS of the federal state (KAGIS). Spatial planners are free to integrate the information as a sectoral concept, but it is not mandatory. The hunting law, forest function plan. and wildlife ecological plans do not address wildlife corridors at planning level. Within the Agricultural sector, there exist voluntary agri-ecological schemes, which regulate the land management at a single plot level and provide subsidies for reduction of uses favoring biodiversity (e.g. reduction of manure, lowering the mowing frequencies or setting late mowing dates for flower rich habitats to promote pollinators). The nature conservation sector is responsible for rolling out this programme and addressing the landowners, but this is also on a voluntary basis. Landscape planning, which considers GBI elements in other countries like Germany, is not established in Austria.

All in all, **there is not mandatory proactive ecological corridor and open space planning in Austria**. The integration of ecological corridors into spatial planning is currently on a recommendation basis and at a concept level. Sectoral concepts for open space were elaborated after the last amendment to the spatial planning law, which aimed to raise the importance of landscape related issues in spatial planning. However, in Carinthia, the local, municipality level remained powerful in spatial planning according to the federal spatial planning law. However, their influence ends at community boundaries, and collaboration with neighboring communities is not currently mandatory.

In **Italy,** in the province of Friuli Venezia Giulia, ecological corridors are better integrated into spatial planning then in **Austria**. There is a system landscape planning in place, from national via regional and provincial to local level. Plans are mandatory and in line with strategies at a higher level and with each other. Ecological corridors are integrated into regional ecological networks and into regional landscape plans. However, the implementation at local level is currently in process and lacks adequate funding. Local ecological networks are not mandatory and basically not yet established.

In **Slovenia**, functional ecological corridors were formulated and verified by the **Slovenian** Forest Service. Their integration into spatial planning instruments is still pending. However, there is a national strategy for the integration of GBI. Regional spatial plans will be imminently developed by regional development agencies (like Ragor). The way to integrate GBI into spatial planning in Slovenia is addressed in the case study for Goriška statistical Region, UIRS 2025.

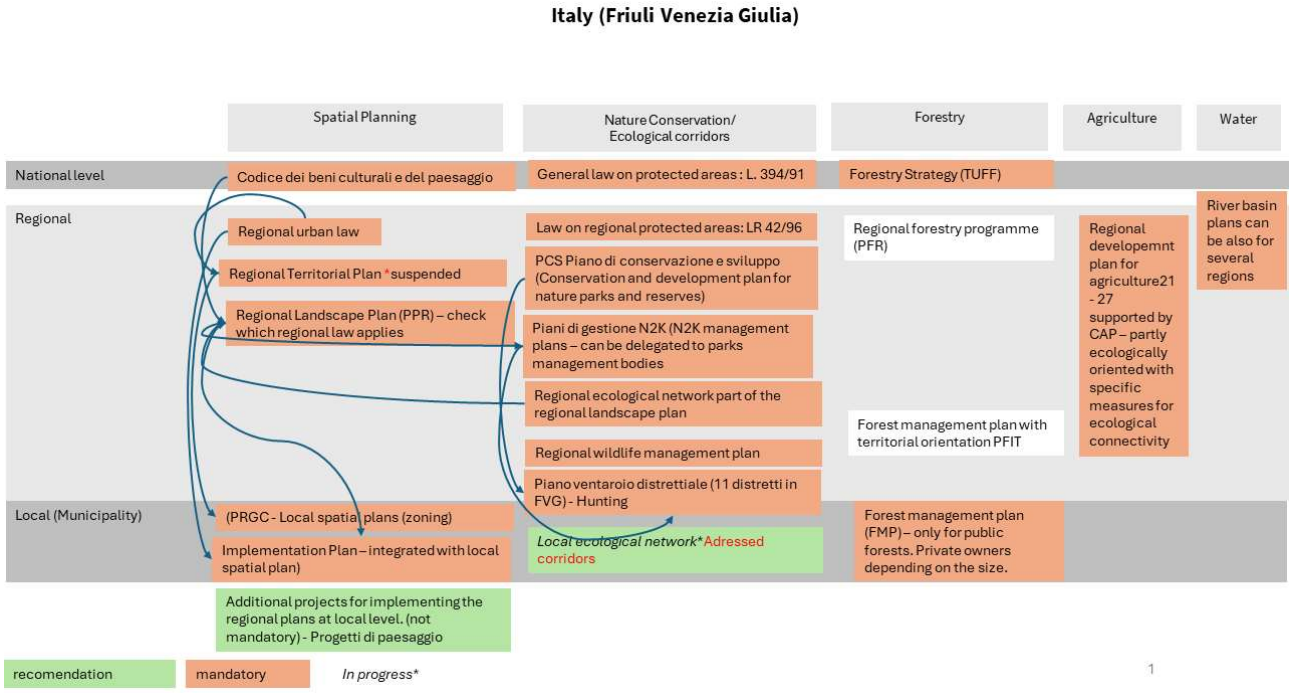

Figure 23: System of integration of connectivity planning into sectoral instruments in the Italian part of the pilot area

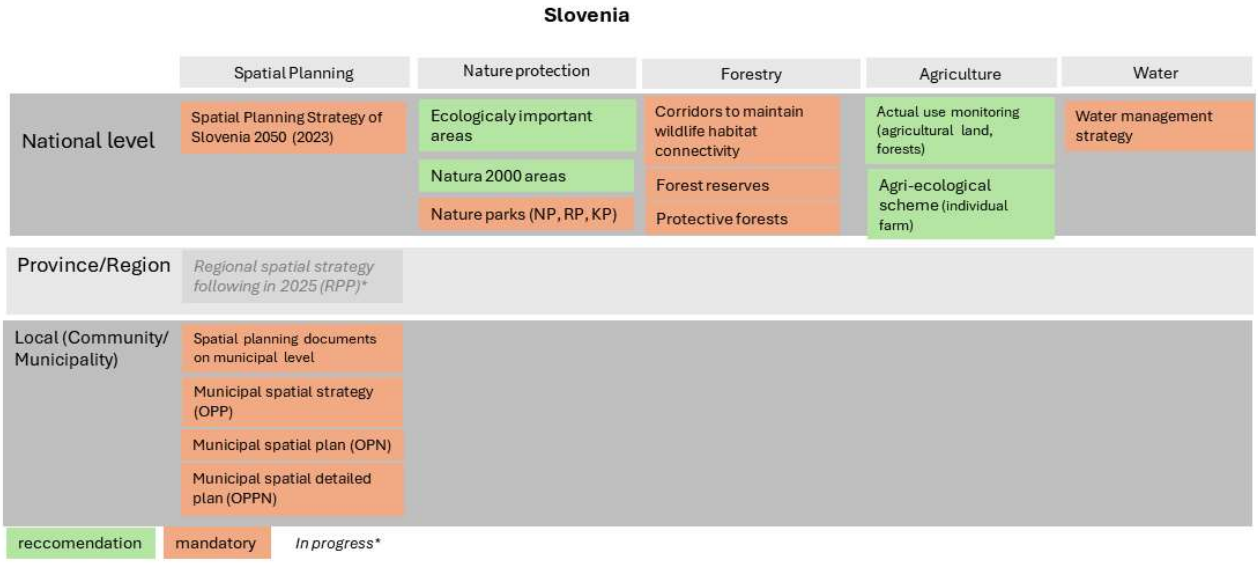

Figure 24: System of integration of connectivity planning into sectoral instruments in the Slovenian part of the pilot area

4.2 Key spatial (and urban) planning instruments

In the trilateral pilot region spanning **Austria**, **Slovenia**, and **Italy**, spatial and urban planning frameworks differ significantly in terms of legal structure, administrative competencies, and the degree to which ecological connectivity is addressed. While protected areas and Natura 2000 sites are generally well integrated into planning systems, transitional and connective landscapes—such as ecological corridors—often remain unprotected or lack clear planning guidance. Given the cross-border nature of many connectivity areas in the region, coordinated and aligned integration into the respective spatial planning instruments is essential to keep connectivity for the future. The following section summarizes the identified key spatial planning instruments in place across the three countries, evaluates their relevance and current limitations for supporting connectivity, and proposes concrete improvements. These include the formal recognition of corridors in zoning and development plans, the use of harmonized spatial data (e.g. the macroregional corridor model developed by EURAC/PlanToConnect indicates priority corridors), and the integration of biodiversity-related criteria into land use decisions at all levels.

Instrument	Mandatory Voluntary	Relevance for connectivity in pilot area. Gaps or inconsistency	Technical proposal to … and content
Austria			
Freiraumkonzept (open space concept)	Voluntary (AT)	Sectoral landscape concept dealing with GBI elements and nature values of GBI elements. Gives guidelines for spatial planners at lower level and provides recommendations at goal and target level.	Should be upgraded as mandatory and guidance for the OEK
Örtliches Entwicklungskonzept (ÖEK) – (Municipal Development Concept at municipality level)	Mandatory (AT)	Sets the spatial development framework for **Austria**n municipalities. Defines settlement boundaries and open space structure. Connectivity areas are not systematically considered.	Integrate ecological corridors as priority areas for conservation and multifunctional land use areas. Include connectivity-relevant restrictions (e.g. zoning free space in corridors). Setting goals for enhancing landscape level to keep good connectivity by sticking to corridors provided by the platform lebensraum.at Corridor contracts for border communities
Flächenwidmungsplan – (Zoning Plan (AT) – regulated areas for development (housing, infrastructure, industry etc.)	Mandatory (AT)	Defines legally binding land-use categories. Currently lacks systematic integration of ecological corridors, especially for non-protected zones.	Map corridors in legally binding zoning plans, include corridor-compatible use categories (e.g. green infrastructure), and prohibit disruptive infrastructure development in key segments. Set clear settlement limits and green spacers in line with ecological corridors (lebensraum.at)

Instrument	Mandatory Voluntary	Relevance for connectivity in pilot area. Gaps or inconsistency	Technical proposal to … and content
Italy			
Regional landscape Plans (Piano Paesaggistico Regionale	Mandatory (IT)	Regional plans must integrate ecological connectivity as cross-cutting objectives but often lack operational detail or harmonisation across borders. In **Austria** regional plans are not established, they are sometimes available as sectoral guiding concept for planners	Adopt harmonised corridor maps from EURAC/PlanToConnect into regional level, include them as guiding layers, and define priority areas for connectivity in regional planning frameworks. Corridor agreements at regional level
Local spatial plan (Municipal spatial plans (**Italy**: Piano Regolatore Generale	Mandatory (IT)	Local land use planning in **Italy** often overlooks functional ecological connections; local ecological plans are not mandatory - green infrastructure elements are fragmented	Incorporate corridors in land designation maps, introduce permeability requirements, support integration with protected area management plans, and align with national green infrastructure strategies. Corridor agreements for border communities
Slovenia			
Regionalni prostorski plan)	Mandatory (SI)	Regional plans can integrate ecological connectivity as cross-cutting objectives but often lack operational detail or harmonisation across borders.	Adopt harmonised corridor maps from EURAC/PlanToConnect into regional level, include them as guiding layers, and define priority areas for connectivity in regional planning frameworks. Corridor agreements at regional level
Protected Area Management Plans / Biosphere Reserve Zonation	Mandatory (in core/protected areas)	Core areas are well managed, but buffer zones and transition areas often lack connectivity guidance.	Align zoning and corridor measures across borders; introduce corridor-specific actions in buffer zones and integration into biosphere reserve planning documents. Corridor agreements for border communities
Protected Area Management Plans / Biosphere Reserve Zonation	Mandatory (in core/protected areas)	Core areas are well managed, but buffer zones and transition areas often lack connectivity guidance.	Align zoning and corridor measures across borders; introduce corridor-specific actions in buffer zones and integration into biosphere reserve planning documents. Taking hold interest group stake in regional development promoting nature values, park integrity and sensitization of the communities. Taking hold coordinative role in the

Instrument	Mandatory Voluntary	Relevance for connectivity in pilot area. Gaps or inconsistency	Technical proposal to … and content
			facilitation of corridor agreements with neighbouring communities to avoid isolation Active role in project development to address barriers within the park

Table 2 A variety of spatial planning instruments addressed and summary of technical proposal(s)

The table above highlights the most relevant spatial and urban planning instruments across the three countries involved in the pilot area. In Austria, the municipal development concept (Örtliches Entwicklungskonzept) and the zoning plan (Flächenwidmungsplan) are key tools at the local level that can directly influence corridor safeguarding through land-use designation. In Italy, regional spatial plans offer opportunities to integrate connectivity objectives**. The implementation at municipality level** remains inconsistent and often lacks technical guidance. **In** Slovenia **national strategies highlight importance of GBI elements and the implementation of ecological corridors provided by the forest service. The regional plans are currently being developed and offer integration of corridors at target level. M**unicipal spatial plans offer opportunities to integrate **specific** connectivity **measures**.

Across all three countries, protected area management plans—particularly in biosphere **reserves,** and nature parks—provide additional entry points to align conservation goals with spatial planning. To enhance ecological connectivity, technical proposals focus on formalizing corridor integration, improving legal clarity, and harmonizing planning approaches across borders.

In **Austria**, spatial planning competencies lie primarily at the municipal level. The *Örtliches Entwicklungskonzept* (municipal development concept) and the *Flächenwidmungsplan* (zoning plan) are binding instruments that offer concrete leverage for safeguarding ecological corridors. However, connectivity considerations are not yet systematically included. Strengthening guidance and providing corridor-specific planning data can significantly enhance implementation.

In **Italy**, regional and municipal spatial plans (e.g. *Piano Paesaggistico Regionale*, *Piano Regolatore Generale*) provide a formal framework for addressing green infrastructure and ecological networks. The 2022 update of the current PTR identifies the Regional Green Network (RVR) and the Regional Ecological Network (RER) as strategic projects, with the latter considered the main green infrastructure (GI) to be implemented at the provincial level through the PTCP and at the municipal level through the Municipal Territorial Governance Plans (PGT). There is a system of corridor planning in place – from national via provincial to local level. Landscape plans provide entry points for sectoral corridor planning that will be incorporated into spatial planning. However, the incorporation of transboundary connectivity remains weak. Instruments such as transboundary biosphere

reserve management plan or voluntary agreements—like a corridor contract - offer models for integrating biodiversity objectives into spatial planning.

Slovenia's planning system is more centralized, with regional and municipal plans forming the backbone of land-use decisions. While national biodiversity strategies recognize the importance of ecological networks, these are not yet fully reflected in regional concepts and local plans. Regional planning is being strengthened at the moment. Improved coordination between nature conservation authorities, forest service ecological corridors and spatial planners is needed to ensure consistent corridor integration across planning levels.

4.2.1 Establish an international platform for harmonizing nature conservation topics with regional development

In the transboundary trilateral pilot area (AT, I, SI) the integration of ecological corridors into spatial planning is very complex. There are different options for integration in all three countries – at all levels. Therefore, this proposal addresses the need for a coordinating structure at the international level: There is a need for a step-by-step approach for international harmonization of corridors in border areas and their integration into three different national systems.

Option 1: Establishment of a trilateral UNESCO Biosphere Reserve Julian Alps & Dobratsch

Such a biosphere reserve offers a suitable framework for regional planning -due to the three biosphere reserve functions – conservation, development and logistic support (research, training, education and monitoring). All three functions must be integrated and balanced for the whole biosphere reserve. Therefore, this concept offers a perfect setting for harmonized regional planning and the integration of the international corridor planning – it would guide further development in the region.

The roadmap to this option is not simple in Austria and will take at least two to three years: First of all, a national biosphere reserve must be established and accepted by the UNESCO. This is theoretically feasible (a zonation check for a potential core zone has proved that the required area already in existing protected areas or low use zones). However, a positive stakeholder process is required in the four Nature Park communities.

A first analysis was done in the frame of the PlanToConnect project. Biosphere reserves consist of a core zone, a buffer zone and a transition zone. The size of the core zone must at least encompass 5 % of the area. In the nature park Dobratsch, this will mean an area of 1450 ha. This could be provided by steep and low use habitats of the Natura 2000 site Dobratsch and Schütt Graschelitzen. Additionally, Natura 2000 site Kokra and the wetland Pöckauer Moos provide additional areas. The result shows that theoretically, such areas are sufficiently available. A positive stakeholder and decision-making process are recommended as the next steps in the process.

Table 3: Vegetation types with one or low use within NP Dobratsch

Potential core zone areas consisting of vegetation type of none or low use	Area ha
Calcareous debris with mountain pine shrub	73.57
Erica pine forest	166.03
Rock formation with pine forest	39.61
Rocks	329.20
Hop hornbeam forest	16.78
Pine forest	100.66
Pine forest with debris shelf	317.87
Pine forest very steep	252.66
Mountain pine scrub	63.33
Avalanche mat	0.88
Debris slide	19.22
Debris	89.65
Subtotal	1469.45
Pöckauer Moor (Wetland)	41
Kokra (Beech forest)	293
Subtotal	334
Total	1803.45

The analysis shows good potential. However, the landownership is diverse and they must be convinced that there is no disadvantage. The areas correspond to the selected ecological corridor connecting to Slovenia. Biosphere planning in the respective areas will therefore strengthen the connectivity in the area.

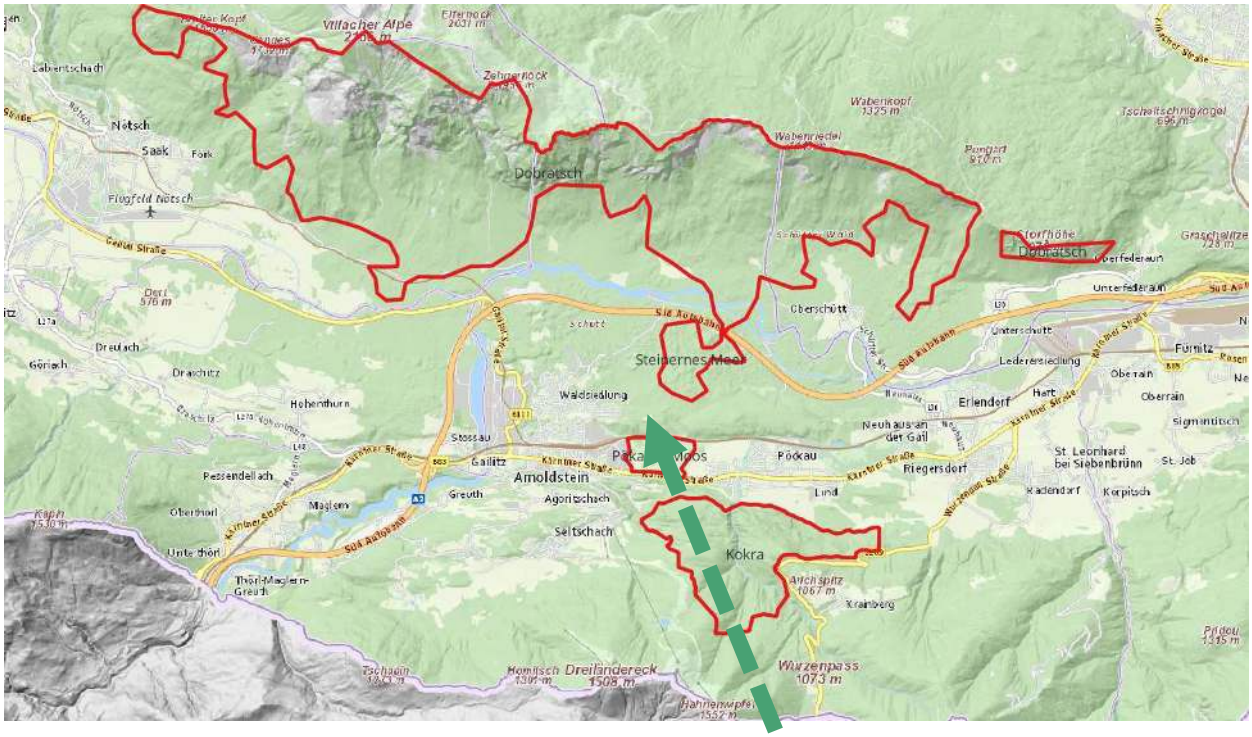

Figure 25: Non or low use in Nature Park Dobratsch corresponding with ecological corridor

Option 2: Voluntary transnational corridor agreement

A voluntary transnational corridor agreement should be elaborated and signed between the border communities and spatial planning institutions at a higher level. The three parks can keep a coordinating role, because they reach out to all stakeholders (RCWG). The voluntary corridor contract should be at least a letter of intent to consider the alpine-wide structural corridor in regional development and in spatial planning. This can afterwards guide spatial plans at regional and municipality levels.

As a follow up, the RCWG-Platform intends to kept up with meetings to discuss developments in the border region of the three countries.

A draft proposal is attached in the annex. It should be carefully explained to respective stakeholders and signed in a ceremonial event. However, communities and other planning entities need sound preparation.

4.3 Other sector instruments to be coordinated or upgraded

The consideration an integration of ecological corridors provided by other sectors should be made mandatory at regional and local level spatial planning instruments. Some recommendations are listed in the table below:

Table 4 Overview of sector instruments addressed

Instrument	Mandatory Voluntary	Relevance for connectivity in pilot area. Gaps or inconsistency	Technical proposal to … and content
Austria			
Nature conservation law	Mandatory	Implement ecological corridors like a new category in the nature conservation law (additional to protected area category)	Integrate ecological corridors into the law, for example mention it in section V- Protection of special areas (“Abschnitt V - Schutz besonderer Gebiete”)
Austria Platform Lebensraum.at	Voluntary (AT)	Sectoral concept dealing with wildlife corridors validated with hunting associations. Provides corridor locations for spatial planners I	Should be mandatorily integrated into spatial planning law for breakdown into spatial planning at municipality level.
Nitrate regulation (Agricultural sector)	Mandatory (AT)	The regulation addresses the use of fertilizers on agricultural land – a distance of 3 m to rivers is determined.	Increase the distance to rivers and streams for agricultural use up to 6 or 10 meters within the area of 5-year inundation probability. This would enhance the development of buffer zones and alluvial forests next to rivers and streams, so that connectivity across the entire landscape of the pilot area is improved by restoring riverine biotope types.
Wildlife ecology plan	Mandatory (AT)	Regulates the hunting activities at county level	Should be upgraded to improve forest connectivity
Italy			
Local ecological network	Voluntary	**Relevant for breakdown of regional landscape objectives to local level**	Breakdown of regional ecological network to local level and integration of municipality plan, should be upgraded as mandatory
Slovenia			
Forestry – regional ecological network to maintain wildlife habitat function	Mandatory	Provides knowledge on functional connectivity	Breakdown of regional ecological network to local level and integration of municipality plan

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Annexes

Annex 1 Stakeholder analysis - full list of stakeholders

Type of institution	Institution/Organization	(Thematic) competence	Country	Level of influence	Level of interest
Public administration					
National Level (public administration)	Austrian Conference on Spatial Planning (ÖROK)	Research/Recommendations	AT	low	low
	Ministry of Natural Resources and Spatial Planning - Directorate for Spatial Planning and Construction	Nature conservation governance and policy/legislation/strategies	SLO	high	high
	Ministry of Natural Resources and Spatial Planning - Directorate for Nature	Government body	SLO	high	medium
	Ministry of agriculture, forestry and food	Agriculture and forest governance/policy/legislation	SLO	medium	low
	Slovenia Forest Service	Forest Management	SLO	medium	high
Provincial/Regional Level (public administration)	Office of the Carinthian state government, Department 15 Location, spatial planning and energy	spatial planning, governance/policy/legislation	AT	high	medium
	Office of the Carinthian state government, Department 1 - Provincial Government Directorate	Government body	AT	medium	medium
	Office of the Carinthian state government, Department 8 Environment, nature conservation and climate protection coordination	Nature conservation governance/policy/legislation	AT	medium	medium
	Office of the Carinthian state government, Department 3	Communities and disaster control	AT	medium	low
	Office of the Carinthian state government, Department 7	Economy tourism and mobility	AT	high	low
	Office of the Carinthian state government, Department 9	Roads and bridges	AT	high	low
	Office of the Carinthian state government, Department 10	Agriculture/Forestry and rural areas	AT	high	low
	WLV Carinthia South	Disaster Control/Flood control	AT	medium	low

Type of institution	Institution/Organization	(Thematic) competence	Country	Level of influence	Level of interest
	District administration Villach-Land Department Forestry law, nature conservation and construction	Forestry law, nature conservation, governance/policy	AT	medium	high
	Regional hunting association	Regional branch of provincial association	AT	medium	medium
	Regione Autonoma Friuli Venezia Giulia	branch of government body, environment protection, energy and sustainable development	IT	high	medium
	Regione Autonoma Friuli Venezia Giulia	branch of government body, forest management	IT	high	medium
	Regione Autonoma Friuli Venezia Giulia	branch of government body, hunting and fish resources	IT	high	medium
	Regione Autonoma Friuli Venezia Giulia	branch of government body, land planning and GIS	IT	high	medium
	Regione Autonoma Friuli Venezia Giulia	branch of government body, biodiversity	IT	high	medium
	Arpa FVG (Agenzia regionale per la protezione dell'ambiente)	branch of government body climate change adaptation	IT	medium	low
	Arpa FVG (Agenzia regionale per la protezione dell'ambiente)	branch of government body water quality management	IT	medium	medium
	Servizio pianificazione paesaggistica, territoriale e strategica (Osservatorio del paesaggio)	Spatial planning, Regional ecological network (rete ecologica regionale – RER)	IT	medium	medium
	Struttura stabile gestione risorse idriche, monitoraggio e controlli dei corpi idrici	Water management and monitoring	IT	medium	medium
	Servizio gestione risorse idriche	Management of water resources	IT	medium	low
	Protezione Civile Regione Autonoma FVG	Climate adaptation, Natural disasters due to climate change	IT	medium	low

Type of institution	Institution/Organization	(Thematic) competence	Country	Level of influence	Level of interest
	Servizio foreste e corpo forestale Corpo forestale (Stazione forestale di Moggio Udinese, Resia, Paularo, Pontebba, Tarvisio, Gemona del Friuli)	Forest Management	IT	medium	low
	The Institute of the Republic of Slovenia for Nature Conservation (Unit Kranj)	Branch office of government body	SLO	medium	high
	Agriculture and Forestry Institute Kranj	Branch office of government body	SLO	medium	medium
	Agriculture and Forestry Institute Nova Gorica	Branch office of government body	SLO	medium	medium
	Slovenia Forest Service - regional unit Bled	Branch office of government body	SLO	medium	high
	Slovenia Forest Service - regional unit Tolmin	Branch office of government body	SLO	medium	high
	Directorate for Water, Water Management Office, Upper Sava sector	Branch office of government body	SLO	medium	medium
	Directorate for Water, Water Management Office, Sector of the Soča area	Branch office of government body	SLO	medium	medium
	Triglav National Park	Park Management	SLO	medium	high
	Upper Idrijca Landscape Park	Park Management	SLO	medium	high
Municipal Level (public administration)	Arnoldstein	Municipal spatial plans	AT	high	high
	Villach	Municipal spatial plans	AT	high	high
	Treffen am Ossiachersee	Municipal spatial plans	AT	high	medium
	Hohenthurn	Municipal spatial plans	AT	high	medium
	Feistritz im Rosental	Municipal spatial plans	AT	high	medium
	St. Jakob im Rosental	Municipal spatial plans	AT	high	medium
	Bad Bleiberg	Municipal spatial plans	AT	high	high
	Finkenstein	Municipal spatial plans	AT	high	medium
	Nötsch im Gailtal	Municipal spatial plans	AT	high	high
	Municipality Malborghetto Valbruna	Municipal administration	IT	high	medium

Type of institution	Institution/Organization	(Thematic) competence	Country	Level of influence	Level of interest
	Municipality Tarvisio	Municipal administration	IT	high	medium
	Municipality Pontebba	Municipal administration	IT	high	medium
	Municipality Artegna	Municipal administration	IT	high	medium
	Municipality Chiusaforte	Municipal administration	IT	high	medium
	Municipality Dogna	Municipal administration	IT	high	medium
	Municipality Gemona del Friuli	Municipal administration	IT	high	medium
	Municipality Bordano	Municipal administration	IT	high	medium
	Municipality Lusevera	Municipal administration	IT	high	medium
	Municipality Moggio Udinese	Municipal administration	IT	high	medium
	Municipality Montenars	Municipal administration	IT	high	medium
	Municipality Resia	Municipal administration	IT	high	medium
	Municipality Resiutta	Municipal administration	IT	high	medium
	Municipality Taipana	Municipal administration	IT	high	medium
	Municipality Venzone	Municipal administration	IT	high	medium
	Bovec	Municipal administration	SLO	high	medium
	Bohinj	Municipal administration	SLO	high	medium
	Tolmin	Municipal administration	SLO	high	medium
	Kobarid	Municipal administration	SLO	high	medium
	Gorje	Municipal administration	SLO	high	medium
	Bled	Municipal administration	SLO	high	medium
	Kranjska Gora	Municipal administration	SLO	high	medium
	Jesenice	Municipal administration	SLO	high	medium
	Zirovnica	Municipal administration	SLO	high	medium
	LAG (Local Action Group) Villach	Regional development agency	AT	medium	medium

Type of institution	Institution/Organization	(Thematic) competence	Country	Level of influence	Level of interest
Regional Development Agencies	RAGOR - Development Agency for Upper Gorenjska	Regional development agency	SLO	medium	medium
	The Posoški Development Center	Regional development agency	SLO	medium	medium
	ICRA - Idrijsko-Cerkljanska development agency	Regional development agency	SLO	medium	medium
Public enterprises / Institutes	Austrian Federal Forest Company (ÖBf) (regional branch)	Public Enterprise	AT	medium	medium
	Climate and energy region "Terra Amicitiae"KEM	Climate and Energy	AT	medium	medium
	Climate and energy region "Nassfeld-Lesachtal-Weissensee"	Climate and Energy	AT	low	low
	Umweltbundesamt (Federal Environmental Agency)	National Institute for Environment	AT	medium	high
	Dobratsch Nature Park	Protected Area	AT	medium	high
	Biosphere Reserve Kärntner Nockberge	Protected Area	AT	low	medium
	The Fisheries Research Institute of Slovenia	Institute performs public service activities in the fields of Freshwater and Marine fisheries	SLO	low	medium
	Ente parco naturale delle Prealpi Giulie	Protected Area	IT	medium	high
	Ente Parco Naturale delle Prealpi Giulie e Val Alba (observer), UNESCO MAB Biosphere Reserve Julian Alps	Nature parks, protected areas	IT	medium	high
	Ufficio Territoriale Carabinieri per la Biodiversità di Tarvisio (= Management of Riserva Statale Cucco)	Nature protection, conservation	IT	medium	low
	Comune di Forgaria del Friuli + Pavees Soc. Coop. (=Management of Riserva Naturale lago di Cormino)	Nature protection, conservation	IT	medium	low
National/regional Associations and NGOs	Birdlife Kärnten	NGO	AT	low	medium
	Naturschutzbeirat Kärnten	Public Conservation Advisory Body to the Province	AT	medium	medium
	Alpenverein Kärnten	NGO	AT	low	medium
	Naturschutzbund Kärnten	NGO	AT	low	medium

Type of institution	Institution/Organization	(Thematic) competence	Country	Level of influence	Level of interest
	CIPRA/Bündnis Alpine convention Carinthia	Alps protection	AT	low	medium
	Arge NATURSCHUTZ	Habitats, Amphibians, Reptiles	AT	low	medium
	Sustanability Initiative Finkenstein	Initiative for sustainable Development	AT	low	low
	Ecomuseo delle Acque del Gemonese	Conservation of natural/cultural heritage, sustainable development, research & documentation	IT	low	medium
	Ecomuseo Val Resia	Conservation of natural/cultural heritage, sustainable development, research & documentation	IT	low	medium
	Legambiente FVG	NGO, Environmental association	IT	low	high
	SMAA (Società Meteorologica Adriatico-Alpina)	NGO, Weather forecast, & climate change	IT	low	high
	CAI – Clup Alpino Italiano Friuli Venezia Giulia	Alpine Club, Hiking and other mountain sports	IT	low	medium
	Alpine Association of Slovenia	NGO	SLO	low	medium
	Umanotera	NGO	SLO	low	medium
	DOPPS - Birdlife Slovenia	NGO	SLO	low	medium
	CIPRA Slovenia - association for the Protection of the Alps	NGO	SLO	low	medium
Private Sector	LBK-ZT	Private Consulting Company, Experts	AT	low	medium
	Kavalirek Consulting ZT e.U.	Private Consulting Company, Experts	AT	low	medium
	Büro für Wildökologie	Private Consulting Company, Experts	AT	low	medium
	Kora	Private Consulting Company, Experts	IT	low	medium
	LOCUS - spatial information solutions	Experts working in the pilot area	SLO	low	medium

Type of institution	Institution/Organization	(Thematic) competence	Country	Level of influence	Level of interest
Research organizations	NWV Nature and Science Assiciation Carinthia	Group Zoologists and Group Birds	AT	low	low
	FH University of Applied Carinthia – UNESCO Chair	Research	AT	low	low
	University Klagenfurt – Department for Geography	Research	AT	medium	low
	University of Ljubljana (Biotechnical Faculty), Maribor (Department of Biology), Primorska, Nova Gorica (School of Environmental sciences)	Research	SLO	low	low
	Università di Udine	Management of natural resources	IT	low	medium
	National Biodiversity Future Centre (Università di Udine)	Study, monitoring and management of biodiversity	IT	low	low
Tourism	Region Villach Tourismus GmbH	Tourism	AT	low	low
	TVB Bad Bleiberg	Tourism	AT	low	low
	TVB Finkenstein	Tourism	AT	low	low
	TVB Villach	Tourism	AT	low	low
	Comunità di montagna della Carnia	territorial authority, land planning and GIS	IT	low	high
	Promoturismo FVG., Official tourism agency	Tourism, regional development	IT	low	low
	Comunità di montagna Canal del Ferro e Val Canale	Tourism, agriculture, forest, culture and tourism	IT	low	low
	Tourist Association of the Upper Soča valley	Tourism	SLO	low	low
	Soča Valley tourist board	Tourism	SLO	low	low

Annex 2 Draft corridor agreement

Letter of intent

to preserve ecological green corridors in the border triangle

Austria, Slovenia and Italy

Preamble

The undersigned parties acknowledge the importance of natural green corridors for the preservation of biodiversity, the landscape and the quality of life within their respective geographical boundaries.

Green corridors as ecologically valuable connections - consisting of forests, meadows, sensitive wetlands and other green areas - fulfill important functions for the preservation of biodiversity in the Alpine region. They are part of a larger, internationally significant network between the three countries of Italy, Slovenia and Austria. The connection between the large protected areas in the respective countries is particularly important.

Goals and intentions

The achievement of this objective is to be given special consideration in future within the framework of spatial planning, sectoral planning and ongoing work activities. This should contribute to the preservation of biodiversity, the sustainable development of the region and cross-border cooperation in the Alps-Adriatic region.

As far as possible, the signatory parties aim to preserve the quality of the existing green spaces and avoid future urban sprawl or development in these sensitive areas. The fragmentation of existing green corridors by building barriers should be avoided altogether. Forests should be preserved, meadows should continue to be used for agricultural purposes and green spaces within the corridors should remain free of development.

Liability

This declaration of intent is not legally binding, but represents the clear will of the signatory parties to act in the spirit of a precautionary and nature-friendly approach to their landscape.

[Place, date]

Interreg Alpine Space | Co-funded by the European Union | PlanToConnect

PlanToConnect

Mainstreaming ecological connectivity in spatial planning systems of the Alpine Space

Project partners:

Urban Planning Institute of the Republic of **Slovenia** (SI)
Veneto Region (IT)
ALPARC – the Network of Alpine Protected Areas (FR)
Asters, organisation for the conservation of natural areas in Upper Savoy (FR)
Eurac Research (IT)
ifuplan - Institute for Environmental Planning and Spatial Development (DE)
University of Würzburg (DE)
Salzburg Institute for Regional Planning and Housing (AT)
E.C.O. Institute of Ecology Ltd. (AT)
Fondazione Politecnico di Milano (IT)

Technical proposal(s) for implementing GBI connectivity networks in spatial plans and sector instruments [Pilot Region: Trilateral transboundary pilot site (Austria-Italy-Slovenia)]

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