Interreg CENTRAL EUROPE

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ReCo

Transnational Restoration and Connectivity Strategy for the European Green Belt

D.1.3.3

- A Toolbox for Actions and Cooperation -

(European Green Belt section in the Interreg Central Europe programme area)

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TRANSNATIONAL RESTORATION AND CONNECTIVITY STRATEGY FOR THE EUROPEAN GREEN BELT

- A Toolbox for Actions and Cooperation -

(European Green Belt section in the Interreg Central Europe programme area)

ReCo deliverable D.1.3.3

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Disclaimer

This document was developed as a part of the project *ReCo - Restoring degraded eco-systems along the Green Belt to improve and enhance biodiversity and ecological connectivity*, supported by the Interreg Central Europe Programme with co-financing from the European Regional Development Fund. Responsibility for the content of this Transnational Strategy lies solely with the author and the ReCo project consortium and can in no case be treated as a reflection of the position of the European Union.

1. The European Green Belt

Europe in the 1980ies was a deeply divided continent with the Warsaw Pact in the east and NATO in the west. In between was the Iron Curtain, a largely impenetrable borderline that dominated vast adjacent areas on both sides. The Iron Curtain became a remote area where people moved away – or were moved away by force – and where development of infrastructure was slow or ceasing. Extensive access restrictions were effective especially on the eastern side. The only positive turn was that natural habitats were not as heavily destroyed in this region as elsewhere in Europe. In some areas, natural environments could even return to a former better conservation status, marked by less human activity.

Generalized map of the European Green Belt.

When the Iron Curtain broke down in 1989, initiatives on both the eastern and western side stood up to preserve these natural treasures, joining forces across the border and initiating the *Green Belt*. Many sites were put under protection in the years to come and are today, often as national parks, providing attractions and income for these remote regions. It still took more than a decade until the local and regional initiatives joined on a European level, backed by politicians like Mikhail Gorbachev.

The *European Green Belt* is today both an active initiative of local citizens and a line of valuable natural, cultural and historical heritage, spanning through 24 European countries and reaching from northern Scandinavia to the Black Sea coast, not far from the continent's end at the Bosporus. It crosses through a vast variety of European landscapes and serves as backbone of the Pan-European ecological network that is today described as *Green Infrastructure* by the European Union. The European Green Belt Initiative is one of the few international networks that joins authorities and other GOs with an energetic group of NGOs. All of them are jointly working on harmonizing human activities with the natural environment. They are steadily transforming the appalling Iron Curtain into an agreeable landscape that is both safeguarding the natural values and offering socioeconomic development opportunities for the benefit of the local communities.

Due to its immense length, the European Green Belt is subdivided into four sections. These are working jointly on the European level. The coordination of the vast network of partners and the design and implementation of activities are however largely performed on this regional level.

The INTERREG Central Europe programme area comprises **the whole Central European section of the European Green Belt as well as the southern part of the Baltic Green Belt. This is the area targeted by this Transnational Restoration and Connectivity Strategy.**

2. Objectives of this Strategy

A strategy is generally defined as a plan to achieve one or more medium or long-term goals. In the case of the European Green Belt this goal is already clearly defined and does not yet have to be developed: **The valuable natural heritage left behind by the Iron Curtain is to be preserved, wisely managed and preferably expanded for the future, honoring and promoting its history and cultural heritage and supporting sustainable change that will enable the local population and economy to sustain a living.**

In practice, written strategies are often rather theoretical, may be somewhat boring to read and are often too abstract to be directly translated into concrete action. If they are read at all by a larger number of people, transposition is often poor and frequently they are soon forgotten or outdated.

The ReCo project is therefore following a different approach with this *Joint Transnational Restoration and Connectivity Strategy*. Adhering to the goal described above, it aims to generate further action for the European Green Belt and aspires to make this as easy and attractive as possible. **The *Transnational Restoration and Connectivity Strategy* is therefore conceived as a toolbox.** It contains a set of carefully selected existing example activities that have already been realized in the territorial scope of the strategy, i.e. in the whole Central European Belt spanning from Croatia to the Baltic Sea and the coastal areas of Poland and Germany in the Baltic Green Belt.

The presented activities have proven to be successful, they are tangible and not theoretical. They can usually be inspected in-situ with reasonable effort and even discussed with their creators. **Added to each of these tools is an advice, where else in the territorial scope of this strategy a replication should be most rewarding.** Most often this will not be a one-to-one replication, but rather a refined localized approach taking up central prerequisites and methods from the presented tool and thereby being much easier to realize than starting from scratch.

The showcased activities are diverse, encompassing all aspects of the set goal. They can all be regarded as best practices or best-in-class, having shown superior performance and excellent effectivity and efficiency. The presented *tools* are excellent examples or blueprints to duplicate, to refine or to advance for an own use, sparing a good deal of the usual creation process of successful activities.

3. The Toolbox for the European Green Belt

Overview of the showcased tools and best practices

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A. Managing Habitats

- Grassland management through grazing by Exmoor ponies in the Podyjí National Park
- Green belt camp - exploring and restoring dry grasslands at the Austrian Green Belt
- Life for Mires - wetland restoration in hilly areas
- LIFE Restore for MDD: River and floodplain revitalization along borders
- Reforestation of underwater macroalgal forests and seagrass meadows
- Revitalization of a degraded coastal lagoon creates habitats and a visitor attraction

GRASSLAND MANAGEMENT THROUGH GRAZING BY EXMOOR PONIES IN THE PODYJÍ NATIONAL PARK

Havraníky and Mašovice, Czech Republic

Addressed issue

Dry grasslands in Central Europe are experiencing a significant decline due to the abandonment of traditional agricultural practices, such as extensive grazing, haymaking or burning. These biodiverse ecosystems rely on low-intensity management to prevent encroachment by shrubs and trees, which leads to habitat degradation and loss of unique plant and animal species. With rural depopulation and the shift towards industrialized farming, many grasslands are left unmanaged, accelerating natural succession and reducing the open habitats essential for specialized species like bees, butterflies, and ground-nesting birds. Restoration efforts, including reintroducing grazing animals, are critical to halt biodiversity loss.

Location

The southeastern edge of Podyjí National Park (Czech Republic) consists of a system of dry grasslands, heaths, and remnants of steppe, which were historically managed through traditional practices. However, these practices were gradually abandoned after World War II, leading to the overgrowth of these areas with tall grasses, shrubs, and trees.

Additionally, due to the proximity of the former Iron Curtain, several military training grounds were operated in National Park proximity. One such site is located near the village of Mašovice. Military activities, such as shooting and heavy machinery movement, previously helped maintain open and regularly disturbed grasslands. However, this shooting range was abandoned about 30 years ago, and these areas are now heavily degraded.

Activities

- Two herds of Exmoor ponies, totalling 11 individuals, were introduced in May 2018 to two sites with deteriorating dry grassland remnants. One pasture, covering 35 hectares, is located in the south eastern part of National Park near the village of Havraníky. The second, spanning 30 hectares, was established on the site of former military training ground near Mašovice.
- Since the establishment of the pastures, grazing activities have been continuously monitored. The horses help reduce tall grasses in favour of flowering plants and create patches of open soil through their hooves and dust baths, which serve as vital habitats for many endangered species.
- Due to successful course of the project, we plan an extension of grazing activities into new pasture and experiment with grazing in open forest.

A herd of Exmoor ponies grazing on a former military training ground near Mašovice (Tomáš Dvořák).

Added value for the Green Belt

- We have demonstrated that grazing by large herbivores is an effective measure for managing dry grasslands. Exmoor ponies, as a semi-wild breed, are a cost-effective and low-maintenance solution capable of grazing large areas.

- Horses are naturally appealing animals, attracting public interest and serving as an effective means of educating people about the issue of grassland abandonment and management.
- Through our activity, we help to enhance populations of endangered xerothermic species along the part of the Green Belt.

Where to replicate?

Grassland degradation, whether due to abandonment or the intensive use of agricultural techniques, is a widespread problem in the Central European landscape. Developing effective and cost-efficient grazing regimes is crucial for restoring valuable open habitats and can be replicated in various locations along the Green Belt.

Who to ask?

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References

Resources for further info: www.nppodyji.cz/ https://www.ceska-krajina.cz/klicove-druhy/divoky-kun-equus-ferus/

GREEN BELT CAMP – EXPLORING AND RESTORING DRY GRASSLANDS AT THE AUSTRIAN GREEN BELT

Lower Austria – Hollabrunn and Mistelbach

Addressed issue

After the last Ice Age, Europe's landscapes were shaped by mega-herbivores such as aurochs, which kept large areas forest free. Neolithic settlers replaced them with livestock, maintaining species-rich dry grasslands through extensive grazing. These dry grasslands, found in warm, dry regions such as eastern Austria under Pannonian climate conditions, support drought-tolerant specialist plants such as *Pulsatilla vulgaris* and *Iris pumila*, which thrive on nutrient-poor soils. With the decline of traditional grazing in the 1960s, shrubs and trees have encroached, threatening these unique ecosystems. Cultivation has ceased because the terrain is too steep for heavy machinery. The hills are a very important habitat for many rare plant and animal species. Active management (mowing, brush cutting) is now essential to preserve these fragile habitats and their extraordinary biodiversity.

Location

The restored and managed dry grasslands along the Austrian Green Belt are located in Lower Austria in the districts of Hollabrunn and Mistelbach.

Activities

- **Intercultural Exchange**: Young Volunteers from diverse backgrounds and different countries all over the world lived and worked together for 16 days. Team-building activities were organized, and tasks such as cooking, cleaning, and timekeeping were shared to promote cooperation.
- **Cultural Exploration**: Cultural and historical sites were visited, with guided tours provided by locals. Highlights included a visit to Mikulov in the Czech Republic and a workshop on the Cold War, presented by historian Julia Köstenberger.
- **Community Involvement**: Local experts, municipalities, and residents were actively involved, contributing their knowledge and fostering a collaborative environment.
- **Grassland Management**: Dry and semidry grasslands were preserved and restored through mowing, raking, and the removal of shrubs. These activities were conducted under professional guidance to ensure effective results. The work took place across 12 different areas in 8 different municipalities, with volunteers receiving information on the ecological significance of these habitats and proper tool usage.

Added value for the Green Belt

- **Habitat Conservation:** The camp plays an important role in the conservation and restoration of dry and semi-dry grasslands, which are essential for maintaining the biodiversity of the Green Belt. Through activities such as mowing, raking and cutting shrubs, it prevents the spread of woody plants and neophyts and protects in these way habitats for endangered species.
- **Community engagement and awareness**: By involving young volunteers from all over the world and local resident the camp fosters cooperation and builds support for the Green Belt. It raises awareness of the ecological and historical importance of this corridor and motivates participants to advocate for its conservation.
- **Intercultural exchange:** The camp provides an opportunity for people from different backgrounds to live and work together, promoting mutual understanding and cooperation. It also highlights the historical

significance of the Green Belt, such as its connection to the Cold War, creating a deeper appreciation for its role as a natural and cultural landmark.

Where to replicate?

Wherever dry and semi-dry grasslands are threatened by changes in land use and land use practices.

Who to ask?

Austrian League for Nature Conservation Lower Austria
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References

Projekt info:
https://naturschutzbund.at/green-belt-camp.html

Volunteers rake the dry meadows above a burial mound in Rabensburg (Sarah Gross).

Excursion to the nature reserve "Feehaube-Kogelsteine" during the Green Belt Camp – Lower Austria (Margit Gross).

LIFE FOR MIRES - WETLAND RESTORATION IN HILLY AREAS

Šumava Mountains/Bavarian Forest, Czech-German Green Belt

Addressed issue

Restoration of wetland is a suitable way to mitigate the consequences of climatic change and to preserve biodiversity. Many wetlands, primarily the peat bogs in Šumava (Bohemian Forest) and Bavarian Forest, are hotspots of biological diversity, where rare and endangered plant and animal species live in their natural environment. Wetlands play an irreplaceable role in landscape hydrology and the water cycle, having favourable effects on the local climate. Restoring the natural water regime in hilly and especially montane areas is in many ways different from similar measures in flat areas. In particular, the slope of the terrain plays a crucial role, which increases the speed and erosive power of runoff water and creates different conditions for its infiltration into the soil profile and runoff from the area. Furthermore, mountains also tend to have a much higher water supply from atmospheric precipitation, which also significantly affects runoff conditions. The project "LIFE for MIRES - Trans-boundary restoration of mires for biodiversity and landscape hydrology in Šumava and Bavarian Forest" (2018-2024) was funded by the LIFE Programme of the European Union with co-financing of the Czech Ministry of Environment and Bavarian Nature Conservation Fund.

Location

Šumava Mountains and Bavarian Forest at the Green Belt Czech Republic-Germany (Bavaria).

Activities

- An area of 2.180 ha wetlands was restored, 212 km ditches blocked, 28 springs and 35 km of streams restored. Most of the implementation measures took place in national park Šumava (Czech Republic). The project was accompanied by extensive public relations work and environmental education measures as well as activities for volunteers. On the German site the focus was on demonstration measures for support of Natura 2000 in the vicinity of human residences. Here, implementation measures took place on approx. 25 ha near and in close cooperation with small municipalities. Support of trans-boundary important ecological corridors for wetland species like *Carabus menetriesi pacholei, Lycaena helle* or *Sicista betulina* was also a key topic.
- Implementing the **Micro-Catchment Concept**: Solving problems in the highest parts of the watershed with a number of springs and a complex mosaic of interconnected wetlands and watercourses required a comprehensive approach. Another impetus was the revealed extent of the drainage in the Šumava landscape and resulting degradation of wetlands. Therefore, the **principle of holistic restoration of the water regime** was established and hydrological restoration began to be implemented within partial micro-catchments, which represented an entire hydrological unit. The mentioned micro-catchments usually included springs, bogs, various non-peat wetlands and streams, and all these water elements were dealt with together as part of hydrological restoration.
- The aim of restoration is to return hydrological conditions to a state close to natural conditions or to pre-drainage conditions. However, there are different types of wetlands and mires, with different genesis and hydrological conditions. They also differ in water table and the dynamics of its fluctuations. The method of re-wetting should reflect these differences. The method of blocking ditches was based on the concept of a **target water table**. This means that the wetlands are not chaotically flooded by closing the ditches, but the aim is to return the water table to a level close to the natural or pre-drainage state. This level is referred to as the target water table.

Added value for the Green Belt

- The region of Šumava and Bavarian Forest is a hotspot of biodiversity along the European Green Belt. The implemented restoration measures supported the generally highly endangered mire habitats and wetlands and their flora and fauna. Especially trans-boundary biotope networks were supported.
- Strengthening of Natura 2000-network: The Natura 2000-sites “Sumava” (Czech Republic) and “Moore bei Finsterau und Philippsreut” as well as “Bischofsreuter Waldhufen” (Germany) were ecologically enhanced and also enlarged by land purchase for nature conservation.
- Trans-boundary cooperation was supported between Czech and Bavarian organisations as well as between GO and NGO, new cooperations between local stakeholders (like Bavarian and Czech farmers) could be established.
- Due to many events and guided tours for locals and visitors the topic of mire protection and also of the European Green Belt as promoted in the region.

Where to replicate?

The implemented restoration concept for wetlands and mires (micro-catchment concept and target water table concept) can be replicated in other hilly areas where wetland restoration is required. E.g. in **low mountain ranges of the inner-German Green Belt**.

Who to ask?

Administration of National Park Šumava
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References

General project information in Czech, German and English: https://life.npsumava.cz/en/

Bufková et al. (2024), “Hydrological restoration in mountainous and hilly areas - Summary of the experiences with restoration of wetlands, springs and streams in the Šumava region”, book (English), download: https://nx17201.your-storageshare.de/s/dis7ngSi6P5cP6f

Interactive map of restoration sites: https://life.npsumava.cz/en/project-sites/

Strengthening of trans-boundary cooperation: Czech and German volunteers restoring a drainage ditch directly on the border (Melanie Kreutz).

LIFE RESTORE FOR MDD: RIVER AND FLOODPLAIN REVITALIZATION ALONG BORDERS

Mura-Drava-Danube Biosphere Reserve, Austria, Slovenia, Croatia, Hungary and Serbia

Addressed issue

As part of river regulation measures, rivers have been straightened, dammed up and embanked. The natural processes of a river valley, such as the formation of oxbow lakes or gravel bars and the flooding of meadows and riparian forests have been disrupted by these developments. As a result, various species of plants and animals which have adapted to the ecological niches in natural river valleys, e.g. the False Tamarisk or Little Ringed Plover, are now in decline. Furthermore, the regulation of rivers along with the surface sealing brought on by the buildup of infrastructure had the paradoxical effect of worsening the effects of extreme flood events. With straightened courses and less open space to seep into the ground, flood waters are now that much more destructive when they do manage to break through.

Location

The Danube, together with its tributaries of Mura and Drava, forms a large river basin in south-eastern Europe. These three rivers form part of the borders between Austria, Slovenia, Hungary, Croatia and Serbia, and were thus part of the Iron Curtain facing Austria and Yugoslavia. The Mura-Drava-Danube river system forms the core for the largest, most intact floodplain habitats in the entire Danube basin, despite recent river regulation measures and the construction of numerous hydroelectric plants. The location on the iron curtain has reduced disturbance and human impacts, which helped the MDD region become a refuge for various rare species that have been driven from more actively regulated, intensively exploited river and floodplain habitats.

Activities

- Restoration and preservation of floodplain forest structures and functions.
- Improvement of key habitat structures in floodplain forests.
- Restoration of natural hydro-morphodynamic processes for sediment mobilisation and pioneer habitat creation.
- Improvement of lateral connectivity and water level dynamics between river and floodplains.
- Combating the spread of invasive plant species, which tend to dominate river banks when left untreated, degrading the habitat for both plants and animals.
- Improving the coordination between adjacent states through joint workshops, training and public outreach activities.

Added value for the Green Belt

With the LIFE RESTORE for MDD project, the Mura-Drava-Danube river complex retains the unique natural rivers and floodplain habitats (HT 91F0 – hard-wood forests – and HT91E0* - soft-wood forests) which were preserved due to the presence of the Iron Curtain in the second half of the 20th century. This project boosts the ecological and conservation value of the region further, by both providing a habitat for threatened species and presenting a terrestrial and aquatic corridor for the migration of species between central and southeastern Europe. The cooperation between five different countries to preserve this unique region is furthermore symbolic for international cooperation along the European Green Belt.

A wild, unregulated section of the Drava river (Arno Mohl, WWF AT).

Where to replicate?

In many sections of the European Green Belt, rivers serve as borders. This project can serve as a blueprint to start international cooperations which embrace **border rivers which have been or are being degraded**. Both the ecological potential of these rivers and the historical context can be preserved, enhanced and communicated following the example of the LIFE Restore for MDD project.

Who to ask?

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References

www.amazon-of-europe.com/projects/life-restore-for-mdd/
www.unesco.org/en/mab/mura-drava-danube

REFORESTATION OF UNDERWATER MACROALGAL FORESTS AND SEAGRASS MEADOWS

Gulf of Trieste, Italy

Addressed issue

Seagrass meadows and macroalgal forests are very diverse and important underwater habitats. They have however vanished in some sea areas due to anthropogenic pressure. Replanting initial populations of the typical plant species can enable these habitats to spread again, provided the reasons for decline have ceased.

Location

The Gulf of Trieste is the shallow bay of the Adriatic Sea between Punta Tagliamento (Italy) and Savudrija (Croatia). Activities are conducted in the Italian side of the gulf, in particular in the Miramare Marine Protected Area and along the coasts of the towns of Grado (in the western part of the gulf) and Muggia (to the East, on the border with Slovenia), where the coast is characterised by shallow and sandy seabeds.

Activities

Focusing on a target species such as the macroalga *Cystoseira* and marine plant *Cymodocea*, restoration actions mainly include the transplanting of these species to favour natural recolonization. *Cystoseira* and *Cymodocea*, whose decline due to anthropogenic pressure made it a vulnerable species, is able to spread through macroalgal forest habitats of high aesthetic and naturalistic value and plays a key role especially in supporting food webs and sequestrating large amounts of CO_2.

Divers monitoring the implanted population of macroalga *Cystoseira* (Saul Ciriaco).

- *Cystoseira* fertile parts or *Cymodocea* cuttings are collected in healthy population.
- As for *Cystoseira*, mesocosms are set up for controlled reproduction and generation of seedlings to be implanted in chosen reforestation sites. As for *Cymodocea*, cuttings are replanted into hosting sites and protected by cages to prevent predation by herbivores.
- Reforestation is carried out where historical presence of the two species is recorded and measures to mitigate/contrast impacts that led to its loss are implemented.
- Maintenance and regular monitoring of the implanted population are developed to assess forestation success over time.

Added value for the Green Belt

The food chain is the basis of the balance of a whole ecosystem and acting to preserve this capital by strengthening the basic elements is essential to ensure balance even on a larger scale. In the mid-long term, the newly established *Cystoseira* forests and *Cymodocea* seagrass meadow will form an ecological network with a cascade of positive effects and increasing ecosystem services. Among these, oxygen production, erosion control and storage of CO_2 operated by algae and plants are of primary importance, being an often-underestimated effective measure to counteract the effects of climate change at any level and for any geographical area.

Where to replicate?

The activity can be replicated in other **marine sites in the European Green Belt** where formerly effective reasons for decline of the species have vanished and where a natural recolonization would take very long. Depending on the location, possibly also other target algal or plant species could be addressed.

***Cymodocea* cuttings to be replanted into hosting sites** (Saul Ciriaco).

Who to ask?

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References

Project info: www.ampmiramare.it/en/research-and-monitoring/

REVITALIZATION OF A DEGRADED COASTAL LAGOON CREATES HABITATS AND A VISITOR ATTRACTION

Koper, Slovenia

Addressed issue

In the 1970s and 1980s, human activities – primarily draining and filling the lagoon, along with dumping construction debris, organic waste, and other municipal refuse – posed a severe threat to the area of Škocjanski zatok, bringing it close to destruction. However, in the 1990s, a movement led by ornithologists and backed by 7.000 local petitioners led to the establishment of a protected area. As a result, Škocjanski zatok was temporarily designated a natural landmark in November 1993, culminating in March 1998 when the Slovenian Parliament passed the Act on the Škocjanski zatok Nature Reserve. In 2006 and 2007, the area was completely restored through the LIFE-Nature project *Restoring and Conserving Habitats and Birds in the Škocjanski zatok Nature Reserve* (LIFE00NAT/SLO/7226).

Location

The Škocjanski zatok Nature Reserve is the largest brackish wetland in south-west Slovenia, covering 122,7 hectares and consisting of two main parts: a brackish lagoon and a freshwater marsh. Located near the town of Koper, the reserve is part of Koper Bay and the broader Gulf of Trieste. Its proximity to the sea, combined with a Mediterranean climate and Sub-Mediterranean vegetation, supports a diverse range of plant and animal species. The reserve is a Natura 2000 area and important as a nesting, wintering, and migratory stopover for many bird species.

Removal of sediment and deepening of channels in the brackish lagoon in 2007 (NRSZ Archive).

Activities

- The planning and implementation of habitat restoration in Škocjanski zatok were carried out as a cooperative action involving the manager (DOPPS-BirdLife Slovenia, an NGO), representatives of the Ministry of the Environment and Spatial Planning, the area's owners, the local municipality, and responsible professional agencies. The implemented measures do not interfere with natural processes and provide tangible, practical and cost-effective solutions.
- Before starting the restoration process, removing all forms of waste and preventing illegal sewage inflow into the reserve area was essential.
- The reestablishment of good fresh and sea water inflow to the brackish lagoon by cleaning of the water inflow channels and installing a sluice system (gates) at both inflows was central for reviving the natural lagoon ecology.
- The removal of approx. 200.000 m^3 of sediment from the lagoon and the restoration of habitats at the lagoon's edge, along with the creation of mudflats within the lagoon, recreated habitats and eliminated all key threats in the brackish part of the reserve.
- A freshwater marsh (area approx. 25 ha) was created as replacement habitat for the lost marshes destroyed twenty years earlier. At the same time, a circular educational trail (2,2 km long) was built around the entire freshwater marsh, along with embankments and ditches. These measures were key in preventing disturbances to wildlife caused by the presence of visitors, while also providing them with access and a high-quality nature experience.
- The restoration was supported by numerous awareness and educational events, and in collaboration with other wetland managers. Research and a long-term monitoring of the colonization of plants and avifauna in newly created habitats, the dynamics of water masses, marsh growth, water quality and hydrological parameters (water levels) provided information on the effectiveness of the actions taken.

Added value for the Green Belt

- As part of the network of Mediterranean wetlands, Škocjanski zatok now serves as a very important site for migratory birds, helping to maintain the region's ecological balance and mitigating the threats posed by habitat loss and degradation.
- Events for visitors about the importance of biodiversity and protected areas raise awareness and encourage people to participate in nature conservation, which aligns with the goals of the European Green Belt.

Educational activities (Bojana Lipej).

Where to replicate?

The measures implemented in Škocjanski zatok can serve as a good practice example for **coastal wetlands and also other wetlands and marshes** in the European Green Belt facing similar challenges.

Who to ask

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References

Resources for further info: https://skocjanski-zatok.org/en/projects/completed-projects/reserve-restoration/

european
greenbelt

B. Enhancing Connectivity

- GPS-collaring European Bisons as basis for species and landscape management
- Locating corridors to enhance ecological connectivity along the Green Belt

GPS-COLLARING EUROPEAN BISONS AS BASIS FOR SPECIES AND LANDSCAPE MANAGEMENT

Ińsko Lakeland, Poland

Addressed issue

The European bison population in Northwestern Poland faces challenges related to migration barriers, leading to herd isolation, restricted gene flow, and low genetic diversity. This makes the species more vulnerable to diseases and environmental changes. Additionally, human-bison conflicts, poaching, and infrastructure development threaten conservation efforts. Effective monitoring and management strategies are necessary to ensure the long-term viability of the population while mitigating conflicts with local communities.

Location

The Ińsko Lakeland, encompassing the core area, spans a total of 880 km² in Northwestern Poland, while the extended Pilot Region extends over an area of 40.200 km². The region is characterized by its primary land use in agriculture and forestry, boasting a rich system of watercourses, water bodies, and wetlands. With a developing road and railway network, the area is relatively sparsely urbanized, emphasizing a focus on wildlife and nature-oriented tourism. Notable protected areas within the Ińsko Lakeland include the Ińsko Landscape Park, designated as Natura 2000 site with the code PLB320008 Ińsko Refugium, and PLH320067 Ińsko Lakeland.

Activities

Restoration Approaches include the enhancement of the management of European bison herds reintroduced in NW Poland. This involves identifying migration barriers and formulating recommendations for transport infrastructure investments. Additionally, efforts are directed towards optimizing the population's spatial structure by maintaining low densities (<3 individuals/1.000 ha) through the increase in the number of herds. The implementation of constant population monitoring is crucial, ensuring a swift response to potential human-bison conflicts.

The following activities have been implemented:

GPS-collar deployment – equipping an additional 10 animals with state-of-the-art GPS collars enhances monitoring and analysis of their movements and behaviours, providing valuable data for conservation efforts.

Migration barriers identification – a comprehensive assessment identifies and understands migration barriers that may impede the natural movement of wildlife. This entails studying geographical features, human-made structures, and other factors contributing to obstacles in the animals' migratory routes.

Poaching identification and tracking – implementing advanced tracking technologies actively identifies and

A GPS-collared female bison with a calf (West Pomeranian Nature Society)

monitors instances of poaching. The integration of real-time tracking systems allows for prompt responses to potential threats, contributing to the protection of endangered species and the preservation of biodiversity.

Formulation of recommendations for transport infrastructure investments – as part of the pilot investment, a thorough analysis of the existing transport infrastructure in the region is conducted. Based on the findings, detailed recommendations for strategic investments in transportation networks are formulated, aiming to balance human development needs with wildlife conservation and promote sustainable coexistence.

Added value for the Green Belt

By restoring migration corridors and improving habitat connectivity, this project directly contributes to the ecological integrity of the European Green Belt. Enhanced gene flow among bison populations strengthens biodiversity and increases resilience to environmental pressures. Additionally, the initiative promotes sustainable land use by integrating conservation objectives with infrastructure development and community needs. The involvement of local stakeholders fosters positive relationships between wildlife and human activities, reinforcing the Green Belt's role as a model for transboundary conservation.

Typical landscape of the Ińsko Lakeland (Green Federation "GAIA")

Where to replicate?

The GPS-collaring approach can be replicated in other regions where European bison populations are reintroduced or managed, particularly in areas with significant human-wildlife interactions. Suitable locations include other parts of Poland, Germany, the Baltic states, and Central and Eastern Europe, where migration corridors are fragmented due to infrastructure expansion. This method could also be adapted for other large herbivore species facing similar conservation challenges, such as red deer or wild horses, in landscapes requiring habitat restoration and improved conservation.

Who to ask

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References

Skorupski J., Hacker J., Volf O., Mariňáková M., Korošec M., Lipej B., Dvořák T., Haider J., Fuchs S. 2024. Implementation of joint pilot restoration actions in ReCo – pilot regions with pilot investments (Output 2.1 & 2.2). ReCo project Consortium

LOCATING CORRIDORS TO ENHANCE ECOLOGICAL CONNECTIVITY ALONG THE GREEN BELT

Green Belt Germany-Czech Republic, Bavarian Forest-Šumava Mountains

Addressed issue

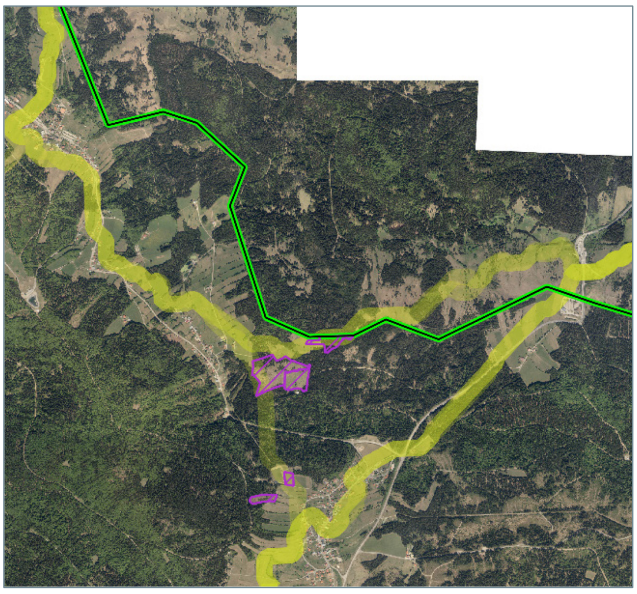
Resources for nature conservation must be focussed on areas with high priority. Regarding ecological connectivity this means to focus on certain parts of landscape that are – presumably – the most important corridors for most species in the respective region. These differ between different ecological groups and habitats. Species of wetlands and mires mainly migrate in valley systems, while species of grasslands in an arboreous landscape like the Bavarian Forest need meadows, pastures or shrubby woodlands for migration. Valleys can be detected quite easily in maps or in the field. Open or semi-open corridors on the other hand cannot be assessed that easily in field and even less on large scale. Furthermore, an important aspect not only locally but also in the transnational context, the fragmentation of those corridors by barriers (settlements, transport infrastructure or fencing, roads and PV-plants, etc.) must also be considered. To identify existing and potential ecological corridors as well as major barriers along the Green Belt Germany-Czech Republic in the region of Bavarian Forest/Šumava a method was used based on the evaluation of remote sensing data within the project *DaRe to Connect (D2C) - Supporting Danube Region's ecological Connectivity by linking Natura 2000 areas along the Green Belt* (Interreg Danube Transnational Programme).

Location

The Inner Bavarian Forest is one of five so called *linking-up areas* in the project *Crosslinking Green Belt* funded by the German Federal Agency for Nature Conservation. The area is located along the Green Belt Germany (Bavaria)-Czech Republic. The project aim is to enhance habitat connectivity in a large area of about 500 km² in the rural district of Freyung-Grafenau (Bavaria) and to build up or optimize the transboundary connectivity towards the valuable high-altitude/mountain grasslands of Šumava mountains/Šumava national park on Czech side by tangible implementation measures.

Activities

- **Analysis of Sentinel-2-data** for the D2C-pilot region "Bavarian Forest-Mühlviertel-Šumava (DE-AT-CZ)" (100 x 100 km) provided an up-to-date high-resolution raster image with a pixel size of 10x10m. By using training data such as ground truthing by the project partners and other biotope mappings, each pixel of the PR was classified and assigned to one of the Broader Habitat Types (BHT) using a machine learning algorithm of the satellite data time series of 2017 & 2018.
- **Detail assessment of existing and potential corridors within the project *Cross-linking Green Belt*:** Core areas for species of mesic grasslands were identified exemplarily and the position of the shortest, most probable connecting corridors between those core areas was calculated using GIS-based tools.



Amplified activities in the project site Wagenwasser due to high significance for connectivity (BUND).

- **Validation of the position of existing project areas**: The mapping of current management sites appointed by knowledge of local experts together with

the calculated D2C-corridors showed a high congruence of data and reality. Most project sites were situated directly in the corridors or close to them. Accordingly, activities at e.g. project site “Wagenwasser” (municipality Philippsreut), were significantly enlarged as satellite data revealed the key role of this area for connectivity towards open landscape parts on Czech side. Considering small-scaled barriers, e.g. fences, that slip through the comparatively rough resolution of 10 x 10m pixel, mapping must be conducted on site, either during the ground truthing phase and/or the implementation of recommended measures to enhance connectivity on a local level.

- **Determination of prospective “activity areas”:** By comparing the calculated corridors with other data available and displayed in geographical information systems, like biotopes, protected areas and others search spaces for future habitat connectivity measures could be designated. Additional management sites were searched and selected regarding the need for further measures in certain areas.

Added value for the Green Belt

For the first time it was possible to map potential connectivity corridors in this region, assessed unbiasedly using satellite data. Further activities in nature conservation can now be focused in these corridors. Gaps can be identified more easily and measures can be scheduled and carried out in order to close gaps by reactivation of fallows or opening non-native or extraordinary dense forests.

Where to replicate?

This approach can be used **all over the European Green Belt** and even beyond. It is especially suitable **for areas where no or little ground-collected landscape data is available**. As there is a huge variety of remote sensing data, corridors for several types of habitat requirements could be examined.

Who to ask?

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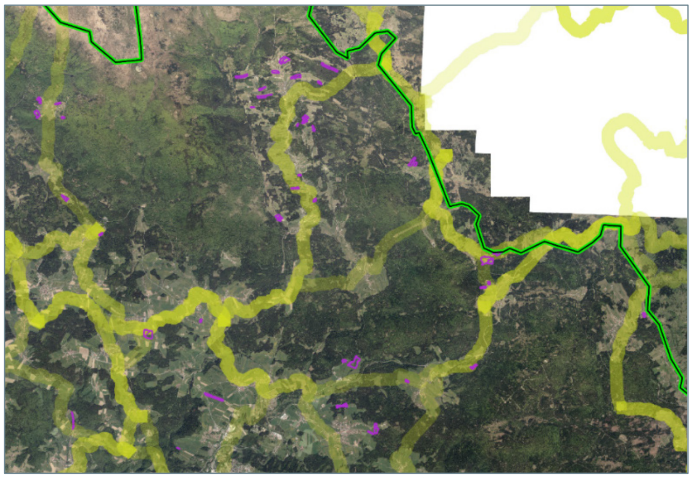

Connecting corridors along and across the Green Belt Europe in Lower Bavaria at the Czech border determined using satellite data. Management sites (purple) of the biotope connectivity project "Crosslinking Green Belt" were located respectively (Tobias Windmaißer, BUND).

References

GIS-tool developed in the “DaRe to Connect”-Interreg project by University of Vienna (Department of Botany and Biodiversity Research, Division of Conservation Biology, Vegetation and Landscape Ecology): https://dtp.interreg-danube.eu/approved-projects/d2c/section/gis-tool

Online manual for the D2C-GIS-tool: https://dtp.interreg-danube.eu/uploads/media/approved_project_output/0001/48/2a319c36049890bb99b7e72b8fe7633ccd7c4388.pdf

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C. Species Conservation and Management

- 24/7 task force for mammal management prevents conflicts
- A "red light district" to protect night flying insects and fight light pollution
- Adapting military remains to restore biodiversity: bunkers and shooting ranges as habitats
- Protecting the Bohemian gentian Gentianella bohemica along the Green Belt

24/7 TASK FORCE FOR MAMMAL MANAGEMENT PREVENTS CONFLICTS

West Pomeranian and Pomeranian Voivodeships, Poland

Addressed issue

Managing large mammals such as the European bison in human-dominated landscapes presents significant challenges, including human-wildlife conflicts, poaching, and infrastructure-related risks. Conflicts arise due to crop damage, road accidents, and safety concerns, leading to a decline in social acceptance of conservation efforts. Additionally, poaching remains a major threat, hampering population growth despite successful reintroduction efforts. To ensure effective species management and rapid intervention in crisis situations, a continuous monitoring and response system is essential.

Location

The project area covers the Zachodniopomorskie (West Pomeranian) and Pomorskie (Pomeranian) Voivodeships in northern Poland. This region spans approximately 40.200 km², encompassing a diverse landscape of forests, lakes, rivers, wetlands, and agricultural land. The area includes parts of the Baltic Sea coastline, making it ecologically significant for biodiversity conservation. The region is characterized by relatively sparse urbanization, with important cities such as Szczecin, Koszalin, and Gdańsk located nearby. Additionally, the presence of road and railway networks poses both opportunities and challenges for ecological connectivity and species migration.

Activities

The 24/7 emergency service for European bison management focuses on real-time monitoring, rapid intervention, and conflict prevention.

Key activities include:

- Immediate response to human-bison conflicts – a dedicated hotline allows residents to report incidents involving bison in villages, farmlands, or near roads. The team responds quickly to assess and manage the situation.
- Mitigation of crop damage – the task force works with farmers to deploy deterrents, such as alarm systems, and supplementary feeding strategies to minimize bison encroachment.
- Road safety interventions – the team responds to bison-related traffic incidents by removing animals from roads, coordinating with traffic authorities, and installing warning signs in high-risk areas.
- Monitoring and relocation – GPS tracking is used to monitor bison movements, enabling pre-emptive action in areas with frequent human-bison interactions. When necessary, individuals are relocated to prevent conflicts.
- Poaching prevention and enforcement – the team collaborates with law enforcement and conservation organizations to monitor poaching threats, investigate incidents, and strengthen anti-poaching measures.
- Community education and engagement – awareness campaigns inform local communities, farmers, and authorities about bison behaviour, safety protocols, and conservation benefits, fostering a more positive perception of the species.

Added value for the Green Belt

The establishment of a 24/7 task force significantly enhances the European Green Belt's role as a model for large-scale wildlife conservation. By ensuring constant monitoring and immediate response, the initiative strengthens ecological connectivity and promotes coexistence between humans and large mammals. Additionally, it enhances the effectiveness of conservation investments by reducing mortality risks from poaching and accidents. This approach supports sustainable land-use planning and reinforces the Green Belt's function as a transboundary ecological corridor, contributing to biodiversity conservation across European landscapes.

Where to replicate?

The 24/7 mammal management task force model can be replicated in other **regions facing similar challenges with large herbivores and carnivores**, particularly **in conservation areas with increasing human-wildlife interactions**. Suitable locations include areas in the European Green Belt with reintroduced or expanding bison populations and regions managing species such as wolves, bears, or moose. The model could also be adapted for **conservation programs** in national parks and protected landscapes, where real-time monitoring and rapid intervention are essential for balancing conservation with human activities.

Who to ask

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References

Skorupski J., Hacker J., Volf O., Mariňáková M., Korošec M., Lipej B., Dvořák T., Haider J., Fuchs S. 2024. Implementation of joint pilot restoration actions in ReCo – pilot regions with pilot investments (Output 2.1 & 2.2). ReCo project Consortium

West Pomeranian European bisons
(Green Federation "GAIA").

A "RED LIGHT DISTRICT" TO PROTECT NIGHT FLYING INSECTS AND FIGHT LIGHT POLLUTION

Ahrenshoop, Germany

Addressed issue

Light pollution is a growing problem for natural environments worldwide, causing extensive killings of insects and other animals. Night time illumination is growing by about 10% every year and also the European Green Belt is heavily affected, both by new installations and existing ones being equipped with brighter light sources. A new road lighting in Ahrenshoop substantially reduces side effects of night lighting, both by applying specially designed lamps that rigorously direct the illumination to the road, leaving the surroundings dark, and by using a red light spectrum which is largely invisible to insects.

Location

The road ***Fulge*** in Ahrenshoop village lies adjacent to an extensive natural reedbed on the side of Darß-Zingst lagoon chain. *Vorpommersche Boddenlandschaft* national park protects most of these waters. The shallow brackish water habitats and their shores boast a special biological diversity, with some typical species having a very limited distribution worldwide. While insect losses from these valuable habitats due to light attraction have never been researched, it is obvious that they must be extensive. To yield a maximum effect, a road alongside the waterline has been chosen for the pilot installation of the special lighting, to be followed up by further roads inside and outside of Ahrenshoop village.

Fulge road in Ahrenshoop with the installed red colored lighting. Illumination concentrates on the road leaving the surroundings in the dark. The reedbed is adjacent to the right. Northern lights induce an unusually bright night sky on this picture (Jörg Schmiedel).

Activities

- 15 existing road lights were replaced with a newly developed street light model, reusing the existing lamp masts along the road. The installed lights are equipped with shutters that eliminate light emissions to the side and use special red light LEDs largely without spectral components visible to most insects. During the early evening hours, an option to use light with a wider color spectrum is available and light intensity is strongly reduced during night hours.
- Due to the possibly problematic connotation persons may have with red light, information of the public was a central part of the activity both prior to the installation and afterwards, explaining the reasons and the advantages.
- A post-realization survey among Ahrenshoop inhabitants was conducted, revealing a decidedly positive attitude towards the change.
- Cooperation with a lamp manufacturer was established resulting in the joint optimization of available lamps. The created lamp model is now available on the market. Collaboration for further improvement is ongoing.

Added value for the Green Belt

- Greatly reduced losses of night flying insects, counteracting the ongoing sharp decline of many species.
- The problems man-made illumination is causing for nature are unknown to a major part of the population. The conspicuous red-colored street lights (along with the provided information) are strongly making people aware of the matter and even providing a good solution.
- Better quality of life for local inhabitants, as red light does not interfere with sleep and man's biological clock as much as other light colors.

The newly developed lamp model (TAL Shield), which is now available on the market (Selux AG).

Where to replicate?

Light pollution is a growing problem throughout the European Green Belt, with the most prominent conflicts arising **in and around protected areas**. These locations should be the core areas for action, keeping in mind however that waiving lighting altogether is always the best solution for nature. The **Wien/Bratislava and Trieste agglomerations** are among the most light-polluted areas in the European Green Belt, offering plenty of opportunities to act.

Who to ask?

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References

Project info: www.bodden-nationalpark.de/der-verein/vereinsarbeit/vernetzte-vielfalt/neue-leuchten

ADAPTING MILITARY REMAINS TO RESTORE BIODIVERSITY: BUNKERS AND SHOOTING RANGES AS HABITATS

Lusevera, Italy

Addressed issue

Many landscapes in the European Green Belt have experienced significant changes in land use and economy, primarily due to the decline of traditional agropastoral practices and population decline. These have had severe consequences for both biodiversity and cultural heritage. Specifically, European bat populations are declining, with the loss of roosting habitats being a major contributing factor. Military bunkers are possible replacement habitats, just like other military remains can be for other species. Improvement of those abandoned structures for species conservation is a chance to create long-persisting habitats for such species.

Location

The project was held in Alta Val Torre, in the heart of the Italian Green Belt and of the Julian Prealps Natural Park, and more specifically, in the living memorial landscape of Lusevera, a small municipality of 597 inhabitants lying on the slopes of the Musi Mountains, home to a Slovenian language ("*ponašin*") speaking community. The Julian Prealps are a biodiversity hotspot and preserve unique cultures, languages and traditions scattered among small mountain communities. In the past, these mountains have also been theatre of war: arms depots, bunkers and military outposts, nowadays hidden by European Green Belt lush vegetation, were an ominous line dividing Cold War-era rivals.

Activities

- **Upgrading forgotten bunkers**: six cold-war bunkers were selected using thermos-loggers and following determined spatial parameters suitable for bats. They were repurposed to become shelters and roosting sites for endangered bats. After creating openings, installing bat-friendly structures to provide grip and providing the surrounding areas with bat-boxes, 5 different bat species were documented by automatic recorder units. Monitoring activities were carried out during 2 years to detect local biodiversity.
- **Revitalizing abandoned meadows**: The Val di Musi meadows were used as a shooting range during the Cold War and later abandoned. As a result, encroaching shrubs and trees began to suffocate the open meadow and its protected botanical communities, part of the Natura 2000 network. To restore the area, 1,5 hectares of meadow have been re-opened, and traditional agropastoral practices such as hand mowing and grazing have been reintroduced to maintain the meadows in the long term.

Added value for the Green Belt

- The combination of the conversion/reuse of former military buildings (bunkers, military firing range etc.) and the ecological optimization of the surrounding area through adapted nature conservation measures promoted endangered species that need habitats rich in structure.
- Biodiversity restoration within a Natura 2000 site within the European Green Belt, with positive impacts on protected species and habitats.
- Dissemination of European Green Belt values via Social Media updates, radio interviews and articles on magazines, the participation as speakers in conferences and seminars, the organization of webinars and in-person conferences and a documentary on the project.
- Improved capacity building of this small mountain community by providing new guided tours for local groups, the involvement of local private company in habitat restoration practices

A collage of images of the various actions, species and habitats in Lusevera municipality, Italy (Rete Italiana European Green Belt).

Where to replicate?

The topics addressed in these projects are transferable to any context along the European Green Belt. Activities could certainly be replicated in **mountainous regions of Slovenia, Austria and Germany**.

Who to ask?

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References

Association website: https://www.rete-egb.it/

PROTECTING THE BOHEMIAN GENTIAN *GENTIANELLA BOHEMICA* ALONG THE GREEN BELT

Bohemian Massif – Border triangle Germany-Czech Republic-Austria

Adressed issue

The Bohemian Gentian (*Gentianella bohemica*) is a highly endangered species throughout its complete range. It is listed in the annex II and IV of the European FFH directive. It inhabits nutrient poor meadows, fellows or pastures. Actors in nature conservation are engaged in revitalisation of former occurrences and protection of the last sites where it still survived. Despite this, only very few populations show a positive trend in population dynamics and knowledge about the requirements and applicable measures is scarce. Due to its biennial life cycle and low competitiveness as well as fragmented populations successful management seems very difficult. Demands regarding soil chemistry and symbiotic fungi partners are nearly unknown.

Location

This Gentian species is nearly restricted to the Bohemian Massif with most of its distribution area located in Czech Republic and Austria, in the border triangle Germany-Czech Republic-Austria. In Germany (Bavaria) it currently occurs only in a very few populations close to the former Iron Curtain. The Bavarian project measures focus on the last occurrences in the municipalities Mauth and Neureichenau within the rural district of Freyung-Grafenau (Lower Bavaria).

Activities

- **Promotion of international exchange**: Several online meetings and field trips were conducted to share news about developments, current findings and protection measures in Gentian habitats. Concrete actions at the protection sites could be shared among the participants.
- **Adoption of successful Czech management tools:** Pilot application of findings and methods from other actors in Gentian conservation. Especially the successful approaches from the Czech Side in Šumava National Park were adopted as management tools in the Bavarian conservation efforts on *Gentianella bohemica*. The main approaches are the removal of litter and dense moss layers in early spring to enhance germination of seeds and the establishment of the young Gentian seedlings. There is also need for extensive but consequent mowing or grazing of larger sites as well as the promotion of ex-situ cultivation to provide seeds for the spreading in promising areas without endangering existing populations.
- Monitoring and special measures in the remnant populations. New and established measures were organized for the respective occurrences. The population dynamics and spatial distribution at management sites are monitored each year.

These activities were initiated within the project “Cross-linking Green Belt” (Federal Biodiversity Program and Bavarian Nature Conservation Fund) since 2021 and were expanded by executing a LNPR-project (according to the Bavarian landscape conservation and nature park guidelines, LNPR), supported and funded by the government of Lower Bavaria and the Bavarian State Ministry for Environment and Consumer Protection (StMUV).

Added value for the Green Belt

Protection efforts on a nearly endemic species for a geographical entity region along the Green Belt representing an endangered plant community typical for traditional cultural landscapes. The implementation of methods tested successfully in other places helped not only to protect this species in Bavaria. This

approach also enhances the vegetation types and species communities at its occurrences and strengthens the Green Belt as distribution corridor and as core region for biotope connectivity.

Where to replicate?

Application in all remnant populations and at formerly inhabited **sites of *Gentianella bohemica*** within the complete historic range of the species. The approaches are also replicable **in conservation areas for other species with similar habitat requirements or causes of threats, just like *Arnica montana*, *Carlina acaulis* and other less competitive plant species** in nutrient poor grasslands.

Flowering Gentianella bohemica at its best occurrence site in Bavaria *(Tobias Windmaißer, BUND).*

Who to ask?

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References

Information on *Gentianella bohemica* (German): www.lfu.bayern.de/natur/artenhilfsprogramme/merkblaetter_botanik/doc/06lfumerkblatt_gentianella_bohemica.pdf

Křenová et al. (2019): Can we learn from the ecology of the Bohemian gentian and save another closely related species of Gentianella? https://pmc.ncbi.nlm.nih.gov/articles/PMC6922359/

Common visit and examination of management sites in Bavaria with participants from Czech Republic, Austria and Germany (Tobias Windmaißer, BUND).

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D. Local History and Heritage

- A former brewery becomes a place to meet and to explore the Green Belt
- Municipal protection and preservation of valuable mountain meadows

A FORMER BREWERY BECOMES A PLACE TO MEET AND TO EXPLORE THE GREEN BELT

Schönsee, Germany

Addressed issue

The European Green Belt motives and its cross-border approach can greatly aid in connecting population and local heritage across what formerly was the Iron Curtain. Utilizing this chance is however not trivial, as this requires a holistic concept and good and lasting local support, integrating the European Green Belt with local activities, spreading knowledge about its natural wonders and resources and commemorating its historical importance. Centrum Bavaria Bohemia has been created to take these chances and realize a functioning integrative institution with the European Green Belt as central prerequisite.

Location

Centrum Bavaria Bohemia is located in the center of the small town of Schönsee in the Upper Palatine Forest (Oberpfälzer Wald) region. Centrum Bavaria Bohemia is the coordination center of Bavarian-Czech cultural exchange and cooperation. Located in the building of a former brewery it offers changing exhibitions, cultural events, workshops and conferences. Its area of interest is the whole Bavarian-Czech border region.

Activities

The art installation "The Nest" by Jakub Nepraš in the exhibition hall of Centrum Bavaria Bohemia, surrounded by the temporary exhibition "Forest & hunting" (2024/25) (Veronika Hofinger).

- **Information**: Visitors find an outdoor exhibition explaining and interpreting the Bavarian-Czech Green Belt, including two audiostations on the German and on the Czech side of the border (at Centrum Bavaria Bohemia and in the former village Pleš / Plöss). The tourist information in Centrum Bavaria Bohemia offers specialized material on the European Green Belt, largely for free.
- **Public relations, public events** being an integral part of our work, we are regularly publishing contributions in regional and national media in Germany and Czech Republic. Since 2021, we are participating in the "Green Belt days" with an event for the broad public. It takes place in a different location each year. The event hosts stands and events representing the Bavarian-Czech Green Belt, involving a large number of initiatives.
- **Exhibitions** interpreting the Green Belt Bavaria-Czech Republic: The real life in the European Green Belt was the starting point for the topics of a series of exhibitions of the Centrum Bavaria Bohemia: 'Forest & Hunting' shows hunting as a means of regulating a man-made ecosystem and as part of the common cultural heritage that connects Bavaria and the Czech Republic. Further exhibitions deal with landscape change under differing political and societal influences, with human settlements and migration, with places and cultures of remembrance. All topics are presented by using the means of art and culture. The **climbable art installation 'The Nest'** by the internationally renowned artist Jakub Nepraš permanently represents the Green Belt in the rooms of the former brewery. The exhibitions and the programme are bilingual German-Czech

throughout. But it is not only the language barrier that is to be overcome. It is also about overcoming barriers and prejudices in society.

- **Workshops** and conferences connecting stakeholders take place several times per year. They connect mainly regional German and Czech stakeholders on specific topics (tourism, education, remembrance culture, landArt, etc.). Frequently, we are involving universities. We are also happy to invite experts from other parts of the Green Belt.
- **Education** has become a core part of our activities: In cooperation with partners from Czech Republic and with support of the Bavarian state ministry of education and culture we are offering excursions for German and Czech pupils in the Green Belt, preparatory seminars in schools and a set of workshop-formats for different age categories. The topics are focussing on geography, history and social and political sciences.
- **Publications** present the outcomes of interpretation work, interviews with experts, workshops and exhibitions.

Added value for the Green Belt

Interpretation of the cultural and historic side of the Green Belt raises awareness for the specific traits and values of the European Green Belt. What has been considered a periphery with low living standard becomes an attractive place to live and recreate. Understanding the value and attractivity of the Green Belt increases the **willingness to protect** it. Cultural and historic traits allow to connect areas divided by the former iron curtain and connected by the European Green Belt. Culture and history adds a sense of **uniqueness and meaning** to a landscape marked by conflict and totalitarian systems and the possibility of a brighter future under the conditions of democratic systems and European unification.

A perfect place to grasp history: With pupils in the former village of Grafenried, in the beginning of a long explorative hiking tour in the Green Belt (Jan Šícha).

Where to replicate?

A replication is possible **anywhere along the European Green Belt where a good institutional rooting and a long-term commitment** can be provided.

Who to ask?

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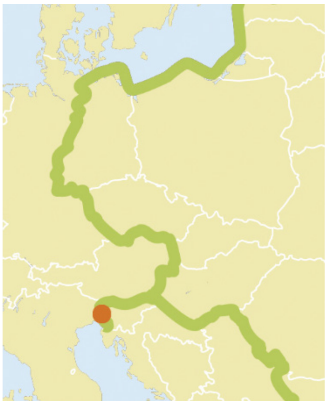
References

www.zeleny-pas.eu / www.gruenes-band.eu

MUNICIPAL PROTECTION AND PRESERVATION OF VALUABLE MOUNTAIN MEADOWS

Stregna, Italy

Addressed issue



Grasslands represent some of the most species-rich habitats in the EU, with extensively managed grasslands in particular contributing to local and regional diversity levels. However, both too intensive agricultural management techniques and the abandonment of tracts of lands are reducing faunistic and floristic diversity through increased competition from fast-growing grasses and shrub and tree encroachment, respectively. For mountain meadows in particular, global effects such as atmospheric nitrogen deposition and climatic changes can exacerbate these trends. The maintenance of these extensive mountain meadows requires careful management, which is increasingly difficult to organize due to rural flight, land abandonment, and the fading of local land management traditions.

Location

Stregna is a municipality located on the Italian-Slovenian section of the European Green Belt in the Italian Region of Friuli-Venezia Giulia. The 21 hamlets of the municipality are distributed across the Julian pre-alps, ranging from 200 to 600 m a.s.l. Climatically, it lies in the temperate oceanic zone, with increasing continental influences at higher altitudes. While the natural vegetation consists of beech and true chestnut forests, both the forests and meadows of the region have a long history of human cultivation and influence. Due to the proximity to Slovenia, a unique culture has developed which incorporates the languages, cultures and traditions of both Italy and Slovenia.

A structurally varied, extensively managed mountain landscape near Stregna (Francesca Siardi).

Activities

- The municipality of Stregna has carried out bureaucratic and organizational measures to strengthen the protection of local mountain meadow habitats, with corresponding management measures prescribed to maintain the habitats.
- Stregna is leading and taking part in several regional and national projects to strengthen local traditional agriculture, promote the region and the biodiversity therein, e.g. ASFO Erbezzo, an association of local landowners seeking to promote sustainable management practices.
- The municipality is the lead partner in cross-border projects such as Ikarus and PotiDoVasi, which are aimed at enhancing the ties between Italian and Slovenian communities of the region. They promote the shared cross-border culture and traditions of this ancient agricultural region.
- Finally, Stregna is a partner in Interreg projects such as “ALPCHESTNUT” and “Terra di Castagne”, which are cross-border cooperative programs to keep agropastoral traditions and management techniques alive.

Added value for the Green Belt

The project work carried out by and in the municipality of Stregna has helped secure and improve the management of species-rich extensive grasslands and pastoral forests. The functionality of these habitats as refugia for rare species and stepping stones for animals and plants spreading along the Green Belt has thus been secured. Furthermore, projects, publicity work and festivals have tied the neighbouring communities in Italy of Slovenia closer together have helped revive reviving ancient pastoral practices and strengthening the sense of community in a commune which has struggled with rural flight.

Where to replicate?

The combination of cultural and natural conservation activities can be useful for many **smaller communities in the European Green Belt, especially where land abandonment is an issue**. Putting shared sustainable land management in the hands of the community both increases the revival of traditional landscape management methods, reduces the rate of land abandonment in mountainous areas and ensures the long-term maintenance of these species-rich habitats.

Who to ask?

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References

www.asfoerbezzo.eu/

www.comune.stregna.ud.it/

www.ikarusfest.eu/

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E. Visitor Management

- *"Beach Islands"* - micro-reserves on beaches in core tourism areas safeguard nature and arouse interest
- Snorkeling tours in marine protected area

"BEACH ISLANDS" – MICRO-RESERVES ON BEACHES IN CORE TOURISM AREAS SAFEGUARD NATURE AND AROUSE INTEREST

City of Rostock and Fischland-Darß-Zingst peninsula, Germany

Addressed issue

Sandy beaches are probably the habitat type most visited by humans in the European Green Belt, at least in relation to their area. As a result, the majority of coastal beaches is subject to heavy trampling, leaving little or none of the natural vegetation and seriously diminishing breeding grounds for several seaside bird species. By marking off parts of the beach with poles and signposting the reason, trespassing in these small areas (the *Beach Islands*) could be reduced to almost zero.

Location

The beaches of Rostock and Fischland-Darß-Zingst peninsular are all situated on the southeastern coast of the Baltic in one of the centers of coastal tourism in the European Green Belt. The main tourism season ranges from June to September, which is also the period when bathing and sunbathing are prominent activities. Outside of this period beachwalking concentrating around the wrackline is the main activity of beach visitors.

Activities

- The Beach Islands, as they are called locally, start at the foot of the sea dunes and range up to halfway down to the sea. They cover the upper part of the beach, the lower portion remaining open for people to pass. The areas are marked with wooden poles and an unobtrusive fence, equipped with signs informing about expected behavior and beach habitats. Due to coastal protection requirements, the poles have to be removed before winter and newly installed each spring.
- All activities are conducted in close cooperation with the municipalities, usually their tourism departments. All involved municipalities strongly support the Beach Islands, actively proposing beach sections for them to be installed, sometimes in the very center of tourism (next to the sea bridge).
- Guided tours to the Beach Island and neighboring habitats are offered during the summer season. Basic information is also provided to the tourism departments as the micro-reserves have evolved to be an attraction to visitors, sometimes being actively asked for and about.
- A scientific monitoring is conducted alongside, focusing on insects, but also concerning other animals and plants.

Added value for the Green Belt

- The monitoring shows that, even though the marked off areas are tiny, they support almost the complete natural vegetation of the upper beaches, a large portion of the beach insects and the more extensive ones may even serve as breeding grounds for a few coastal bird species that would otherwise not occur (such as plovers).
- Beaches are usually not perceived as a habitat by people, especially not as a rare and endangered one. The Beach Islands contribute to changing this, giving visitors a surprising first impression of how a (semi-) natural beach would look like.
- The European Green Belt follows the eastern and southern Baltic seashore, but is almost invisible and impossible to experience on beaches with heavy tourism since almost none of the natural values are left at these locations. The Beach Islands point people to the Green Belt, providing information about its natural values and background as well as the special historic heritage of these beaches that were heavily access-restricted during iron curtain times.

Beach Island on the coast of Zingst, Fischland-Darß-Zingst peninsula (Susanna Knotz).

Where to replicate?

Most beaches in the European Green Belt are prone to trampling, some more, some a bit less. Especially beaches with heavy recreation and tourism use can retain some of their nature and gain visitor attractions by establishing *Beach Islands*. Main target regions would be e.g. the **Gdańsk/tri-city agglomeration** in Poland, most of the **German southern Baltic coast** and the few **beaches of the Trieste surroundings** in Italy and Slovenia. Comparable actions are also possible on inland waters such as **lakesides or riverbanks**.

A guided tour at one of the Beach Islands at Rostock (Jörg Schmiedel).

Who to ask?

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References

Project info: www.bund-mecklenburg-vorpommern.de/strandinseln

SNORKELING TOURS IN MARINE PROTECTED AREA

Miramare, Trieste, Italy

Addressed issue

The sea is a widely unknown and inaccessible environment, separated from life on land. Most people know little about it and do not consider underwater habitats in their decisions and everyday life. The possibility to collect own experiences like in land habitats is very limited. Increasing knowledge of the sea with immersive experiences allows us to raise people's awareness on its importance and need for protection.

Location

Miramare Marine Protected Area is set in the heart of the Miramare Biosphere Reserve, covering a total area of more than 3.000 hectares. The Marine Protected Area is a place rich in biodiversity and with a high population density, due to the presence of many different habitats in a small area and over thirty years without fishing or human disturbance, offering an experience of absolute wonder and beauty.

Activities

Every year from June to September snorkeling excursions are a way of observing the underwater environment, suitable for everyone, adults and children. The only requirement to participate is to be able to swim and use the snorkeling equipment. Neoprene underwear and fins are given on free loan when needed.

- Initially a guided tour of the museum of the MPA is led by a WWF guide, focusing on the importance of the reserve and the most peculiar and recognizable species of the gulf.
- Secondly, people are taken in small groups to snorkel inside the MPA and observe especially the reef and its countless forms of life. The itineraries proposed within the marine area line up along the coast, at the foot of Miramare Castle, along a shallow underwater path among the rocks and a few metres from the shore.

Added value for the Green Belt

The gulf of Trieste is one of the few points where the Green Belt comes into direct contact with the Mediterranean Sea, an increasingly fragile ecosystem subject to anthropogenic pressures and global warming. The snorkeling experience, guided by marine biologists and naturalists, has a strong emotional impact on participants and a high educational value, in terms of knowledge and awareness. A society aware of the importance and fragility of an ecosystem will be led to protect that ecosystem, which is an invaluable result, given the interdependence of the sea and the land in regulating the balances, the climate and the biodiversity of the entire region. Furthermore, aware and sensitive citizens will be more easily led to respect, care for and defend also any other ecosystem or habitat, even further away from the place where they live, developing a careful and responsible vision of the entire planet.

Where to replicate?

This activity has the potential to be replicated anywhere in **coastal parts of the Central European and Baltic Green Belt**, such as on the **Slovenian coast** and places like **Rügen Island or the Western Pomeranian Lagoons** on the Baltic coast. Especially suited areas could be marine protected areas, reserves or special protection zones, where there may be both a greater biodiversity and high-quality educational activities.

Who to ask?

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References

Project info: https://www.ampmiramare.it/en/seawatching-en/

Snorkeling guided excursion at the foot of Miramare Castle (Davide Lombroso).

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F. Public Information

- Using augmented reality to see and learn about Daffodils and their habitats
- Young people explore digitally and in real life traces of nature and history along the European Green Belt

USING AUGMENTED REALITY TO SEE AND LEARN ABOUT DAFFODILS AND THEIR HABITATS

Jesenice, Slovenia

Addressed issue

The flowering alpine meadows in the western Karavanke Mountains, home to the protected mountain daffodil *(Narcissus poeticus)*, are a valuable natural asset in need of careful conservation. The daffodil blooms from April to May and takes years to develop. It is sensitive to environmental changes and intensified agricultural practices. Being a major visitor attraction during its flowering season, increased visitor traffic during its blooming period pressures its habitat. To raise awareness and support conservation, an innovative virtual experience featuring eight locations of flowering meadows is accessible via QR codes and VR goggles. This provides key information on meadow care, biodiversity, and local attractions, offering a year-round experience of daffodils in bloom while promoting education and protection of this natural heritage.

Location

The geographical area depicted by the virtual experience covers the Karavanke Mountains within the borders of the municipality of Jesenice, with the first sites occurring in the lower part of the Karavanke foothills at an altitude of around 700 m. The daffodils also grow in large numbers in extensively cultivated meadows in the wider area of the villages of Javorniški Rovt, Mala Golica, Plavški Rovt and Španov vrh. For each of these locations, two 360-degree photos of the daffodils in bloom were taken, for which a VR-AR solution was developed to provide an integrated virtual experience.

Activities

- An integrated VR-AR solution with 360-degree images of the natural environment and daffodil blooms was developed. It provides an impression of the exciting display also outside of the flowering seasons. At each location, the app shows icons to discover background content: local people taking care of the meadows, nature values of rich biodiversity and interesting sights to see. Virtual experience is accessible via web app and QR codes on the spot to view content on visitors' devices.
- 3 VR glasses (Oculus) available in the Tourist information office of Jesenice for more immersive experience with commentary by a local narrator that guides the visitor through different locations.

Added value for the Green Belt

- Year-round accessibility: Using the attractivity of daffodil locations, the app makes people explore and appreciate the European Green Belt's values regardless of season. Even at times when the daffodils are not even visible above ground, the special importance of their locations is made obvious.
- Promoting conservation efforts and education: The app provides background information on the mountain habitats and their conservation needs right on the spot, but also for prior or subsequent studies at home. It also highlights the European Green Belt's significance in preserving ecological hotspots, cultural heritage, and biodiversity.
- The VR app promotes sustainable tourism and environmental awareness, attracting well-informed return visitors who encourage others through social influence, potentially generating additional income in remote areas.

Web application available on mobile phones by scanning QR codes on the locations (Jošt Gantar).

Where to replicate?

Any area in the European Green Belt with **striking displays of flowers, seasonal aggregations of animals or only periodically perceivable habitat features** could benefit from comparable electronic solutions. For example, bird migration sites might benefit from the opportunities to picture their importance and visually explain temporary access restrictions. Or the extent and importance of seasonal flooding, snow cover or historical incidents for special habitats could be visualized.

Pristava: The first location of daffodil virtual experience

Who to ask?

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References

Project info:
https://visit.jesenice.si/sl/znamenitosti/naravne-znamenitosti/

YOUNG PEOPLE EXPLORE DIGITALLY AND IN REAL LIFE TRACES OF NATURE AND HISTORY ALONG THE EUROPEAN GREEN BELT

Green Belt German: Werra Valley and Rhön Mountains

Addressed issue

Especially young people often don't know much about the history of the Iron Curtain and the biodiversity of the European Green Belt. The remote border areas often are not known, although they are attractive for people interested in nature and culture. BUND Thuringia with its regional partners want to make the big vision of the European Green Belt tangible for inhabitants and people from all over the world: Virtual 360°-tours showing historical and nature points of interest of two regions along the inner-German Green Belt were elaborated accompanied by excursions and youth leader trainings in the field. The project, funded by the Federal Foundation for the Study of the Communist Dictatorship in Germany, the Heinrich-Böll-Foundation Thuringia and the Foundation for Nature Conservation Thuringia exemplarily united historic and nature conservation issues and competences in one project.

Location

5 km surrounding of two former GDR watch towers in the inner-German Green Belt in the nature park region Eichsfeld-Hainich-Werratal (Werra Valley) and the biosphere reserve Rhön.

Activities

- Different points of interest (e.g. border relicts, places with a special border history or of outstanding nature conservation value) were collected and described by photos, maps, videos and podcasts to be presented in virtual 360°tours. Additionally, real life activities with young people were implemented in the same regions. So different low mountain ranges with highly diverse geologic circumstances, different forest and open land habitats and lots of older and younger border history are presented to the public in the resulting 360°tour.
- The two interactive virtual 360° tours are available in English and German: Starting from an aerial overview of a former border tower, you can go to the ground and explore relicts of the former border and habitats of the Green Belt. Embedded in high resolution photo panoramas film clips on rare species, interviews with experts and contemporary witnesses and text tables are integrated.
- Young people could explore nature and history along the Green Belt in several excursions. In a youth leader training the participants hiked four days along the Green Belt in the Werra Mountains (Werra Valley), e.g. visited a border museum, met contemporary witnesses at the campfire and experts for rare species, explored relicts of the former border and Green Belt habitats and exchanged on environmental education methods. In a work camp they mowed mountain meadows.

Added value for the Green Belt

The big vision of the European Green Belt gets tangible and reaches young and technically affine target groups from all over the world. The 360°tours promote the Green Belt and its specific regions. They give background information and can be explored interactively. In the specific nature parks and biosphere reserves they are integrated into exhibitions and flyers. As it works modularly, relevant topics of the specific region can be integrated. The tours links different regions, as it is quite easy to switch from one region to the next one. The virtual tours make the Green Belt also explorable for physical disabled people.

Where to replicate?

It is possible to adapt the system to other **European Green Belt** regions with their specific regional history and nature, their activities, problems and chances.

Who to ask?

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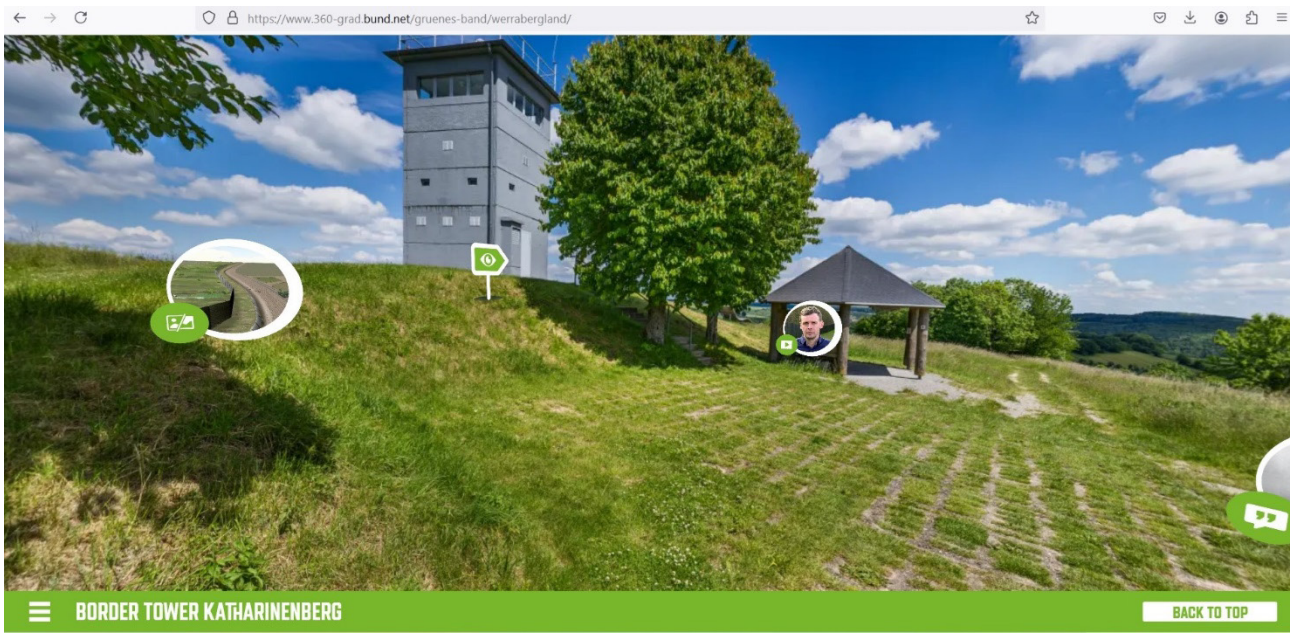
References

www.360-grad.bund.net/gruenes-band/rhoen

www.360-grad.bund.net/gruenes-band/werrabergland

Three additional tours available in German: www.gruenes-band-monumental.de



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G. Political Lobbying and Involvement

- A campaign for a national nature monument Green Belt Thuringia
- Expert peer reviews of site management and stake-holder involvement enhance conservation success
- Štítary, centre of local biodiversity: Integrating village development and the Green Belt

A CAMPAIGN FOR A NATIONAL NATURE MONUMENT GREEN BELT THURINGIA

State of Thuringia, Germany

Addressed issue

Already at the start of the Green Belt project in Germany in 1989 it was clear that, to preserve this extraordinary treasury of biodiversity and lively monument of German and European history, the Green Belt would need a protection status. But in the commotion of the reunification, nature conservation didn't have a big lobby and many people just wanted to forget history. But after decades of struggle the Green Belt seemed to fit perfectly into a new nature conservation category in Germany. The protected area category of "National Nature Monument" (NNM) was included in the German Federal Nature Conservation Act (BNatSchG) in 2010. NNM are legally designated areas that are of outstanding importance for cultural-historical reasons and because of their rarity, uniqueness or beauty (see § 24 (4) BNatSchG). Thuringia was the first German Federal State that started to declare their part of the German Green Belt as NNM. As the declaration of nature protection areas often arouses opposition, BUND Thuringia started a preparatory campaign to showcase the values of the Green Belt for the people and the benefits of the added protection.

Location

The campaign included the complete 763 km of the Thuringian Green Belt, where the adventurer and former GDR refugee Mario Goldstein hiked along and met people.

Activities

- Prior to the NNM declaration, adventurer and former GDR refugee Mario Goldstein hiked all along the Thuringian Green Belt. On his tour he met lots of contemporary witnesses, land users, and nature conservationists, explored nature and historical landmarks. The tour was partly accompanied by a film team, yielded wide press coverage and later also a popular book.
- A multivision show featuring the hiker's experiences was created and shown in every county along the Thuringian Green Belt in village centers, guest houses and city halls to 100 to 300 persons. An English language version was produced for international use and presented e.g. in Brussels.

A picnic with people from administrations, locals and hikers during the Green Belt tour (Eulefilm).

- The events were supplemented by a website, flyers, post cards and several smaller events.

Added value for the Green Belt

- The Thuringian Green Belt was successfully declared as NNM in 2018. Other German Federal States, like Saxony-Anhalt (2019) and Brandenburg (2022) followed. With Hesse the first western Federal State declared its border region as NNM in 2023. With a total protected length of 1.136 km, the NNM Green Belt is currently the longest protected part along the European Green Belt. The Federal States Saxony and Mecklenburg-Western Pomerania are in preparation to nominate also their parts of the Green Belt as NNM.

- "Maintenance, development and information plan": After the nomination process a plan for the protection, management, development and experience of the Green Belt was developed. It has been accompanied by partners out of nature conservation, history, county administration, agriculture and forestry. Staff positions and a budget for the development of the Green Belt have also been established in the Federal States.
- The declaration of the NNM is a basis for the current activities for the declaration of the Green Belt as UNESCO World Heritage Site.

Where to replicate?

The campaign could be adapted to other parts of the **European Green Belt** where it is necessary to promote the historical and nature values and to gain acceptance and understanding for the protection.

Who to ask?

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References

Homepage on the National Nature Monument Green Belt Thuringia: www.gruenes-band-monumental.de

Stiftung Naturschutz Thüringen (Thuringia Nature Conservation Foundation): www.stiftung-naturschutz-thueringen.de/handeln/gruenes-band-thueringen

Left: Relict of the former Iron Curtain - GDR watch tower at the Green Belt Wendehausen (Mario Goldstein); right: Adventurer and GDR refugee Mario Goldstein on his trip along the Green Belt Thuringia (Eulefilm).

EXPERT PEER REVIEWS OF SITE MANAGEMENT AND STAKEHOLDER INVOLVEMENT ENHANCE CONSERVATION SUCCESS

Green Belt locations in Poland, Germany, Czech Republic, Austria, Slovenia and Italy

Addressed issue

Actors in the European Green Belt possess a wealth of local knowledge and extensive expertise on nature as well as cultural and historical backgrounds. However, management requirements are diverse, often very demanding, and the locally responsible teams for implementing the actions often small. Additional external advice to tackle specific or non-standard questions can sometimes be helpful, as well as an uninvolved expert's view on the chosen solutions from a possibly different perspective. Peer review visits by small expert peer review teams to management actions provided just that.

Location

Various locations in the Baltic and Central European Green Belt were subject to peer review visits, namely Ińsko lakeland in Poland, the Fichtelgebirge/Smrčiny Mountains on the German-Czech border, Podyjí/Thayatal national parks on the Czech-Austrian border, the Karavanke high mountain area in Slovenia, the Trieste karst in Italy and coastal Slovenia.

Activities

- A detailed methodology of the peer review teams' tasks and duties was created. It includes a final assessment form to be filled both by the peer reviewers and the hosts. Some of the reviewed activities were already completed, but most were still undergoing implementation.
- Peer review teams of 4-8 international experts were selected to visit each site. Prior online discussions on the selection of activities to be reviewed and the stakeholders to be involved resulted in a detailed agenda of the visit, which was jointly produced by the host and the peer review team.
- The core part of all peer review visits were intensive consultations with local stakeholders having diverse relationships to the activities to be reviewed. People affected by their outcomes and persons involved in their realization were common, but also individuals responsible for local policies or administration were interviewed.
- Open conversations with all hosts and stakeholders, explicitly not only featuring perceived successes and benefits, but also possible shortcomings, failures and worries, are a central requisite for effective peer reviewing. A friendly and sincere atmosphere, strictly omitting any notion of control, accusation or exposure, was therefore maintained throughout all peer review visits and also afterwards.

Added value for the Green Belt

- The wide set of expert opinions and analytical approaches provided by the peer reviewers substantially improved the results of the reviewed activities.
- The hosts' roundup of ongoing and completed works, necessary for preparation and execution of the peer review, upgraded the understanding of their own activities besides their functioning and impacts, gaining valuable experience for future tasks.
- Peer reviews conducted during the realization process of a measure can yield excellent hints for optimization of the work lying still ahead, thereby instantly improving impact and efficiency.
- The peer review visits highly improve international cooperation in the European Green Belt. Profiting from its diversity, they utilize international experiences and expertise locally for better performance and solutions. Some of the contacts created during the peer reviews serve the network long after the peer review has ended, being the basis for constant exchange.

- The conclusions of the peer reviews are particularly useful in planning future activities both by the hosts and the peer reviewers, as they will allow to avoid repeating mistakes and to strengthen the positive impacts of future actions.

Where to replicate?

Expert peer review visits can be replicated **anywhere in the European Green Belt** where larger activities or projects are ongoing.

Who to ask?

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All peer review visits featured here were part of the ReCo Interreg project and are one of its most important deliverables.

References

ReCo project consortium (2025): Joint peer-review reports on peer-review excursions by Joint Pilot Teams to ReCo Pilot Regions / Reports from the Peer-Review visits.

Field meeting of the peer review team with a local stakeholder in Fichtelgebirge/Smrčiny Mountains (Jörg Schmiedel).

ŠTÍTARY, CENTRE OF LOCAL BIODIVERSITY: INTEGRATING VILLAGE DEVELOPMENT AND THE GREEN BELT

Krásná - Štítary, Czech Republic

Addressed issue

The border areas of the Czech Republic face many challenges, including the dwindling population of already small villages and the concentration of tourists in the most famous areas, such as national parks, while other areas are overlooked by visitors. Local residents are often not very interested in their own community and do not get involved in common activities. From a biodiversity perspective, a major challenge is the overgrowth of valuable areas due to lack of care, including the spread of invasive species, and unsuitable management like intensive grazing or planting of non-native species, and the associated decline of endangered species.

Location

Krásná is a small village in the most western part of the Czech Republic. On its territory, there is also the former village of Štítary, which disappeared after the expulsion of the German population in 1945 and was never rebuilt due to the existence of the Iron Curtain. The houses were demolished, old gardens and orchards became overgrown, and non-native species of poplar are spreading across the wet meadows that until recently hosted a declining population of the endangered butterfly marsh fritillary (*Euphydryas aurinia*). Straight streams flowing through degraded meadows no longer provide optimal habitat for the remaining populations of pearl mussel (*Margaritifera margaritifera*), and due to the disturbed water regime of the landscape and climate change, they often lack water.

Activities

- The village gained the land in Štítary from the state. After the discussions with university experts, they planned suitable management of the area.
- Non-native trees and expanding shrubs were removed. A part of the area is grazed with Exmoor ponies. It is a very hardy breed that can stay outdoors all year round and needs virtually no veterinary care.
- Small pools were created using heavy machinery to improve water conditions.
- An old orchard was restored by planting local herbs and fruit tree varieties. Local people were involved in the planting.
- The municipality carried out a number of excursions for local people, schools, university students and conservationists. ¡ Within an EGB Days project, an educational trail was created and connected with the existing popular "Czech Trail" (Stezka Českem, a trail along the whole Czech border).

Exmoor ponies in Štítary (archive of the municipality of Krásná)

Added value for the Green Belt

The project was initiated by a nature conservationist in cooperation with the municipality. All measures were discussed with experts. Local people were involved in the planning and implementation. This is an exemplary approach of a community-based restoration project.

Elimination of non-native poplar trees has reduced the negative impact not only on the project area but also in its surrounding

including the protected national nature monument Lužní potok – Bystřina.

Restoration of degraded wet meadow habitats supported the biodiversity of the border zone including the endangered species.

The horse pasture increased the attractivity of the area for local people and visitors.

Marsh fritillary *(Euphydryas aurinia)* (Ametyst)

Where to replicate?

Comparable activities could be initiated **anywhere in the Green Belt where traditional cultural landscapes exist**. There is a lot of valuable sites which need regular management. It is not always possible to pay for mowing or grazing with livestock. Grazing with Exmoor ponies requires initial investment but then it is quite cheap. However, the management has to be planned by experts taking into account the ecological needs of the target species and habitats.

Community-based approach is desirable in many cases, especially in smaller villages.

Who to ask?

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Freshwater pearl mussel *(Margaritifera margaritifera)* (Ametyst)

References

Information about the village: www.obeckrasna.cz/

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H. Research and Citizen Science

- DNA-metabarcoding for connectivity analysis, monitoring and the development of management strategies
- "GEO day of biodiversity": Discovering and protecting the Green Belt's biological richness
- Underwater citizen science helps in monitoring and species protection
- Using historical map data for today's connectivity planning

DNA-METABARCODING FOR CONNECTIVITY ANALYSIS, MONITORING AND THE DEVELOPMENT OF MANAGEMENT STRATEGIES

Green Belt Germany

Addressed issue

Insect species are declining rapidly in Central Europe, causing potential future issues for agriculture, such as reduced pollination. This decline in diversity and biomass is driven by intensive land use, traffic, pesticides, light pollution, and climate change. As climate conditions shift, species are migrating north to more suitable habitats. The German Green Belt, at the heart of the EGB, may serve as a crucial "highway" for these migrations and a refuge for endangered species due to its protected status (e.g. as National Nature Monument on 82 % of its length). Understanding how species use this biotope network is vital for ensuring their long-term protection. This knowledge aids ecological conservation, informs habitat protection strategies, and provides decision-makers with essential biodiversity data. Improving insights into insect diversity and defining protection measures can increase political and public support for conservation efforts.

Location

The core of the inner-German Green Belt is a 1.378 km long and around 50-200 m wide strip of landscape, which was mainly protected from human interventions, due to the strict regulations at and also near the border fortifications. This part is characterized by many open habitats, which are often endangered in the rest of Germany. The study conducted in 2025 analyses sites ranging from the very south of the inner German Green Belt to the Baltic sea. It covers a large spectrum of over 24 habitat groups in all 5 geographical regions of the inner-German green belt, thus maximizing the potential species diversity found in the entire dataset. The data will be collected centrally at a DNA-Metabarcoding company for later analysis.

Activities

- Malaise Trapping: To capture key species along the German Green Belt, 100 Malaise Traps (Townes Model) are deployed to catch flying insects in various habitats. Using light attraction, these traps collect insects and store them in ethanol, preserving biomaterial for DNA sampling in the lab.
- Data analysis: Modern, state-of-the-art technology analyses the large dataset of sequencing reads, identifying DNA barcodes (BINs) for species identification.
- Sequenced DNA is processed bioinformatically to match DNA barcodes in databases (e.g. NCBI BLAST, RDP Classifier, BOLD). BINs with significant matches are considered species present in the sample.

Insect samples after sieving for DNA metabarcoding (© www.metabarcoding.com).

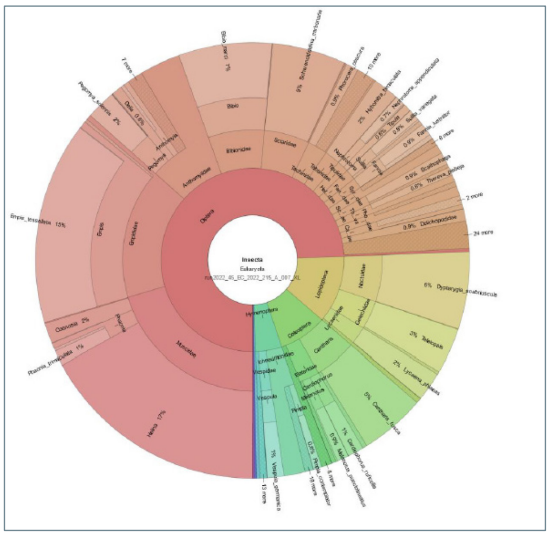
- DNA can be preserved from various extraction stages for later comparisons, new sample protocols, or pesticide analysis.
- The data supports analyses of species diversity, community structures, relative species abundance, and genetic diversity across habitat types, protection zones, seasons, landscapes, land-use intensities, and geographic gradients (e.g. north-south/arid-wet).
- Data collection and database creation: Insect samples are complemented with data on animal species collected over the past 10 years by various authorities and institutions. This will deepen understanding of the German Green Belt's value as the largest biotope network in the country. Data will be sourced at

communal, federal, and national levels and stored for a comprehensive analysis in potential follow-up projects. An expandable database will also be developed for future data collection.

Added value for the Green Belt

The dataset is helpful for:

- Providing a detailed and standardized overview of insect species diversity and abundance along the Green Belt, which will be invaluable for conservation planning and management.
- Identifying critical habitats or migration corridors that require enhanced protection to support biodiversity.
- Strengthening political arguments for maintaining and expanding protected areas within the Green Belt by offering scientifically validated evidence of its ecological importance.
- Supporting the development of educational and public awareness campaigns that highlight the role of the Green Belt as a biodiversity hotspot and a model for conservation in other regions.
- Creating a foundation for future studies that monitor long-term changes in insect diversity and ecological health in response to climate change, land-use shifts, and conservation efforts.



Diversity analysis of differently sieved sample fractions after DNA-metabarcoding
(© www.metabarcoding.com).

Where to replicate?

The experimental design is adaptable to **anywhere in the European Green Belt** and can scale down to 1-10 Malaise traps for cost-effective data collection in smaller areas.

Lower data analysis costs, especially regarding taxonomic expertise, make this insect monitoring approach affordable even for **small-scale projects**. This enhances data collection on species diversity, improving understanding of habitat conditions and refining data for local and national decision-makers.

Who to ask?

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1. References

www.metabarcoding.com

German-wide Malaise trap metabarcoding estimates over 21.000 insect species: Buchner *et al*. 2024, Upscaling biodiversity monitoring: Metabarcoding estimates 31,846 insect species from Malaise traps across Germany, Molecular Ecology Resources 25, doi 10.1111/1755-0998.14023.

"GEO DAY OF BIODIVERSITY": DISCOVERING AND PROTECTING THE GREEN BELT'S BIOLOGICAL RICHNESS

Green Belt Germany

Addressed issue

The Green Belt is considered the largest ecological network in Germany, but it continues to face pressures from human activities and environmental threats, underscoring the importance of ongoing protection and preservation. One of the key challenges in conservation is the lack of comprehensive data on species diversity, particularly in areas like the Green Belt. Despite its vast ecological importance, research on the full range of species in this the European Green Belt has been limited. With the GEO Day of Biodiversity this gap could be addressed by encouraging individuals to discover and document as many different species of plants and animals as possible within a 24-hour period. The event highlighted the rich biodiversity of the almost 1.400 km long Green Belt Germany, raising awareness of its ecological value and emphasizing the need for further research and conservation efforts.

Location

In 2003 the central event of the "GEO Day of Biodiversity" took place in the trans-boundary national parks Harz (Lower Saxony) and Hochharz (Saxony-Anhalt), which are large "pearls" along the otherwise relatively narrow ecological corridor Green Belt. In addition to this core area, satellite projects were organized in several regions along the Green Belt. These included in northern Germany Dassower See and Schaalsee (Mecklenburg-Western Pomerania / Schleswig-Holstein), Landgraben-Dumme-Niederung and Großes Bruch (both Saxony-Anhalt/Lower Saxony), as well Unteres Eichsfeld (Thuringia/Lower Saxony), Schlechtsarter Schweiz/Haßberge/Grabfeld (Thuringia/Bavaria) and Mittelvogtländisches Kuppenland (Saxony/Bavaria). These diverse areas highlight the wide range of ecosystems within the Green Belt and the importance of their preservation.

Activities

- The first International Day for Biological Diversity was held on 22 May 1993. This date was chosen to honour the adoption of the Convention on Biological Diversity (CBD) text on 22 May 1992. GEO is a popular German educational monthly magazine comparable to National Geographic magazine. The GEO Day of Biodiversity if hosted by GEO with changing partners. In 2003 it was conducted with BUND (Friends of the Earth Germany) along the inner-German Green Belt.
- During the GEO Day of Biodiversity along the inner-German Green Belt in 2003 500 experts (full-time and volunteer species experts) mapped more than 5.200 animal and plant species in just 24 hours. Even species that were thought to be extinct were rediscovered. Throughout the event, there were various educational presentations, exhibitions and talks on the Green Belt's biodiversity and conservation, helping to increase public awareness about the importance of preserving this unique region. Many small events and activities were organized in the satellite regions. Some regional schools were also actively involved. Visitors had the chance to learn about the area's diverse species and conservation challenges.
- An extensive report on the GEO Day of Biodiversity was featured in the June 2003 issue of *GEO*.
- In 2025 a Day of Biodiversity is featuring the European Green Belt at Lübeck.

Added value for the Green Belt

- The findings of the GEO Day of Biodiversity 2003, including rediscoveries like the swallow-wort, reinforced the exceptional conservation value of the Green Belt Germany. These results exceeded expectations, demonstrating the area's vast biodiversity potential.

- The event also played a critical role in raising public awareness about the Green Belt, which contributed to the German government's decision to transfer significant portions of land in the Green Belt to the states for long-term protection. This is a key achievement in Germany's conservation efforts for the Green Belt.
- The involvement of local experts, volunteers, and the public during the event helped create a deeper understanding of the importance of protecting the Green Belt, fostering a sense of shared responsibility for its preservation

Impressions from GEO-Day of Biodiversity along the inner-German Green Belt 2003, middle: rediscovered swallow-wort *Vincetoxicum hirundinaria* (GEO).

Where to replicate?

The success of the GEO Day of Biodiversity 2003 could be replicated anywhere in the **European Green Belt**. The locations would benefit from both local engagement and national-level conservation initiatives aimed at protecting critical habitats and connecting fragmented ecosystems.

Who to ask?

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References

GEO Day of Biodiversity 2003, report from the central event in national park Harz: https://www.geo.de/natur/tag-der-artenvielfalt/10575-rtkl-5-geo-tag-der-artenvielfalt-im-harz-gruenen-band

Project "Hotspot|Climate|Diversity in the hotspot 28": https://www.bund-mecklenburg-vorpommern.de/hotspot-28/

UNDERWATER CITIZEN SCIENCE HELPS IN MONITORING AND SPECIES PROTECTION

Trieste coastal area, Italy

Addressed issue

Ecological monitoring to detect and describe changes in ecosystems or habitats requires extensive datasets that usually have to be acquired by frequent and widespread sampling. The effort for this is not always affordable, meaning that some research, despite badly needed, is left undone. This is especially true for data collection underwater. But in an age of booming snorkeling and diving activities it is possible to ask for assistance. Underwater citizen science can source data for long-term monitoring.

Location

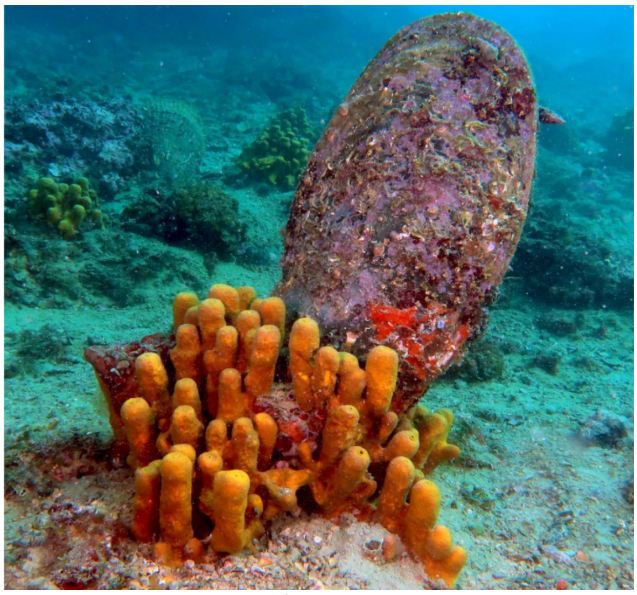
The coastal area of Trieste is an 11 km long strip that extends from the town of Santa Croce to that of Barcola, for a total of approximately 1.500 hectares. Sea-related activities are carried out from the harbours, marinas and seaside resorts scattered along the coast. Some activities, due to their relevance for scientific purposes, are authorised within the Miramare Marine Protected Area, sited at the core of the coastal strip.

Activities

Citizen science initiatives are conducted to inform about marine animal and plant species, and data are collected through easy-to-use survey cards about the monitoring of species and phenomena considered as indicators of climate change (i.e. coral bleaching, sponge mortality, the presence of alien species and especially thermophilic species).

Activities always include a preparatory training for the citizen science campaign participants and can target specific species or focus on transversal phenomena affecting more than one species, namely:

- Census and health assessment of the specimens of noble pen shell Pinna nobilis still alive, after an epidemic decimated its populations in 2016 and pushed this species in critical danger of extinction. The citizen science activities involve divers to monitor the surviving individuals and conduct an environmental and health assessment of the most suitable habitats for the species.
- Observation and census of organisms of species particularly sensitive to the increase in water temperature for prolonged periods, including black sponges, yellow tube sponges, orange sponges and madrepores. Some key organisms are marked with special labels fixed on the seabed nearby. During the months of August and September they are kept under observation with weekly inspections carried out through guided snorkeling excursions. The aim is to monitor their state of health and the emergence and evolution of any symptoms of stress in the organisms, such as bleaching for madrepores or necrosis for sponges. The subsequent analysis of the census cards and photographs taken allows us to highlight the signs of suffering in the observed specimens during the season but also from one year to another.



Yellow tube sponge *Aplysina aerophoba* and noble pen shell *Pinna nobilis* (Saul Ciriaco).

Added value for the Green Belt

The acquisition of scientific data allows to properly determine the health status of the marine ecosystem and consequently intervene in the most appropriate way to protect this crucial balance. At the same time, more aware citizens will be more inclined to take care of both marine and terrestrial ecosystems and provide support to the scientific community at local level and beyond.

Where to replicate?

These activities can be replicated anywhere, in the sea as on land, but it's even more easy to replicate them in terrestrial environments than in marine ones, due to more favourable conditions. However, a high-level initial training of the participants is what ensures the success of these initiatives, because it leads on one side to a correct and effective data acquisition, on the other to an awareness rise for citizens.

Who to ask?

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References

Project info: www.ampmiramare.it/en/research-and-monitoring/

Labeling of a yellow tube sponge inside the Miramare Marine Protected Area (Lorenzo Peter Castelletto).

USING HISTORICAL MAP DATA FOR TODAY'S CONNECTIVITY PLANNING

Thayatal & Podyjí, Austria & Czech Republic

Addressed issue

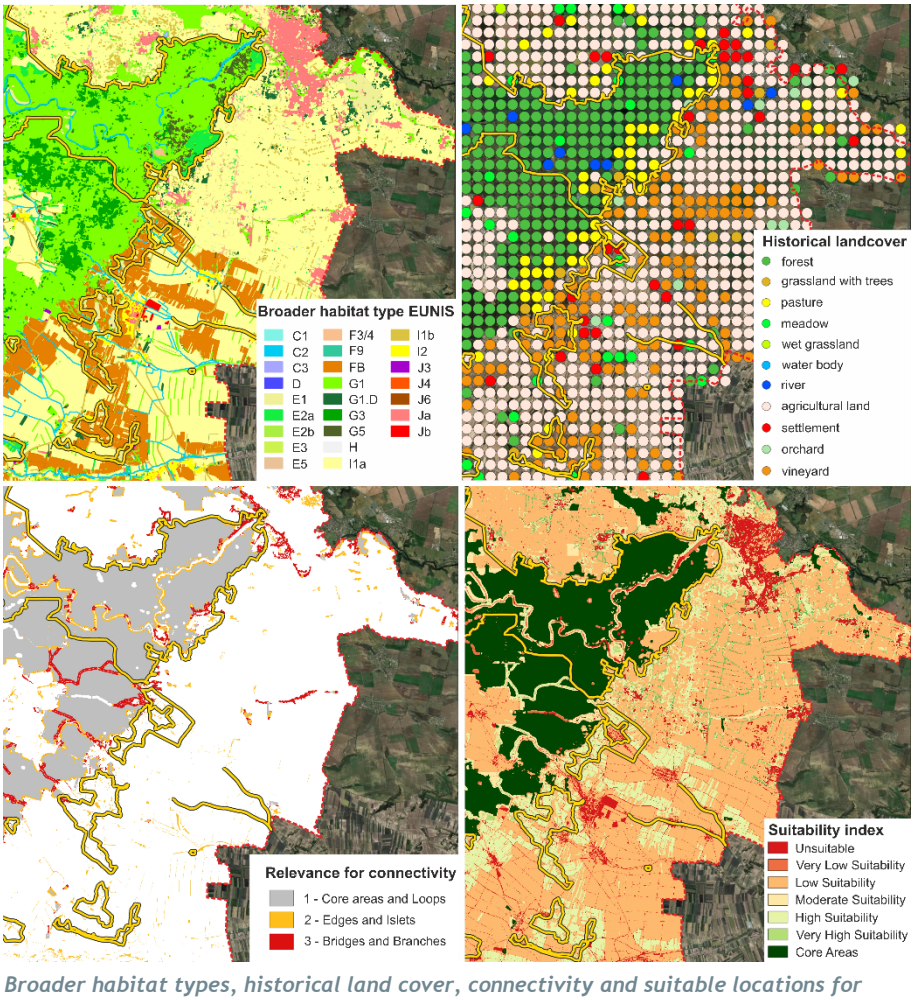
Today's valuable habitats are under increasing pressure of human activities, caused by either intensification of their use or their abandonment. These activities cause habitat fragmentation and degradation, leading ultimately to the loss of biodiversity. Therefore, restoring connectivity of these habitats should be one of the priorities for nature conservation. Using historical maps can help in planning restoration activities to increase ecological connectivity of habitats (application of the "learn from past" approach), which can then serve for better movement of organisms, such as the European wild cat (*Felis silvestris*) and other species occurring in the Thayatal and Podyjí National parks.

Location

National parks Thayatal and Podyjí are located at the north border of Austria, northwest of Retz, and south border of the Czech Republic, west of Znojmo. Their common features are represented by the narrow and steep valley of the river Thaya/Dyje, which is mainly surrounded by natural forests. While both national parks host predominantly natural habitats, they are closely encircled by agricultural landscape with few natural habitats, which is typical mainly for the eastern part of the region. Connecting the remnants of these habitats could play significant role in increasing overall ecological connectivity and therefore enabling easier movement of wildlife, including the European wild cat.

Activities

- First activity focused on creating a **suitability map for restoring and increasing connectivity of forest habitats**, which are preferred by the **European wild cat**. This map was a result of combining three different sources: A map with historical habitats was created in the form of a 250 m x 250 m grid by manual vectorization of topographic maps from 19th century. A broader habitat types (BHT) map was generated using regional habitat mapping, Corine Land Cover (CLC+ Backbone), and semi-automatic classification of Sentinel-2 satellite imagery. This map provided insights into the current landscape quality. Target forest and woody features were extracted as they serve as wildcat corridors, and all habitats were ranked based



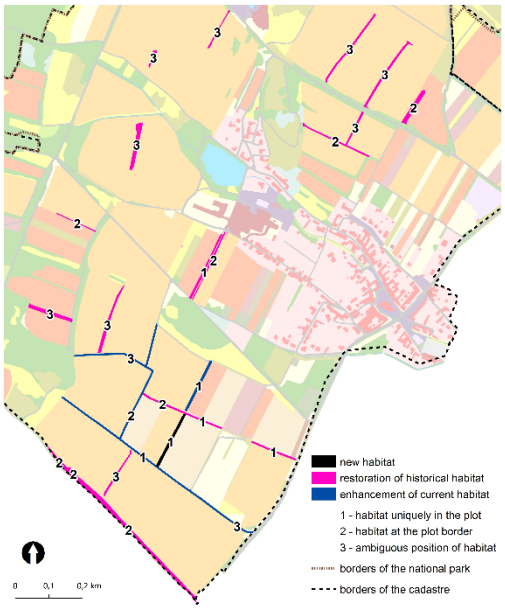
Broader habitat types, historical land cover, connectivity and suitable locations for restoration in the Thayatal and Podyjí National parks for European wild cat

on their suitability for restoration into the targeted habitats. Third map indicated the functional value of the habitats in the form of connecting landscape elements, which were divided into core habitats, connecting elements, potential areas for connections and habitats that are isolated and need to be (re)connected.

- As a result, the suitability map for restoring and increasing connectivity of forest habitats shows localities with different types of suitability from very high to very low, areas that are not suitable for restoration, and core areas (large localities suitable for breeding of the wild cat). This map can serve as one of the inputs for creating the Regional Restoration Plan for enhancing ecological connectivity of habitats suitable for the European wild cat in the Pilot Region.
- Second activity focused on local scale to try to **increase landscape resilience** by restoring natural habitats (both woody and grasslands) that were present during the first half of the 20th century. For this activity, aerial photos from 1950s were used. Comparison with present habitats revealed gaps where measures to increase landscape resilience and habitat connectivity were suggested: restoration of historical habitats, enhancement of current degraded habitats, and creating new habitats with respect to land ownership.

Added value for the Green Belt

- Increased ecological connectivity and decreased fragmentation of natural habitats enables better movement of organisms, offers additional habitats and leads not only to increased biodiversity but also overall landscape resilience against human activities and climate change.
- Combining different datasets offer a comprehensive product that poses a base for informed decision making for conservation actions and connectivity plans. The multi-layered origin of the products accounts for both ecological integrity and practical feasibility.
- Proposed solutions are based on scientific methods, which show target places where the restoration activities would significantly increase connectivity of habitats and overall landscape resilience.
- Historical maps provide connection to the history of the place.



Measures for increasing landscape resilience and habitat connectivity by creating new habitats, restoring vanished historical habitats or enhancing characteristics of current habitats.

Where to replicate?

Fragmentation of natural habitats is a widespread problem throughout the European Green Belt, especially in **unprotected and intensively used areas**. These areas often serve as a barrier for movement of organisms, making the populations in protected areas isolated and prone to higher risk of extinction. Historical maps can provide an inspiration for restoring habitats or parts in places where they used to be, leading not only to increased connectivity of habitats but also to linking the heritage of the past with the present. The maps are nowadays becoming available in most of the European countries making this inspiration more real.

Who to ask?

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References

Information about creating suitability maps: https://www.interreg-central.eu/wp-content/uploads/2024/10/Working-Paper-With-Proposals-For-Restoration-Actions-Along-EGB-CE.pdf

Skokanová, H., Musil, M., Havlíček, M., Pokorná, P., Svobodová, E., Zýka, V. 2021. Analysis of landscape development of Podyjí and Thayatal national parks and their surroundings. Thayensia (Znojmo) 18:3-46. https://nppodyji.cz/uploads/2022/220518_Thaya18_01.pdf

4. Supplementary Information

4.1. The mission of the European Green Belt Initiative

The European Green Belt Initiative has agreed on a concise statement outlining its mission which illustrates the objectives driving all activities:

> *The European Green Belt, our shared natural heritage along the line of the former Iron Curtain, is to be conserved and restored to function as an ecological network connecting high-value natural and cultural landscapes, whilst respecting the economic, social and cultural needs of local communities. The mission is to ensure that the European Green Belt is efficiently protected and that its sustainable development is promoted by facilitating an ongoing coordinated transboundary cooperation at all levels and across all sectors of society.*

4.2. European Green Belt logos

The official logo of the European Green Belt was created in 2013. Two versions were designed, one with a horizontal and one with vertical orientation.

The logo has been registered as a trademark with the World Intellectual Property Organization (WIPO) to prevent abuse. Any use of the European Green Belt logo has to comply with the initiative's mission statement and is subject to a granted one-time permission which is usually issued for permanent use.