

# Regional Restoration Plans on Species

ReCo

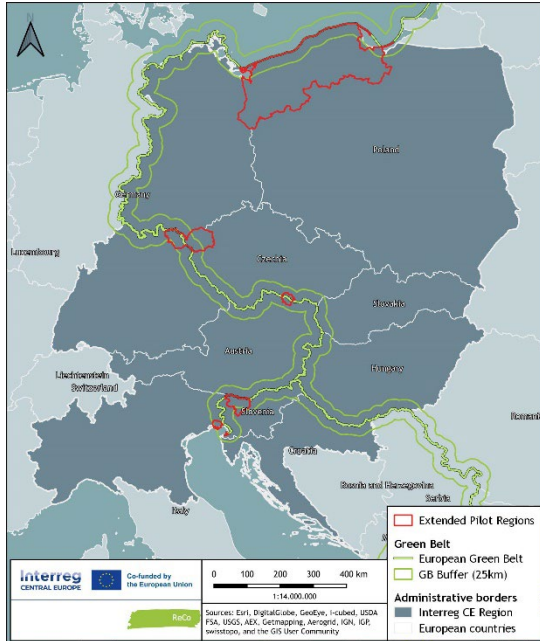
**Transnational Focus Workshops**  
21<sup>th</sup> February 2025

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# Area of Study

## European Green Belt - Central Europe



Pilot Regions of the ReCo project – an overview (Author: Stefan Fuchs)

## 6 Pilot Regions

### Habitats:

- Fichtelgebirgeand - Smrčiny Mountains (DE/CZ)
- Miramare Marine Protected Area (IT)
- Škocjanski zatok Nature Reserve (SL)
- Gorenjska Region (SL)

### Species:

- Ińsko Lakeland (PL)
- National parks Thayatal & Podyjí (AT/CZ)

# Jointly developed Regional Restoration plans on Species

## Objectives

- Enhance habitat conditions and free migration of NATURA 2000 (priority) species European Bison and European Wild Cat through targeted restoration actions enhancing ecological interconnectivity & biodiversity



Insko Lakeland - Bisons (© Jörg Schmiedel)



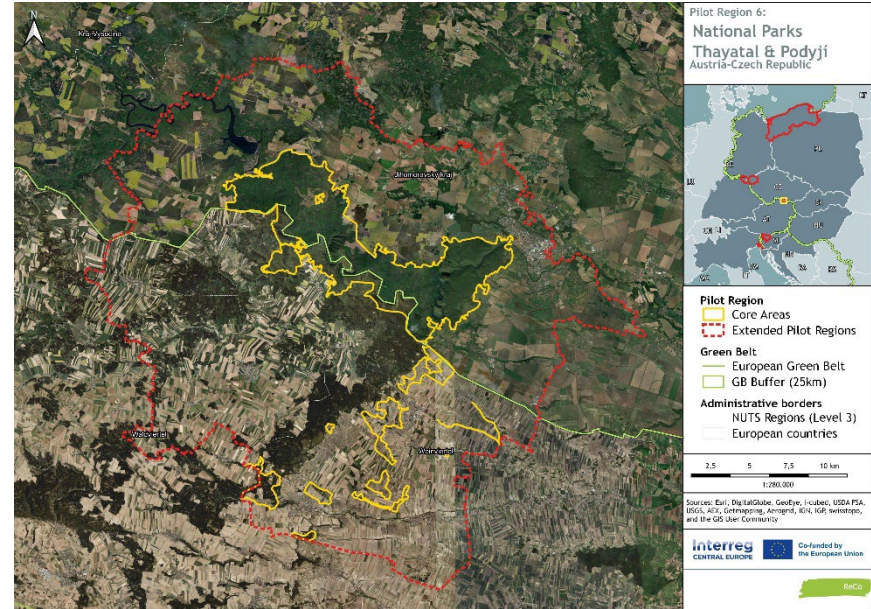
National Park Thayatal - Wildcat (© Jörg Schmiedel)

# Approach

Integration of the results and findings of previous outputs:

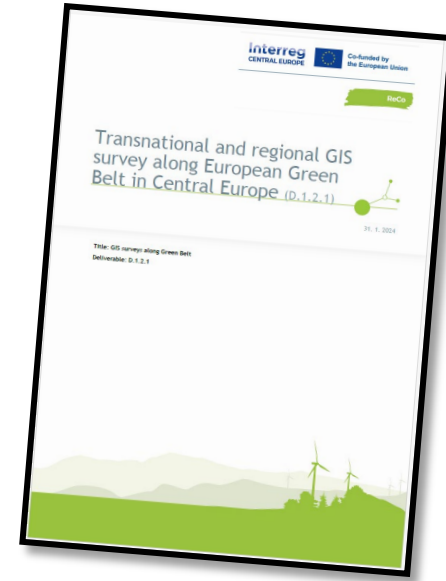
- GIS surveys along EGB in Central Europe
- Working Paper  
“Proposals for targeted restoration actions along EGB CE”
- Transnational Atlas along the CE EGB
- Handbook on good practices of ecological restoration
- Work paper "Learning from peer reviews"

➔ Regional Restoration plans on Species



# Transnational and regional GIS surveys along European Green Belt in Central Europe.

- Data collection and integration.
- Geoinformation and data processing systems.
- Historical Analysis.
- Broader Habitat Type categorization.
- Landscape Change Analysis.



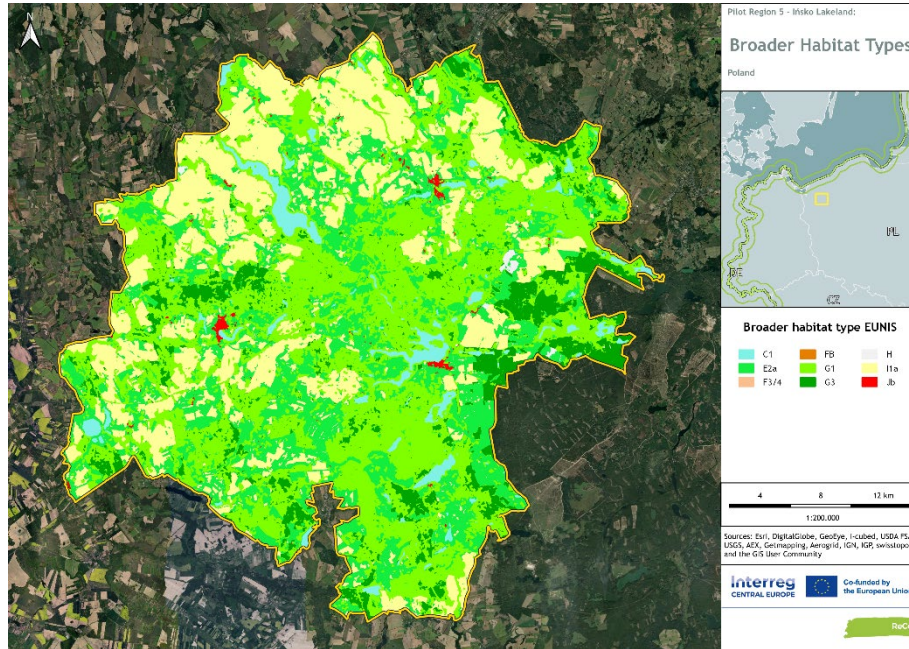
# Data Sources integrated

Pilot region <i>Data source</i>	PR1 - Fichtelgebirge -Karlovarský kraj (DE/CZ)	PR2 - Miramare MPA (IT)	PR3 - Škocjanski zatok Nature Reserve (SI)	PR4 - Gorenjska region (SI)	PR5 - Ińsko Lakeland (PL)	PR6 - National Park Thayatal & Podyjí (AT/CZ)
<i>CLC+ Backbone</i>	•	•		•	•	•
<i>Copernicus HRL</i>					•	
<i>Sentinel-2 data</i>	•					•
<i>Regional mapping data</i>	•	•	•	•		•

## Methods

- Machine Learning classification via Automap (Sassik,2020)
- Translation to Broader Habitat Type (BHT) EUNIS Level 2 (BUNCE et al. 2008, 2011)
- Datasets Merging

# Broader Habitat Types




- A - Marine habitats
- A2 - Littoral sediment
- B1/2 - Coastal dunes and shingle
- C1 - Inland surface waters - standing
- C2 - Inland surface waters - watercourses
- C3 - Litoral zone of inland waterbodies
- D - Mires, bogs and fens
- E1 - Dry grasslands
- E2a - Mesic grasslands, intensively managed
- E2b - Mesic grasslands, medium intensive
- E3 - Seasonally wet and wet grasslands
- E5 - Woodland fringes and clearings, tall forb stands
- F3/4 - Temperate and mediterranean-montane scrubs and heathland
- F9 - Riverine and fen scrubs
- G1 - Broadleaved deciduous woodland
- G1.D - Fruit and nut tree orchards
- G3 - Coniferous woodland
- G5 - Lines of trees, small anthropogenic woodlands, recently felled woodland, etc.
- H - Inland unvegetated or sparsely vegetated habitats
- I1a - Arable land and market gardens - intensive
- I1b - Arable land and market gardens - low intensity
- I2 - Cultivated areas of gardens and parks
- J4 - Transport networks and other constructed hard-surfaced areas
- Ja - Constructed, industrial and other artificial habitats - with significant green
- Jb - Constructed, industrial and other artificial habitats - high imperviousness

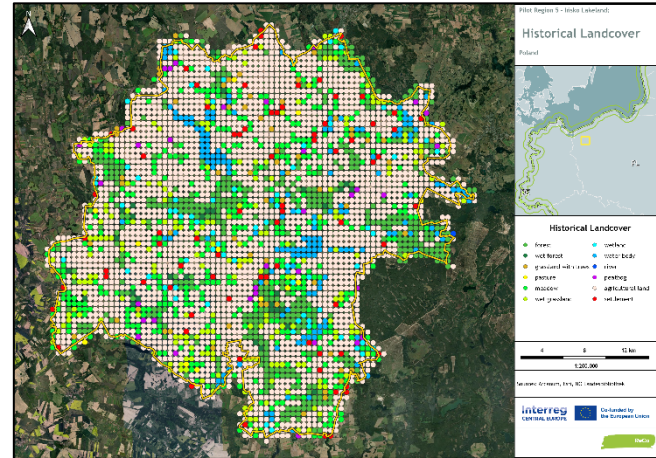
# Historical Analysis

Arcanum maps &  
Österreichisches Staatsarchiv  
wmts or digitized raster map  
sheets

- 3rd Austrian military survey
- Königreichs Bayern survey
- Prussian military survey

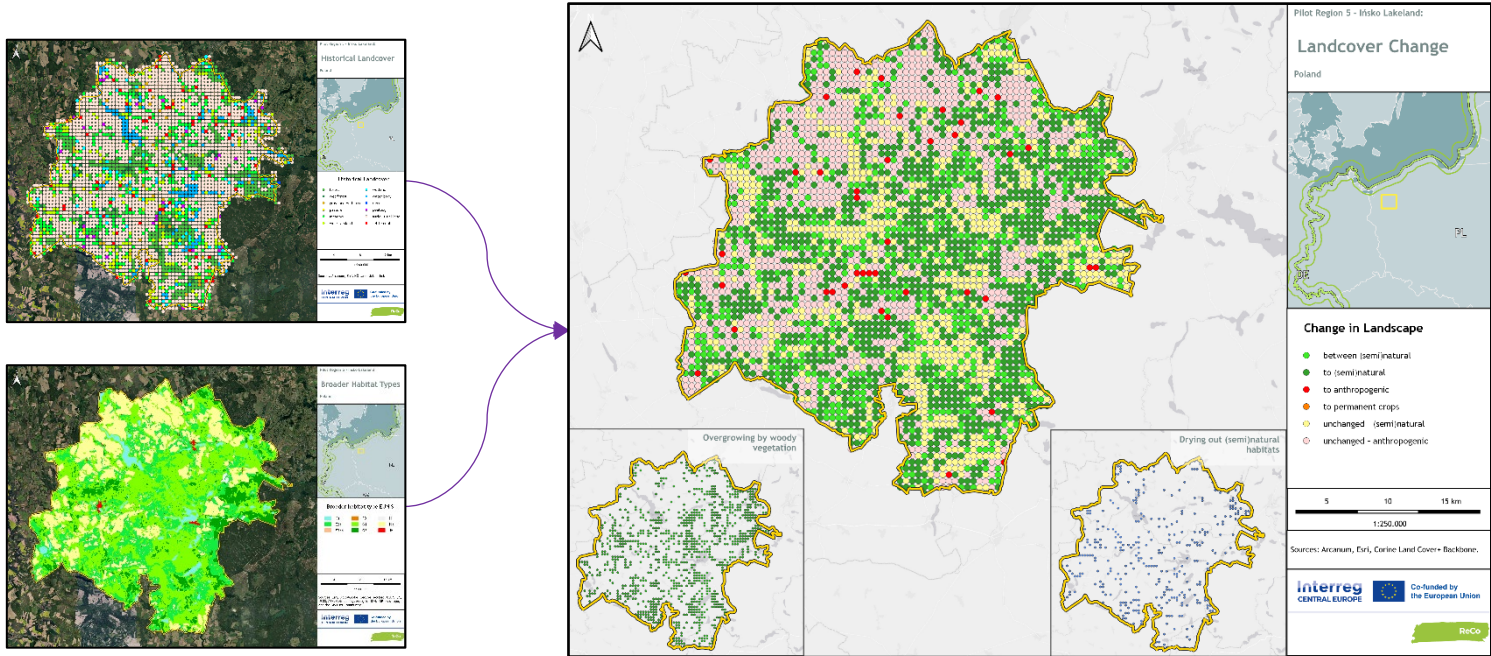


Prussian military survey 





# Analysis of land cover change



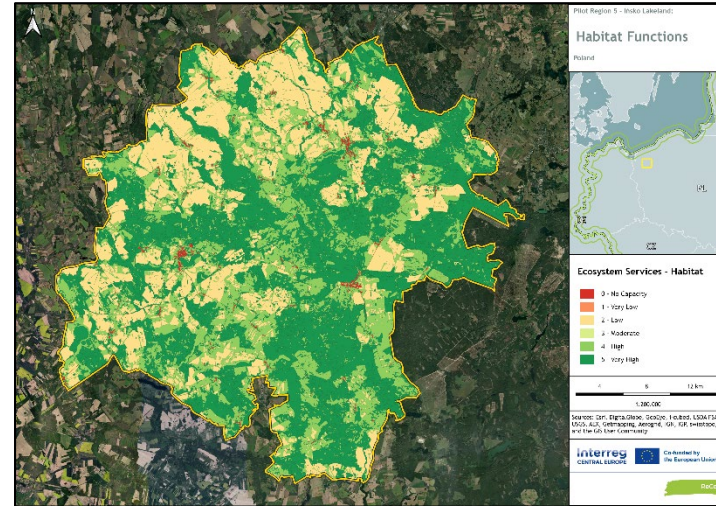
# Ecosystem Services (ESS)

Value to each referenced land cover type depending on ESS

5 main Services – 30 single ESS

Ranked from No capacity (0) to Very high (5) capacity for provision

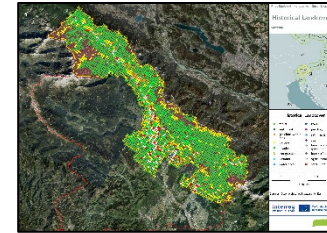
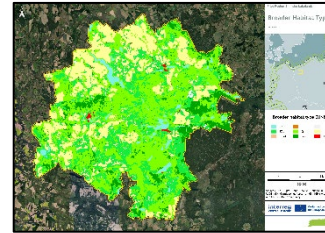
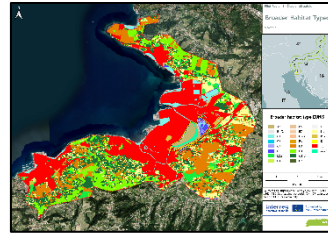
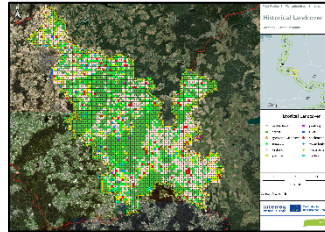
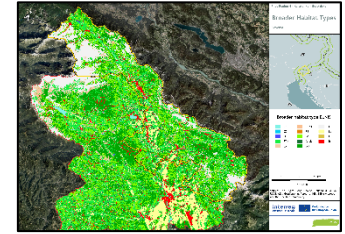
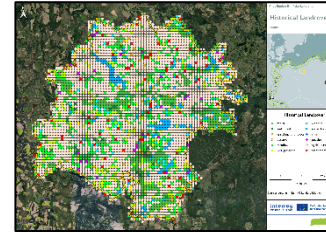
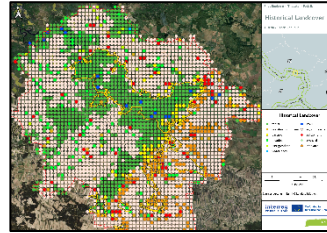
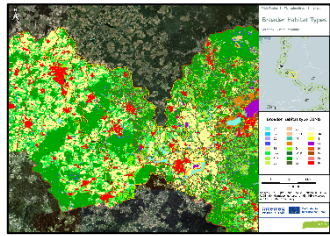
- Regulation functions
- Habitat functions
- Production functions
- Information functions
- Carrier functions



Burkhard et al. (2009), Campagne et al. (2017), Stoll et al. (2015), de Groot et al. (2002, 2006 and 2010), Danzinger et al. (2020)

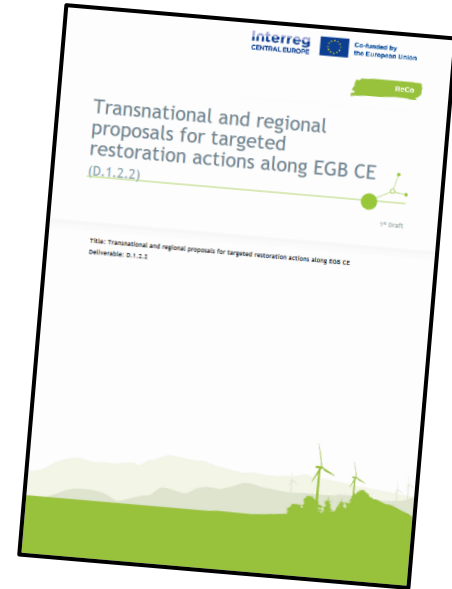
# Transnational and regional GIS surveys along European Green Belt in Central Europe.

8 maps for each PR



# Transnational and regional proposals for targeted restoration actions along EGB CE

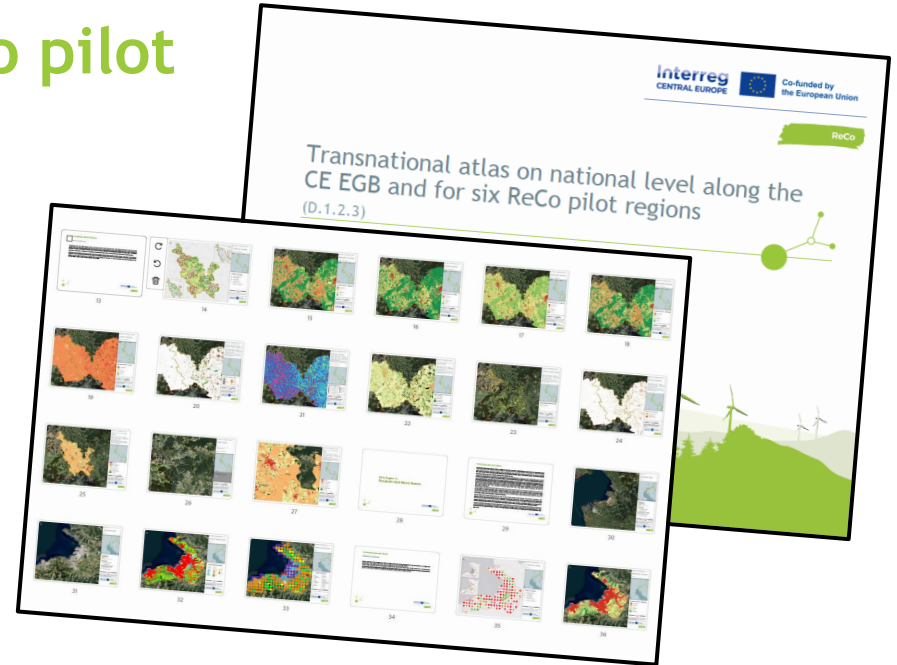
- Spatial Data Analysis
- Connectivity Analysis MSPA (Guidos Toolbox)
- Analysis Integration (BHT, Historical, Connectivity)
- Restoration Suitability Map





# Transnational atlas on national level along the CE EGB and for ReCo pilot regions

- Resulting maps from GIS Analysis
- At least 10 Maps / Pilot Region



# Jointly developed Regional Restoration plans on Species (& Habitats)

- Existing GIS analysis, targeted restoration sites
- Additional specific Spatial Data Analysis
- Expert's knowledge of the region and the species
- Existent development/management plans
- Involvement of stakeholders



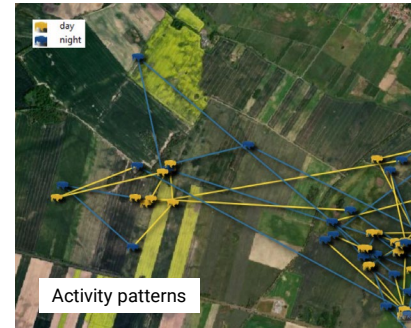
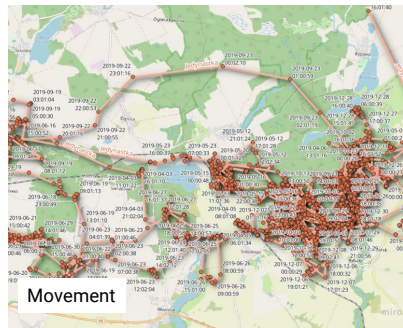
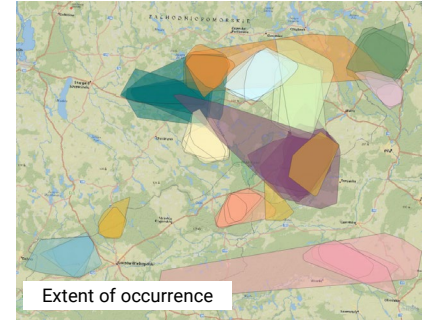
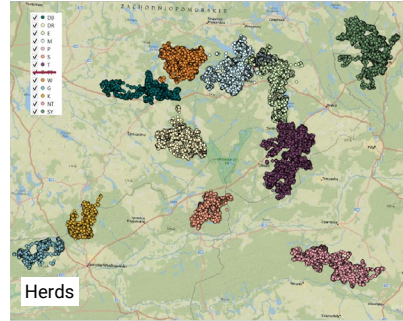
# Jointly developed Regional Restoration plans on Species

Tracking data on bison individuals (2019-2023)  
Zachodniopomorskie Towarzystwo Przyrodnicze (ZTP)

## Example

### PR5 - Insko Lakeland

- Territory dynamics
- Habitat preferences, open space or forest
- Bison activity patterns, day/night
- Spatial planning advisory, infrastructure. Based on bison-traffic interactions







Landsat Collection



National Parks  
National data sources

Satellite Data



Habitat

Environmental  
Variables

Citizen data

Occurrence

iNaturalist

Genetic Data



Scientific community  
Field studies

# Data Sources

Threats & Human  
Impact

Migration Patterns

Surveys & models



European  
Environment  
Agency



Co-funded by  
the European Union



Project Acronym

# Jointly developed Regional Restoration plans on Species

## *Structure & Content*

- References to relevant documents (strategies & directives on the national & EU level)
- Description of the regional target habitats/species, status & vision
- Preceding restoration efforts & lessons learned
- Areas of Interest for Restoration
- Proposed restoration measures & objectives on selected areas
- Implementation Strategy (Stakeholder engagement, Financing options, Policy integration, Timeline)
- Monitoring, Evaluation & Adaptive Management
- Communication & Outreach

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