

## Local initiatives for deployment of green infrastructure within Natura 2000 sites in the Carpathians

LIFE16 GIE/PL/000648

http://en.zielonainfrastruktura.karpatylacza.pl

## LIFE Green-Go! CARPATHIANS

**Piotr Mikołajczyk** UNEP/GRID-Warsaw Centre E-mail: piotr@gridw.pl



Since 1991



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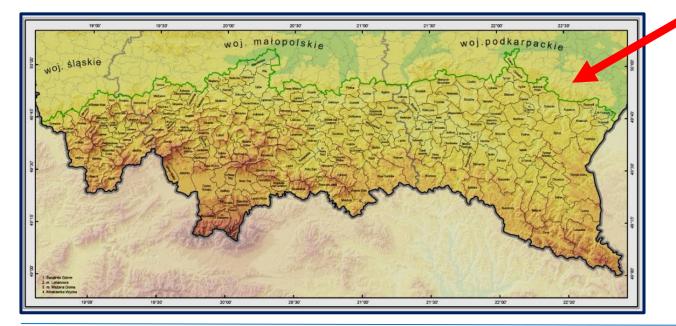


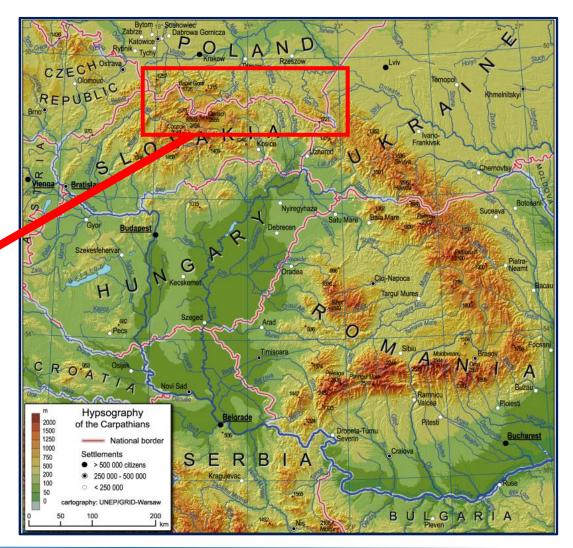














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Implementation period: Sep. 2017 – Dec. 2021 (COVID-extended)

## **Primary target groups:**

- local self-gov. authorities
- local communities

from the 200 Carpathian communes in PL

## **Other partners / stakeholders:**

- regional nature protection authorities in charge of Natura 2000
- landscape and national parks
- regional (province) self-governments
- other: selected NGOs, regional forestry authorities, agricultural institutions...

## ... that is, stakeholders with most impact on land use/management.





## **Objectives**

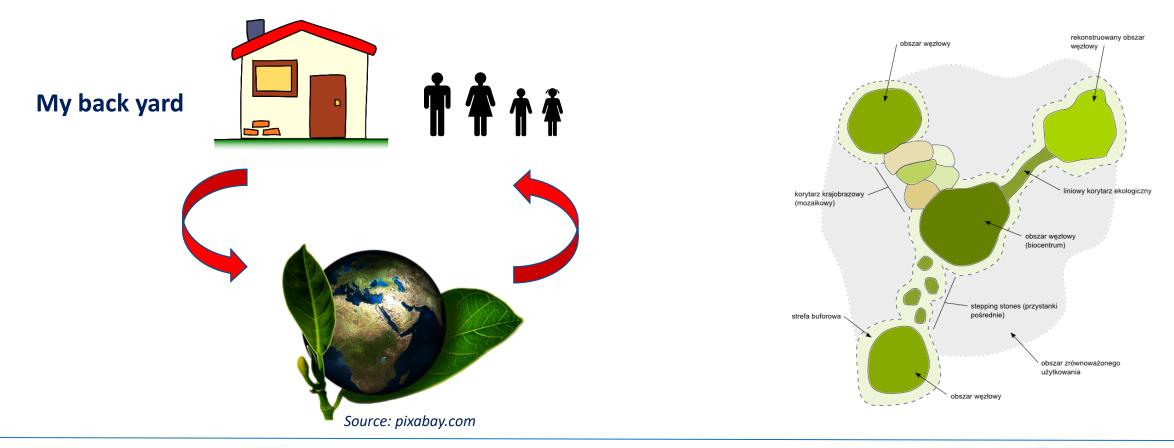
- supporting **liaison** and **cooperation of local stakeholders** towards maintenance, restoration and enhancement of GI in Polish Carpathians
- disseminating knowledge on the role and importance of GI for ecological connectivity and biodiversity conservation, but also access to ecosystem services and sustainable local development
- promoting the use of spatial data resources and geoinformation tools in spatial planning and management of nature-sensitive areas
- dissemination of good practices of participatory spatial management among the Carpathian region countries.







## Pragmatic approach, tangible incentives, comprehensible scale Merging biodiversity (ecol. connectivity) AND sustainable local development



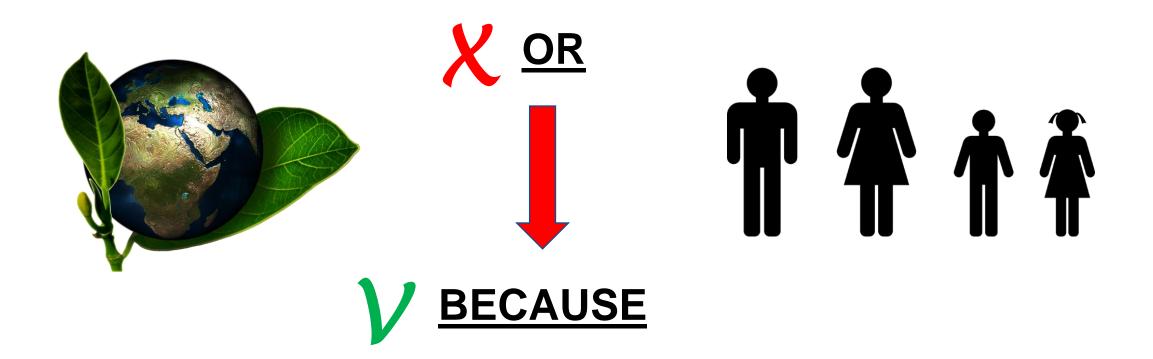


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## **Ecosystem services**





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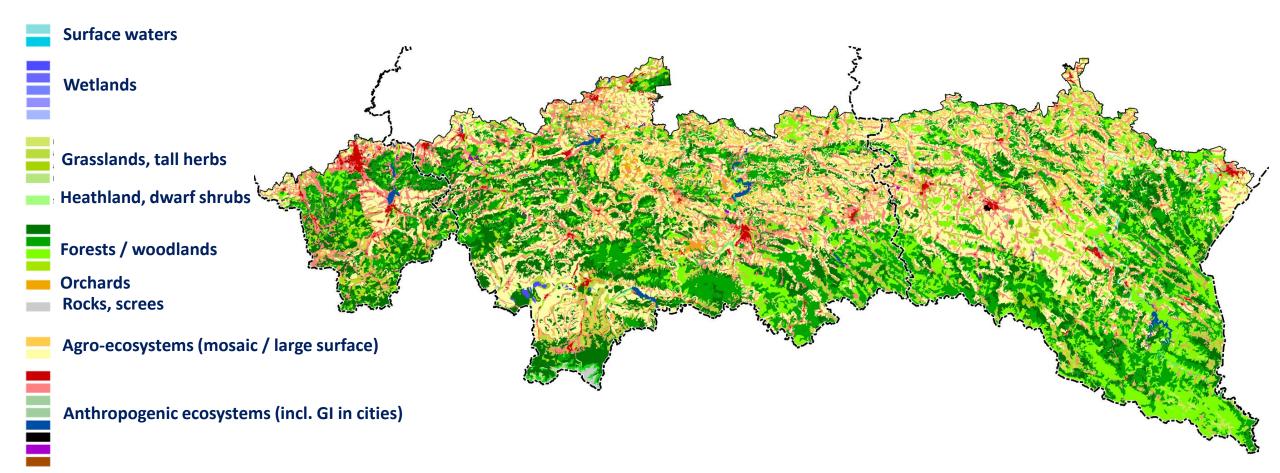
- **3 consultation seminars** for nature protection institutions
- 15 trainings for local stakeholders
- e-learning course with GI-related multimedia materials
- geo-portal and mobile application for field inventory, mapping, and assessment of green infrastructure
- local case studies on GI development (competition 5 laureates)
- local informational-promotional campaigns
- manual on the protection and proper management of GI in/between Natura 2000 sites in the Carpathians (in prep. in EN version)







## **Ecosystem types in PL Carpathians**





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## Landscape diversity – aggregated land cover classification

**CARPATHIANS UNITE** 

Class code	Description
LZ	Forests, woodlands
RK	Shrubs
UT	Permanent crops (orchards, plantations, allotment gardens, plant nurseries etc.)
UZ	Agricultural lands – meadows and pastures
GO	Agricultural lands – arable (ploughed) fields
WP	Surface waters – standing and running
ZAB	Built-up areas
ТА	Other anthropogenic areas (non-built-up, transport infrastructure, squares, Surface excavation areas, landfills)
Р	Screes and rocks

Aggregation of land cover classes from the Topographic Object Database, scale: 10k

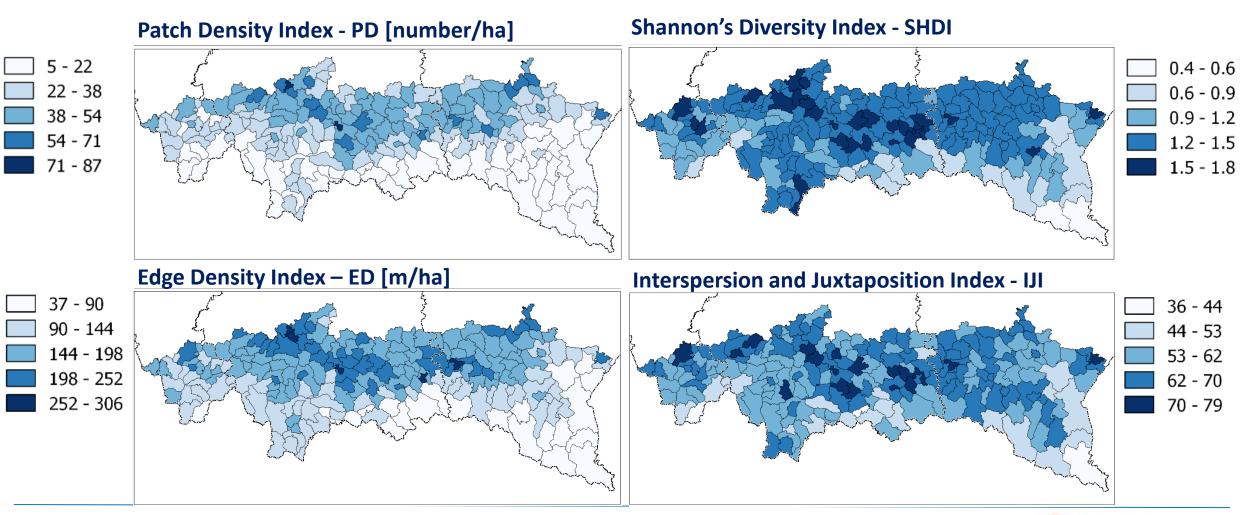


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## Landscape diversity – indicator values' distribution in communes

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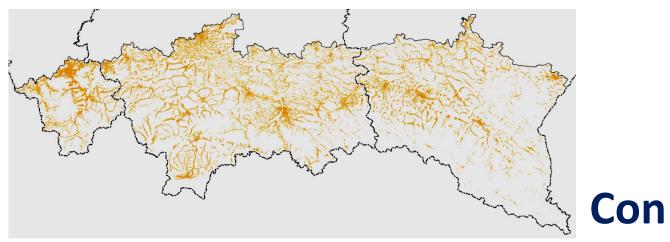
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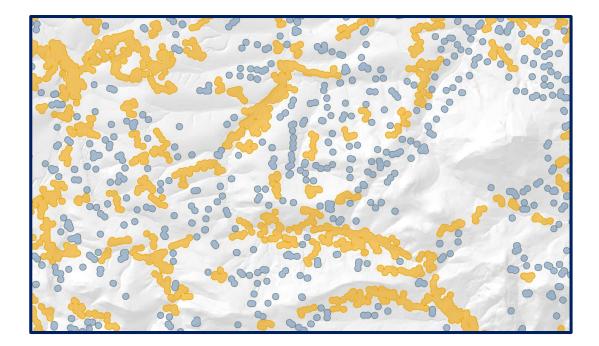






## **Housing dispersion**









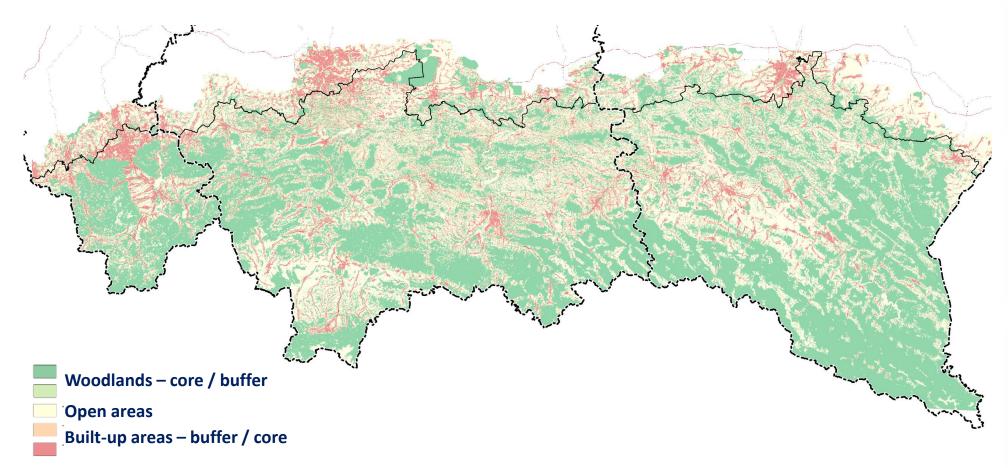
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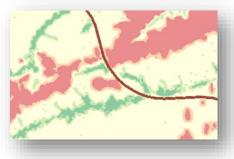


## **Analysis of fragmentation**











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**CARPATHIANS UNITE** 

Class	Description
Μ	Residential housing (single-family, multi-family, tourism facilities, summer houses, etc.)
M, U	Mixed: residential and services, multi-functional zones
М, Р	Mixed: residential and industrial buildings for commercial activities
U	Service areas / facilities
Ρ	Industrial / commercial areas / facilities
P, U	Mixed: industrial / commercial / services
UT	Tourism and sports areas
KD	Areas allocated for projected (major) highways and expressways

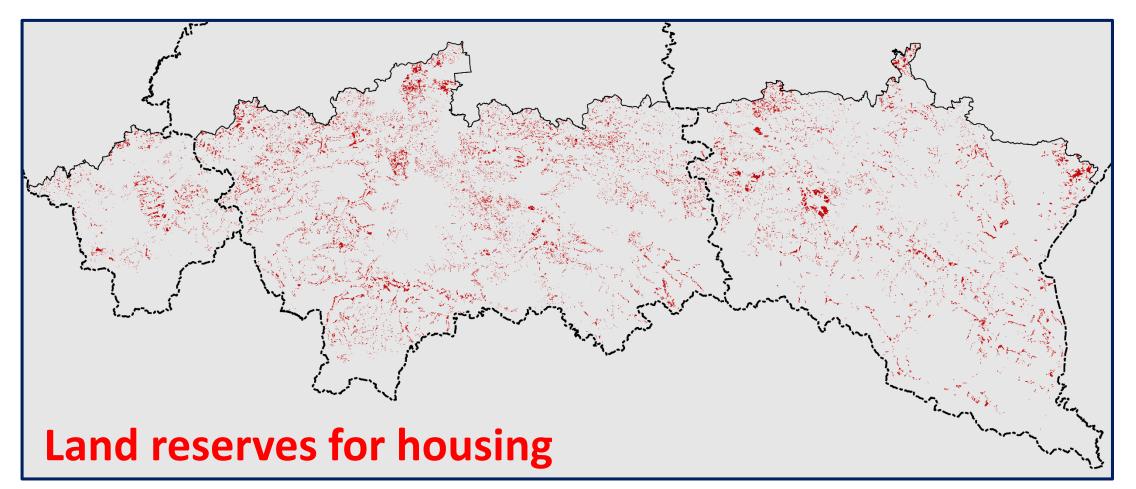


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## **Analysis of communes' spatial planning documents**

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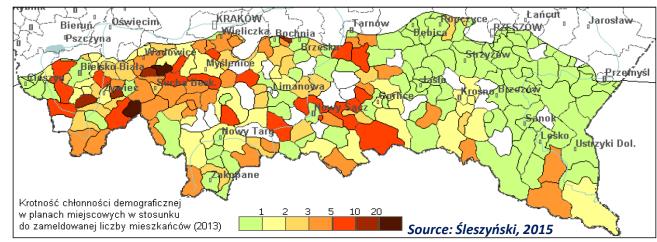




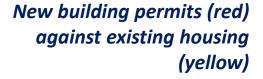
Land reserves for building up in spatial planning documents

• High investment pressure

- Fast rate of land allocation oversupply of "investment lands"
- Lack of consideration for sound demographic and economic analyses



Multiplier of demographic absorption (projected population)







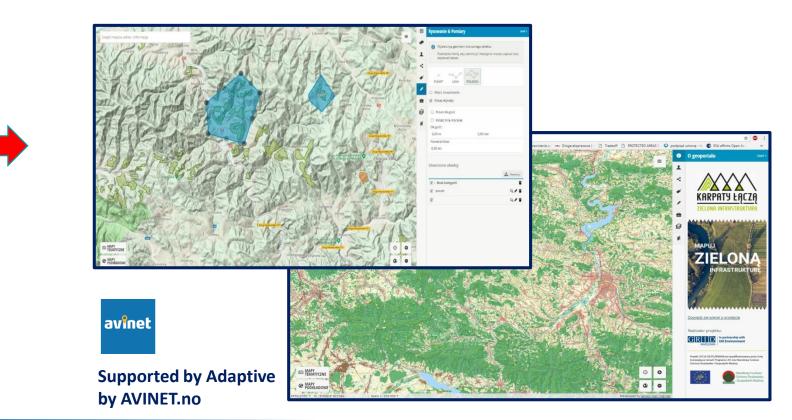
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# The geoportal and mobile application for green infrastructure inventory and mapping

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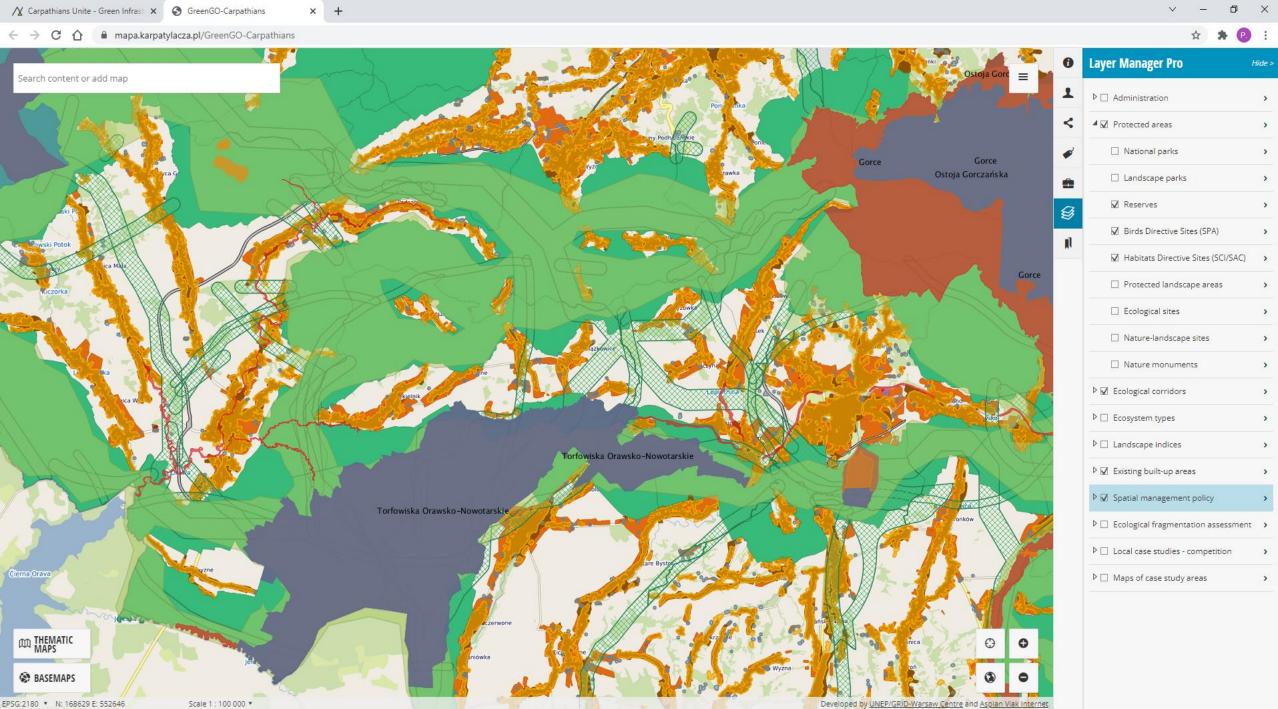






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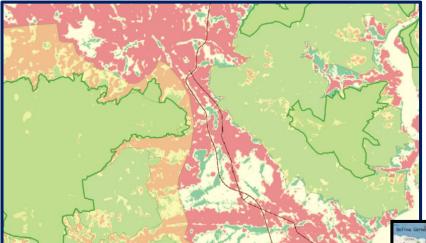






## **Scrutinizing hotspots**

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- isolating Natura 2000 sites
- severing ecological corridors – not adequately protected by law
- degrading open areas
  Importance of GI-friendly spatial planning



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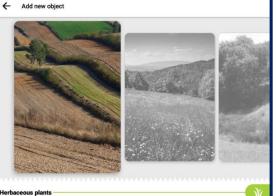






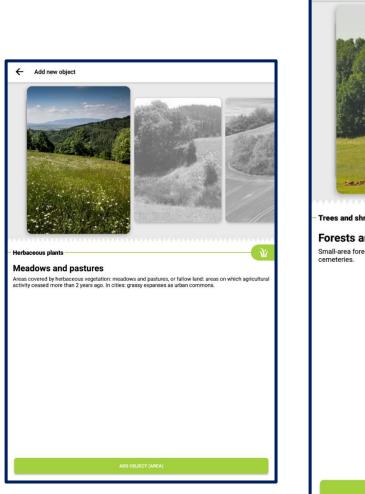






#### Field margins, balks

Strips of unploughed (unused) terrain at boundaries between arable (ploughed) fields, with herbaceous vegetation and also possibly with single shrubs or trees.

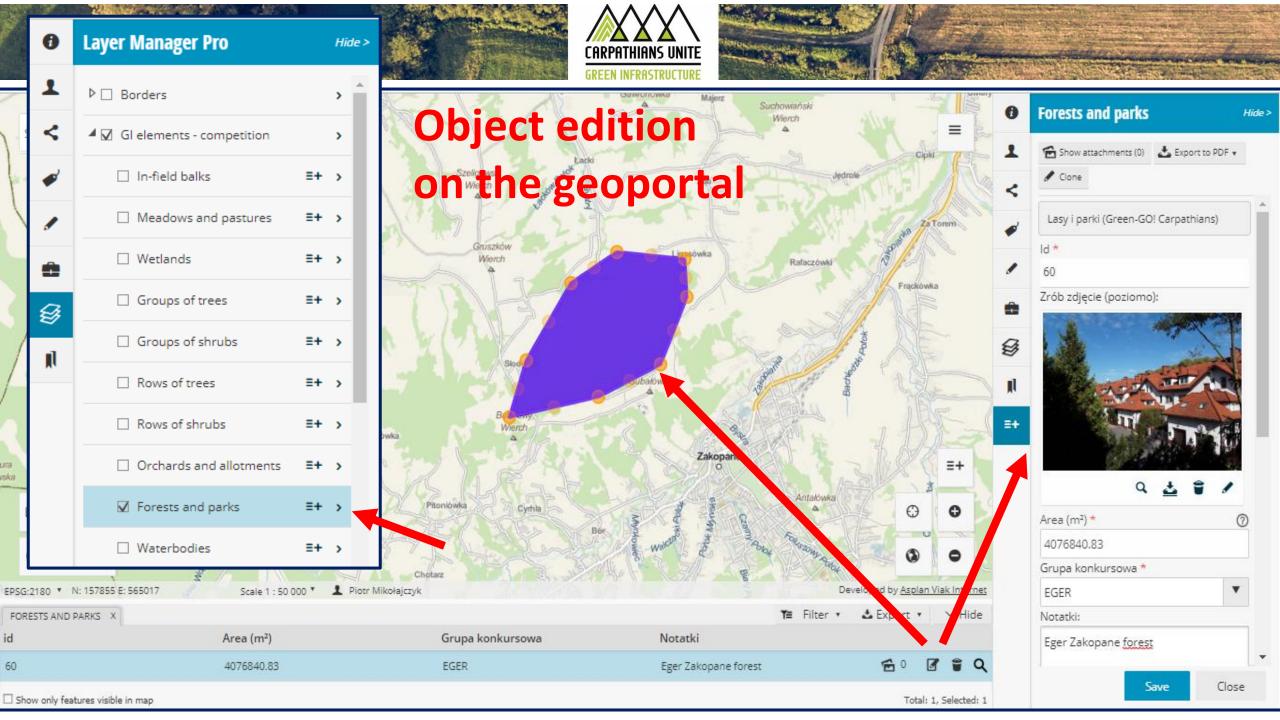




GRIDD WARSZAWA

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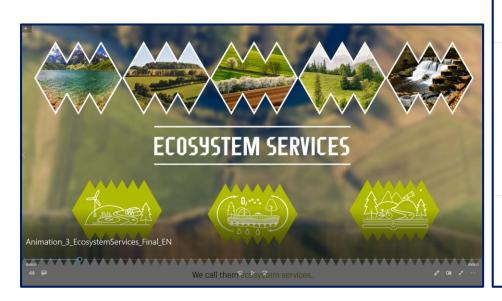
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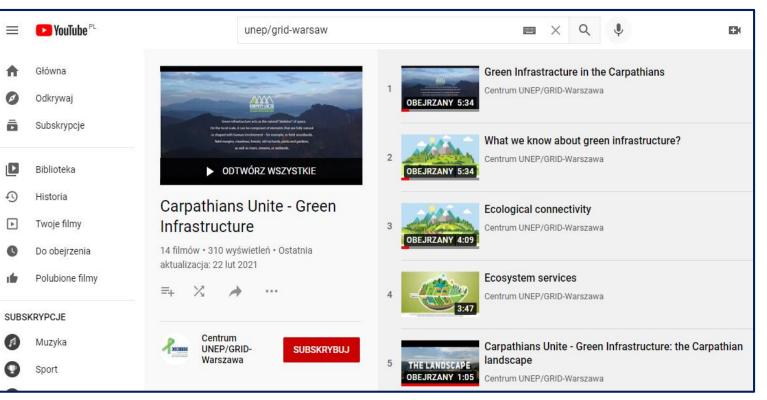




## e-Learning platform

## thematic animations VR video clips other resources on GI







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## Local case studies Best practices in GI development

9 case studies proposed / characterized

**5 best case studies supported financially by the Project** 

- popular monography on traditional land use and landscape
- expert nature inventory of an oxbow
- expert analysis of local GI in the context of spatial management
- 2 movies
- devices for water quality monitoring
- buffer zone creation (tree planting) around a reservoir
- photographic contest on trees and their roles as GI elements









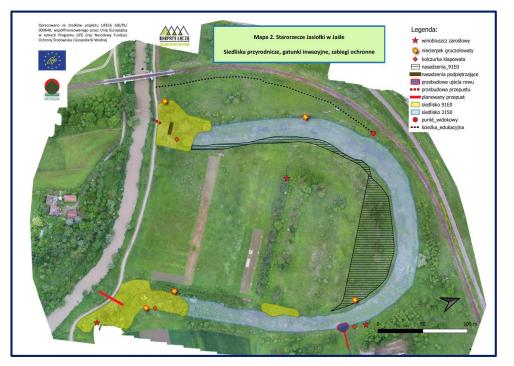




ŻYWIECKI RAJ









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#### ŻYWIECKI RAJ KRAJOBRAZ PASTERSKI BESKIDU MAŁEGO a 📥

# Legenda 0----2 Chiefy Lonique

KRRPRTY LACZA

GRID WARSZAWA



Roskyj terjednosta w regionie za teksene ridowiki wodne na zece Sole Jasi Zwietski, lector Madinkrodike craj lector (zerwska, strzyn ferkiki, Makac. rokit

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Schemat A

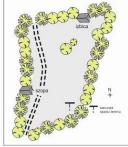
Kamienna szopa na Cinalkowej Polanie Fot. Krzysztof Haase



## Zabudowa polaniarska Beskidu Małego Opracowanie: Janusz Łach lašna droga

koliba/bacówk

Schemat B



Schemat C

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Grups Detailorin "Żywiecki Bai"

conti p. GwerG









## Manual on GI management in the Carpathians

- PL printed and digital
- EN digital;



Kształtowanie zielonej i błękitnej infrastruktury w Karpatach



II.2 5 Planowanie przestrzenne

Przyroda jest naturalnym kapitałem generującym szereg korzyści, których nie da się kupić lub stworzyć sztucznie za pomocą dostępnych technologil. Aby mogła nam dostarczać tych korzyści, czyli usiug ekosystemowych, potrzabuje stabilnych warunków do utrzymania trwałości procesów przyrodniczych. Takle warunki – poprzez racjonalne gospodarowanie gruntami oraz ksztatłowanie i – chorne zielono-błękitnej infrastruktury – powimo zapewniać planowanie OBSZAR TEMATYCZNY "Zazielenianie polityki przestrzennej"

 Tworzenie lub aktualizacja dokumentów planistycznych lub innych, związanych z kształtowaniem przestrzeni, zagospodarowaniem terenu, użytkowaniem gruntów, ochroną krajobrazu itp., takich jak:

miejscowy plan zagospodarowania przestrzennego;

- studium uwarunkowań i kierunków zago-

COURSESSON

- spodarowania przestrzennego;
  opracowanie ekofizjograficzne;
- inwentaryzacja przyrodnicza, analiza problemowa zielonej infrastruktury;
- mini-operat ochrony krajobrazu;

 wkład do programu rewitalizacji (w kontekście ochrony krajobrazu kultu-

W interesie samorządu terytorialnego jest:

- identyfikacja i ochrona elementów tożsamości przyrodniczo-kulturowej gminy/województwa oraz ich wykorzystywanie dla jej/jego rozwoju,
- 🜔 zachowanie przestrzeni otwartych jako kapitału gminy/województwa,
- uwzględnianie lokalnych wartości przyrodniczych, kulturowych i krajobrazowych przy wyznaczaniu terenów inwestycyjnych i w kształtowaniu zagospodarowania przestrzeni Karpat,
- monitorowanie stanu zagospodarowania przestrzennego gminy/województwa oraz obszarów wymagających przywrócenia utraconych wartości,
- promowanie zasobów Karpat w celu tworzenia nowych miejsc pracy,
- 🜔 edukacyjne wsparcie dla decydentów w zakresie procesu planistycznego.

#### 



Projekt LIFE16 GIE/PL/000648 jest dofinansowany przez Unię Europejską w ramach Programu LIFE oraz Narodowy Fundusz Ochrony Środowiska i Gospodarki Wodnej

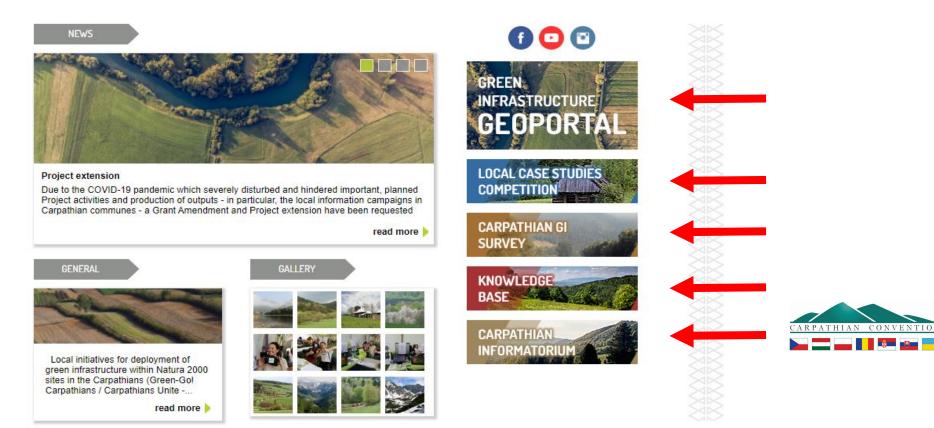








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## **Application / putting into practice**

- planners (local GI spatial databases)
- decision makers / policy makers
- crowdsourcing / citizen science / education / community engagement (NGOs, school projects);
- local entrepreneurs (e.g. tourist service providers, operators)
- nature protection institutions
- ... ???





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## **Synergy – replication - networking**

A survey of Carpathian undertakings (gov. programmes, projects and other initiatives) related to Green Infrastructure was performed in mid-2019. Identified were:

- 10 official governmental programmes w/GI component;
- 23 projects and initiatives, out o which:



- ✓ 3 directly about GI in Carpathians (1 in the context of connectivity between the Carpathians, the Danube Region, and the Alps)
- ✓ 20 indirectly, but with strong GI relevance (their main and themes are/were e.g. protected areas, ecological connectivity, ecosystem services, natural resources, forestry, water mgmnt, agriculture, spatial planning, etc. 5 of them have been LIFE projects (incl. 3 that also cover/ed the Alps).





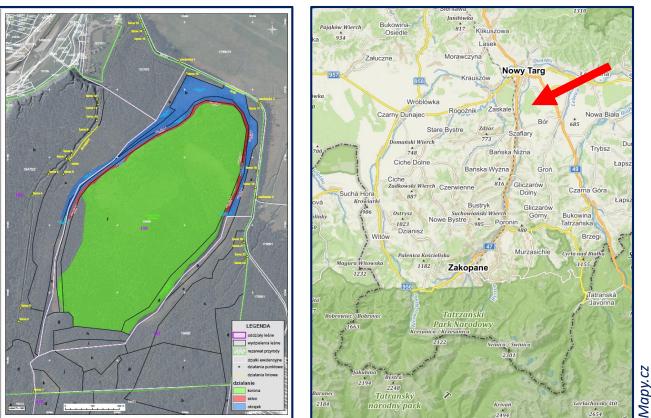
## **Our new Carpathian project**



## Carpathians Unite – Conservation of Orawsko-Nowotarskie Peatbogs

**October 2021 – March 2024** 

- Active conservation (dams, locks, pine removal, nature monitoring) of "Czerwone" Bog Woodland (a PL Ramsar site, Natura 2000)
- Capacity enhancement in wetland conservation and management





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CARPATHIANS IINITE







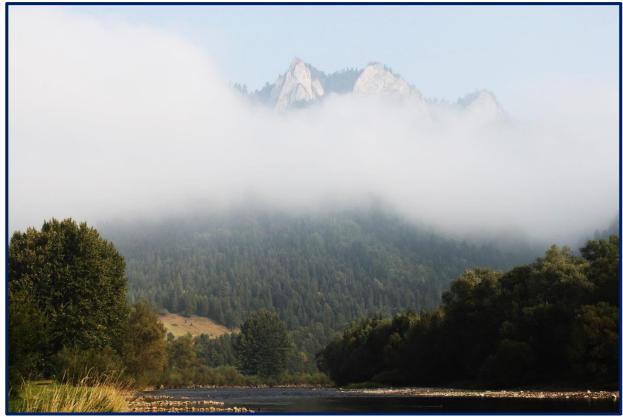
## THANK YOU !! 🙄

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Fot. P. Mikołajczyk



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