Project LECA – Supporting the Coexistence and Conservation of Carpathian Large Carnivores: “Outcomes and Challenges from Cross-Border Pilot Areas”

LECA - CE0100170

Interreg CENTRAL EUROPE

Co-funded by the European Union

LECA

16th Meeting of the Carpathian Convention Implementation Committe

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project coordinator

Mendel University in Brno

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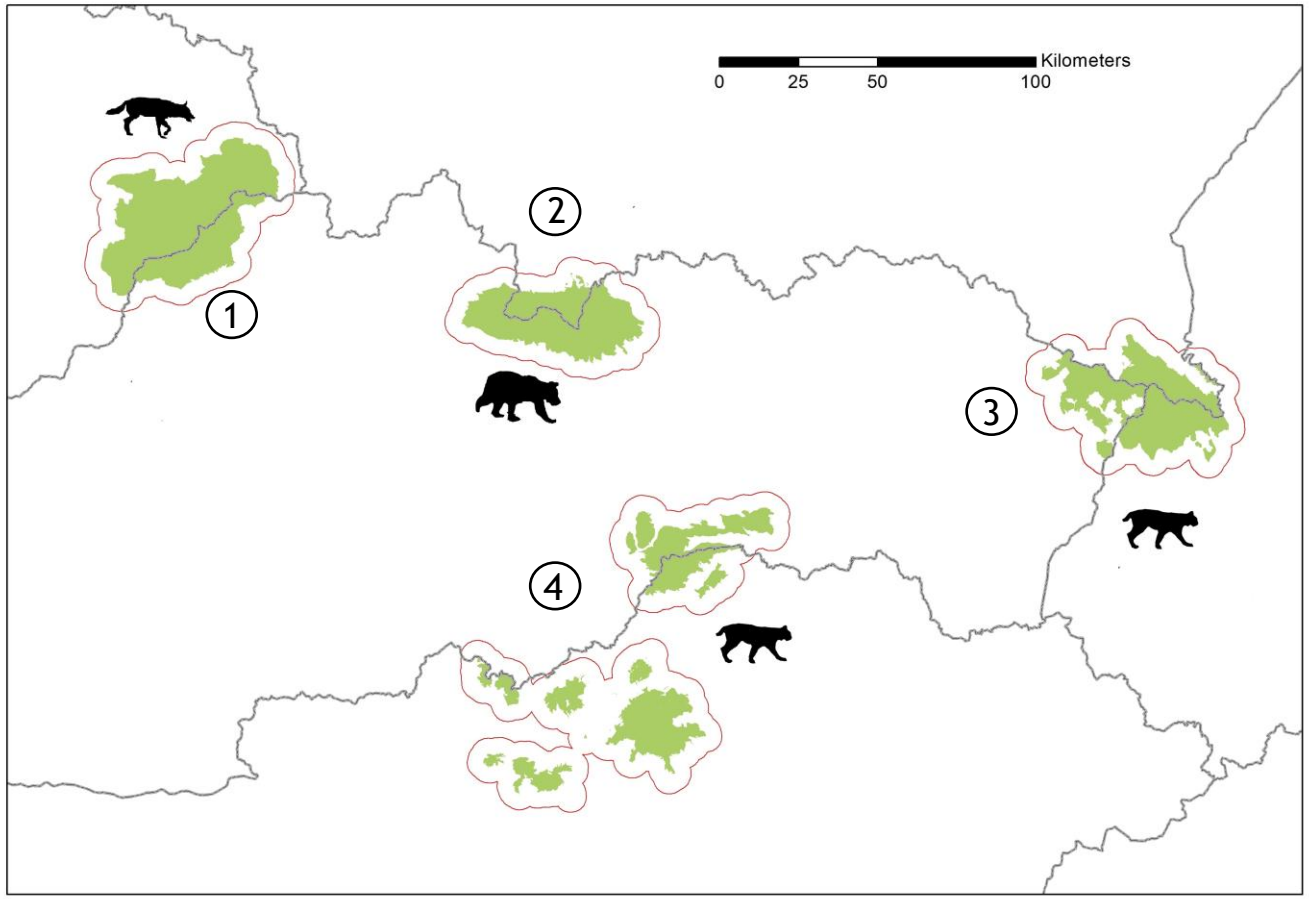
Pilot & reference areas



Cross-border pilot areas:

1. Beskydy-Kysuce (CZ-SK)
2. Tatra Mountains (SK-PL)
3. East Carpathians (SK-PL-UA)
4. Slovak Karst-North Hungarian Mountains (SK-HU)

Reference areas:

5. Apusemi & Tusnad region (RO)
6. Pre-Alpine region (SI)

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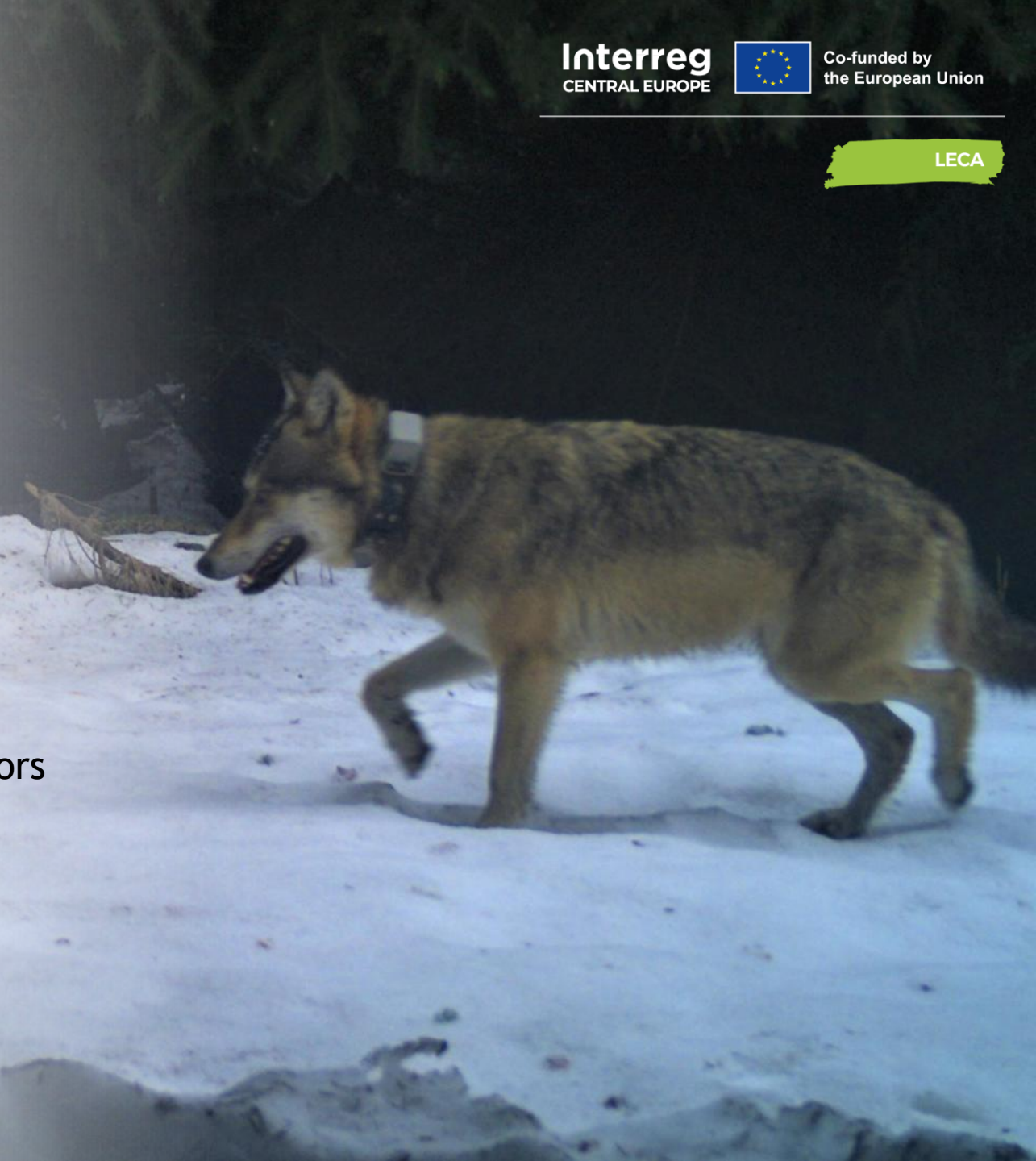
Beskydy-Kysuce pilot

Overview of main pilot activities focused on wolf

- Non-invasive monitoring – camera trapping, snow tracking, non-invasive genetic sampling etc.
- Invasive monitoring - telemetry
- Cooperation with local hunters and foresters
- Organisation of winter tracking of large carnivores events for public
- Cooperation with livestock-breeders: application & testing of preventive measures
- Cross-border stakeholder platforms, stakeholder visits, local info days, seminar for police investigators



Mendel University in Brno

STATE NATURE CONSERVANCY OF THE SLOVAK REPUBLIC

CARNIVORES.cz

Friends of the Earth Czech Republic Carnivore Conservation Programme

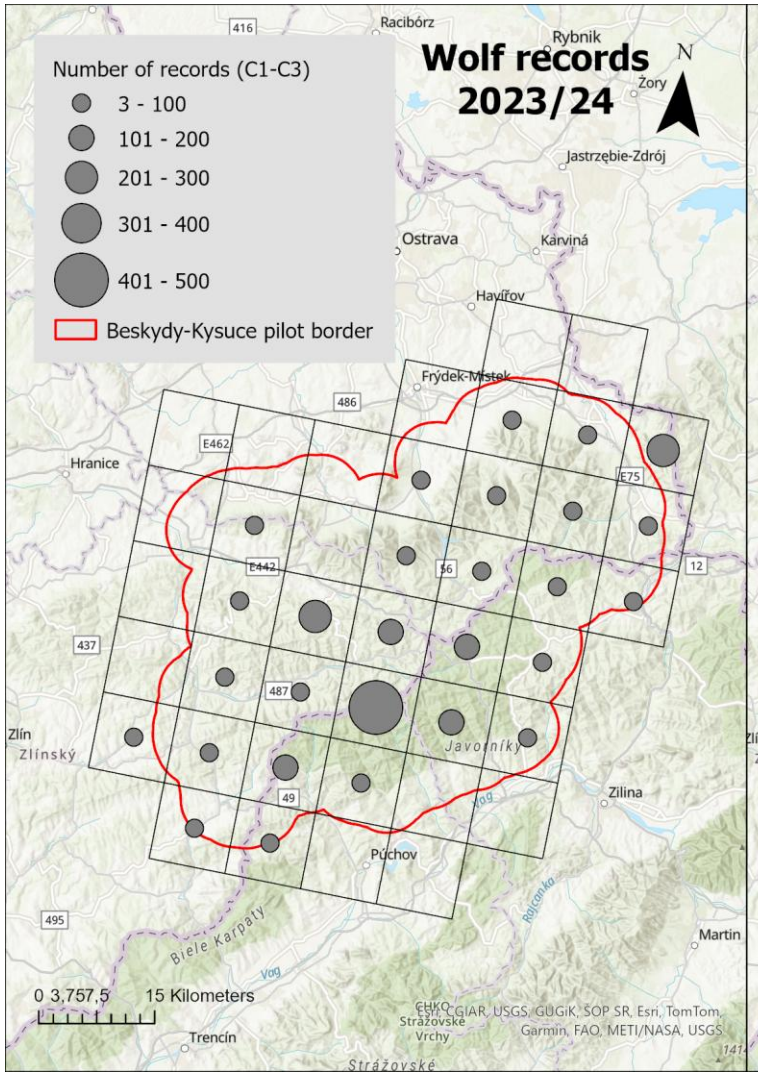
Michal Bojda, Martin Váňa, Šárka Frýbová, Jíří Labuda, Romana Uhrinová, Miroslav Kutal, Lenka Kissová, Beňadik Machciník, Vlado Trulík, Peter Drengubiak, Vladimír Piaček, Zděněk Tyller, Veronika Strečanská, Štefan Renčo et al.

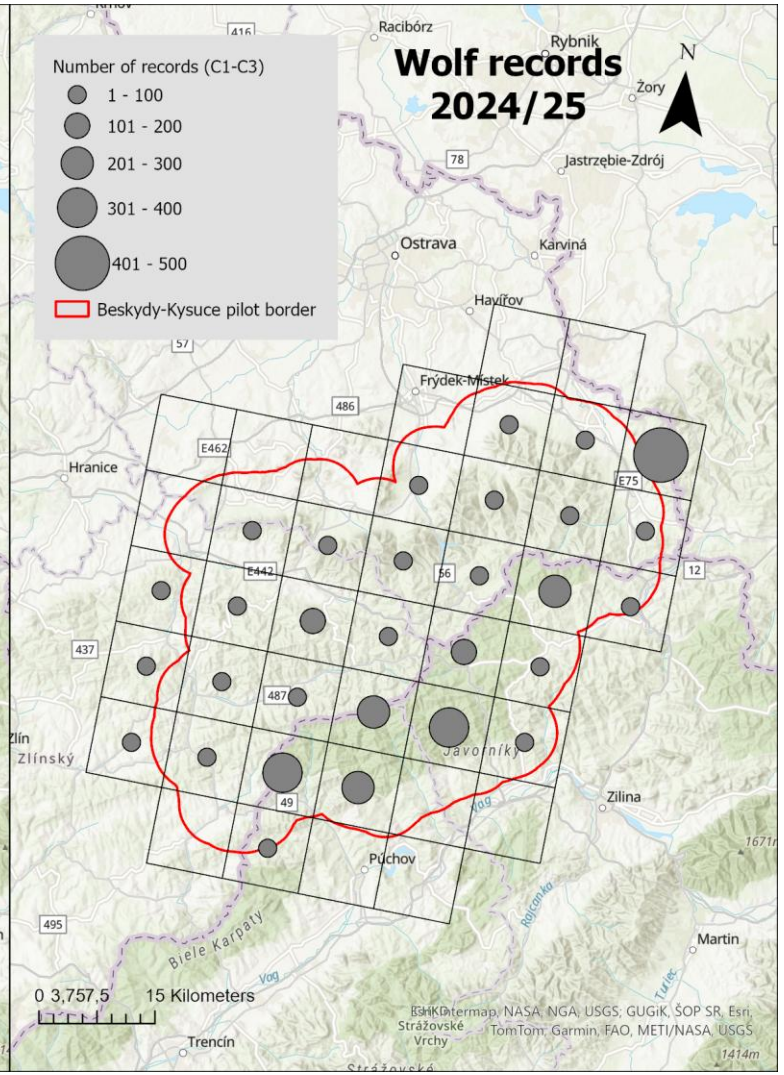
Monitoring harmonisation

Non-invasive monitoring

- in total 5116 C1-C3 (SCALP methodology, Molinari-Jobin et al. 2012) wolf occurence signs during two wolf years (without telemetry data)

- camera trap records 75% of dataset (C1)

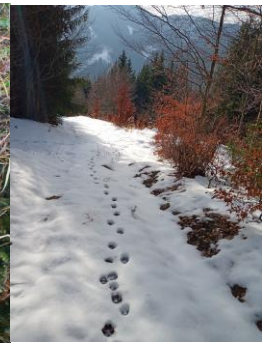


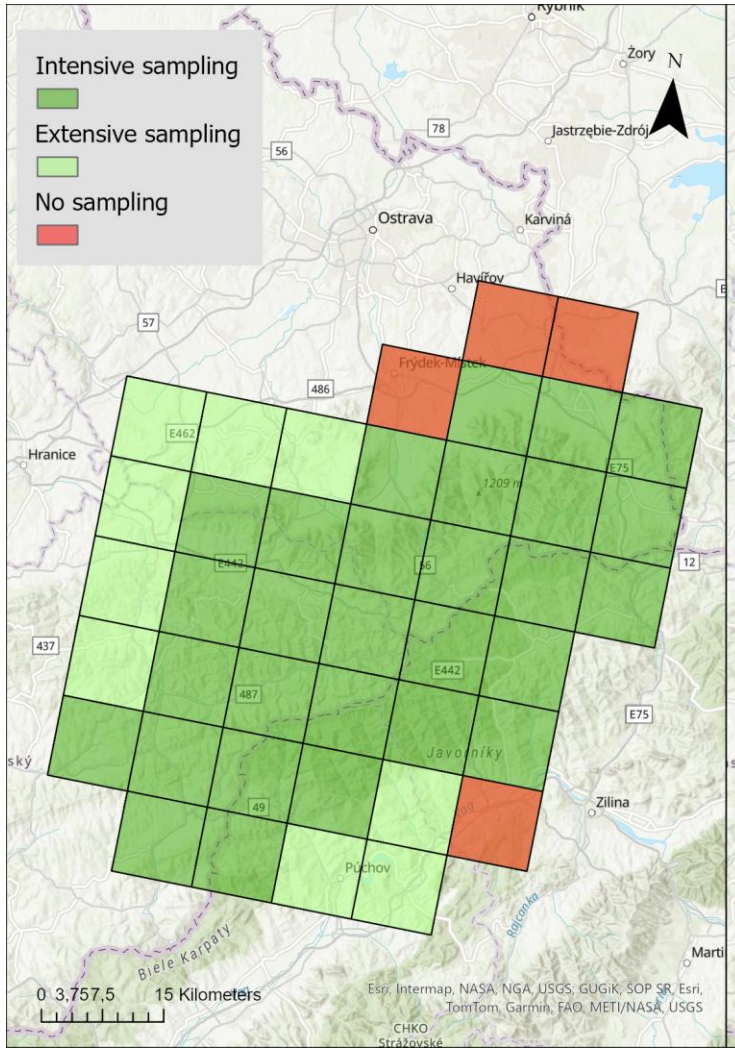


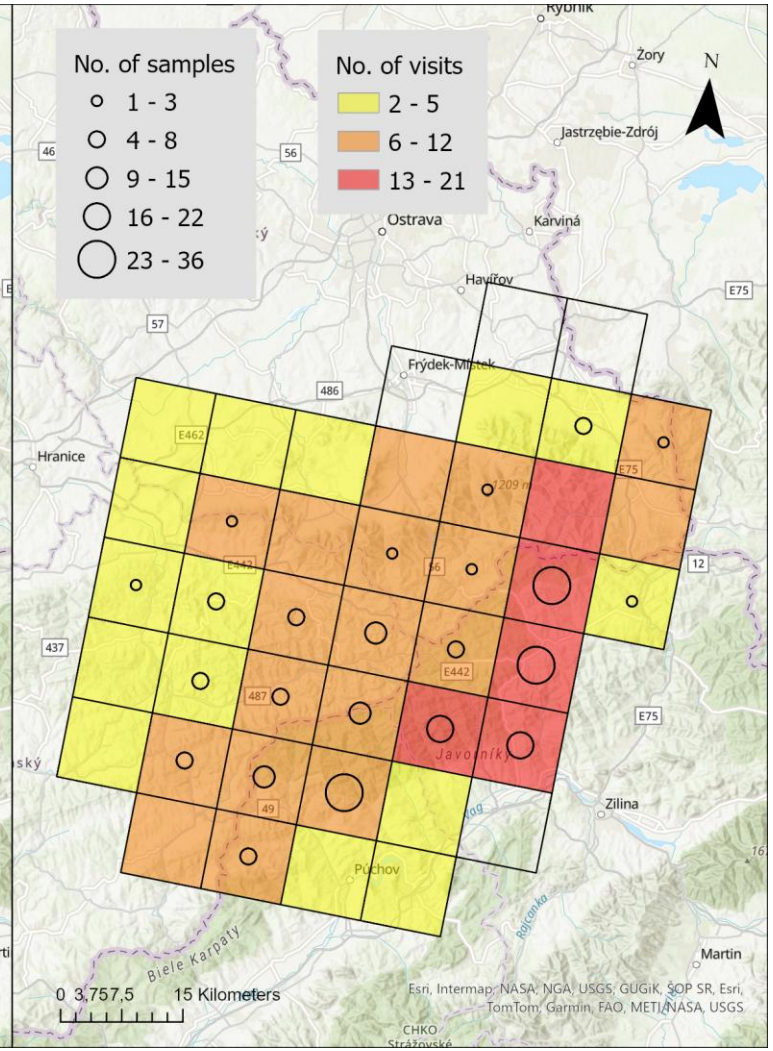
Monitoring harmonisation

Intensive non-invasive genetic sampling: methodology & data collection

- methodoligcal approach according Marucco et al. 2023
- sampling period: December 2024 – March 2026
- 38 sampling grids: 29 intensive (at least sampled once every month) and 13 extensive (at least sampled once every two months)
- 278 transects visited and 226 DNA samples collected



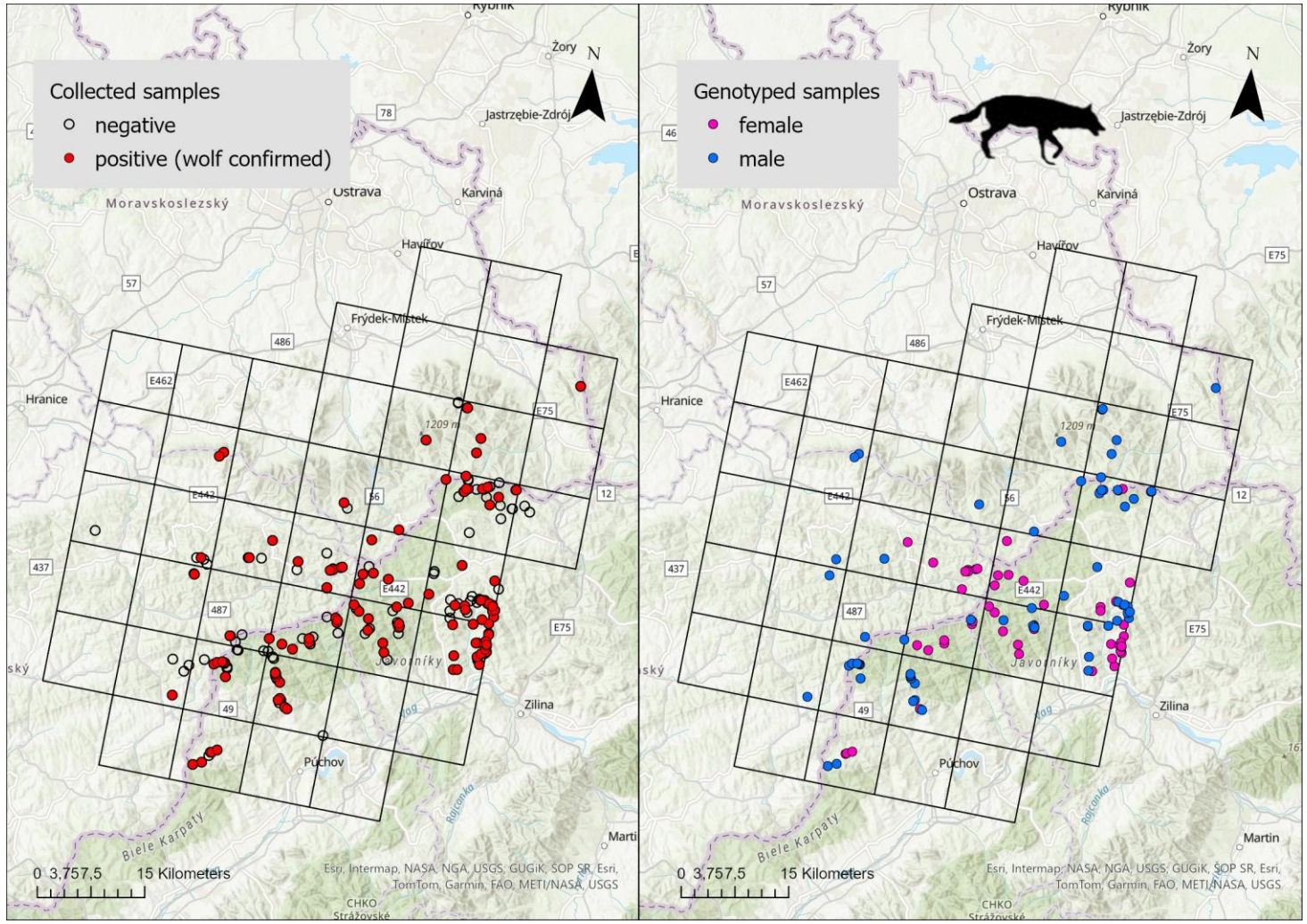




Monitoring harmonisation

Intensive non-invasive genetic sampling: preliminary results

- 123 genotyped samples (54% from total)
- 42 different genotypes identified (22 males, 20 females)
- individuals from Carpathian population origin prevailed (90 % of individuals)
- data preparation for estimates of populatio size \ density by using non-spatial and spatial capture-recapture models



Monitoring harmonisation

GPS Telemetry

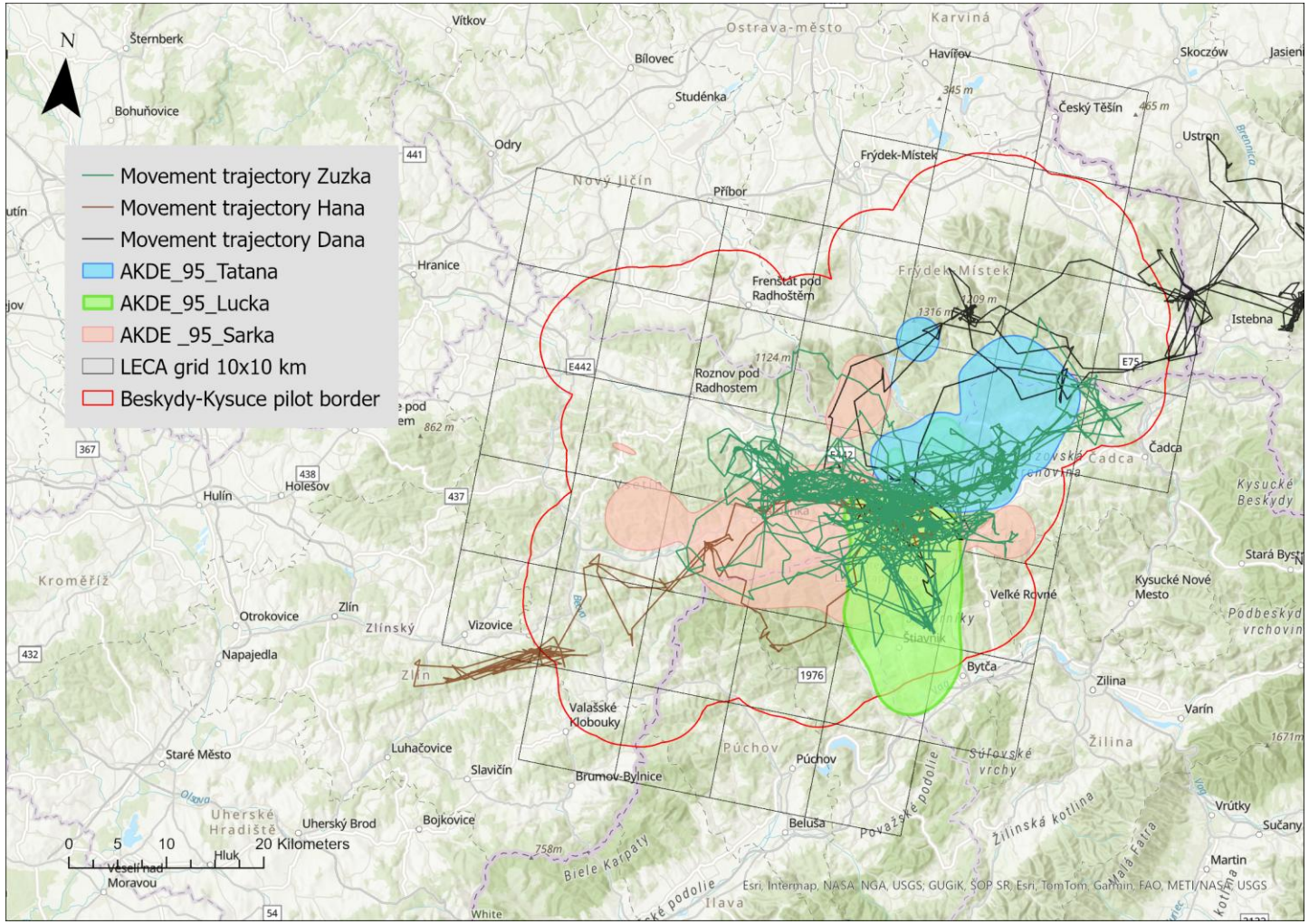
- Belisle traps; 6 trapping sessions
- 6 different females collared (1 project OPŽP, 3 project LECA, 2 project LWW)
- different age and status: 3 adults, 3 subadults/juveniles
- **purpose:** spatio-temporal aktivity – estaimtes of HR size, feeding patterns, wolf-human interactions/patterns of livestock depredation etc.

Monitoring harmonisation

GPS Telemetry: spatio-temporal activity

Estimates of home range size (HR):

- Šárka HR AKDE95%: 451 km^2
- Lucka HR AKDE95%: 248 km^2
- Taťána HR AKDE95%: 246 km^2



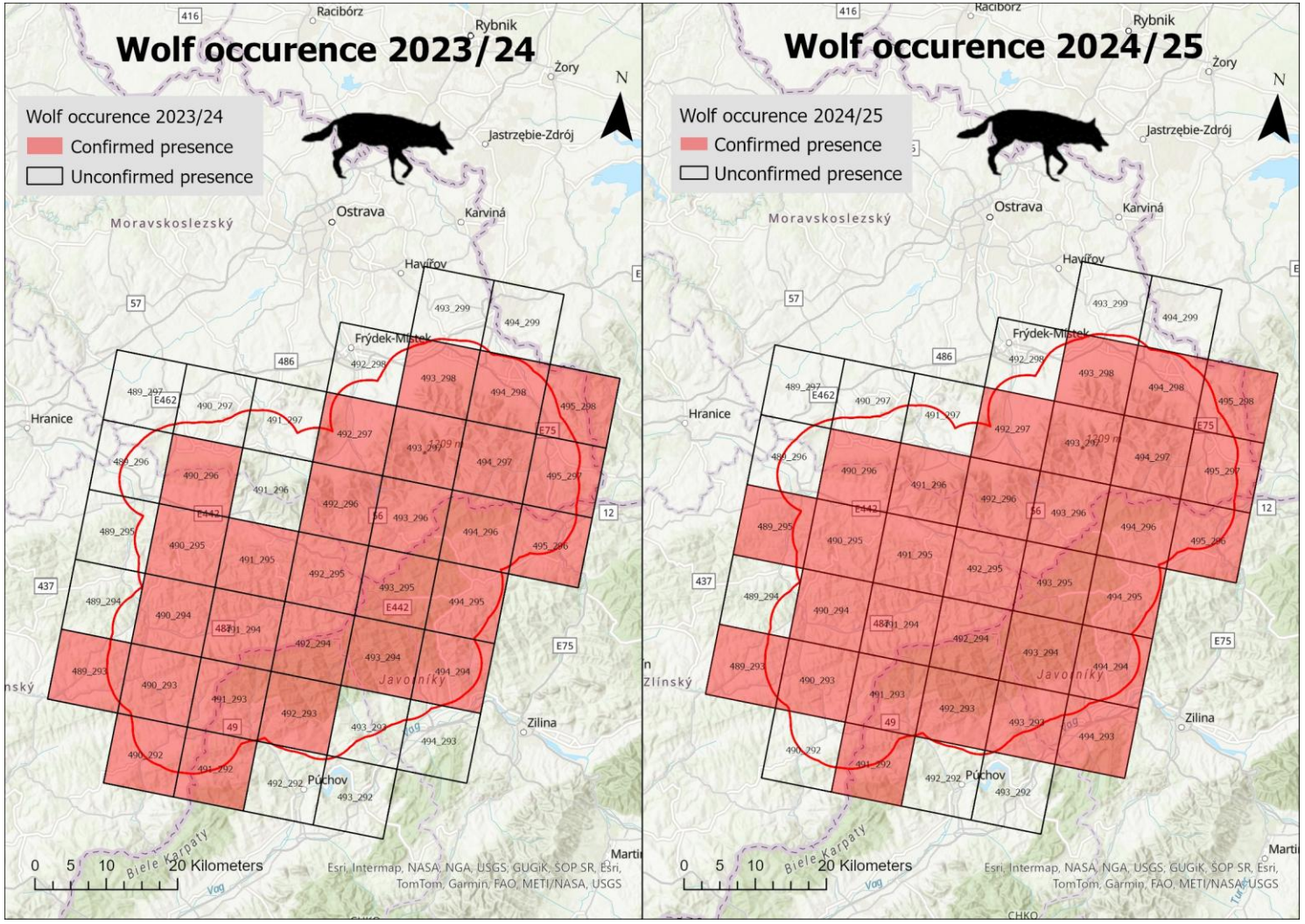
Monitoring harmonisation

Synthesis of results: Wolf occurence & distribution

- wolf occurence confirmed in 28 (WY 2023/24) and 31 (WY 2024/25) mapping grids

Data quality of wolf presence cells:

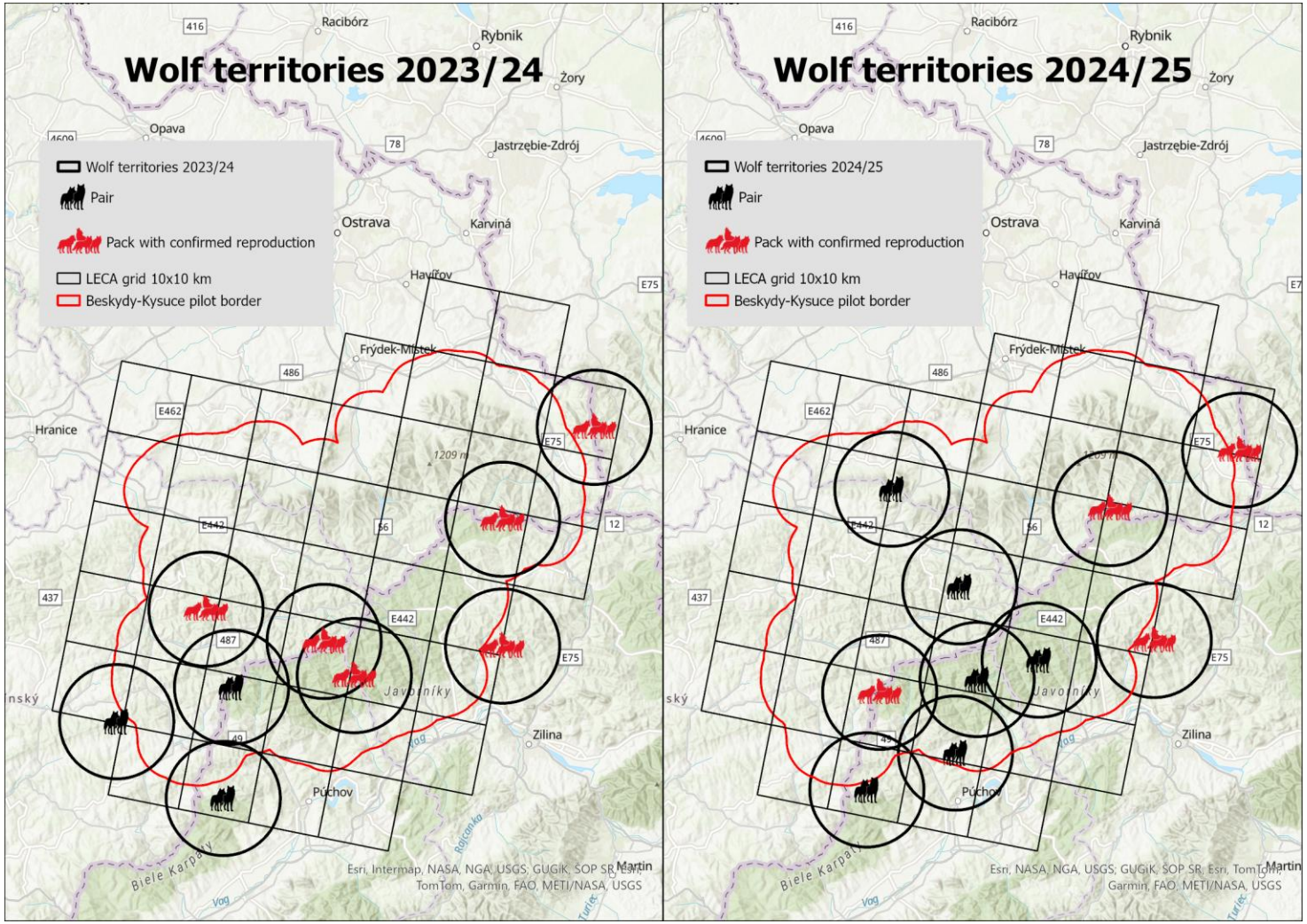
- **Confirmed presence:** based on C1 & C2 signs, cases where C1 included unspecified "observations" were marked with a star (C1*)
- **Unconfirmed presence:** cells with only C3 signs



Monitoring harmonisation

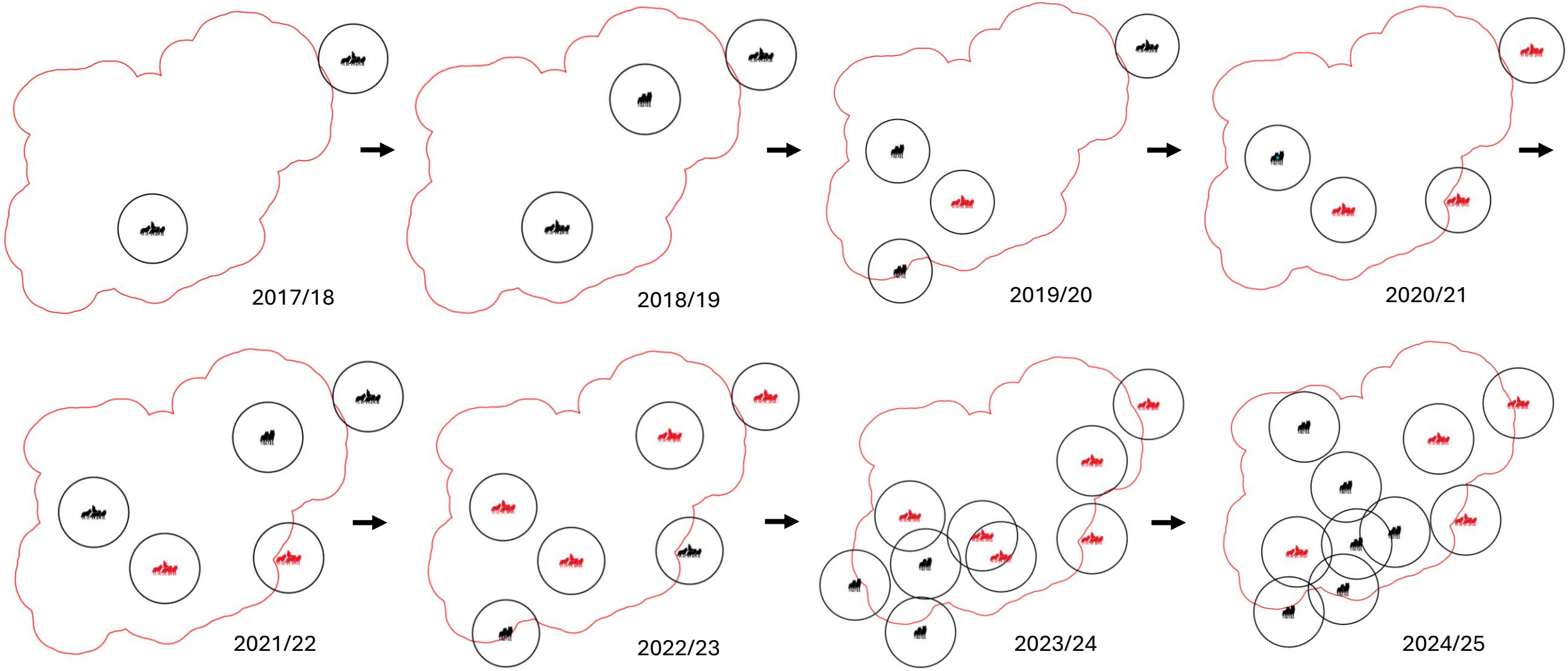
Synthesis of results: Wolf territories, reproduction units & population size

- **9 wolf territorries documented in WY 2023/24** (6 reproductive, 3 pairs); **10 wolf territorries documented in WY 2023/24** (4 reproductive, 6 pairs)
- **at maximum 47 wolves** documented **in winter WY 2023/24** (26 pups in summer); **at maximum 36 wolves documented in winter WY 2024/25** (19 pups in summer)
- **average pack size** during the winter period across both wolf years was **7 (±1.2) individuals**, with an average of **4.5 (±0.9) pups per pack**
- estimated **population density** (only for wolf packs territories) for both wolf years was **5.01 (±1.21) individuals per 100 km²** (95% CI: 2.92–7.69)



Monitoring harmonisation

Synthesis of results: Developement of wolf territories in Beskydy-Kysuce pilot over time (2017-2024)



Trans-Boundary challenges

Different management regimes - Strict protection (CZ) vs. Hunting quota (SK)

CZ

- **Anex IV** (no longer valid)
- **Strictly protected** (new proposal to downgrade the protection status)
- Robus system to support farmers

PL

- **Anex V**
- **Strictly protected**
- Quite good system to support farmers

SK

- **Anex V**
- **Hunting qota each year** (Strictly protected 2021-2024)
- Only compensation system (game included!)

Esri, CGIAR, USGS

Source of wolf distribution: Large carnivore distribution maps for Europe 2017 – 2022/23

Kaczensky et al. 2024

Trans-Boundary challenges

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Trans-Boundary challenges

Different management regimes - Strict protection (CZ) vs. Hunting quota (SK)

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PLOS ONE

RESEARCH ARTICLE

Trans-Boundary Edge Effects in the Western Carpathians: The Influence of Hunting on Large Carnivore Occupancy

Miroslav Kutal[1,2*], Martin Váňa[2], Josef Suchomel[3], Guillaume Chapron[4], José Vicente López-Bao[5]

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OPEN ACCESS

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Abstract

The conservation and management of wolves *Canis lupus* in the periphery of their distribution is challenging. Edges of wolf distribution are characterized by very few and intermittent occurrences of individuals, which are modulated by multiple factors affecting the overall population such as human-caused mortality, management targets and food availability. The knowledge of population dynamics in the edges becomes crucial when hunting takes place nearby the edges, which may preclude population expansion. Here, using as example the occurrence of wolves in the Beskydy Mountains (Czech-Slovak border), which are the edge distribution of the wolf and Eurasian lynx *Lynx lynx* populations in the West Carpathians, we explored how food availability and hunting in the Slovakian core area affected the dynamics of wolves in the edges of this population. During 2003–2012, we monitored large carnivore occurrence by snow-tracking surveys and tested potential differences in the occurrence of these species in Beskydy Mountains and potential mechanisms behind detected patterns. Despite the proximity to the core area, with several wolf reproductions being confirmed at least in recent years, the wolf was a very rare species in Beskydy and was recorded 14 times less often than the lynx. The expected abundance of wolves in the Beskydy Mountains was inversely related to prey availability in the Slovakian core area. Wolf hunting the year before influenced the expected abundance of wolves in Beskydy area. We discuss how different life histories and legal status of both species probably account for most of the observed difference of occurrence at range margins.

Introduction

Over the last few decades, we have witnessed a recovery of large carnivores throughout human-dominated Europe [1]. For example, out of the ten wolf *(Canis lupus)* populations currently recognized in the old continent, almost all populations show a stable or increasing trend [1]. Only

Hunting wolves is legal in Slovakia unless it threatens populations, but available data are insufficient to determine its effects.

Edited by **Jennifer Sills**

Evidence-based hunting policy needed in Slovakia

The Swiss people recently rejected a law that would have allowed protected animals to be hunted (*1*), but hunting of vulnerable species such as wolves still occurs in Slovakia and elsewhere in Europe. The European Union's Habitats Directive allows deliberate killing of wolves in nine countries (*2*) unless hunting would threaten the sustainability of the population, but population data are inadequate in some countries. Slovakia must implement evidence-based policies to protect wolf populations.

In 2016, Slovakia made changes to increase wolf hunting regulation and improve population monitoring (*3*). However, the changes have not been implemented nationally. Recently, the Slovak Ministry of Agriculture and Rural Development approved a quota of 50 wolves for the upcoming winter season (*4*). Such policies should be based on a scientific assessment of the viability of wolf populations (*5*). Instead, the Ministry justified the number by citing misleading arguments about sheep farming and food security (*4*).

In contrast to the government's claims, wolves kill less than 0.1% of Slovakia's sheep and goats (*3*). The recent policy also fails to acknowledge that sheep breeding in Slovakia declined between 2009 and 2019, when 28 to 158 wolves were killed per year, suggesting that hunting did not mitigate the problem (*6*). The food security justification is also specious: Sheep and goat products are only a small part of Slovak diet and accounted for less than 0.4% of gross agricultural production in the past 10 years (*7*). Instead of relying on misleading justifications for hunting, Slovakia should find alternative methods to minimize the risk of damages from large carnivores. However, the country has so far opted not to use EU funds available for this purpose (*8*).

Policies in Slovakia target wolves as the only source of problems in the agricultural sector and ignore the market-based causes of the sheep decline that have been shown elsewhere in Europe (*9*, *10*). Although wolf numbers are trending positively in Europe (*11*), Slovak hunting affects wolf recovery in neighboring Czechia, where the wolf population is protected (*12*). Without reliable evaluation of hunting impact, Slovakia cannot make informed policy decisions, despite the country's nominal adherence to EU regulations. Slovakia's failure to collect adequate data and base policy on science is a dangerous precedent that undermines biodiversity conservation efforts in Europe and worldwide.

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12. M. Kutal, M. Váňa, J. Suchomel, G. Chapron, J. López-Bao, *PLOS ONE* **11**, e0168292 (2016).

COMPETING INTERESTS

M. K. is a member of the International Union for Conservation of Nature Large Carnivore Initiative for Europe and Olomouc Friends of the Earth Czech Republic.

10.1126/science.abf5155

Computational social science: On measurement

In their Policy Forum "Computational social science: Obstacles and opportunities" (28 August, p. 1060), D. M. J. Lazer *et al.* propose ethical data infrastructures for computational social science research. Concentrating on access to platform trace data, they dismiss third-party market data from such companies as Nielsen and comScore because of "opaque" methods and

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LETTER

Testing a conservation compromise: No evidence that public wolf hunting in Slovakia reduced livestock losses

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Abstract

Variation in the legal status and management of wolves (*Canis lupus*) across EU Member States provides a good opportunity to test the effectiveness of different practices to reduce livestock losses. This opportunity for testing is particularly useful for lethal interventions, as they are among the most controversial actions within the large carnivore management toolbox. We aimed to test a conservation compromise adopted in Slovakia, based on a public wolf-hunting scheme and annual hunting quotas between 2014 and 2019, and partially justified to reduce livestock losses. We assessed whether this hunting scheme influenced livestock depredation levels (at the district level). Wolves in the area fed mainly on wild ungulates (98.9% of consumed biomass). While domestic sheep comprised only 0.5% of the diet, they were dominant among the reported livestock killed by wolves (91.1%). Using two different approaches, we did not observe a relationship between the number of killed wolves and livestock losses. Alternatively, a negative relationship between wild prey biomass and livestock losses was found. Since 2021, public wolf hunting has not been conducted in Slovakia, and there is no merit in the previous justification for this conservation compromise to reduce livestock losses.

KEYWORDS

Canis lupus, evidence-informed conservation, large carnivores, livestock depredation, wolf hunting, wolf management

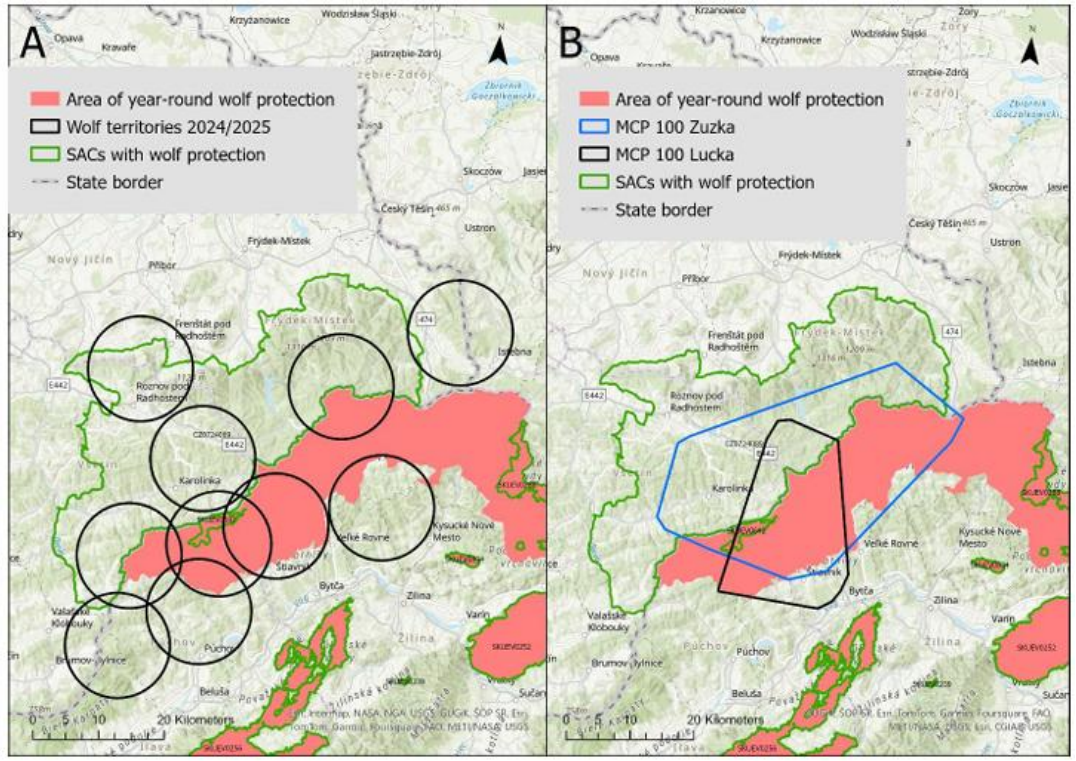
1 | INTRODUCTION

Large carnivore conservation is challenging in human-dominated landscapes, where the compatibility of their presence with livestock farming (particularly extensive practices) represents one of the oldest conflict drivers in the conservation of these species (Lute et al., 2018). From the perspective of either wildlife management or livestock welfare (López-Bao & Mateo-Tomás, 2022), a range of different nonlethal and lethal interventions have been proposed, and used, to minimize the risk of livestock depredations (e.g., Eklund et al., 2017; Lorand et al., 2022; van Eeden et al., 2018). Balancing between large carnivore conservation and farming or hunting interests is politically

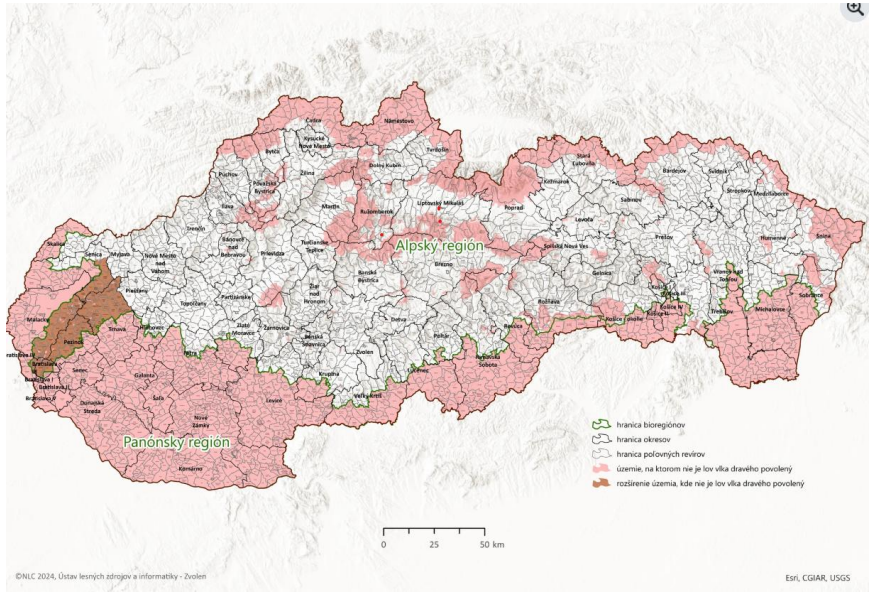
Trans-Boundary challenges

Different management regimes - Strict protection (CZ) vs. Hunting quota (SK)

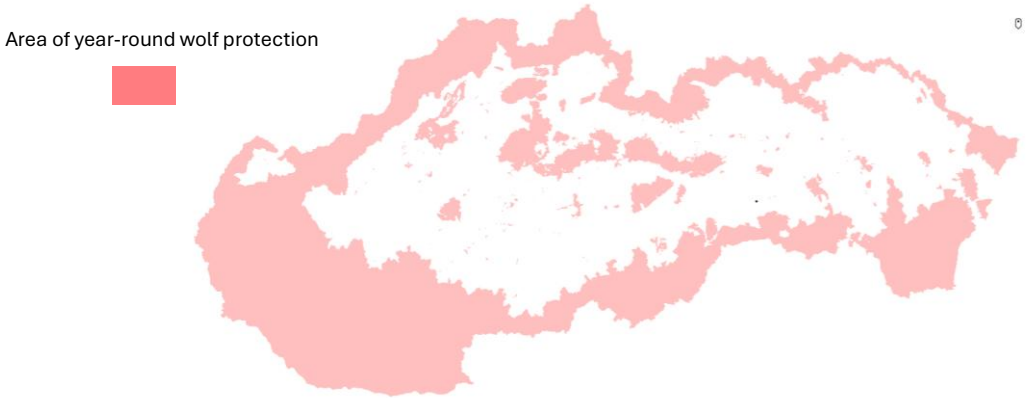
Insufficient buffer zone along CZ/SK border with year-round wolf protection in 2024/25 → **Official complaint to EC; letter to MOE SK and MOARD** → **Extension of buffer with year-round wolf protection in 2025/26**



Hunting season 2024/25; hunting quota 74 wolves; 23 shot



Hunting season 2025/26; hunting quota 74 wolves, 55 shot so far



Implementation of Pilot Actions in Tatra pilot area

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Overview of main pilot activities

- Invasive monitoring of bears: telemetry
- Collection of fecal samples for hormonal and diet analyses (metabarcoding)
- Cooperation with all relevant stakeholders – application of preventive measures and interventions if needed

Tatrzański Park Narodowy

STATE NATURE CONSERVANCY OF THE SLOVAK REPUBLIC

INSTITUTE OF NATURE CONSERVATION PAS

Monitoring harmonisation

GPS telemetry

- In total **25 bears were captured** during LECA pilot actions, **16 bears equipped with GPS collars** (5 bears with video collars)
- GPS schedule 12 fixes per day (48 in first days, 24 in 1st month)
- regular monitoring vs. focus on problem bears (interventions, virtual fence)

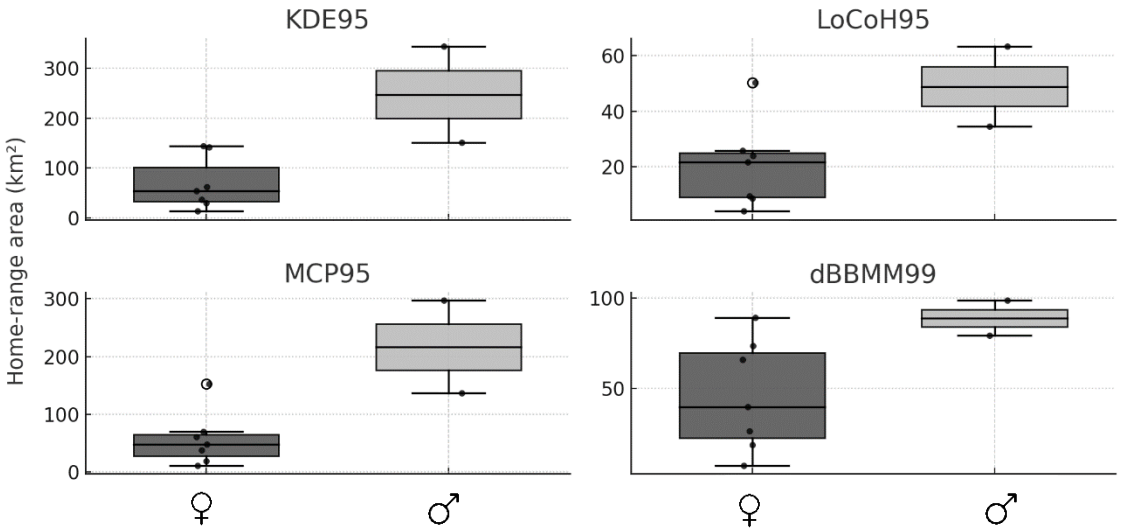
Monitoring harmonisation

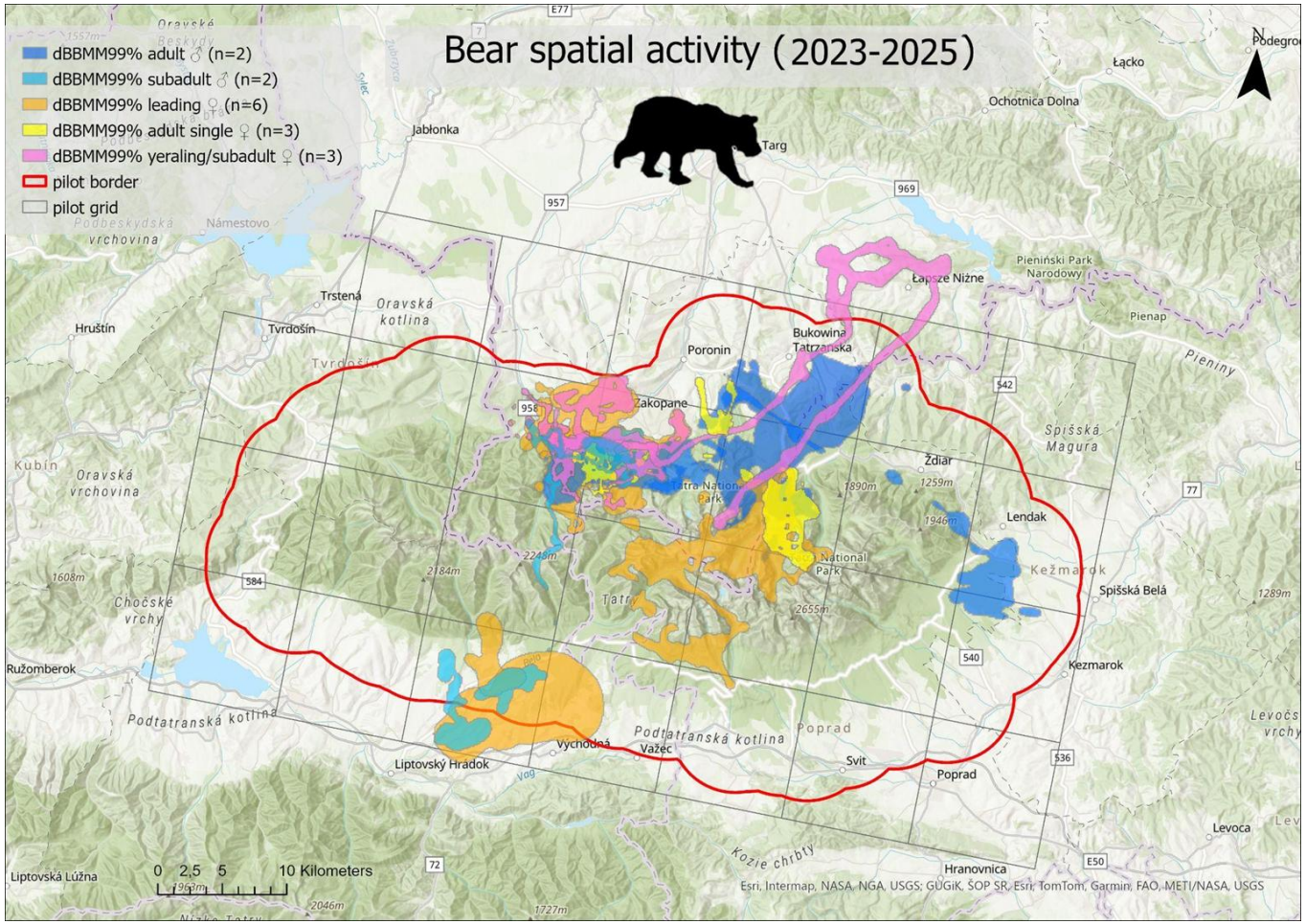
Spatial activity and home-range (HR) estimates (km²)

- four cross-border HR (3 adults, 1 subadult)
- relatively small HR of adult females

	Female median (min;max)	**Male** median (min;max)
KDE_95	**54.1** (13; 141.8)	**247.6** (150.8; 344.4)
MCP_95	**47.2** (10.7; 152.5)	**216.7** (136.4; 297)
dBBMM_99	**39.7** (7.3; 89)	**88.8** (79.1; 98.5)

only adults, monitored more than 3 months





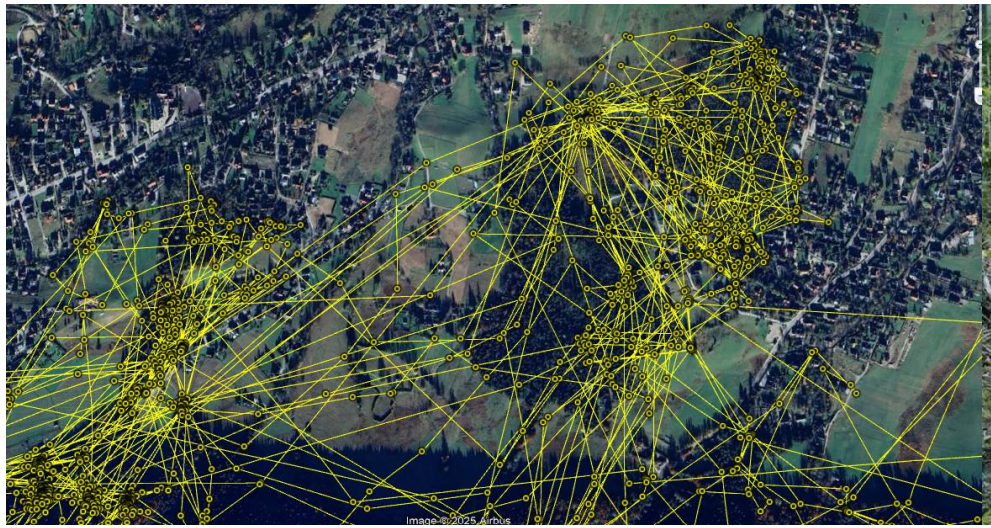
Conflict prevention

Conflict assessment: Diet and hormonal analyses

- **to improve knowledge on behavioral patterns/habituation** and **adaptations of bears on human-dominated landscape** with main focus on problem bears

- analyses based on the available telemetry data; two-level scale of problem behaviors established: **occasional visits of GPS individuals near buildings and human settlements („non-problem“ bears category 1)** and **frequent visits („problem“ bears category 2)**

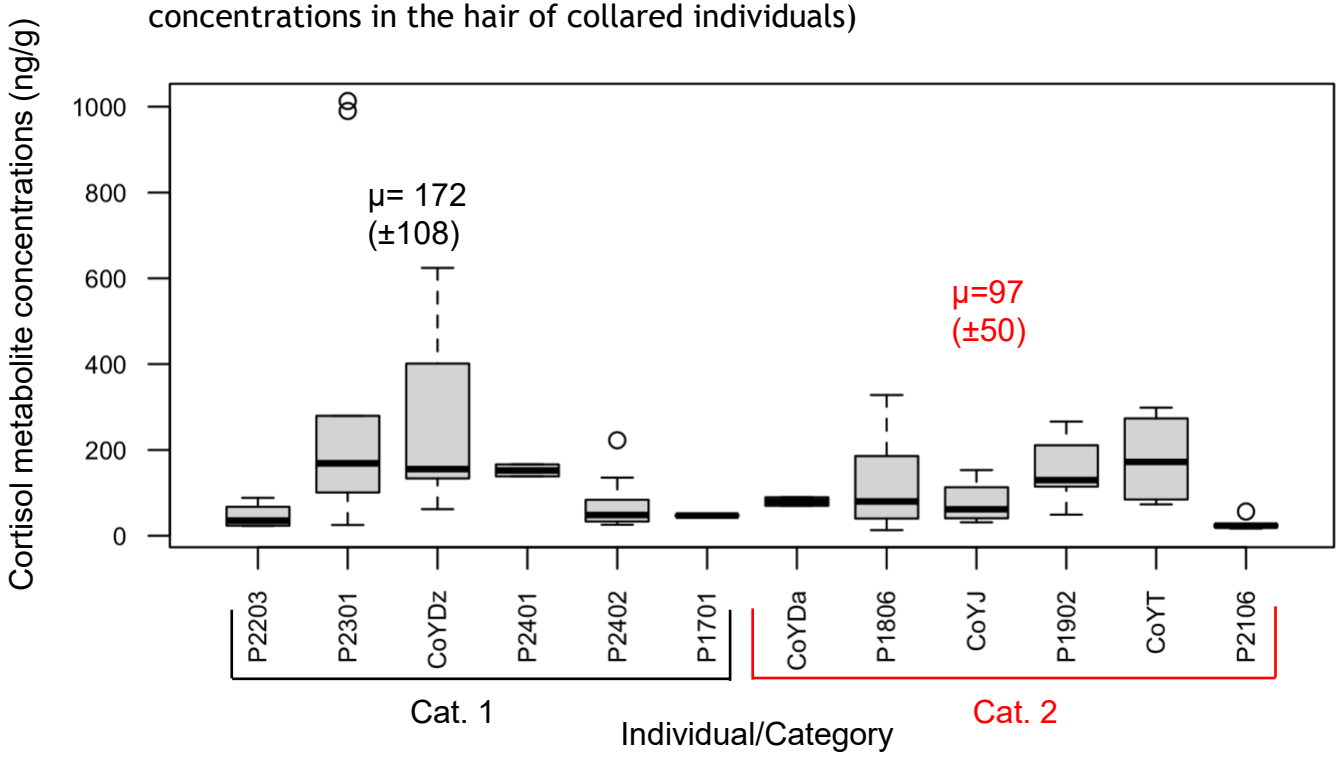
- checking GPS clusters, collection of samples (diet, hormonal and genetic analyses); **in total 83 samples cortisol metabolite measurements were performed** & **76 samples were analysed for diet composition (metabarcoding)**

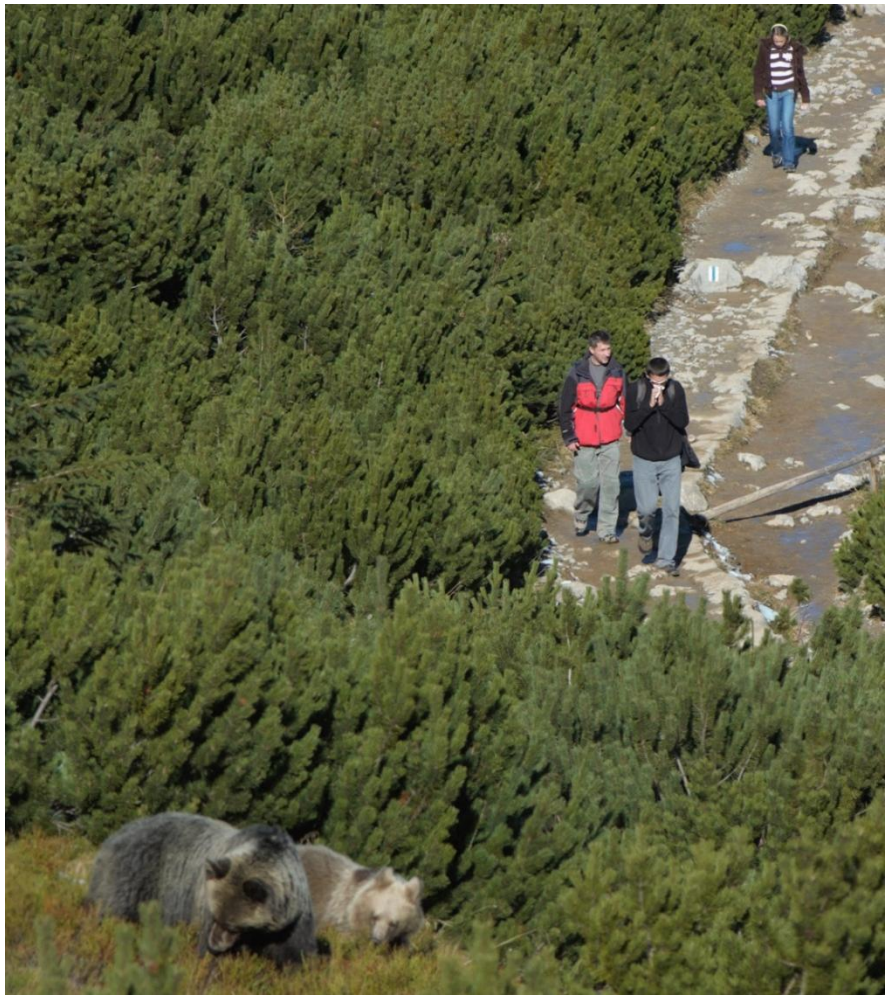


Conflict prevention

Hormonal analyses: preliminary results

- hormonal sampling & analyses of **GPS tracked individuals in period 2023-2024** (n=12) of Category 1 „non-problem“ (n=5) vs. Category 2 „problem“ bears (n=7); in total 69 samples analysed
- **cortisol metabolite concentrations generally lower in Cat. 2 bears** ; habituation to the proximity of human settlements and reduced stress; possibly associated with the benefits of easily accessible anthropogenic food sources
- further investigation needed, including the use of additional indicators (e.g., cortisol concentrations in the hair of collared individuals)



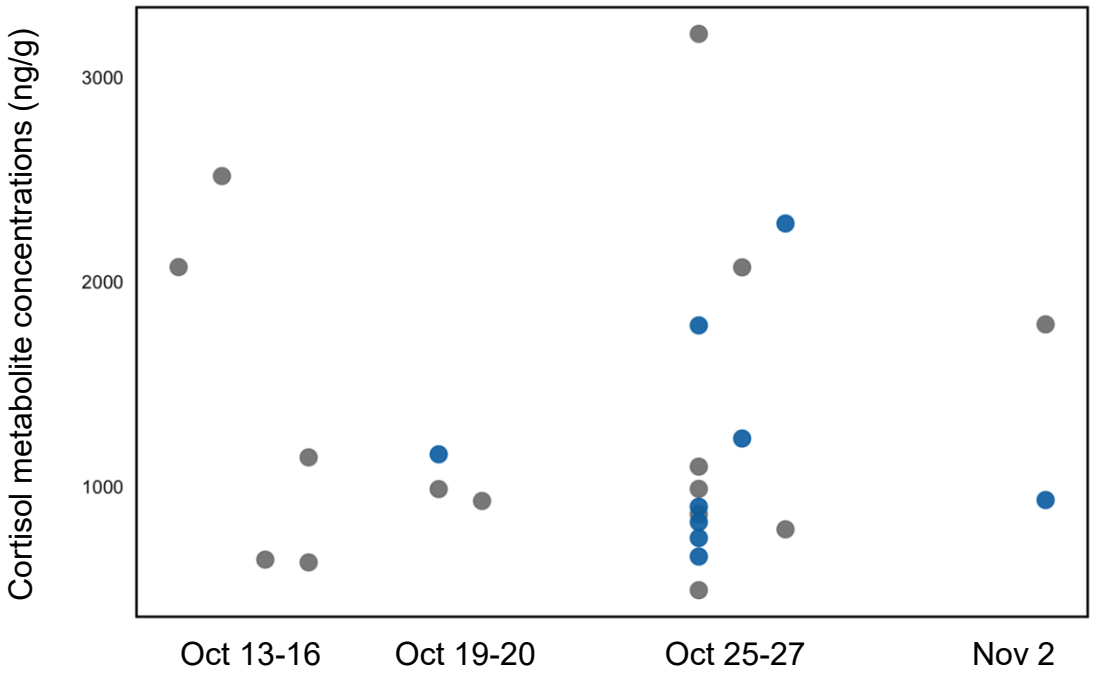


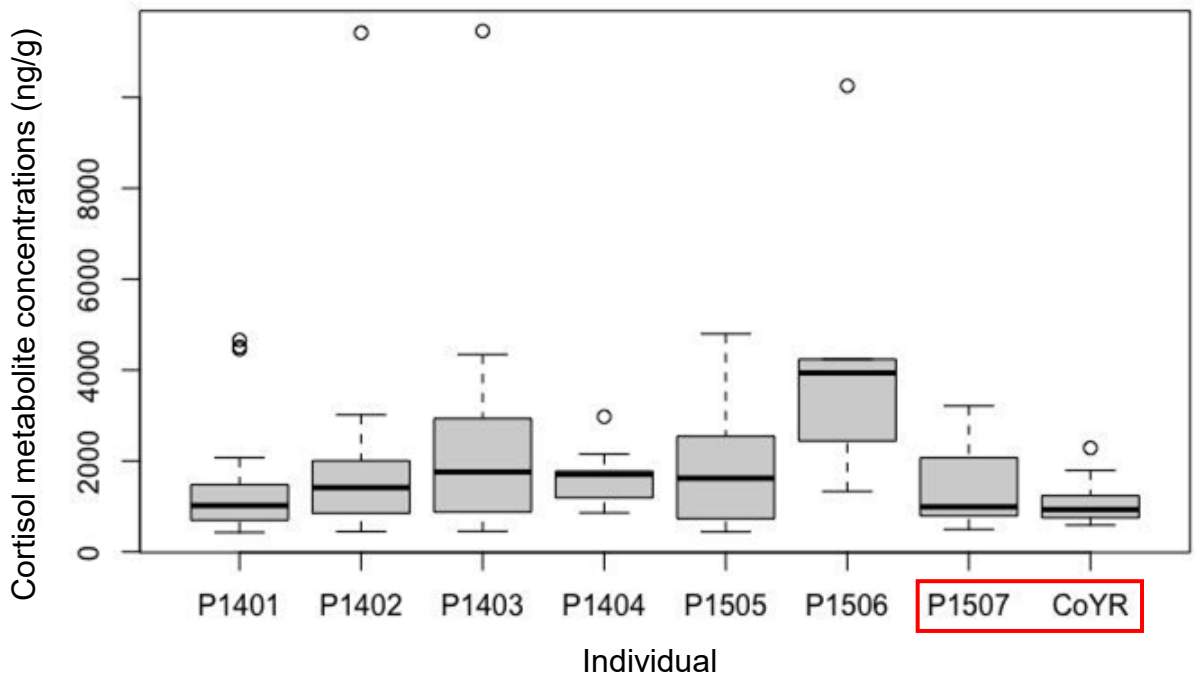
Conflict prevention

Hormonal analyses: preliminary results

- hormonal sampling & analyses of GPS tracked individuals (n=8) in period 2014-2016 (115 samples analysed)
- actively dettered female (P1507) with her cubs and hormonal sampling

Samples collected after days of aversive conditioning cortisol content of female P1507 (gray) and her cubs (blue) after days of aversive conditioning





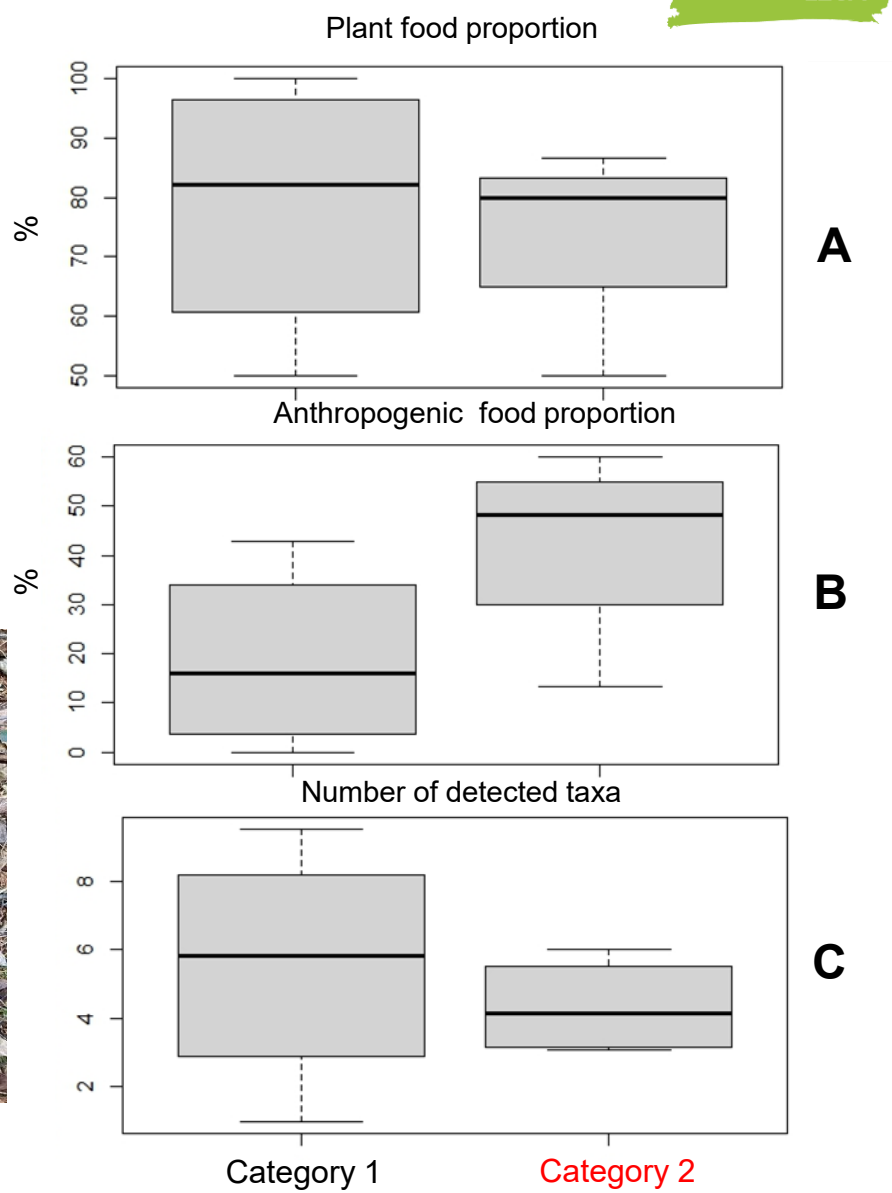
Conflict prevention

Diet composition: preliminary results

A The diet of problem bears (Category 2), like that of the general population/non problem bears (category 1), was primarily based on plant foods.

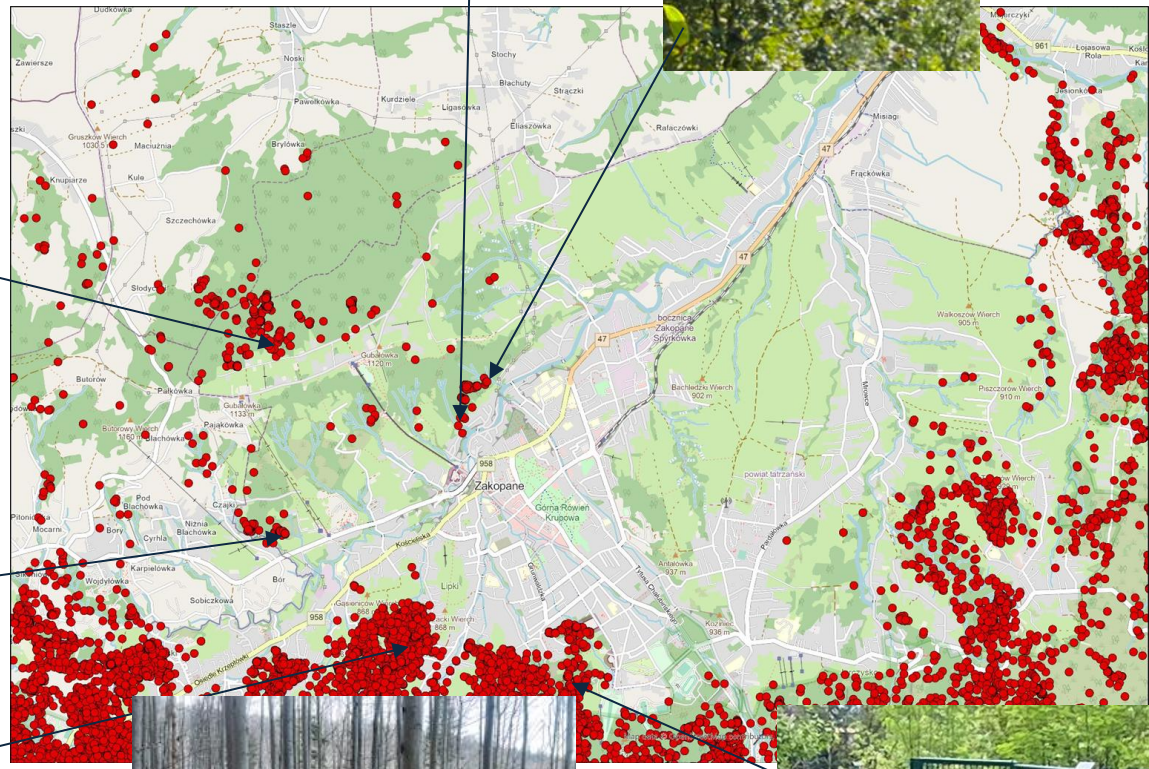
B The proportion of taxa potentially of anthropogenic origin was higher in problem bears (Category 2)

C Among problem bears (Category 2), individuals frequently visiting human settlements, had a less diverse diet reflected in a lower number of detected taxa



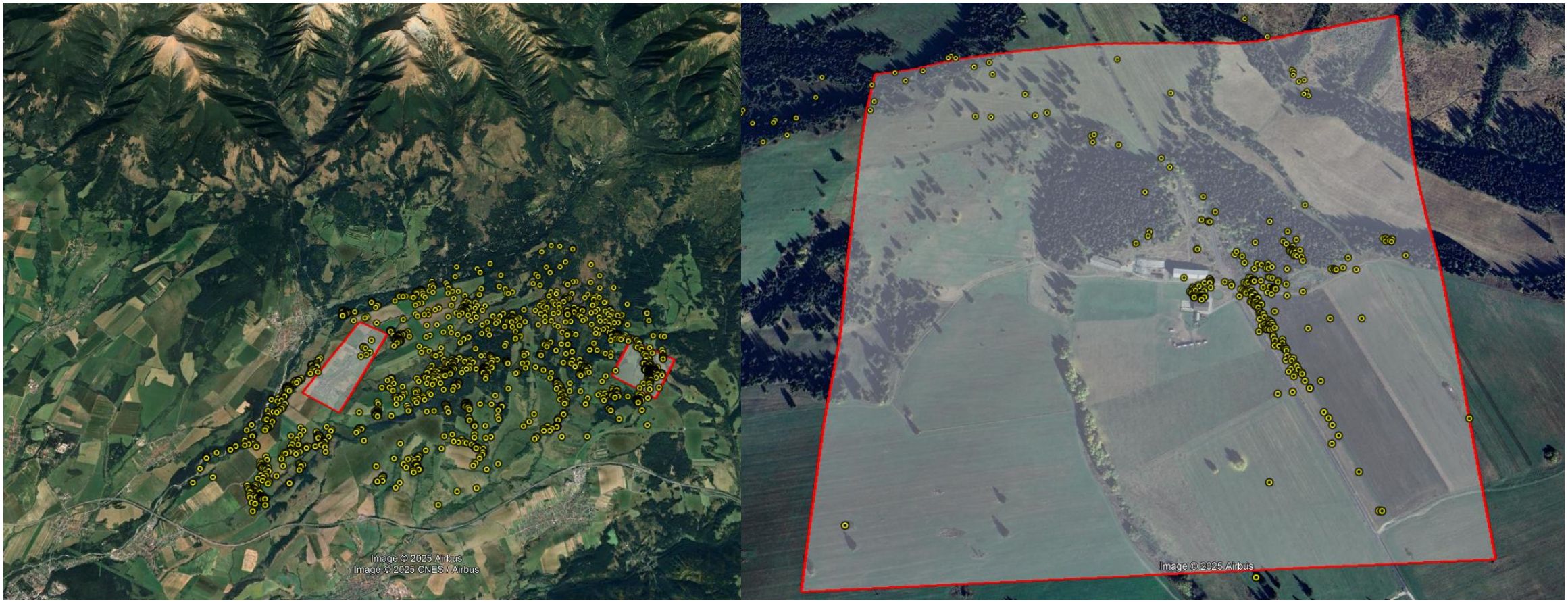
Conflict prevention

Main attractants & food sources



Conflict prevention

Main attractants & food sources

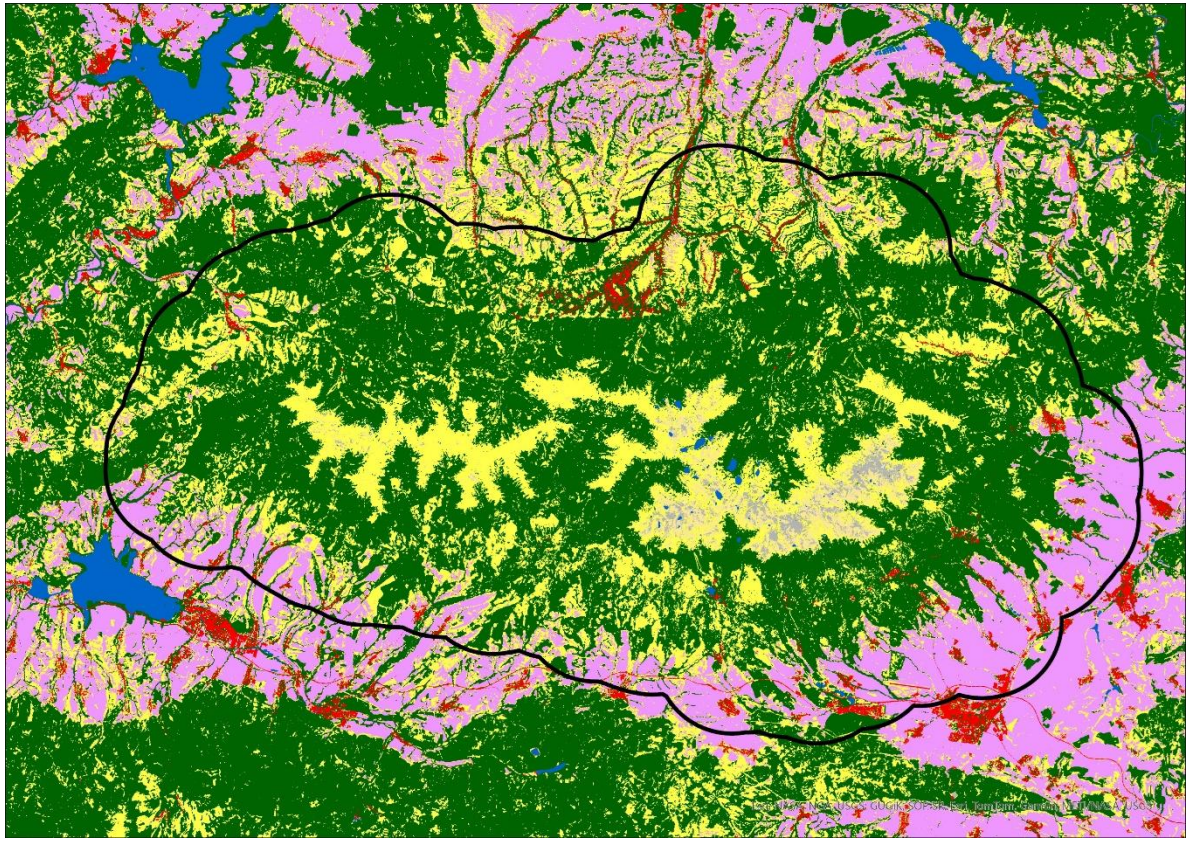


Conflict prevention

Main attractants & food sources

Conflict prevention

Main attractants & food sources



Source: https://esa-worldcover.org/en/data-access

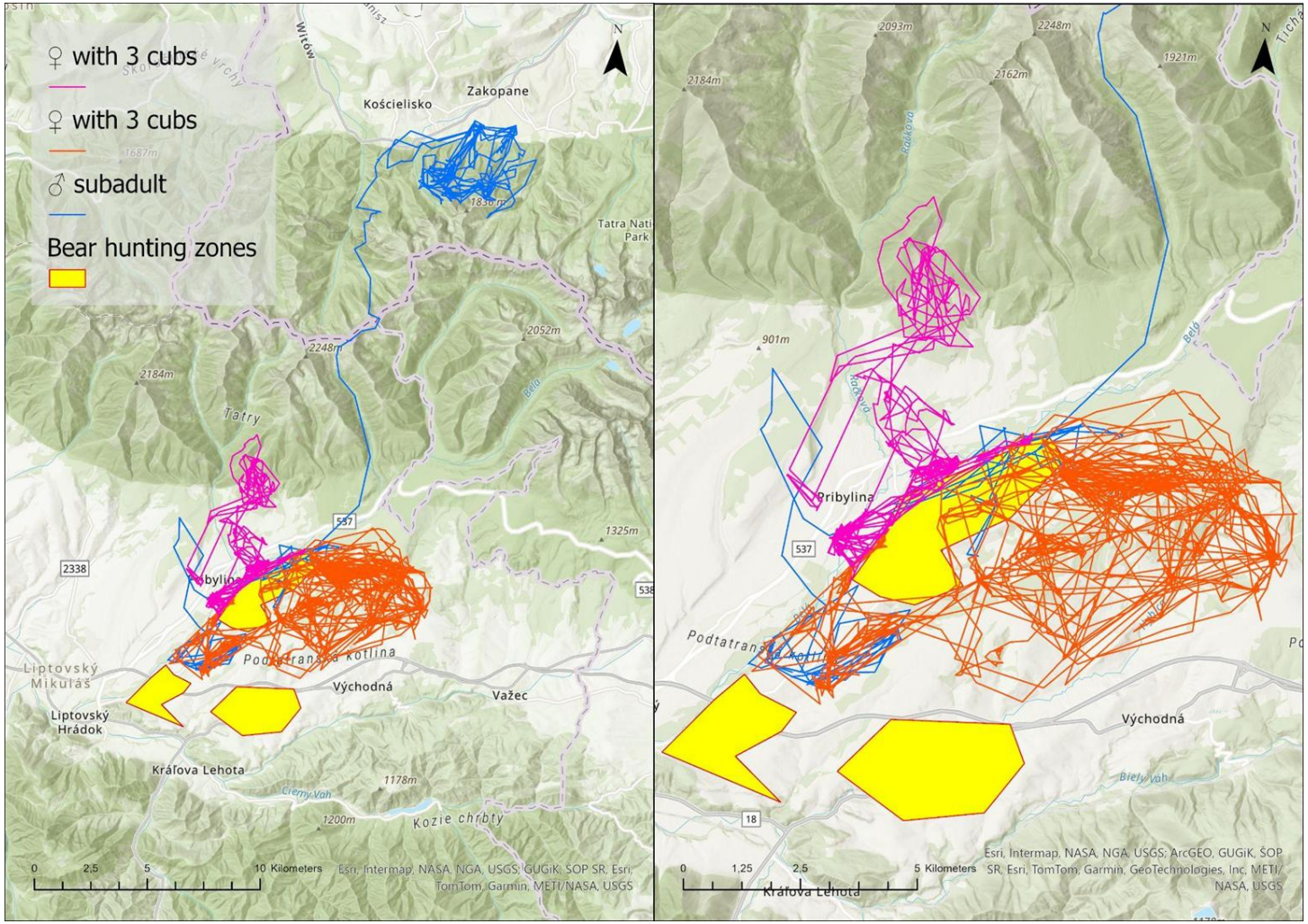
Source: generated by ChatGPT

Cropland

Transboundary challenges

Transboundary individuals
Different management regimes - strict protection vs. culling

- visualisation of movement of GPS monitored individuals in buffer zones with hunting under new management measures
- evidence of occurrence of individuals with no problem behaviour and different spatio-temporal activity and habitat selection
- transboundary individuals can be shot (individuals with migratory behaviour or dispersers)
- transboundary cooperation and assessment of possible effect on PL population viability needed



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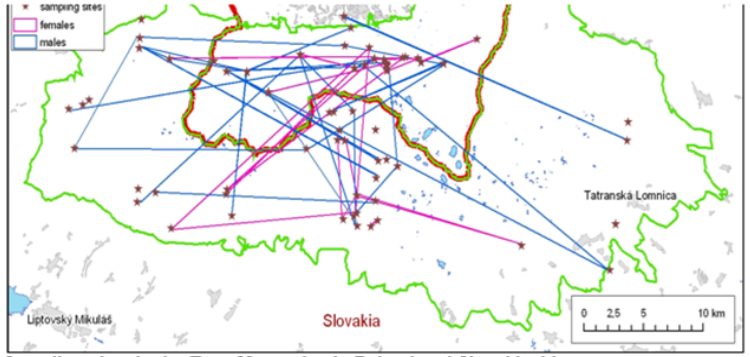
•First time conducted jointly by the National Parks in the Polish (TPN) and Slovakian (TANAP) Tatra Mountains in 2011 (April- October)

•Bear hair samples (N=371) were systematically collected from natural rubs and tree hair-traps, and then genotyped using 8 microsatellites

•Capture-Mark-Recapture (CMR, package Rcapture) for population estimates



Sampling sites in the Tatra Mountains in Poland and Slovakia. Lines connect locations where the same genotype was found.

Estimates	Polish Tatra	Slovakian Tatra	Whole Tatra
No. collected samples	143	228	371
No. genotyped samples	48	47	95
No. unique genotypes	30	24	42
No. genotypes found more than once	6	5	18
Min no. genotypes within one month	1.9 (±1.4)	4.5 (±4.4)	5.4 (±3.3)
Max no. genotypes within one month	15.4 (±3.4)	33.8 (±16.7)	35.2 (±10.1)
Total no. in 7-month period	**47.4 (±11.5)**	**60.4 (±21.4)**	**63.5 (±9.2)**

CMR estimations of bear numbers in the Polish, Slovakian and the whole Tatra

- Forty-two unique genotypes were identified:
  - 15 individuals were exclusively captured in Poland
  - 15 exclusively captured in Slovakia
  - 15 individuals were present on both sides of the border
- Population estimates suggest an overestimation of bear numbers in the whole area when conducting the monitoring separately
- Transboundary bears were recorded as far as 14 km (air distance) from the border
- The maximum distance between locations where the the same individual was trapped was 38 km
- Collared bears crossed the border very often. The only bear moving only in the Polish Tatra was monitored only for 50 days

Transboundary challenges

Transboundary individuals
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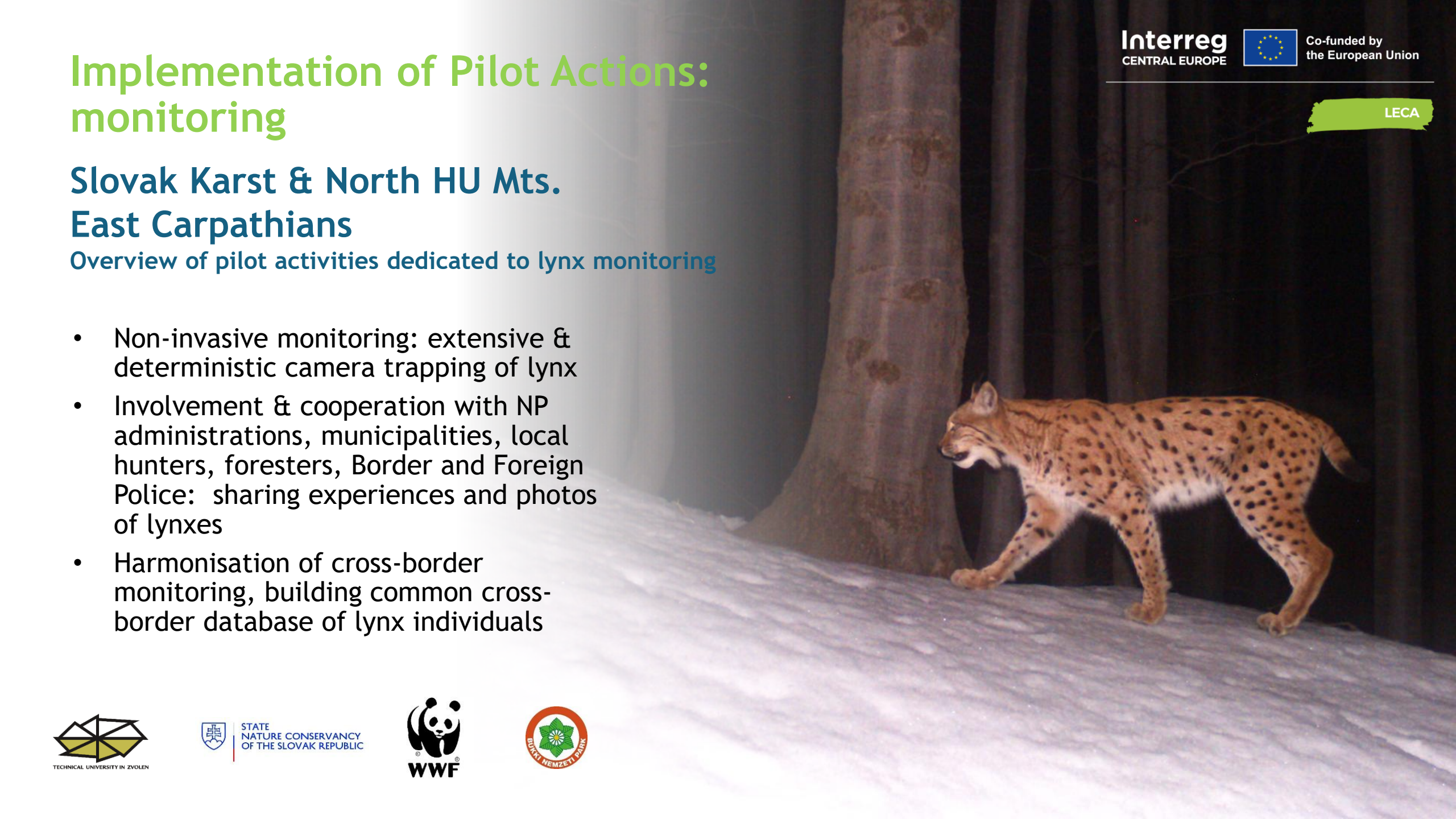
Implementation of Pilot Actions: monitoring

Slovak Karst & North HU Mts. East Carpathians

Overview of pilot activities dedicated to lynx monitoring

- Non-invasive monitoring: extensive & deterministic camera trapping of lynx
- Involvement & cooperation with NP administrations, municipalities, local hunters, foresters, Border and Foreign Police: sharing experiences and photos of lynxes
- Harmonisation of cross-border monitoring, building common cross-border database of lynx individuals



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STATE NATURE CONSERVANCY OF THE SLOVAK REPUBLIC
WWF
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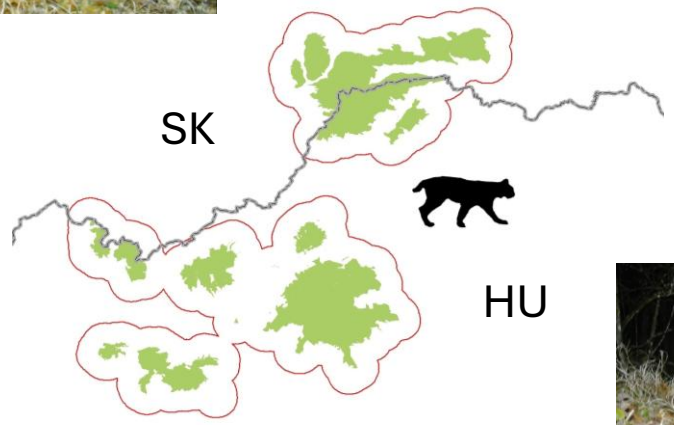
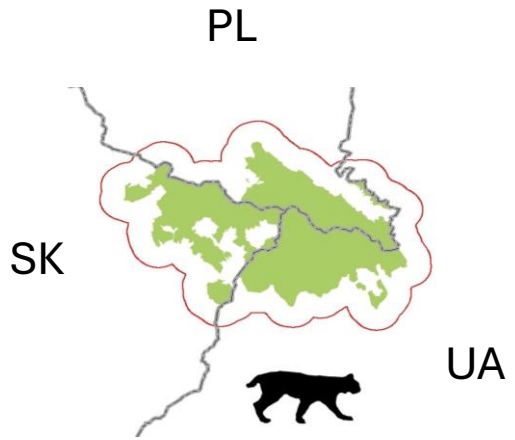
Extensive & deterministic camera trapping

Slovak Karst & North HU Mts.

Extensive CT: 10/23-10/24
Deterministic CT: 11/24-2/25; 46 camera stations



East Carpathians



Extensive CT: 10/23-10/24
Deterministic CT: 11/24-2/25; 98 camera stations

TECHNICAL UNIVERSITY IN ZVOLEN

STATE NATURE CONSERVANCY OF THE SLOVAK REPUBLIC

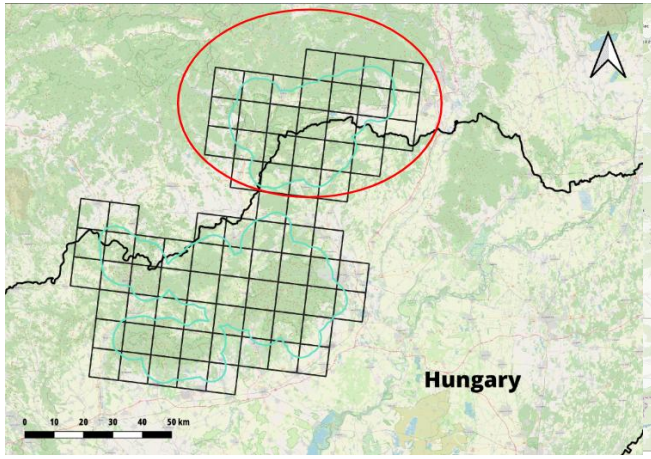
WWF

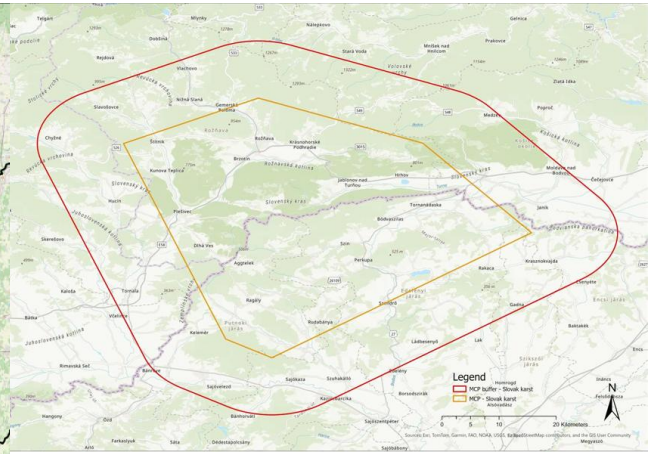
BÜKKI NEMZETI PARK

Deterministic camera trapping

Slovak Karst & North HU Mts.

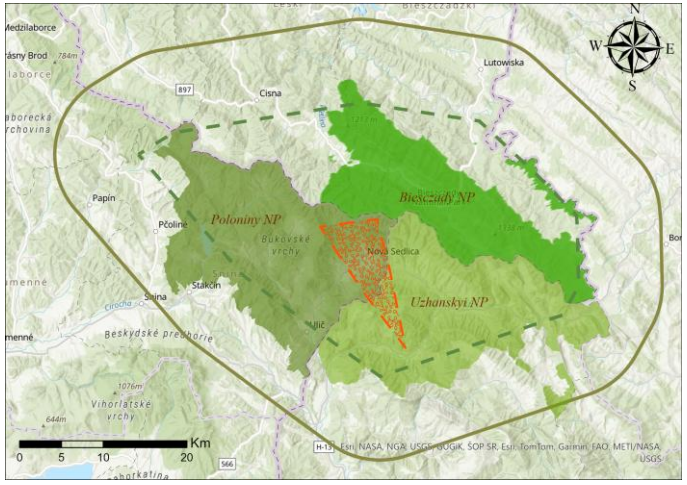
- **Minimum number of lynx: 2 individuals (1 ♂, 1 ♀)**
- **Estimated abundance: 3.03 ± 1.05** individuals;
- **Population density: 0.1 ± 0.03 lynx** / 100 km² of suitable habitat





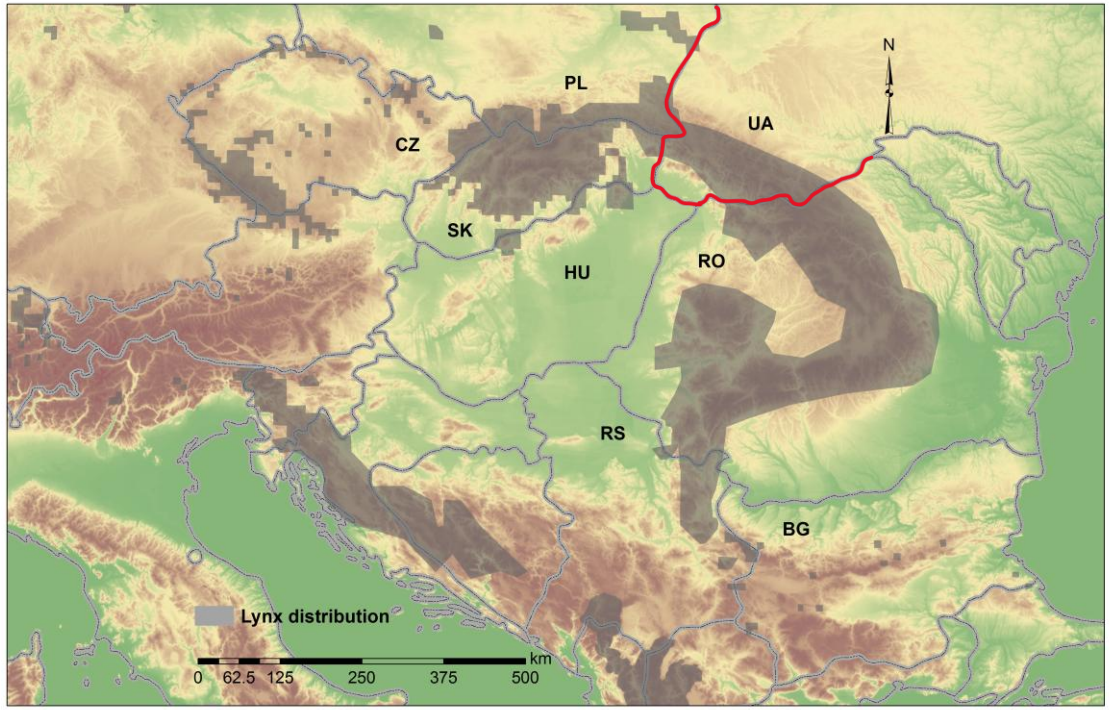
East Carpathians

- **Minimum number of lynx: 17 individuals (9 ♂, 5 ♀, 3 unknown);**
- **Estimated abundance: 33.2 ± 6.32** individuals;
- **Population density: 1.12 ± 0.21 lynx** / 100 km² of suitable habitat.



Transboundary challenges - East Carpathians

Ongoing fragmentation of the Carpathian lynx population

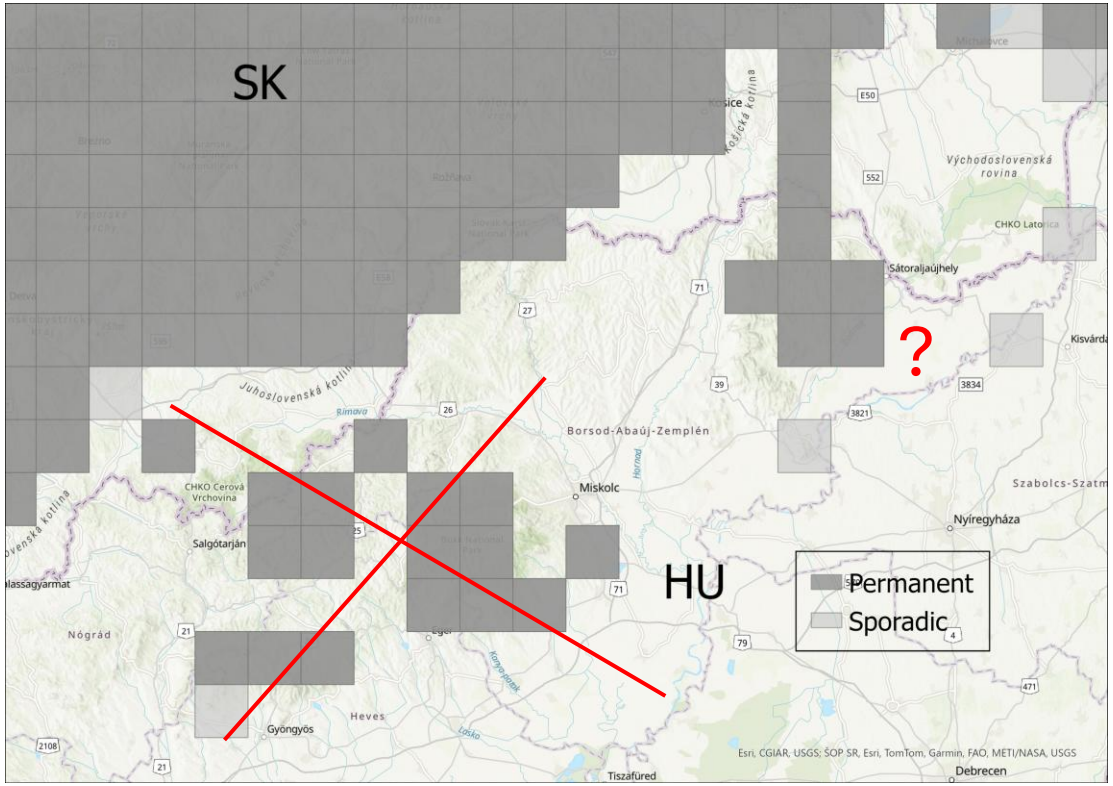


Source: Kubala et al. 2023a; https://dpsu.gov.ua/en

Transboundary challenges - Slovak Karst/North HU Mts.

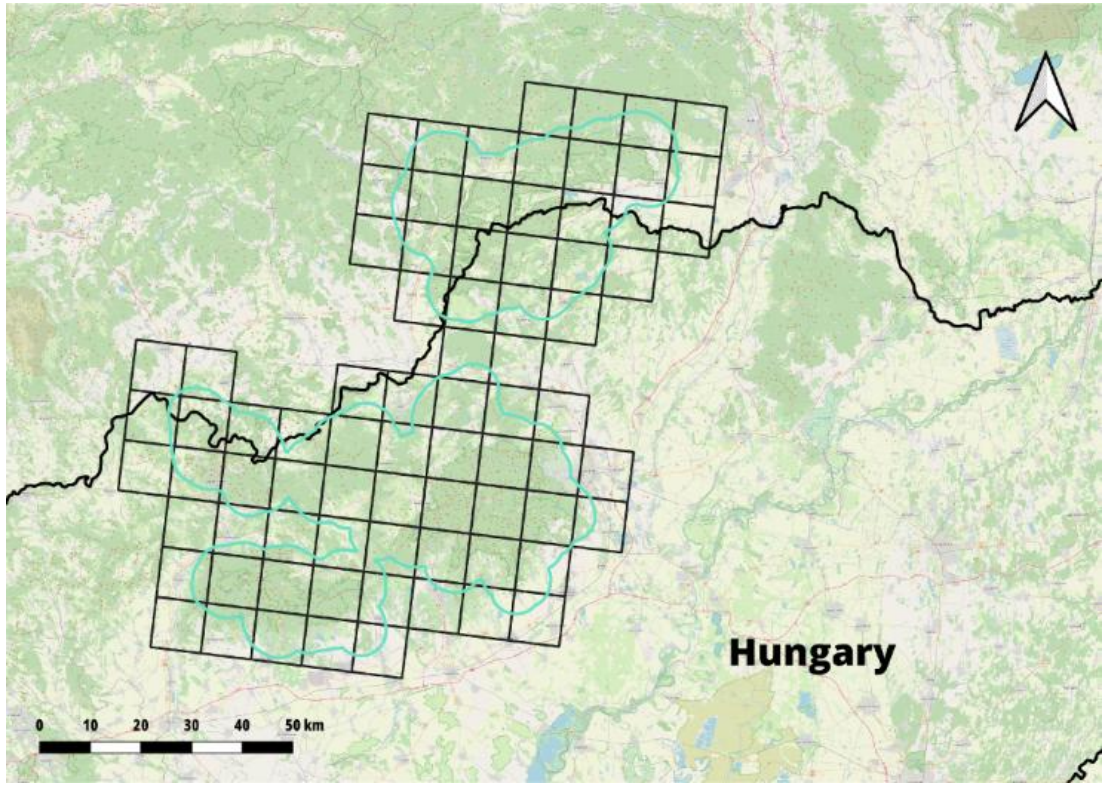
Lynx no detected in HU

The situation of the transboundary lynx population is worse than anticipated, even critical



Large carnivore distribution maps for Europe 2017 – 2022/23 - LYNX

Kaczensky et al. 2024



LECA monitoring 2023 – 2024 - LYNX

Transboundary challenges – Slovak Karst/North HU Mts.

Poaching? Stray dogs?

Key LECA outputs

Name, status and expected delivery

1. Pilot Action implemented in the Beskydy-Kysuce region on the monitoring, poaching prevention and conflict prevention of wolves.

Pilot Action in the Beskydy-Kysuce region on the monitoring, poaching prevention and conflict prevention of wolves. It uses GPS collars for wolf spatio-temporal activity, wolf leghold traps with AIHTS certificate or EC approval, trap accessories, camera traps with accessories, Fladry and fox lights for improving preventive measures and conflict prevention assessments. along with engagement tools & dialogue related to poaching and conflict prevention & management.

Type of output: **Pilot actions**

Status: **Developed**

Key LECA outputs

Name, status and expected delivery

2. Pilot Action implemented in the Tatra region on the monitoring, poaching prevention and conflict prevention of wolves.

Pilot Action in the Tatra Mountains on the monitoring, poaching investigation and conflict prevention of bears. It uses diet analyses (Metabarcoding), genetic analyses (extracting DNA, microsatellite genotyping). Hormones analyses (cortisol, progesterone, testosterone) GPS collar (standard, and with camera) for monitoring purposes and electric fence and bear proof containers for the conflict prevention assessments, along with engagement tools & dialogue on poaching & conflict.

3. Pilot Action implemented in the East Carpathians on the monitoring, poaching prevention and conflict prevention of lynxes.

Pilot Action in the East Carpathians on the monitoring, poaching prevention and conflict prevention of lynxes. It uses camera traps with accessories (field monitoring of lynxes) for monitoring and bear resistant rubbish containers, and different sets of electric fences for wolf and bear" conflict

Type of output: **Pilot actions**

Status: **In development**

Delivery: **December 2025**

4. Pilot Action implemented in the Slovak Karst - North Hungarian Mountains on the monitoring, poaching prevention and conflict prevention of lynxes.

Pilot Action in the SK Karst - N Hungarian Mountains area on the monitoring, poaching prevention and conflict mitigation of lynxes. It uses genetic analyses (microsatellite genotyping), and camera trapping with local rangers and hunting communities. Electric fences will be installed for conflict prevention with local livestock keepers. Peerto- peer meetings, roundtable discussions and study trips to establish trust and deepen the dialogue related to poaching, conflict prevention & mitigation

Key LECA outputs

Name, status and expected delivery

5. Monitoring Thematic Guidance on Large Carnivore conservation in the Carpathians

Thematic Guidance aimed at introducing effective, harmonized practices on monitoring of LC in cross border areas to yield a sustained flow of reliable data on LC populations in the Carpathians and a foundation of evidence-based policy making. The draft Thematic Guidance will be validated and revised through Pilot Actions and consulted with the relevant bodies of the Carpathian Convention and Alpine Convention for policy uptake , roll-out and upscale towards regional and EU level.

6. Poaching investigation Thematic Guidance on Large Carnivore conservation in the Carpathians

Thematic Guidance aimed at introducing scientifically well-founded, efficient and coordinated poaching investigation practices and tools, to be the basis for similar or identical anti-poaching regulations and procedures across the borders of the Carpathian countries. The draft Guidance will be validated and revised via Pilot Actions and consulted with relevant bodies of the Carpathian Convention and Alpine Convention for policy uptake , roll-out and upscale towards regional and EU level.

Type of output: **Solutions**

Status: **In development**

Delivery: **The outputs are expected to be finalized and published during winter - spring 2026**

7. Conflict prevention Thematic Guidance on Large Carnivore conservation in the Carpathians

Thematic Guidance aimed at introducing a set of measures following a symmetrical (human - LC) approach, to effectively protect both LCs, humans and their property and livestock from conflicts and damage in a resource-efficient way, offering adoptable and feasible limitations to all. Draft Guidance will be validated and revised via pilots and consulted with relevant bodies of the Carpathian Convention and Alpine Convention for policy uptake, roll-out and upscale to regional and EU level.

Key LECA outputs

Name, status and expected delivery

8. Recommendations for the implementation of the Carpathian Convention Action Plan on large carnivores

Complementary document to the Carpathian Convention "Action Plan on conservation of LCs and ensuring ecological connectivity in the Carpathians" incorporating innovative protocols defined by the Thematic Guidances validated and consulted with Carpathian Convention Biodiversity working group leading towards policy uptake , roll-out and upscale at Carpathian level.

9. Cross-border recommendations for Carpathian border regions

Pilot area specific, strategic documents transnationally validated via peer-reviews for each of the 4 pilot cross-border areas uptaken by stakeholders laying down the standard methodology, practices, equipment needs and approaches to provide a basis for recurring and ongoing assessment of large carnivore conservation issues (esp. monitoring, poaching, human-wildlife conflicts) elaborated through the engagement of local stakeholder platforms.

Type of output: **Strategies and action plans**

Status: **In development**

Delivery: **The outputs are expected to be finalized and published during autumn 2025 - spring 2026**

10. IT Solution for stakeholder involvement

CarniTrack

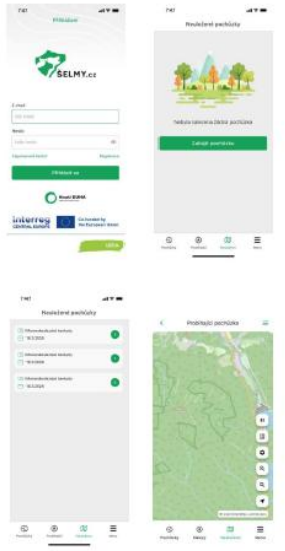
https://play.google.com/store/search?q=carnitrack&c=apps

https://apps.apple.com/us/app/carnitrack/id6737628977

An application tracking occurrences of large carnivores in the Carpathian region. It helps monitoring populations of bears, lynx and wolves across borders.

The app is available at Google Play, public and relevant stakeholders can download and use it.

The app can be used by a wide variety of stakeholders (hunters, foresters, livestock keepers,researchers, nature conservationists etc.) and lay people who benefit from information about LCs populations.

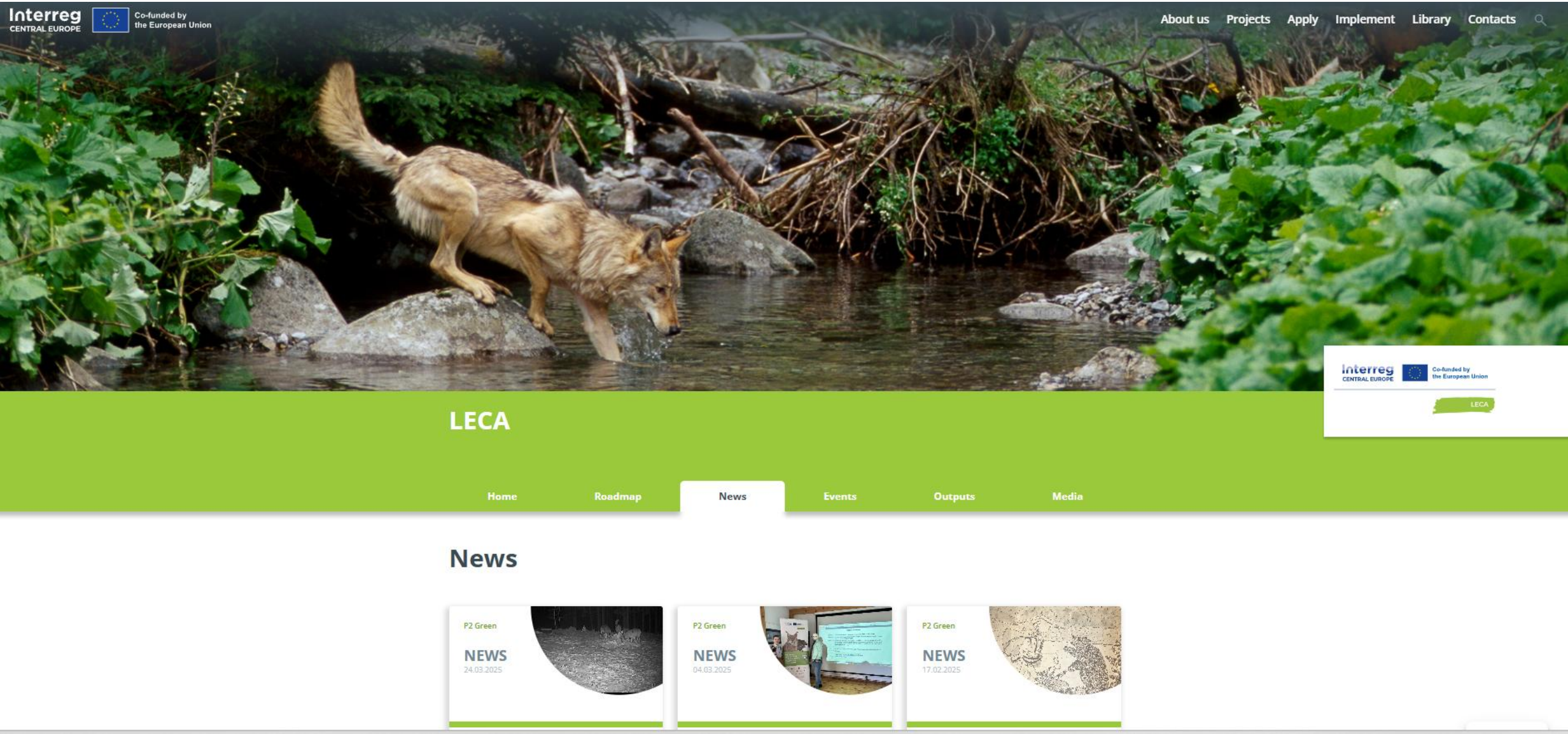


Type of output: **Solutions**

Status: **Finalised**

Delivery: **Delivered in 2024**

Thank you for your attention!



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Lead partner: Mendel University in Brno

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