IV. TusnadEcoBear conf

Book of Abstracts

21-24 October 2025
Băile Tușnad
Romania

IV. TusnadEcoBear Conference Contacts

Event organisation, venue, accommodation, logistics and program:
István Imecs - Project Bag Association
E-mail: asociatiaprojectbag@gmail.com
Tel: +40 743 775 213

Scientific content, speakers, and topics (until 08.2025):
Alexandra Sallay-Mosoi - WWF Romania
E-mail: asallay@wwf.ro
Tel: +40 728 424 667

Coordination of CoCo project conference participation and workshop chairman:
Mihai I. Pop
E-mail: popmihai@icdcrm.ro
Tel: +40 740 201 079

Content and editing of the Book of Abstracts:
Nándor Erős
E-mail: erosnandi@gmail.com
Tel: +40 756 306 431

Moderator:
Radu Pircă
E-mail: radupirca@gmail.com

Revised by: Members of TusnadEcoBear Team

ISSN: 3100-4075
ISSN-L: 3100-4075

IV. TusnadEcoBear Conference

21 - 24 October 2025
Hotel O3Zone, Aleea Sfânta Ana 2
Băile Tușnad 535100, Romania

Welcome Address

A conference about people and bears, about coexistence.

The aim of the event is to bring together a variety of views, competences and experiences from various experts from Europe and beyond, on the topic of human-large carnivore coexistence. The discussions shall foster the generation of practical and viable solutions for reducing human-wildlife conflicts in human dominated landscapes. The conference seeks to identify the current level of knowledge regarding the management of brown bear populations across Europe, as well as best and negative practices. The interaction between key international experts and young participants is highly encouraged in order to build capacity in terms of coping with future challenges (including the ones derived from climate change).

The conference is organised as part of the CERV project (101146879) "Coexisting with bears - Conservation needs Conversation!" funded by the European Union and implemented with the support of the ProjectBag Association (Destination Management Unit - Băile Tușnad and Surroundings ecotourism destination), Mayor's Office of Băile Tușnad, WWF-Romania, WWF Bulgaria, WWF Hungary, BOKU University, Austria) and New Horizons Bulgaria.

The conference is also supported by:

- the "TusnadEcoBear: Connect & Conserve" project, which receives funding from Bears in Mind foundation;
- the "Co-creating coexistence: Advancing policies, practices, and stakeholder engagement for integrating wildlife and livestock into sustainable multi-functional landscapes in Europe" project funded by the European Union's Horizon Europe – Research and Innovation programme (grant agreement No. 101181958);
- the Harghita County Council through the Csomád-Bálványos Intercommunity Development Association.

Respectfully,

TusnadEcoBear Team

István Imecs (Project Bag Association, Romania)
+40 743 775 213
imecs.istvan17@gmail.com

Funded by the European Union

Citizens, Equality, Rights and Values Programme (CERV)
Coexisting with bears Conservation needs Conversation!

CERV COEXISTENCE – PROJECT SUMMARY

"Coexisting with bears – Conservation needs Conversation!" (GA-Nr. 101146879)

Across EU member states, large-carnivore management is becoming increasingly challenging as both human safety and the conservation of wildlife populations have to be considered. There is a lack of a clear long-term vision for achieving and maintaining coexistence between humans and bears in many Eastern European countries, where human-bear conflicts are frequent. Rural communities are those actually affected and often ignored by the state authorities and other relevant stakeholders when it comes to establishing and implementing coexistence management plans. Therefore this project aims to foster participatory decision-making and collaborative management among the key stakeholders from 3 pilot countries (Romania, Bulgaria, Hungary) under the umbrella of academic knowledge and guidance (Austria) while promoting and ensuring active community engagement (local/regional community and general public) to provide guidelines for sustainable coexistence plans that go beyond changing political positions of local and state authorities. Thus, the project seeks to foster a sense of ownership and shared responsibility for brown bear conservation. Special attention will be paid to youth education and engagement to increase understanding, knowledge about human-bear conflict and the species management, while building empathy and support for bears in the upcoming decision-making generation. At present, policy debates and decision-making processes around coexistence with bears are conducted with a poor share of democratic/intercultural competence in traditionally patriarchal societies, thus the project targets the pro-active participation of marginalized groups such as women and ethnic and religious minorities. Lessons learned and best practices will be shared at the national and European levels and it will make sure that activities implemented remain operative and efficient after the project ends. This project contributes substantially to the implementation of EU and national policies.

https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/programmes/cerv

project BAG

BĂILE TUȘNAD ȘI ÎMPREJURIMILE destinație ecoturistică

WWF NATURA E ACASĂ

Program

IV.TusnadEcoBearConf

Monday – 20 October

18:00 **Welcome - Icebreaker (Hotel O3Zone) - "Ion Creangă" conference room**
Address: Aleea Sfânta Ana 2, Băile Tușnad 535100

Tuesday – 21 October

8:00 - 09:30 Registration (Hotel O3Zone)
09:30 - 10:00 Conference opening and introduction (EN/RO)

"Mihai Eminescu" Conference Room

Session 1: Carnivore Conservation in Multi-Use Landscapes

10:00 - 11:00	**John D. C. Linnell (Norvay) - Keynote Speaker (Professor at the University of Inland Norway and Senior scientist at the Norwegian Institute for Nature Research)**
11:00 - 11:20	Silvia Borlea (Romania): Impact of Land Use on Wildlife-Vehicle Collisions in Romania
11:20 - 11:40	Jörg Fabian Knufinke (Austria): Wolves in Austria – Modelling Socio-Economic Conflict and Habitat Potential to Inform Coexistence
11:40 - 12:00	Robin Rigg (Slovakia): Co-Creating Coexistence in Shared Landscapes
12:00 - 12:30	**Coffee break / Networking / Art for Coexistence – Exhibition & Auction**
12:30 - 12:50	Roman Cherepanyn (Ukraine): Telemetry Study of the Eurasian Lynx (*Lynx lynx*) in the Rivnenskyi Nature Reserve: First Insights Into Lynx Home Ranges in Ukraine - online
12:50 - 13:10	Dagmar Mirzoev, Lucie Baránková (Czech Republic): Current State of Harmonizing Monitoring, Conflict Prevention, and Anti-Poaching in the Carpathians: Insights from the 'Setting the Scene' Phase
13:10 - 13:30	Anna Steluta Manolache (Romania): A Structured Taxonomy and Decision-Making Framework for Human-Bear Interactions in Romania
13:30 - 13:50	Martin Duľa (Czech Republic): Project LECA – Supporting the Coexistence and Conservation of Carpathian Large Carnivores: Preliminary Outcomes from Monitoring and Conflict prevention Efforts Targeting Wolves and Bears in the Beskydy-Kysuce and Tatra Pilots
13:50 - 15:20	**Lunch break (Hotel restaurant) / Networking / Art for Coexistence – Exhibition & Auction**
15:20 - 15:40	Michal Haring (Slovakia): Improving Human-Bear Coexistence: Testing of Bear-Resistant Solutions in Slovakia
15:40 - 16:00	Sybille Klenzendorf (Germany): Test Results for Piloting SMART Conservation Software for Human-Wildlife Conflict Monitoring
16:00 - 16:20	Enache Costin (Romania): Monitoring Eurasian Lynx Population Using Camera Trapping in the Southern Carpathians of Romania
16:20 - 16:40	Szabó Szilárd (Romania): Characteristics of Bear-Related Damage Assessment in Harghita County
16:40 - 17:00	Alice Ouvrier (France): What Pastoralism and Bears Share: When Humans and Animals Shape Landscapes of Coexistence

17:00 - 17:10	**Poster section** Eliana Sevianu (Romania): Recolonization of Grey Wolves in Human-Dominated Transylvanian Landscapes: Land-Use Change, Coexistence, and Sustainable Development Robin Rigg (Slovakia): Carnivore Damage Prevention News (CDPnews)
17:10 - 17:30	**Coffee break / Networking / Art for Coexistence – Exhibition & Auction**

"Petőfi Sándor" Conference Room

Session 2: Carnivore Ecology in a Changing World: Climate and Habitat Challenges

17:30 - 18:30	**Cristian-Remus Papp (Romania) - Keynote Speaker (Wildlife and Landscapes National Manager, WWF-Romania / Associate Lecturer, Babes-Bolyai University)**
18:30 - 18:50	Máthé István (Romania): The Impact of Climate Change on Surface Waters of Large Carnivore Habitats in Szeklerland (Romania)
18:50 - 19:10	Ágnes Keresztesi (Romania): Climate Change in Romania and Implications for Ecosystems

19:30 Dinner - "Mihai Eminescu" conference room

Wednesday – 22 October

8:00 - 09:00 Registration (Hotel O3Zone)

"Mihai Eminescu" Conference Room

Session 3: Hunting, Population Management and Conservation: Balancing Ethics & Management Needs

9:00 - 10:00	**Klemen Jerina (Slovenia) - Keynote Speaker (Professor at the University of Ljubljana, Biotechnical Faculty, Department For Forestry and Renewable Forest Resources)**
10:00 - 10:20	Andra Neagu (Romania): Wildlife at Risk: A Media-Based Analysis of Wildlife Poaching in Romania
10:20 - 10:40	Mihai I. Pop (Romania): The Illusion of Optimum: Why Habitat Scores Are Unreliable for Brown Bear Management Decisions?
10:40 - 11:10	**Coffee break / Networking / Art for Coexistence – Exhibition & Auction**

Session 4: Local Community and Local Economy Roles in Carnivore Conservation

11:10 - 12:10	**Özgün Emre Can (Turkey) - Keynote Speaker (Assistant Professor at Ankara University, Department of Biology)**
12:10 - 12:30	Emese Kozma-Kis (Romania): From Education to Action: Youth Empowerment and Community Participation in Human–Wildlife Coexistence
12:30 - 12:50	Michal Feller (Czech Republic): From Data to Dialogue: The Role of Volunteer Monitoring in Large Carnivore Conservation
12:50 - 13:10	István Szabó (Romania): Collaborative Development of a Bear Smart Touristic Business Plan
13:10 - 13:30	Brady Mattsson (Austria): Beyond Reinvention: Toward Transparent Decisions for Community Engagement in Bear Conservation
13:30 - 14:40	**Lunch break (Hotel restaurant)/ Networking / Art for Coexistence – Exhibition & Auction**
14:40 - 15:00	Romana Uhrinová (Czech Republic): Between Fear and Fascination: Attitudes Toward Wolves, Bears, and Lynx in Czech Borderlands
15:00 - 15:20	Ovidiu Stancu (Romania): Captive Bear Dilemma
15:20 - 15:40	Michal Haring (Slovakia): Brown Bear Conservation in Slovakia: The Rising Role of NGOs and Scientists
15:40 - 16:00	István Imecs (Romania): Empowering youth for human–large carnivore coexistence: education and engagement outcomes
16:00 - 16:20	**Coffee break / Networking / Art for Coexistence – Exhibition & Auction**

Session 5: Camera Traps, AI and Drones: The Future of Carnivore Research and Conflict Prevention

16:20 - 17:20	**Dimitris Bormpoudakis (Greece) - Keynote Speaker (Callisto - Wildlife and Nature Conservation Society): Keynote Presentation: Emergent Technologies for Human–Wildlife Coexistence**
17:20 - 17:40	Ruben Iosif (Romania): Wolf Population Size and Composition in One of Europe's Strongholds, the Romanian Carpathians
17:40 - 18:00	Cosmin-Andrei Conțu (Romania): RO-BEAR: A Year of Progress in Bear Sighting Monitoring
18:00 - 18:20	Claudiu Olenici (Romania): AnimAlert Digital Platform – Between Citizen Science and Stakeholders' Actions
18:20 - 18:40	László Gál (Romania): Does Supplementary Feeding Affect Brown Bear Habituation and Human–Bear Conflicts?

"Petőfi Sándor" conference room

18:45 - 20:00	Panel discussion: Is Human-Bear Coexistence Feasible Under the Current Human Landscape Domination? Part 1. Authority perspective (RO) Part 2. Civil, academic, national park's and LCIE perspective (EN)

20:00 Dinner - "Mihai Eminescu" conference room

Thursday – 23 October: Field trip & on-site Workshop

9:30 - 10:30	Departure by bus to the Mohos Peat Bog – Lake Saint Anne Natura 2000 site (ROSCI0248).
10:30 - 10:45	Reception by **Levente Dósa** (Executive Director of the Pro Szent Anna Association and the Director of the Administration of Saint Anne Lake and the Mohos Peat Bog) in the parking area, followed by a brief introduction of the visitor center
10:45 - 13:00	**István Szabó** (Foundation Conservation Carpathia, Romania): Knowledge-sharing workshop on bear-smart business plans (location: visitor center)
13:00 - 14:00	**Lunch on site (location: visitor center)**
14:00 - 17:00	**Levente Dósa**, guided tour: Mohos Peat Bog and Saint Anne Lake, as well as the particularities of the daily coexistence with bears
17:00 - 18:00	Return trip by bus to the Hotel O3Zone (Address: Aleea Sfânta Ana 2, Băile Tușnad 535100)
19:00 - 02:00	**Gala dinner** Live concert, wine & snacks (Tulip restaurant and event hall) We will provide a welcome package for everyone in attendance, which includes wine, spirits, water, soft drinks, and appetizers. Afterward, additional drinks can be purchased at the bar. Address: 50 meters from the O3Zone hotel (restaurantlaleaua.com)

Friday – 24 October: Workshop day - Participation is by invitation only, whereas the audience may attend freely

"Petőfi Sándor" Conference Room

Workshop 1. - Main language: EN	**Brady Mattsson & Jörg Fabian Knufinke (Institute of Wildlife Biology and Game Management, BOKU University, Austria): Stakeholder Workshop - Brown Bear Management**
9:30 - 10:00	Registration & Welcome Coffee
10:00 - 10:15	Workshop opening and introductory presentation
10:15 - 11:15	Interactive session
13:00 - 14:00	**Lunch break (Hotel restaurant)/ Networking / Art for Coexistence – Exhibition & Auction**
14:00 - 15:30	Interactive session
15:30 - 16:00	Conclusions & EU survey

"Mihai Eminescu" Conference Room

Workshop 2. - Main language: RO	**Mihai I. Pop (Research and Development Institute for Wildlife and Mountain Resources, Miercurea Ciuc, Romania): Designing Potential Scenarios for Collaboration Between Pastoralism and Wildlife Management**
9:00 - 9:30	Registration & Welcome Coffee
9:30 - 10:00	Presentation of CoCo project & Workshop goal
10:00 - 10:20	Presentation of the Methodology
10:20 - 10:50	Interactive session part (1) – Individual work
10:50 - 11:20	**Coffee break**
11:20 - 13:00	Interactive session part (2) – Group work
13:00 - 14:00	**Lunch break (Hotel restaurant)/ Networking / Art for Coexistence – Exhibition & Auction**

Contents

Tuesday, 21 October
Session 1: Carnivore Conservation in Multi-Use Landscapes

Keynote Presentation: What Does Successful Wildlife Conservation Look Like in Human-Dominated Landscapes: Legal, Ecological, and Social Perspectives

21 Oct 2025 10:00

John Linnell

University of Inland Norway, Department of Forestry and Wildlife Management, Anne Evenstads Vei 80, NO-2480, Koppang, Norway

e-mail: john.linnell@inn.no

As large carnivore populations increase in numbers and distributions across Europe there needs to be a serious discussion about how they should be managed in the context of their presence in human-dominated landscapes.

Impact of Land Use on Wildlife-Vehicle Collisions in Romania

21 Oct
2025
11:00

Silvia Borlea [1*], Marius Nistorescu [1], Alexandra Doba [1], Radu Mot [2]

[1] EPC Consultanta de mediu, Calea Floreasca Street 60, Bucharest, Romania
[2] Zarand Association, Mihai Viteazul Street 44, Brasov, Romania

[*]*e-mail: silvia.borlea@epcmediu.ro*

Wildlife-vehicle collisions (WVC) are a growing ecological concern in Romania due to rapid motorway expansion and the absence of centralized WVC monitoring. This presentation addresses an important gap by correlating WVC patterns in Romania with land use types, offering insights for infrastructure planning and design in biodiversity-sensitive, data-deficient contexts. The analysis focused on WVC data across Romania, compiled from citizen science platforms, social media and papers, resulting in a dataset of 3,037 validated records spanning a 10-year period across Romania. Conducted at the national level, each WVC point of the database was spatially linked to the dominant land use within a 30-meter radius, based on information from the ESA 2021 land cover data. Land use categories were classified and standardized, and a correlation matrix was generated to assess species-specific mortality risks associated with different habitat types. Among carnivorous mammals, the red fox (*Vulpes vulpes*) was the species most frequently recorded as roadkill, with 456 individuals, over twice as many as the second most affected species. European badgers (*Meles meles*) accounted for 201 individuals, followed by golden jackals (*Canis aureus*) with 107. The majority of these collisions occurred in cropland and built-up areas, highlighting these land use types as high-risk zones for mobile, generalist carnivores. Red foxes, jackals, and badgers appear particularly vulnerable in transitional zones between agricultural and urban landscapes, where increased food availability and reliance on edge habitats increase their exposure to road networks. Red foxes and other generalist carnivores are the most frequently affected species in wildlife-vehicle collisions in Romania. Their high mortality rates in cropland and peri-urban areas underscore the urgent need for targeted mitigation strategies at agricultural-urban interfaces, incorporating species-specific measures into road infrastructure planning to reduce collision risk and minimize biodiversity impacts in these high-conflict zones.

Wolves in Austria – Modelling Socio-Economic Conflict and Habitat Potential to Inform Coexistence

21 Oct 2025 11:20

Jörg Fabian Knufinke [1*], Florian Kunz [1], Luca Fuchs [1], Matthias Amon [1], Klaus Hackländer [1,2], Jennifer Hatlauf [1]

[1] BOKU University, Institute of Wildlife Biology and Game Management Department: Department of Ecosystem Management, Climate and Biodiversity, 1180 Wien, Gregor-Mendel Street 33, Austria

[2] Deutsche Wildtier Stiftung (German Wildlife Foundation), 20457 Hamburg, Lucy-Borchardt Street 2, Germany

[*]*e-mail: fabian.knufinke@boku.ac.at*

This study presents comprehensive analyses of both habitat- and conflict potential for wolves in Austria. First, a habitat model identified key areas that may provide optimal ecological conditions for wolf packs. Using current data, the model provides an up-to-date representation of potential regions where packs are likely to occur, regardless of their current distribution. Secondly, the conflict model evaluated socio-economic factors, including livestock depredation, livestock production, compensations, and socio-ecological factors, such as protective forest and red deer feeding sites. We used correlative statistical modeling and mechanistic approaches to build models for habitat potential, predation susceptibility and human-wildlife conflict and coexistence. All spatial models were built at fine spatial scales, using moving window approaches. Coexistence was assessed using an expert-based mechanistic approach, which involved experts in weighing factors and defining the conflict potential. Emphasis was placed on generating appropriate input data, including stakeholder-specific variables for hunting, forestry, agriculture, tourism and the general public. Provincial government involvement played an important role in this study: at least one representative from each of the funding provinces and one from the federal agricultural ministry were involved through workshops to evaluate the models. The results were merged and priority areas for management were identified, particularly those where high habitat- and high conflict potential overlap. Overall, the resulting maps are presented based on several scenarios: seasonal and stakeholder group-specific conflict potential. Through the integration of management actions as scenarios this is providing a necessary tool for discussion and management of growing wolf populations. Unlike models based solely on surveys to represent conflict, this model analysed accessible data to produce a detailed and actionable map of high-conflict areas. By combining ecological requirements with socio-economic concerns, this study provides a basis for sustainable wolf management and supports wider conservation coexistence objectives.

Co-Creating Coexistence in Shared Landscapes

21 Oct 2025 11:40

Robin Rigg [1*], Daniel Collado [2], Katrina Marsden [3], John Linnell [4]

[1] University of Ljubljana, Biotechnical Faculty, Department of Biology, Jamnikarjeva 101, 1000 Ljubljana, Slovenia
[2] Agrifood Research and Technology Center of Aragon, Department of Animal Science, Avda. Montañana 930, 50059 Zaragoza, Spain
[3] Adelphi consult, Department of Biodiversity, Alt-Moabit 91, 10559 Berlin, Germany
[4] University of Inland Norway, Department of Forestry and Wildlife Management, Postboks 400 Vestad, 2418 Elverum, Norway

[*]*e-mail: info@cocoproject.eu*

The recovery of large carnivores presents additional challenges for pastoralism, which is already under pressure from multiple socio-economic drivers. Addressing these challenges is complicated by conflicts between stakeholders and the contested nature of relevant knowledge. These issues are the focus of the EU Horizon Europe project Co-creating Coexistence (CoCo): advancing policies, practices and stakeholder engagement for integrating wildlife and livestock into sustainable multi-functional landscapes in Europe. Through respectful, constructive dialogue and a collaborative approach, it aims to minimize wildlife-related conflicts, ease tensions and achieve a balance that benefits both people and wildlife. The CoCo project (https://cocoproject.eu) establishes a collaboration among scientists, policymakers and stakeholders to help people and wildlife thrive side by side. It seeks to co-create and consolidate a diversity of knowledge forms concerning pastoralism–wildlife interactions, from different scientific disciplines to traditional practices and local experience across 12 case study countries. This will be used as a basis for developing policy recommendations and tools for practitioners to promote sustainable coexistence in shared landscapes. The research is multi-disciplinary in nature, with a strong social science component, a Multi-Actor Approach and widespread stakeholder engagement that facilitates the co-creation of knowledge. There are 20 specific tasks, organized into eight work packages. In this presentation, we focus on a '1,000 pastoralists' survey, which uses farm visits and face-to-face interviews to gather data on livestock farmers' perspectives, husbandry practices and damage prevention measures. At the time of the IV. TusnadEcoBear conference in 2025, fieldwork will still be underway and analyses yet to be completed. We will therefore present preliminary findings from a case study in Slovakia. Insights from the pastoralists survey together with other findings will be incorporated into a 'roadmap for coexistence' that produces policy-relevant recommendations for better standardisation and harmonisation of extensive livestock farming and wildlife management systems in Europe. The ambition is to transform entrenched conflict into a future state where pastoralism is valued, viable and coexists with wildlife in shared landscapes.

Telemetry Study of the Eurasian Lynx (*Lynx lynx*) in the Rivnenskyi Nature Reserve: First Insights Into Lynx Home Ranges in Ukraine

21 Oct 2025 12:30

Roman Cherepanyn [1,2*], Mykhailo Franchuk [3], Jakub Kubala [4], Yuriy Andreychuk [5], Ihor Dykyy [2,6], Taras Yamelynets [2,5]

[1] Vasyl Stefanyk Carpathian National University, Biology and Ecology Department, Taras Shevchenko Street 54, 76018 Ivano-Frankivsk, Ukraine
[2] WWF-Ukraine, Wildlife team, Raisy Okipnoi Street 4, office 170, 02002 Kyiv, Ukraine
[3] Nature Reserve "Rivnenskyi", Scientific-Research Department, "Dubky tract" Street 1, Chudel village, Sarny District, 34542 Rivne Region, Ukraine
[4] Technical University in Zvolen, Department of Applied Zoology and Wildlife Management, T. G. Masaryka Street 24, 96001 Zvolen, Slovakia
[5] Ivan Franko National University of Lviv, Faculty of Geography, Universytetska Street 1, 79000 Lviv, Ukraine
[6] Ivan Franko National University of Lviv, Zoology Department, Universytetska Street 1, 79000 Lviv, Ukraine

[*]*e-mail: rcherepanyn@wwf.ua*
roman.cherepanyn@pnu.edu.ua
roman.cherepanyn@gmail.com

Currently, in Ukraine, there is practically no real experimental assessment of the spatial structure of the Eurasian lynx (*Lynx lynx*), the size of its home ranges, and the ecological limitation of the species to certain areas based on telemetric data. Information on the spatial structure of the lynx population is important for a better understanding of the species' ecology and for improving the effectiveness of lynx management and protection in nature conservation and economic territories within various landscape complexes. Therefore, the task of the work is to study and evaluate the lynx home ranges and the peculiarities of its ecology within the Polissia region in Ukraine based on GPS-GSM telemetry data. Work on the temporary removal of lynx individuals from nature for the installation of a GPS-GSM telemetry collar of the "Ecotone" company was carried out on the territory of the Nature Reserve "Rivnenskyi" (Polissia region of Ukraine). The temporary removal of the lynx was carried out by the method of catching an individual in a box trap. As a result of the operation of the box trap, on February 4, 2023, it was possible to catch a sexually mature (4-5 years old) male lynx weighing 22 kg, and after appropriate manipulations according to the protocol, the animal was successfully released. The animal was briefly anaesthetised for collar placement in accordance with international veterinary protocols. It was possible to obtain telemetry data from the collar (487 GPS coordinates) for the period from February 4, 2023, to August 6, 2023. The device worked in the mode of fixing 4 locations per day with an interval of 6 hours between each. Later, due to a technical malfunction, the device stopped sending GPS locations. The obtained data were evaluated monthly, seasonally (spring, summer), during the mating and non-mating periods and for the entire observation period. Spatial-temporal geodata of the GPS tracker were processed using ESRI ArcGIS Pro 3.2.2 licensed software. The lynx's average annual home range varied between 258 and 351 km^2, depending on the estimator applied (100% MCP, AKDE, KDE). Clear seasonal differences were observed, with larger ranges in the non-mating period (246 km^2, 100% MCP) and smaller ranges in the mating period (160 km^2, 100% MCP). *Capreolus capreolus*, *Sus scrofa*, *Lepus europaeus*, *Castor fiber* and *Tetrastes bonasia* are noted in the lynx male's diet. Cases of elimination of *Vulpes vulpes* and *Nyctereutes procyonoides* as trophic competitors are observed. 30.5% of all telemetric observations of lynxes were recorded within nature conservation areas, and 69.5% were recorded in economic territories. Our results correspond to trends observed in other European lynx populations, yet they also demonstrate region-specific variations influenced by local environmental features. The data obtained on the male lynx in the Polissia region of Ukraine provide valuable insights into the species' ecology and contribute to the effective management and conservation of lynx populations. Future telemetry studies in the Ukrainian Carpathians are essential to enable comparative analyses of spatial parameters between Baltic and Carpathian lynx populations.

Current State of Harmonizing Monitoring, Conflict Prevention, and Anti-Poaching in the Carpathians: Insights from the 'Setting the Scene' Phase

21 Oct 2025 12:50

Martin Duľa [1], Jakub Kubala [1], David Sütő [1], Branislav Tám [1], Dagmar Mirzoev [1*], Lucie Baránková [1**]

[1] The LECA Project Consortium, Ministry of the Environment of the Czech Republic, Department of Species Protection and Implementation of International Commitments, Vršovická 1442/65, 100 10 Prague, Czech Republic

[*] *e-mail: dagmar.mirzoev@mzp.gov.cz*
[**] *e-mail: lucie.barankova@mzp.gov.cz*

The project LECA's first deliverable established a Carpathian-wide baseline: the status of large-carnivore monitoring, the extent of human–carnivore conflict, and the scale of illegal killing. This presentation synthesizes the key insights and contrasts national management approaches across participating countries. Analyses covered the Carpathian region and were implemented through a transnational consortium. The work comprised four parallel strands: (1) Monitoring – country-level procedures and data-validation workflows collated and compared across participating states; (2) Status report – existing large-carnivore population data for pilot areas compiled, with occurrence frequencies mapped from available datasets; (3) Conflict prevention – evidence synthesised from damage reports and an inventory of mitigation tools, including preventive programmes and compensation systems, assessed both in pilot areas and at national scale; and (4) Anti-poaching – a review of applicable legislation, illustrative case studies, and indicators of investigative effectiveness. Across the Carpathians, a clear baseline was produced for four topics - monitoring, population status in pilot areas, conflict prevention, and anti-poaching. The reviews flag key differences and gaps, as well as areas of common ground. All findings are compiled in concise reference documents that form the foundation for LECA's next steps. The consolidated documents provide a practical starting point for harmonised monitoring, conflict-mitigation and anti-poaching across the Carpathians. Priorities now are to standardise core methods and validation, strengthen cross-border data sharing and reporting, and pilot and scale evidence-based mitigation and enforcement.

A Structured Taxonomy and Decision-Making Framework for Human-Bear Interactions in Romania

21 Oct 2025 13:10

Anna Steluța Manolache [1*], Teodora Sin [1,2], Lavinia Pândaru [1], Marian Mirea [1], Mihai Pop [1,2,3]

[1] Centre for Environmental Research and Impact Studies, University of Bucharest, 1 Nicolae Bălcescu Blvd., Bucharest, 010041, Romania

[2] Association for the Conservation of Biological Diversity (ACDB), 12 Ion Creangă street, Focșani, Vrancea, Romania

[3] Research and Development Institute for Wildlife and Mountain Resources, 35/B Progresului street, Miercurea Ciuc, Harghita, Romaniaa

[*] *e-mail: anna.manolache@unibuc.ro*

Human–bear interactions (HBI) are a growing challenge for wildlife management in Romania, where brown bear (*Ursus arctos*) populations increasingly overlap with expanding human settlements and rapidly changing landscapes. Existing administrative approaches largely frame these interactions as human–wildlife conflict (HWC), focusing on economic damage and public safety. This conflict-centered paradigm limits balanced coexistence strategies and oversimplifies the socio-ecological dynamics of HBI. Building on existing human–wildlife interaction typologies, we propose an applied framework for HBI in the Romanian context, based on a structured synthesis of a multi-year dataset of administrative incident reports (2015–2024), peer-reviewed literature, as well as validated management tools, including the LIFEURSUS risk guidelines. Adapting existing classifications, we refined and described six interaction types: (1) neutral presence, (2) opportunistic proximity, (3) material damage, (4) direct conflict, (5) accidental encounters, and (6) positive interactions. Each category is graded for risk to humans and bears, with corresponding management actions ranging from non-intervention and education to aversive conditioning and reactive removal. Building on this typology, we propose a decision-making framework tailored to the Romanian context, designed for county wildlife authorities, protected area managers, and emergency teams. The framework integrates risk-based escalation and emphasizes preventive, non-lethal responses while incorporating spatial, temporal, and socio-ecological predictors such as forest edge proximity, anthropogenic attractants, and response capacity gaps. Our adapted typology, together with the proposed decision-making framework, is intended to underpin efforts to improve HBI governance by harmonizing terminology, standardizing incident reporting, and supporting the development of evidence-based, context-sensitive management strategies for human–bear interactions.

Project LECA – Supporting the Coexistence and Conservation of Carpathian Large Carnivores: Preliminary Outcomes from Monitoring and Conflict prevention Efforts Targeting Wolves and Bears in the Beskydy-Kysuce and Tatra Pilots

21 Oct 2025 13:30

Martin Duľa [1*], Romana Uhrinová [2], Mikuláš Hančin [2], Štefan Renčo [3], Tomasz-Zwijacz-Kozica [4]

[1] Mendel University in Brno, Department of Forest Ecology, Zemědělská 1, 613 00, Brno, Czech Republic
[2] Friends of the Earth Czech Republic, Carnivore Conservation Programme, Dolní náměstí 38, 779 00, Olomouc, Czech Republic
[3] State Nature Conservancy of the Slovak Republic, Tajovského ul. 28B, 974 01 Banská Bystrica, Slovakia
[4] Tatra National Park, Kuźnice 1, 34-500 Zakopane, Poland

[*]*e-mail: martin.dula@mendelu.cz*

The LECA project seeks to strengthen coexistence and the long-term conservation of large carnivores in the Carpathians by designing, implementing, and testing innovative approaches for monitoring, conflict prevention, and anti-poaching efforts. Within two cross-border pilot areas, Beskydy-Kysuce (CZ, SK) focusing on wolves and the Tatra Mountains (PL, SK) targeting bears, partners have carried out harmonised monitoring and conflict prevention actions to generate robust data for informed decision-making. These efforts directly contribute to the development of a harmonized, evidence-based framework for large carnivore conservation and management across the Carpathian region. A combination of invasive and non-invasive methods was harmonized across borders, with strong involvement of both the public and key stakeholders. In the Beskydy-Kysuce pilot area, project partners carried out systematic monitoring and documentation of wolf presence in combination with camera trapping, intensive non-invasive genetic sampling and GPS telemetry. These efforts aimed to estimate population size, identify wolf territories and reproduction units, and identify hotspots of human-wolf conflict. In the Tatra Mountains, primary activities focused on intensive tracking of bears by GPS collars, along with genetic and hormonal analyses of scats, to better understand spatial movements, feeding behaviour, and key attractants driving human-bear conflicts. In the Beskydy–Kysuce pilot area (Oct 2023–Mar 2025), we GPS-collared five female wolves, generating 10,000+ GPS locations. Across two wolf years (2023/24–2024/25), we also documented 3,500+ camera-trap records and 1,200+ verified signs (scats, prey remains, tracks, livestock depredations), and collected 226 DNA samples during intensive non-invasive sampling (Dec 2024–Mar 2025). In the Tatras (Apr 2023–Jul 2025), we collared 12 bears, including the first video-collared individuals in the Western Carpathians, yielding tens of thousands of GPS fixes and hundreds of video clips. Additionally, we collected and analysed 300+ scat samples to assess hormonal status and diet. The LECA pilot actions clearly demonstrate both the feasibility and importance of cross-border collaboration in the conservation and management of large carnivores. Through standardized monitoring protocols, integrated databases, and coordinated transboundary efforts in monitoring and conflict prevention, the project has established a solid foundation for replicable approaches to large carnivore management across national borders. The outcomes underscore the essential role of stakeholder engagement, methodological alignment, and timely data sharing in achieving effective and sustainable results.

Improving Human-Bear Coexistence: Testing of Bear-Resistant Solutions in Slovakia

21 Oct 2025 15:20

Michal Haring

Comenius University Bratislava, Department of Sociology, Safarikovo namestie 6, 814 99, Bratislava, Slovakia

e-mail: haringmiso@gmail.com

As interactions between brown bears and human communities become more frequent in Slovakia, the need for effective and practical conflict prevention tools is urgent. To ensure coexistence and reduce risks, we explored how well various bear-resistant waste management solutions perform when directly tested by a bear. We conducted a series of controlled experiments in cooperation with a ZOOs in Slovakia, using a brown bear to test the durability and effectiveness of different bear-resistant containers. The bears were presented with attractants placed inside various types of bins commonly used in field. These tests help simulate real-world conflict scenarios in a safe environment and allowed for objective comparison of technical solutions. Our aim was to identify and promote solutions that are not only bear-resistant, but also feasible for wider implementation across Slovakia. The tests revealed differences in the effectiveness of various containers. The bear used a range of strategies - such as pushing, biting, and overturning - to access the food, providing valuable insights into the strengths and weaknesses of each design. These observations help identify which solutions are more likely to perform well under real-world conditions. Testing bear-resistant solutions under controlled conditions provides critical information for designing better conflict prevention tools. Whether successful or not, each test helps refine our understanding of what works—and what doesn't - in real - world coexistence strategies.

Test Results for Piloting SMART Conservation Software for Human-Wildlife Conflict Monitoring

21 Oct 2025 15:40

Sybille Klenzendorf [1], Alex Wyatt [2]

[1] WWF Germany, Department of Wildlife Conservation, Reinhardt Street 18, 76694 Forst, Germany
[2] WWF Cambodia, Department of Wildlife Conservation, WWF Cambodia, Phnom Penh, Cambodia

[*]*e-mail: sybille.klenzendorf@wwf.de*

Effective management of human – wildlife conflict (HWC) requires standardized monitoring to allow for periodic review of conservation strategies and their effectiveness. The Spatial Monitoring And Reporting Tool (SMART) was developed in 2011 to aide conservation managers in understanding wildlife population trends and threats to their survival, mainly focused on poaching (http://smartconservationtools.org/). The advantage of SMART is that it is open-source software, can be web-based, allows for mobile data uploads via smartphones and can be user-access controlled. Since 2019 it has been implemented to monitor Human-Wildlife Conflict across various sites and species. In 2009, the polar bear range states agreed on the need to develop a Polar Bear-Human Information Management System (PBHIMS) to catalogue interactions in a more systematic manner. PBHIMS enables a data-based assessment of bear-human interactions and provides a scientific framework for preventing negative bear-human interactions in the future. WWF supported polar bear range states in the development of PBHIMS. Initially, the database was designed in Microsoft Access with no mobile or web applications. This resulted in numerous limitations that prevented range-wide implementation. WWF and eight other conservation organizations developed a Spatial Monitoring And Reporting Tool (SMART) in 2011 and is currently being used in over 100 countries and 1,200 sites across the globe. Here we present results from testing the HWC – SMART Module in pilot sites in Canada, Norway, Spain and Bhutan and discuss lessons learnt for broader implementation. SMART Pilot sites identified the following requirements as a main advantage of implmenting SMART Conservation software over the tradtional paper monitioring with conventional database storage. Smart allows for: 1) Development of an access – restricted database, 2) Automated, standardised reporting, 3) Easier record submission (e.g., web, smartphones, etc.), 4) Enhancement of spatial data processing functionality, 5) Multi-language capabilities, offered in 17 languages, 6) Strong data security with small server volume. SMART conservation software offers a free, easy to use, standardizable tool to collect human-wildlife conflict data.

Monitoring Eurasian Lynx Population Using Camera Trapping in the Southern Carpathians of Romania

21 Oct 2025 16:00

Costin Enache [1*], Ruben Iosif [1], Zsolt Miholcea [1], Barbara Promberger-Fuerpass [1]

[1] Foundation Conservation Carpathia, Department of Wildlife Monitoring and Research, Feldioarei Street 27A, 500471 Brașov, Romania

[*] *e-mail: c.enache@carpathia.org*

The Eurasian lynx (*Lynx lynx*) faces increasing threats from habitat degradation, declining prey populations, and high human-induced mortality across its range. Once extinct from the Alps, Jura, and Dinaric Mountains during the 20th century, lynx have been reintroduced to western Europe, mainly from central and eastern populations. Despite the conservation focus on reintroduced populations, less attention has been given to monitoring the Carpathian lynx, a potential source for both natural recolonization and translocation programs. We conducted a multi-year study to estimate lynx density, detectability, and analyse habitat use across a 1,400 km^2 area in the Southern Carpathians, Romania – a landscape where lynx coexist and compete with wolves, bears, and humans for prey and habitat. Using camera traps and spatial capture-recapture (SCR) models, we monitored lynx populations over four consecutive monitoring seasons. Initial efforts targeted the mating season during winter 2018 (48 sites, 43 days) and 2018–2019 (59 sites, 105 days). Subsequent sampling in autumn to early winter 2019–2020 and 2023–2024 used 76 stations over approximately 100 days each, prior to the mating season. This timing proved optimal for obtaining stable population estimates. Across all years, we detected 67 lynx individuals (18 males, 9 females, 28 unknown sex, and 12 juveniles). In 2019–2020, 23 unique individuals were recorded, while in 2023–2024 detections dropped to 15. SCR models estimated a decline from 48 individuals (95% CI: 36–69; density = 1.7/100 km^2) in 2019-2020 to 29 individuals (95% CI: 21–45; density = 0.86/100 km^2) in 2023–2024. Seasonal shifts in density hotspots were observed, from low-altitude mosaics in winter to mid-altitude forest areas in autumn. Our results show higher lynx densities in the Romanian Carpathians than in the Alps or Slovak Carpathians, emphasizing the region's importance for conservation. However, the observed population decline highlights the need for continued long-term monitoring to identify trends and threats. This approach, proven effective in Central and Western Europe, demonstrates its scalability and suitability as a method for lynx monitoring in the specific context of the Romanian Carpathians.

Characteristics of Bear-Related Damage Assessment in Harghita County

21 Oct 2025 16:20

Szilárd Szabó

Harghita County Environmental Protection Agency, Biodiversity and Protected Areas, Márton Áron Street 43, 530211 Miercurea-Ciuc, Romania

e-mail: szabo.szilard@djmhr.anmap.gov.ro

The Environmental Protection Agency of Harghita County has been involved in the assessment of bear-related damages since the establishment of the legal framework that allows such activities. The analysis of field data collected during this work can refine our understanding of bear behavioral characteristics and may also contribute to reducing damages, thereby facilitating a more conflict-free coexistence with large carnivores. The target area of the analysis is Harghita County, Romania. The data used originate from standardized forms completed during damage assessment procedures carried out over the past three years, which collectively provide the basis for the statistical analyses. In addition, we considered the personal experiences of the specialists involved in the assessments, as well as information obtained from other stakeholders. Our aim was to identify new correlations that could offer further insights into both the behavioral characteristics of bears and the attitudes of affected individuals towards large carnivores. The results of the analyses provide a more accurate picture of the severity and regional characteristics of bear-related damages, while also underscoring the importance of addressing several emerging research questions. These include clarifying the relationship between bear population size and the extent of damages, evaluating the effectiveness of damage prevention measures, and assessing the immediate impact of bear removals on the frequency of conflicts. Damage caused by large carnivores, particularly bears, represents a significant source of conflict, negatively affecting both human economic activities and the effectiveness of conservation efforts aimed at strictly protected species. Meaningful progress in this area can only be achieved on the basis of a solid scientific foundation, and the importance of scientific research should not be underestimated.

What Pastoralism and Bears Share: When Humans and Animals Shape Landscapes of Coexistence

21 Oct 2025 16:40

Alice Ouvrier

UMR 5602 Géographie de l'Environnement (CNRS/Université Toulouse 2), Toulouse, France

e-mail:alice.ouvrier@inrae.fr

In the context of a global ecological crisis, the return of large carnivores in Europe urgently requires a reconsideration of how we coexist with the rest of the living world. This talk examines the interactions between pastoralism and brown bears (*Ursus arctos*) in the French Pyrenees, aiming to understand how geographies of coexistence are shaped. Through a micro-local approach, the talk focuses on three mountain pastures in the Pyrenees-summer grazing lands deeply influenced by human presence-to understand the pivotal role that bears, who reappeared in the 2000s after a long absence, play in constructing new coexistence landscapes. To make both humans and non-humans visible, this study adopts an interdisciplinary, more-than-human, and multi-source methodology. It combines a network of camera traps, a social survey (interviews and observations), and institutional data analysis. By highlighting the agency of bears in transforming anthropized landscapes into coexistence landscapes, the results of this study enrich our understanding of the complex relationships between humans and wildlife. The presentation underscores the need to adapt conservation and conflict management measures to the diversity of shared places and to the way animals take part in it.

Recolonization of Grey Wolves in Human-Dominated Transylvanian Landscapes: Land-Use Change, Coexistence, and Sustainable Development

21 Oct 2025 17:00

Eliana Sevianu [1*], Ioana Cobzaru [2], Viorel Dumitru Gavril [1], Gabriel Bogdan Chișamera [2]

[1] Babeș Bolyai University, Faculty of Environmental Science and Engineering, Fântânele Street 30, 400294 Cluj-Napoca, Romania

[2] Romanian Academy, Institute of Biology Bucharest, Splaiul Independentei Street 296, 060031 Bucharest, Romania

[*] *e-mail: eliana.sevianu@ubbcluj.ro*

This study investigates the natural recolonization of the grey wolf (*Canis lupus*) in a rural, hilly region of Transylvania, Romania, after more than five decades of local absence. Understanding this phenomenon is crucial for assessing the ecological consequences of land-use changes and for guiding strategies that support human–wildlife coexistence in dynamic landscapes. The research was conducted in a hilly rural landscape near a small Transylvanian village, an area that has undergone significant land-use changes over the past 35 years. These transformations include agricultural abandonment, underuse of pastures, and natural shrub encroachment, which have substantially altered habitat structure and enhanced ecological connectivity. To monitor wildlife presence and behaviour, we employed camera traps between autumn 2024 and spring 2025, placing them along key habitat corridors and potential movement routes. Field surveys were also carried out to identify indirect signs of wolf activity, such as tracks and scat. In addition, local wolf sightings were documented through interviews and informal reports. A confirmed resident breeding pack, composed of two adult wolves and two yearlings, was documented through photographic evidence and field verification. Recolonization appears linked to reduced human pressure and improved habitat suitability from landscape rewilding. Notably, wolf travel routes were frequently found near human settlements and even passed through horse pastures enclosed by electric fencing. A daylight attack on a goat herd - kept within such a pasture and lacking guard dogs - was recorded, highlighting renewed predator-livestock interactions and exposing weaknesses in traditional livestock protection systems. The return of wolves to the region reflects a broader ecological recovery process in depopulated rural landscapes. Ensuring long-term coexistence will require adaptive management strategies that combine ecological monitoring with active local community engagement.

Carnivore Damage Prevention News (CDPnews)

21 Oct 2025 17:00

Robin Rigg [1], Andrea Besinic [2], Micha Herdtfelder [3], Daniel Mettler [4], Silvia Ribeiro [5], Valeria Salvatori [6], John Linnell [7]

[1] Slovak Wildlife Society, PO Box 72, 033 01 Liptovský Hrádok, Slovakia
[2] Agridea, Department of Rural Development, Jordils 1, CP 1080, CH-1001 Lausanne, Switzerland
[3] FVA-Wildlife Institute, Department of Lynx and Wolf, Wonnhalde 4, 79100 Freiburg, Germany
[4] Agridea, Department of Rural Development, Eschikon 28, CH-8315 Lindau, Switzerland
[5] Grupo Lobo, University of Lisbon, Building C2 Campo Grande, 1749-016 Lisboa, Portugal
[6] Institute of Applied Ecology, Via C. Colombo 456, 00145 Rome, Italy
[7] University of Inland Norway, Department of Forestry and Wildlife Management, Postboks 400 Vestad, 2418 Elverum, Norway

*e-mail: info@cdpnews.net

Large carnivore populations are expanding in several parts of Europe. Wolves and bears are recolonising regions where they were absent for decades or even centuries. Local communities and authorities as well as visitors to such areas are concerned about possible threats to property, lives and livelihoods. Experience and knowledge gained elsewhere, as well as new approaches to preventing damage and mitigating conflicts, can contribute to finding workable solutions for sustainable coexistence. Carnivore Damage Prevention News (CDPnews) is a professional newsletter created in response to the challenges and opportunities of living with carnivores. It aims to bring together diverse people and interests, sharing knowledge of the broad range of existing adaptation strategies and encouraging constructive dialogue and practical innovation. While many initiatives deal with damage prevention on a local or regional level, their results are not always accessible more widely. Smaller studies and those with negative findings, as when interventions fail to produce desired outcomes, often go unpublished, even though much can be learned from them. CDPnews was created to fill such gaps, improving exchange of information and experience across the boundaries of traditional disciplines and facilitating collaboration among researchers, wildlife managers, policy makers, agricultural consultants, practitioners and other interested groups and individuals. More than 220 articles have been published in 30 issues of CDPnews from its launch 25 years ago until the IV. TusnadEcoBear conference in 2025. Coverage is global and a variety of carnivorans are included, but Europe predominates and wolves are the focus of around 45% of content. Not only technical and biological components but also human dimensions are addressed through articles about damage prevention measures, compensation schemes, animal behaviour and interactions, stakeholder involvement, dialogue platforms, husbandry, pastoral traditions, etc. Management, policy and legislation as well as cost–benefit analysis, financial mechanisms and other socio-economic aspects are also featured. Issue 27 (2023), which focused on bears, included the example of Băile Tușnad's 'bear smart' community, along with articles on sloth bear–human coexistence in India and Asiatic black bear management measures in Japan. The target readership includes not only researchers but also non-scientists dealing with wildlife-related conflicts. In addition to downloading whole issues as pdfs, readers can browse through CDPnews online and use tags to search for individual articles throughout the entire back catalogue via a dedicated website: https://cdpnews.net.

Tuesday, 21 October
Session 2: Carnivore Ecology in a Changing World: Climate and Habitat Challenges

Addressing Human–Large Carnivore Coexistence in a World of New and Unpredicted Environmental Uncertainties

21 Oct 2025 17:30

Cristian-Remus Papp [1, 2*], Tibor Hartel [2], Ionuț Pascu [3], Cristian Maloș [2]

[1] WWF Romania, Department of Wildlife and Landscapes, Delea Nouă Street 36, 030925 București, Romania
[2] Babeș Bolyai University, Faculty of Environmental Science and Engineering, Fântânele Street 30, 400294 Cluj-Napoca, Romania
[3] Forest Research and Management Institute, Department of Forest Research and Management, Eroilor Blvd. 128, 729091 Voluntari, Romania

[*] *e-mail: cpapp@wwf.ro*

Climate change and land-use transformations are reshaping ecosystems and intensifying human-large carnivore interactions. As apex predators like bears increasingly overlap with human activities, understanding and managing coexistence becomes a critical conservation and societal challenge. Our research introduces the social-ecological niche concept as a framework for analyzing and designing future coexistence strategies between humans and large carnivores, particularly bears. Drawing on interdisciplinary literature and empirical insights from European landscapes, the study explores how climate-induced habitat shifts and human socio-economic responses co-construct dynamic niches of interaction. The methodology integrates ecological data (e.g., bear movement, habitat use) with social variables (e.g., land-use practices, cultural attitudes, policy frameworks), emphasizing feedback loops and path-dependent trajectories. Scenarios for 2050 were developed to illustrate potential futures, ranging from technologically mediated coexistence (e.g., AI-managed deterrents, smart fencing) to dystopian outcomes involving species eradication. The study also evaluates adaptive zoning, incentive-based conservation, and climate-smart planning as tools to foster resilience in shared landscapes. Policy and management recommendations are grounded in transdisciplinary approaches, stakeholder engagement, and the need for flexible, evidence-based governance. Findings suggest that climate change is driving a bidirectional displacement, forcing both humans and carnivores into shared climate refugia, intensifying competition and conflict. The social-ecological niche framework reveals that coexistence is not merely spatial separation but a process of mutual adaptation. Technological innovations, community-based strategies, and proactive land-use planning can mitigate conflict and enhance coexistence. However, without strategic interventions, escalating management costs and declining public tolerance may threaten long-term viability of carnivore populations. Human-large carnivore coexistence must evolve into a climate-driven, adaptive framework rooted in mutual adaptation and shared landscape stewardship. The social-ecological niche concept offers a powerful lens for designing inclusive, resilient futures where both humans and carnivores can thrive.

The Impact of Climate Change on Surface Waters of Large Carnivore Habitats in Szeklerland (Romania)

21 Oct 2025 18:30

István Máthé [1*], Tamás Siklodi [1], Zsombor Rokai [1], László Csákány [2], Barna Hegyi [3], István Imecs [4]

[1] Sapientia Hungarian University of Transylvania, Faculty of Economics and Socio-Human Sciences and Engineering, Department of Bioengineering, Libertății Square 1, 530104 Miercurea Ciuc, Romania
[2] Szemerja–Görgő Communal Forest Association, Kós Károly Street 35, 520004 Sfântu Gheorghe, Romania
[3] Cheile Bicazului-Hășmaș National Park Administration, Principală Street 664, 537356 Izvoru Mureșului, Romania
[4] Hungarian University of Agriculture and Life Sciences (MATE), Department of Freshwater Fish Ecology, Páter Károly Street 1, 2100 Gödöllő, Hungary

[*]*e-mail: matheistvan@uni.sapientia.ro*

In Szeklerland, extreme weather events are becoming increasingly frequent due to climate change, directly affecting the condition of surface waters such as lakes and streams. Warming temperatures and declining water availability may have significant ecological consequences, particularly by influencing the quality of habitats, access to water, and food availability for large carnivores. For over a decade, we have studied the ecological status – physical-chemical composition, water level fluctuations, microbial communities, etc. – of two of Szeklerland's most well-known lakes: Saint Anna Lake (Lacul Sfânta Ana) in the Ciomadul Volcanic Dome Complex and Bear Lake (Lacul Ursu) in Sovata. Since 2022, we have been monitoring Red Lake (Lacul Roșu) in the Cheile Bicazului–Hășmaș National Park, along with its main tributaries (Vereskő, Juh, and Likaskő streams), focusing on water level changes, discharge, and quality. In the area managed by the Szemerja-Görgő Communal Forest Association, located on the southern outskirts of Sfântu Gheorghe, field observations have been ongoing for 25 years, particularly monitoring local springs and streams. Alongside fieldwork, we also conducted trend analyses using meteorological data from regional weather stations as well as from our own station in Sovata. Long-term monitoring clearly reveals the impact of climate change and extreme weather on surface waters. For instance, during the drought and heat of 2012–2013, the water level of precipitation-fed Saint Anna Lake dropped by 63 cm (the shoreline receded by more than eight meters), an unprecedented event in the past 30–40 years. In July 2024, when daily maximum air temperatures records were broken at dozens of Romanian meteorological stations, we recorded a surface water temperature of 30.9 °C in Saint Anna Lake. Also in June 2024, we measured 45.1 °C at a depth of 2.5 meters in Bear Lake, known for its heliothermal properties. At Red Lake, a sudden warm spell and heavy rainfall in mid-February 2024 caused rapid snowmelt – raising the water level by 12 cm within 24 hours. Due to the dry year, the total water level fluctuation in the lake reached 41 cm in 2024. In southern Sfântu Gheorghe, more than eight springs and streams have dried up partially or completely in recent years, severely affecting both livestock farming and wildlife management. Currently, the only remaining water source in the area is a pond formed behind a beaver dam on a dried-up stream, serving as a drinking site for both domestic and wild animals. Climate change may lead to significant fluctuations in the water level and quality of surface waters (lakes, streams), and can cause the temporary or permanent drying of springs and small rivers. These changes can directly affect the movement patterns of wildlife, access to their drinking water and food sources, interspecies interactions, and ultimately large carnivore management.

Climate Change in Romania and Implications for Ecosystems

21 Oct 2025 18:50

Ágnes Keresztesi [1*], Robert Szép [1], Mihai I. Pop [1]

[1] Research and Development Institute for Wildlife and Mountain Resources, Wildlife Department, Progresului Street 35/B, 530240 Miercurea Ciuc, Romania

[*] *e-mail:keresztesiagnes@icdcrm.ro*

Climate change represents one of the most important challenges for Romania, with evident effects on the environment, agriculture, and biodiversity. Meteorological data from the period 1961–2014 show a steady increase in both average and extreme temperatures, while precipitation reveals regional and seasonal variations: decreases in the south and east, but slight increases in the west and northwest. Bioclimatic and agrometeorological indices, such as the THI (Temperature-Humidity Index) and UTCI (Universal Thermal Climate Index), confirm the intensification of summer heat stress, especially in urban environments and lowland areas. At the same time, winters are milder, with fewer snowy days, while drought episodes are becoming more frequent and prolonged. The impact on agriculture is significant: winter wheat may benefit from higher temperatures and increased CO_2 concentrations, but maize crops face yield reductions of up to 30% due to water stress, or may even require introduction into cultivation in mountain depressions. Biodiversity, especially species vulnerable to habitat changes such as large carnivores (bear, wolf, lynx), is affected by climate change through fragmentation/modification of habitats and the reduction and/or relocation of trophic resources. Climate projections indicate a warming of approx. 1.5–3 °C by the end of the century, with more intense heat waves and an expansion of areas with water deficits. These transformations call for urgent adaptation measures, encompassing both agricultural and urban infrastructure as well as strategies for conserving ecosystems and emblematic species of the Carpathians.

Wednesday, 22 October
Session 3: Hunting, Population Management and Conservation: Balancing Ethics and Management Needs

Wildlife at Risk: A Media-Based Analysis of Wildlife Poaching in Romania

22 Oct 2025 10:00

Andra Neagu [1,2*], Steluța Manolache [2], Laurențiu Rozylowicz [2]

[1] Doctoral School Simion Mehedinți – Nature and Sustainable Development, University of Bucharest, 1 Nicolae Bălcescu Blvd., Bucharest, 010041, Romania

[2] Centre for Environmental Research and Impact Studies, University of Bucharest, 1 Nicolae Bălcescu Blvd., Bucharest, 010041, Romania

[*] *e-mail: andra.neagu@s.unibuc.ro*

The conservation of endangered species is increasingly challenged by poaching, which has become more complex and widespread at a global scale. Our findings contribute to the development of a national anti-poaching strategy and deliver relevant insights to decision-makers. In Romania, escalating human-wildlife conflicts and diminishing public support for wildlife are driving an increase in poaching incidents. Furthermore, the country lacks a centralized and official database to monitor and document illegal hunting activities. We examined poaching incidents reported in Romania by national media between 2007 (following the country's accession to the European Union) and 2024. A series of statistical analyses, including Correspondence Analysis (CA), were conducted to explore patterns within the collected data. The findings indicate that ungulate and aquatic species are primary targets of poaching, largely driven by economic reasons associated with the trade in meat and other animal-derived products. In addition, protected species such as large carnivores are frequently targeted by poachers due to human-wildlife conflicts, especially those involving livestock predation and low levels of tolerance among local communities. The spatial analysis identifies key poaching hotspots that require urgent actions. This study offers a comprehensive overview of poaching in Romania, emphasizing the most affected species, the underlying socio-economic motivations behind illegal hunting and fishing, and the spatial dynamics of these activities. These findings underscore the urgent need for a coordinated national response, encompassing robust monitoring systems, strengthened enforcement mechanisms, and inclusive community-led approaches to wildlife conservation.

The Illusion of Optimum: Why Habitat Scores Are Unreliable for Brown Bear Management Decisions?

22 Oct 2025 10:20

Mihai I. Pop [1,2,3*], Steluța Manolache [2], Robert Szép [1], Viorel Popescu [4]

[1] Research and Development Institute for Wildlife and Mountain Resources, Wildlife Department, Progresului Street 35/B, 530240 Miercurea Ciuc, Romania

[2] Centre for Environmental Research and Impact Studies, University of Bucharest, 1 Nicolae Bălcescu Blvd., Bucharest, 010041, Romania

[3] Association for the Conservation of Biological Diversity, Ion Creangă Street 12, Focșani

[4] Columbia University, School of Professional Studies & Department of Ecology, Evolution and Environmental Biology, Amsterdam Avenue 1200, 10027 New York, United States of America

[*]*e-mail: minelpop@yahoo.com*

In Romania, the concept of 'optimum population' is used to estimate how many brown bears (*Ursus arctos*) should live in natural habitats. This concept plays a central role in the hunting management system, being used as an administrative benchmark for establishing population thresholds, management measures and quotas. The concept of 'optimum' is unique to Romania and cannot be found in the decades of wildlife studies worldwide. The closest concept is that of 'carrying capacity of habitats', but that implies knowledge on effects of reaching a maximum density on the population (e.g., effects on survival, births, heath status etc). The Romanian 'optimum' number is calculated using a scoring system on which each hunting area receives a score depending on natural features (like forest cover and food plants), relief (mountains, caves), and human factors (disturbance, poaching). The total score places the area into one of four categories (I to IV), each category with a fixed recommended bear density — from max. 25 bears per 10,000 hectares in the best areas (Category I) down to 5 bears per 10,000 hectares in the poorest habitats (Category IV). According to recent national studies, the 'optimum' bear population in Romania is estimated at around 4,000 individuals, based on the 542 game units falling into one of four categories. It is unclear if these figures represent the 'carrying capacity' of the habitat, or an idealised number of animals that would provide the best 'yield' for hunting. If the latter, then one could assume that the optimum represent roughly half of the 'carrying capacity', based on simple logistic growth models, which also referred to as the Maximum Sustainable Yield (MSY) in other fields. In theory the method offers a standardized tool for the whole country. We suggest that Romania should move away from the scientifically indefensible concept of 'optimum' and adopt habitat assessment tools and methods that have been used for decades in other bear populations globally and implement real-time ecological monitoring and integrate socio-economic data to better reflect the changing reality of bear management and conservation.

Wednesday, 22 October
Session 4: Local Community and Local Economy Roles in Carnivore Conservation

From Education to Action: Youth Empowerment and Community Participation in Human–Wildlife Coexistence

22 Oct
2025
12:10

Emese Kozma-Kis [1*], István Imecs [1], Rita Darvas [1,2]

[1] Project Bag Association, Felszeg Street 787, 537265 Sâncrăieni village, Romania
[2] Babeș-Bolyai University, Faculty of Biology and Geology, Clinicilor Street 5–7, 400006 Cluj-Napoca, Romania

[*] *e-mail: kozmakisemese@gmail.com*

Human–wildlife coexistence relies on empowering communities to shift from conflict to collaboration, ensuring that conservation benefits both biodiversity and sustainable livelihoods. Education and youth engagement are vital for countering misbeliefs and promoting wildlife-friendly practices. Drawing on insights from the YEAH project and TusnadEcoBear programs, this presentation highlights how involving young people and local stakeholders as active participants makes coexistence initiatives more resilient, inclusive, and firmly rooted in community-based conservation and biodiversity-based economies. The Erasmus+ funded YEAH project (Youth – Empowerment, Actions and Harmony for Human–Wildlife Coexistence) and the TusnadEcoBear initiatives are complementary programs addressing coexistence challenges in Southeastern Europe. The YEAH project focuses on Romania, Bulgaria, and Greece, using non-formal education to empower youth with knowledge, participatory skills, and leadership capacity for decision-making, research, and local conservation initiatives. Two age-tailored educational programs (14–18 and 19–25 years) are being developed, combining environmental education, active citizenship, and citizen-science methods. Co-created curricula and open resources include facilitator guides, multilingual materials, M&E tools, and the TusnadEcoBearWatch mobile app, tested through pilot sessions in each country. Implementation involves in-centre workshops, national field trips, citizen-science fieldwork, and digital engagement via the Online Panda Hub, complemented by training for educators and youth workers to ensure quality and sustainability. Impact will be scaled through youth empowerment events, a Youth Forum, and annual stakeholder networking to connect young participants with local governance and decision-making processes. In parallel, the TusnadEcoBear programs in Băile Tușnad and surrounding localities (Romania) engage children, youth, and families in experiential learning on human–bear coexistence through a thematic festival, a visitor center, and a mobile educational package. These initiatives also facilitate dialogue with local stakeholders through scientific and community events, ensuring that knowledge is both exchanged and applied. Together, these projects demonstrate how education, citizen science, and participatory conservation can serve as effective pathways to strengthen human–wildlife coexistence. The YEAH project will engage approx. 1,416 youth through approx. 60 events across Romania, Bulgaria, and Greece, strengthening their knowledge, leadership, and participatory skills for conservation and community action. The TusnadEcoBear programs involve local students, families, and stakeholders in experiential learning, conflict prevention, and bear-smart community practices. Together, these initiatives foster both cross-border and local networks, building resilience and long-term support for sustainable human–wildlife coexistence. Education, youth empowerment, and community participation are key drivers of sustainable human–wildlife coexistence. By integrating non-formal education, citizen science, and participatory approaches, these initiatives foster resilient, locally supported conservation strategies benefiting both people and biodiversity.

From Data to Dialogue: The Role of Volunteer Monitoring in Large Carnivore Conservation

22 Oct 2025 12:30

Michal Feller [1*], Romana Uhrinová [1], Barbora Černá [1], Martin Váňa [1]

[1] Friends of the Earth Czech Republic Carnivore Conservation Programme, Carnivore Conservation Programme, Dolní náměstí 27/38 77900 Olomouc Czech Republic

[*] *e-mail: michal.feller@hnutiduha.cz*

The Carnivore Tracking project involves volunteers in collecting data on three large carnivore species, wolves, lynx, and bears (LCs), and preventing poaching. Negative attitudes towards LCs stem from prejudice, disinformation, and fear of the unknown, especially in recently recolonised areas such as the Czech Republic, where local people have no personal experience sharing the landscape with them. The main research question is to describe the distribution range of three large carnivore species (grey wolves *Canis lupus*, Eurasian *Lynx Lynx lynx* and brown bears *Ursus arctos*) and the development of their populations over time, which is crucial information for setting the conservation policy and evaluating the conservation goals of strictly protected species still endangered by poaching and other human-driven mortality. The Project is ongoing in all Czech-Cross-border areas. Volunteers are collecting the data about the LC occurrence signs in the field (such a tracks, scat, urine, etc.). Collected data are validated by the SCALP methodology by an expert with at least 5 years of practical experience in the LCs data validation. The data-generated new knowledge has been published in high-impact journals, such as Science, PLOS ONE, Scientific Reports, and Conservation Letters. The main research question is to describe the distribution range of three large carnivore species (*Canis lupus*, *Lynx lynx*, and *Ursus arctos*). To know the development of their populations over time is crucial information for setting the conservation policy and evaluating the conservation goals of strictly protected species, still endangered by poaching and other human-driven mortality. In conjunction with scientific workplaces, the project provides data on the occurrence of large carnivores for the National nature conservation agency. In addition, it serves to connect with local communities, foresters, farmers and helps to share these results with the public. Beyond education and scientific data, it also provides direct protection against poaching and other illegal activities. The project has developed a creative approach to combining data collection on charismatic species with local community involvement and non-formal education as a new method of scientific engagement. It adds innovative approaches to conventional scientific data processing methods, such as the development of the CarnivoreID AI tool for camera trap classification. The project has also inspired several artists (AV, painters, and photographers) and has created works that promote coexistence between humans and LCs. Thus, a wide range of beneficiaries will use the results and approaches developed.

Collaborative Development of a Bear Smart Touristic Business Plan

22 Oct 2025 12:50

István Szabó

Foundation Conservation Carpathia, Conservation Enterprise Development and Community Relations, Feldioarei Street 27A, 500471 Brașov, Romania

e-mail: istvan@facilitator.ro

The development of a "bear smart" business plan starts with the premise of coexistence, not conflict, as a core principle. The participatory approach focuses on involving local stakeholders to identify types of businesses that can create a competitive advantage over other ecotourism areas when it comes to bears. These business ideas are identified within the context of the Tușnad and surrounding areas ecotourism destination. Recent experiences within the Băile Tușnad and Surroundings Ecotourism Destination highlight the need for local tourism businesses to adopt different approaches to generate supplementary income from coexistence with bears. We are not talking about economic activities that simply monetize the bear as a tourist attraction, but rather as an ecotourism product. The first approach is to monetize the observation of wild animals. The second approach, however, focuses on building ecotourism products that include the history of coexistence, local culture, and traditions related to bears, creating an authentic connection between tourists and the Băile Tușnad and Surroundings Ecotourism Destination. By focusing on coexistence, not conflict, we're not just protecting bears - we're gaining a unique competitive advantage for the Băile Tușnad and Surroundings Ecotourism Destination. This research gives us a blueprint for a business model that is both responsible and profitable.

Beyond Reinvention: Toward Transparent Decisions for Community Engagement in Bear Conservation

22 Oct 2025 13:10

Brady J. Mattsson [1*], Jörg Fabian Knufinke [1]

[1] BOKU University, Institute of Wildlife Biology and Game Management Department: Department of Ecosystem Management, Climate and Biodiversity, 1180 Wien, Gregor-Mendel Street 33, Austria

[*] *e-mail: brady.mattsson@boku.ac.at*

Following conservation efforts during the past several decades, the brown bear (*Ursus arctos*) population has increased in many European countries along with human-bear interactions. Impacts often include economic damage or threats to human safety, which have eroded trust in authorities and propagated disagreements between stakeholder groups about bears and their management. Building on the successful example in Băile Tușnad, however, there is an opportunity for expanding participative and sustainable approaches to mitigate negative impacts while accounting for diverse perspectives across the regions. During the TusnadEcoBear Conference in 2024, we facilitated a workshop with a diverse set of 8 stakeholders having expertise regarding management of bears in Romania. Affiliations of participants included academic institutions, non-governmental organizations, and government agencies from local to national levels. Their specialty areas regarding bears included ecology, ecotourism, human safety, interactions with people in agricultural and residential areas, legal frameworks, and protective measures. The workshop followed principles of collaborative decision analysis, using think-write and pair-share sessions during breakouts. During the session the participants summarized the main problems and proposed solutions to brown bear management. The outcomes were noted on flip chart sheets and afterwards discussed in the whole group. The main takeaways from this effort included consensus about a decision question to address along with the aim of management and how to measure its achievement. The decision question was: "Which strategy of communication between the Ministry of Water, Environment and Forests and the local councils in the next two years is most likely to sustain coexistence between humans and brown bears in Harghita and Covasna counties?" Representing an overarching objective to achieve such coexistence, stakeholders identified 16 measurable metrics. The workshop at this year's workshop will compare the expected performance between differing strategies for achieving coexistence while considering real-world constraints related to time, money, and legal frameworks. This comparison along with the documentation of the decision-making approach will provide decision-makers with a transparent toolkit for engaging members of local communities in achieving coexistence between people and bears.

Between Fear and Fascination: Attitudes Toward Wolves, Bears, and Lynx in Czech Borderlands

22 Oct 2025 14:40

Lenka Kissová [1], Romana Uhrinová [2*]

[1] Mendel University in Brno, Department of Forest Ecology, Zemědělská 1665/1, 613 00 Brno, Czech Republic
[2] Friends of the Earth Czech Republic Carnivore Conservation Programme, Carnivore Conservation Programme, Dolní náměstí 27/38 77900 Olomouc Czech Republic

[*]*e-mail: romana.uhrinova@hnutiduha.cz*

Over recent decades, large carnivores - namely the Eurasian lynx (*Lynx lynx*), Gray wolf (*Canis lupus*), and Brown bear (*Ursus arctos*) - have naturally reestablished populations in the Beskydy Mountains and other regions of the Czech Republic. Despite legal protection and livestock damage compensation schemes (Act No. 115/2000), the recovery of these species remains threatened by illegal hunting, largely fueled by public fear, misinformation, and conflict with local livelihoods. The aim of the survey was to determine the public's opinions on the presence of the lynx (*Lynx lynx*), the gray wolf (*Canis lupus*) and the brown bear (*Ursus arctos*) in the selected areas. We collected data through structured questionnaires for which we interviewed a structured sample of individuals. Here we present the results of questionnaire-based surveys conducted among local residents and tourists in the Beskydy Mountains and Bohemian Forest areas (Šumava, Pošumaví, and Novohradské Mountains) between 2011 and 2022. While public attitudes have shifted slightly towards recognising the ecological importance of large carnivores, coexistence remains fragile. Overall, lynx are perceived more positively than wolves or bears, evoking admiration and joy among respondents, who appreciate their rarity and ecological role. Conversely, wolves continue to be viewed with suspicion, fear, and perceived as a threat to livestock, children, and pets. Fear is disproportionately high compared to actual damage statistics, and perception of danger correlates strongly with age and education level. These findings highlight the need for targeted, evidence-based education and outreach efforts to address persistent myths, focus on conflict prevention - particularly with wolves and bears - and improve public trust in compensation and reporting systems. Better understanding public attitudes is essential for shaping effective and socially acceptable conservation strategies.

Captive Bear Dilemma

22 Oct
2025
15:00

Ovidiu Stancu [1*], Michael Bird [1]

[1] Wild At Heart, Ionescu Gheorghe Street 11, Bucharest, Romania

[*] *e-mail: ovidiudstancu@gmail.com*

Our organization has found a 25-year-old female bear in captivity in a small cage in terrible conditions in the Balkan region. We have conducted a research on the current status of wild animals including captive bears situation in the Balkan region in 2025. We have found numerous cases of wild animals being kept in captivity in the region. The fact that these cases still exist is proving that without a united effort in having a legislative initiative that includes all the countries in a certain region the cases of animal abuse will still be present.

Brown Bear Conservation in Slovakia: The Rising Role of NGOs and Scientists

22 Oct 2025 15:20

Michal Haring

Comenius University Bratislava, Department of Sociology, Safarikovo namestie 6, 814 99, Bratislava, Slovakia

e-mail: haringmiso@gmail.com

Slovakia's approach to brown bear management has undergone a dramatic shift following the 2023 elections, with political interference undermining science-based conservation. In this context, NGOs and researchers are increasingly stepping in to prevent the erosion of coexistence strategies and ensure alignment with EU conservation obligations. Slovakia has recently experienced significant political shifts that have resulted in the marginalization of conservation professionals and the appointment of individuals lacking relevant expertise to key wildlife management positions. Consequently, bear management has moved away from science-based, non-lethal approaches, with a marked increase in lethal removals. In response, NGOs and academic institutions have stepped in to address this gap by implementing waste management systems, promoting the use of electric fencing, and leading community education campaigns to reduce human-bear conflict. A media content analysis was conducted to examine how misinformation and public narratives influence perceptions and policy decisions. Through science-based interventions, advocacy, and public engagement, non-state actors are working to uphold conservation principles in the absence of strong institutional leadership. Comparative analysis with other countries highlights the value of cross-border cooperation and the need for ethical governance. These findings emphasize the adaptability and critical role of civil society in sustaining effective large carnivore conservation. The data indicate a significant and politically driven surge in lethal bear removals, reflecting a departure from evidence-based conservation practices. In response, NGOs and scientists have advanced coexistence strategies rooted in empirical research and practical field experience. Their initiatives have contributed to more humane approaches to conflict mitigation and have played a key role in fostering greater public understanding and support for non-lethal solutions. In the face of weakening state-led conservation, NGOs and scientists have become important actors in brown bear conservation in Slovakia.

Empowering Youth for Human–Large Carnivore Coexistence: Education and Engagement Outcomes

22 Oct 2025 15:40

István Imecs [1*], Emese Kozma-Kis [1], Rita Darvas [1, 2]

[1] Project Bag Association, Felszeg Street 787, 537265 Sâncrăieni village, Romania
[2] Babeș-Bolyai University, Faculty of Biology and Geology, Clinicilor Street 5–7, 400006 Cluj-Napoca, Romania

[*]*e-mail: imecs.istvan17@gmail.com*

Education and public awareness constitute fundamental components in the management of human–large carnivore conflicts. Their role is primarily preventive, and empirical evidence demonstrates that conflict incidence declines in contexts where educational efforts are emphasized. Within the framework of the CERV project (101146879) *"Coexisting with Bears – Conservation Needs Conversation!"*, we assessed the openness of young people to community engagement through extracurricular educational activities. Our objective was to examine the relationship between knowledge acquisition and the willingness to engage in community-level action concerning the management of human–large carnivore coexistence. The target area was the Băile Tușnad and Surroundings ecotourism destination, which we complemented with the cities of Miercurea Ciuc and Gheorgheni. In this region, we delivered an educational package to a total of 15 middle schools and high schools. The package included interactive educational components, tools, and demonstration objects designed to illustrate brown bear ecology, ethology, damage-prevention measures, and intervention methods. In each case, the delivery of the educational package took the form of a classroom session, followed by the completion of an anonymous questionnaire consisting of 14 items. Thirteen questions addressed knowledge acquired during the session, while the fourteenth asked whether respondents would be willing to serve as representatives in a Youth Forum on human–bear coexistence and contribute to the well-being of their community. In total, 444 students completed the questionnaire. Following the coding of the responses, it became evident that participants with lower knowledge scores did not provide an answer to the final question, suggesting an inability to make a decision regarding community involvement. By contrast, those who achieved higher scores were able to clearly state whether or not they wished to engage in community action on this issue. Thus, when equipped with relevant knowledge, respondents' decisions regarding community participation were more definite and assertive. Based on these findings, it can be stated that education may serve as a catalyst for community engagement. While education alone is not sufficient to fully mitigate conflicts, it represents a critical element within broader damage-prevention strategies and contributes significantly to the development of Bear Smart communities. At the same time, we consider it important that future questionnaires be complemented with items suitable for attitude analysis.

Wednesday, 22 October
Session 5: Camera Traps, AI and Drones; The Future of Carnivore Research and Conflict Prevention

Keynote Presentation: Emergent Technologies for Human–Wildlife Coexistence

22 Oct 2025 16:20

Dimitris Bormpoudakis

Callisto - Wildlife and Nature Conservation Society, Velissariou Street 3, 546 40 Thessaloniki, Greece

e-mail: bormpd@gmail.com

In the last decade or so, 'green' and 'digital' advancements are unevenly but rapidly spreading in conservation science and practice, with some scholars even speaking of "digital conservation". AI, drones, automated wildlife cameras and acoustics sensors, and many other less well-known digitally-based approaches have left the computers and labs of quantitative scientists and are now rapidly becoming tools for environmental management and decision-making. From local butterfly population modelling by NGOs, to national scale amphibian habitat models by private consultants, digital methodologies are being deployed for day-to-day application in a variety of contexts, including carnivore conservation. Our goal is to identify the full variety of different technologies that have been proposed, tested and / or adopted to modulate or help manage wildlife – livestock interactions. For this task, we adopted a wide view of technology and extend it beyond the typical 'green and digital' technologies described above to include any type of instrument, machine, implement, of any level of technological sophistication or innovation, that can be used to promote livestock-wildlife coexistence in multifunctional landscapes. To do that, we catalogued all the relevant venues that publish information related to carnivore-livestock/ primary producers herd management, conflict reduction, population monitoring and carnivore management. Care was taken to include in the corpus publications in non-English European and especially: (1) the magazines of different national pastoral associations; (2) agricultural outreach officers / extension companies' websites/ newsletters. This list was completed using web searches and the local knowledge of the project partners. Articles / items in these venues were screened and an initial catalogue of technologies was established. In this presentation, we will focus on the issue of human-carnivore interactions (or more broadly coexistence) and on cataloguing, standardizing, harmonizing and evaluating the performance of 'green' and 'digital' technological in their context of (possible) deployment. We will explore potential avenues for R&I in relation to new and/or different tools directly addressing the challenges identified by their users – mainly pastoralists and farmers. In conclusion, we will present a critical assessment of if and how various pastoralist and farmer publics perceive, receive and interpret these new 'digital technologies'.

Wolf Population Size and Composition in One of Europe's Strongholds, the Romanian Carpathians

22 Oct 2025 17:20

Ruben Iosif [1*], Tomaž Skrbinšek [2], Nándor Erős [3], Barbara Promberger-Fürpass [1]

[1] Foundation Conservation Carpathia, Department of Wildlife Monitoring and Research, Feldioarei Street 27A, 500471 Brașov, Romania

[2] University of Ljubljana, Biotechnical Faculty, Department of Biology, Večna pot 111, 1000 Ljubljana, Slovenia

[3] Centre for Systems Biology, Biodiversity and Bioresources, Babeș-Bolyai University, Hungarian Department of Biology and Ecology, Clinicilor street 5–7, 400006 Cluj-Napoca, Romania

[*] *e-mail: r.iosif@carpathia.org*

Strategies of coexistence with large carnivores should integrate scientific evidence, population monitoring providing an opportunity for advancing outdated management paradigms through engagement with stakeholders and through communicating change to the local communities and the wide public. We used non-invasive DNA sampling to track wolf social dynamics across a 1,400 km^2 area in Southern Carpathians from winter 2017-2018 until winter 2023-2024. When we recorded the sampling effort, we were able to estimate population density and abundance by means of spatial capture-recapture modelling and put our findings in the broader European context. We identified 76 wolves that we grouped through pedigree reconstruction into a total of seven packs. Pack size varied between 2 and 7 individuals, and with a high dynamic of the pack composition from one year to another. None of the initial breeding pairs were stable across years, some packs changing at least one of the reproductive individuals two or three times during six years. All packs included at least one individual that was not genetically related with the breeding pair. Hybridization did not increase over years with only one confirmed case of an F1 wolf-dog hybrid and a second individual with a possible dog ancestry. The maximum number of wolves detected in a single sampling winter was 31 during winter 2019-2020 when the population density was estimated at 2.35 wolves/100 km^2 (95%BCI=1.68–3.03). Non-invasive DNA data collection coupled with spatial capture-recapture has the potential to inform on wolf population size and dynamics at regional spatial scales, across different sampling areas representative for the diverse Carpathian landscapes, and across different levels of human impact, supporting wildlife decision making.

RO-BEAR: A Year of Progress in Bear Sighting Monitoring

22 Oct
2025
17:40

Cosmin-Andrei Conțu
Coden IT Consulting, Research & Development, Al. Vlahuta Street 6, Bucharest, Romania

e-mail: cosmin.contu@codenitc.com

The RO-BEAR platform facilitates citizen-based reporting of brown bear sightings in Romania, addressing the growing challenge of human–bear interactions. By combining mobile technology with structured data collection, RO-BEAR supports both public safety and ecological research, offering valuable insights for large carnivore monitoring and management. The RO-BEAR platform was deployed primarily in Romania, with a focus on regions overlapping brown bear (*Ursus arctos*) habitats in the Carpathian Mountains. The application was made available to the public via mobile platforms, allowing users to report bear sightings using GPS-tagged coordinates, date, time, and contextual notes. A custom backend system based on Google Firestore stores and organizes these records in real time. Reports submitted through the platform were automatically validated for location accuracy, timestamp coherence, and image metadata. A web-based dashboard was developed to provide filtered access to authorized users such as researchers and civil protection authorities. In its first year, RO-BEAR collected over 700 verified bear sighting reports from users across multiple Carpathian counties. The data revealed spatial clustering near human settlements and touristic areas, with seasonal peaks during late spring and early autumn. Preliminary analysis indicates increased public engagement following local outreach efforts. The system also supported early warning scenarios and contributed to awareness initiatives by local authorities. RO-BEAR demonstrates that citizen reporting can be a valuable tool for monitoring brown bear activity and supporting coexistence strategies. Continued development and institutional collaboration are essential to maximize its impact on wildlife management and public safety.

AnimAlert Digital Platform – Between Citizen Science and Stakeholders' Actions

22 Oct 2025 18:00

Claudiu Olenici

Organization for Environmental Protection and Combating Poaching (Organizația pentru Protecția Mediului și Combaterea Braconajului), Department of Rescue & Conservation, Augustin Buzura Street 1, Cluj-Napoca, Romania

e-mail: ancbp.cluj@gmail.com

By integrating the AnimAlert digital platform with Transylvania Wildlife Rescue's field expertise, we aim to bring another view of how bear incidents are reported, mapped, and managed, empowering both communities and authorities to take informed, preventive action. Human–bear conflicts in Romania are increasing due to habitat encroachment, climate change, and food attractants. To address this challenge, we present AnimAlert, a pioneering digital platform in Eastern Europe that links citizens, authorities, and wildlife experts. The system enables real-time, geo-tagged reporting of bear sightings, livestock or crop damage, and other incidents. By overlaying reports with municipal measures such as bear-resistant bins in Băile Tușnad, electric fence deployment, and waste management reforms, AnimAlert reveals conflict hotspots, highlights effective actions, and identifies gaps. Municipalities are already piloting prevention strategies, including bear-proof bins, electric fences funded by the Ministry of Environment, and improved waste collection systems. By integrating citizen data, AnimAlert helps monitor the effectiveness of these initiatives and supports adaptive management. Planned developments include a dedicated mobile app with offline reporting and push notifications, as well as multi-layered mapping that combines satellite imagery, land-use data, and ecological corridors. The platform also offers cross-border potential in Hungary, Ukraine, and Slovakia, while automated data sharing with research institutions and a user feedback mechanism strengthen engagement. AnimAlert can record and map bear-related incidents, revealing clear spatial clusters where preventive infrastructure is lacking or policies are weak. Municipalities can pilot new bear-proof bins and electric fences, resulting in a measurable reduction in repeat incidents in those areas. Community engagement can increase, with more citizens participating in reporting and educational activities. Early analysis can also bring improved response times and more efficient coordination between stakeholders. Integrating AnimAlert with on-the-ground rescue and municipal measures creates a powerful, scalable model for managing human-bear conflict. This approach not only improves safety and conservation outcomes but also empowers communities and authorities to build lasting coexistence with wildlife.

Does Supplementary Feeding Affect Brown Bear Habituation and Human–Bear Conflicts?

22 Oct 2025 18:20

László Gál [1*], Alexandra Sallay-Mosoi [2], Cristian Papp [2]

[1] Babeș-Bolyai University, Integrative Biology Doctoral School, M. Kogălniceanu Street 1, 400084 Cluj-Napoca, Romania

[2] WWF Romania, Department of Wildlife and Landscapes, Delea Nouă Street 36, 030925 București, Romania

[*] *e-mail: laszlogal82@gmail.com*

The bears' adaptation to anthropogenic landscapes and habituation to human activities pose significant challenges for wildlife management and conflict mitigation. Supplementary feeding sites have high potential to directly or indirectly change the activity patterns of wildlife that visit them and the species composition of their narrower environment. This study investigates the role of supplemental feeding sites, established for game management, ecotourism, and scientific research and their influence on bear spatial behaviour and possible urban encroachment. The research area covers an ecological corridor, with approximately 64 km^2, with a busy tourist town in its middle, connecting two mountain ranges. Wildlife feeding sites, managed by local hunters, were located at an aerial distance of 2-4 km from the town and equipped with camera-traps. Using recordings from these camera traps, we aimed to identify individual bears that were present in the town during intervention activities, monitor their movements, and assess the bears' responses to human presence as an indicator of the degree of habituation. For these analyses, we used the TrapTagger software, which extracted 11 individual frames per video to face these tasks. The camera traps operated for a total of 283 days, capturing 27007 recordings, consisting of 13589 video clips and 13418 photographs. We analysed over 162,000 individual frames and photos, from which 78252 separate bear detections; however, there is no precise quantitative data on individuals. Despite frequent visitation of artificial feeding sites, there was no evidence of spatial overlap with bears detected within the town. Results suggest that supplementary feeding in this particular area, when properly managed, does not inherently increase the risk of bears habituating to or entering urban areas. Based on the differences between the cameras, bears tend to avoid human presence, reducing their activity during periods of high human activity, which indicates clear avoidance behaviour. The findings of this study indicate that feeding sites can be effective as long as the hunting personnel do not make direct contact with the bears during feeding. Approaching wildlife supplementary feeding using science-based evaluated observations can aid strategic decisions to minimise the negative effects of human activities on bear populations. The fluctuating behaviour of bears suggests that they are probably adapting to environmental conditions while actively avoiding human presence.

Friday, 24 October
Workshop presentations

Beyond Reinvention Workshop: Toward Transparent Decisions for Community Engagement in Bear Conservation

24 Oct 2025 9:30

Brady J. Mattsson [1*], Jörg Fabian Knufinke [1**]

[1] BOKU University, Institute of Wildlife Biology and Game Management Department: Department of Ecosystem Management, Climate and Biodiversity, 1180 Wien, Gregor-Mendel Street 33, Austria

[*] *e-mail: brady.mattsson@boku.ac.at*
[**] *e-mail: fabian.knufinke@boku.ac.at*

Following conservation efforts during the past several decades, the brown bear (*Ursus arctos*) population has increased in many European countries along with human-bear interactions. Impacts often include economic damage or threats to human safety. Existing management approaches often lack transparency and are not based on evidence. Such approaches have been insufficient in addressing these problems as demonstrated by an expressed dissatisfaction (by local residents) with these approaches to managing bears in the affected communities. This has eroded trust in the authorities and has propagated disagreements between stakeholder groups about bears and their management. Building on the successful example in Băile Tușnad, however, there is an opportunity for expanding participative and sustainable approaches to mitigate negative impacts while accounting for diverse perspectives across the regions. During the TusnadEcoBear Conference in 2024, we facilitated a workshop with a diverse set of stakeholders having expertise regarding management of bears in Romania. We followed the principles of collaborative decision analysis, which began by identifying the decision question: "Which strategy of communication between the Ministry of Water, Environment and Forests and the local councils in the next two years is most likely to sustain coexistence between humans and brown bears in Harghita & Covasna counties?" Within an overarching objective to achieve such coexistence, stakeholders identified a set of measurable metrics such as the frequency of reactionary interventions to mitigate impacts of bears. The workshop at this year's conference will again use principles of collaborative decision analysis and associated methodologies when engaging with diverse stakeholders and experts to compare the expected levels of the performance metrics between differing strategies for achieving coexistence. This comparison takes into account real-world constraints related to time, money, and legal frameworks. Results of the workshop including the documentation of the decision-making approach will provide decision-makers with a transparent toolkit for engaging members of local communities in achieving coexistence between people and bears.

Designing Potential Scenarios for Collaboration Between Pastoralism and Wildlife Management

24 Oct 2025 9:00

Mihai I. Pop

Research and Development Institute for Wildlife and Mountain Resources, Wildlife Department, Progresului Street 35/B, 530240 Miercurea Ciuc, Romania

e-mail: minelpop@yahoo.com

The aim of the workshop is to support participants (farmers, wildlife managers and scientist from local, regional stakeholders' group) in developing/identifying applicable scenarios for collaboration between the farmers and wildlife management sectors to improve stakeholders' coexistence in rural landscapes. The Eastern Carpathians are an agro-pastoral landscape of forests, meadows, and scattered settlements. Livestock systems (sheep, cattle) operate on seasonal pastures that overlap with habitats of brown bear, wolf, and lynx, creating recurrent conflict and cooperation needs. Institutional actors include farmers, wildlife managers, protected area authorities, NGO's all interested in collaboration and policy development. This three-hour, in-person workshop uses a mixed-stakeholder format arranged in groups of 4–6 person to ensure diversity of perspectives. On the workshop day, participants will produce a short set of priority actions, concise group pagers for the Ideal and Current framework levels, and a bridge plan. The two-level approach lowers the entry barrier for participants, speeds the shift from discussion to implementation, and charts a realistic path between what is feasible now and the desired direction, strengthening cooperation between pastoralism and wildlife management. The workshop intends to support the shift from reactive mitigation to proactive, shared competence across sectors. Clear roles, a common curriculum, and scheduled drills create durable collaboration and better preparedness in pastoral landscapes.

Index of Authors

Organizers:

project BAG

BĂILE TUȘNAD AND SURROUNDINGS ecotourism destination

WWF | NATURA E ACASĂ

Co-organizers:

Research and Development Institute for Wildlife and Mountain Resources

CoCo Co-creating Coexistence

CONSILIUL JUDEȚEAN HARGHITA | Asociația de Dezvoltare Intercomunitară CSOMAD-BALVÁNYOS

Funded by:

Co-funded by the European Union

Bears in Mind

CONSILIUL JUDEȚEAN HARGHITA | Asociația de Dezvoltare Intercomunitară CSOMAD-BALVÁNYOS