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II.TusnadEcoBear *conf*

Book of Abstracts

Bãile Tușnad
- October 2023 -

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Organizaţia GeoEcologică

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PRIMĂRIA BĂILE TUȘNAD
TUSNÁDFÜRDŐ POLGÁRMESTERI HIVATAL

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II. TusnadEcoBear Conference

Băile Tușnad, 28 - 29 October 2023

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Welcome Address

A conference about people and bears, about coexistence.

The aim of the conference is to bring together a variety of views, competences and experiences from various experts from Europe and beyond, on the topic of human-large carnivores 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).

Respectfully,

TusnadEcoBear Team

About the project and GDPR Policy

The conference is part of the project entitled "WatchBear & AdvoCity - bears and people for the common future" (https://ogaccent.ro/watchbear) implemented by the ACCENT GeoEcological Organization in partnership with Vox Iuventutis Association and Mayor's office Băile Tușnad with the financial support of the Active Citizens Fund Romania, programme funded by Iceland, Liechtenstein and Norway through the EEA Grants 2014-2021.

Working together for a green, competitive and inclusive Europe.

The conference organizing team processes the personal data provided in order to carry out the conference program and the electronic conference notebook, which will be available for download. At the same time, personal data is essential to keep in touch with you for an efficient organization and implementation of the conference. The policy regarding the processing of personal data on the entire "Active Citizens Fund Romania" program can be consulted at:https://activecitizensfund.ro/politica-gdpr.

Programme

Friday – 27 October 2023

17:00 Greetings, Welcome drink

Saturday – 28 October 2023

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10:45 – 11:00 Roman Cherepanyn: Brown bear monitoring and conflicts prevention in the Ukrainian Carpathians (EN)

11:00 – 11:15 Mihai I. Pop: Brown bear predation on sheep and cows in the Carpathian landscapes (EN)

11:15 – 11:30 Romana Uhrinová: LECA - Supporting the coexistence and conservation of Carpathian Large Carnivores (EN)

11:30 – 11:45 Levente Borka-Vitális: Tips and tricks in bear anesthesia (RO)

11:45 – 12:00 Alexandra Sallay-Moșoi: Monitoring of human-habituated brown bears around the wildlife migration zone and human-bear conflict area Băile Tușnad, Romania (EN)

12:00 – 12:15 Coffee break

12:15 – 12:30 Claudiu Olenici: Awareness, cooperation, and intervention in human-wildlife interactions: A need for legal and operational evolution (EN)

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12:45 – 13:00 Michael Bird: European Bear Documentary Project 2023 (EN)

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Contents

Saturday (28 October) – Section 1

Challenges and prospects of coexisting with bears in Europe

28 Oct 2023 10:10

Cristian Papp [1,2*], Tibor Hartel [3]

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Humans and large carnivores share the landscapes to a great extent. Humans are entering the natural habitats creating a constant pressure on wildlife in general. Large carnivores, on the other hand, particularly bears, know how to exploit anthropogenic food sources and often enter settlements creating damages or threatening people. These interactions result in human-bear conflicts which are not easy to reconcile. The present study is mapping and analysing the current situation of human-bear coexistence across Europe, namely to 1) update the size of bear populations, 2) explore the methods used for estimating the size of the populations, 3) analyse the quota based management system and its efficiency, 4) investigate the magnitude of conflicts as well as the key measures taken to reduce it and 5) provide recommendations towards improving coexistence. A questionnaire was developed within the Survey Monkey platform to collect the data from individual countries. Invitations to fill in the questionnaire were sent to bear experts and or/key stakeholders with strong knowledge about the situation of bear management in their respective countries. At least one answer was aimed from each country (as official data and situation was aimed). For more qualitative data, additional information was requested via email to depict particularities and more insights from some of the countries involved. The results suggest that the number of bears are generally increasing in Europe and that there are great variabilities and differences in terms of tackling the improvement of human-bear coexistence. For instance, most of the countries do not have a regular yearly quota established, the interventions being made in a targeted/selective way, by extracting problematic bear individuals. Other countries use regular culling as the main tool for preventing conflicts. The causes of problems although similar in many ways across the countries, are dealt with in accordance to the states own policies. The study represents a major step in understanding the status quo in terms of tackling human-bear coexistence in Europe. The analysis and the recommendations could be used to improve this coexistence, which in many countries seem to be very challenging.

Brown bear monitoring and conflicts prevention in the Ukrainian Carpathians

28 Oct 2023 10:45

Roman Cherepanyn

WWF-Ukraine, Kyiv, Ukraine

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Comprehending conflicts that arise between people and bears plays a crucial role in the protection of bear population, the effective management of its numbers, and the sustainable development of local communities in the Carpathian region. Resolving conflicts between humans and bears is decisive in maintaining sustainable traditional agricultural practices such as beekeeping, sheep farming, and livestock keeping. It also holds significance in the conservation efforts aimed at maintaining a viable bear population across various regions of the Carpathian mountains. Within the implementation of WWF-Ukraine projects in the model regions of the Ukrainian Carpathians, the monitoring activities of bears, as well as the systematic tracking of the occurrences, frequency, and spatial distribution of conflicts between bears and farmers/beekeepers have been initiated. Human-bear conflict "hot spots" areas were defined. To address these issues, preventive measures, particularly the implementation and promotion of electric fences, were introduced within local communities. As part of WWF-Ukraine initiatives, a total of 22 electric fences were provided to farmers (5) and to beekeepers (17), to protect their facilities and solve the problems of bear attacks. Over the period from 2019 to 2023, a total of 36 electric fences were disseminated to various stakeholders to proactively counteract potential attacks by large carnivores. Additionally, video stories and other communication materials illustrating both traditional and contemporary methods for coexisting with bears in common space were produced and shared among stakeholders and media from 2019 to 2023. Gaining insights into the extent of conflicts between humans and bears, along with the bear population's size, will facilitate the implementation of impactful measures toward conserving bear population, managing its numbers, and fostering the development and conserving of traditional, sustainable farming practices in the Carpathian region.

Brown bear predation on sheep and cows in the Carpathian landscapes

28 Oct
2023
11:00

Mihai I. Pop [1*], Marissa A. Dyck [3], Ioan C. Iojă [4], Viorel D. Popescu [4]

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Romania harbours the largest brown bear population in Europe within the Carpathian Mountains, a stronghold for the European brown bear population, characterized by a low, but dispersed human footprint, mostly rural, and growing cattle and sheep represents the livelihood for many local rural communities. Understanding of the spatial patterns and predictors for Human – carnivores conflicts (HCC) has the potential to benefit local communities and wildlife management agencies by providing broad guidelines for reducing the level and frequency of conflict. The overarching goal of this study was to assess predictors and spatial distribution of HCC in a high-density brown bear landscape in Romanian Eastern Carpathians using a dataset of reported livestock damage collected by local Environmental Protection Agencies (EPAs) spanning nine years (2008-2016). We evaluated the occurrence and predictors of HCC by brown bears using binomial generalized linear mixed models (GLMM). We ran separate models for different types of livestock damage: cows, sheep, and other (pigs, horses, chickens) and we developed a set of 32 models that tested hypotheses regarding influences of environmental and anthropogenic variables on the presence of HCC for each livestock type. Our results revealed that the likelihood of HCC caused by bears to livestock in Romania is influenced by a combination of landscape factors, local relative brown bear abundance, topography, and approaches to livestock management. Our predictions showed differences in the factors affecting the prevalence of damage for cows, sheep and other livestock, but altitude, distance from forest and land cover types are common to all livestock. Brown bear abundance was only positively associated with sheep and other livestock. The landscape configuration, composition, and heterogeneity were strong predictors of HCC, but the direction and strength was highly variables across livestock types.

LECA - Supporting the coexistence and conservation of Carpathian Large Carnivores

28 Oct 2023 11:15

Romana Uhrinová [1*], Michal Haring [2]

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The presentation will introduce the basic pillars of the LECA project (Supporting the coexistence and conservation of Carpathian Large Carnivores) followed by a focus on bear management activities in the Slovak Poland pilot site. We will introduce the actual situation in pilot site, with main focus for bear status, monitoring activity, human-bear conflicts and challenges.

Tips and tricks in bear anesthesia

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e-mail: borkalevente@yahoo.com

28 Oct
2023
11:30

Lately, there have been some videos in the press and on some social media of bears attacking people. In a few cases, there was suspicion that the bear was tranquilized/waking up from anesthesia at the time of the attack. If these assumptions are true, there is a probability that the (relatively) specific protocol of anesthesia of this species was not followed. The literature is very rich in relation to the substances and dosages that can be used, but lacks the chapter in small print where useful information should appear to prevent potentially fatal situations. My presentation is intended to draw attention to certain "little things" (field conditions, weight assessment, injection site of choice, the possibility of concentrating tranquilizing solutions, the need to supervise the awakening process, etc.), where the veterinarian can play an essential role in ensuring that the members of the intervention team arrive home unharmed. I have had the privilege of anesthetizing dozens of bears (probably over 100) in various conditions - wild adults, orphaned cubs, habituated individuals, individuals caught in poachers' snares, zoo animals, and patients requiring medical/surgical interventions). After each anesthetized case, we drew some findings and came to the conclusion that there are no similar cases.

Monitoring of human-habituated brown bears around the wildlife migration zone and human-bear conflict area Baile Tusnad, Romania

28 Oct
2023
11:45

Alexandra Sallay-Mosoi [1, 2*], Cristian Papp [1,3], László Gál [2,3], Nándor Erős [3]

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Across EU member states, brown bear (*Ursus arctos*) management is becoming increasingly challenging as both human safety and the conservation of large carnivore 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. Therefore WWF Romania in close cooperation with the Town hall Baile Tusnad and other important stakeholders has initiated a project in 2022 that aims to improve coexistence between bears and humans in the conflict area of Baile Tusnad. The project seeks to establish a viable coexistence plan based on wildlife smart principles that last beyond the project end. In this context, a part of this project is focused on the monitoring of residential brown bears that roam frequently the town and pose a risk to humans to be injured and bears to become lethally removed from the population. Little is known about drivers and the process of human-habituation (hh)/food-conditioning (fc) in brown bears in Romania. Therefore this technical survey aims to investigate temporal-spatial distribution and habitat use of residential bears in the area of Baile Tusnad based on GPS tracking data and ground surveys of GPS fix clusters (locations where bears spent extended period of time). The close monitoring has the additional scope to reduce human-bear conflicts by improving the operational capability of the local Bear Emergency Team (BET).Within the monitoring framework, a broader objective is to verify the functional connectivity of the ecological corridor between the Harghita and the Bodoc mountains for large mammals such as the bear. For these purposes, 5 GPS collars have been purchased to be mounted on selected bear individuals. In September 2023 a female bear was successfully captured and collared with a GPS device equipped with a camera. We will present the pre-operational context and the monitoring framework of this project as well as the movement data of the female bear collected to date.

Awareness, cooperation, and intervention in human-wildlife interactions: A need for legal and operational evolution

28 Oct
2023
12:15

Claudiu Olenici

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Our efforts in bioconservation and combating poaching have led to an increase in requests for guidance and intervention involving injured wildlife or victims of road accidents, cruelty, or suspected poaching. We deal with a range of animals, including ruminants, small carnivores, and birds injured during nesting or flight training. A pivotal realization has been the urgent need for enhanced communication among first responders, notified authorities, and game fund managers. The current practice often sees institutions either relying heavily on NGOs or delivering inefficient and risky interventions that endanger the animals. We initiated a streamlined communication flow connecting the reporting party, relevant authority, and rehabilitation or medical centers. The inadequacy of current legal procedures and inter-institutional cooperation, compounded by the low prioritization of wildlife management, leads to frequent bottlenecks and absent positive interventions. The role of organizations like the Sanitary-Veterinary Directorate and the National Environment Guard is known, but responses are often slow or non-existent. We are committed to raising public awareness and fostering collaboration to enhance intervention efficiency in managing injured or accidentally captured wildlife. We often step in where institutions, lacking appropriate resources, fail, and have initiated educational campaigns on effective intervention, even in undesired interactions with pest species or unwelcome reptiles. There is a noticeable local advancement and an understanding of our mediation efforts, setting the stage for expansion and resource optimization. Every stakeholder perceives the purpose and utility of these interventions differently. Our immediate mission is to carve out favorable outcomes for the animals, ensuring ethical management and well-being, especially in complicated cases or when survival chances are grim. Public education and communication are sensitive but crucial and must be approached with tact and progression.

Human-bear interactions in Romania: Atypical behaviors of the species or distorted reporting?

28 Oct
2023
12:30

Raul-Gheorghe Jurchiș [1*], Ramona Bălc [1], Cristian Papp [1,2]

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Large carnivores play critical roles in ecosystems, yet their predatory nature, intelligence and opportunism, along with human pressure on them, lead to conflicts. Conflicts can range from damages to properties, to threatening people's lives. Conflicts can usually result in local communities adopting a negative attitude towards bears, making it more difficult to conserve the species, if complex measures to address the root-causes of the conflicts are not implemented, including on medium and long-term. The most common and most publicised conflict between humans and wildlife in Romania is the human bear conflict. The purpose of this research is to contribute to a better knowledge of the dynamics of the human-bear conflicts, and of the public perceptions of it, as well as to identify certain factors that could be used to manage the conflict. After 2016, local media's attention in areas with high bears density expanded significantly, with the majority of publications highlighting negative incidents. News regarding human attacks, bear hunting, property damage, and bear removal receive the most coverage of officially documented events. The majority of press news attributed damage to small animals in human settlements to young bears with a higher tolerance for humans. The majority of reported attacks outside human settlements occurred on meadows, on bovines. The majority of the damage outside human settlement correlates with the bears' hyperphagia period, although the amount of damages in the human settlements does not vary as much throughout the year. Attacks that directly target humans receive the most attention in the local media. Their growth rate mirrors the global trend.

European Bear Documentary Project 2023

Michael Bird
Journalist/film-maker

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28 Oct 2023 12:45

Large carnivore populations are expanding across south Europe. Numbers of bears are rising in countries such as Spain, Slovenia and Romania, and we see evidence of higher numbers in Kosovo and Albania. Bears can bring benefits to natural environments, however they can be destructive and violent. Many countries are ill-equipped to manage this surge, and do not educate their population on how to cope with bears, or give proper recompense to farmers and households who suffer damages due to bears. While some nations may try to ignore this increase, others are taking a violent approach, killing hundreds. For the last year Ovidiu Dunel-Stancu and Michael Bird have been making a documentary on how societies can manage bears, and have travelled through Slovenia, Italy, Albania, Kosovo and Romania. They can present a video preview of their findings, which will be fully published later this year.

The use of scientific data in nature conservation: a case study of mitigation measures planned for bears (and not only) on the A8 highway

28 Oct
2023
13:00

Csaba Domokos [1*], Borlea Silvia [2]

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Nowadays, we often witness people questioning the practicality of scientific research. Perhaps it was the COVID-19 pandemic that has best revealed the scale of certain groups' mistrust in science, coupled with the rapid proliferation and diffusion of scientific misinformation. But a comparable pattern is also emerging in the case of the heated and highly polarized debate around the Romanian bear population and its management, where emotions, unfounded claims, urban (and rural) legends, personal convictions and targeted misinformation often prevail over arguments based on sound science. Nevertheless, scientific knowledge allows us to solve practical problems, and make informed decisions. Our presentation focuses on the practical use of scientific data in the planning of concrete conservation measures, namely a number of technical solutions proposed on the planned A8 (Târgu Mureș - Iași - Ungheni) highway. In particular, Sections 1 and 2 of the planned A8 highway (between Târgu Mureș and Leghin) will intersect both important, high-quality bear habitats and functional ecological corridors used by the species in the Romanian Eastern Carpathians and their foothills, thus posing a risk to the Romanian and broader transfrontier Carpathian bear population. The technical solutions proposed for these two sections have been accepted by the relevant Romanian authorities and their implementation was made mandatory by the Environmental Approvals issued for Section 1 in 2022, respectively for Section 2 in 2023. These measures will, on one hand increase the permeability of the future highway for bears and other species alike and will mitigate the highway's negative effects (for example, the increased levels of noise) in critical natural habitats. On the other hand, they will also improve the safety of human passengers by preventing vehicle-wildlife collisions.

The drums of war are beating louder: media coverage of brown bears in Romania

28 Oct 2023 13:15

Andra Claudia Neagu [1], Steluța Manolache [2], Laurențiu Rozylowicz [2,3*]

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The increasing demand for resources to meet the needs of our society has transformed the environment and increased the likelihood of human-wildlife interactions. Romania has the highest density of brown bears in Europe, with more than 7000 individuals populating the Carpathian Mountains and neighboring areas. The large brown bear population in Romania inhabits ever-increasing human-dominated landscapes, which frequently results in conflict with humans. The means and frequency by which the media communicates information to the readership influence the public perception of human-wildlife conflicts. This research is intended to contribute to the existing knowledge on human-brown bear coexistence in Romania by (1) exploring how the Romanian media depicts human-brown bear interactions in terms of the main themes discussed, framing of issues (emotions and key messages), and likely impacts on public perception; (2) analyzing the changes in reporting on human brown-bear interactions following the transition of the legal status of the brown bear from game to strictly protected species; and (3) investigating suggested policy and management solutions. The results indicate that news stories related to brown bears became common in Romanian mass media after 2016, when a provisional one-year ban on culling was instated, after which it increased abruptly in 2021, following the whistleblowing of an alleged trophy hunting event. The focus on human-bear interaction and hunting/poaching themes has not changed; however, the position of the media toward brown bears has become increasingly negative, even when presenting news stories covering human-bear interactions that incur no harm. To facilitate human-brown bear coexistence in Romania, scientists and practitioners should communicate with media representatives and provide a supplementary context for news stories. Evidence-informed news can help authorities better understand conflicts and create bottom-up pathways toward an optimistic future for brown bears and Romanian society.

Saturday (28 October) – Section 2

Living with bears in Slovakia

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28 Oct 2023 15:15

The Western Carpathian population of brown bears (Ursus arctos) reached its lowest point in the early 1930s, when trophy hunting and persecution left fewer than 100 individuals in Slovakia. A 30-year moratorium on hunting allowed a natural recovery which is ongoing. Hunting resumed in the 1960s but did not prevent the population from growing and was again ended following challenges to its legality. The population, which has continued to increase in range and probably also abundance, is now likely to number between 1,000 and 2,000 animals in an area of approximately 16,345 km2 (an average of 6 to 12 bears per 100 km2). The recovery has led to a resurgence in related conflicts, which have become widespread and prominent, even featuring in national pre-election campaigns by political parties. Although negligible when viewed on a national scale, economic damage to agriculture by bears can be locally significant. There has been a state-run compensation scheme for losses since the 1960s which has expanded to cover other forms of damage in addition to losses of livestock and beehives. Moreover, non-lethal damage prevention measures such as electric fences and guarding dogs, which were largely neglected in the past, are now prioritised. Greater emphasis has also been placed on preventing bears from gaining access to refuse. An intervention team deals with critical situations by hazing/aversion of bears and, when deemed necessary, their removal from the population. Despite these efforts, bears and their management in Slovakia continue to give rise to considerable controversy and conflict. There is a commonly held opinion that bears are over-abundant. More frequent cases of bears injuring people, typically in response to sudden close encounters, are particularly emotive and have fuelled calls for bear numbers to be reduced through hunting. To prevent permanent fragmentation of the population, it is essential that bears continue to be able to move between core areas, which necessitates their occurrence in areas of higher human activity and settlement. However, people's tolerance of bears and support for conservation are undermined if they feel that legitimate concerns for safety and property are not taken seriously or adequately addressed.

Overview on Human bear interactions in Bulgaria

28 Oct
2023
15:50

Aleksandar Dutsov [1*], Vladimir Todorov [2], Nada Tosheva [1], Maria Kachamakova [1]

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Overview on Human bear interactions in Bulgaria in relations of management practices and lack of such. The aim is to follow the development after the first Brown Bear Action plan was initiated back in 2006 and the experience gathered in that period. The development of bear actions in partnership with institutions. Conflicts fluctuations, interventions and lack of interventions. Missing sustainability and losing the positive experience and lack of transfer of good practices between different governments. Over that period Bear emergency team was created, and then stopped its functions. After a period of electric fences donation and promotion, a period with no preventive measures applied. The bear damages on livestock, beehives keep stable with increase after 2019, which could be a result of public awareness about the compensation system, or lack of preventive measures. Poaching has a significant impact based on the number of GPS collared individuals lost during that period.

The differences in perception of large carnivores

28 Oct
2023
16:05

László Gál

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Why are large carnivores seen in different ways in Europe? Their presence in a human-dominated landscape depends on what people think about them, and how the local communities can accept them. Social acceptance lies in the cultural and educational system. In Slovenia, we participated in a know-how exchange trip where we could see what the fundamental conditions of perception are to accept or even more, see bears as an indicator of a healthy natural environment. For Romania, this type of life approach is vital to accept nature and the bears as part of it. Among the most important drivers are nature's acceptance as a vital environment and what we may use but should not own. We should not make decisions for humankind's advantage on the blame of wildlife. On the other hand, we (in Romania) reached almost the same level in technologies but we have to learn how to use modern technology to keep our environment clean, protect properties, and at the same time wildlife from loss.

Human - Bear Coexistence in Tatra National Park, Slovakia

Michal Haring

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28 Oct
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16:20

In recent times, the frequency of human-carnivore conflicts has increased due to a rising human population encroaching upon natural habitats and expanding their presence in wildlife areas. These conflicts encompass various adverse encounters between humans and large carnivorous animals. Numerous factors contribute to human-wildlife conflicts, such as instances where bears cause property damage or when humans suffer injuries due to wildlife encounters. It is common for human-bear conflicts to lead to the killing or lethal management of the individual animals involved in these incidents. Slovakia is home to a population of approximately 1,000 to 1,300 brown bears, which is a vital part of the extensive Carpathian bear population. Tatra National Park hosts about 150 bears. Hunting brown bears in Slovakia was prohibited from 1932 to 1962, leading to a significant recovery in their numbers from the lows observed in the 1930s. Currently, a substantial portion of their historical habitat has been reclaimed. However, issues like inadequate garbage disposal practices and access to human-origin food for bears is still common. A large number of visitors and tourists come to the Tatra National Park every year, and this area was also known for higher number of human-bear conflicts in the past. The joint efforts of interested parties such as the Ministry of the Environment, the Tatra National Park, Slovak Environmental Inspectorate and the Town of the High Tatras succeeded in achieving the goal of reducing the occurrence of brown bears in the vicinity of people and human settlements. Today, this area is an example of how, on the basis of preventive measures, to improve the coexistence between people and bears in the common territory.

A brief history of human and bear interaction on the Csomád volcano

28 Oct
2023
16:50

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Saint Anna Lake and Mohos Peat Bog along with Tusnádfürdő and Bálványosfürdő are important tourism places and hotspots for human-bear interaction. Csomád (Ciomatu) is the youngest volcano of the Carpathian Mountains. Its craters are the home of the only volcanic crater lake in Central Eastern Europe and a peat bog. The twin craters with water bodies are a rarity worldwide, making Csomád one of Romania's most valuable natural treasures and a very important tourist attraction in Transylvania and especially in Szeklerland. The area is favorable habitat for several species, especially for the brown bear. Since the 1980s the craters are nature preserves (botanical, geological and landscape protection) and since 2007 are included in the Natura 2000 network. Lake Saint Anna is the only crater lake in continental Europe located in a fully intact caldera, formed in the younger crater at the end of the Ice Age. Today the lake covers an area of nearly 20 hectares and is 7.2 meters deep, offering a stunning view and bathing/drinking place for bears. The Mohos Peat Bog is a large oligotrophic bog formed in the older crater, from an ancient crater lake and offers habitat for many relict plant species. The 80 hectares of taiga-type area rich in fruiting vegetation, particularly blueberries, lingonberries and cranberries are abundant. Extensive pastures and forests are around the bog and the lake, offering plenty of food and shelter for bears all year round. For humans the area is very important as well. For centuries it was a pilgrimage place and later a must-see attraction. Along with the mass tourism, it became a popular bathing and picnic spot, often with thousands of people on the lakeshore. During this period, countless bear-human interactions took place, often resulting in particularly dangerous situations and also several attacks. In 2019, the administration of the area was taken over by the Pro Szent Anna Association, in partnership with the landowner commonage. Visiting hours were introduced, picnicking was banned, all the open bins were removed and three bearproof garbage collection points were installed. The parking and camping area is surrounded with wire fence equipped with 3 rows of electric fence in operation from end of winter until end of autumn, 24/7. Two habituated adult female bears with 5 cubs were relocated in 2019 and one with 3 cubs in 2022. As a result, the number of bear encounters and sightings in the craters has been significantly reduced.

Practical experience on the creation of a trophic barrier for brown bears in the Cheile Bicazului-Hășmaș National Park

28 Oct
2023
17:25

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In the Cheile Bicazului-Hășmaș National Park, in Lacu Roșu resort in the summer season, mostly young bears appear, attracted by the waste in the garbage bins, and by the food stored in the refrigerators of the mini-restaurants on the lakeshore. The Park administration has set out to expand the species' food base by planting 15,000 raspberry, elder and blueberry saplings on an area of 2.5 ha in an area 1,800 m from the resort, so that bears will have access to an attractive source of food during the peak tourist season. This activity is being carried out at the same time as informing the authorities and restaurant owners about how to manage waste in such a way that it is as inaccessible as possible to bears. At the moment, the planting of the seedlings and the subsequent care work - stripping, and completion work have been carried out. In addition to increasing the natural feeding habitat of bears and reducing conflicts, it is hoped that the method will be extrapolated to other similar zones. However, the next step will be detailed monitoring, which will provide answers on the effectiveness of the work carried out and the need for further interventions.

The modern relationship between humans and bears in Europe and Romania

28 Oct 2023 17:40

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Climate change determines behavioral changes to many species, brown bears in Europe included. The EU wants to tackle some of the problems with its Nature Restoration Law. The main problems identified in Romania: (1) a transparent and precise bear count – national census. How many bears does Romania have? We need to know so the protection laws can be adjusted accordingly; (2) bear hunting and derogations. The case of Arthur, and the Austrian prince who shot him. The European Commission was notified; (3) crisis situation. Aggressive bears, urban encounters and plan of interventions; (4) Irresponsible human behaviors. The feeding the bears on the side of the roads.

Sustainable tourism: inclusion of the large carnivores theme in tourist and educational programs in nature

28 Oct
2023
18:30

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Active participation of Slovenian hunters in different EU funded projects enabled access to new knowledge on the topic of large carnivores, especially participation in projects whose main goals are aimed at improving the conservation status (CARNIVORA DINARICA), preventing extinction (LIFE LYNX), comprehensive management and protection (LIFE DINALP BEAR) and improving the coexistence and conservation (LIFE WOLFALPS EU) of large carnivores. In September 2023, we did commence another bear non-invasive genetic sampling, employing the methods and best practices developed in the LIFE DINALP BEAR project. Sample collectors are mostly Slovenian hunters. The educational programs were created with the aim of upgrading the theoretical knowledge acquired at the Large Carnivores Center Dina Pivka, where programs are focusing on domestic guests, especially children. The perception of the forest ecosystem as the home of many animals is crucial to getting to know, understanding and consistently implementing the rules of behaviour in the forest. Through experiential learning in the forest, the participants of the educational program learn about the ecology of wild animal species and about methods of tracking large carnivores. BE AROUND ME programs are implemented in Javorniki forests (observation of bears in their natural environment, family hiking and forest hiking) and are mainly intended for foreign visitors who are interested in the forest, forest animals and hunting. In the forest area, we look for signs of the presence of animals, we try to identify them, we look for places where the brown bear, the Eurasian lynx and the wolf could stay and move. We get to know the purpose of the photo traps, which were set up in cooperation with the professional colleagues of the LIFE LYNX Project. Through the interpretation of the guide, the participants of all experiences in nature get to know the LIFE LYNX Project, LIFE WOLF EU Project and the Project of monitoring brown bear population in Slovenia 2023, which was funded by the Ministry of Natural Resources and involves a partnership of Slovenian Forest Service, Hunting Association of Slovenia and University of Ljubljana. Through stories, participation in the field and sharing the experiences, the participants get to understand the importance of the presence and preservation of large carnivores in our forests better. Our motto is: Come closer, observe, but remain invisible in the large carnivore's life.

Carnivore Damage Prevention News

28 Oct 2023 18:45

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Bears and other carnivores compete with people for resources. The threats they pose to property, lives and livelihoods lead to predators being persecuted, with negative consequences for both humans and wildlife. In recent decades, some carnivore species have recolonised areas where they were absent for many years and people are no longer used to their presence and impacts. Traditional knowledge and innovative approaches to preventing damage and mitigating conflicts can contribute to finding workable solutions for human–wildlife coexistence. While many initiatives deal with damage prevention on a local or regional level, their results are not always readily available more widely. Smaller studies and those with negative findings, as when an intervention fails to produce the desired outcome, often go unpublished, even though much can be learned from them. Carnivore Damage Prevention News (CDPnews) was created to fill such gaps and to facilitate the exchange of information and experience among groups and individuals interested in the topic. CDPnews is a professional newsletter focused on the complex challenges presented by the interactions of large carnivores and human activities. It acts as an international forum to raise awareness of practical solutions and to facilitate collaboration among researchers, wildlife managers, policy makers, agricultural consultants, practitioners and other interest groups in order to improve knowledge exchange across the boundaries of traditional disciplines. Not only technical and biological aspects but also human dimensions are addressed through articles about damage prevention measures, compensation schemes, livestock/predator 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 issues, are also featured. CDPnews is open to proposals for articles from anyone with expertise or experience in the field anywhere in the world. Submissions, which are peer-reviewed by the editorial team, range from original research to reviews of best practices, evaluating new tools and techniques, presentation of projects or personal perspectives and opinion pieces.

Sunday (29 October)

Six years of DNA monitoring of brown bears in Făgăraș Mountains

29 Oct 2023 10:00

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Management of brown bears in Romania must contribute to the long-term viability of the species and reduce conflicts with local communities around the Carpathians. In practice, however, management faces numerous administrative and funding bottlenecks, with socio-economic impacts and damages to both local communities and bears. Objective data on the size of the bear population, the population trend and the magnitude of problem bears are needed to unblock the situation. We genetically monitored a brown bear population in a 1200 km2 pilot area in the eastern Făgăraș Mountains over six years. Using the same DNA approach, for comparability, we identified and described annually the bears attacking in the villages. We estimated a local population density of 17-18 bears/100 km2 (95%CI=18-22) in 2017-2018, of which 40% males and 60% females. In 2022 the density was estimated at 22 bears / 100 km2 (95%CI=21-28), with the sex ratio balanced at 48% males and 52% females. Only 20% of the genotypes detected in 2022 represented bears known from 2017, the rest being new animals. Of the total bears identified, 17 had documented livestock attacks, 15 males and 2 females, with some responsible for 10-15 successful attacks each. The attack strategy of a particular bear on a livestock category was maintained across years. The results clarify current unknowns in brown bear management, mid-term population dynamics and magnitude of bears attacking in villages. At the same time, complex challenges emerge, both in terms of knowledge and coexistence in the context of environmental, social and management changes.

Evaluating the deterrent efficiency of non-lethal ammunition EM-A/E for the application in nuisance wildlife management

29 Oct 2023 10:35

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The EDM-company is leading in the sector of non-lethal ammunition for police operation purposes in the German-speaking region. On this background, requests from shepherds have resulted in the development of advanced processed products (EM-A/B) with different kinetic energy targeted at animal defence use for primarily protected species like the bear and the wolf. The Institute of Wildlife Biology and Game Management (IWJ) has been requested to assess the use of these prototypes from a wild-biological point of view, by inspecting whether this special ammunition serves the functional purpose also in compliance with the animal ethics and to what extent its application can fill a demand gap in nuisance wildlife management. We tested different types and brands of non-lethal ammunition by shooting on simulants that in their composition resemble the skin and muscle tissue of these animals. The EM-products were distinguished in comparison to conventional projectiles by their superior targeting precision with an appropriate impact. Rubber bullets have proved to be too mild whereas rubber pellets pose a high risk of eye injury due to its large dispersion. The flexible tail of the super-sock-technology stabilizes the projectile optimally, so that the risk of ricochets is minimized. The cross-sectional area is doubled when the projectile strikes the animal and thus protects it against serious injuries. This high-tech-invention convinces not only by its excellent ballistic but also by its pharmaceutical properties. In particular, the aspect of first aid after shelling is to be positively stressed in terms of animal ethics: the pharmaceutical active ingredients incorporated into the projectile have a haemostatic and disinfecting effect on the wound. A further aim was to test and to evaluate the repellent efficiency of the EM-products on the living animal in practice. This deterrent agent is applied in European bison (Bison bonasus) management in the Tarcu Mountains, Romania, since 2019 and might be likewise used for non-lethal management of problem bears according to Emergency ordinance no. 81/2021 regarding the approval of immediate intervention methods for preventing and combating brown bear attacks on people and their property in urban areas. This study is based on an international cooperation which primary aim is to promote integrated wildlife management in Romania.

Perceptions and attitudes regarding human-bear conflicts

29 Oct
2023
10:50

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The Transylvanian landscapes still have the specific particularity of being strongly connected, largely traditional social-ecological systems. This strong connection means the people's direct use of ecosystem services offered by the landscape. But it also means that the people are exposed to the damages caused by this ecosystem (ecosystem disservices). These damages are most often caused by species, which can be both emblematic and legally protected, like the Carpathian brown bear (*Ursus arctos*). In such case it is particularly important to understand not just the characteristic of the conflicts, but the attitudes related to them. The goal of this research is to understand the perceptions and the main drivers of these conflicts in one of Romania's most important human-bear conflict zones: the Eastern Carpathians (opinion reflected in the media). In order of these 77 interviews were registered, in Hargita and Covasna counties. The interview subjects were chosen with stratified sampling, the interviews had a quantitative part (questionnaire surveys) and a qualitative one (semi-structured part). This presentation presents the result of the questionnaire surveys. The tolerance toward bears is strongly related with the economic and social background of the researched region. But the personal tolerance of the stakeholders is also deeply influenced by the nature of the conflicts experienced. The results were interpreted in the concept of the "cultural carrying capacity", considering the personal and social tolerance toward the conflicts, the social and ecological drivers of the conflicts, as well as the importance of the context-dependent solutions. The results suggest, that (i) the cultural carrying capacity is a dynamic system, so it may change, (ii) the anthropogenic pressure exercised on the bear population has an ascending tendency. (iii) The Transylvanian social systems have an "ecological embeddedness", a traditional knowledge about coexistence with bears, so it does exist a "capital of values" towards human-bear coexistence. (iv) In each case the human-bear conflicts are context-specific, so it must be treated in accordance. Finally (v) in order to prevent and decrease the number of conflicts caused by large carnivores, it is essential to develop formal institutions and support systems. The most important components of a sustainable conflict management strategy for both human and bear, are the co-administration of mitigation measures and the people's attitude shaping measures.

Forest pedagogy a promising tool for mitigating future generations large carnivore-human conflict

29 Oct
2023
11:05

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In Romania, parents and teachers alike, are shifting towards non-formal education, on the background of lack of coherent and stable public education policies. Forest pedagogy is one of the most sought after types of non-formal education in Transylvania. Forests, trough their therapeutic features, contribute to success, while benefitting mental wellbeing. Mental wellbeing is key to a sustainable society. Feeling happy with life and getting connected to others, is something we all strive for. Therefore, in order to manage day to day challenges, work productively, use our abilities to the fullest and contribute to society, mental health should always be kept in check. Forest pedagogy events can constitute a great escape for the young generations, that are surrounded by an ever growing artificial and virtual world. The new era is cutting short the ancestral links to our natural environment, and undermining the role that nature has always had in our lives. For the generation that grew up shielded by plastic, electronical devices, and a virtual reality, there is little opportunity to connect with natural products/nature and experience outdoor or wilderness. As a result, this often creates confusion when wildlife interferes and gives birth to fear, repel and a human-wildlife conflict spiral. One of the most effective ways to facilitate a connection between students and the forest environment, is to train their teachers to manage programs of reconnection with nature. I call this forest school. I started these trainings in 2015 and we had one of our most successful events, recently. More than 250 teachers, foresters and youth workers reached out to us, after a 3-day training call was made, for forest pedagogics. We trained 25 of them this time. We promote hands-on learning during our trainings and motivate participants to discover little wonders alongside their students, in the beautiful forests of Europe's last wilderness: the Carpathians. Not just forests, but also future generations must be resilient to climate change. In our understanding, one way to achieve this is focusing children's attention to forest ecosystems. We are looking for new ways to enhance our programs in order to address the wide interest that was expressed towards our training, recently.

Monitoring brown bear population in the Eastern Carpathians using a standardized transect approach and multivariate statistical analysis

29 Oct
2023
11:35

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Knowledge on population parameters and dynamics is of key importance for conservation and game management. While Romanian legislation requires hunter associations to census populations of large mammals, these estimations are not statistically robust and are a matter of fierce debate. To complete this information gap between 2018-2020 we performed standardized and synchronized data collection and statistical analysis building on the approach developed in the Life Ursus project. Data collection was done by recording the position and measuring the width of front paws in the spring and autumn period when weather conditions favor this activity. Length of transects was 1,5 km, data were recorded on electronic data collection files. Each transect was repeated 3 times except the first pilot season. Data analysis was done using N-mixture occupancy model to calculate detection probability and a corrected abundance value. This was extrapolated to a core home range of 5.58±1.08 km2 based on radiotelemetry data. During 6 seasons of monitoring a total number 828 transect data were collected (including repetitions) the total length of transects is 2484 km, the number of fieldwork days is 296. Mean bear abundance was between 3.2±2.8 to 5.1±0.6, and mean estimated densities were between 39,2 (CI95%=29.6-48.8) and 49.2 (CI95%=37.2-61.2). The strongest explanatory variables were substrate quality and distance from the nearest feeding place. The error of the estimations is related to the error of the core home range estimation and the lack of data on the intensity of feeding. Mean estimated values are similar to the rather empirical estimations of hunter associations. We consider that this approach could be a useful complementation of more intensive mark-recapture methods for the monitoring of brown bear populations in Romania.

Humans, bears, habitats, Romania 2023

29 Oct
2023
12:10

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The present study presents official data on the size of the bear population, based on data from the Forest Research and Management Institute Brasov (synthetic statistical figures of the brown bears from Romania), supplemented with my own data. An important added information is that the clearcuts provide better habitats for the game, as more green biomass is produced, thus also for the bears. For data collection, we used more than 20 camera traps in our hunting area, broke down the number of bears into categories and added the number of mother bears with cubs less than 1 year old, as they did not visit our monitoring sites. Our results show the exact size of the bear population in our 53,000 hectare hunting area, provide data to show that cutting helps wildlife populations and provide practical data to support the importance of oat fields to distract wildlife from agricultural crops. Our conclusions suggest that in order for humans and bears to coexist peacefully, humans need to give back to bears from the nature: (1) provide refugia, green biomass to keep wildlife, including bears, in the forest during the summer and away from agricultural land and domestic animals; (2) intervene (including hunting) to maintain healthy and self-sustaining brown bear populations; (3) intervene with preventive marketable hunting to maintain the game species instinctive fear of humans. These actions will also help maintain human tolerance for large predators.

Conflict management on four legs

29 Oct
2023
12:25

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Human-bear coexistence has long been facilitated by shepherd dogs, which work alongside humans to mitigate and prevent damage. Shepherd dogs are exposed to environmental conditions, starvation, predators, lack of veterinary care and the need to maintain rank within the pack. The current situation suggests that the efficiency of herding dogs is declining. The reasons for this can be attributed to several factors: line breeding for exhibition purposes, tourism, lack of human resources, legislation. The country still has a significant number of grasslands and sheepfolds, but also of large predators, so quality shepherds can balance both tradition and human-carnivore conflicts if the balance is tipped towards quality rather than quantity. Shepherd dogs will kill straggling cubs, while having no negative effect on adults. It is also very important to bear in mind the ever-growing sheepfold tourism phenomenon, of which the shepherd dog is an important part. A change of attitude is needed on the part of both shepherds and tourists to ensure quality landscape sharing. This change of attitude will also determine the acceptance of large carnivores and the future of traditional livestock farming.

The use of AI in preventing conflicts with large carnivores: the example of NatureFirst project

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12:40

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The prevention of human-bear conflicts is often a difficult task. Consistent human and material resources are needed to properly prevent this type of conflicts and thus damages to properties or even serious injuries to both humans and bears. The use of AI in wildlife conservation and management is becoming more and more common. The NatureFirst research project funded under the Horizon Programme is developing a set of proactive methods, technologies and tools for 1) cross-organisational data harmonisation in support of 2) (near) real-time monitoring of ecosystems and wildlife, 3) the creation of early warning signals to reduce human-bear conflicts, and 4) the creation of prediction and simulation models that help better understanding the increase or decline of the brown bear population and its trends and habitat status due to anthropogenic pressures and threats (current and future). To ensure validity, reliability and credibility of the outputs, quantitative data is combined with qualitative scientific knowledge. Environmental observations (including satellite images, on-site observations, use of camera traps and telemetry data from collars) are combined with knowledge about species-specific factors and behaviours and tangible criteria that can be evaluated. The study area is represented by the Maramures transboundary area (between Romania and Ukraine), and partly by the Baile Tusnad area. The research project is essential not only to reduce the costs of bear and generally wildlife monitoring, but also to predict potential conflicts in space and time. More specifically, the project will deliver among others auto-generated ecosystem base maps, a (near) real-time monitoring and evaluation system and digital twins (a technology that has only recently been adopted in the biological and environmental sciences). NatureFirst is the first project to include human behaviour, animal behaviour, and complex ecological processes using the digital twin technology. The added value of the project is related to the capacity to improve human-bear coexistence based on automated processes and to facilitate more informed and transparent decisions about wildlife management in general.

Human-bear coexistence: know-how exchange trip in Slovenia

29 Oct
2023
12:55

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Human-bear coexistence relies on the best practices that are used for long-term goals in many areas like eco-tourism, hunting, and agriculture. The keystones of success in those segments of living are education, sustainable development, and the active involvement of the local community in decision-making and implementation of practices. During our know-how exchange trip in Slovenia, we gathered tips and best practices to learn for Băile Tușnad's residents, and hopefully, it will be spread into other communities in Romania. The main idea is to prevent as much conflict as possible and to reach this by not producing problematic bears is crucial. Existence of and compliance with the laws on the use of wildlife observation points for hunting and ecotourism purposes (e.g. use only automatic feeders). Bear habitat conservation projects like Save pastures project. Bear friendly products project to help local manufacturers to sell they products while moving local communities to the positive perception of large carnivores. But education and communication is the key to stopping the spreading of stereotypes about bears. A large carnivore center is built where educational activities are facilitated by modern technologies and they also use nature for tracking bear signs. A quarter of the center is designed for children. As it has been demonstrated, all conservation works are not possible without the involvement of the local people who are in the first line when it comes to coexistence with bears.

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