



JOINT CONFERENCE

of the Alpine and Carpathian Conventions

for the exchange of practices on management of large carnivores

REPORT ON THE EVENT

(Revised version)



Authors:

Vesna Mihelič Oražem, Tine Gotar, Bojana Lavrič, Rok Černe (Slovenia Forest Service)
Dagmar Svobodová, Eliška Rolfová (Ministry of the Environment of the Czech Republic)

Martin Dul'a (Mendel University in Brno)

Klaudia Kuraś (UNEP Vienna Programme Office and Secretariat of the Carpathian Convention)

Contributors (in alphabetical order):

Tomaž Berce, Yaroslav Dovhanych, Karl Frauenberger, Jana Fuglikova, Vincenzo Gervasi, Claudio Groff, Pierre-Edouard Guillain, Laura Diószegi-Jelinek, Jakub Kubala, Jochen Krebühl, Miroslav Kutal, Francois Lengrand, Miha Marenče, Francesca Marruco, Marta Mędlińska, Anja Molinari-Jobin, Karolina Paulewicz-Bazala, Mihai Pop, Cristian Remus-Papp, Aldin Selimovic, Tomaž Skrbinšek, Tatjana Spirković, Katharina Steyer, Manuela von Arx, Theresa Walter, Lukas Zahorec



INTRODUCTION

The report of the first joint conference of the Alpine and the Carpathian Conventions summarises the main themes of the event that took place between 6 and 8 March 2024 in Brdo pri Kranju, Slovenia. The first part of the report focuses on key presented points of the current status of large carnivore populations in the Alps and the Carpathians, the monitoring approaches currently used, and an overview of the challenges of conflict and poaching prevention. All topics are accompanied by highlighted orientations for future work and challenges to be addressed. The following sections of the report summarize the conservation and management policies of the Member States of the two Conventions. The final part of the report summarises the roundtable discussions relating to the pre-defined themes, which represent key challenges for future work in this area.

More detailed information on each topic can be found in the attached presentations.

STATE OF THE PLAY – LARGE CARNIVORE STATUS AND CURRENT ISSUES

Conference Opening

Ms. Alenka Smerkolj, Secretary General of the Alpine Convention, highlighted that biodiversity is one of the main goals of the Slovenian presidency to the Alpine Convention, and outlined the necessity of international cooperation. The wildlife-human conflict is a political topic based both on rejection and enthusiasm. Despite the common legal basis, there is still much to learn. This conference is an important step in implementing the Memorandum of Cooperation between the Convention on Biological Diversity and the Alpine Convention and the Carpathian Convention.

Ms. Klaudia Kuraś, representing the UNEP Vienna Programme Office and Secretariat of the Carpathian Convention, emphasized the ecological balance maintained by the large carnivores and the need to harmonize management and conservation efforts. The LECA project supported by the Interreg CE Programme is one example of how to address the key aspect of the coexistence of humans and wildlife. Ms. Kuraś also referred to the Carpathian Biodiversity Framework, adopted at the 7th Meeting of the Conference of the Parties to the Carpathian Convention, and the recent listing of Eurasian and Balkan lynx in the appendices to the Convention on the Conservation of Migratory Species of Wild Animals.

Introductory lectures

Mr. Rok Černe, Chair of the WISO Working Group, presented the Alpine Convention in the context of activities related to large carnivores. The Alpine Convention has 8 protocols that lead to concrete steps in terms of implementation of the convention. WISO is one of 9 working groups established under this framework and consists of ministry representatives from 7 countries dealing with large carnivores. The main outputs of the working group are damage prevention, connectivity issues, exchange of experience, and issues connected with wild ungulates. With the support of the WISO working group, successful projects were also implemented, e. g. LIFE DINALP BEAR (<https://dinalpbear.eu>).

Ms. Eliška Rolfová, Chair of the Carpathian Convention Working Group on Biodiversity, emphasized that the Carpathians are one of the key biodiversity hotspots in Europe with one of the largest populations of large carnivores. The Carpathian Convention enables cooperation and multi-sectoral policy coordination at the level of Parties and via an extensive network of stakeholders. Large carnivores are a prominent topic of WG Biodiversity, focusing on the implementation of the International Action Plan on the Conservation of Large Carnivores and Ensuring Ecological Connectivity in the Carpathians.

Mr. Martin Duľa, project manager of the LECA project (<https://www.interreg-central.eu/projects/leca/>) from Mendel University in Brno, stressed that transnational cooperation is crucial, as well as an evidence-based approach. The LECA project has a partnership consisting of 12 partners and many associated partners. The main three pillars are focused on harmonizing monitoring practices across the Carpathians, human-wildlife conflict prevention, and prevention of poaching. Activities focus on 4 pilot areas and 2 reference areas and results will be widely distributed beyond the Carpathian region. The outputs of the project include recommendations for the revision of the International Action Plan on the conservation of large carnivores and ensuring ecological connectivity, multi-stakeholder engagement and policy, education and public roll-out of project findings, and scaling up towards the Alpine region and the EU level.

STATE OF PLAY: LARGE CARNIVORES' STATUS AND MONITORING ACROSS THE ALPS AND CARPATHIANS

Conservation of the Carpathian lynx in West and Central Europe

On behalf of the IUCN SSC Cat Specialist Group, Mr. Jochen Krebs presented a recent success of the conservation of the Eurasian lynx – listing under Appendix II of the Convention on the Conservation of Migratory Species of Wild Animals by the proponent North Macedonia and co-proponents with the assistance from the Secretariat of the Carpathian Convention. Mr. Krebs introduced activities of the Linking Lynx - expert network (<https://www.linking-lynx.org>) which works on harmonizing approaches, developing technical protocols, coordinating of transferring lynxes between populations, and advising governmental organizations in lynx conservation.

Countering genetic erosion of lynx population in Dinaric Mountains and Eastern Alps

Mr. Tomaž Skrbinšek presented the topic of genetic erosion in Dinaric lynx, which was facing extinction because of inbreeding depression. During the LIFE Lynx project (<https://www.lifelynx.eu/>), 18 lynxes were translocated to Slovenia and Croatia from the source countries Slovakia and Romania, effectively saving the population in the Dinaric Mts. and creating another stepping stone population in the Alps. As the population still remains small and isolated, long term genetic management is needed to keep inbreeding coefficient below $F=0.15$ and ensure population's viability. Inbreeding coefficient below $F=0.15$ is considered acceptable for lynx populations, which is also supported by the historical data for the Dinaric lynx which seemed to be doing well at this level of inbreeding (in the 1980s). While we can already expect some inbreeding depression (negative fitness effects of inbreeding) at this level of inbreeding, it should still be low enough not to endanger the population's survival. Since the Dinaric-SE Alpine population will most likely not be naturally connected with other large lynx populations in the near future, routine translocations of animals in regular intervals will be required to meet this goal.

Population status and monitoring of Eurasian lynx in the Carpathians

Mr. Jakub Kubala introduced monitoring methods for lynx, where camera trapping seems to be the most robust, as each animal has unique coat pattern. In terms of robust and systematic monitoring, camera trapping along with telemetry and genetic surveys is being used. The majority of the lynx population is based in Romania, Slovakia, Poland, and Ukraine.

The Carpathian population is currently stable but slowly declining (Romania reports stable population). Poaching, reduced prey availability, habitat loss, and fragmentation, and expanding transport infrastructure have been highlighted as the most the most threatening factors to current species' conservation. More and more Carpathian Convention countries have a lynx management plan in place, which is a significant improvement from 2011 onwards.

Population status and monitoring of Eurasian lynx in the Alps

Ms. Anja Molinari-Jobin is the coordinator of the SCALP mapping network in the Alpine area, which could be expanded to the Carpathians. The reason for monitoring populations in the Alps is that the Alpine population of lynxes is reintroduced, therefore genetic monitoring is a must. Ms. Molinari-Jobin also highlighted the importance of seeking collaboration with hunters (7 million hunters in Europe currently on record).

Discussion and orientations for the future

One of the main ideas that came up in the discussion was whether it would be possible to extend the SCALP system to the Carpathians. It is considered as a suitable practice and it will be necessary to harmonize approaches. Another topic of discussion was connectivity in terms of hard borders, which is a major issue at the continental level, particularly regarding military fences.

From a national perspective, Ukraine is an interesting case for monitoring population interactions, where the Baltic and Carpathian lynx populations may meet within the country. Italy has good potential for connectivity between different populations. Some work has already been done in recent years, especially with the introduction of new lynx. There is a possibility to link the Slovenian and Swiss lynx populations on Italian territory.

Population status and monitoring of brown bear in the Carpathians

Mr. Mihai Pop stressed the main issues regarding the monitoring: different numbers across institutions (IUCN, EU LCs platform, and even scientific groups), different interpretation, no agreement on methods. Genetic monitoring in Romania is carried out every 6 years, presently the first genetic study is ongoing. Currently, the population is estimated at 8,000 bears in the Carpathians, of which about 7,000 in Romania. Mr. Pop emphasized the spatial dynamic of bears and the importance of considering it in population monitoring projects, landscape planning and resources use. Administrative problems, e.g. costs that need to be acceptable, institutional capacities that need to be increased, and working framework were also mentioned as highly relevant together with networking between research groups and stakeholders.

In conclusion, sharing good practices and finding common objectives and indicators for population monitoring, was recommended, as well as cooperation in working on action plans.

Population status and monitoring of brown bear in the Alps

Mr. Caludio Groff presented the genetic monitoring which started in 2002 in the Alps, and systematic monitoring with camera traps. Genetic monitoring (both opportunistic and systematic) in the long term is a basic tool, but for the effective work, laboratories must be connected, and methods and results need to be shared. Camera trapping monitoring method is also used, which is less important than genetic monitoring in terms of abundance data, but is important for detecting the presence of bears on the periphery of the areas of presence. Bear monitoring is carried out every other year in central Italy and annually in peripheral areas. Across the whole Alps the increase in bear abundance is recorded. In Eastern Alps the population trend is considered stable trend with few specimens, mostly males. In Slovenian Alps the population increased between 2007-2015 and was considered stable between 2016 – 2022. Bear numbers are increasing in central Alps. In the last 10 years, 8 bear attacks on humans have been recorded, 1 of which was fatal. Bears require special management in dealing with problematic individuals, and aggressive bears have to be removed without delay. Conflicts may be reduced, but not eliminated. Mr. Groff also shared his experience with aversive conditioning: in Italy it was done regularly, but with no significant results, e. g. using rubber bullets needs lots of resources. Improving human attitude seems to be more important than prosecution in terms of poaching reduction.

Discussion and orientations for the future

The discussion on the brown bear topic was focused on a strategy of monitoring and possible ideas on how to improve it. As a good example the LIFE Lynx project was mentioned, which actively involved key stakeholders in the preparation of the project application. The framework of an international convention that supports cooperation between partners appears to be very useful. For the monitoring of brown bear, as an example of high effort Romania was pointed out, with over 15,000 samples collected in 2022-2023 as part of the non-invasive bear monitoring.

Another topic discussed were the three possible measures for problem bears: the first deterrence (e.g. with rubber bullets), the second relocation of problem individuals, and the third removal. The very limited effectiveness of the deterrence and also possible relocation of problematic bears was further discussed, where there does not seem to be enough space to relocate to places without people's presence and no support from receiving areas. Emphasis was put on differences between emergency situations and conflict mitigation/coexistence tools/measures.

Population status and monitoring of wolf in the Carpathians

Mr. Miroslav Kutal emphasized that there is only partial knowledge about wolf populations across the Carpathians. The Carpathians have a relatively high genetic diversity of wolves. From 2013 to 2022, the wolf population in the Czech Carpathians increased substantially. Most of the focus is on "robust" estimation of population density (obtaining an approximate number). It is important to use genetics in wolf monitoring. In terms of field monitoring, Mr. Kutal mentioned a successful involvement of volunteers ("wolf patrol" project in the Czech Republic). As one of the recommendations, more studies focused on robust population density estimates across the Carpathians were mentioned, as well as avoiding double counting of transboundary packs, involving local people/volunteers in wolf monitoring, focusing on reliable estimates of wolf mortality using telemetry (undetected poaching), standardized protocols for veterinary examinations (health, parasites, cause of death), and Carpathian-wide study on genetic structure.

Population status and monitoring of grey wolf in the Alps

Ms. Francesca stressed that it took a process of 20 years to effectively have Alpine countries working together with an harmonize monitoring approach and output, and this happened in the framework of the "Wolf Alpine Group" (WAG), which was started in 2001. The major task was to establish a methodology that avoided double-counting. A key is to put together results based on the same approach and since 2020 the method is effective, and several publications and reports came out from the WAG (doi.org/10.3390/ani13223551). In this framework the most robust parameter to monitor the population size at the transboundary scale in the Alps, over 7 countries, is the number of packs/pair (i.e. the number of reproductive units of the population), which also allow to avoid double counting, A new emerging challenge is how to commonly document hybrid packs/pairs and how to monitor wolf packs in semi-urban areas in a transboundary context with a unique approach over the 7 alpine countries.

Discussion and orientations for the future

The discussion related to the population status and monitoring of wolves focused on recommendations from the Alps, which is based on a joint effort to get samples for genetics ideally everywhere at the same time. In case of a lack of funding for full-scale monitoring, a minimum standard should refer to a species distribution range. Another topic was hybridization, which is becoming one of the most significant threats to the wolf population. It is important to establish a common legal definition of hybrid, and the discussion should be agreed internationally. One of the problems in reporting and comparing data from different countries is that the data are sometimes not comparable/compatible: in some countries the number of all wolves is counted, in others only the number of packs or the number of litters is counted. Therefore, the harmonization and standardization of the data collection is needed.

THE ISSUE OF CONFLICTS AND POACHING ACROSS THE ALPS AND CARPATHIANS

Conflict prevention in the Carpathians

Mr. Cristian Remus-Papp presented the main aspects of conflict prevention and highlighted a holistic conflict framework. The conflict has different levels, e. g. dispute, underlying conflict, and deep-rooted conflict. Conflict prevention has three pillars, which are livestock protection, lethal control, and economic compensation. Mr. Papp also stated that based on many studies, hunting wolves does not decrease livestock conflicts per se. Threats to large carnivores have also been highlighted: roads, cities, fragmentation of space. The main problems with large carnivores are currently: habituation and approach to settlements, grazing close to large carnivore habitats.

The majority of problems is recorded with small livestock and beehives (in case of bear). To compensate the damage, Hungary and Ukraine have no established compensation scheme for damage, other Carpathian countries do.

Conflict prevention in the Alps

Mr. Tomaž Berce presented the main challenges and best practices of conflict prevention in the Alps. One side of the conflict is encounters and fear of attacks possibly caused by large carnivores. In terms of bears and problematic behaviour, Mr. Berce presented a sequence of responses - translocations, repelling (rubber bullets, bear dogs), and removal of problematic animals in case of reoccurrence. Above all, the prevention of these cases is crucial – using bear-proof compost bins, containers, etc to prevent bear habituation to human presence. In the conflict hot-spots, the constant dialogue between farmers and managers is needed. Examples of the best preventive practices were mentioned: electricity, livestock guardian dogs, the presence of a shepherd, additionally to other main preventive measures – fladry, and deterrents. A good controlling system of the applied preventive measures in the field is needed, as there is no one-size-fits-all solution. In the mountains, free grazing is a tradition. Consequently, more oppositions to preventive measures arise and also more protection problems. In all Alpine countries compensation is paid, mostly only for direct damage. Awareness is needed, that compensation is for conflict mitigation, not prevention. It is important to analyse the damage when it occurs to a facility protected by a supposedly good security method (case-specific).

Discussion and orientations for the future

A possible method of aversive conditioning was discussed in the relation of conflict prevention. According to the experience in some countries, the use of rubber bullets does not seem to be very effective. A trial of this method in Romania in 2015 showed that it only worked for a day or so, after which bears avoided the car associated with the hunter rather than the action of shooting. In 2019, the method was tried again in practice, but due to difficulties in obtaining a permit for such an intervention, it was not granted. In Germany, they have also tried using airsoft guns instead of rubber bullets. The necessity of informing people on regular basis was stressed out many times, because hearing news in the media without sufficient explanation, can only cause panic and irrational fear.

In Italy, they have a system of intervention kits to help those that suffered from damage for the first time. They can use this kit for a few months, and in the meantime, they have time to secure their own protection. The system is the same as in Slovenia.

The traditional knowledge of shepherds was highlighted, which was recommended to be taken into account in policy-making. A frequently addressed topic is the workload of shepherds in the specific season. In some countries, shepherds are paid by the sheep owners. They confine the animals in pens at night. In France, the monthly salary of a shepherd is €2,400. Shepherds have proved to be a reliable means of protection there, but it is difficult to get a good shepherd.

Another topic discussed was damage prevention measures for cattle, where changes in the management system are recommended - a predictable calving period. In Slovenia, former traditional knowledge aimed to protect cattle mainly up to 6 months of age already existed. Young cattle have also been shown to be the most vulnerable stage of cattle abroad (in Germany, about 60% of cattle damage occurs to calves up to 2 weeks of age, see www.dbb-wolf.de/home).

Investigation into poaching in the Alps

Mr. Karl Frauenberger presented the legal background, which is the Environmental Crime Directive from 2008 implemented in national criminal law, and Habitats Directive. Mr. Frauenberger explained the main investigation challenges and investigation tools. He emphasized the necessity of cooperation with experts – scientists, and laboratories. One of the challenges of poaching investigation is that there are usually no witnesses and the work is done afterwards (weeks and even months). All must be aware, the killing of protected species is a serious offence, as the loss of each individual represents a major loss in small populations. Mr. Frauenberger highlighted the existence of the New Environmental Crime Directive 2024 introducing the obligation for the EU MS to develop an environmental crime strategy, and the platform EMPACT (European Multidisciplinary Platform Against Criminal Threats), where the goal is that EU MS assist each other in sharing information, experience exchange, and actions coordination.

The issue of poaching in the Carpathians

Mr. Cristian Remus-Papp presented forms of poaching, which include illegal killing, poisoning, retaliatory killing, etc. Traps and illegal trade in live animals are still being used. The main problem that drives poaching is predation by large carnivores, which some hunters see as competition. Challenges in the prosecution of poaching cases are lack of information/resources, sophisticated tactics, and corruption. Mr. Papp also mentioned legal challenges – inconsistency in wildlife laws.

Discussion and orientations for the future

Discussion of the poaching issue has focused on the motivation for illegal killing, which can generally include competition for ungulates, damage to livestock and trophy hunting. Even in cases where a hunter accidentally shoots the wrong animal, an investigation is launched.

Another topic discussed was experiences with poisoning of large animals, which are very difficult to investigate, since it is often difficult to trace the culprit.

CONSERVATION POLICIES FOR LARGE CARNIVORES

Conference Opening

Ms. Katarina Groznik Zeiler, the General Director of the Nature Directorate at the Ministry of Natural Resource and Spatial Planning in Slovenia, addressed the opening remarks on the conservation policies for large carnivores. Large carnivores are European native species and a crucial part of Slovenian nature, and also one of the priorities of the ministry. Ms. Groznik Zeiler stated that balancing of protection and minimizing conflicts is the only good way forward. The Ministry is also responsible for paying compensation. Last year, a Consultative Group on Large Carnivores to jointly address the issues was set up.

Introductory lecture: Introduction to the current international legislation

Ms. Marta Mędzińska, Programme Manager at the Bern Convention on the Conservation of European Wildlife and Natural Habitats of the Council of Europe, presented the Bern Convention – the legal basis common to all countries. In 1979 when the Bern Convention was established, the orientation to the protection of species and their habitats was very new and holistic.

The Bern Convention has 3 annexes listing protected species (I – III) and brown bear (*Ursus arctos*), Balkan lynx (*Lynx lynx balcanicus*) and wolf (*Canis lupus*) are in Annex II (strictly protected fauna species), while the Eurasian lynx (*Lynx lynx*) is in Annex III (protected fauna species). In comparison, the EU Habitats Directive on the conservation of natural habitats and of wild fauna and flora includes the large carnivores in Annexes II and IV.

Ms. Mędlińska presented also a case-file system and large carnivores-related case files, as well as the Emerald network: network of sites of special conservation interest, that comprises Natura 2000 sites within the EU and similar protected areas of countries outside the EU.

CONSERVATION POLICIES FOR LARGE CARNIVORES - CARPATHIANS

Slovakia

Mr. Lukas Záhorec presented lynx, wolf and bear distribution and amount of damages. Damage caused by lynx in 2023 was approx. 2,000 €. Lynx is a strictly protected species. Damage caused by wolves in the last year was approx. 530,000 €. The wolf population is increasing, the culling quota has been reinstated recently. Bear damages last year amounted to 500,000 €. Wolf and bear damage is increasing sharply. A 24/7 centre for solving bear problems is being set up (intervention team). They see the shooting of bear specimens as the last resort to resolve conflicts. In the coming months, a property protection system will also be put in place.

In terms of the wolf, this quota has been reinstated (1 November – 15 January), and will be set every year. The brown bear is an issue in Slovakia, causing significant damage and attacks. Since 1 March 2024, there has been a new guideline for culling bears; currently, 5 bear intervention teams operate in Slovakia. Mr. Záhorec described future plans which will focus on developing a methodology for preventive measures.

Czechia

Ms. Jana Fuglíková described the underlying legislation and especially the use of derogations in the Czech Republic. It is possible at the level of 19 regional authorities under specific conditions. Wolf was the subject of 56 applications for derogation between 2020-22, not allowing shooting (mainly research). The last bear was shot around 1890, and bears currently appear only in the east of the country (The Carpathians). In September 2023, there were recorded at least 120-150 wolves in 29 packs. The main activities related to large carnivores are management plans – in place for wolf since 2020; for lynx and bear, they are in preparation. For wolves, the objective is to have a stable population while minimising the number of damage events. The state provides damage compensations, preventive measures, and compensations for legal constraints.

The number of damages is increasing in the country, and so is the need of moderate communication and approach. The data about damages caused by wolves are public and transparent on a special wolf website. The new tool is the Emergency plan for problematic wolf individuals.

Romania

Mr. Mihai Pop stated that all three large carnivores are in favourable status according to the last report in 2019. There is a National action plan for wolf and bear. Conflicts are not uniformly distributed in the country, some hotspots of human bear conflict being known since the '90s. Since 2016, derogation were implemented but presently, they are approved only to remove problem individuals from the population. For bears, there are two types of quotas: preventive and intervention; hunting purposes are forbidden. There is no protocol/method to assess the impact of different removal strategies on the conflict level and no control on how the derogations are implemented. An emergency intervention system has been in place since 2021 since the presence of bears in human settlements seems to be on a growing trend. From 2018 to 2023, only 14 wolves were culled legally in the country. Since 2012, no derogations for lynx hunting were approved. It seems that it is an issue rather for social sciences, than ecology. Key pillars addressed in this regard are game management, conservation management and emergency situation management. It is stressed that species conservation is not so much about ecology as it is about relationships and communication with people.

Hungary

Ms. Laura Diószegi-Jelinek presented the national law and species conservation plans. Large carnivore populations have been slowly increasing over the last 10 years. So far, observation and mostly passive protection of the population has been sufficient, but now a more active approach is needed. Regards to the species-specific management plans: for wolf, the plan is in place since 2004 and currently under revision. A plan for lynx is valid since 2001. In Hungary, there are also conflict management plans, however, they need revision. The wolf population now seems to be in decline (due to poaching and roadkill).

Ukraine

Mr. Yaroslav Dovhanych presented the development of the large carnivore population in Ukraine through the years. In the past, bears were widespread throughout the country, but today, they appear only in the Carpathian Mountains and in the north of the country. Over the past 50 years, the bear population decreased from 1,300 to approx. 300 individuals. In Ukraine, there are about 500 lynxes but since 1994, when the lynx was added to the list of endangered animals, the situation has not changed significantly. The wolf population is estimated to about

2,500-2,700 individuals. Official data on large carnivores numbers are probably overestimated due to multiple counts of the same animals. This is probably why the real picture is worse for bears and lynx. Wolf is declared as a “harmful” animal – shooting and trapping outside of the hunting season is carried out by hunters with permission. The penalty for a wolf shot is significantly lower than for a lynx or a bear. Fines for illegal killing were delineated (wolf in protected areas – 47 €, but it is legal upon permission), about 3,000 € for bear in any territory, and about 400 € for lynx in any territory. For lynx and bear, national action plans are established.

Poland

Ms. Karolina Paulewicz-Bazala presented overall population data of the large carnivores. The wolf population is increasing and monitoring is ongoing. Wolf monitoring is based on 2 approaches: national (to determine distribution) and regional (to assess threat). In 2001, monitoring data estimated 510 wolves, in 2020, over 2,500. In Poland, 53.7% of the country's forests are protected. The state forests' personnel actively contribute during the monitoring. In the Carpathians, there are about 1,000 individual wolves. In Poland, the wolf is not protected at an international level, but it is protected at the national level. Decisions on culling are based on the Habitats Directive. The total annual compensation across all protected species is 178,000 €. 77 % of wolf damage is caused on small livestock and preventive measures must be applied before using a derogation. The lynx has been a strictly protected species since 1995 and until 2016. Currently, they are under the minister's regulation. As a good practice example, Ms. Paulewicz-Bazala mentioned project Carnivore Borderland (Interreg PL-SK) focusing on monitoring methods and strengthening transboundary cooperation. They also have the ambition to create a database on the distribution of large carnivores.

Serbia

Ms. Tatjana Spirković outlined the legal background of the environmental and nature protection in Serbia. The bear is a strictly protected species. There are three bear populations with more than 100 individuals. The brown bear population management plan was drafted in 2023. Lynx is strictly protected. The population of wolves is protected by the hunting ban only for a few months a year. The current estimate of wolf abundance is 1,850 individuals. An updated management plan for bears and lynx was prepared in 2024. Pros of existing practices are management plans, tourism, improving public opinion and hunting informational system. Cons are that there is no national management plan for wolf and no country-wide standardized monitoring program, as well as lack of funding.

Conservation policies for large carnivores - Alps

Germany

Ms. Katharina Steyer introduced various institutions that deal with large carnivores in Germany. There is a sporadic evidence of brown bears, the closest population is in Trentino 120 km far away. For bears, there has been a gradual management plan in Bavaria since 2007, which is currently in phase 1. Regarding lynx, there are three distinct populations based on reintroduction. Wolf has a management guideline since the 2020 amendment to the federal nature conservation act LEX WOLF (practical guidance on wolf management) that permits individual members of a wolf pack to be shot in case of damage to livestock, even though it has not been attributed to any specific wolf, but to a specific pack (§ 45a BNatSchG). Problems with wolves: hybrids, bold wolves, damages. Feeding of wolves is prohibited in the country, hybrids are culled. The concept of bold wolves is implemented in all management plans. Co-financing of measures and payment of compensation is at federal state level.

Italy

Mr. Vincenzo Gervasi described that Italy is currently in a transition phase. There are about 1,000 individual wolves in the Alpine region. Bear has an increasing population trend, about 100 individuals with limited connectivity. In terms of management, Italy is divided into 7 provinces. Italian Institute for Environmental Protection and Research (ISPRA) provides technical opinion. Derogation must be authorized by the Ministry of the Environment and Energy Security, based on the technical opinion of ISPRA. Criteria are that the bear has aggressive and self-confident behaviour and no damage to livestock is valid. For bold wolves, a protocol is under revision in terms of security reasons. Mr. Gervasi mentioned the principle of majority and minority of farmers – the majority have most of the livestock and very low damage (“tolerable losses”), and on the other side, there is a minority with huge damages. No wolf may be shot, proposal for change was made in 2015, no change has been made to date. Almost all bear and wolf shootings have been stopped due to the intervention of animal protection organisations.

Switzerland and Lichtenstein

Ms. Manuela von Arx presented the management concepts in both countries. In Switzerland, there is a division of roles between the confederation and cantons which is specified in the management plans for lynx, wolf and bear. For lynx (around 250 individuals), the conflict issue is high losses in the hunting prerogatives, but criteria that would allow a regulation of lynx populations have never been met so far (data did not prove that lynx was responsible for lowering the ungulate populations). Bear has only sporadic occurrence in the country and the management is based on behaviour typology. First wolf pack was detected in 2012, since then numbers have been increasing rapidly.

For wolf, the new management and legislation came partly into force in December 2023 and will entirely come into force in February 2025. There are two types of regulation: proactive regulation (before severe damage is done), and reactive regulation (reaction to damage or harmful behaviour). Proactive has two options, the complete elimination of a pack (it must be proven that the pack caused damage on protected pastures), a minimum of 12 packs must remain in Switzerland; the second option is the elimination of some of the cubs of the year (pack education) – only half or two-thirds of the cubs can be eliminated. Reactive regulation means the elimination of some of the cubs of the year if the pack has reached the threshold level of number of livestock killed.

Austria

Mr. Aldin Selimovic presented the legal background in Austria. Monitoring and management of large carnivores are organized in the nine federal states/provinces differently based on their law. Bear is a game species in 8/9 provinces but not allowed to hunt (there is no occurrence of bears in Austria). Bear management plan has been in use since 2005. For lynx, there is no official management plan in any of the provinces of Austria. For wolves, there are official management recommendations made together with provinces, and universities. Provinces have their own regulations. Criteria is damage caused by wolves and bold individuals. Each situation is considered case by case based on specific conditions. There have been 15 wolves culled since 2022. Mr. Selimovic mentioned using aversive conditioning in terms of bold wolf individuals that approach human settlement in a perimeter of 200 m during a day. If it is not effective, the individual can be removed.

Slovenia

Mr. Miha Marenče explained the current situation regarding large carnivores in Slovenia. For bear, the yearly culling quota is established based on expert opinion, the main reason is conflict. Between 2019 and 2022, the culling was stopped based on NGOs intervention. For wolves, there was a similar situation for removal until 2017. Since then, only 1-3 individuals from the pack can be removed if they cause serious damage (at least 3 attacks on large grazing animals or 9 damage events on small grazing animals with above-standard protection and within the territory of one pack). According to the national guidelines, hybrids must be removed immediately. For lynxes, as a good practice of conservation effort, Mr. Marenče highlighted the LIFE Lynx project thanks to which 18 individuals have been reintroduced (altogether in Slovenia and Croatia).

France

Mr. Pierre-Edouard Guillain described the situation with large carnivores in France. All three species are strictly protected and a national action plan is dedicated for each species. Bear is critically endangered – currently 76 individuals, most of which from reintroductions from Slovenia. An action plan has been established (no culling regime), as well as a protocol for scaring the bears and a protocol for bold bears (4 stages). Farmers receive financial support to protect their herds. There are between 100–150 individuals of lynx. Currently no reintroduction is in place, nor culling. Wolves are counted every year and there are around 1,100 individuals. Genetic analysis is used to estimate the wolf population. Currently, the fifth issue of the National action plan (complete policy package) is running. The present situation also demonstrates the effectiveness of flock protection (damage is stable and the population is growing). Livestock protection is a condition for culling. Derogatory three-level culling regime to prevent serious damage to livestock, is established, with a ceiling of 19 % of the population. Specialized hunters chosen by local authorities or agents of the national agency for biodiversity take a large part in the culling process.

SUMMARY OF ROUND TABLE DISCUSSIONS AND ORIENTATIONS FOR THE FUTURE

ROUND TABLE 1 – Strategic documents

Key points that discussion refers to:

- *Preparation of strategic documents (action plans, strategies, international guidelines)*
- *which aspect needs to be taken into account and how to make them as efficient as possible*

Strategic documents are seen as important in providing vision and direction, but for them to be successfully implemented, attention must be paid both to the process of their development and to their content. Regarding the content, ambitious goals should be matched with clear and feasible actions, designed in a SMART way and regularly revised/updated, science-based, connecting theory and practice.

Experts should be involved in drafting at technical level and different stakeholders' groups in consultation. Their engagement is considered crucial, but should be designed carefully (need to build trust and long-term relationships, facilitate the discussion and ensure that they will not evade ownership of the document when adopted, preference for smaller groups and local level, to avoid politization).

Another key element of successful implementation are capacities: not only financial, but also human.

ROUND TABLE 2: Communication with stakeholders

Key point that discussion refers to:

- *Public involvement into strategic document preparation process (who and when in participating)*
- *Public involvement into removal process (which opinions are considered and at what stage)*

In any actions, public should be involved as much as possible. For planning the communication activities with stakeholders, it is recommended: small, local, informal groups. The events should be led by a neutral facilitator (someone out of working groups or other various groups; not representative of the capital authority, but rather local representative, should accompany informal discussion). Local events are also efficient and more visited if organized by locals themselves. In all cases, the baseline for discussion should be set in advance – what can be negotiable. In case of need to tackle a new group, a detailed communication strategy is needed – the issues to expect: dynamic topic, difficult to make strategy, large group with high peer pressure can destroy the work very fast. General public is good to tackle and easier to be involved (use media!).

ROUND TABLE 3: Derogation criteria

Key points that discussion refers to:

- *Which criteria must be met to say that derogation to strict protection is reasonable and eligible?*
- *How are damage levels evaluated to define a threshold for derogations?*
- *Which minimum levels of preventive measures are required for derogations?*
- *How is the maximum yearly number of derogations defined?*
- *Should coexistence times be a component in defining derogation criteria?*

Derogations can be a tool for large carnivores' conservation. There is a need to evaluate their effects on the several dimensions of the conflict: livestock damage, human security, wolf genetic conservation, human attitudes.

Derogations should focus on bold and habituated individuals; priority: 1 - bold, 2 - hybrids, 3 - damage. In urban areas, repeated presence should justify removal (there was no full agreement on this, since due to habitat fragmentation, large carnivores can visit anthropogenic areas without being harmful). "Urban" large carnivores can increase hybridization (habituation may lead to hybridization) and strongly reduce social acceptance.. In case of detecting large carnivores close to houses but outside urban areas: repeated close approaches and behaviours that show loss of fear should be used to justify derogation.

The derogation approach should be progressive and based on hard evidence, gradual intervention, and education (e.g. proper waste management).

Hybrids – full consensus of the participants that culling of hybrid wolves should be preferred over other approaches (sterilization, capture, no euthanasia). Control of stray dogs is also important.

Damage on livestock - damage levels should be evaluated mainly based on the number of attacks. Considering the number of domestic animals killed also allows to see the impact from the perspective of the farmer/shepherd.

Derogations should be provided in situations in which prevention measures are used, unless the landscape does not allow it – how are unprotectable landscapes defined? It would be important to compare and discuss the criteria on which some areas are defined as unsuitable for preventive measures. The requirements for farmers should be light in newly recolonized areas and become progressively stricter after a certain time for the adoption of measures passes by. The risk of pack disruption cannot be disregarded when removing only one individual in a pack. The time component – requirements should be modulated with time of coexistence (e. g. France: 1 measure required at the beginning, 2 after a prolonged period of presence of the species). This underlines the importance of accurate data and pack distribution, preparation of spatial risk maps and recording of number of attacks (wolf perspective) vs number of depredated animals (farmer perspective).

ROUND TABLE 4: Conservation status and derogations

Key point that discussion refers to:

- Which level is enough for restriction -- criteria for the population status evaluation (e.g. favourable or not)?
- How to ensure viable and stable population, its density?

First question is at what level to be considered (national, local, population-level, biogeographical region)? Conservation status should be considered at local level first, then national, then population. Favourable conservation status within one country: if that country contributes “it’s fair share” to a favourable status at the trans-national population level. If favourable status is reached, more flexible management is possible, provided that the effect of such extra flexibility is monitored, and it is ensured that the favourable status is maintained.

Biogeographical regions: each country reports whether it is as favourable as can be at its level (even if it does not ensure good status on its own), and when all countries of a biogeographical region report “favourable”, it is considered “favourable” for that region.

Having a more flexible management can be needed to ensure/improve acceptance, and acceptance is key for conservation. There is a need for common basic standards for monitoring, in order to prove whether conservation status is favourable.

A need to prove that acceptance is better when there is “more flexibility”. Countries are free to decide whether the goal is to be over the favourable conservation status threshold or to have the best possible conservation status.

ROUND TABLE 5: Removals - how and when

Key points that discussion refers to:

- How are the culling numbers accurately decided and how do they affect management (and additionally Does the removal of individuals contribute to species conservation and conflict mitigation?)

- How are the prevention measures evaluated and taken into account in this regard / how management measures is evaluated and taken into consideration - when the decision for removal is made?

The group focus was on Brown bear, seconded by wolf. On lynx, there was a general opinion that removal is not recommended and, if needed, should be very well documented.

Problems highlighted:

1. The quality of available data on population status varies within the same population of LC. Some LC populations benefit of good data (long term, large areas) and it is somehow easy to take a decision, and some populations lack the reliable data making the decisions riskier for the species' conservation. The model of removal system is promoted transboundary, but indifferent of the data quality which a practice that is not supported by the EU legislation and by the principle of scientific-based solutions.

2. FCS (favourable conservation status) vs. MVP (minimum viable population), which one is better to be used when we have to decide on a removal system? On ecological terms, MVP seems to be a better solution, but implies the use of reliable data on population size, structure, distribution.

3. The existence of contexts on which the decision makers decide to make/keep people happy. Should the decision-makers approve quotas to keep hunters, farmers and some politicians happy or should they not give quotas to keep NGO's and some parts of the public and politicians happy? Quota/No quota will satisfy people? Which are more important, the values or the interests in order to define the opportunity and resource allocation?

4. Lack of reliable monitoring of the removal impact on both species and society. In the first case, the population monitoring should consider the impact of removal not only in terms of numbers but also in terms of population health, structure etc. In the second case, there are some issues to be solved: (1) public opinion as a conflict generator, (2) media impact should be considered as a source of assessment errors, (3) stakeholders should be better informed before asking them for feedback and (4) before the revision of any action/management plan, all three points should be considered.

5. There is a thin line between regulations/laws and standards/norms/guidelines/terminology (e.g. legal or technical aspects related to protection status, hunting use etc.), but the most important is the context on which actions should be made. When removal should be implemented, all of these situations are often not in the existing legal framework due to the high variability of (potential) situations (including a social conflict). Example: Definition of a bold wolf might be limiting some interventions but also might be promoting others that are not needed in a specific case. Another example might be the decision to use/not to use some specific aversive conditioning like rubber bullets.

Key ideas listed:

1. Human life is the priority! Removal is justified for people safety, therefore it should be focused on problem individuals, especially if present in human settlements. In terms of priority, conflict mitigation comes first and species conservation comes second.

2. Plans/strategies/measures should be considered based on two scenarios:

- Population management in terms of avoiding overpopulation (there is no clear consensus on what overpopulation means) through the use of quota (should be an expert decision) assuming that large population/high densities imply a large number of conflicts/attacks on people. The main problem identified is within the shared population that can be large in one country but low in other countries therefore it is complicated to assess the impact on the whole population.

- Removal of problem individuals as a priority before quotas for two reasons (1) removing the potential risks and (2) maintain/improve the social acceptance/tolerance. Also, relevant for conservation purposes, to consider in case of wolf population, is the removal of hybrids. The second scenario would be recommended for small populations.

- Any decision for removal (quotas or problem individuals) should be context related since we have diversity on bear densities, people density, landscapes, farming systems, protection systems, habitat quality etc. Also, there are other issues to be considered: (1) removal ethics in case of females (presence of cubs) and (2) a matter of emergency related to the group of people exposed to risk.

- If not justified, removal should be avoided in small population. The principle of prevention when making decision should be applied in large populations.

How and When?

1. Before reaching to HOW & WHEN, all possible answer should be given to WHY.
2. When you ask HOW & WHEN, be ready to answer to WHAT & WHERE.
3. Removal as a tool to prevent and not to satisfy. Keep (all) people (and carnivores) safe, not happy.

Conclusions and orientations for the future:

Removal should be integrated as a decision into a holistic framework and should be considered context related with (1) social context/values/perceptions (i.e. social acceptance as a yes/maybe/no should be integrated with social tolerance as a scale), (2) ecological context in terms of population status, landscape/land use and targeted ecosystem functions that serve general interests.

(3) Large carnivore management should be integrated with other game species management, solution should be searched for at ecosystem levels (i.e. food availability, prey availability, safe areas, habitat degradation, fragmentation).

(4) In general, politicians should avoid compromise between management and conservation, but when needed, it (a) should be justified from both social and ecological perspective, and (b) should be well documented.

(5) Assessing the removal impact (quotas or problem individuals) should be mandatory and standardized.

When decision is taken, it is only a matter of law and ethics to be implemented in as much possible humane way.

ROUND TABLE 6: Removal system

Key points that discussion refers to:

- *Whole process / system of the removals – how it works and to find proper system to make this kind of decisions*

PRIOR TO REMOVAL:

- State of the large carnivores in place – experts needed and intervention teams

Damage to livestock:

- Pre-check and train on prevention measures
- Prevention necessary for removal
- Official has to confirm damage; alternative – self-documentation
- Threshold of attacks /livestock needed for removal

Human safety:

- Documentation of action
- Joint approach of management actions of different scenarios e.g. attractant removal

Needed:

- Collection of cases / data needed for LC aversive conditioning – Europe experience

RESPONSE TIME SPAN OF THE REMOVAL: hybrids and LC attacks on humans ASAP!

QUOTAS:

- Maybe sometimes necessary for acceptance and trophy demand of local hunters
- With an aim to reduce illegal killing

HOW TO DO A REMOVAL:

- Check of derogation by an independent person and an official of the state/country authority for re-checking of the decision
- Public announcement of removal prior = clear and honest information needed
- Experts (e.g. intervention teams, veterinarians, foresters, ...) and local experience (3-5 persons / region incl. coordinator) – traits needed for detection (e.g. tracks, scats, ...): eye-to-eye contact on the same land from experts and locals is essential for a successful removal.

ROUND TABLE 7: Communication with communities

Key points that discussion refers to:

- *How to keep an interest in LCs in the countryside and their willingness to keep the species?*
- *How to tackle more political and social aspects (the ecological part is quite clear)?*

Communication with all the communities (“village by village”) should be regular, honest, clear and have a continuous topic-related communication. Important is to offer knowledge about useful ideas how to make a living with LCs, openly communicate pros and cons, and increase awareness of the ecological role of LCs. Research on social / economic aspects should serve as a baseline information for preparing the communication actions.

How could one reach this: using local people for presentations, handing over certain decisions to the local authorities, using approach of citizen science / involvement in monitoring, professional communication / education – improvement of media communication on the right terms, communicate through creating stories, help local communities in the creation of value out of LCs (e.g. bear-friendly label), be present - when you meet, you make friends.

Social aspects to be taken into account in this regard (communities usually not in favour): many layers – behaviour, solutions (possibility of being over-run by certain stakeholder groups).

Special focus should also be set on education – investment in the future / younger public with open minds for different opinions.

Examples from different states and programs:

- RO: low value of LC to hunters – low interest to take care; pride in managing populations /management of local populations – suggestion to give money for not hunting (not as much pride in there).
- Lower Saxonia: voluntary fencing team – labour; trust, best practices examples (education within stakeholder groups).
- Stewardship of areas / species – incorporating into communication (e.g. LIFE WOLFALPS EU stewardship program).

ROUND TABLE 8: Intervention teams

Key point that discussion refer to:

- *Effectiveness of professional intervention teams, their working status and overall management of these teams*
- *Comparison of this approach with more conventional form - involvement of hunters as a management tool for managing problematic bear/wolf behaviour and removals*

STATUS of teams across the Carpathians and the Alps:

- Romania (bear): currently 400 intervention teams - aim to reduce the number of teams and to introduce more specialised ones.
- Slovenia (bear): the intervention teams was established during LIFE DINALP BEAR). Even if needed, specialized team currently not exists (requires significant financial resources to operate).
- Austria (bear): there was an intervention team, have experiences, but its operation is not needed at the moment; Austria (wolf): not effective and therefore not established.
- Croatia (bears): they have active intervention teams from 2000 onwards; Croatia (wolf): intervention team exists.
- Germany (bear): currently does not exist, but they are considering about establishing it in Bavaria.
- Slovakia (bear, not wolf): 5 intervention teams, 1 was not effective. They consist of up to 30 people (located at longer distances). Police always cooperate in the actions, hunters are included. The use of aversive conditioning (rubber bullets) has proved unsuccessful, problem with equipment also emerged.
- Serbia (bear): the intervention team not officially established yet.
- Poland (bear): not officially established yet, no system established, the issue of funding is highlighted In Tatra National Park the team exists, but is not official.
- France (bear): the intervention team is established in the Pyrenees; France (wolf): intervention teams exist – not only specialized, but also involves thevolunteers, but they need special authorisation and training from a national authority in prior.

KEY POINTS:

- Not related to livestock depredation, but to bold behaviour
- BEAR – 4 from 9 countries have official intervention team, 1 not official but working as one. The effectiveness of the intervention teams depends on many factors – i.e. in Romania, there are 400 intervention teams and more specialisation and effectiveness. Usually they have no resources and their operation is very expensive. The effectiveness of interventions – in general, they are not effective regarding using aversive conditioning.
- There is NO study across Europe to summarize the effectiveness and provide recommendation – proposed to be done in the nearest future.