

Large Carnivores in the Dinaric-Balkan-Pindos region: Management, Monitoring, Threats and Conflicts

Establishing a transnational exchange platform for the
management of large carnivores in the Dinaric-Balkan-Pindos Region
– Progress Report 2025 –

Katrina Marsden, Andrea Solić,
Djuro Huber, Johanna Eul and Julia Schmidt

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Imprint

Cover image: A brown bear looking curiously in a forest (© Reljić)

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Summary

The Dinaric-Balkan-Pindos Region, one of the most biologically diverse regions in Europe, is home to four large carnivore (LC) species: bear, wolf and lynx (two sub-species: Balkan and Eurasian) and golden jackal. These populations are shared between EU and non-EU member states. Given the extensive ranges of these species, transnational coordination for their management is needed to enable a long-term basis for their conservation. However, as a result of the Yugoslav wars in the 1990s, government-level cooperation in the region remains a challenge, and until recently, only a few transboundary initiatives on the project topic exist between the governments concerned.

For this reason, the Advisory Assistance Programme of the German Environment Agency, provided pilot project financing to establish a transnational exchange platform for the management of large carnivores with representations from eight countries in the Dinaric Region. In 2021, a first background report on *Large Carnivores in the Dinarides: Management, Monitoring, Threats and Conflicts*¹ was produced as part of this initial project. This gave a snapshot picture of the situation at that time based on the input of experts and administrators from the region.

Since then, the Dinaric-Balkan-Pindos initiative has developed further, engaging new countries (Bulgaria and Greece) to fully cover the LC populations in question and networking further partners into the collaboration. Over the course of platform plenary meetings, thematically focused bilateral meetings and capacity building events, the national administrations work together with other relevant stakeholders from agriculture, science, hunting and nature conservation on practical management measures and jointly developing guiding principles for future cooperation. A platform secretariat, supported by an advisory board of experts from each member, ensures impartial and informed steering of the platform activities.

This progress report updates the situation on the current status of large carnivores, their management and monitoring, threats and conflicts in the Dinaric-Balkan-Pindos Region, highlighting changes since 2021 and integrating Bulgaria and Greece.

Acknowledgements

We would like to thank the voluntary advisory board for their significant input to the project and this report and for helping to fact check and advise our activities. We thank all participating governments for checking the content of the report against their own data and coming back with helpful questions and corrections. We thank the Large Carnivore Initiative for Europe for providing access to data and collaborating on data collection. The Bern Convention Secretariat has also provided information and input. A range of stakeholders have provided input, in particular WWF Adria in supporting the platform work and organising complementary activities. Finally, we thank our funders at the Advisory Assistance Programme, without whom these activities would never have started.

¹ Marsden et al. (2022) Large Carnivores in the Dinarides: Management, Monitoring, Threats and Conflicts, BfN Skript 617: <https://dinaric-carnivores.org/wp-content/uploads/2023/03/background-report.pdf>

Zusammenfassung

Die Dinariden-Balkan-Pindos-Region, eine der biologisch vielfältigsten Regionen Europas, beherbergt vier Großraubtierarten: Bär, Wolf und Luchs (zwei Unterarten: Balkan und Eurasischer Luchs) sowie den Goldschakal.

Diese Populationen sind auf EU- und Nicht-EU-Mitgliedsstaaten verteilt. Angesichts der großen Verbreitungsgebiete dieser Arten ist eine länderübergreifende Koordinierung ihres Managements erforderlich, um eine langfristige Grundlage für ihre Erhaltung zu schaffen. Als Folge der Jugoslawien-Kriege in den 1990er Jahren ist die Zusammenarbeit auf Regierungsebene in der Region nach wie vor eine Herausforderung, und bis vor kurzem gab es nur wenige grenzüberschreitende Initiativen zum Projektthema zwischen den betroffenen Regierungen. Aus diesem Grund hat das Beratungshilfeprogramm des Umweltbundesamtes ein Pilotprojekt finanziert, um eine länderübergreifende Austauschplattform für das Management von Großraubtieren mit Vertreter*innen aus acht Ländern der dinarischen Region einzurichten.

Im Jahr 2021 wurde ein erster Hintergrundbericht über „Großraubtiere in den Dinariden: Management, Monitoring, Threats and Conflicts“ im Rahmen dieses ersten Projekts erstellt. Dieser Bericht lieferte eine Momentaufnahme der damaligen Situation auf der Grundlage von Beiträgen von Expert*innen und Verwaltungen aus der Region.

Seitdem hat sich die Dinariden-Balkan-Pindos-Initiative weiterentwickelt, wobei neue Länder (Bulgarien und Griechenland) einbezogen wurden, um die betreffenden Großraubtierpopulationen vollständig abzudecken und weitere Partner in die Zusammenarbeit einzubinden. Im Rahmen von Plenarsitzungen der Plattform, thematisch fokussierten bilateralen Treffen und Veranstaltungen zum Kapazitätsaufbau arbeiten die nationalen Verwaltungen zusammen mit anderen relevanten Akteuren aus Landwirtschaft, Wissenschaft, Jagd und Naturschutz an praktischen Managementmaßnahmen und entwickeln gemeinsam Leitprinzipien für die zukünftige Zusammenarbeit. Ein Sekretariat der Plattform, das von einem Beirat von Expert*innen aus jedem Land unterstützt wird, sorgt für eine unparteiische und sachkundige Steuerung der Aktivitäten.

Der vorliegende Fortschrittsbericht gibt einen Überblick über den aktuellen Stand der Großraubtiere, ihre Bewirtschaftung und Überwachung sowie über Bedrohungen und Konflikte in der Dinariden-Balkan-Pindos-Region, wobei die Veränderungen seit 2021 hervorgehoben und Bulgarien und Griechenland einbezogen werden.

Danksagung

Wir möchten dem freiwilligen Beirat für seinen bedeutenden Beitrag zum Projekt und zu diesem Bericht sowie für seine Hilfe bei der Überprüfung der Fakten und die Beratung unserer Aktivitäten danken. Wir danken allen teilnehmenden Regierungen, die den Inhalt des Berichts anhand ihrer eigenen Daten überprüft und uns hilfreiche Fragen und Korrekturen übermittelt haben.

Wir danken der Large Carnivore Initiative for Europe für den Zugang zu Daten und die Zusammenarbeit bei der Datenerhebung. Das Sekretariat der Berner Konvention hat ebenfalls Informationen und Beiträge geliefert. Eine Reihe von Interessengruppen hat Beiträge beige-steuert, insbesondere der WWF Adria, der die Arbeit der Plattform unterstützt und ergänzende Aktivitäten organisiert hat. Schließlich danken wir unseren Geldgebern im Rahmen des Programms für Beratungshilfe, ohne die diese Aktivitäten nicht in Gang gesetzt worden wären.

1 Background

The Dinaric-Balkan-Pindos Region, one of the most biologically diverse regions in Europe, is home to four large carnivore species: bear, wolf and lynx (two sub-species: Balkan and Eurasian) and golden jackal¹. These populations are shared between EU and non-EU member states.

Given the extensive ranges of these species, transnational coordination for their management is needed to enable a long-term basis for their conservation. However, collaboration in the region is not easy and until recently, only a few transboundary initiatives on the project topic exist between the governments concerned.

In 2018, the EU Platform on Coexistence between People and Large Carnivores², jointly organised a workshop with partners in Budva, Montenegro where participants agreed on a joint statement³ calling for the establishment of a transnational exchange platform for the management of large carnivores in the region. They also listed the main objectives for exchange on large carnivores. This builds on the years of work of experts in the region to establish a transnational exchange/dialogue. It shows clearly the interest of state representatives, scientists, NGOs and stakeholder groups in a participative approach in the region.

In 2020, the Advisory Assistance Programme (AAP) of the German Environment Agency supported a first project aiming to establish a transnational exchange platform for the management of large carnivores with representations from eight countries in the Dinaric Region. In this project, a secretariat (adelphi and Carnivora Magna) was established, which supported representatives from all participating administrations as well as stakeholders with the organisation of two plenary and four thematic meetings addressed specific management topics on a bi- to tri-lateral level. Over the course of these activities, it became clear that the participating administrations and stakeholders were interested in a longer-term collaboration. The AAP therefore funded a second project to provide secretarial support for a wider range of activities. At the same time, the Initiative was expanded out to include Bulgaria and Greece, covering the whole LC population range fully in the activities and to collaborate more widely with actors active in the region as part of the Dinaric-Balkan-Pindos Large Carnivore Initiative⁴.

¹ The golden jackal is beginning to attract policy attention as it makes a comeback to Western Europe. It is therefore included in this background report for the first time in terms of the species distribution. However, monitoring is largely passive and unstructured, so no accurate figures exist, and the species is not strictly protected. Jackal management, while discussed at the platform, is not yet a significant topic for the members. It is therefore not yet included in the rest of the progress report.

² European Commission website: EU Platform on Coexistence between People and Large Carnivores: https://environment.ec.europa.eu/topics/nature-and-biodiversity/habitats-directive/large-carnivores/eu-large-carnivore-platform_en

³ Statement of the EU Large Carnivore Platform Regional Workshop Budva: https://dinaric-carnivores.org/wp-content/uploads/2024/05/181106Budva_LCP_Workshop-statement-EN.pdf?x46905

⁴ Dinaric-Balkan-Pindos Large Carnivore Initiative website: <https://dinaric-carnivores.org/en/>

1.1 Objective and planned actions

The Dinaric-Balkan-Pindos Large Carnivore Initiative aims to provide a long-term basis for collaboration between the countries involved by establishing an exchange platform; a coordinational agreement; a means to exchange information on initiatives and projects in the region; good practice examples and capacity building on large carnivore management.

The main objective of the AAP supported projects were to provide the human and financial capacity to establish a transnational exchange platform and set up guiding principles for future cooperation together with the national administrations in the region.

The process aims to improve transnational collaboration on large carnivores. In particular, it recognises a “need for closer cooperation, improved coordination, and more effective policies and measures regarding the conservation, restoration and sustainable use of brown bear (*Ursus arctos*), lynx (*Lynx lynx*, including the critically endangered *Lynx lynx balcanicus*) and wolf (*Canis lupus*) populations in the Dinaric-Balkan-Pindos region, in order to meet national and international policy objectives, *inter alia* under the Kunming-Montreal Global Biodiversity Framework, the European Union’s Biodiversity Strategy for 2030 and Green Agenda for the Western Balkans, and to comply with international legal obligations, *inter alia* under the 1992 Convention on Biological Diversity, the 1979 Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention), and the European Union’s 1992 Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (Habitats Directive)⁵.

To do this, the initiative aims to support capacity building of managing authorities and stakeholders in large carnivore management and reducing conflict related to the presence of LCs. The financing of the German Federal Ministry for the Environment Nature Conservation, Nuclear Safety and Consumer Protection (BMUV) through the German Advisory Assistance Programme (*Beratungshilfeprogramm*)⁶ has been used as starter funding for the initiative and further funding is needed in the future. Contributors to specific complementary activities include the European Commission through the EU Regional Platforms on large carnivores; significant support in initiative activities from WWF Adria⁷ and input on complementary activities from Euronatur; Hunting Unions such as CIC, FACE and the Union of Hunters and Anglers in Bulgaria; National and Natural parks hosting field trips; the Advisory Board organisations; as well as the participating administrations themselves who have contributed to meeting hosting and organisation.

⁵ Draft MoU text laying out a basis for the collaboration.

⁶ UBA website: Beratungshilfeprogramme: <https://www.umweltbundesamt.de/themen/nachhaltigkeit-strategien-internationales/kooperation-in-mittel-osteuropa-dem-kaukasus/beratungshilfeprogramm-des-bmub>

⁷ adelphi and WWF Adria signed two MoUs for cooperation and support of DiBaPi Initiative, covering the following topics: providing legal expertise to support the development of MoUs between DiBaPi countries, establishment and education of Intervention teams, communication, support for plenary meetings. Monitoring and connectivity workstreams were jointly implemented as well (in the scope of WWF Adria project “Large Carnivores in Central and South-Eastern Europe – connected and coexisting with people”).

It is hoped that the future support can be taken over in the framework of existing structure such as the Green Agenda for the Western Balkans or the Bern Convention.

1.2 Purpose of the progress report

This report aims to update the background report: *Large Carnivores in the Dinarides: Management, Monitoring, Threats and Conflict*⁸, providing information to support the platform discussions. In addition to the overview of the current situation regarding large carnivore management in the region and comparison between different countries' approaches, the Secretariat has collaborated with the Large Carnivore Initiative for Europe (LCIE) who recently updated the population statistics and ranges of LCs across Europe and the Bern Convention, who is assessing the implementation of their recommendations related to large carnivores. The progress report supports identification of themes for the platform discussions and each administration's ability to assess their achievements in management of large carnivores.

⁸ Marsden et al. (2022) Large Carnivores in the Dinarides: Management, Monitoring, Threats and Conflicts, BfN Skript 617: <https://dinaric-carnivores.org/wp-content/uploads/2023/03/background-report.pdf>

2 The Dinaric-Balkan-Pindos region

2.1 Large Carnivores in the Dinaric-Balkan-Pindos region

The Dinarides are a mountain range along the Adriatic Sea connected to the Pindos Mountains in Greece and Albania and the Balkan Mountains in Bulgaria. Thanks to their location at the dividing line between several biogeographical regions (Mediterranean, Alpine and Continental) and their characteristic ecological, climatic and geomorphological conditions, the region is one of the most biodiverse regions in Europe.

Large carnivores (hereafter LCs) are among the charismatic and characteristic species in the area. Brown bear (*Ursus arctos*), grey wolf (*Canis lupus*) and Eurasian lynx (*Lynx lynx*) including its rare subspecies (*Lynx lynx balcanicus*) as well as golden jackal (*Canis aureus*) are present in the region. LC populations do not follow administrative boundaries, although all administrative regions hold LC populations, none are big enough to form their own viable population. The latest population estimates are included in the update carried out by the Large Carnivore Initiative for Europe (LCIE) for the European Commission for the period 2017-2023⁹. They are compared here to the last population figures collected by the LCIE and reported in the IUCN red list for 2012-2016¹⁰. Since the last reporting period, reporting indicates¹¹ that the Dinaric-Balkan wolf population has increased to 4700 individuals from 4000. The Dinaric Pindos bear population has remained stable at around 4000 bears.

The Dinaric lynx population has increased from 130 lynx to 193 individuals. The severely threatened Balkan lynx population has remained roughly stable at 34 individuals. Golden jackal is included in the LCIE update for the first time. The species is thought to be widespread and breeding across the region but monitoring is largely passive and unstructured, so no accurate figures exist.

⁹ Kaczensky, P., Ranc, N., Hatlauf, J., Payne, J.C. et al. 2024. Large carnivore distribution maps and population updates 2017 – 2022/23. Report to the European Commission under contract N° 09.0201/2023/907799/SER/ENV.D.3 “Support for Coexistence with Large Carnivores”, “B.4 Update of the distribution maps”. IUCN/SSC Large Carnivore Initiative for Europe (LCIE) and Istituto di Ecologia Applicata (IEA).

¹⁰ Large Carnivore Initiative for Europe (LCIE) website. Species Specialist Group for the IUCN: <https://www.lcie.org/Large-carnivores>

¹¹ See caveats below. Figures reported are often not accurate.

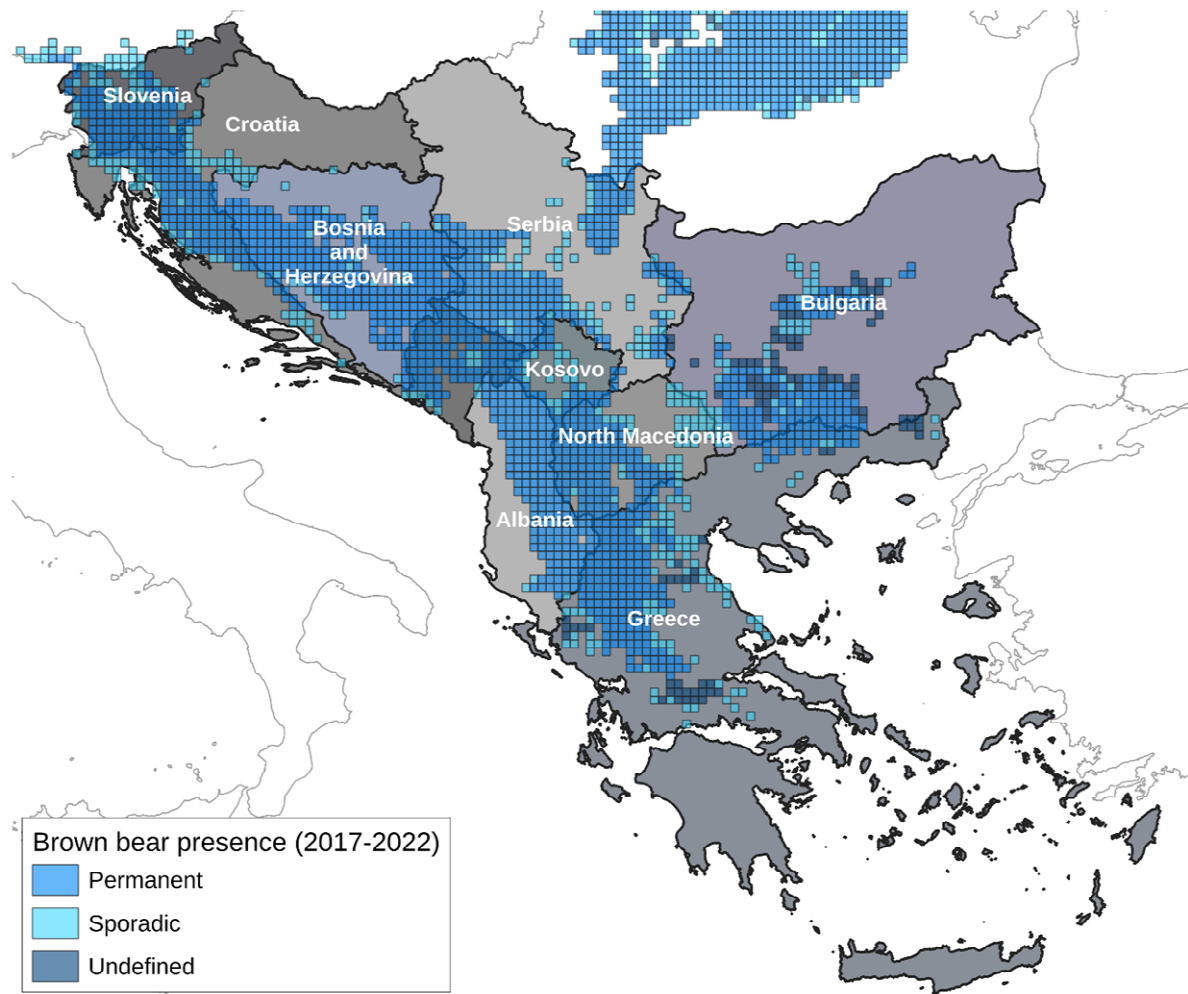


Fig. 1: Brown bear distribution across the Dinaric-Balkan-Pindos region (2017-2022/23).¹²

¹² For all maps, presence was mapped at a 10 x 10 km (ETRS89-LAES Europe) grid scale (Kaczensky et al., 2024). Permanent presence suggests established and reproducing populations or populations with continuous presence and no documented reproduction. Sporadic presence suggests only occasional presences of dispersers or solitary individuals. Undefined is where presence is confirmed but it is not known whether it is permanent or sporadic.

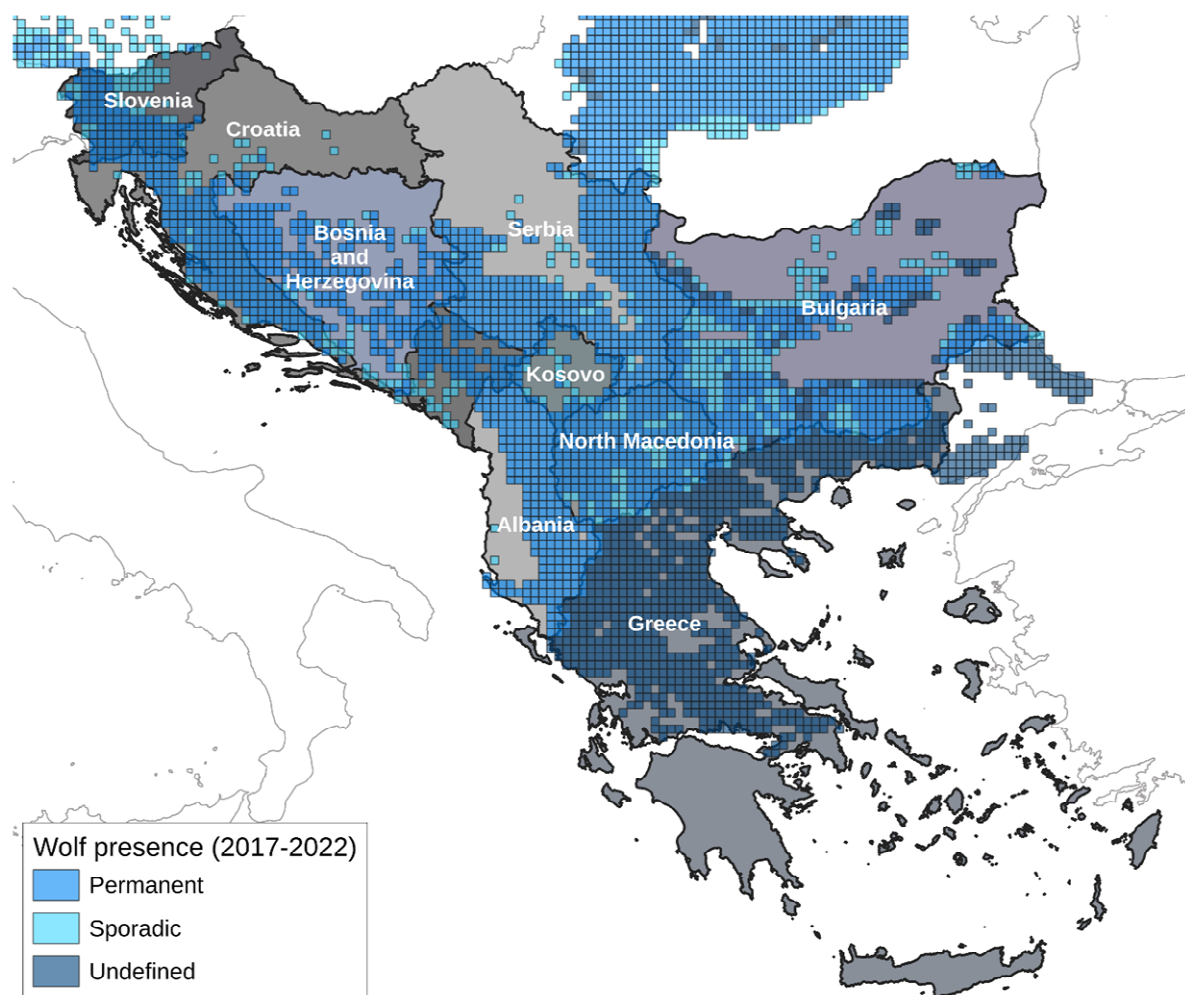


Fig. 2: Wolf distribution across the Dinaric-Balkan-Pindos region (2017-2022/23).¹²

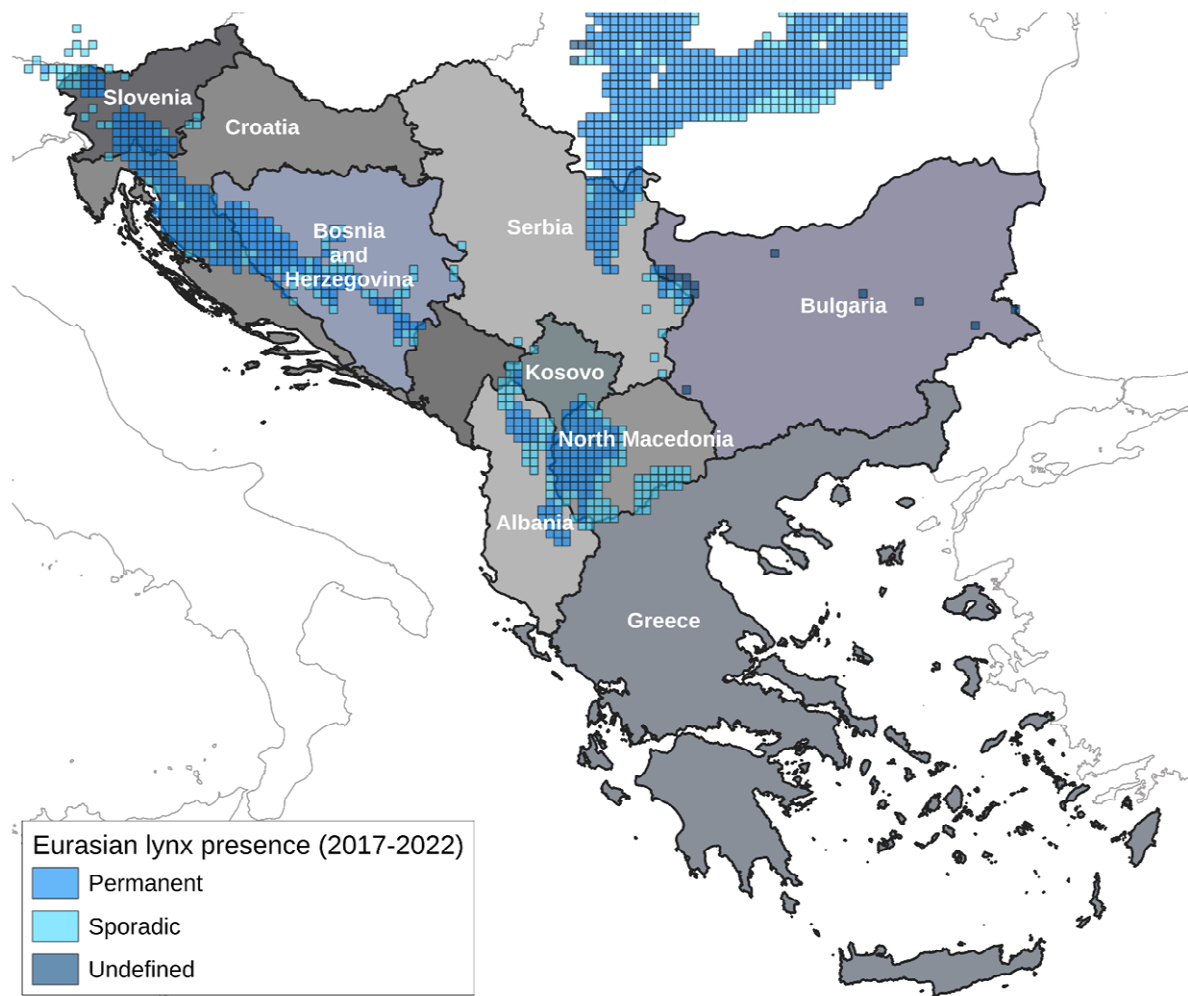


Fig. 3: Eurasian lynx distribution across the Dinaric-Balkan-Pindos region (2017-2022/23).¹²

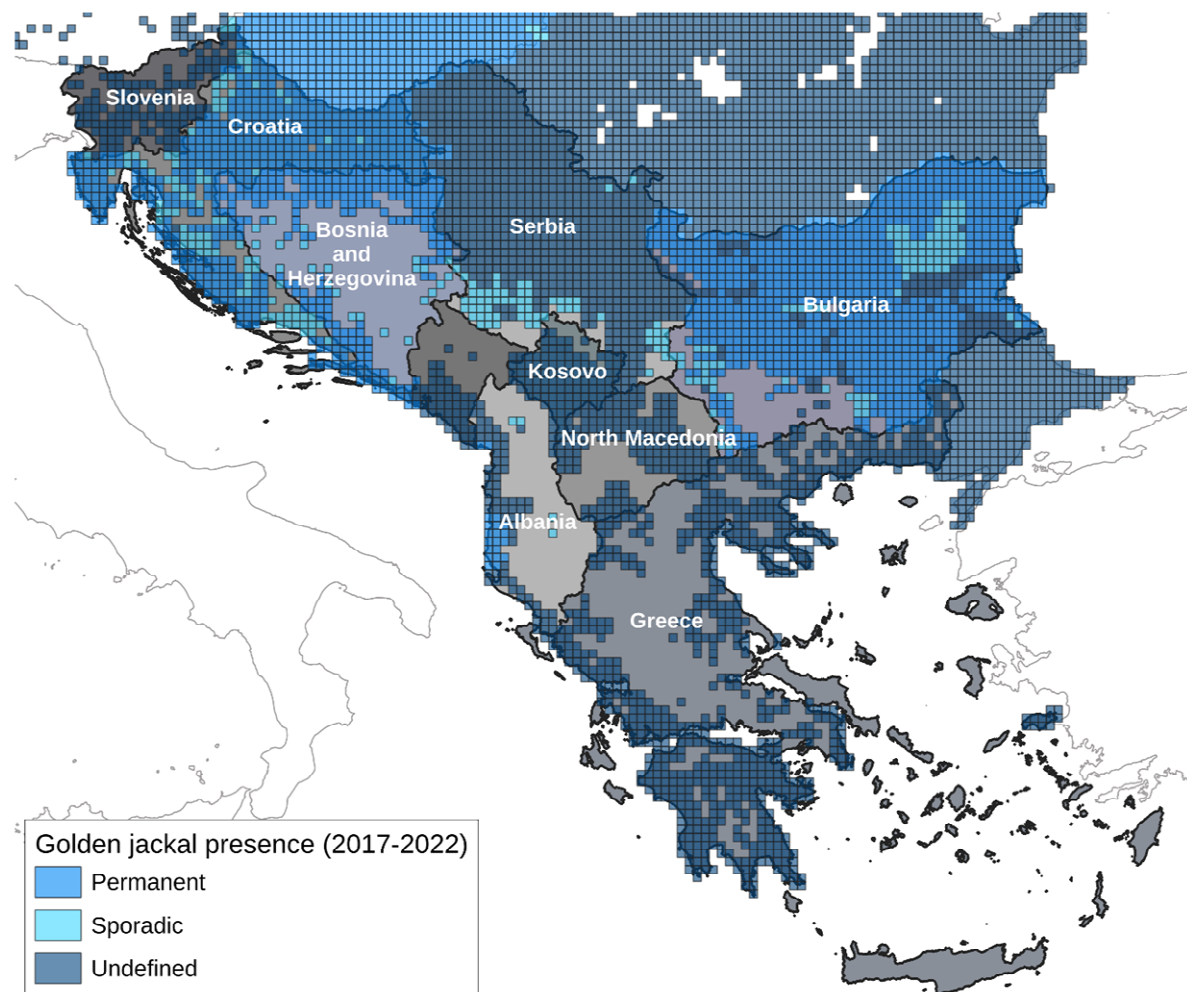


Fig. 4: Golden jackal distribution across the Dinaric-Balkan-Pindos region (2017-2022/23).¹²

As in Western Europe, LC populations were persecuted directly until the mid-twentieth century in much of the Dinaric-Balkan-Pindos region. However, in the case of the Dinaric-Balkan-Pindos region, bear and wolf populations never became extinct and in recent years some recovery has been seen. Bear populations reached their lowest levels after the Second World War and suffered further in some countries during the conflict that led to the break-up of Yugoslavia in the early 1990s.

In many countries, wolves were hunted with a bounty and persecuted as a pest-species. Only recently have they been afforded legal protection in half of the region (Table 3). The fact that they survived at all is mostly thanks to their own adaptability, reproductive potential and the abundance of suitable habitat and prey in much of the region.

The Dinaric lynx was driven to extinction in the first years of the 20th century. A small remnant population, today a separate sub-species known as the Balkan lynx survived but is still regarded as critically endangered. It has a severely reduced population and range, and intensive efforts are in place to save this isolated population. In the west of the region, where extinction was complete, a reintroduction programme which started in 1973 has brought in individuals from the Carpathian population. After initial growth, the population decreased and remained low until recent years when additional efforts have been made to increase the genetic diversity of the small population. LIFE Lynx¹³ project (2017-2024) aimed to reinforce the Dinaric-SE Alpine population with lynx from the viable source population in the Carpathians.

2.2 Institutional framework and the driver of EU membership

The involved countries have no overarching legal framework within which to organise cross-border nature management. They include a mixture of EU and non-EU member states. There is no Dinaric-Balkan-Pindos convention following the example of the Alpine or Carpathian convention. Large-scale cross-border initiatives have remained challenging following the Yugoslavian wars in the 1990s. Even within individual countries, in particular in Bosnia and Herzegovina, the approaches to LC management in the different regions may vary.

EU Membership as driver

All of the involved countries are either already EU members or candidates, with exception of Kosovo*¹⁴ being a potential candidate. There have been some advances since the background report for example, Bosnia and Herzegovina has been declared a candidate country and accession negotiations with Albania are underway. The prospect of EU membership therefore continues to provide an important common framework in the area.

¹³ LIFE Lynx website: <https://www.lifelynx.eu/>

¹⁴ All references in this document to Kosovo*, whether the territory, institutions or population, in this text shall be understood to be without prejudice to positions on status, and in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence. This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ opinion on the Kosovo declaration of independence.

In order to become members, countries must demonstrate that they comply with the Copenhagen Criteria relating to stable institutions, human rights and the law¹⁵. The current status of discussions is summarised in Table 1.

Tab. 1: EU membership status.

Platform member	EU membership status	Further information
Albania	Candidate country	Applied for EU membership April 2009 Candidate status June 2014 Commission recommended opening negotiations April 2018 Accession negotiations opened March 2020 Commission framework July 2020 Commission started screening process July 2022
Bosnia and Herzegovina	Candidate country	Applied for EU membership February 2016 Commission opinion with 14 priorities May 2019 One priority is the proper functioning of the Stabilisation and Association Parliamentary Committee (SAPC), the parliamentary dimension of the SAA - adopted by the Bosnia and Herzegovina Parliament in June 2021 Candidate status December 2022 Council decided to open accession negotiations December 2023, once the necessary degree of compliance with the membership criteria is achieved
Bulgaria	EU member state	Joined the EU on 1 January 2007
Croatia	EU member state	Joined the EU on 1 July 2013
Greece	EU member state	Joined the EU on 1 January 1981
Kosovo*	Potential candidate	Applied for EU membership December 2022 Membership linked to success or otherwise of EU-facilitated high-level dialogue between Kosovo* and Serbia
Montenegro	Candidate country	Applied for EU membership December 2008 Accession negotiations opened in June 2012 To date, all 33 screened negotiating chapters have been opened, six of which have been provisionally closed
North Macedonia	Candidate country	Applied for EU membership March 2004 Granted EU candidate status in December 2005 Commission started screening process July 2022
Serbia	Candidate country	Applied for EU membership December 2009 To date, 22 out of 35 negotiating chapters opened, two of which have been provisionally closed Membership linked to success or otherwise of EU-facilitated high-level dialogue between Kosovo* and Serbia
Slovenia	EU member state	Joined the EU on 1 May 2004

¹⁵ European Council (1993) Copenhagen criteria: https://ec.europa.eu/neighbourhood-enlargement/enlargement-policy/conditions-membership_en

As part of the accession process, countries also need to demonstrate their ability to comply with EU legislation (*acquis communautaire*) by transposing the relevant directives and regulations into national law. Accession negotiations take place around 35 chapters¹⁶ covering the *acquis*. Chapter 27 covers the environment, including protecting species under the Habitats Directive and establishing the Natura 2000 network, while other chapters supporting full implementation of environmental standards and requirements.

Relevant legislation for LC management

The 1992 **Habitats Directive** (European Council 1992) remains the most relevant piece of legislation for large carnivore management. It must be implemented by the EU member states and accession countries are supported financially by the EU for putting the nature protection framework in place. The Directive implements the Bern convention in the European Union (EU) (see below). A key concept of the Directive is that all the species and habitats listed must be maintained in or restored to favourable conservation status (FCS). Depending on current status of the species they may require the designation of protected areas (Annex II species), be strictly protected with hunting or culling only under derogation (Annex IV) or protected with hunting potentially allowed (Annex V).

Bear, wolf and lynx are included under Annex II for most EU countries including Croatia and Slovenia, Bulgaria and Greece south of the 39th parallel (with bear and wolf considered priority species). The bear is protected under annex IV in all EU countries and lynx and wolf in most EU countries. In the Dinaric countries, wolf is in Annex V in Bulgaria and in Greece north of the 39th parallel. However, this situation changed for the wolf. On 20 December 2023 the Commission tabled a proposal for a Council Decision to adapt the protection status of the wolf under the Bern Convention. Following the formal approval by the Member States on 26 September 2024, the Commission, on behalf of the EU, tabled the amendment proposal to the Secretariat of the Bern Convention in view of the Standing Committee meeting of December 2024. 3 December 2024, the Standing Committee of the Bern Convention voted in favour of the EU proposal to adapt the protection status of the wolf. Once this change came into force 7 March 2025, the Commission made a legislative proposal to alter the Habitats Directive, moving the wolf from annex IV to annex V¹⁷. In May 2025, the proposal was adopted by the European Parliament and in June 2025 by the Council.

Involved administrations, with the exception of Kosovo*, are also signatories to three international conventions which lay out certain rules regarding the protection of LCs.

CITES¹⁸ (the Convention on International Trade in Endangered Species of Wild Fauna and Flora) entered into force in 1975. The convention regulates the use and trade of endangered

¹⁶ European Commission website: Neighbourhood and Enlargement Policy: https://ec.europa.eu/neighbourhood-enlargement/enlargement-policy/conditions-membership/chapters-acquis_en

¹⁷ European Commission (2025) Proposal for targeted amendment to Habitats Directive annexes: https://environment.ec.europa.eu/document/8ec6689c-a7d8-422e-829d-c4231fc32872_en

¹⁸ CITES (1973) Convention on International Trade in Endangered Species of Wild Fauna and Flora: <https://cites.org/eng>

species globally. For LCs, CITES is particularly relevant for trophy hunting as it controls the permissions to remove hunted animals from the country in which they are killed. CITES includes species lists under three appendices depending on whether no trade is permitted (appendix 1), trade is strictly controlled with a permit (appendix 2) or trade is controlled with a permit but under a wider range of circumstances (appendix 3). Wolf, bear and lynx are included in appendix 2 for European countries. Signatories can make reservations to not consider particular species as protected under the convention. North Macedonia has a reservation in place for wolf since 2000. Kosovo* is not a signatory of the Convention.

The **Convention for the Conservation of Migratory Species of Wild Animals (CMS)** is an international treaty under the auspices of the United Nations Environment Programme. It entered into force in 1979. The Convention protects migratory wildlife listed on its two Appendices by promoting transboundary conservation efforts involving all range states. Appendix I lists species which are endangered and for which all taking is prohibited (with certain exceptions), and Appendix II lists species with an unfavourable conservation status which would benefit from international cooperation. At the 14th Meeting of the Conference of the Parties to CMS in February 2024, Parties adopted a proposal from North Macedonia (with Uzbekistan, Albania and Bosnia and Herzegovina as co-proponents) to list the Eurasian lynx (*Lynx lynx*) on Appendix II and the Balkan lynx (*Lynx lynx balcanicus*) in Appendix I of the Convention. The COP14 also adopted a proposal from the IUCN SSC (Cat Specialist Group) and Secretariat of the Carpathian Convention for Concerted Actions for the Eurasian lynx. The Concerted Action aims to "*improve the knowledge base and strengthen the transboundary cooperation for the conservation of the four southern subspecies of the Eurasian lynx (*Lynx lynx*) in Europe and Asia.*" It sets out a number of actions, including developing a conservation action plan and perform baseline surveys and robust assessments of the species' conservation status.

The 1979 Convention on the Conservation of European Wildlife and Natural Habitats (the **Bern Convention**¹⁹) is a binding international legal instrument, covering the European continent and parts of Africa, which lists habitats and species to be protected by the convention signatories. Similar to Annex IV and V of the Habitats Directive, species included in Appendix II are strictly protected (it is prohibited to deliberately capture, kill or disturb these species or their refuge areas/habitat) and species included in Appendix III are protected (they can be hunted but hunting should be regulated in order to keep the populations out of danger). Bear is strictly protected under Appendix II of the Bern Convention²⁰. Wolf, following the changes described above, is under Appendix III as is lynx. However, the Balkan lynx subspecies is Appendix II. Signatories could make reservations to not consider particular species as protected under the convention. Slovenia has a reservation in place for bear, though since it is listed under Annex IV of the Habitats Directive, this reservation has little meaning in practice.

¹⁹ Council of Europe (1979) Treaty No.104 Bern Convention Convention on the Conservation of European Wildlife and Natural Habitats: <https://www.coe.int/en/web/bern-convention>

²⁰ See footnote 18 for proposed changes to appendices.

As part of the Bern Convention implementation, parties agree recommendations for particular species including range of recommendations on large carnivores²¹. While these are not legal requirements, they are a means of demonstrating that parties are working towards a specific goal.

In particular Recommendation No. 163 (2012)²² on the management of expanding populations of large carnivores and Recommendation No. 162 (2012)²³ on the conservation of large carnivores' populations in Europe requesting special conservation action. Recommendation 163 includes the following actions relevant to all participating countries to address expanding LC populations by:

- Improving social acceptance of large carnivores and understanding of their habitats
- Addressing conservation of large carnivores in a **long-term perspective** and taking into account their large-scale distribution
- Establishing the necessary partnerships with different interest stakeholders
- Promoting appropriate methods and practices to mitigate or avoid predation
- Improving social acceptance of large carnivores and understanding of their habitats
- Addressing conservation of large carnivores in a long-term perspective and taking into account their large-scale distribution
- Establishing the necessary partnerships with different interest stakeholders
- Promoting appropriate methods and practices to mitigate or avoid predation
- Collaborating as appropriate in the above with other states sharing the same population, thus implementing the population level management approach endorsed in its Recommendation No. 115 (2005)
- Where large carnivores are hunted, sound monitoring of those species should be carried out and fixed hunting quotas taking into account their conservation status, the sustainability of present population and their natural expansion

Recommendation 162 includes a range of proposed activities focused on specific countries and regions:

Brown bear in the Balkans:

- Bosnia and Herzegovina and Montenegro urgently draw up management plans for brown bears, carrying out the necessary surveys and relaying on the expertise of other countries of the region to integrate their conservation efforts into a wider South-East context.

²¹ Bern Convention, Recommendations on large carnivores: <https://www.coe.int/en/web/bern-convention/recommendations-on-large-carnivores>

²² Recommendation No. 163 (2012) of the Standing Committee on the management of expanding populations of large carnivores in Europe: <https://rm.coe.int/1680746681>

²³ Recommendation No. 162 (2012) of the Standing Committee on the conservation of large carnivores' populations in Europe requesting special conservation action: <https://rm.coe.int/16807469e1>

Eurasian lynx in the Balkans:

- Albania and North Macedonia draw up and implement, as a matter of urgency, action plans for the last remaining autochthonous population of lynx in the region, using as appropriate the strategy for the Conservation of the Balkan lynx in Albania and North Macedonia.
- North Macedonia assesses the environmental impact on lynx population of the dams in the Mavrovo National Park, a site identified as a candidate for the Emerald Network, considering the abandonment of the project if the dams risk to endanger the lynx population.

Large carnivores in South-East Europe

- Albania, Bosnia and Herzegovina, and North Macedonia assess the effect of new transport infrastructures on large carnivores, introducing corrective measures whenever they are likely to produce new fragmentation that may endanger large carnivores' populations.

As part of the writing of this progress report, members were asked specifically about the actions taken to meet the recommendations. The range of approaches practiced in the different countries to implement the above-mentioned directives and treaties have resulted in a patchwork of approaches to LC management across the region as, further described in the results and discussion.

3 Information collection method

To update the report to reflect the current situation, the project team developed a factsheet format based on those produced to research the background report to gather information on LC governance and management in the Dinaric-Balkan-Pindos region. The template was based on reviewing existing literature and expert feedback, particularly from the project Advisory Board. The fiches were sent to at least one governmental contact and one expert representing each platform member. Overviews for Bulgaria and Greece were not covered in the background report and were developed for this report with support from the advisory board and government experts.

The fiches were structured around the range of topics listed below, which contribute to the success or otherwise of cooperation around LC management.

For each platform member, the topics assessed were:

- Background (area, population and land use, institutional structure)
- Managing authorities relevant to LC management
- International and EU law application
- National and regional legislation
- LC status and trends and distribution
- LC management plans and monitoring methods
- Main threats to the population
- Main conflicts associated with LC presence
 - Main interested stakeholders
 - Livestock protection and compensation measures
 - Hunting status
 - Existing cross-border initiatives

At the same time, the authors collaborated with the LCIE in updating the overview of LC population distributions and population estimates across Europe (see below) identifying the relevant informants and ensuring that state actors were aware of the action. We also collaborated with the Bern Convention Secretariat to use the opportunity of the information gathering to support administrators in self-assessing how they are implementing the above-mentioned Bern Convention recommendations. Finally, supplementary information was gathered from the Platform meetings.

The initial results of the information gathering were discussed with the Advisory Board and at the Platform plenary meeting. Unclearities were followed up in discussions with individual experts. The informants also had their own opinions on LC management. Care was therefore taken in the analysis to distinguish between opinions, official positions, and scientific evidence. Suitable qualifiers are included below where facts are disputed or uncertain.

4 Results

The results build upon four previous reviews of monitoring and management in the region spanning the last twenty plus years. A first assessment of management approaches was carried out under the Bern convention in 2002²⁴. The Large Carnivore Initiative for Europe (LCIE) carried out Europe-wide population surveys using expert questionnaires summarised by Kaczensky et al. 2012²⁵ and updated this in 2024²⁶. Finally, the background report²⁷ for the project, updated in this progress report, built upon these surveys and found that **many of the problems identified in 2002 and again in 2012 persisted in 2021** although there have been advances in particular topic areas (see Annex 4 of the background report).

This progress report again finds improvements in certain areas, but the situation regarding management processes and capacities is yet to change significantly. The situation for a range of areas relevant to LC management is updated in the tables below.

4.1 Population status

Table 2 gives an overview of the estimated populations for each platform member. This is based on information gathered through the LCIE 2024 survey Kaczensky et al 2024, which is based on a collection of information from official reporting and experts. The report notes that caution must be taken in interpreting the results (own emphasis):

“Although the data presented in this section represent the best available figures for each species and each country there is a wide diversity of methods in use, and a massive variation in the accuracy and precision of the numbers produced. For several countries and species no recent (France, Spain), or **no reliable, population estimates were available (Kosovo*, Ukraine, Turkey)** at all. **Some are only based on expert assessments or informed guesses, whereas others result from more robust methodology.**

Many populations are shared among several countries and individuals or social groups which have **transboundary ranges and may be counted in more than one country**. While monitoring and population estimates are harmonised among countries sharing borders for some species and populations, for many transboundary populations there is no correction for the

²⁴ Convention on the Conservation of European Wildlife and Natura Habitats Standing Committee 22 Meeting (2002) Large Carnivore Action Plans for Dinara - Pindus range
https://lciepub.nina.no/pdf/634991264683673055_COE%20LC%20action%20plans%20for%20Dinara%20Pindus%20range%202002.pdf

²⁵ Kaczensky, P., Chapron, G., von Arx, M., Huber, D., Andrén, H., Linnell, J. (Editors) (2012) Status, management and distribution of large carnivores – bear, lynx, wolf & wolverine – in Europe part 1.
<https://doi.org/10.13140/RG.2.2.11382.88645> **AND** Part 2 (Country summaries).
<https://doi.org/10.13140/RG.2.2.18093.77281>

²⁶ Kaczensky, P., Ranc, N., Hatlauf, J., Payne, J.C. et al. 2024. Large carnivore distribution maps and population updates 2017 – 2022/23. Report to the European Commission under contract N° 09.0201/2023/907799/SER/ENV.D.3 “Support for Coexistence with Large Carnivores”, “B.4 Update of the distribution maps”. IUCN/SSC Large Carnivore Initiative for Europe (LCIE) and Istituto di Ecologia Applicata (IEA).

²⁷ Marsden et al. (2022) Large Carnivores in the Dinarides: Management, Monitoring, Threats and Conflicts, BfN Skript 617: <https://dinaric-carnivores.org/wp-content/uploads/2023/03/background-report.pdf>

number of individuals or social groups with transboundary ranges. While the number may be relatively small where populations just share short borders, the proportion of transboundary individuals can be very large, where populations are primarily found along international borders.

Camera trapping and the use of non-invasive DNA from scats / hairs are widely regarded as the gold standard methods for many species. But they can be used in different ways, either to add up the known individuals or produce statistical estimates of density with confidence intervals based on capture-recapture analyses. **The area covered by surveys may vary, with different approaches to extrapolate to the rest of the distribution area. Different statistical approaches may produce different estimates. Different field methods also target different population metrics.** Some survey all individuals, whereas others only survey certain parts of the populations, such as adults, or just document the presence of reproduction. Various conversion factors exist to allow conversion between the number of wolf packs and the number of wolves, for example. Unfortunately, there is as yet little standardisation of these conversion factors even within the different parts of the same population.

Surveys can also be conducted at different times of the year which can reflect very different population sizes, especially in areas where hunting is conducted. Methods also change and adapt over time, which makes comparisons with older data harder. A final challenge concerns the availability of data as we had several cases where data is known to be available, but is not accessible, or not sufficiently well documented to include.

There are encouraging signs of more sophisticated methods being used in more areas, although some regions, such as southeastern Europe with their large populations, suffer from a major underinvestment in monitoring activity. There are also areas where neighbouring countries make great efforts to standardise their field methods and analysis, such as the Alps, Scandinavia, or the Pyrenees. Such efforts need to be expanded so that methods within populations are harmonised.

Overall, it is important to treat all figures with a certain degree of caution, look for the bigger picture and refer to the overview tables on methods and data quality and go back to the original literature. Despite this caution we believe that they do reflect the general size and trend of large carnivore populations in Europe relatively well. We have gone to great lengths to make them as comparable as possible, and to make the underlying variation in methodology as transparent as possible.”

For the report, no reliable estimates were submitted for Albania (wolf), Montenegro and Kosovo* (wolf and bear). Data from Kosovo* and Montenegro in the following tables has been submitted by the Ministries. However, they highlight that the figures provided are largely based on hunting ground users / the federation of hunting and must be treated with caution. Other changes from Kaczensky et al (2024) are marked in the table.

Tab. 2: Population status and trend. Figures given in 2023 (= estimate not verified, for lynx () = subpopulation Balkan lynx, “-“ = no data, ** trends are those observed by the LCIE monitoring exercises. These do not necessarily correspond to differences in estimates between this progress report and the status report).

Platform member	Bear Estimate	Bear Trend**	Wolf Estimate	Wolf Trend	Lynx Estimate	Lynx Trend
Albania	*190-210	No obvious change	Unknown	-	5-10	Decreasing
Bosnia and Herzegovina	*900-1000	Increasing	300-400	Decreasing	40-60	Fluctuating
Bulgaria	Min 353	Decreasing	*800-1200	Unknown	Status unknown	-
Croatia	846-1072	No obvious change	Min 163	No obvious change	72-141	Increasing
Greece	Dinaric-Pindos population: 550-650 (East Balkan population: 155)	Increasing	2075 (255 packs)	Increasing	-	-
Kosovo*	120-125 (Kosova Hunters Federation, and for protected areas from the Mistry of environment, MESPI)	Increasing	260-400 (Kosova Hunters Federation and Hunters Associations, and for protected areas from MESPI)	Increasing	6-8 (According to the data from MESPI)	No obvious change
Montenegro	400 - 420	Uncertain but bear management plan concludes stable (good gene flow)	530 (assessment of hunting ground users)	Slightly decreased	(0)	Sporadic, no estimates available
North Macedonia	*300-350	Increasing	*270-360 Or 400-1100 ¹	Unknown	20-30	No obvious change

Platform member	Bear Estimate	Bear Trend**	Wolf Estimate	Wolf Trend	Lynx Estimate	Lynx Trend
Serbia	*100-120 Dinaric-Pindos (East Balkan population: 4-8; Carpathian population: 10-14)	Increasing	*800-900 Dinaric-Balkan (Carpathian: 8-12) ²	No obvious change in the Dinaric-Balkan population	41-63 Balkan 1-3 (Carpathian: 40-60)	No obvious change
Slovenia	810-1000	Stable	107-125	No obvious change	Dinaric: 40 (Alpine: min 10)	Increasing

1. North Macedonian Ministry estimates the wolf population at 400-1100 individuals according to expert and official estimates. Kaczensky et al (2024)'s estimation is much lower. More detailed research on the wolf population at the national level is needed to verify current estimates.
2. Experts estimates are lower at 5-10, mostly passing individuals.

The report also gives an overview of the status of the relevant large carnivore populations for the region.

Dinaric Pindos Bear Population

The findings suggest that the Dinaric-Pindos bear population's distribution has increased and consolidated with improved permanent connectivity, although some gaps remain (e.g. between southern Croatia and Bosnia). Range countries Albania, Bosnia and Herzegovina, Croatia, Greece, and Serbia self-reported an increasing trend in the bear distribution; Bulgaria, Montenegro, and Slovenia no obvious change; and North Macedonia and Kosovo* an unknown trend in distribution. However, it notes that the Dinaric-Pindos population still has the least robust data foundation.

Dinaric lynx

The distribution has changed very little and remains separated from the Alpine population and Balkan population. Slovenia and Croatia self-reported an increasing distribution (see Fležar et al. (2024)²⁸ for more detailed information), and Bosnia and Herzegovina a fluctuating distribution.

Balkan lynx

The remnant population of the Critically Endangered Balkan lynx remains small and isolated and in urgent need of conservation actions.

Dinaric-Balkan Wolf

The distribution has remained largely stable but shows some more losses than gains. Better connectivity is suggested in Montenegro, but no new data was collected for the report, so

²⁸ Fležar et al. 2024. Surveillance of the reinforcement process of the Dinaric – SE Alpine lynx population in the lynx-monitoring year 2022-2023: final report. Technical report. Ljubljana, March 2024, 89 p

this is uncertain. The largest distribution loss is visible in southern Croatia and northeast Bulgaria. For Bulgaria this may be due to a change in methods and monitoring effort. Bulgaria self-reported a fluctuating trend; Albania and Serbia reported no obvious trend; Bosnia-Herzegovina a decreasing trend; and Kosovo*, Montenegro, and North Macedonia have no information and need more data.

However, the report also highlights that the weakest wolf monitoring in Europe is in the Dinaric-Balkan region and that here wolf distribution largely based on extrapolated or unconfirmed records.

Continental golden jackal

Golden jackals are primarily distributed within a single interconnected continental population. Only two populations in Greece (on the island of Samos and on the Peloponnese peninsula) remain largely isolated. Solid data from monitoring is lacking, but the population trend is increasing.

Tab. 3: Population estimate of the golden jackal.

Platform member	Golden jackal estimate
Albania	Widespread and breeding
Bosnia and Herzegovina	Widespread and breeding
Bulgaria	Widespread and breeding
Croatia	Widespread and breeding
Greece	Widespread and breeding
Kosovo*	Thought to be widespread and breeding
Montenegro	Thought to be widespread and breeding
North Macedonia	Widespread and breeding
Serbia	Widespread and breeding
Slovenia	Widespread and breeding

4.2 Legislation and hunting status

Comparisons with earlier overviews show that there has been a gradual evolution towards protecting LC species to fulfil the Bern Convention requirements (or Habitats Directive in the case of Greece, Bulgaria, Slovenia and Croatia). In North Macedonia, the wolf is considered a game species. The wolf hunting bounty, still in place when the background report was published, has been removed (see table 4). In Bosnia and Herzegovina and in Montenegro, wolf is also hunted. Bear can be hunted in season in the Republic of Srpska but not in the Federation of Bosnia and Herzegovina. In Montenegro, the bear is theoretically a game species with restrictions (ban for female bears with cubs, closed season for bears up to two years) but in practice has not been hunted for twenty years. Derogations are in place to allow a

certain quota of bear or wolf to be removed from the population in most countries including the EU member states Croatia and Slovenia but not Greece or Bulgaria.

Tab. 4: Hunting across the Dinaric-Balkan-Pindos region.

Platform member	Bear	Wolf	Lynx
Albania	No	No. Only derogations for problem animals.	No
Federation of Bosnia and Herzegovina	Hunted. Season: 1 October -15 May Derogations outside hunting season for problem animals	Yes. Male wolf: 1 January- 31 December (no closed season) Female wolf and cubs: 1 July - 28/29 February	No
Republic of Srpska	Hunted. Season: 1 October -15 May Derogations outside hunting season for problem animals	Yes. Male wolf: 1 January- 31 December (no closed season) Female wolf and cubs: 1 July - 28/29 February but this protection is not yet implemented	No
Bulgaria	No. Only derogations for problem animals	Yes. Closed period over the breeding season according to the adopted Wolf Action plan (2022-2023). Not yet implemented as according to the Hunting Act they can be hunted year-round	No
Croatia	No. However, an annual quota of 16% of the population size is set under derogation and includes precautionary removals, traffic kills and intervention removals. A total of 150 bears can be anthropogenically removed the population per year: up to 130 hunted and up to 20 removed	No. Only derogations for emergency situations and sick /wounded animals	No
Greece	No	No	No
Kosovo*	No	No	No
Montenegro	Game species but zero quota. The hunting season for bears (male) is from October 1st to November 30 th	Yes. Season: 1 October - 28/29 February	No

Platform member	Bear	Wolf	Lynx
North Macedonia	No	Yes Season: 1 January- 31 December (no closed season) There is no longer a bounty for wolf hunting	No
Serbia	No. Only derogations for problem animals	Yes (except in the autonomous Province of Vojvodina), recommended quota up to a maximum of 30% of the population. Season: 1 July – 31 March	No
Slovenia	No. Though a proportion of the population can be removed under derogation	No. Only derogations for problem animals	No

4.3 Monitoring

Slovenia, Croatia Greece and Bulgaria use a range of monitoring methods including genetic analysis, which are generally considered to give an accurate overview and fulfil article 17 reporting requirements for the Habitats Directive. Concerns are nonetheless voiced by stakeholders regarding the accuracy of all estimates for wolf. In Bulgaria, the ministries of agriculture and environment use different figures for the wolf population.

In all other countries, population figures are estimates based largely on observations from hunters, in some cases including telemetry and camera trapping. In most cases, the methods used are not considered by experts to be scientifically sound. For wolf, where hunting interest is lower and observations and recognition of individuals are more difficult, the obtained figures are largely guess-work (since fewer figures are submitted by hunters). Cross-border monitoring (with the exception of Balkan lynx) is extremely rare and there is no common database bringing together data from multiple countries. This means there is a risk of double-counting between countries and that the figures between countries are not comparable. Finally, in almost all countries, a lack of scientific knowledge, trained personnel and financing continues to act as a barrier to introducing accurate monitoring schemes (see Kaczensky et al., 2024²⁹ as quoted above for more details).

As a step to improve monitoring, the DiBaPI initiative, led by WWF Adria, has produced a Handbook for monitoring of large carnivores in the Dinaric- Balkan-Pindos region Skrbinišek et al (2024)³⁰. The guide was produced based on expert knowledge of best practice across a

²⁹ Kaczensky, P., Ranc, N., Hatlauf, J., Payne, J.C. et al. 2024. Large carnivore distribution maps and population updates 2017 – 2022/23. Report to the European Commission under contract N° 09.0201/2023/907799/SER/ENV.D.3 “Support for Coexistence with Large Carnivores”, “B.4 Update of the distribution maps”. IUCN/SSC Large Carnivore Initiative for Europe (LCIE) and Istituto di Ecologia Applicata (IEA).

³⁰ Skrbinišek, T., Fležar, U., Majić Skrbinišek, A. 2024. Handbook for monitoring of large carnivores in the Dinaric – Balkan – Pindos region. WWF Adria. Zagreb. pp.115. https://dinaric-carnivores.org/wp-content/uploads/2024/09/DiBaPi_Large_Carnivores_Monitoring_Handbook_final.pdf?x46905

range of countries and supplemented with expert input during the Platform meetings.

Tab. 5: Monitoring across the Dinaric-Balkan-Pindos region.

Platform member	Bear	Wolf	Lynx
Albania	Estimates based on camera traps, expert opinion and extrapolation.	Estimates based on camera traps, expert opinion and extrapolation.	Survey by tracks monitoring, faeces analysis, capture – mark-release – recapture, extensive and intensive camera-trapping surveys
Bosnia and Herzegovina	Estimates based on game counting methods.	Estimates based on game counting methods. In some areas, other methods like e.g. genetic monitoring.	Estimates based on game counting methods.
Bulgaria	Species data is collected according to the requirements of Art. 11 and Art.17 of the Habitats Directive (92/43). Relevant data are entered into a common web-based system.	Species data is collected according to the requirements of Art. 11 and Art.17 of the Habitats Directive (92/43). Relevant data are entered into a common web-based system. However, the forest agency and environmental ministry use different monitoring systems.	Species data is collected according to the requirements of Art. 11 and Art.17 of the Habitats Directive (92/43).
Croatia	Monitoring scheme involving genetic counting based on scat samples, recording of all mortality cases and damages, camera traps and hunters counting individuals at feeding sites within the hunting grounds. No monitoring on LC prey.	Monitoring scheme (updated in 2024) involving genetic sampling (incomplete regarding the area of distribution) and damages (spatial and temporal occurrences of wolf attacks on domestic animals), telemetry, camera traps and collection of all wolf presence signs using SCALP categories. Species data is collected according to the requirements of Art. 11 and Art.17 of the Habitats Directive, but not across the whole area of species distribution.	Monitoring scheme involving camera traps and genetic sampling.

Platform member	Bear	Wolf	Lynx
Greece	Estimates based on genetic monitoring, camera traps, telemetry, bi-signs, mortality and with the help of private and public bodies (NGOs, researchers, academics), protected area management units and administration of protected areas. Data is compiled on a yearly basis.	Estimates based on genetic monitoring, satellite telemetry and with the help of private and public bodies (researchers, academics), management bodies and administration of protected areas. Data is compiled on a yearly basis.	
Kosovo*	Estimates based on data from Kosova Hunters Federation, hunting ground managers, and for Protected Areas from experts and MESPI staff.	Estimates based on data from Kosova Hunters Federation, hunting ground managers, and for Protected Areas from experts and MESPI staff.	Estimates based on data from MESPI, camera traps.
Montenegro	Estimation/survey by Hunting Associations and expert services in Protected Areas.	Estimation/survey by Hunting Associations and expert services in Protected Areas.	
North Macedonia ¹	Estimates based on camera traps and further extrapolation, genetic study (2008), documenting opportunistic findings in database.	Estimates based on camera traps, documenting opportunistic findings in database.	Monitoring through Balkan Lynx Recovery Programme, opportunistic surveys.
Serbia	Periodically through projects (camera traps, telemetry, genetic count (only locally, in Tara NP)).	Estimates based on game counting methods such as telemetry survey and camera traps. Also tissue analyses and genetic sampling.	Periodically through projects (camera traps).
Slovenia	Monitoring scheme involving genetic count, census, monitoring, population modelling, annual count at feeding sites. Scheme updated 2023.	Monitoring scheme involving biannual genetic analysis incl. population size estimate, pack counts (percentage analysis) and hybrids detection analysis. Scheme to be updated 24-25.	Monitoring scheme involving camera traps for population size estimates, health status monitoring, genetic samples. Scheme to be updated 2025.

1. National park Mavrovo and National park Shar Planina establishing stand-alone system for monitoring large carnivore.

4.4 Management plans

Linked to the above, many countries do not have **management plans** for all species. Croatia and Slovenia have plans in place which, for bear, are also to some extent coordinated with one another (see table 6). Bulgaria also has action plans for the wolf and bear and Republic of Srpska for only for the bear. In Montenegro a management plan for bear was adopted in June 2024. It obliges the government to put in place a one-year action plan with implementation measures which has just been adopted (in early 2025). Serbia officially adopted their bear management plan in March 2025 (see below). North Macedonia is working actively on a Bear Action Plan (see below). Greece and Albania have developed bear management plans, though they have not yet been implemented.

In all the countries where it is present, plans have been developed for Balkan lynx provides due to the cross-border *Balkan Lynx Recovery Programme*³¹ which has coordinated monitoring, management planning and stakeholder engagement.

North Macedonia has a new management plan for bear ready for government adoption and has invited neighbouring countries through the DiBaPi initiative for their viewpoints. They used the above-mentioned handbook on monitoring Skrbinšek et al (2024)³² to inform the chapter on monitoring. Serbia, also using the Handbook, finalised their first Bear Management Plan in March 2025³³. The DiBaPi Plenary Meeting of May 2025 was an incentive to finalise of the Plan before the meeting. This puts in place a clear political procedure for adoption of such plans and lynx and wolf plans will be addressed next. The process was strongly supported by both the Ministry of Environmental Protection and the Ministry of Agriculture, Forestry and Water Management who had attended previous platform meetings.

Tab. 6: Management plans in the Dinaric-Balkan-Pindos region.

Platform member	Bear	Wolf	Lynx
Albania	Action plan (2007), no management plan.	No	Action plan (2007) for Balkan lynx, no management plan (Eurasian lynx). Balkan lynx implemented.

³¹ PPNEA website: Protection and Preservation of Natural Environment in Albania (PPNEA): Balkan Lynx Recovery Programme: <https://ppnea.org/balkan-lynx-recovery-program/>

³² Skrbinšek, T., Fležar, U., Majić Skrbinšek, A. 2024. Handbook for monitoring of large carnivores in the Dinaric – Balkan – Pindos region. WWF Adria. Zagreb. pp.115. https://dinaric-carnivores.org/wp-content/uploads/2024/09/DiBaPi_Large_Carnivores_Monitoring_Handbook_final.pdf?x46905

³³ Brown Bear Population Management Plan adopted for the period 2025 to 2033: <https://www.ekologija.gov.rs/saopstenja/vesti/usvojen-plan-upravljanja-populacijama-mrkog-medveda-za-period-od-2025-do-2033-godine>

Platform member	Bear	Wolf	Lynx
Bosnia and Herzegovina	Federation of Bosnia and Herzegovina: No. Republic of Srpska: Management plan (2023).	No	No
Bulgaria	Action plan (2023-2033)	Action plan (2022-2031)	No
Croatia	Yes. Last updated in 2019. Management plan implemented; action plan is renewed every year.	No. Current management plan to be renewed. New management plan in the drafting phase, expected in 2025.	Yes. Renewed management plan in 2024.
Greece	Yes. Management plan exists and was officially agreed in December 2024 (Ministerial Decision)	No	
Kosovo*	No	No	No
Montenegro	Bear management plan adopted in June 2024.	No	No
North Macedonia	Bear management plan prepared for adoption in 2024.	No	No ¹
Serbia	Yes. Plan officially adopted March 2025.	No Draft management plan exists, expected 2025.	No Draft management plan exists, expected 2025.
Slovenia	Yes. Current strategies/plans to be renewed. Bear management strategy adopted in 2002, new draft prepared.	Yes. New wolf management strategy and action plan adopted in 2025.	Yes. Management strategy and action plan adopted in November 2024.

1. No plan officially recognised by the MoEPP though Mavrovo National Park is involved in planning through the Balkan Lynx Recovery Programme

Stakeholder engagement is well developed for few of the platform members. Hunting organisations tend to be best integrated in LC management, and governments are reliant on them to provide population figures. Farming and landowners' organisations, are less well organised and divided amongst themselves, making it more difficult to find spokespeople to represent their interests. Only in Slovenia can the farming union and agricultural chamber be considered relatively active, and in Montenegro, the Beekeeping Association. NGOs working on nature conservation are present in most countries and often play an important role in carrying out monitoring and management. However, many are small and lack capacity. Nonetheless, most of the existing cross-border initiatives have been initiated between NGOs and scientists, sometimes with international support. A list of relevant projects is included in Table 12.

4.5 Main threats to the large carnivore populations

In addition to a lack of scientific evidence and coordinated cross-border monitoring, a range of **threats to LC species** are present in the region, although again, impact monitoring is often lacking so the following is based on expert opinions (see Table 7).

Tab. 7: Main threats to large carnivore populations.

Platform member	Bear	Wolf	Lynx
Albania	Poaching, capture, habitat fragmentation due to infrastructure.	Poaching (little data), habitat fragmentation due to infrastructure.	Habitat degradation, habitat fragmentation due to infrastructure,
Bosnia and Herzegovina	Poaching, habitat degradation, habitat fragmentation due to infrastructure, disturbance, conflicts with problem bears.	Persecution, poaching, hunting.	Small populations, genetics / inbreeding, poaching, lack of knowledge and monitoring.
Bulgaria	Poaching, disturbance, habitat fragmentation.	Poisoning, hybridisation.	Poaching.
Croatia	Shifted male/ female ratio due to hunting, problem bears (habituated), waste management (human food), habitat fragmentation, infrastructure development (wind farms, planned solar panels), disturbance in habitat, tourism, poaching.	Illegal killing (traps/snares, ammunition, poisoning), waste management (slaughterhouse disposal), disturbance, habitat fragmentation (wind farms, planned solar panels), lack of natural prey (locally, Dalmatia), public acceptance, negative/sensational media coverage.	Illegal killing, prey availability, habitat fragmentation and disturbance due to infrastructure, genetics / inbreeding (was addressed through repopulation).
Greece	Poaching, road kills, habitat degradation and fragmentation.	Poaching, road kills, habitat degradation and fragmentation, inbreeding.	No confirmed presence.
Kosovo*	Infrastructure, disturbance, habitat degradation and fragmentation, traps, traffic accidents, waste management.	Habitat degradation, poaching, disturbance, tourism.	Small population, connectivity, habitat degradation, poaching.
Montenegro	Poaching, disturbance, habitat degradation, tourism.	Poaching, prey competition (hunting conflict), habitat degradation.	Lynx currently not present, but a key area for connection between the Dinaric and Balkan lynx populations.
North Macedonia	Poaching, habitat degradation, traps.	Poaching, hunting.	Competition for prey, inbreeding, persecution / poaching, habitat degradation, connectivity, prey depletion due to overhunting.

Platform member	Bear	Wolf	Lynx
Serbia	Habitat degradation and , fragmentation (lack of ecological corridors), infrastructure, prey accessibility, poaching.	Habitat degradation, habitat fragmentation, prey accessibility, hybridisation.	Connectivity.
Slovenia	Public acceptance, mediation, habitat fragmentation due to infrastructure projects and connectivity.	Public acceptance, poaching, safety concerns, mediation, bold wolf, habitat degradation, traffic accidents.	Small populations, genetics / inbreeding, poaching, connectivity between Alpine and Dinaric mountains.

Poor waste management can result in increased contact between humans and bears and in bears potentially developing problematic behaviour (becoming food conditioned), resulting in their removal. Supplementary feeding by hunters can also affect bear behaviour and lead to more cubs, though hunters also argue that it keeps bears away from villages and agricultural land.

Spatial and temporal unpredictability of illegal landfills and difficult access (karst), freely roaming livestock and/or grazing with minimal supervision attracts wolf close to settlements contributing to the wolf boldness³⁴ and increased conflict with humans. A lack of natural prey was also identified as a contributing factor to wolves developing a reliance on livestock depredation in parts of Croatia³⁵ and in North Macedonia. Hybridisation of wolves with dogs is considered a threat in Croatia, Slovenia and Serbia (especially for small wolf populations), but is not researched in other countries.

For lynx, inbreeding is considered as the most serious threat, as the populations remain small and isolated. Disturbances, often from increased development in the tourism and agricultural sectors, is an issue for all species. Additional threats for all species include loss of habitat to infrastructure developments, most notably linear structures such as highways and railroads without proper mitigation measures, such as green bridges, overpasses or underpasses.

In all countries, large-scale infrastructure (existing and planned) including energy development poses a serious threat over the coming years³⁶ if not implemented with adequate mitigation measures to allow for unobstructed ecological connectivity.

³⁴ Frýbová S., Fazzi P., Kutal M., López-Bao J.V., Reinhardt I. ... Salvatori V., 2025. Bold wolf behaviour: definitions and analysis of reported past cases across Europe. Report for LIFE WILD WOLF project LIFE21 NAT-IT-101074417, Task 2.1, in collaboration with the IUCN Large carnivore Initiative for Europe (LCIE). Istituto di Ecologia Applicata

³⁵ LIFE Wild Wolf website: <https://www.lifewildwolf.com/>

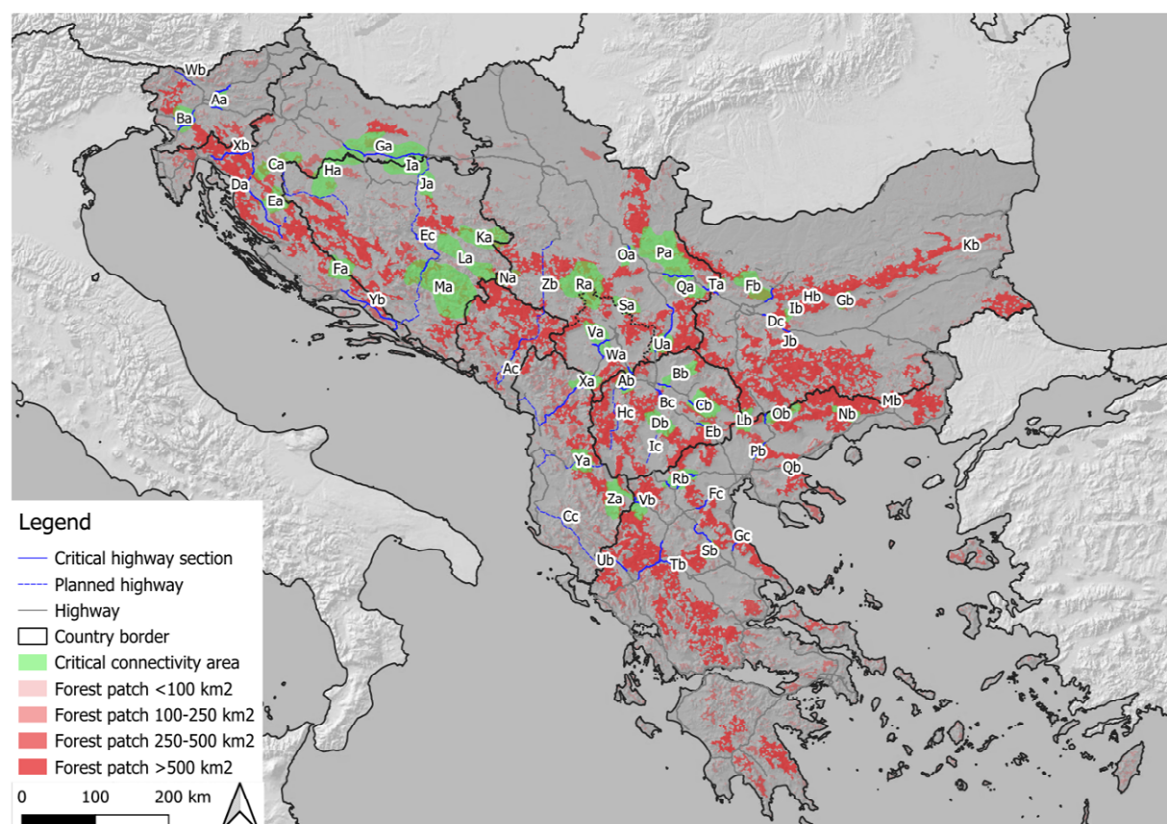
³⁶ Over €580 million in extra resources for further EU-supported infrastructure development in the Western



Fig. 5: Velebit mountains: an area of high ecological connectivity (© Huber).

An analysis, led by Slovenia Forest Service, for WWF Adria, has been carried out in collaboration with the DiBaPi platform since 2023. The aim is to evaluate ecological connectivity for specific species or taxa with similar spatial, ecological and behavioural characteristics. The analysis involved several phases, reviewing literature and carrying out GIS analysis on habitat suitability. This was reviewed through local expert knowledge, collected in a systematic manner through a series of interviews and focus groups as well as break-out sessions during the DiBaPi platform meetings. This identified 60 key connectivity areas for LCs and ungulates across the entire region, which should be maintained as such to avoid serious impacts on wildlife populations (see Figure 6).

Balkans region is planned, WBIF - https://ec.europa.eu/neighbourhood-enlargement/news/eu-starts-implementing-economic-and-investment-plan-western-balkans-2020-12-17_en;
 Transport - <https://wbif.eu/sectors/transport>; EU financial plan for the Western Balkans - €30 billion over seven years, <https://www.euractiv.com/section/enlargement/opinion/integrity-compliance-in-western-balkans-infrastructure-projects/>;
 Connectivity and Infrastructure Investment in the Western Balkans, https://wbif.eu/storage/app/media/Library/6.%20Connectivity%20Agenda/brochure_wb_connectivity_agenda_en.pdf,
https://www.eib.org/attachments/efs/infrastructure_investment_in_the_western_balkans_en.pdf;
 Draft spatial plan of Serbia from 2021 to 2035 - a road infrastructure map:
https://www.mgsi.gov.rs/sites/default/files/03aREF_PPRS_saobracaj.jpg, and the full text of the plan:
<https://www.mgsi.gov.rs/sites/default/files/PPRS%20Nacrt.pdf>



ID	Location	ID	Location	ID	Location	ID	Location
Aa	Zasavje, SI	Ha	Mraovo Polje, BA	Db	Babuna, MK	Lb	Dolna Krushitsa, BG
Ba	Nanos, SI	Ec	Zenica-Sarajevo highway, BA	Eb	Gradets, MK	Gb	Kalofer, BG
Wb	Gorenjska highway, SI	Qa	Suva planina, RS	Bb	Crni vrh, MK	Dc	Sofia-Padzaržik highway, BG
Fa	Dinara, HR	Pa	Knjaževac, RS	Ab	Radusha, MK	Pb	Sidirokastro, GR
Da	Senj, HR	Sa	Đavolja varoš, RS	Bc	Solun-Skopje highway, MK	Ob	Achladochori, GR
Ea	Plitvice lakes, HR	Ra	Kopaonik, RS	Hc	Skopje-Ohrid highway, MK	Rb	Amyntaio, GR
Ga	Psunj, HR	Na	Priboj, RS	Za	Korçë, AL	Sb	Elassona, GR
Ca	Petrova Gora, HR	Oa	Kruševac, RS	Xa	Kukës, AL	Tb	Kastraki-Meteora, GR
Xb	Bosiljevo-Rijeka highway, HR	Ua	Bujanovac, RS	Ya	Librazhd, AL	Ub	Katafigio, GR
Yb	Split-Ploče highway, HR	Ta	Brebevnica, RS	Cc	Kakavië-Levan planned highway, AL	Nb	Nestos, GR
Ja	Krčevljani, BA	Zb	Ivanjica-Boljare highway, RS	Fb	Treskavetz, BG	Mb	Nimfea, GR
La	Sokolac, BA	Wa	Bjeshket e Berishes, XK	Kb	Bilka, BG	Qb	Rentina, GR
Ka	Rupovo Brdo, BA	Va	Bjeshka e Kasmaqit, XK	Jb	Momina Klisura, BG	Vb	Kristallopigi, GR
Ma	Treskavica, BA	Ac	Bar-Sjenica highway, ME	Hb	Rozino, BG	Fc	Polymylos-Veria highway, GR
Ia	Derventa, BA	Cb	Radovish, MK	Ib	Srebrinovo, BG	Gc	Egani-Amfithia highway, GR

Fig. 6: A large-scale overview of critical connectivity areas. Letters represent geographic location of the key connectivity areas in the region.

4.6 Main conflicts

Livestock depredation by wolves remains a serious conflict. Fear of wolves was only mentioned as an issue by a few interviewees in Bosnia and Herzegovina and Slovenia. Some respondents highlighted that livestock breeders are used to wolves and already implement protection measures. For example, in Albania, conflict connected with livestock depredation is considered relatively low because shepherds are present with the flocks. However, in many areas, financed protection measures for livestock are lacking (see 4.8). Depredation of dogs (livestock guarding and hunting) while a smaller scale issue can be very emotive and lead to serious conflicts in some locations (see Figure 7).

Bear depredation of bee hives and livestock is a source of conflict. Problem bear behaviour (feeding on waste, entering villages, etc.) is an increasing issue in many countries. Lynx are much less conflictual (partly due to the low population numbers), but there is some competition with hunters for prey and very occasional depredation of domestic animals.

The reduction of successful wolf attacks to dogs is potentially possible by using dog vests as preventive measure initially being tested within LIFE Wild Wolf³⁷ project and it will help innovate new generation of dog vests to be tested in coming years from wolf (and wild boar) attacks.



Fig. 7: New generation of dog vests protecting from wolf attacks (© LIFE Wild Wolf).

³⁷ <https://www.lifewildwolf.com/>

Tab. 8: Conflicts related to LC presence.

Countries	Bear	Wolf	Lynx
Albania	Damages.	Damages, hunting conflict around dogs.	Little conflict.
Bosnia and Herzegovina	Damages, hunting conflicts (competition), fear.	Damages, hunting conflict around dogs, fear of bold wolves.	Little conflict.
Bulgaria	Damages.	Damages, hunting conflicts.	
Croatia	Fear, habituation.	Damages, illegal killing (not related to hunting) by all means, as a consequence of conflict due to accumulated, unresolved affairs.	Little conflict.
Greece	Damages, human-bear conflicts (settlements, roads and waste management).	Damages.	Presence not confirmed.
Kosovo*	Damages, waste management, fear.	Livestock damages, hunting conflicts.	Little conflict.
Montenegro	Damages, competition for forest products.	Damages.	Little conflict.
North Macedonia	Damages, fear.	Damages.	Little conflict.
Serbia	Damages, fear.	Damages, hunting conflict (competition), fear.	Little conflict.
Slovenia	Damages, habituation and occurrence near settlements, safety concerns.	Damages.	Little conflict.

4.7 Intervention teams

Well-functioning intervention teams (IT) have been identified as an important way to reduce conflict in the DiBaPi region and are therefore included as a new separate section in this progress report. The information was gathered from the capacity building and thematic meetings carried out by the project, interventions during the plenary meetings as well as from an **EU-wide survey, carried out by a team of scientists including members of the DiBaPi Secretariat, on what is meant by an IT and how they are currently used.** This survey found that out of the 30 countries included, 18 had bear IT (BITs), 14 of which were run by government agencies. Only half of the total have an approved protocol for their work.



Fig. 8: Bear Intervention Team at work (© Reljić).

In the DiBaPi region, the lack of functioning IT teams due to lack of resources and training was identified as an important issue early in the platform's work. **For this reason, there has been a strong focus on IT teams in the thematic workshops and capacity building actions carried out by the DiBaPi initiative. The Platform Secretariat worked intensively on the establishment and strengthening of IT in the Federation of Bosnia and Herzegovina, Kosovo*, North Macedonia and Montenegro with support of WWF Adria. Basic equipment for ITs in Kosovo* and North Macedonia was donated by WWF Adria through the DiBaPi initiative.**

Tab. 9: Intervention teams in the region

Platform member	Intervention team	Trainings carried out	Requirements
Albania	No	No	Trainings, Education, transfer of additional know-how, support for the procurement of equipment.
Bosnia and Herzegovina	Federation of Bosnia and Herzegovina: Active IT for bears, wolves and lynx. Established within this initiative. Republic of Srpska: Active IT for bears.	20.-21. December 2021 in Mostar - LC co-ordination/platform. 26.-28. February 2022 in Kulen Vakuf - Bear IT, some equipment ensured. 20.-22. September 2022 in Kupres – Wolf & Lynx IT, basic equipment ensured.	Federation of Bosnia and Herzegovina: Equipment. Republic of Srpska: Trainings, Education, transfer of additional know-how, support for the procurement of equipment.
Bulgaria	IT not established. Group for bears is active, but only for the damage evaluation. One IT in Rhodope mountains and a voluntary team.		Good practice exchange.
Croatia	Active IT for brown bears and restructured IT for wolves and lynx.	No	Regular meetings, new skills training, new emerging issues, additional equipment, transfer of additional know-how.
Greece	Active IT for bears operated by the Ministry of Environment and Forestry Services (since 2014) with the participation of specialized NGOs for bear-human interactions management. Establishment of Proposal Wolf IT underway.		Transfer of additional know-how for capacity building

Platform member	Intervention team	Trainings carried out	Requirements
Kosovo*	IT established April 2024. Team equipped with the assistance of WWF Adria / Ecopana Organized help for brown bears and cubs in need exist (Bear sanctuary 4 Paws and rescue activities).	29.-30. April 2024 in Pristina - LC co-ordination/platform on management of LC. Workshop by Ecopana / WWF Adria was organized in Pristina on April 23, 2024. 07.-08. June 2024 in Pristina - LC IT on LC. 17. December 2024, Gračanica, FourPaws Bear Sanctuary Criminalistics educational module for IT members.	National IT establishment and to secure funds for its functioning and Operative Protocol
Montenegro	Inactive IT for wolves and bears.	23.-24. September 2023 in Durmitor National park – exchange of veterinarians from ITs in Montenegro and North Macedonia. Equipment provided	Operative Protocol exists but hasn't been officially adopted.
North Macedonia	IT establishment in progress.	30.-31. March 2022 in Mavrovo National park - LC co-ordination/platform on bear. 6-7 December 2023 in Skopje – LC co-ordination/platform, future members of IT – focus on bear. 14. June 2024, Faculty of Veterinary Medicine (FVM) in Skopje, future members of IT – focus on wolf. 18. December 2024, at FVM in Skopje, Criminalistics educational module for future IT members.	Fostering of the national coordination/platform; IT establishment and secure funds for its functioning.
Serbia	IT not established.	No	
Slovenia	Active IT officially stopped working, and transitioned into functional cooperation between Ministry of Environment, Slovenian Forest Service and Hunting clubs.	No	New models for IT being considered.

4.8 Livestock protection and compensation

In many countries compensation for damages is theoretically in place. In general, compensation is most often paid by the ministries where the species are protected. Where they are hunted, it is the responsibility of the hunting associations but is rarely paid (see table 10). In practice, functioning schemes exist in Slovenia, Croatia, Bulgaria (bear only) and Greece has a supported agricultural insurance scheme.



Fig. 9: Livestock Guarding Dogs and protective fence (© Majić Skrbinšek).

Livestock protection measures, in particular, livestock guarding dogs (LGDs) and shepherding, are common in the region where LCs have often been present continuously. All EU countries in the region use Common Agricultural Policy (CAP) financing to support protection measures. None of the non-EU countries fund protection measures (beyond project funding). Slovenia has been particularly active in putting in place livestock protection measures through a combination of LIFE funding³⁸, national funding and the CAP measures. This has shown impacts and damages by wolf are decreasing.

³⁸ LIFE Varna Paša website: <https://varna-pasa.si/en/>

Tab. 10: Compensation and protection.

Platform member	Protection measures	Compensation																								
Albania	LGDs, shepherds, fences, enclosure at night used as prevention measures but not financed by state.	Compensation is referenced in the Law of Wild fauna protection but not implemented.																								
Bosnia and Herzegovina	Federation of Bosnia and Herzegovina: Prevention measures are recommended (dog, shepherd) but not a precondition. Republic of Srpska: Prevention measures not specifically financed but potentially covered by other agricultural activities.	Federation of Bosnia and Herzegovina: Compensation scheme exists. Compensation is paid by the Ministry of Agriculture and Forestry. Republic of Srpska: Compensation in place (100% costs), with prevention measures as pre-condition for bear and lynx, no compensation for wolf (game). Cost shared among Ministry of Agriculture, hunting ground manager and municipality.																								
Bulgaria	Shepherding, fencing, LGDs are commonly used. An uplift payment is provided through the CAP if LGDs are present. LGDs must be fitted with a "tailer" and if needed additional protective gear. Farmers using Karakachan or Bulgarian Shepherd dogs receive extra support if a "Patrimonial Certificate" of origin, issued by a recognised breeding organisation is provided. Support is provided at a rate of €177.36 per ha/yr for pastoralism with dogs. The indicative LC specific budget for the funding period (2023-2029) is €8,868.00.	Bear: compensation paid by Ministry of Environment and Water, based on Art. 79 of the Hunting and Game Protection Act. 2023: ~€270.000, for ~300 cases. Wolf: Compensation for damage caused by game in hunting areas to agricultural crops, forest vegetation and domestic animals in areas permitted for grazing should be paid by those responsible for managing the game.																								
Croatia	Protection measures can be financed under the EAFRD (Measure 4.4) which includes the purchase of electric fences, night shelters and LGDs (tower of Croatian Shepherd) in areas where large carnivores are present. Alternative pilot measures are also funded through projects. Payment is at rate of €7.00 per m/yr for electric fencing; €466.00 per unit/yr for the purchase of LGDs; and €30,00.00 per building/yr for constructing or restoring livestock accommodation. The indicative LC specific budget for the funding period (2023-2029) is €4.3 million. Compensation payments from the state budget were revised in 2024 (increased payments per killed/injured capita of domestic animal).	Bear: compensation paid by local hunting managers. Wolf and lynx: compensation paid by the Ministry of Environment and Green Transition. Protection measures are a pre-condition for compensation. Compensation is paid in all cases where the wolf is definitely or most likely the predator. All damages are inspected and compensated in practice (within 1 year). Bear damage <table> <tr> <th>Year</th><th>cases</th><th>€ compensation</th></tr> <tr> <td>2018</td><td>9</td><td>2.303,00 EUR</td></tr> <tr> <td>2019</td><td>8</td><td>6.055,00 EUR</td></tr> <tr> <td>2020</td><td>6</td><td>4.793,00 EUR</td></tr> <tr> <td>2021</td><td>17</td><td>7.713,00 EUR</td></tr> <tr> <td>2022</td><td>7</td><td>2.164,00 EUR</td></tr> <tr> <td>2023</td><td>7</td><td>13.075,00 EUR</td></tr> <tr> <td>2024</td><td>7</td><td>18.970,00 EUR</td></tr> </table>	Year	cases	€ compensation	2018	9	2.303,00 EUR	2019	8	6.055,00 EUR	2020	6	4.793,00 EUR	2021	17	7.713,00 EUR	2022	7	2.164,00 EUR	2023	7	13.075,00 EUR	2024	7	18.970,00 EUR
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Platform member	Protection measures	Compensation																														
Croatia continued		Wolf <table> <tr> <th>Year</th><th># cases</th><th>€ compensation</th></tr> <tr> <td>2024</td><td>1735</td><td>600.987,29</td></tr> <tr> <td>2023</td><td>2024</td><td>497.414,57</td></tr> <tr> <td>2022</td><td>2151</td><td>460.666,33</td></tr> <tr> <td>2021</td><td>2119</td><td>464.474,53</td></tr> <tr> <td>2020</td><td>1657</td><td>334.056,37</td></tr> <tr> <td>2019</td><td>1227</td><td>266.396,60</td></tr> <tr> <td>2018</td><td>1218</td><td>256.499,40</td></tr> </table> Lynx <table> <tr> <th>Year</th><th># cases</th><th>€ compensation</th></tr> <tr> <td>2019</td><td>1</td><td>79,63</td></tr> </table>	Year	# cases	€ compensation	2024	1735	600.987,29	2023	2024	497.414,57	2022	2151	460.666,33	2021	2119	464.474,53	2020	1657	334.056,37	2019	1227	266.396,60	2018	1218	256.499,40	Year	# cases	€ compensation	2019	1	79,63
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Greece	Support through a range of LIFE projects. Support for implementation of preventive measures under the CAP (poor uptake to date). Most common preventive methods are electric fences, night-time enclosures, fox lights, flandry, shepherding, LGDs and restriction of free grazing for young animals. Prevention measures also include funding for the protection of large mammals within protected areas, supporting various crops with specific annual payments per hectare. Producers must set aside 10% of their cultivated area unharvested for wildlife including bears, avoiding chemical treatments. Payments are provided at the following rates per hectare per year: €55.00 for winter cereals, €224.00 for maize, €816.00 for table grapes, €435.00 for wine grapes, €666.00 for miloids, €433.00 for stone fruit, and €128.00 for livestock grass plants and legumes. Financing also includes non-productive investments including funding for installing electric fences with photovoltaic systems, along with necessary equipment and LGDs. The indicative LC specific budget for the funding period (2023-2029) is € 2.9m.	Compensation: in place, with insurance through the Hellenic Organization Of Agricultural Insurances (ELGA) as a pre-condition. Compensation rates vary based on the type of damage, species and livestock category. Damages caused by wolves and bears are compensated at a higher rate (90%-100% of actual cost). Insurance contribution for farmers ranges from € 0.19to €11.25 /capita (2023). bear <table> <tr> <th>year</th><th>cases</th><th>compensation</th></tr> <tr> <td>2018</td><td>538</td><td>113979,5</td></tr> <tr> <td>2019</td><td>549</td><td>119194</td></tr> <tr> <td>2020</td><td>522</td><td>105288</td></tr> <tr> <td>2021</td><td>1008</td><td>147871,5</td></tr> </table> wolf <table> <tr> <th>year</th><th>cases</th><th>compensation</th></tr> <tr> <td>2018</td><td>6153</td><td>941589,9</td></tr> <tr> <td>2019</td><td>5908</td><td>791576,1</td></tr> <tr> <td>2020</td><td>5637</td><td>958797</td></tr> <tr> <td>2021</td><td>5894</td><td>1182395,6</td></tr> </table>	year	cases	compensation	2018	538	113979,5	2019	549	119194	2020	522	105288	2021	1008	147871,5	year	cases	compensation	2018	6153	941589,9	2019	5908	791576,1	2020	5637	958797	2021	5894	1182395,6
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2019	5908	791576,1																														
2020	5637	958797																														
2021	5894	1182395,6																														
Kosovo*	Protection measures not funded. Damages are recorded by MESPI, but so far there is no compensation of LC damages. The Ministry of Agriculture (MAFRD) and MESPI are currently discussing the process and budget line for compensation to farmers.	Not implemented.																														
Montenegro	For the last three years, the Ministry of Agriculture, Forestry and Water Management has been approving a subsidy for the purchase of electric fences for apiaries, to the amount of 50% of the value.	According to the Law on Game and Hunting, the user of a hunting ground is liable for damage caused by game, and the owner, or user of the land, has the right to compensation. This is only possible if all necessary measures have been taken to prevent the damage.																														

Platform member	Protection measures	Compensation
North Macedonia	Protection measures not funded.	Compensation in place for bear but not for lynx (no damages) or wolf (game). In order to receive compensation, the inspection service must be called and sometimes cases reach court. Compensation average €600,000 per year (2013-2018) ³⁹ .
Serbia		Compensation in place, prevention measures as pre-condition. Commission assesses rate of compensation. Rarely applied in practice.
Slovenia	Livestock protection infrastructure financed under National Funds, EAFRD, LIFE projects (LIFE Slowolf, LIFE DINALP BEAR). Maintenance financed under EAFRD include maintenance of fencing, LGDs and shepherd salaries. Electric fences and electronet: €118.64/ha/yr shepherd: €269.20/ha/yr. shepherd dogs: €85.60/ha/yr The indicative LC specific budget for the funding period (2023-2029) is € 2.3 million.	Compensation in place, prevention measures as pre-condition. 2010-2019 Bear: average 86,500€ per year (865,000 € between 2010-19). Wolf: average 172,000€ per year (1.72m€ between 2010-19). 2020-2024 Bear: average 151.281,34 (increase) Wolf: 109.219,21 € (decrease)

4.9 Bern Convention recommendations on LC management

The Bern Convention recommendations aim to address many of the issues described above. Although they have existed since 2012, there are issues with implementation. At the 2024 Sofia meeting⁴⁰, DiBaPi members self-assessed as to how well they were meeting Bern Convention recommendations in group discussion, using the following indicator table to allocate themselves scores.

Tab. 11: Bern Convention recommendations

Recommendation No. 163 (2012) of the Standing Committee on the management of expanding populations of large carnivores in Europe	Indicators used
Improving social acceptance of large carnivores and understanding of their habitats.	✓ Livestock protection measure implemented ✓ Awareness raising campaigns supported by the governments ✓ Communication on protection of LC habitats by governments
Addressing conservation of large carnivores in a long-term perspective and taking into account their large-scale distribution.	✓ Existence of management plan ✓ Implementation of management plan

³⁹ Prism news site (2018) Bear sued, the state pays: <https://prizma.mk/mechkite-tuzheni-drzhavata-plaka/>

⁴⁰ The Dinaric-Balkan-Pindos Large Carnivore Initiative. (2023). 5th Dinaric Balkan Pindos Platform Conference <https://dinaric-carnivores.org/en/event/bulgaria-conference/>

Recommendation No. 163 (2012) of the Standing Committee on the management of expanding populations of large carnivores in Europe	Indicators used
Establishing the necessary partnerships with different interest stakeholders.	✓ Collaboration with stakeholders e.g. through joint monitoring ✓ National platform on large carnivores
Promoting appropriate methods and practices to <u>mitigate or avoid predation</u> .	✓ Livestock compensation measures ✓ Livestock protection measures
Collaborating <u>as appropriate in the above with other states</u> sharing the same population, thus implementing the population level management approach endorsed in its Recommendation No. 115 (2005).	✓ Cross border management planning ✓ Cross border projects ✓ Participation in the DiBaPi initiative ✓ Signature of DiBaPi Memorandum of Understanding (MoU)
Where large carnivores are hunted, <u>sound monitoring</u> of those species should be carried out and fixed hunting quotas taking into account their conservation status, the sustainability of present population and their natural expansion.	✓ Use of appropriate monitoring methods (whether currently hunted or not)
Recommendation No. 162 (2012) of the Standing Committee on the conservation of large carnivores populations in Europe requesting special conservation action	Indicators used
Bosnia and Herzegovina and Montenegro urgently draw up management plans for brown bear carrying out the necessary surveys and relaying on the expertise of other countries of the region so as to integrate their conservation efforts into a wider South-East context.	✓ Existence of management plan ✓ Implementation of plan
Albania and North Macedonia draw up and implement, as a matter of urgency, action plans for the last remaining autochthonous population of lynx in the region, using as appropriate the strategy for the Conservation of the Balkan lynx.	✓ Existence of management plan ✓ Implementation of plan
Albania, Bosnia and Herzegovina, and North Macedonia assess the effect of new transport infrastructures on large carnivores, introducing corrective measures whenever they are likely to produce new fragmentation that may endanger large carnivores' populations.	✓ Measurement of impact of transport infrastructure ✓ Measures introduced

The assessment was carried out in a confidential manner in order to encourage discussion on how to meet the recommendations, so only general conclusions are drawn here. While some EU member states scored well on their organisation of LC management many DiBaPi members identified significant gaps in their implementation of the recommendations.

A main difficulty faced is that the recommendations themselves, especially under Recommendation No. 163, are fairly broad. Without further guidance, countries find it difficult to self-assess whether or not they are meeting them. Results depend on the perspectives and experiences of the officials present.

The indicators developed above helped to concretise to some extent.

First findings from the exercise are that the authorities present were not all aware of the recommendations and found it difficult to respond to questions about them.

The lack of a large carnivore working group attached to the Bern Convention in recent years means that there has been little follow up of the recommendations. One approach might be to develop guidance linking them through a series of indicators such as those above to existing guidance documents, tools, reports, available to managing authorities to support them in implementation efforts.

4.10 Existing cross-border initiatives

Finally, information on **existing cross-border projects** are provided below (see table 12). In Croatia and Slovenia and in Greece and Bulgaria, there are, long-lasting collaborations established between experts and NGOs. These actors are also actively engaged with their respective governments and governmental exchange has been promoted in the framework of projects.

Croatia and Slovenia also collaborate with other EU countries, particularly with Alpine countries such as Italy and Austria through high profile, co-financed LIFE and Interreg projects and large-scale cross-border partnerships (LIFE Wolfalps EU, LIFE Wild Wolf, Forest Connect). The Large Carnivores, Wild Ungulates and Society (WISO) Platform of the Alpine Convention supports collaboration and aids with setting up of projects. The long-running Balkan Lynx Recovery Programme has been instrumental in bringing experts together across borders (Albania, Kosovo* and North Macedonia) with the specific purpose of saving the Balkan lynx. In the Prespa region, a good collaboration between Greece, North Macedonia and Albania exists, funded through a dedicated Prespa Ohrid Nature Trust. Between the other countries, collaboration is largely based on individual contacts and is easier or more difficult depending on existing relations. In general, however, despite in some cases, difficult political relations, NGO collaboration is good.

Tab. 12: Projects and programmes in the region.

Name	Dates	Countries involved ⁴¹	Description	Website
Balkan Lynx Recovery Programme	2006-ongoing	AL, MZ, XK, CH, DE	Programme aiming to save the critically endangered Balkan lynx from extinction. The vision is “the long-term existence of a viable Balkan lynx population in its historic distribution range in harmony with and supported by local communities”.	https://ppnea.org/balkan-lynx-recovery-program/

⁴¹ ISO Alpha 2 codes used

Name	Dates	Countries involved ⁴¹	Description	Website
Life Wild Wolf	01.2023-08.2027	HR, CZ, DE, EL, IT, PT, SI, SE	Project that aims to enhance the technical capacity of relevant authorities to manage and prevent human-wildlife conflicts by promoting practices that preserve the wolf's wild nature and improve people's ability to handle their unexpected presence.	https://life-wildwolf.com/
LIFE Varna Paša	1.24-12.29	SI	Project developing a systemic approach in the development of a state-of-the-art livestock protection scheme and integrate the solutions into the new Rural Development Programme after 2027.	https://webgate.ec.europa.eu/life/publicWebsite/project/LIFE22-NAT-SI-LIFE-VARNA-PASA-101113940/supporting-rural-communities-in-slovenia-to-reduce-conflicts-with-bears-and-wolves-through-institutional-collaboration-policy-and-education
ForestConnect	01.2024	BG, RO, RS, UA, AT, SK, ME	Address common challenges and needs on the topic of protecting and preserving ecological corridors of large carnivores in the Carpathians, Balkans and Dinarides.	https://interreg-danube.eu/projects/forestconnect
Transboundary Brown Bear Conservation TBBC	2024-2026	AL, GR, MK	Continued efforts to monitor and conserve the cross-border population. Collaboration between Euronature, MES, EkoSvest, PPNEA and Callisto	https://ppnea.org/portfolio-item/transboundary-brown-bear-conservation-tbbc/?lang=en
Monitoring of brown bear population in Bulgaria	2025 - 2027	BU, SI	The aim of the project is to assess the brown bear population by collecting samples for genetic analysis. Bulgarian experts are trained by Slovenian experts to organise and carry out the field work. Samples are collected throughout the range of the brown bear in Bulgaria in 2025 and laboratory analyses carried out in 2026. The project involves the Executive Environment Agency, 3 National Parks (Rila, Pirin and Central Balkan) and 5 state forestry companies.	

Name	Dates	Countries involved ⁴¹	Description	Website
4PETHABECO Strengthening cooperation to address socio-environmental challenges of EUSAIR flagship PET HAB ECO	2024 - 2027	ME	Aims to test solutions to protect and restore flora and fauna, in particular terrestrial habitats and populations of large carnivores, also envisaging the use of green infrastructure, and to improve connectivity (call thematic focus “Biodiversity protection and preservation, including protected areas and areas under Habitat and Birds Directives”).	https://ppnea.org/portfolio-item/4pethabeco/?lang=en
Bears Across Borders	2023-2025	BG, GR, MK, AL, RS, ME, UK	A continuation project that aims to investigate the functional connectivity and gene flow across core areas of bear distribution in the Balkan Peninsula. <i>Bears Across Borders</i> is a partnership between Balkani Wildlife Society with researchers and foresters from Bulgaria, Greece, Albania, North Macedonia, Montenegro, Serbia and the UK and supported by Bears in Mind with seed funding.	https://www.bearsmind.org/en/project/genetics-of-the-bulgarian-bear-population/
Large Carnivores in Central and South-Eastern Europe - connected and coexisting with people” project, WWF Adria	11.2022-06.2026	AL, BA, HR, GR XK, ME, MK, SR, SI	The WWF-CEE and WWF-Adria large carnivore programmes aim to ensure the thriving of large carnivores in the Carpathians and Dinarides by employing a harmonised management approach across countries, securing habitat access through ecological corridors, and engaging stakeholders. Key strategies include improving ecological corridors, developing management plans based on scientific data, mitigating human-wildlife conflicts, reducing illegal killings through law enforcement, and creating solutions to decrease human-wildlife conflicts.	

5 Discussion, next steps and outlook

There has been progress since the initial background report. Several members have moved forward with management planning and starting to put structures in place for monitoring. There has been progress in establishing large carnivore Intervention Teams supported by the DiBaPi initiative. Thanks to the above-mentioned report on connectivity, there is more information available on this topic area, even if consequent management measures are not yet necessarily taken when setting place new infrastructure. Further areas for information exchange (livestock protection and most recently, climate and large carnivores) have been identified as important for future work. The platform itself has been established as a good forum for exchange. The members are much more aware of what is going on in neighbouring countries and exchange information on activities directly or through the Secretariat.

There is still a need for more capacity-building and exchange around LC monitoring and management. While new management plans have been developed, existing plans get stuck at the authorisation or implementation stage, suggesting that the desire exists to coordinate the approach to LC conservation and management but, that certain barriers such as relevant skills, clarities about competencies, concerns that costs will be too high and lack of political will, have been difficult to overcome.

Addressing knowledge gaps in research, now and in the future is imperative for various aspects of large carnivore conservation and management, such as functional connectivity and understanding how climate change will affect these species to develop adaptive management strategies. The use of new methods in genetics for monitoring of large carnivore species is a further example.

More work needs to be done also in the field of communication and social acceptance by the public, as many identified threats stem from the fact acceptance is low. The DiBiPi Platform is well-placed to do this, linking existing platforms at different levels and supporting the establishment of new ones.

Tab. 13: Recommendations

Topic	Situation	Progress	Recommendations
Accurate monitoring	Accurate monitoring by the standards of the Habitats Directive in Croatia, Slovenia and Greece. Monitoring carried out in Bulgaria, but each ministry uses a different approach. Outside the EU countries, monitoring schemes are still lacking. Coordination across borders is rare.	Increased awareness of what is needed for monitoring. New Handbook for Monitoring was produced and is ready for use. New monitoring schemes established in Slovenia, and for wolf monitoring in Croatia. Database established for monitoring lynx Sharri NP North Macedonia.	Put guidelines to use! Apply transboundary monitoring. Develop joint projects and agree on minimum monitoring standards. This topic is even higher priority with the changes to the protection status of the wolf.
Establishing management planning	Further management plans have been adopted. The Monitoring Handbook and exchange between platform members has helped to build capacity. There are still many members lacking plans.	Slovenia (bear, wolf, lynx) and Croatia (bear, wolf) have updated their management plans. Greece adopted a bear management plan. Bulgaria has bear and wolf action plans. Montenegro and Serbia have new Bear management plans. North Macedonia has a Bear Action Plan (waiting for official adoption). The last three used the Monitoring handbook to support their plans.	This topic remains high priority for the platform. Management plans are needed on the national level and ideally the regional level but capacity to implement them is lacking. Exchange on recent experience e.g. North Macedonia, Serbia, Montenegro, Croatia, Slovenia. Move towards population-level management. Consider what the change in protection status of the wolf means for planning.
Connectivity	Fragmentation of habitat is one of the major drivers for loss of ecosystem functionality, its associated services, and biodiversity. The region is subject of intense anthropogenic landscape changes due to large scale energy, tourism and transport infrastructure development.	DiBaPi work on connectivity helps to give initial information on the most sensitive connectivity areas, identifying 60 key connectivity areas across the region. This has helped to start a discussion on this topic with DiBaPi members.	Target and protect key connectivity areas. Include in physical planning to implement infrastructure projects in a sensitive manner building e.g. on experiences in Greece and Croatia. Consider during Natura 2000 designation and management and in the context of the Nature Restoration Regulation.

Topic	Situation	Progress	Recommendations
Compensation and protection schemes	General acceptance that compensation and protection are needed but there are problems implementing beyond EU countries.	Changes only occurred in EU countries due to update of CAP. Session comparing approaches at DiBaPi Sofia meeting.	Better use of the EU RD programme and potential use of the EU pre-accession assistance for rural development (IPARD). Build on experiences in Slovenia of implementing protection through multiple funds and with clear results. Build on experience of EU LC Platform on the approaches in different EU member states.
Reducing interactions with problem bears	Problem bears and urban wolves are increasingly being reported.	Teams supported by DiBaPi: Both entities in Bosnia and Herzegovina now have functioning teams. Kosovo*, has just established an IT by government order. North Macedonia and Serbia, are in the process of being established. Slovenia is scaling down government support to their IT.	Continued support and exchange is needed between the DiBaPi members. Continue work establishing ITs across the region building on experiences so far (e.g. Montenegro). Establish teams and operational protocols in all countries.
Consultation and engagement of stakeholders	Stakeholders are often not engaged in the planning or management processes. This may lead to disillusionment and a lack of belief in the government's way of organising management.	Improved exchange on the higher level through the DiBaPi meetings. Exchange with EU Platforms through integration as EU regional platform. National LC councils exist in Slovenia, relaunched in Croatia, established in FBiH, ministerial order agreed in Kosovo* and proposed in North Macedonia.	Establish national LC councils and regional to local exchange for a. Further linking the DiBaPi to lower-level exchange fora could support broader use of stakeholder platforms e.g. platforms established in Greece, Slovenia and Croatia . Communication and outreach processes should be improved to ensure information is better shared including with the wider public.
Broad-scale co-ordination and exchange on transnational management	Examples of bilateral or tri-lateral coordination exist. There is still no framework encompassing all the region and approaches to LC management vary significantly.	Greater knowledge exchange and comparison between participants. DiBaPi Platform acts as mechanism to inform and exchange on national action and management plans, monitoring, etc. Transboundary cooperation needed to meet Bern Conv and HD requirements for protected species and hunted / used.	Assess potential to integrate into existing mechanisms such as the Bern Convention LC expert WG or Green Deal for the Western Balkans (Biodiversity Task Force led by IUCN including their update of the Western Balkan Biodiversity Strategy) Assess relevance to members and prioritise actions and potential inputs.

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