



**CONVENTION ON  
MIGRATORY  
SPECIES**

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14<sup>th</sup> MEETING OF THE CONFERENCE OF THE PARTIES  
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Agenda Item 31.4

**PROPOSAL FOR THE INCLUSION OF THE EURASIAN LYNX (*Lynx lynx*)  
IN APPENDIX II AND BALKAN LYNX (*Lynx lynx balcanicus*)  
IN APPENDIX I OF THE CONVENTION\***

Summary:

North Macedonia as proponent, Uzbekistan, Bosnia and Herzegovina and Albania as co-proponent have submitted the attached proposal for the inclusion of the Eurasian Lynx (*Lynx lynx*) in Appendix II and Balkan Lynx (*Lynx lynx balcanicus*) in Appendix I of CMS.

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IN APPENDIX II AND BALKAN LYNX (*Lynx lynx balcanicus*)  
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**1. Introduction**

**A. PROPOSAL**

Inclusion of the Eurasian Lynx (*Lynx lynx*) in Appendix II and Balkan Lynx (*Lynx lynx balcanicus*) in Appendix I of CMS

**B. PROPONENT**

North Macedonia

*Co-proponents:*

Uzbekistan

Bosnia and Herzegovina

Albania

**C. STATEMENT OF SUPPORT**

**1. Taxonomy**

1.1 Class: Mammalia

1.2 Order: Carnivora

1.3 Family: Felidae

1.4 Species: Eurasian Lynx, *Lynx lynx* (Linnaeus, 1758)

1.5 Scientific synonyms *Felis onca* (Linnaeus, 1758)

1.6 Common names, in all applicable languages used by the Convention

English: Eurasian Lynx/Balkan Lynx; French: Lynx commun, lynx boréal; German: Luchs; Spanish: Lince; Macedonian: рис/балкански рис.

**2. General description**

The Eurasian Lynx (*Lynx lynx*) is a middle-sized, spotted felid and one of the four species belonging to the Lynx genus. It is considered to have one of the largest east-west and northern-most distribution ranges in the Felidae family. *L. lynx* ranges through much of Europe, Central Asia, Siberia and East Asia (Nowell and Jackson 1996, Sunquist and Sunquist 2002). In Europe, Eurasian Lynx native distribution stretches from Scandinavia and Fennoscandia in the north, the Carpathian Mountains in the east and the southwest Balkan Peninsula. In Central and Western Europe, the Eurasian Lynx has been widely extirpated within the past several hundred years, but populations were reintroduced from the 1970's onward. The total reintroduced Eurasian lynx is now estimated at only about 3,000 individuals, with little connectivity between subpopulations localized around mountain ranges (Breitenmoser et al. 2000, Chapron et al., 2014). Although the ten European populations are being researched and monitored on a regular basis (e.g. in Switzerland, Sterrer et al. 2022), only limited information is available from the lynx's wide Asian range (Breitenmoser et al. 2015).

A particular challenge in Eurasian Lynx conservation is that the species is divided into six rather distinct subspecies (Kitchener et al. 2017) (Fig. 1).



**Figure 1.** The distribution of the six Eurasian Lynx subspecies (<https://www.sciencedirect.com/topics/agricultural-and-biological-sciences/lynx>)

The species is globally considered Least Concern on the IUCN Red List (Breitenmoser et al. 2015), based on its wide distribution in southern Siberian woodland stretching through Russia from the Ural Mountains to the Pacific, as well as Central Asia and the Tibetan plateau. But some of the subspecies are threatened, with the Balkan Lynx (*Lynx lynx balcanicus*) being on the verge of extinction. The population of the latter is estimated to be less than 50 mature individuals distributed mainly in North Macedonia, Albania and few individuals in Kosovo<sup>1</sup>. There has not been recent evidence coming from Greece or Montenegro. However, no systematic monitoring is conducted in these two countries where dispersing individuals could have already appeared. Based on the population size estimates, the IUCN Red List assessment classifies the Balkan Lynx as Critically Endangered (CR: D) (Melovski et al. 2015). The main threats involve poaching, prey depletion, habitat distraction/destruction and inbreeding (Bazzicalupo et al., 2022). On the opposite end, the IUCN status of the species, the Eurasian Lynx, is classified as Least Concern (Breitenmoser et al. 2015). Other subspecies of the Eurasian lynx are in a need for thorough conservation evaluation according to the IUCN Red List criteria. Many populations of wide-spread subspecies could be hampered due to unsustainable development and fragmentation without realizing it because of their seemingly intact distribution range.

The home-range size in Eurasian Lynx varies between 50-60 km<sup>2</sup> in Asia Minor (Mengüllüoğlu et al. 2021) up to 2600 km<sup>2</sup> in the northern areas of its range (e.g. Scandinavia; Linnell, Mattisson & Odden, 2021). The diet is primarily consisting of lagomorphs in the sparsely vegetated areas in Central and East Asia (Matyushkin and Vaisfeld 2003) and the coniferous forests of Asia Minor (Mengüllüoğlu et al. 2018). Where ungulates are abundant, lynx prey ranges in size from the 15 kg Musk deer (*Moschus moschiferus*) to 220 kg adult male Red deer (*Cervus elaphus*), but show a preference for the smaller ungulate species, such as Roe deer (*capreolus capreolus*), Chamois (*rupicapra rupicapra*), Reindeer (*Rangifer tarandus*) and Musk deer. Occasionally, lynx also hunt foxes (*Vulpes vulpes*), hares (*Lepus* spp.), marmots (*Marmota* spp), wild boar (*Sus scrofa*), beaver (*Castor fiber*), ground dwelling birds or domestic animals such as sheep and goats, or, in Scandinavia, semi-domestic reindeer (Breitenmoser and Breitenmoser-Würsten 2008). Balkan Lynx diet consists of smaller ungulates (Roe deer and Chamois) with Brown hare (*Lepus europaeus*) as a second option (Melovski et al. 2020).

<sup>1</sup> \*Under UNSCR 1244/99

The Eurasian Lynx is included on CITES Appendix II and protected under the Bern Convention (Appendix III). The Balkan Lynx is protected under Appendix II of the Bern Convention. The EU Habitat Directive protects the Eurasian Lynx in each state of the European Union under Annex II, (except the Estonian, Latvian and Finnish populations) and Annex IV (except the Estonian population).

The lynx listing under CMS is expected to increase the global awareness of its conservation status and support different conservation programmes, strengthen the monitoring activities in the range countries, provide possibilities for identifying green infrastructure to ensure the invaluable migration of the species, transboundary cooperation between range countries for implementation of conservation measures and action plans, act in a prompt manner to recover native populations that are at threat, motivate research of populations where data is missing, as well as strengthening the institutional capacities of all relevant national and international stakeholders in regards to the monitoring and conservation activities.

### 3. Migrations

#### 3.1 Types of movement, distance, cyclical and predictable nature of migration

Eurasian Lynx have two main types of movement during their lives: dispersal, which occurs when they are young by establishing their territory, and movement within their home ranges throughout their lives. Long-range dispersal comes occasionally in lynx' life when nearby territories are occupied by another individual of the same sex. Thus, this type of dispersal has been associated with a species' range expansion (Thompson and Jenks 2010). This particular type of dispersal is important for the exchange of genetic information, safeguarding the genetic health of populations. In this respect, it is necessary to maintain or achieve connected populations to guarantee the prevention of inbreeding and to guarantee a high level of genetic diversity and as a consequence the long-term survival. Outside the Siberian population, most of the other populations exist in the form of metapopulations with partly unknown exchange and connectivity.

Viable population – with exception of the vast population in Siberia – extend almost always across international boundaries. In Europe, researchers identified 11 different populations of Eurasian lynx (belonging to three different subspecies), of which 10 are transboundary (Tab. 1) and only the Harz population is constrained to Germany. Not all of these populations are considered viable, however, simply because the connectivity between them is hampered (for example, the Vosges Palatinian and the Jura populations, Krebsühl et al., 2021).

**Table 1.** Transboundary European subpopulations

Population name	Countries
<b>Scandinavian</b>	Norway, Sweden
<b>Karelian</b>	Finland, Russia
<b>Baltic</b>	Estonia, Latvia, Lithuania, Poland, Ukraine, Belorussia
<b>Bohemian-Bavarian-Austrian</b>	Czech Republic, Germany, Austria
<b>Carpathian</b>	Romania, Slovakia, Poland, Ukraine, Czech Republic, Hungary, Serbia, Bulgaria
<b>Alpine</b>	Switzerland, Slovenia, Italy, Austria, France
<b>Jura</b>	France, Switzerland
<b>Vosges Palatinian</b>	France, Germany
<b>Dinaric</b>	Slovenia, Croatia, Bosnia & Herzegovina
<b>Balkan</b>	North Macedonia, Albania, *Kosovo

Outside Europe, the Caucasus lynx spreads over several countries: Armenia, Azerbaijan, Georgia, Iran, Russia and Turkey.

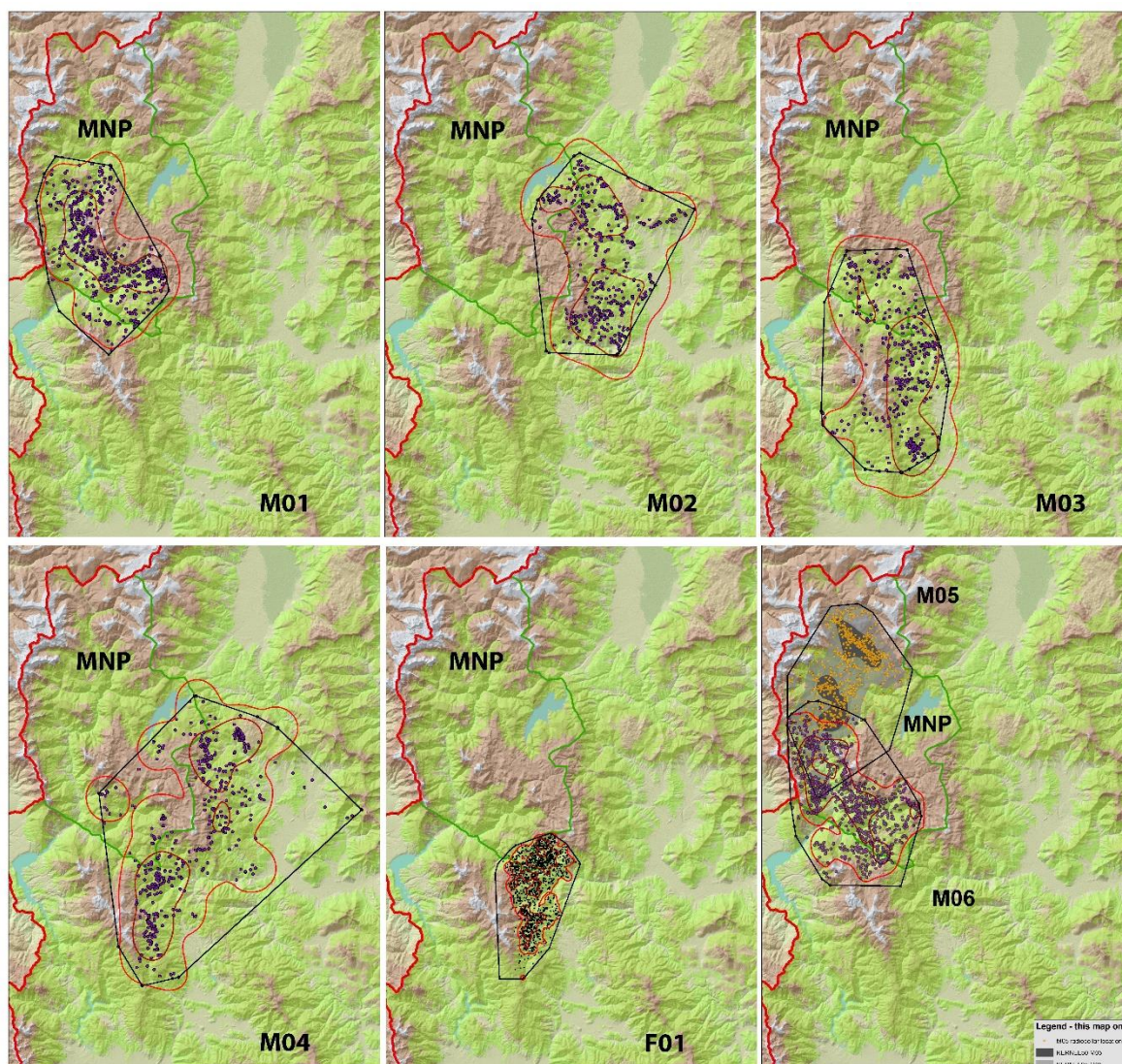
The Central Asia subspecies *L. l. isabellinus* is living in Bhutan, China, India, Kirgizstan, Nepal, Tajikistan and Uzbekistan. It is the least known of all subspecies; its conservation status and population trend is unknown. However, the sparse information indicate that it lives at low densities in linearly distributed and hence limited habitats. The fragmentation of the distribution range is not known, but the lynx is most likely not evenly distributed and connectivity across international borders is certainly very important to maintain the viability and genetic integrity of this subspecies.

### Land-tenure system

Home range size varies widely from 100 to over 1,000 km<sup>2</sup> (Breitenmoser and Breitenmoser-Würsten 2008). Home ranges averaged 248 km<sup>2</sup> for males (n = 5) and 133 km<sup>2</sup> for females (n = 5) in a radio telemetry study in Poland's Bialowieza forest (Schmidt et al. 1997). Average home range sizes in Switzerland were 90 km<sup>2</sup> for females and 150 km<sup>2</sup> for male Lynx. Male home ranges generally enclose 1-2 female territories (Breitenmoser and Breitenmoser-Würsten 2008). In Slovenia, home range size varies from 72 km<sup>2</sup>–598 km<sup>2</sup> (n=4 females and 2 males) (Krofel, 2012), whereas in Bohemian Forest Ecosystem the mean home range is 445 km<sup>2</sup> for males and 122 km<sup>2</sup> for females (n=10) (Magg et al. 2016).

Because of the large individual home ranges and the generally low density, Eurasian lynx populations need large areas with suitable habitats stretching for many thousands of square kilometers to maintain viable populations. As an example, an area of 25,000 km<sup>2</sup> is needed for around 500 lynx if an average density of 2 individuals per 100 km<sup>2</sup> is considered.

**Balkan Lynx** home range ranges from 220 to 700 km<sup>2</sup> for males and from 100 to 200 km<sup>2</sup> for females (Fig. 2). On average, home ranges were established after 147 days (SD=78.7 days). The overlap of the territories of the two males that were tracked simultaneously in 2019, is 112 km<sup>2</sup> for 100% MCP (32% overlap) and 40 km<sup>2</sup> for href\*0.7 95% KDE (17% overlap) (Melovski et al. 2020). Minimum and maximum straight-line distances per day ranged from 0 to 24.8 km for males, whereas the female displacement ranged from 0 to a maximum of 13 km. On average, males' displacement was around 4 km/d throughout the year, while the female's average was 2.4 km/d. Season-wise, males' furthest displacement was in the winter months (January–March) with 5.09 km/d, and lowest from July to September, 3.18 km/d.



**Figure 2.** Home range estimates of 6 male (M01-Mo06) and one female (F01) Balkan Lynx in North Macedonia. MNP – Mavrovo National Park represents the core area of the population (Melovski et al. 2020).

## Dispersion

Lynx populations are vulnerable to fragmentation. Population connectivity is impeded by a variety of habitat barriers, e.g. broad valley bottoms with watercourses, settlements, main traffic routes, or high mountains. Linear infrastructures can split lynx populations, threaten their connectivity and, in the long run, genetic integrity. Lynx struggle to cross such barriers and are exposed to many dangers. Dispersal is vital to population maintenance, but only a quarter of all lynx reach adulthood. To establish themselves in the long term and successfully reproduce, they must first find and occupy a free area.

Lynx kittens stay with their mother on average for 10 months, after which they disperse. Dispersal usually varies from 8 to 24 months (Breitenmoser et al. 1993; Schmidt 1998; Zimmermann et al. 2005; Samelius et al. 2012). In Eurasian Lynx, a male-biased dispersal is detected, while females often show philopatric behaviour (Samelius et al. 2012; Herrero et al. 2020). In Central Europe, Eurasian Lynx dispersal distances are substantially shorter than those in Scandinavia, although individual variation is considerable. In Central Europe, males dispersed 4.5–129 km, compared to 32–428 km in Scandinavia (Breitenmoser et al. 1993; Schmidt 1998; Zimmermann et al. 2005; Samelius et al. 2012). Females in Central Europe dispersed 2–81 km compared to 3–215 km in Scandinavia (Samelius et al. 2012).

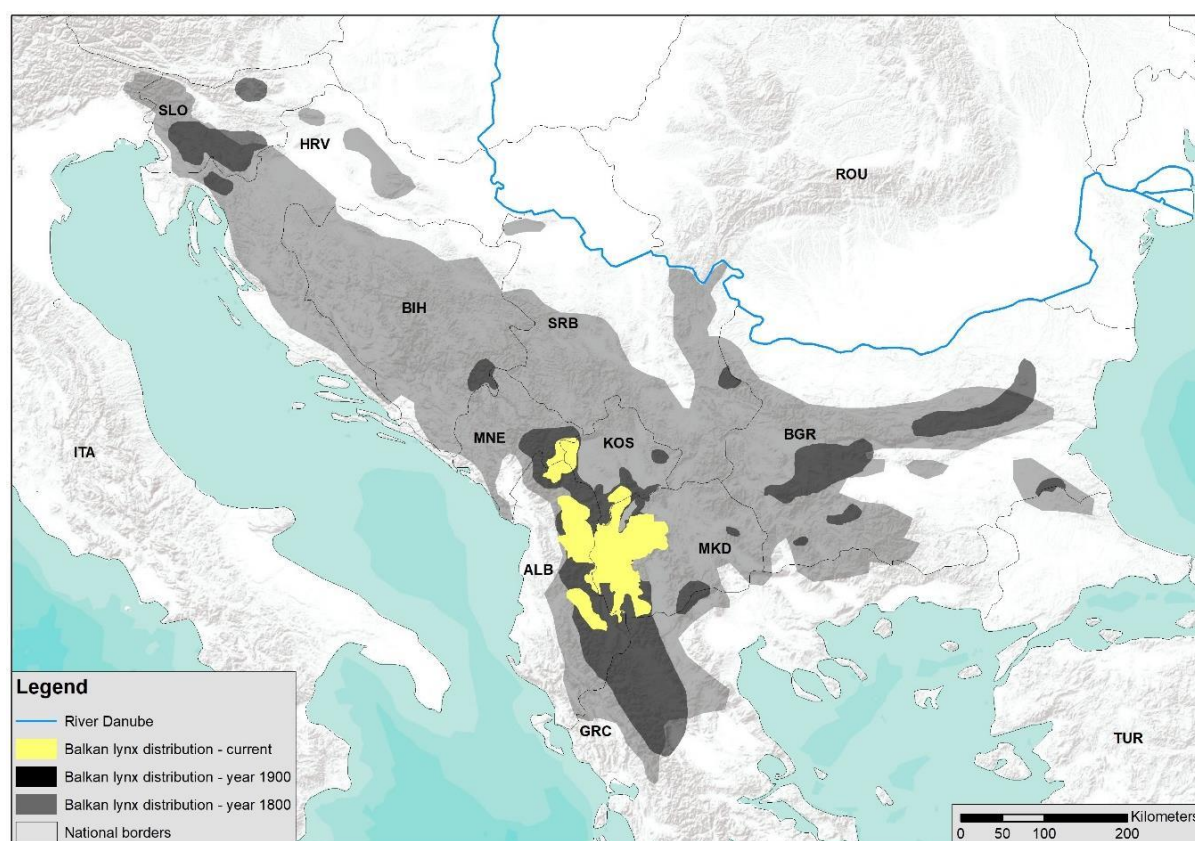
#### 4. Biological data (other than migration)

##### 4.1 Distribution (current and historical)

The Eurasian Lynx has an extensive distribution (Fig. 1). It occurs along forested mountain ranges in Southeastern and Central Europe and from Northern and Eastern Europe through the Boreal forest belt of Russia, down into Central Asia and the Tibetan Plateau (Kaczensky et al. 2012, Nowell and Jackson 1996, Sunquist and Sunquist 2002). The lynx's stronghold is a broad strip of southern Siberian woodland stretching from the Ural Mountains to the Pacific (Matyushkin and Vaisfeld 2003). Subspecies in the southwest of its range (Europe and Asia Minor) are generally small and widely separated. In contrast, the bulk of its range from Scandinavia through Russia and Central Asia is largely homogenous.

In Europe, it was probably absent from some of the larger islands, such as Ireland and Sicily and countries with low forest cover. It was also absent from the Iberian Peninsula, where the smaller Iberian Lynx (*Lynx pardinus*) occurs. Lynx have been extirpated from most of Western and Central Europe except for the Carpathian Mountains. It also survived in a small area in the Balkans (Greece, North Macedonia, Albania, <sup>1</sup>Kosovo and Montenegro). Lynx have been reintroduced in several countries of Europe in an effort to bring back this elusive predator, including in Austria, Czech Republic, France Germany, Italy, Slovenia and Switzerland (IUCN 2007).

The **Balkan Lynx** is distributed in the South-west Balkans, Albania, North Macedonia and <sup>1</sup>Kosovo. Potentially, Montenegro and Greece are also sharing this scattered and fragmented population (Fig. 3). Albania: lynx occur on Munella Mt. and its surroundings in central-north Albania (Trajçe et al. 2014) and Shebenik-Jablanica NP on the eastern border with North Macedonia and Polis-Guri I Zi-Valamara in the south-west of the country. Reproduction was detected in Munella and Polis-Guri I Zi-Valamara. Reports of lynx sightings in northern Albania (the Albanian Alps) have not been confirmed by photos from local inhabitants. North Macedonia: western part, mainly in the areas in and between Mavrovo, Galichica and Pelister national parks, but also in the Shar Planina NP, Jablanica Mt., Stogovo-Karaorman, Ilinska-Plakenska Mts. as well as Jakupica massive. In December 2010, a camera-trapping survey revealed individuals in the central-north part of North Macedonia (Jasen PA) (Melovski et al. 2013). The sightings were confirmed in 2020 and 2021 with camera-trapping and telemetry studies. <sup>1</sup>Kosovo: a camera-trap photo confirmed two lynx present in Prokletije Mt. (Bjeshket e Nemuna) in March 2015 with subsequent detection until 2022. Montenegro: A Baseline Survey in 2013 revealed that two individuals had been killed in 2002 at the southern border with Albania and <sup>1</sup>Kosovo (Prokletije Mt.). Their current presence is, however unlikely. Greece: periodically single, unconfirmed observations are reported from the border regions of Greece with North Macedonia and Albania. Assumed lynx occurrence at the Nestos River delta, east Greece, close to the Turkish border (Panayotopoulou and Godes 2004) was never confirmed by any reliable evidence. Their current presence in Greece is unlikely (Melovski et al. 2015).



**Figure 3.** The historic and current distribution of the Balkan Lynx (Melovski, 2022).

#### 4.2 Population (estimates and trends)

The population trend of the Eurasian Lynx is estimated as stable with no severe fragmentation (Breitenmoser et al. 2015). The European lynx population (excluding Russia and Belarus) has been estimated at 9,000-10,000 (Breitenmoser et al. 2015). The autochthonous populations in north and east Europe (Scandinavian, Karelian, Baltic and Carpathian) number each around 2000 individuals and are thought to be stable or even increasing (Tab. 2). The re-introduced lynx populations number less than 200 or even less than 100 animals, are mostly isolated and classified as Critically Endangered or Endangered. The **Critically Endangered Balkan Lynx population** is thought to be stable with only 20-39 individuals remaining (Tab. 2). Also, the Bohemian-Bavarian and the Vosges Palatinian populations are stable and decreasing and are estimated at 120 and 19 animals, respectively. In the Ukraine the lynx is considered to be decreasing. Its population in the Carpathian region has been estimated at 350-400 and the one in the Polysya region (excluding Belarus) in the north of the country at 80-100 animals (Breitenmoser et al. 2015).

The status of the Eurasian Lynx in Asia is not well known. Rough estimates exist only for a few countries and trends in many countries are poorly understood due to a lack of data. The Lynx population in China was estimated at around 27,000 by the State Forestry Administration in 2009 and is listed as Vulnerable (Wang 1998, Bao 2010). Its population and range are thought to be increasing in Inner Mongolia. In 2003 the lynx population in Mongolia was estimated to be 10,000 (Tab. 2). In Afghanistan the presence of the lynx has been confirmed by camera trap surveys in the Wakhan District of Badakhshan and in the Northern Plateau, Yakawlang District of Bamyán provinces, since 2006. The lynx population in Russia was estimated to number around 22,510 animals in 2013 (Tab. 2). The lynx estimations in different regions of Russia are based on different methods, but mainly on winter tracking and expert opinions. Lynx has been estimated to number 1,940 in the Central region, 4,110 in the North-western region, 680 in the Northern Caucasus, 40 in the Southern region, 2,400 in the Volga



region, 1,070 in the Ural, 6,390 in the Siberian region and 5,890 in the Russian Far East for 2013 (Monitoring and supervision centre for game animals and their habitats (CentrOkhotControl) and with help of V.V. Rozhnov 2014). In Armenia, lynx is thought to be a common species. In Azerbaijan and in Kyrgyzstan, lynx populations are thought to be stable. In Iran the lynx is proposed as Vulnerable and from Iraq since 2011 no observations exist. In Nepal and Pakistan the lynx is considered to be decreasing and in Tajikistan it is considered rare, found in the southern part of the country in the Darvaz range, westernmost part of the Pamir Mountains, the Ghunda valley and the Wakhan valley. In 2003 the lynx population in northern Pakistan was estimated to be 80-120 animals (Tab. 2) and the permanently occupied area in the entire country at around 25,252 km<sup>2</sup> (Sheikh and Molur 2004). In Uzbekistan, the lynx is considered Vulnerable and thought to be decreasing, but it seems to be stable in the Gissar Nature Reserve, with an estimated population of 130 in 2013 (Breitenmoser et al. 2015).

Densities are typically 1-3 adults per 100 km<sup>2</sup>, although higher densities of up to 5/100 km<sup>2</sup> have been reported from Eastern Europe and parts of Russia and lower densities of 0.3/100 km<sup>2</sup> from Scandinavia (Jedrzejewski et al. 1996, Schmidt et al. 2011, Sunde et al. 2000). In the Saihanwula Nature Reserve in Inner Mongolia, the density was estimated at 1.7-2.1/100 km<sup>2</sup> by camera trapping and track survey (Breitenmoser et al. 2015). In Turkey, a density of 4.2/100 km<sup>2</sup> has been estimated for the Ciglikara Nature Reserve, Antalya. However, this high lynx density may be temporarily and may decline with primary prey (hare) fluctuation (Avgan et al. 2014).

The **Balkan Lynx population** is estimated at 20-39 adult individuals (Melovski et al. 2015), and the density fluctuates between 0.8 to 2 individuals per 100 km<sup>2</sup> in the core area (Mavrovo NP in North Macedonia) using deterministic camera-trapping surveys conducted from 2008 until 2022 in seven occasions (Aleksandar Stojanov pers comm). The population is considered stable, but no systematic abundance estimates have been done outside this core area.

**Table 2.** Estimated population size and trends of Eurasian Lynx populations. Red list assessment of European populations is also given according to von Arx (2020). (LC = Least Concern, VU = Vulnerable, EN = Endangered, CR = Critically Endangered)

Population/Country	Size	Trend	RLA Europe
Scandinavian	1,300 – 1,800	Decline	VU
Karelian	ca. 2,500	Stable	LC
Baltic	ca. 1,500	Slight decrease	LC
Bohemian-Bavarian-Austrian	120 (Wöfl, 2020)	Slowly increasing	CR
Carpathian	2,300-2,400	Stable	LC
Alpine	163	Slowly increasing	EN
Jura	140	Slowly increasing	EN
Vosges Palatinian	20 (Idelberger et al. 2021)	?	CR
Dinaric	130	Stable or decrease	EN
Balkan	20 – 39	Stable	CR
Harz	55 (Middelhoff & Anders 2018)	Increase	CR
China	27,000	Decreasing	
Georgia	160	/	

Population/Country	Size	Trend	RLA Europe
Mongolia	10,000	/	
Pakistan	80-120	Decreasing	
Russia	22,700	Stable	
Uzbekistan	130	Stable- Decreasing	

### 4.3 Habitats

The Eurasian Lynx occurs in a wide variety of environmental and climatic conditions (Schmidt et al. 2011). Throughout Europe and Siberia, it is primarily associated with forested areas with good ungulate populations that provide enough cover for hunting. It inhabits extended, temperate and boreal forests from the Atlantic in Western Europe to the Pacific coast in the Russian Far East (Breitenmoser and Breitenmoser-Würsten 2008).

In Europe it can be found from the Mediterranean forests up to the transition zone of taiga to tundra and lives from sea level up to the tree line (Breitenmoser and Breitenmoser-Würsten 2008).

In Central Asia, *L. l. isabellinus* occur in more open, sparsely wooded areas and steppe habitats. The species probably occurs throughout the northern slopes of the Himalayas, and has been reported both from thick scrub woodland and barren, rocky areas above the tree line (Nowell and Jackson 1996, Matyushkin and Vaisfeld 2003, Breitenmoser and Breitenmoser-Würsten 2008). Lynx occur sporadically throughout the Tibetan plateau, and are found throughout the rocky hills and mountains of the Central Asian desert regions (Nowell and Jackson 1996). In Armenia, lynx are strongly associated with forests and arid sparse forests and, to a lesser extent, with subalpine meadows. Lynx have been observed up to 5,500 m (Guggisberg 1975).

**The Balkan Lynx** occupies mixed deciduous and evergreen forests in the mountainous areas in the south-western Balkans. Deciduous forests consist of predominantly European beech, *Fagus sylvatica* and several oak species (*Quercus* spp.), mixed forests comprise more than 18% (mainly beech–fir mixed forests), nearly 10% are shrublands and around 1% are coniferous trees (Macedonian fir, *Abies borisii-regis* and European spruce, *Picea abies*) (Ivanov et al. 2018). The elevation in which Balkan Lynx are found stretches from 500 to 1,800 m, with rare exceptions when they venture into the high-mountain pasture above 1,800 m (up to 2,100 m) crossing territories or hunting Chamois.

According to the results of the “Assessment of the status of ecosystems in protected areas” (2020)<sup>2</sup>, the natural habitats of the Balkan lynx in North Macedonia (specifically the national parks) and the identified ecosystems are assessed with very good to excellent status/condition. This, in turn, proves the existence of the necessary natural conditions for the existence of the Balkan lynx, and requiring implementation of measures to maintain and improve the status, thus enabling for the protection and conservation of the species.

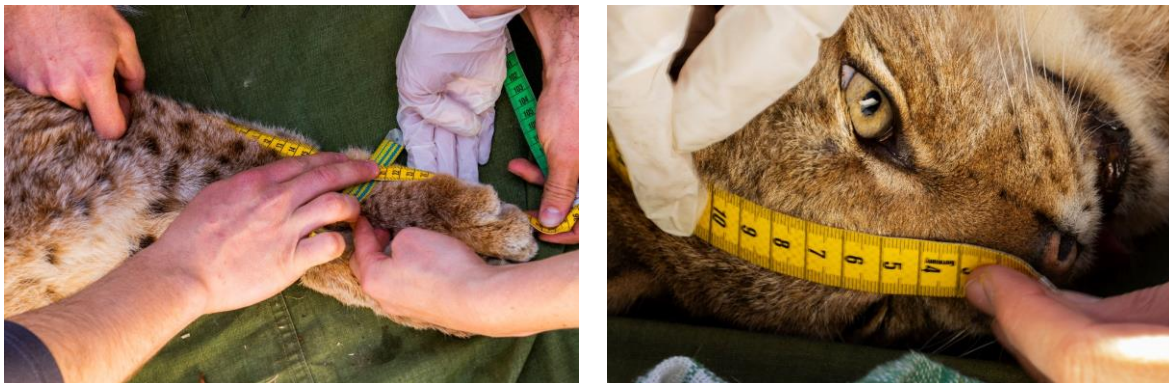
### 4.4 Biological characteristics

The Eurasian Lynx is a medium-sized cat with a body length ranging from 80 to 110 cm and a shoulder height 50–60 cm. The males are on average 20-25% larger than females. In

<sup>2</sup> Assessment performed within the framework of the “Nature Conservation Program in North Macedonia” financed by the Swiss Development Cooperation, with the objective to support the country in providing greater protection of the rich biodiversity and natural ecosystems through promotion of their sustainable management and use

Europe, adult males have a weight that varies from 20–26 kg, females 16–20 kg. The Caucasian lynx in Asia Minor are much smaller, with females weighing 13.1 kg while males are 16.6 kg on average (Melovski et al. 2022). Five different coat patterns are described with different representation in the species' distribution range. Most lynx are either of the large spotted (41.5%) or unspotted (uniform, 36.2%) phenotype. The remaining patterns (rosettes, small spots and pseudo-rosettes) are represented in 11.0%, 7.4%, and 3.9% of samples, respectively (Darul et al. 2022).

Out of 13 measured adult **Balkan Lynx** (7 males and 6 females), the average body size is 101 cm for males and 93 cm for females and their weight is 21.7 and 16.3 kg, respectively (Fig. 3) (Dime Melovski pers. comm.). Four coat types have been documented in the Balkan population: large spots, small spots, unspotted and (rarely) rosettes.



**Figure 4.** Measurements of Balkan Lynx named Lisa in 2020. Photos: Sebastian Kennerknecht.

Eurasian Lynx is a solitary felid reproducing once per year. During the mating season, lynx can be active during the day more often than usual. During this time, the adults most often use calls for communication. The general timing of the reproductive cycle of the Eurasian Lynx is mating in late winter/early spring (from March to mid-April) and giving birth after a gestation period of 66–70 days (Mattison et al. 2022). Between late May and early June, one to four (average two) blind cubs are born in a protected den (cave, fallen tree). The female rears its young alone. Young lynx nurse primarily on milk until the age of about two months, when they can follow the mother to a kill site. The cubs stay with the mother for roughly ten months before becoming independent and seeking their own territories. Life expectancy is up to 20 years in the wild.

#### 4.5 Role of the taxon in its ecosystem

Throughout the distribution range of the Eurasian Lynx, they act as a top predator in Europe (alongside the wolf). In Asia, a part of the Eurasian lynx distribution overlaps with much larger felids, the tiger and the leopard. As top predators, they can influence the population sizes, distribution, and behaviours of some prey species. Ungulates make up most of their diets and a single lynx can consume 1 to 2.5 kg of meat per day. In regions where game hunting is not practised, Eurasian Lynx may play a role in controlling deer populations. They can kill from 10 to 40% of Roe deer, Red deer, and Chamois populations annually. This is highly dependent on lynx density, ungulate density, and other causes of ungulate mortality. The greatest impact is usually seen in Roe deer and Chamois populations. Eurasian Lynx are also affected by numerous internal and external parasites. (Molinari-Jobin, et al. 2002). Besides this, the Eurasian Lynx can control mesopredators through the so-called mesopredator release, where increased abundances of medium-sized predators have detrimental effects on prey communities (Pasanen-Mortensen et al. 2013).

## 5. Conservation status and threats

### 5.1 IUCN Red List Assessment (if available)

IUCN classifies the Eurasian Lynx as Least Concern given its wide range and stable populations in the north of Europe and large parts of its range in Asia (Bao 2010, Bersenev et al. 2011, Kaczensky et al. 2012, Moqanaki et al. 2010, Matyushkin and Vaisfeld 2003). A recent assessment of the status of Eurasian Lynx in Europe shows that some isolated subpopulations remain Critically Endangered or Endangered (Kaczensky et al. 2012) (Tab. 2). Among the subspecies, *L. l. lynx* and *L. l. wrangeli* are likely to be considered Least Concern, whereas the status of the other subspecies is either unknown or should be considered within the threat categories. However, only the Balkan Lynx has been assessed at the subspecies level, so far. **Balkan Lynx** was listed as Critically Endangered in 2015 based on small population size, criterion D, as the number of mature/adult individuals is estimated to be less than 50. The population is estimated to be 27-52 independent (adult and subadult) animals, corresponding to about 20–39 mature individuals. Currently, its distribution is restricted to three countries: North Macedonia, probably hosting around 70% of the population and Albania and Kosovo, with the rest of the individuals. The range is divided into two nuclei, indicating population fragmentation (Melovski et al. 2015).

### 5.2 Threats to the population (factors, intensity)

The major threats to lynx in Europe are low acceptance due to conflicts with hunters (and in northern Europe also with livestock farmers), persecution, habitat loss and fragmentation mainly due to infrastructure development, poor management structures and accidental mortality (Kaczensky et al. 2012). In the Jura Mountains human-related mortalities (traffic accidents, poaching) were responsible for 70 % of the known losses (Breitenmoser-Würsten et al. 2007). There are also concerns regarding the low genetic diversity and small population sizes shown in some populations (Breitenmoser-Würsten and Obexer-Ruff 2003, Kaczensky et al. 2012, Schmidt et al. 2011, Sindjic et al. 2013, Mueller et al. 2022). The general and most serious **threats to the Balkan Lynx population** are: small population size, limited prey base, habitat degradation (especially in Albania) and poaching. The fact that the population size is estimated to be only 20-39 mature individuals is posing a significant threat of extinction to the Balkan Lynx also from the perspective of genetic deterioration and potential inbreeding depression (conclusions from the Genetic Workshop held in Zäziwil, Switzerland 02-04. Nov. 2022).

In Asia the major threats are habitat loss and fragmentation mainly due to livestock farming, infrastructure development, resource extraction and logging activities, and poaching, mainly as retaliatory killing due to livestock depredation or for the fur trade (Kretser et al. 2012, Mousavi et al. 2014). In areas where livestock is the primary livelihood source, the conflict is even enhanced. Other threats include accidental mortality through trapping or dogs and human disturbance (Bao 2010). In Russia the Lynx is still important for the skin market and the pelt industry. In Azerbaijan, Mongolia and Pakistan prey base depletion due to poaching is considered a major threat (Clark et al. 2006, Ud Din and Nawaz 2010). In Turkey and Nepal low population size is assumed to be problematic.

In Ukraine, poor management structures, insufficient law enforcement, and the lack of capacity and funding facilitate poaching and lead to higher habitat fragmentation, aggravating the situation of the lynx (Shkvyria 2012).

Climate change is an overarching threat that, rather than affecting the lynx directly on a physiological level, can act as an amplifying factor to any or all of the existing threats. While the precise impacts and mechanisms remain largely unstudied, several authors have warned

for climate change's potential to impact lynx populations based on modelling efforts taking into account climate predictions.

Climate change has been noted to increase the risks associated with population-level low genetic variability<sup>3</sup>.

It impacts current habitat characteristics and has been predicted to reduce the extent of suitable habitat in a number of populations (decreasing trends have been predicted in Europe, Iran, and Central Asia, as well as in Canada and continental US for the Canada lynx *Lynx canadensis*<sup>4</sup>). Mechanisms remain unclear, but habitat suitability may decrease either by reducing snow cover or vegetation cover needed for successfully hunting prey, or by impacting the (i) size, (ii) distribution and/or (iii) movement patterns of prey populations.

### 5.3 Threats especially related to migration

The already established network of motorways in Central and Western Europe pose a serious connectivity problem for the already fragmented and small reintroduced lynx populations. In particular, there is a big effort to connect the Dinaric population ranging in Bosnia, Croatia and Slovenia with the Alpine population in Italy (<https://www.lifelynx.eu/about-the-project/>). The motorway connecting Ljubljana and Trieste poses a permanent barrier with only few possibilities for crossings. Connecting the rest of the Alpine populations (in Switzerland, France and Austria) remains a challenge and will mostly depend on translocations and reintroductions, as it was done in Kalkalpen National Park (Upper Austria) in 2011 and 2013 (Fuxjäger 2014). The most important area for the Alpine lynx population is in the north-western Alps (western Switzerland), followed by north-eastern Switzerland and the south-eastern Alps (Italy and Slovenia). Both populations are the result of reintroductions in the early 1970s with very few founder animals, and both populations show a high inbreeding coefficient today. Two other smaller nuclei lie in the Chartreuse (France) and the Kalkalpen region (Schnidrig et al. 2016). The German Alps are still without a reproducing lynx nucleus and the nearest lynx sub-populations are found in north-eastern Switzerland (distance 70 km) and in Slovenia (distance 180 km), besides the population in the Bohemian Forest Ecosystem, which is however separated from the Alps by open agricultural land (Schnidrig et al. 2016). Although the Alpine lynx population is still far from being (genetically) viable, it is the only mountain range in Western and Central Europe that could host an isolated viable population considering its suitable habitat. The Alps are hence a future stronghold for the species and also crucial concerning connecting with neighbouring populations, e.g. the Dinaric, Bohemian-Bavarian-Austrian, Black Forest and Jura Mountains populations (von Arx et al. 2021; Molinari-Jobin et al. 2021). The overall goal is to build up a large Central European metapopulation (Bonn Lynx Expert Group 2021). However, reduced habitat availability may make interpopulation movements more difficult and lead to further genetic isolation. Shifting habitats may cause existing human infrastructure networks to cause (dispersal/migration) movement barriers in different locations than is currently the case, hence making current investments in 'permeable' infrastructure potentially useless, if climate predictions are not taken into account for their planning.

<sup>3</sup> <https://onlinelibrary.wiley.com/doi/full/10.1111/j.1365-2907.2010.00180.x>

<sup>4</sup> [https://www.researchgate.net/profile/Bahman-Shams-Esfandabad/publication/340064870\\_Potential\\_impact\\_of\\_climate\\_change\\_on\\_the\\_distribution\\_of\\_the\\_Eurasian\\_Lynx\\_Lynx\\_lynx\\_in\\_Iran\\_Mammalia\\_Felidae/links/5ef36ed2299bf15a2e9d4d6d/Potential-impact-of-climate-change-on-the-distribution-of-the-Eurasian-Lynx-Lynx-lynx-in-Iran-Mammalia-Felidae.pdf](https://www.researchgate.net/profile/Bahman-Shams-Esfandabad/publication/340064870_Potential_impact_of_climate_change_on_the_distribution_of_the_Eurasian_Lynx_Lynx_lynx_in_Iran_Mammalia_Felidae/links/5ef36ed2299bf15a2e9d4d6d/Potential-impact-of-climate-change-on-the-distribution-of-the-Eurasian-Lynx-Lynx-lynx-in-Iran-Mammalia-Felidae.pdf)  
<https://www.mdpi.com/2071-1050/14/15/9491>  
<https://conbio.onlinelibrary.wiley.com/doi/full/10.1111/j.1523-1739.2007.00719.x>  
<https://www.nature.com/articles/nclimate1954>  
<https://www.scielo.br/j/cerne/a/QLHfVMCBKQS38SzyfwBy6Tw/>

The situation in the Southwestern Balkans, **the native range of the Balkan Lynx**, is still relatively well connected regarding fragmentation. However, the non-EU countries are in the phase of rapid development, which foresees meeting their increasing economic and energy demands. This, potentially, means fragmentation caused by road and hydropower construction (artificial lakes on rivers). Due to the highly mountainous terrain of western parts of North Macedonia and eastern Albania, major infrastructure projects circumvent the main distribution patches of the Balkan Lynx, but the future potential of dispersal could be hampered if such projects are done without any structures for crossing.

#### 5.4 National and international utilization

In Sweden, Finland and Romania the lynx is protected, but a limited number of lynx can be killed under derogation. In Estonia and Norway, the lynx is listed as a game species with an open hunting season and in Latvia, lynx can be exploited to a limited extent by sports hunting (Kaczensky et al. 2012). The lynx is also subject to hunting in Iraq and Russia. In Russia, the lynx is hunted in places where it is abundant as in some areas of the Central region and the Volga region, in most areas of the North-Western region, the Ural, the Siberian region and the Russian Far East (Breitenmoser et al. 2015).

### 6. State of protection and management of species

#### 6.1 National protection status

The lynx is protected and hunting is prohibited in Afghanistan, Albania, Austria, Azerbaijan, Belarus, Bulgaria, China, Croatia, Czech Republic, France, Georgia, Germany, Greece, Hungary, Iran, Italy, Kazakhstan, Kyrgyzstan, Liechtenstein, Lithuania, North Macedonia, Nepal, Pakistan, Poland, Serbia, Slovakia, Slovenia, Switzerland, Tajikistan, Turkey, Turkmenistan and Uzbekistan (Breitenmoser et al. 2015).

**The Balkan Lynx** is listed as strictly protected in all three range countries: North Macedonia, Albania and <sup>1</sup>Kosovo, and a compensation system for damage to livestock has been established in North Macedonia (Melovski et al. 2018). The Balkan Lynx has been under strict protection since 1951, which is relevant for both North Macedonia and <sup>1</sup>Kosovo which were part of Yugoslavia until 1991 (Melovski, 2022).

#### 6.2 State of international protection

The Eurasian Lynx is protected by the EU Habitats Directive: Annex II (designation of special areas of conservation for these species, which must be managed according to the ecological needs of the species) and Annex IV (strict protection – protected from killing, disturbance or their destruction or destruction of their habitats).

The Convention on the Conservation of European Wildlife and Natural Habitats - Bern Convention - lists the Eurasian Lynx under Appendix III (protected fauna species - special protection through 'appropriate and necessary legislative and administrative measures', of the listed wild fauna species). **The Balkan Lynx**, as a subspecies, is listed under Appendix II (Strictly protected fauna species) in 2017 during the 37<sup>th</sup> meeting of the Standing Committee of the Convention.

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) lists the Eurasian Lynx under its Appendix II. This includes species not necessarily threatened with extinction, but in which trade must be controlled in order to avoid utilization incompatible with their survival.

### 6.3 Management measures

From most range states outside Europe there is only sparse information available on the lynx populations. Data on population trends is mainly missing. There is a need for management improvement, better monitoring and more research on lynx ecology and distribution in Asia to increase the knowledge on the population status and trend, as well as on threats and conservation needs (Moqanaki et al. 2010, Bao 2010). This is very relevant for the management measures that are lacking in most Asian populations.

On the European level, a number of pan-European or transboundary conservation assessments and strategies were produced:

- Action Plan for the Conservation of Eurasian Lynx (*Lynx lynx*) in Europe (Breitenmoser et al. 2000);
- The Pan-Alpine Conservation Strategy for the Lynx (Molinari-Jobin et al. 2003);
- Status and conservation of the Eurasian Lynx (*Lynx lynx*) in Europe in 2001 (von Arx et al. 2004);
- **Conservation Strategy and National Action Plans for the conservation of the Critically Endangered Balkan Lynx** (Council of Europe 2011);
- Key actions for Large Carnivore populations in Europe (Boitani et al. 2015);
- Lynx in the Alps: Recommendations for an internationally coordinated management (Schnidrig et al. 2016);
- *Lynx lynx*: European regional assessment in the IUCN Red List of Threatened Species (von Arx 2018).

All the reintroduced European lynx populations are relatively small and, to a certain degree, fragmented, which implies fostering the natural and assisted connectivity between populations of the same phylogenetic units (e.g. subspecies or Evolutionary Significant Unit, ESU) in order to secure the long-term maintenance of large viable metapopulations (Bonn Lynx Expert Group, 2021). For this reason, a stepping-stone approach was implemented where several lynx have been released (translocated or reintroduced) into four different sites in the Alps (Molinari et al. 2021).

Some research results<sup>5</sup> show that a carefully planned reintroduction programme, accounting for the effects of climate change, prey abundance and habitat connectivity, could avert extinction.

Few transboundary projects kicked off in recent years trying to boost the decreasing and inbred reintroduced population and/or foster connectivity. The LifeLynx (<https://www.lifelynx.eu/about-the-project/>) project started in 2017 with a duration of 7 years between Croatia, Slovenia and Italy with the main objective to genetically rescue the Dinaric-SE Alpine lynx population from extinction.

In some parts of its range in Asia, awareness for the species was enhanced as for example in Iraq, where stakeholders, students and social media were engaged in stopping illegal hunting or as in Afghanistan, where public awareness has been raised among local communities, particularly in Badakhshan and Bamyán Provinces, wildlife laws have been enforced in some areas and the Border Police and Customs office in certain parts of the country have been trained to control the fur trade. In China the patrolling by local police was strengthened and a nature reserve network was established to expand suitable lynx habitat. In Iran, a preliminary status assessment of the lynx was conducted from 2006-2009 and a country-wide status assessment from 2010-2012 (Moqanaki et al. 2010, Mousavi et al. in press). In Pakistan, measures specific to carnivore conservation have been introduced, which also benefit the lynx. In 2010, a project focusing on lynx research and conservation education has been

<sup>5</sup> <https://www.nature.com/articles/nclimate1954>

implemented and the protected area network has been increased. In Tajikistan, measures adopted to reduce conflicts with Snow Leopards are beneficial for lynx as well.

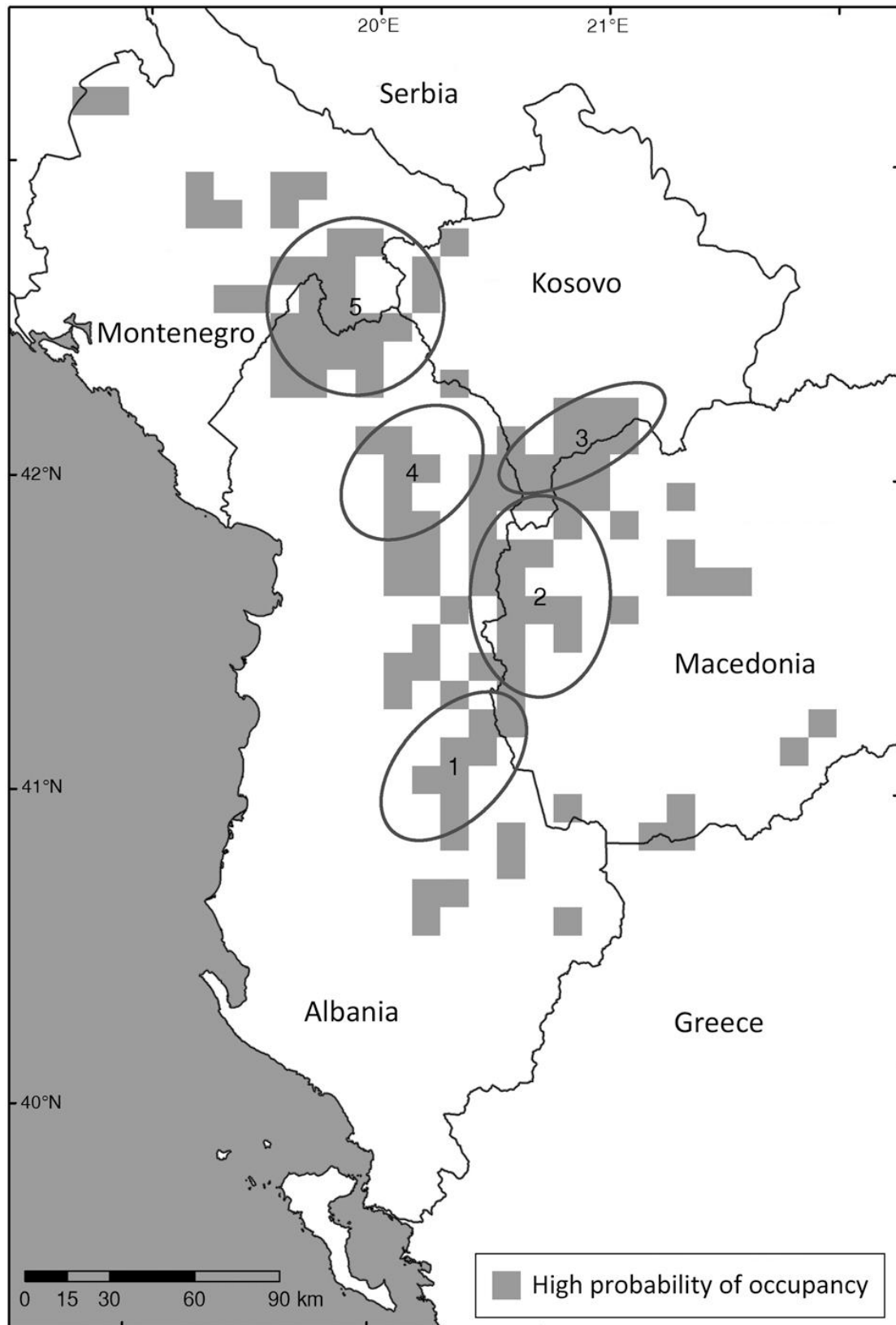
The conservation measures in place for the **Balkan Lynx** have been done through the Balkan Lynx Recovery Programme, a partnership project between NGOs from North Macedonia, Albania and Kosovo, with expert guidance from partners from Switzerland, Germany and Norway (Breitenmoser et al. 2008) that started in 2006. The programme is ongoing and represents an interdisciplinary approach to species conservation, which rests on three pillars of species protection, habitat protection and human dimensions. The Regional Conservation Strategy that was prepared in 2008 is now outdated, while a new one is foreseen for the last extension of the Programme (2022-2027). This phase is also looking to fight the recently confirmed high degree of inbreeding to the population (Bazzicalupo et al. 2022), potentially reinforcing it with individuals from Caucasian or Carpathian subspecies (Melovski et al. 2022).

#### 6.4 Habitat conservation

Forest degradation, which has been reported as one of the main conservation threats for lynx throughout Europe (Breitenmoser et al. 2000), appeared to be intensive throughout the entire potential range of the **Balkan Lynx**, including the core areas (Melovski et al. 2018). Five priority conservation areas for the Balkan Lynx have been confirmed to be of utmost importance for the population. Two of these areas emerge as the core areas: Mavrovo National Park in North Macedonia and the Munella Mountains in central-north Albania (Fig. 4, areas 2 and 4). The other three areas that should be considered important for the recovery of the Balkan Lynx and protected effectively are the Macedonian part of the Shar Planina Mountains (Fig. 4, area 3), the Shebenik–Jablanica Mountains (Fig. 4, area 1) and the Albanian Alps (Fig. 4, area 5) (Melovski et al. 2018). All these areas are under a certain category of protection, areas 1, 2, 3 and 5 are national parks (category II according to IUCN), while area 4 is a nature park (category IV according to IUCN) (Fig 4.). These protected areas could further be affected by climate change mostly in relation to the suitable habitat changes and prey composition.

No relevant information on habitat conservation pertaining to the Eurasian lynx is available for Asia.





**Figure 5.** Five important areas for the conservation of the Balkan Lynx, identified based on occupancy modelling and questionnaire surveys: 1, Shebenik–Jablanica and surroundings; 2, Mavrovo National Park and surroundings; 3, Shar Planina Mountain; 4, Munella Mountains and surroundings; 5, Albanian Alps. (Melovski et al. 2018).

## 6.5 Population monitoring

With the long-term idea of connecting all central-west European populations into one metapopulation, systematic and coordinated monitoring is important. The pan-European review of the conservation status of the European lynx populations was coordinated by the Large Carnivore Initiative for Europe (LCIE). A comprehensive assessment is performed every six years based on the IUCN Red List assessment procedures (von Arx 2018; von Arx et al. 2021). The pan-European assessment is a compilation of population and country-oriented information ranging from expert opinion to robust quantitative abundance estimations. A number of countries have adopted specific protocols for the monitoring of lynx (e.g. Breitenmoser et al. 2006; Reinhardt et al. 2015; Gimenez et al. 2019; Zimmermann 2019), and for several populations, a transboundary coordinated monitoring scheme or at least a procedure for the common interpretation and release of monitoring reports have been established (e.g. the Norwegian-Swedish Instructions for lynx monitoring; Alps, Molinari-Jobin et al. 2021; Bohemian-Bavarian-Austrian population, Wölfl et al. 2021). Monitoring the conservation status of a species includes information on distribution, population size, population dynamics (demography), health, genetic status, threats and conflicts (Bonn Lynx Expert Group, [2021](#)).

Besides monitoring the distribution and population abundance, one of the recommendations from the Bonn Lynx workshop in 2021 was a regular genetic monitoring (Bonn Lynx Expert Group, [2021](#)). Genetic monitoring is important for all small, reintroduced, isolated, and fragmented populations and those that went through a severe historic bottleneck. In other words: for all European lynx populations. The reintroduced populations will not be (genetically) viable in the foreseeable future, so they need short- to long-term genetic management.

In the Asian range of the Eurasian lynx, figures related to the surveillance of game and wildlife animals is done in Russia, based on unclear methods used. Otherwise, no systematic monitoring of the species is done.

The **Balkan Lynx** population's systematic monitoring of abundance and density is taking place through the Balkan Lynx Recovery Programme (see chapter 6.3). The camera-trapping monitoring started in 2008 in the core area, Mavrovo NP. So far, 7 deterministic sessions have been completed and the density fluctuates between 0.8 and 2 individuals per 100 km<sup>2</sup> (see chapter 4.2). During the project's current phase, a genetic monitoring will be conducted yearly due to the recently discovered high inbreeding coefficient (Bazzicalupo et al. 2022).

## 7. Effects of the proposed amendment

### 7.1 Anticipated benefits of the amendment

Having one of the largest distribution ranges of all carnivore species, the Eurasian Lynx populations are often shared between different countries, compelling transboundary approaches for research, monitoring, protection and management. On the one hand, most of the European populations are nationally protected, but national populations are typically below viable size. Contrary, populations in Asia are usually large, but in most of these ranges (Russia for example) the lynx is a game animal. Listing the Eurasian Lynx on Appendix II and the Balkan Lynx on Appendix I of the Convention of the Migratory Species, will ensure the following benefits:

- ✓ Increased global awareness of the conservation status of the Eurasian Lynx;
- ✓ Proving another important instrument/tool in the international and national policies for nature protection and conservation, including the populations of the Eurasian lynx species and the Balkan lynx as sub-species;
- ✓ Increased support for ongoing national and regional lynx conservation programmes;

- ✓ Contribution to the implementation of the National Biodiversity Strategies, the National Nature Protection Strategies, as well other strategic/planning documents of range countries;
- ✓ Support to the implementation of the EU Habitats Directive, specifically the Natura 2000 provisions;
- ✓ Contribution to fulfilment of the objectives of the Global Biodiversity Framework, UN Convention on Biological Diversity (CBD), EU Biodiversity Strategy, the EU Green Deal (Biodiversity Pillar);
- ✓ Contribution to the implementation of the commitments stemming from the Bern Convention;
- ✓ Contribution to the programmes and activities of the IUCN Species Survival Commission;
- ✓ Integrated protection of the lynx by establishing a transboundary cooperation within the protected areas networks/Emerald and Natura2000 sites;
- ✓ Strengthening the monitoring activities in the range countries of the Eurasian lynx;
- ✓ Provides possibilities for identifying green infrastructure to ensure the invaluable migration of the lynx, especially through the (climate-proofed) existing biocorridors, protected areas and ecological networks;
- ✓ Strengthening the institutional capacities of all relevant national and international stakeholders in regards to the monitoring activities;
- ✓ Strengthening the institutional capacities of the Balkan lynx range countries for development and implementation of projects within the framework of the EU LIFE Program and various aspects related to the protection of the Balkan lynx and its natural habitat;
- ✓ Motivation for research of populations in Eastern Europe and Asia, where research is lacking;
- ✓ Foster better monitoring of the Asian population for more accurate global and regional assessment of populations, ESU and/or subspecies;
- ✓ Possibility of agreements (e.g. concerted actions, memoranda of understanding) between range states sharing populations for cooperative implementation of conservation measures and action plans, which is especially relevant in Asia;
- ✓ Motivate governments in the developing countries of the Eurasian Lynx distribution range to act promptly on conservation measures to recover native populations that are threatened.

## 7.2 Potential risks of amendment

None.

## 7.3 Intent of the proponent on the development of an Agreement or Concerted Action

The Eurasian lynx in Europe is relatively well monitored and the exchange of information is organised through the IUCN SSC Large Carnivore Initiative for Europe (<https://www.lcie.org/>); the EUOLYNX (European Lynx Information System) platform, an open, collaborative project based on a spatial database that stores shared Eurasian lynx data and also through the six-year reporting of the EU member states in the frame of the Habitats Directives. However, the recovery and maintenance of wide-spread viable populations especially in Western and Central Europe (e.g. in the realm of the Carpathian lynx) would require much more international and transboundary cooperation, what could also be facilitated by CMS in cooperation with other Conventions.

Most of the basic information to assess the conservation status and suggest sensible conservation approaches are missing for the vast range of the European lynx in Asia, including climate impacts on habitat and prey. But the distribution range indicates that especially the Central Asian subspecies is mostly transboundary and probably at very low population density. Here, exchange of information, capacity building e.g. regarding the monitoring, and eventually transboundary cooperation for the conservation of the species would be needed. CMS could – especially in the frame of its Central Asian Mammal Initiative (CAMI) – facilitate the cooperation of the Range States and the creation of a sound knowledge base.

The **Critically Endangered Balkan lynx** (proposed to be added to Appendix I) urgently needs immediate implementation of conservation actions. The only confirmed reproduction in the last years was in the border area of North Macedonia and Albania, with dispersing lynx occasionally showing up in other countries in the south-western Balkan Peninsula. Very close cooperation among the present Range States is needed, and CMS could here facilitate the development and implementation of a common, transboundary conservation strategy.

## 8. Range States

Resident status: Afghanistan; Albania; Armenia; Austria; Azerbaijan; Belarus; Bosnia and Herzegovina; Bulgaria; China; Croatia; Czechia; Estonia; Finland; France; Georgia; Germany; Hungary; India; Iran, Islamic Republic of; Iraq; Italy; Kazakhstan; Korea, Democratic People's Republic of; <sup>1</sup>Kosovo; Kyrgyzstan; Latvia; Liechtenstein; Lithuania; Mongolia; Nepal; North Macedonia; Norway; Pakistan; Poland; Romania; Russian Federation; Serbia; Slovakia; Slovenia; Sweden; Switzerland; Tajikistan; Turkey; Turkmenistan; Ukraine; Uzbekistan.  
Presence uncertain: Bhutan; Greece; Moldova; Montenegro.

## 9. Consultations

In early 2023, the UNEP Vienna Programme Office has approached the Macedonian Ministry of Environment and Physical Planning with a proposal/initiative for a possible listing of the Eurasian Lynx in Appendix II and the Balkan Lynx (as subspecies of the Eurasian lynx) in addition to the Appendix II also in Appendix I to the Convention for Conservation of Migratory Species of Wild Animals.

If accepted, this initiative is expected to contribute greatly to the conservation of this endangered species, especially in terms of protection on policy level, has potential to attract more funds to implement further conservation measures, as well as improve transboundary cooperation between neighboring and range countries.

Following the initiative, the **Ministry of Environment and Physical Planning of North Macedonia** has conducted the national consultation process and reached out to the key relevant institutions, resulting with UNANIMOUS POSITIVE SUPPORT. A summary of the responses is provided in the following table (original letters can be provided accompanying the proposal):

Institution	Opinion
CSO "Centre for research and information on the environment" Eko-Svest Skopje	Positive and supportive Will bring benefits for the lynx and other species in its natural areal
Macedonian Academy of Sciences and Arts MANU	Full support of the initiative
National Park Mavrovo (core area of the Balkan lynx)	Fully supportive Another international mechanism for protection and conservation of the species

Institution	Opinion
Faculty of Natural Sciences and Mathematics UKIM Skopje	Fully supportive Protection not only at national, but also at international/transboundary level International monitoring and protection needed
CSO Macedonian Ecological Society MES Skopje	Fully supportive of the need for national, transboundary/international context/protection and monitoring Awareness raising Capacity building needs
National Park Pelister	Positive opinion
Multi-purpose area Jasen	Positive opinion
National Park Galichica	Positive opinion Welcoming additional mechanisms for protection
National Park Shar Planina/Mountains	Strong support for protection of the lynx and other species in its natural area

The initiative is also supported by the relevant authorities of **two entities of Bosnia and Hercegovina**. In Republika Srpska entity, the *Lynx lynx* is placed under protection with the Law on Hunting of RS and the Regulation/Decree on strictly protected and protected wild species of RS.

Similarly, the representative of the Federation Bosnia and Herzegovina has indicated that the *Lynx lynx* is part of the Red List of endangered wild species and sub-species of plants, animals and fungi of FBiH and protected in line with the Rulebook on the measures for protection of strictly protected and protected species and sub-species of FBiH (Annex II).

The proposal for inclusion of the Eurasian Lynx (*Lynx lynx*) in Appendix II and Balkan Lynx (*Lynx lynx balcanicus*) in Appendix I of CMS has been drafted by the Ministry of Environment and Physical Planning of North Macedonia (Nature Department) and the national expert Dr Dime Melovski, with support from international experts Dr Urs Breitenmoser, Dr Marco Heurich and Dr Maarten Hofman.

The proposal has been shared with and supported by the **Government of Uzbekistan**, the host of the upcoming CMS COP.

Following the CMS procedures, the proposal has been shared with the focal points of all range countries.

The Ministry of Tourism and Environment of the **Republic of Albania** has shared the information that the Balkan lynx holds Critically Endangered (CR) status and is strictly protected since 1969. It is mainly threatened by illegal hunting, forest logging and habitat degradation, as well as the lack of prey. This subspecies is fully protected under the Albanian legislation, as well as by International Conventions. It is part of CITES and listed in Appendix II of Bern Convention. Based on this, the Republic of Albania fully supports and joins the initiative.

In addition, the representative of the Ministry of Agriculture (Biodiversity and Gene Conservation Department) of the **Republic of Hungary** has indicated that the proposal for listing the Eurasian Lynx (*Lynx lynx*) in CMS Appendix II, and for the inclusion of the Balkan Lynx (*Lynx lynx balcanicus*) in Appendix I, appears to be well-founded. According to the text of the Convention, the species seems to meet the criteria for migratory species, as its populations cross national borders, also during dispersion. Transboundary cooperation is required to implement coordinated and effective conservation measures to preserve or create

the network of habitats in EU and non-EU countries to guarantee the connectivity between the subpopulations to prevent further fragmentation and to maintain genetic diversity, and to mitigate the threats – habitat loss, conflicts, persecution, poaching – both in Europe and Asia. The population of the Balkan Lynx of less than 50 adult individuals is extremely fragile. Considering the increasing pressure on large carnivores, the ongoing human-wildlife conflicts and the expanding human infrastructure, the addition of the Balkan subspecies to Appendix I is to be supported.

Furthermore, the CMS representative from the relevant ministry of the **Republic of France** had informed the team on the recent development of a new action plan to support the protection of the Lynx lynx ([pna lynx versioncnpnv2 annexes.pdf \(developpement-durable.gouv.fr\)](#)).

## 10. Additional remarks

None.

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