

## 4.2 Eurasian lynx in the Czech Republic and its chance for survival

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### 4.2.1 Introduction

Like in other areas of Central Europe, the Eurasian lynx was exterminated in the territory of the Czech Republic in the 18<sup>th</sup> and 19<sup>th</sup> centuries (Kratochvíl & Vala 1968; Butzeck *et al.* 1988; Breitenmoser *et al.* 1998; Huber & Kaczensky 1998; Kaczensky 1998, Molinari 1998; Ragni *et al.* 1998; Stahl & Vandel 1998). However, in the second half of the 20<sup>th</sup> century it began to spread again from the Slovak Carpathians (Kratochvíl 1968; Hell 1974; Červený *et al.* 1996). During 1970–1989 some 22–27 animals were released to replenish the population on both the Bavarian (Bayerischer Wald) and Czech (Šumava Mts) sides (Červený & Bufka 1996). The lynx population was at its peak in 1997–1998, when its estimates ranged between 100 and 150 individuals (Červený *et al.* 2001). The growth of the lynx population was followed by its spread to the neighbouring countries, Germany and Austria, and the increasing conflicts with livestock breeders and hunters who claimed that their game was suffering increased „damage“ from this predator. Although the lynx has been under legal protection in the Czech Republic since 1947 respectively 1965 (provided for in both hunting and nature protection legislation), it often falls victim to illegal hunting. The document ‚The Management Plan of the Lynx Population in the Czech Republic‘ (dated 1998) divided the Czech Republic into three zones with different level of lynx protection, exceptional legal shooting being allowed in two of them (Koubek *et al.* 1997). However, the aforesaid regulations were not observed by hunters. More than 50 skulls of poached lynx were received for craniometric examination during the period of 1989–2002 alone (Červený & Koubek 2000). Thus the fate and survival of the lynx in the Czech Republic is primarily in the hands of hunters.

### 4.2.2 Material and methods

Changes in the abundance of the lynx population have been monitored on the basis of regular evaluation and interpretation of all available information. Every year, the number of lynx is estimated on the basis of snow tracking in the areas of their regular occurrence (Červený &

Bufka 1996; Kunc 1996). Since 1993, questionnaires on actual occurrence of the species have been regularly sent to all the 5.576 hunting districts in the Czech Republic and 39 regional authorities of State Nature Protection (Červený *et al.* 1999). Radio-telemetric monitoring of the lynx in the Šumava Mountains has been carried out since 1996 (Bufka *et al.* 2000). All casual observations, those from the border zones of the neighbouring states including (Hell & Slamečka 1996; Wölfl *et al.* 2001), as well as published information, have also been recorded. Last but not least, information from the annual (spring) game surveys (in relative values), covering the whole Czech territory has also been made use of (Červený *et al.* 2001). Thus on the whole, 4.873 records of lynx occurrence were obtained from the beginning of the year 1990 until the end of 2002. Changes in the lynx population were evaluated mainly in the form of maps of the species distribution in standard squares of the RFME system (P6' × M10') mapping network, the size of each square equalling 134.4 km<sup>2</sup> (11.2 × 12 km) (Slavík 1971). Studies of changes in the lynx population covered the following periods: 1990–1994, 1995–1999 and 2000–2002. Changes in the number of lynx were expressed on the basis of comparisons of relative percent values of the stock from spring surveys, presented in game management statistics.

The attitude of hunters to the lynx (the frequency of illegal shooting including) was evaluated on the basis of special anonymous questionnaires, sent to credible respondents in 2001 in the regions of lynx occurrence. As a result, opinions of 204 hunters (1.68% of all hunters of the regions concerned), 133 students of game management of secondary forestry schools in the areas of lynx occurrence (55.6% of all the students) and 78 students of game management of Forestry Faculties of the Universities in Prague and Brno (44.6% of all forestry students) were surveyed.

### **4.2.3 Results and discussion**

#### **Status, distribution and mortality**

Changes in the lynx distribution that took place in the Czech Republic after 1990 until the present time are shown in Figs 4.2-1 – 4.2-3. In the period of 1990–1994, lynx were reported in 136 quadrants (21.7% of the area of the Czech Republic), but stable occurrence was registered only in 61 of these (9.7%). In the period of 1995–1999, records of lynx occurrence were made in 260 quadrants (35.6%), and stable occurrence was registered in 73 quadrants (11.6%). Currently, the lynx has been reported known only in 159 quadrants (25.3%), and its stable occurrence has been registered in 63 quadrants (10.0%). Lynx abundance reached the maximum between 1997 and 1998 when the population was estimated at 100–150 individuals (Červený *et al.* 2001); currently there are approximately 80–100 individuals. This decrease in the number of these predators corresponds to the findings of the population development, as recorded in spring census data based on game statistics (Fig. 4.2-4).

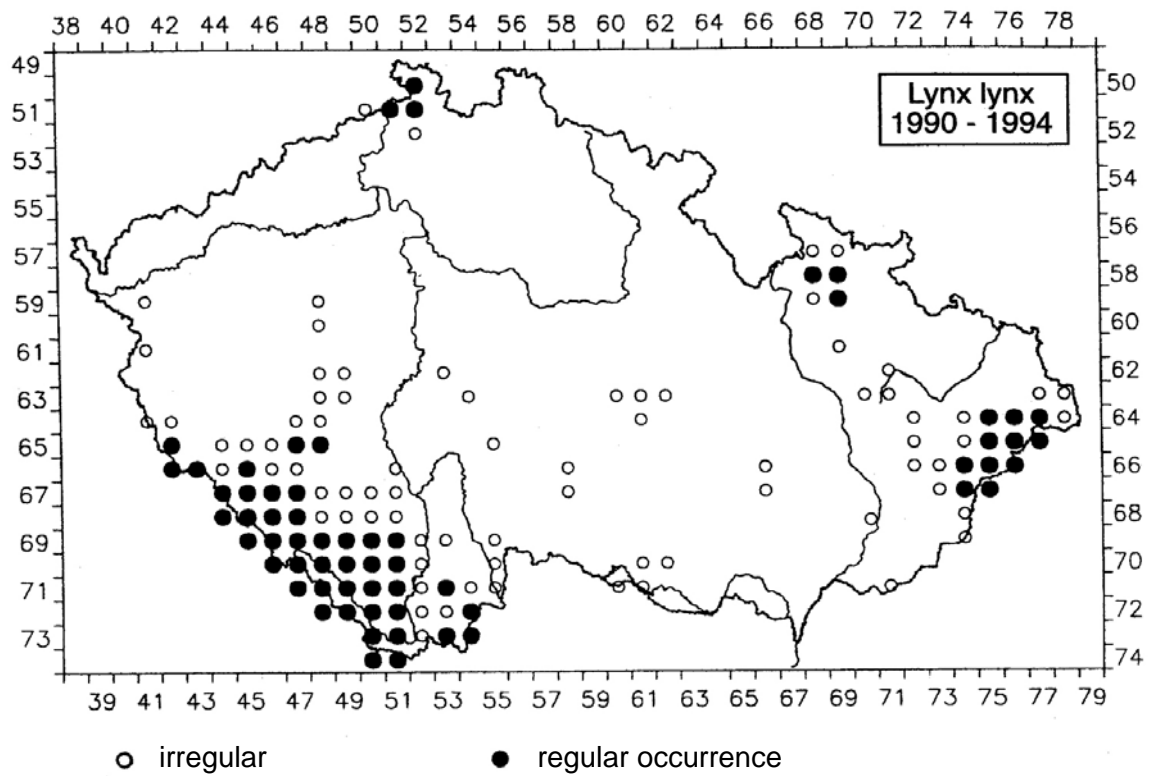


Figure 4.2-1 Distribution of the lynx (*Lynx lynx*) in the Czech Republic, 1990–1994.

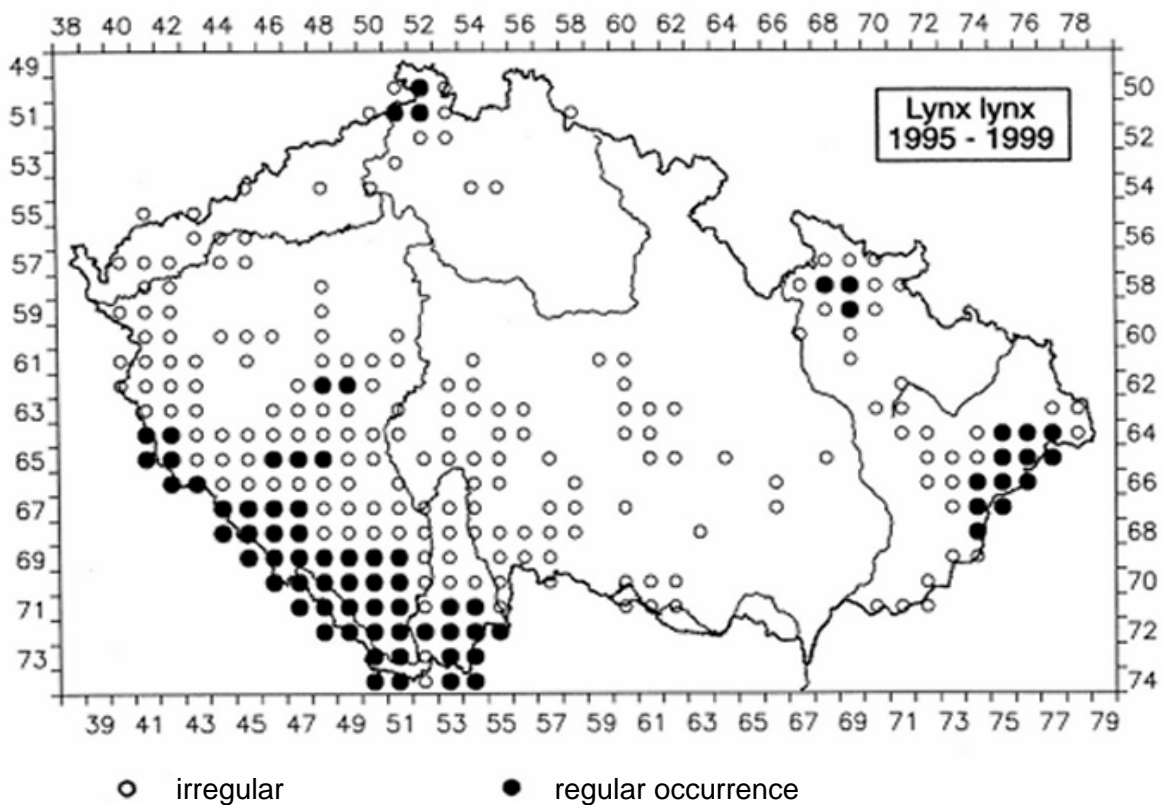


Figure 4.2-2 Distribution of the lynx (*Lynx lynx*) in the Czech Republic, 1995–1999.

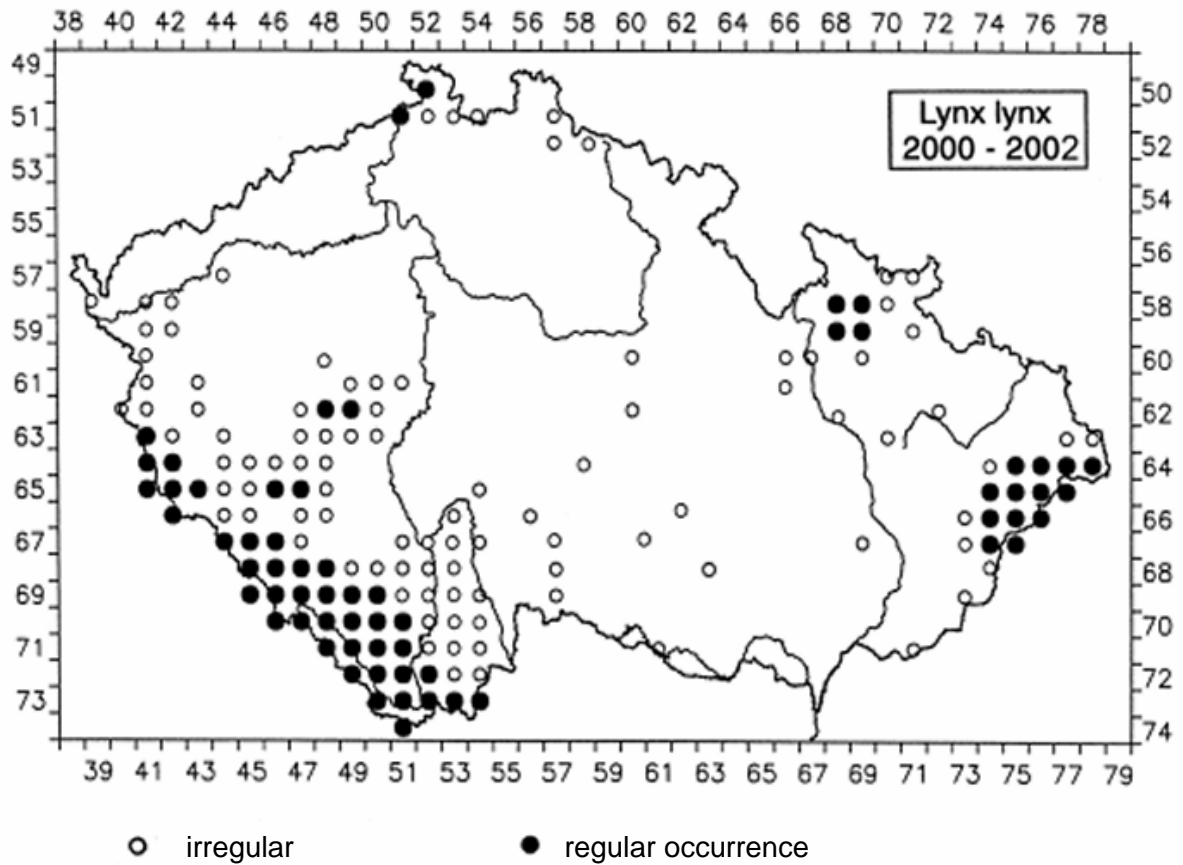


Figure 4.2-3 Distribution of the lynx (*Lynx lynx*) in the Czech Republic, 2000–2002.

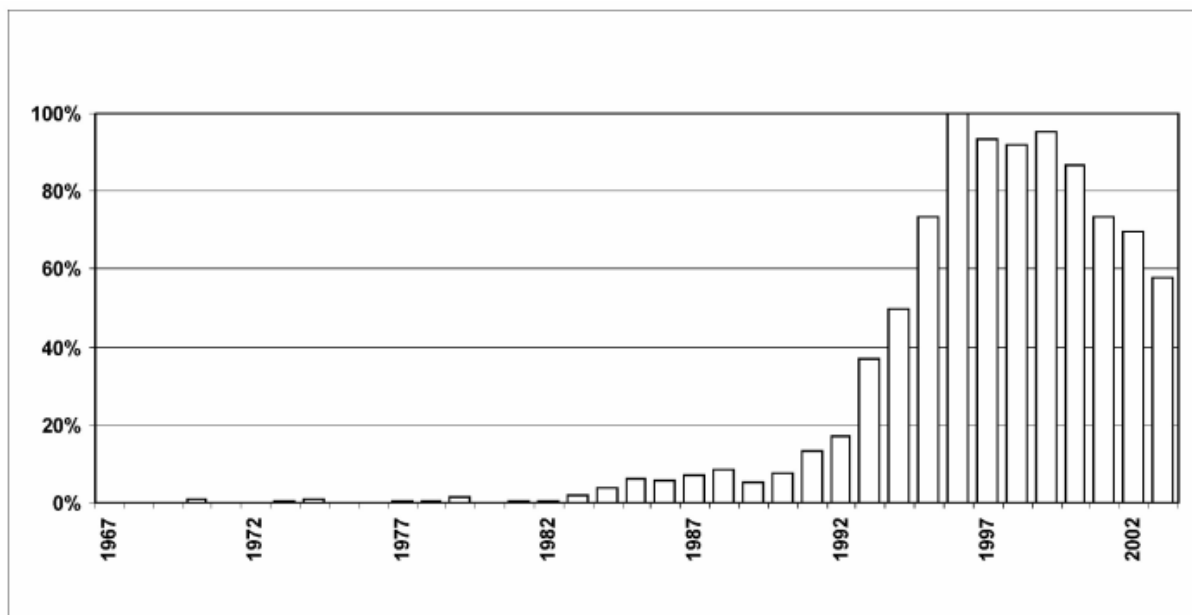


Figure 4.2-4 Development of the lynx population in the Czech Republic (according to the spring census reported by the hunters); 100% = recorded high in 1996

From 1996 until now, 11 lynx (8 males, 3 females) have been radio-telemetrically recorded in the Šumava Mts. (Bufka *et al.* 2000). Five of them (45.4 %; 4 males, 1 female) probably were illegally shot when, seeking and establishing their territories, they left the Šumava forest area and entered a more densely populated afforested area of foothills with much more intensive game management. Furthermore, between 1989 and 2001 a total of 51 lynx skulls could be gathered and measured.



Figure 4.2-5 The female lynx "Milka" poached on 04.06.2004 near Vimperk (Foto: Morgenroth)

### **Attitude of Czech hunters**

The attitude of Czech hunters to the lynx is illustrated by the data presented in Tables 4.2-1 and 4.2-2. A more positive attitude was registered among students, particularly among the university ones. A positive response to the question whether the lynx should be considered to be a part of the wildlife of the Czech Republic was received from 37.8% of the polled hunters, 43.6% of secondary school students and 60.3% of university students.

A positive role of the lynx in the ecosystem was confirmed by 19.2% of hunters, 16.6% of secondary school students and 46.2% of university students. Those believing that the lynx is a threat to the existence of roe deer standard stock included 59.2% of all hunters, 49.7% of secondary school students and 30.8% of university students. All-year-round shooting of the lynx should be permitted in the opinion of 9.3% of the polled hunters, 3.1% of secondary school students and 5.1% of university students.

It is interesting to note that 36.9% of hunters, 23.4% of secondary school students and 16.7% of all university students knew about the existing cases of illegal lynx shooting. It is of paramount importance that 8.3% of the respondents of the group of hunters admitted illegally shooting one lynx themselves, another 1.5% confessed to illegally shooting more than one lynx, and still another 0.5% responded that they had shot lynx without indicating the number (10% on the whole)!

Table 4.2-1 Hunters' Attitudes in the Czech Republic to the lynx (%)

Questions	Responses	Hunters	Students	
			Secondary schools	Universities
Does the lynx belong in wildlife of the CR?	Yes	37.8	43.6	60.3
	In some places only	45.1	43.6	35.9
	No	10.3	12.8	3.8
The effect of the lynx on the wildlife in the CR is:	Positive, or primarily positive	19.2	16.6	46.2
	Sometimes positive, sometimes adverse	50.9	50.3	42.3
	Adverse, or primarily adverse	29.8	33.1	11.5
Does the lynx endanger the planned roe deer stock in the CR?	Yes, or primarily yes	59.2	49.7	30.8
	No, or primarily no	40.8	49.6	69.2
	Don't know		0.7	
Should shooting of the lynx be permitted in the CR?	Yes, all the year round	9.3	3.1	5.1
	Yes, but with regulation	84.8	71.7	79.5
	No	5.9	5.2	15.4
Do I know an actual case of an illegally shot lynx in the CR?	Yes	36.9	23.4	16.7
	No	62.2	76.6	83.3
	Not indicated	0.9		
Have I illegally shot any lynx in the CR?	Yes, but only one	8.3		
	Yes, several	1.5		
	No	89.7		
	Not indicated	0.5		

Table 4.2-2 Hunters' tolerance to the lynx and the reasons for illegal shooting of the lynx in the Czech Republic (%)

Questions	Responses	Hunters	Students	
			Secondary schools	Universities
Where is the lynx tolerated?	Large expanses of forests	26.4	18.9	46.4
	Mountain areas	16.1	18.9	17.9
	Large protected territories	43.3	62.1	71.4
	Areas with suitable natural conditions	9.4	13.8	21.4
	Elsewhere	33.9	48.3	25.1
What are the reasons for illegal shooting of lynx?	Damage to game, loss of game	74.1	76.8	60.8
	Damage to livestock	5.9	4.5	2.6
	Absence of compensation for damage	4.4	3.8	2.6
	Lynx vs. hunter competing for prey	6.4	3.8	28.2
	Trophy, hunting experience	23.8	39.1	23.1
	Commercial shooting	1.9	6.8	1.3
	Non-availability of shooting permits	13.2	6.1	3.8
	Poor information and education on wildlife	4.9	6.1	8.9
	Other reasons	40.1	30.1	26.9

Hunters' attitude to the lynx in the Czech Republic may be considered as a model example for the whole Central Europe, where the lynx was totally exterminated by human activities in the past. Throughout this area, game management has historically been 'dominated by the cult of trophies and controlled breeding of game ungulates'. Such 'CIC' game management conception perceives the lynx as an adverse factor. Hence, the state of the lynx is paradoxical now: on the one hand, the government declares support to the lynx population survival, on the other, hunters considerably restrain its development. Indeed, poaching is the most serious reason for the decrease in the number of lynx in the Czech Republic. Up to now, even some enlightenment of hunters has not proved to be very effective. Strict lynx protection is totally inefficient, but reasonable protection is misapplied. The only way to protect (or well manage) the lynx is to educate a new generation of game managers and hunters capable of recognizing the real importance of the lynx in forest ecosystems.

#### **4.2.4 Summary / Zusammenfassung**

Von 1990 bis 2002 wurden in der tschechischen Republik 5.227 Datensätze zum Luchsvorkommen gesammelt. Zwischen 1990 und 1994 gab es auf 21.7 % der Landesfläche Luchsnachweise, 1995 bis 1999 auf 35.6 % und zwischen 2000 und 2002 auf 25.3 %. Die Luchspopulation erreichte ihr Maximum 1997/1998 mit einer geschätzten Anzahl von 100 bis 150 Tieren. Aktuelle Schätzungen gehen von 80 bis 100 Tieren aus. Fünf der 11 radio-telemetrisch überwachten Luchse wurden wahrscheinlich illegal geschossen. In Gebieten mit Luchsvorkommen wurde anhand anonymer Umfragen die Einstellung der Jäger gegenüber dem Luchs untersucht. Nur 19.2 % der abgefragten Jäger schreiben dem Luchs eine positive Rolle im Ökosystem zu, 36.9 % wussten von einem illegalen Abschuss und 10.3 % gaben zu, schon einen Luchs geschossen zu haben. Illegaler Abschuss wird als der Hauptgrund für den Rückgang der Luchspopulation in Tschechien angesehen. Die Meinungsumfrage bei Studenten des Wildtiermanagements fiel dagegen positiver aus.

5.227 records of lynx occurrence in the Czech Republic (CR) were obtained from 1990 until 2002. During 1990–1994, the occurrence was recorded in 21.7% of the territory of the CR, during 1995–1999 in 35.6% and during 2000–2002 in 25.3%. The lynx population was at its peak in 1997–1998 with abundance 100-150 individuals. The current estimate shows only 80–100 animals. Five of the eleven radio-telemetrically monitored lynx probably have been illegally shot. Hunters' attitude to the lynx was examined on the basis of anonymous questionnaires in the areas of lynx occurrence. Only 19.2% of the polled hunters believed the lynx to play a positive role in ecosystems, 36.9% of them were aware of concrete cases of illegal hunting and 10.3% of them admitted to killing the lynx illegally. Poaching turns out to be the most serious cause of the decrease of lynx population in the CR. The approach of students of game management to the lynx was more positive.

#### 4.2.5 Acknowledgement

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