

Lynx conservation and protection

Lynx in Macedonia



Dime Melovski, Gjorgje Ivanov & Svetozar Petkovski

Lynx distribution



Source: KORA (2004)

Lynx lynx martinoi – main characteristics

- Morphometric investigations on 29 lynx specimens from Balkan Peninsula proved that several characteristics distinguish Balkan population from nominal and Carpathian form. Thus, separate lynx subspecies was described – *Lynx lynx martinoi* – Balkan lynx (Miric 1981)

General data on Lynx biology

■ Biology

- **Territory**: 20-40 km² is average territory that one specimen needs in Macedonia. Northern specimens require more space than southern. Miric (1977)
- **Reproduction**: Lynx is a solitary animal. The only time when they can be seen in groups is in the mating season which is from January to February. The pregnancy lasts 9-10 weeks and 1-3 cubs are born.
- **Food** : Lynx's menu depends on the season – in summer main food are mainly rodents and other small prey, while in winter large prey is consumed, such as roe deer, deer etc.



Roe deer is the lynx main pray in winter.

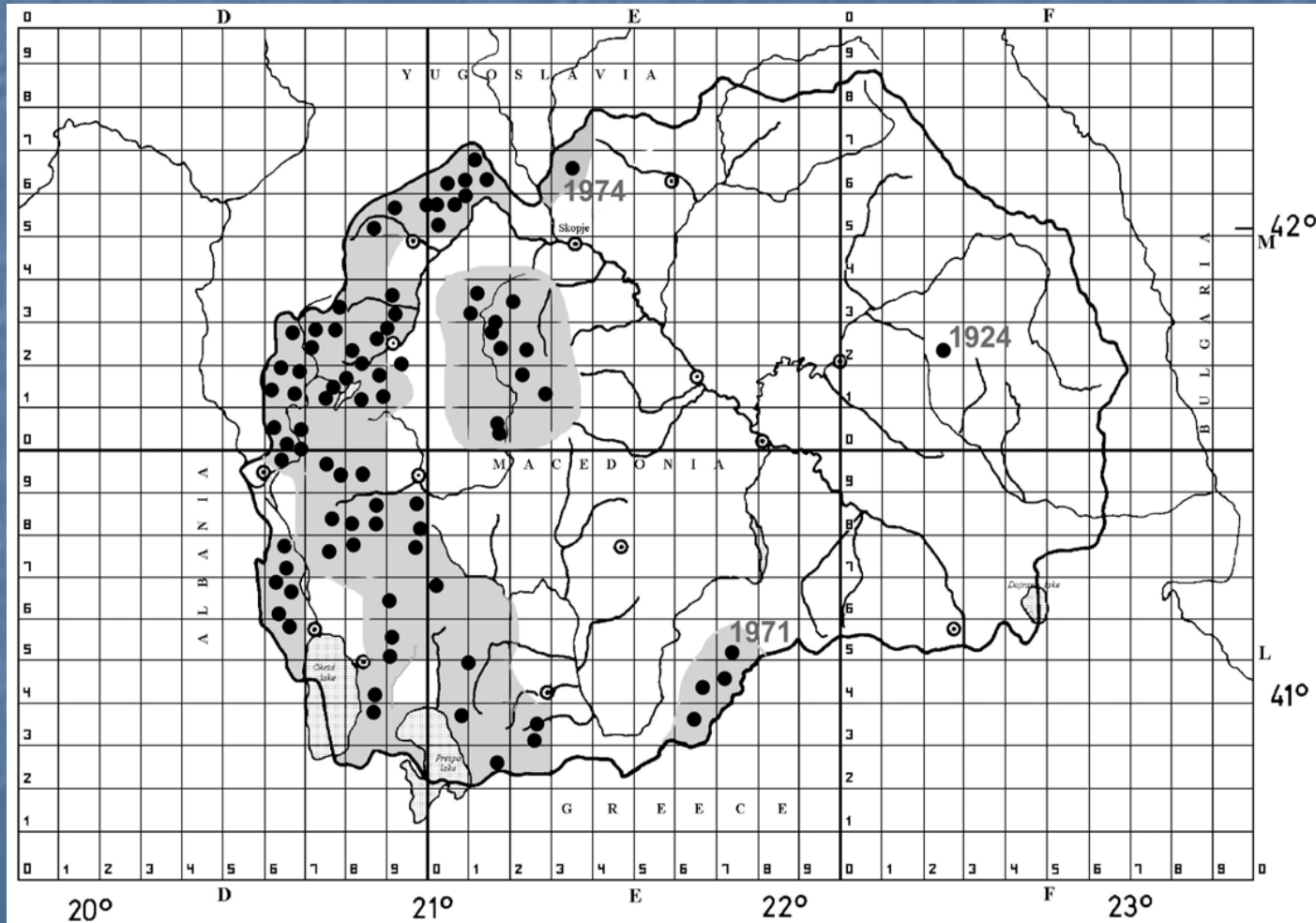
- **Habitat**: Beech forests, mixed beech-fir and old oak forest.

Food resources

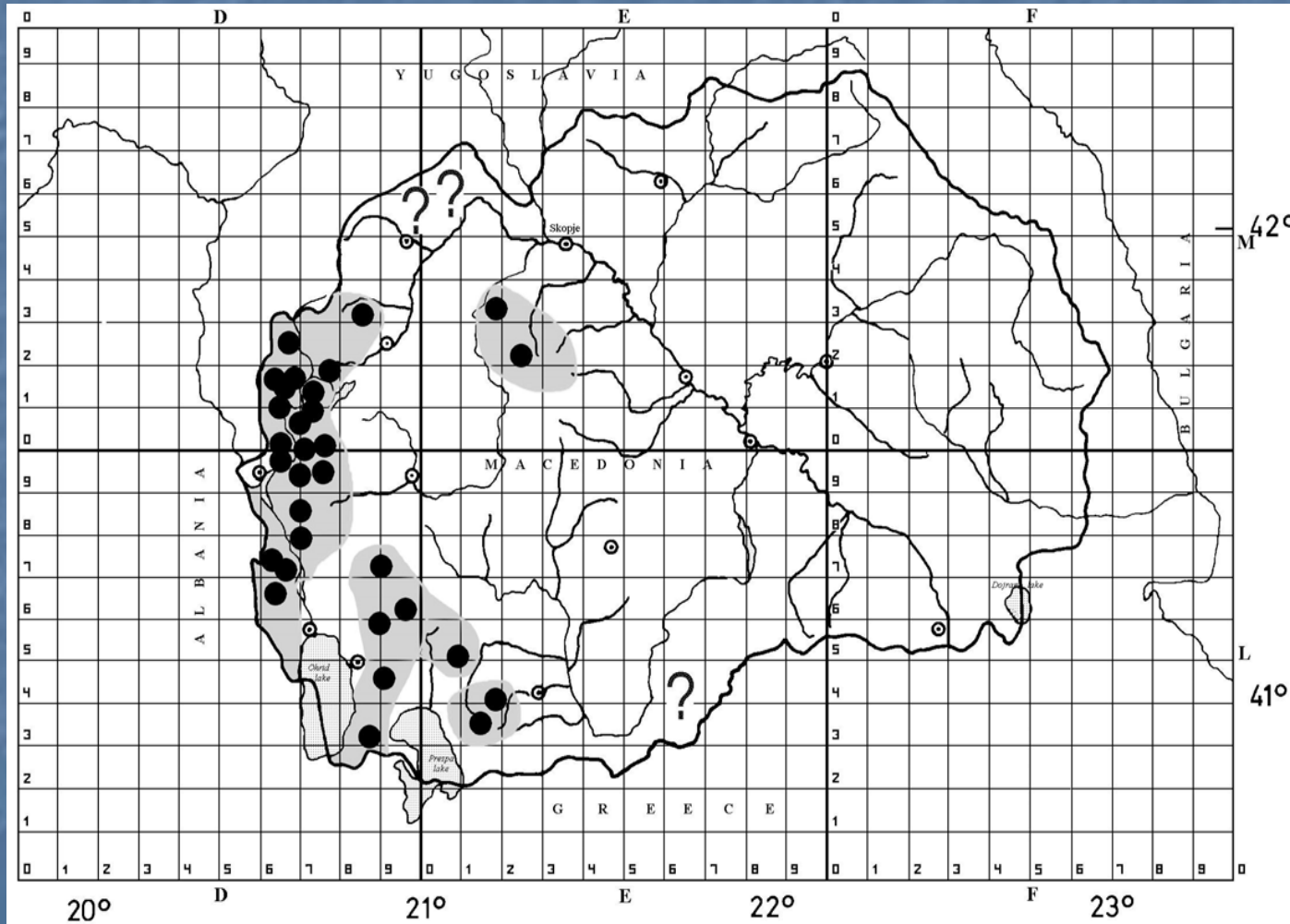
- **Wild animals:** according to the literature (gaster investigations), some of the lynx's main food resources are: roe deer, wild boar, chamois, *Martes martes*, rabbits, small rodents, birds (*Bonasia*), fox etc. (Miric 1977).
- **Domestic animals:** The main source apart from wild animals are domestic animals, even though they are represented in small percentage in lynx's menu: sheep, goats and rarely horses and cattle.



Lynx distribution in Macedonia in the past



Lynx distribution - present situation



Population size

- **Miric (1981)** - there were approximately 120 specimens in Macedonia in 1974.
- **Micevski (1997)** - the total number of lynx individuals in the Radika gorge is estimated at 54 specimens.
- **Hristovski & Angelovski (2001)** - the total number is approximately 35 specimens.
- **Grubac (2002)** - population number of Balkan lynx in area of Macedonia can be estimated at about 35 to 40 specimens.

Population trend in Macedonia

- Expansion of the range in the period from 1917 to 1977 as well as population number **Miric (1977)**
- If one compares the work of **Micevski (1997)** with that of Miric (1981), lynx population has not negative trends. Results of Micevski (1997) seem to be higher than the real situation (according to Grubac 2002).
However, they show that the lynx population in protected areas (Mavrovo National Park) is stable (Melovski 2002).
- **Grubac (2002)** compares his results with the ones of Micevski (1997) and concludes that they are overestimated. The freshest estimate (Hristovski 2001) of 30-35 specimens on the other hand can be considered to be an underestimate (Grubac 2002).

It is impossible to draw out valid conclusion based on recent literature data.

Damages caused by lynx

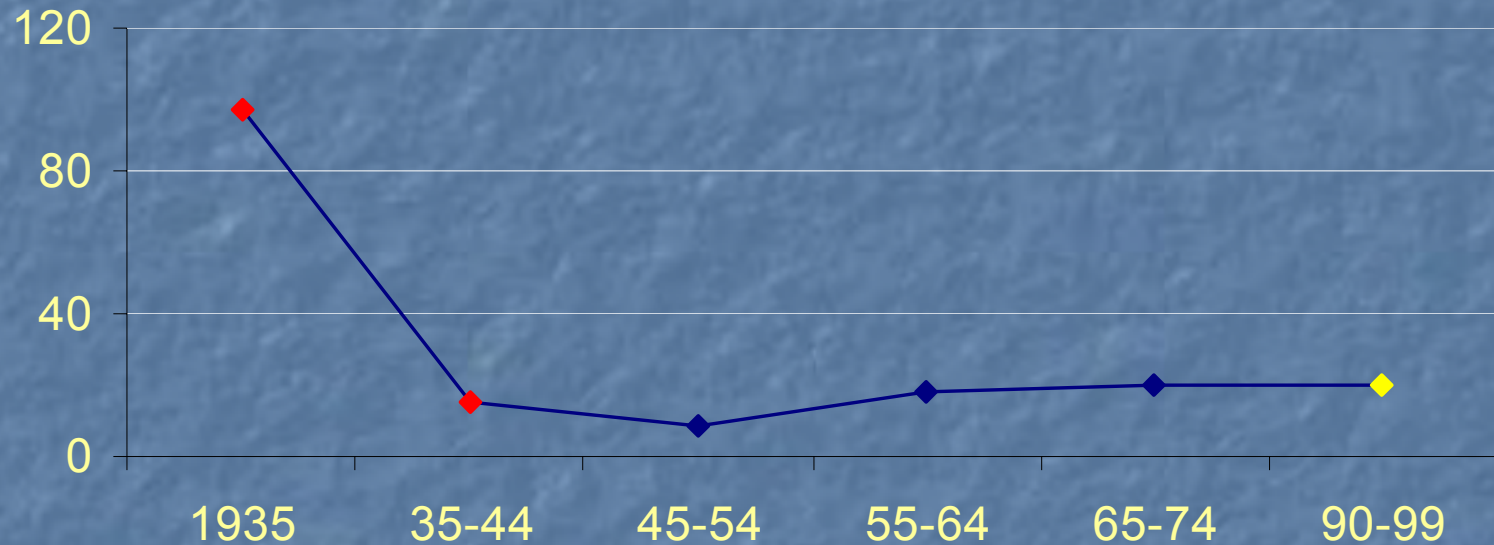
- Rarely preys on domestic animals, but still damages caused by lynx should not be overlooked. There are several cases in which lynxes slaughter few sheep or sometimes a whole flock (Miric 1981; Grubac 2000, 2002). In some cases horses and cattle are being attacked, but these situations are few to be mentioned.

Threats - general

- Small population
 - Small reproductive potential + + +
- Poaching
 - Killing + + +
 - Trapping + + (?)
 - Poisoning ?
- Habitat degradation +
- Habitat fragmentation
 - Traffic infrastructure +
 - Restricted range +
- Disturbances
 - Recreation +
 - Forestry activities + +
- Competition
 - Wolf competition +
 - Carpathian lynx invasion ?

Threats

Hunting/poaching



Number of killed Lynx specimens in Macedonia in 20th century

Data from official statistical book of RM and other data from Miric (1977) and information gathered from questionnaires.

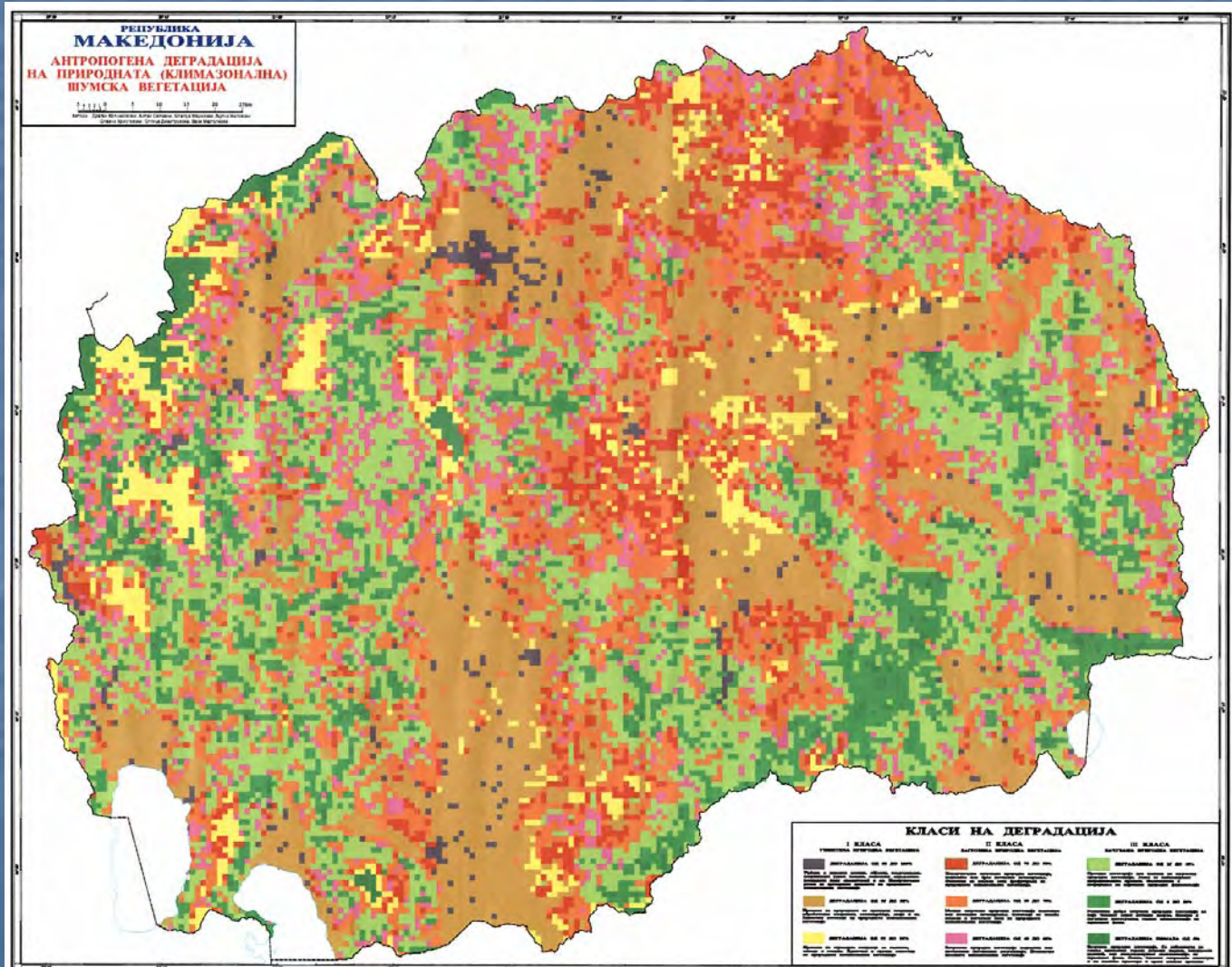
Habitats in Macedonia

- Generally, the habitats in Macedonia occupied by large carnivores are in good condition.
- Social changes such as migration in 50s and 70s led to decrease of every kind of agriculture, livestock raising, abandoning of villages that were close to the habitats and also poor road infrastructure have low effects on habitat fragmentation. (Melovski 2002).

Threats

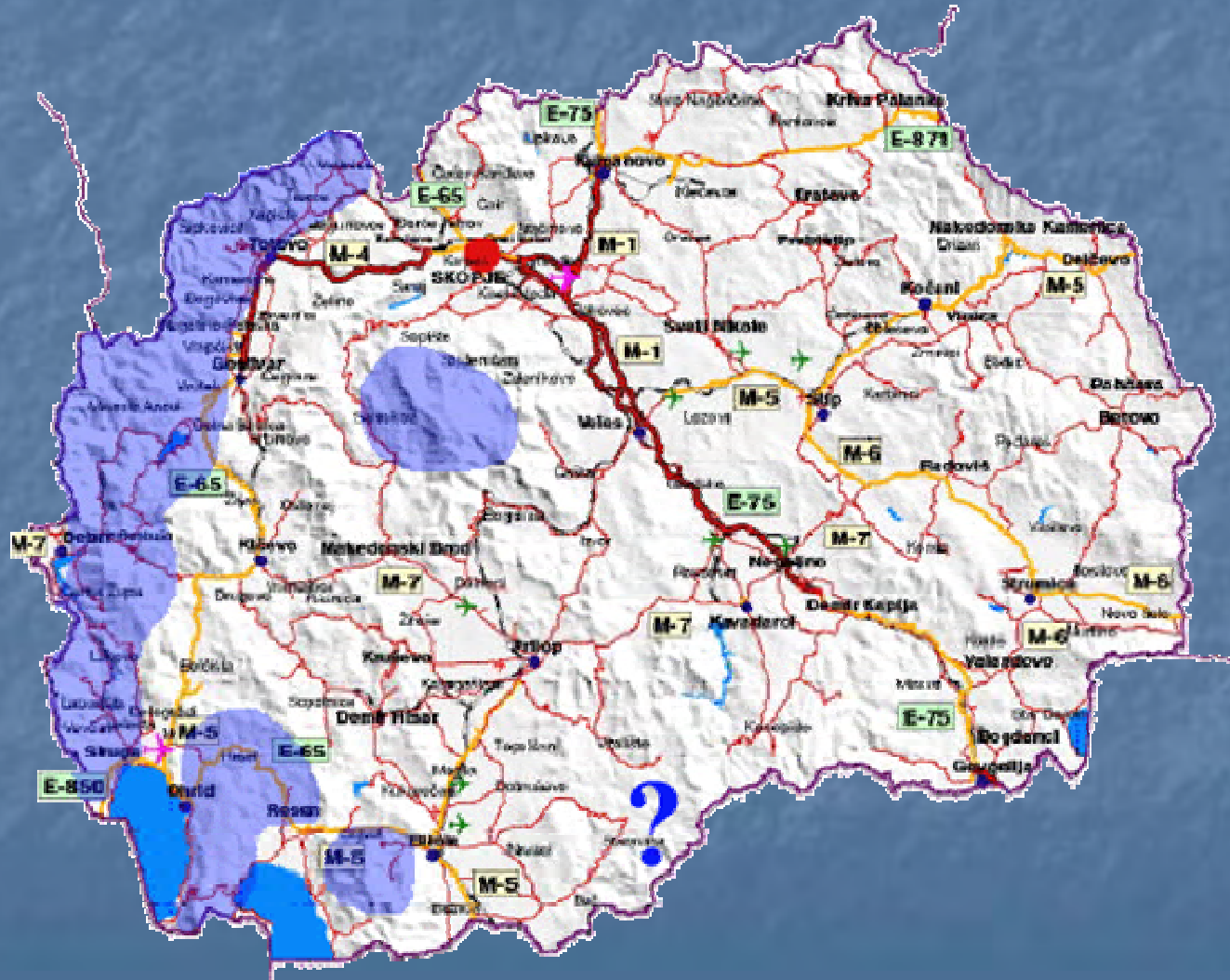
Habitat degradation

The most preserved forests (green areas) still support the existence of large carnivores in Macedonia



Threats

Habitat fragmentation/road infrastructure



Threats

Disturbances

Recreation



Ski resorts on Mavrovo, Pelister, Galichica, Kajmakchalan (Greek side) and Kozhuf (planned)

Mountaineering, alpinism, fishing, motor races etc.

Forestry activities



Noise, forest roads – easy access

Threats

Competition

Wolf competition



Direct – rare duels between lynx and wolf (Miric 1977)

Indirect – lynx and wolf prey on similar animals. The wolf is more successful (Miric 1977)

Carpathian lynx invasion ?

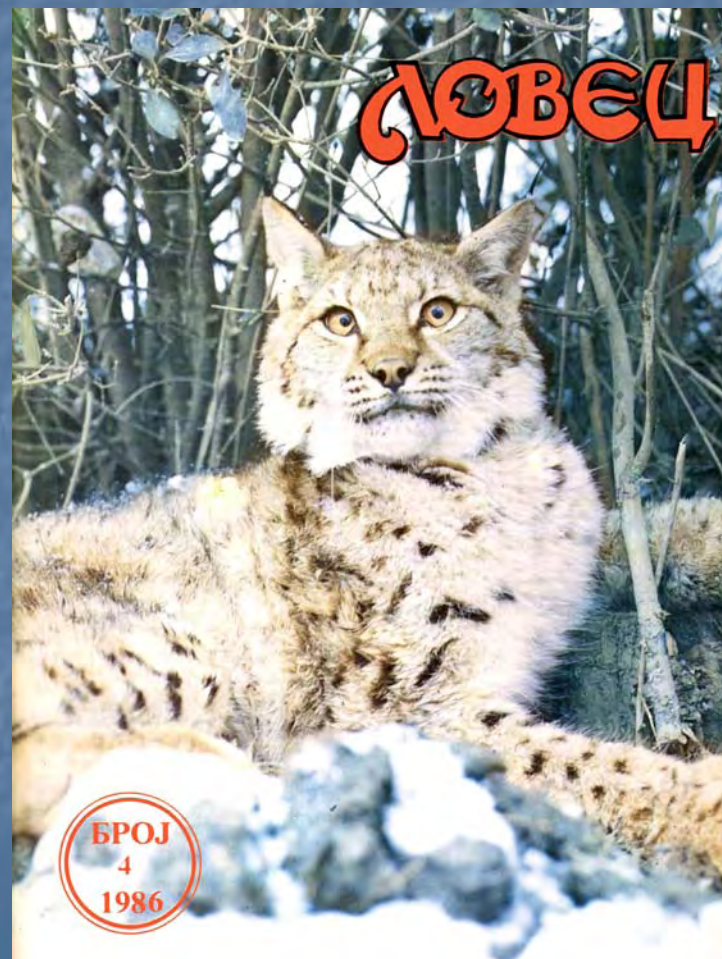


Specimens of Carpathian lynx were recorded in the vicinity of Vlasina (Grubac 2000)

Carpathian lynx is larger than Balkan lynx (ssp. martinoi)

Hunters' magazine in Macedonia – "LOVEC"

- Data for the distribution and protection of lynx can be found in "LOVEC" magazine, which is published by Hunters association of Macedonia. This magazine was first published in 1948 and the last edition was in 2001.
- Although there are few data concerning lynx, it is important for awareness raising among hunters.



Public opinion

- Generally, people in the lynx regions have positive opinion about lynx. This animal is not considered as a pest.

However, some of the interviewed hunters would still kill a lynx.

(Based on questionnaires conducted in the filed surveys of MES for the purposes of brown bear project)

- Lynx is popular animal in Macedonia. The presented pictures are a 5 denars coin as well as a stamp from Macedonian post



International convention for protection

- Bern Convention, Annex II & Annex IV, convention on the conservation of european wildlife and natural habitats
- EU Habitats & Species Directive, Appendix III – Protected fauna species
- CITES, Appendix II, Annex A

Legal basis

- Law on Hunting (Official Gazette of RM 20/96)

Defines Lynx as game animal and categorizes it as protected game (Article 12) and hunting is permanently prohibited (Article 15).

Article 12 and 15 are no longer valid, after the enforcement of Law on Nature protection.

Article 69: Game manager in the hunting ground is responsible for the damages caused by protected game.

The damage caused by the game under permanent or temporary closed season is subsidized by the state budget.

Note: this provision was never implemented, since the damage made by game animals can't be recognized.

Legal basis

- Law on Nature Protection (Official Gazette of RM 67/04)
 - The Law on Nature Protection (recently adopted, its implementation started in July 2005) regulates the nature protection, in that scope conservation of species.
 - There are provisions in that law for denoting a status of "strictly protected species" and "protected species" with appropriate management regime.
 - However, due to the lack of Red List and Red Data Book, the protection of species (large carnivores as well) can not be safeguarded/implemented in the next three years minimum.

Future activities

- Estimation of exact area of distribution in Macedonia;
- Estimation of population number and population trend;
 - First step: National Parks
 - Second step: pilot areas in cooperation with local hunters' associations
- Start monitoring activities;
- To start/continue cooperation with experts from Albania, Kosovo, Montenegro and Greece in order to enforce the transborder cooperation;

Future activities

- Biocorridors;
- Development of lynx action plan;
- Public awareness campaign;
 - Organize meetings in order to introduce the programs and activities for lynx conservation to the people living in that area;
 - Produce information materials for the lynx biology and its role in the natural ecosystems;
 - Continue publishing of hunters magazine "Lovec".