

CONSERVATION OF THE CRITICALLY ENDANGERED BALKAN LYNX – ACHIEVEMENTS AND ASPIRATIONS

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ABSTRACT

The Balkan lynx population is the most endangered autochthonous population of the Eurasian lynx (*Lynx lynx*) in the world. Its present distribution is restricted to the border areas between Macedonia and Albania, spreading north into Montenegro and Kosovo and with vague indications in northern Greece. Due to the critical situation of the Balkan lynx population, a project was initiated in October 2006 aiming to secure its survival: the “Balkan Lynx Recovery Programme”. The project involves national organizations in the range countries and international ones. The ecology, status and conservation needs of the critically endangered Balkan lynx have not been well understood up to now. This information was however immediately needed as no conservation strategy can be developed without having the basic knowledge to define its actions. The conduction of a broad baseline survey about lynx, its prey and other carnivores in Albania and Macedonia was the first step undertaken. The information collected during this baseline survey is of high importance as it ensures valuable and contemporary data on lynx presence and distribution, its prey and other carnivores in both countries. Another aim of the survey was to uncover existing and potential conflicts between humans and large carnivores and to assess the influence of these conflicts on future conservation actions.

Habitat conservation, as a very important factor in species conservation, is another main objective in the Balkan Lynx Recovery Programme. The areas of distribution of the Balkan lynx are generally part of greater trans-boundary regions extending over two or more countries. The protected areas component implemented in the frame of the Programme aims at the proclamation of new protected areas and expansion of existing ones in the current and potential distribution range of the Balkan lynx. The target areas include Albanian Alps/Prokletije Mountains, Korabi-Sharr-Mavrovo Mountain ranges, Shebenik-Jabllanica and Ilinska-Plakenska ranges. The first camera-trapping initiatives were quite successful in Macedonia, providing the first photos of live Balkan lynx in the Mavrovo National Park. An intensive camera-trapping session was consequently conducted in the park during February-April 2008. The first camera-trapping attempts in Albania have not yet proven the presence of the lynx through photographs. Nevertheless, further work is on the way and we hope to get a lynx in front of the lenses in Albania, too in the near future.

Key words: *Lynx lynx martinoi*, conservation, survey, large carnivores, conflicts, camera-trapping, status, Eurasian lynx, distribution

INTRODUCTION

The isolated population of Eurasian lynx (*Lynx lynx* L.) living in the southwestern Balkan mountains deserves special attention as – unlike most of the populations of lynx present in Central and Western Europe originating from reintroduced individuals – it is autochthonous. Due to its proximity to the larger Carpathian population, recognized as a Eurasian lynx subspecies *L. l. carpathicus*, the Balkan population was often seen as a satellite enclave of the latter. However, BUREȘ (1941) and MIRIĆ (1978), according to differences in morphometric and physical characteristics, described the Balkan lynx as a distinct subspecies and named it *L. l. balcanicus*

and *L. l. martinoi*, respectively. The first attempt to give an overview of the status and information available on lynx in the Balkans was made by MIRIĆ (1981) where he estimated a population of 280 lynx living in Macedonia, Kosovo, Montenegro and Albania in the 1970's. Though the reliability of this estimate was highly disputable, the information on lynx distribution and numbers in the Balkans remained on an estimation level even 30 years later as no scientific survey was ever conducted. In 2000, various experts from the Balkan countries together with representatives from international authorities attempted to review the current situation of lynx in its range. According to the experts' opinions, the population of Balkan lynx was indubitably below 100 mature individuals (BREITENMOSER & BREITENMOSER-WÜRSTEN, 2001). This was confirmed by information compiled in the European status report for Eurasian lynx (von ARX, *et. al.*, 2004). It became clear that the Balkan lynx population would be classified as Critically Endangered according to the IUCN Red List criterias. Furthermore, there was a clear lack of knowledge about the ecology of this population as there had never been a study dealing with these aspects before.

To add on this, the first genetical analyses of Balkan lynx demonstrate that there is a clear differentiation of this population from other populations of lynx in Europe including from the Carpathian one (BREITENMOSER-WÜRSTEN & OBEXER 2003). Genetics thus supports the subspecies status of the Balkan lynx population as postulated by BUREŠ (1941) and MIRIĆ (1978).

The Balkan Lynx Recovery Programme (2006-2009) initiated to work for the survival of the Balkan lynx population, is a partnership project between international institutions and national organizations in the range countries: Euronatur (European Nature Heritage Fund), KORA (Coordinated research projects for the conservation and management of carnivores in Switzerland) and NINA (Norwegian Institute for Nature Research) assist and coordinate the project, PPNEA (Protection & Preservation of Natural Environment in Albania) and MES (Macedonian Ecological Society) implement the programme on the ground. The Balkan Lynx Recovery Programme is supported by the MAVA Foundation, Switzerland and the Norwegian Research Council.

The first challenge for the conservation of the Balkan lynx was to collect more information about the distribution and status of the population, its prey and habitats as well as on potential conflicts with humans in order to have a solid basis for the development of a long-term recovery strategy and the definition of targeted conservation actions. We are aware that within the short period of the Programme, the survival of the Balkan lynx will not be guaranteed. However, we hope to build the well-founded conditions for a long-term recovery strategy and to achieve an important milestone for the conservation of this population.

CONSERVATION STATUS OF THE BALKAN LYNX

The first task to be implemented in the Balkan Lynx Recovery Programme (BLRP) was to conduct a broad baseline survey in Albania and Macedonia. By means of interviews, information about lynx, its prey and other carnivores was collected from the local people living in the lynx range. The data was used to assess 1) the present situation of the species and 2) the conflict potential between humans and large carnivores. TRAJCE *et. al.* (in prep.) and Melovski *et. al.* (in prep.) have summarized the results of the survey in separate reports for Albania and Macedonia.

Previous assessments of the status of lynx at European levels (BREITENMOSER *et. al.*, 2000, von ARX *et. al.*, 2004) had emphasized the critical situation of the Balkan lynx population and concluded that this was the most threatened autochthonous population in Europe. The results of the BLRP survey further support this conclusion as they indicate that the situation of the lynx in Albania and Macedonia remains critical and that the population is on the verge of extinction (IVANOV *et. al.*, 2008, TRAJČE *et. al.* unpubl., MELOVSKI *et. al.*, unpubl.). The lynx presence in Albania seems to be confined to some small scattered nuclei, like in the Albanian Alps, Puka region, Kolesjan-Koritnik, Mbasdejë-Balgaj, Martanesh-Shebenik and Gur i Zi-Valamarë. In Macedonia, most of the confirmations about lynx presence are found in and around the Mavrovo National Park in the western part of the country there are also indications Sharra mountain range, Stogovo mountain, Jakupica mountain and Galichica mountain. In general, even where lynx presence was confirmed, it seems to be scarce and at low abundance (IVANOV *et. al.*, 2008, Trajçe *et. al.*, unpubl., Melovski *et. al.*, unpubl.).

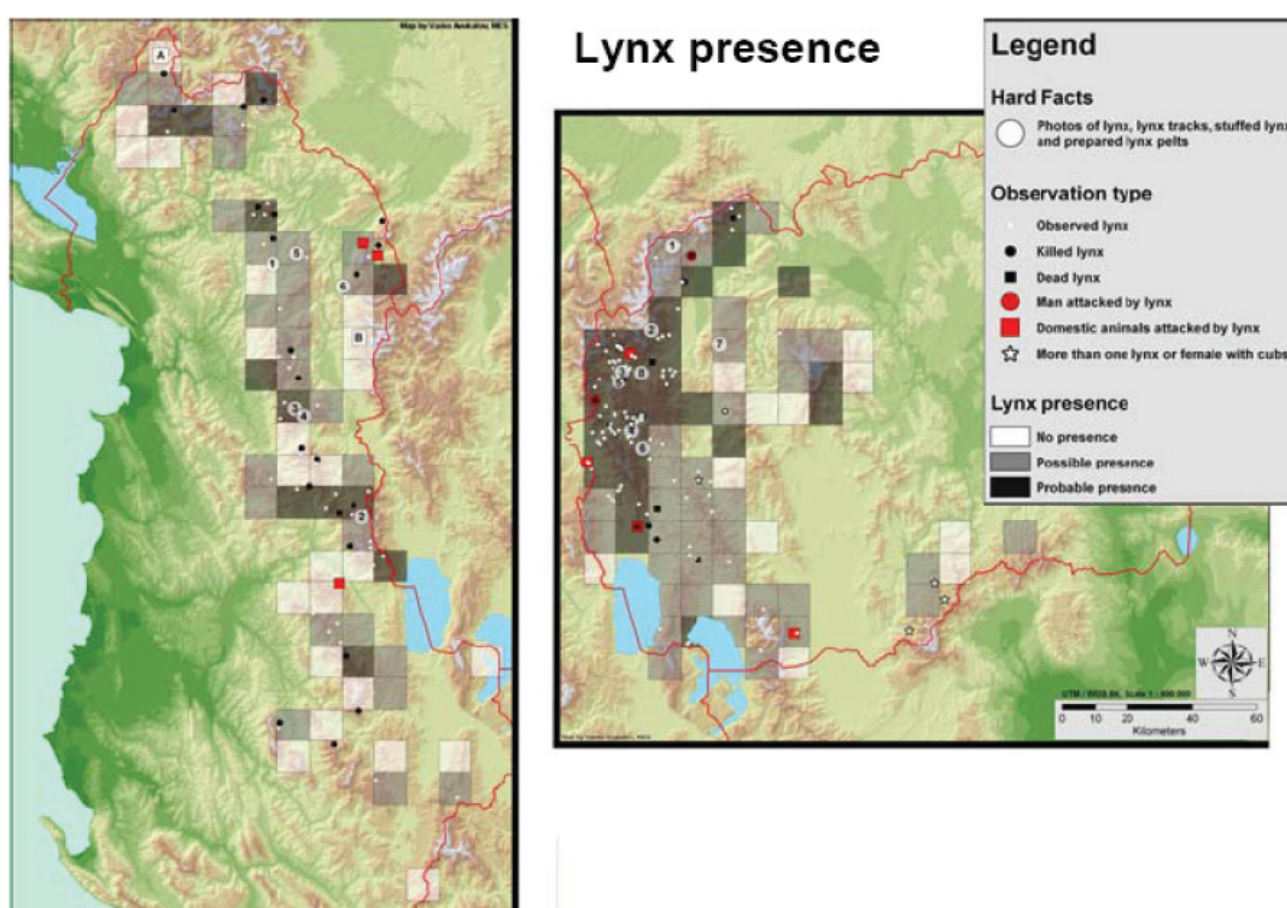


Fig. 1. Lynx presence in Albania and Macedonia according to the results of the baseline survey.

Lynx prey species like roe deer (*Capreolus capreolus*), chamois (*Rupicapra rupicapra*) and brown hare (*Lepus europaeus*) have an overall good presence and abundance in Macedonia, whereas their status in Albania is poorer: illegal poaching of prey species was noticed during most of the field trips conducted by the team. Besides conducting the questionnaires, the lynx survey teams in both countries sought out for “hard facts” of lynx presence i.e. incontestable evidence on the species presence: 6 individuals of killed/stuffed lynx were discovered in Albania. In Macedonia 3 killed/stuffed lynx, 2 photos of live animals and 4 lynx tracks were discovered (TRAJÇE *et. al.*, 2007, STOJANOV *et. al.*, 2007). Sadly enough, the only hard evidence of lynx presence in Albania comes from dead or killed individuals.

Following the finalization of the baseline survey, camera-trapping monitoring sessions were undertaken in promising regions according to the results of the survey, e.g. the Mavrovo National Park in Macedonia. There, the first camera-trap pictures of Balkan lynx were taken in December 2007 and consequently an intensive session was conducted in February-April 2008 (for further details see Melovski *et al.* in these proceedings).

PROTECTED AREAS APPROACH

Protected areas can play an important role in species conservation. The Balkan Lynx Recovery Programme, besides focusing on generating more and new information about the Balkan Lynx (*Lynx lynx martinovi*), its distribution and population status, includes also actions to help designating new protected areas in the range countries, as well as the development of sustainable land use schemes in and outside protected areas. The areas where the Balkan lynx still survives are often part of greater trans-boundary regions spanning over two or more countries and therefore, joint protection levels should be established from each side of the border in order to guarantee the survival of lynx (SCHWADERER *et. al.*, 2008). By working in this direction, besides ensuring protection for Balkan lynx sub-populations, the Recovery Programme also helps and strengthens

international cooperation for nature conservation in general and creates conditions for the protection of large-scale ecosystems in the southwestern Balkans. To help the process of preparation and designation of these trans-boundary protected areas we bring on the framework of the European Green Belt, an IUCN initiative promoting the idea of a large scale ecological corridor spanning in the former “iron curtain” - the border separating Eastern and Western Europe from 1945 to 1990. The limited access that bordering regions had within this period “helped” to preserve relatively intact ecosystems on both sides of the borders. These areas are in many cases overlapping with the distribution range of the Balkan lynx nowadays, and one possible reason why lynx still survived in this part of the Balkans might be attributed to the fact that there had been low human disturbances for a long period of time.



Fig. 2. The Balkan Green Belt

Five areas were chosen as main project sites, these being: Jabllanica-Shebenik range (Macedonia / Albania), Shar Planina and Korabi Mountain (Macedonia / Albania), Albanian Alps (Albania) and Ilinska-Plakens range (Macedonia).

In the selected areas the work concentrates in making proper biodiversity inventories as well as socio-economic assessments (see Shumka *et al.*, in this publication). To prepare the ground for a proper implementation of the protected areas, initiatives that promote the sustainable land use of the zones are supported. In May 2008, the ecosystem Shebenik-Jabllanica was proclaimed as a National Park by the Albanian Government – this being an important achievement where the work of the Balkan Lynx Recovery Programme played a key role.

HUMAN DIMENSIONS

The Balkan lynx, nowadays, survives in a landscape that is predominantly used by people which continuously use natural resources for personal benefit. This situation has been particularly sharp in recent years where lack of regulation and law implementation have resulted in over-exploitation of many resources. In conditions like these it is important to find adequate equilibrium where human activities will not affect lynx conservation and on the other hand, lynx conservation should not become a source of conflict with humans. It is quite obvious that the main threats that Balkan lynx faces today are a direct consequence of human activities. Therefore, studying the human dimension component comes out as a very important in the Balkan Lynx Recovery Programme. The main objectives here are to evaluate human wildlife conflicts, assess human attitudes towards wildlife and their influence on conservation measures. This is mainly done through talking to people in rural areas of Albania and Macedonia. The baseline survey on lynx, prey and other carnivores conducted at the beginning of the project,

already addressed some issues related to human-large carnivore relationships (e.g. information on livestock husbandry) and aimed to uncover existing and potential conflicts between the local population and wildlife. The results indicate that lynx is seen by people as a non-problematic carnivore and compared with the other two large carnivores present in the area – wolf (*Canis lupus*) and brown bear (*Ursus arctos*) – it is considered to cause marginal damages and less conflict with people (KEÇI *et. al.*, 2008).

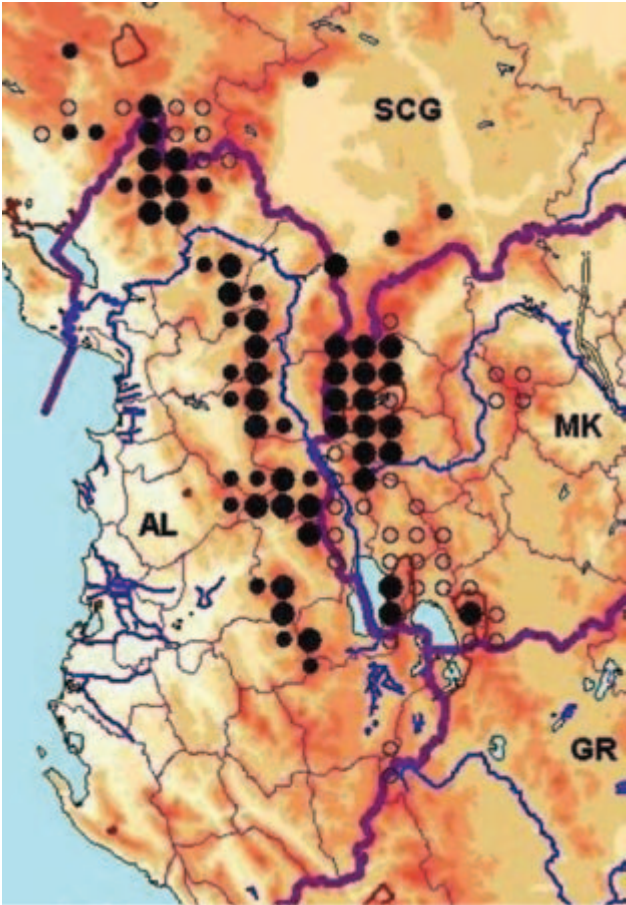


Fig. 3. Lynx distribution (ELOIS 2004)

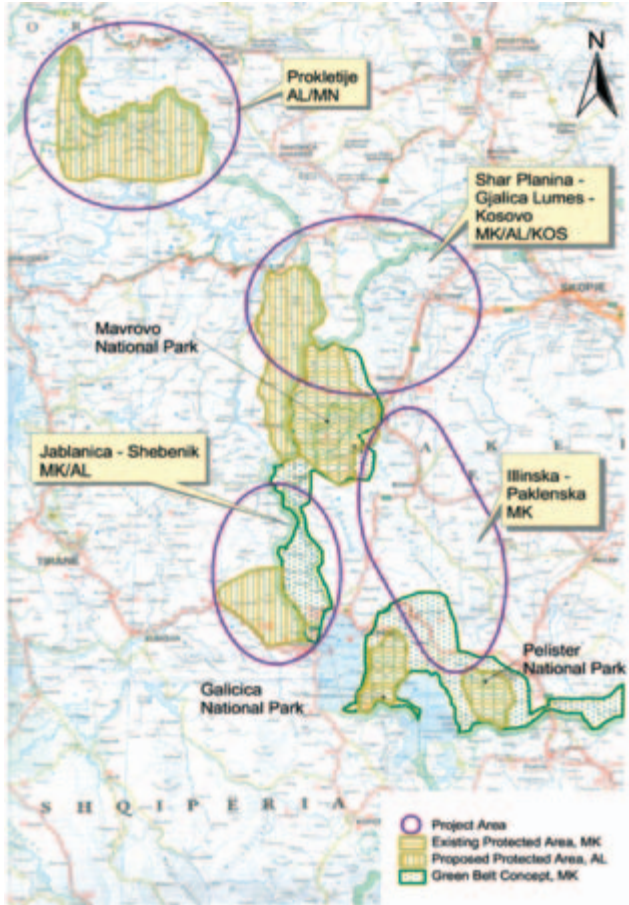


Fig. 4. Protected areas project sites

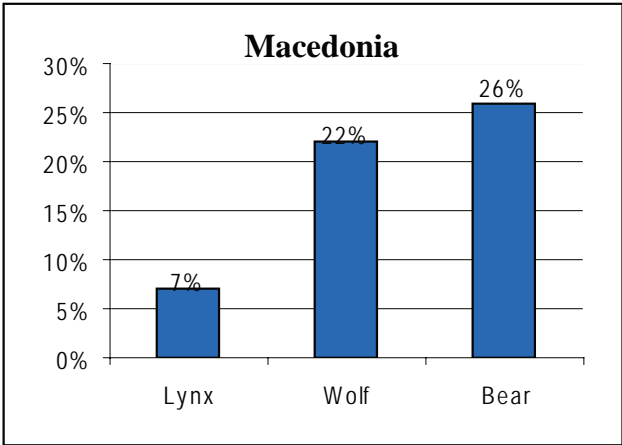
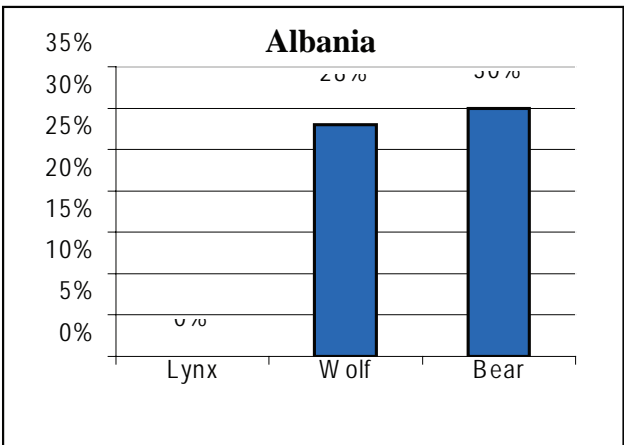


Fig. 5. Proportion of people expressing fear of lynx, wolf and bear for personal safety

In the meantime, a wide human attitudes survey is going on in Albania and Macedonia collecting data on people's knowledge and opinions about the three large carnivores: lynx, bear and wolf. Preliminary results show that wolf is seen as the most problematic species, associated and responsible for most of the conflicts

with humans. Attitudes towards wolf are generally very negative. Bear, on the other hand is associated with fewer conflicts. It is a more respected species and people believe that problems derive from specific individuals and circumstances. As for lynx, the picture is totally different: being a very rare animal causes less impressions to people because interactions human-lynx are in most cases inexistent. It is important to notice that there is a general lack of knowledge about lynx. However, what is more important is that lynx is not considered a major source of conflicts and causes practically no economical damages to humans.

CONCLUSIONS

When the Balkan Lynx Recovery Programme first started, there was almost no hard evidence that the Balkan lynx still survived in its range. All the information available was from estimates and historical accounts and did not base on data collected on the ground. Now, two years after the start of the Programme and with the new and up-to-date information gathered, we can confirm that the Balkan lynx still survives. However, the data indicate a very critical situation with not very many proofs of living lynx and quite a few cases of poached individuals discovered. The population might be on the verge of extinction. It seems that only small and fragmented nuclei remain in parts of Albania and Macedonia. Illegal poaching still remains a problem as there have been quite a few indications of lynx being killed as well as some hard evidence about it. Prey populations seem to be facing a high hunting pressure too, especially in Albania where even protected species like chamois (*Rupicapra rupicapra*) and roe deer (*Capreolus capreolus*) have been reported to be hunted illegally.

Lynx doesn't seem to be a major source of problem for livestock breeders and therefore, conflicts with humans are practically inexistent. This is a good starting point for its conservation as measures will most likely be supported by local people.

The Balkan lynx is a flagship species for nature conservation in the region. Being a top-predator, its conservation involves multiple levels of actions. Habitat protection is a strong requirement for the conservation of the Balkan lynx and as such it is of high importance in the Recovery Programme. The fact that the core area of the surviving Balkan lynx is in the Mavrovo National Park in Macedonia – a relatively large area with a long history of protection – is best proof for this. The work of the project is helping to identify, propose and prepare the ground for the future designation of new protected areas within the range of the Balkan lynx, as well as the enlargement of the existing ones. Furthermore, we try to improve the management of the protected areas through various local projects that support a sustainable use of land and resources.

Since the start of the Recovery Programme, a valuable amount of information on the situation of lynx and other species has been generated and we now have a better knowledge and understanding to define conservation actions. However, there is still much more to do yet. Reliable assessments on the population size of lynx are still lacking. Ongoing camera-trapping surveys in Albania and Macedonia (potentially including capture-recapture analysis) will help to improve our knowledge in this regard. Furthermore, more information about the land tenure system of the Balkan lynx as well as its feeding ecology is needed. These subjects however go beyond the actual project implementation phase but will be future research objectives.

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