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**STRATEGY FOR THE CONSERVATION OF THE  
BALKAN LYNX IN “THE FORMER YUGOSLAV  
REPUBLIC OF MACEDONIA” AND ALBANIA**



**Results from the Strategic Planning Workshop  
for the Conservation of the Balkan Lynx**

Peshtani, MK, 3-4 June 2008

*Document presented  
by KORA, Switzerland*

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This Strategy for the Conservation of the Balkan Lynx was developed by the Balkan Lynx Strategy Group at the Strategic Planning Workshop for the Conservation of the Balkan Lynx, Peshtani, MK, 3-4 June 2008.

Workshop Participants and Reviewers: see Appendix 2, p. 29

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### **Reference proposal:**

Balkan Lynx Strategy Group. 2008. Strategy for the Conservation of the Balkan Lynx in “the former Yugoslav Republic of Macedonia” and Albania. Peshtani, MK, 3-4 June 2008.

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## EXECUTIVE SUMMARY

The Balkan lynx is the most endangered autochthonous population of the Eurasian lynx *Lynx lynx*. Its present known distribution is restricted to the border area of western “the former Yugoslav Republic of Macedonia” and eastern Albania, reaching north to the southern rims of Kosovo and Montenegro. Available information indicate that less than 100 individuals remain (von Arx et al. 2004). The Balkan lynx must therefore be considered as Critically Endangered according to the IUCN Red List criteria, making conservation measures very urgent. Its recovery is even the more important because it has been described a distinct subspecies already in the 1940s (*Lynx lynx balcanicus*, Bures 1941) and 1970s (*Lynx lynx martinovi*, Miric 1978).

The lynx is a flagship species for the conservation of the natural heritage in the whole south-western Balkans and an ideal carrier to work with the local population and across political and institutional borders. Only a broad partnership between the range states and involving scientists, governmental agencies, interest groups like hunters and farmers and the people sharing their living space with wildlife can lead to a successful conservation of the Balkan lynx.

In order to establish this partnership for lynx conservation, to raise awareness, build professional capacity and gain more and better in-depth knowledge about the distribution and ecology of the lynx as well as potential threats hampering its survival, the Balkan Lynx Recovery Programme was initiated in 2006. The general approach is to combine a species conservation project with landscape conservation in the frame of the IUCN European Green Belt initiative.

A conservation programme includes several steps which may have to be revised and adapted during the process. The main instruments, used in the strategic planning for species conservation are (Breitenmoser et al. 2006):

1. A baseline information report compiling the present knowledge about the species/population,
2. A range-wide Conservation Strategy,
3. National Action Plans to implement the Conservation Strategy.

Information on lynx distribution and abundance, potential prey quality, and people’s attitude towards lynx were gathered through a baseline survey in 2006/07 based on interviews of local inhabitants in the presumed and potential lynx range of eastern Albania and western “the former Yugoslav Republic of Macedonia”.

Nature conservation representatives from governmental agencies, universities and important interest groups from Albania and “the former Yugoslav Republic of Macedonia” met in Peshtani, MK, on 3-4 June 2008 for a participatory workshop for the development of a Conservation Strategy for the Balkan lynx. The meeting was hold under the auspices of the Bern Convention, Council of Europe. Results of the baseline survey were presented to the participants to provide background information (Chapter 2). The aim of the workshop was to define common goals and objectives for the conservation of the Critically Endangered Balkan lynx population and to identify activities on the range level (Chapter 5) based on an assessment of problems and enabling conditions in the two countries (Chapter 4).

During the two day workshop, the participants agreed on a long-term vision as “The southwest Balkans will be a region committed to sustainable development and the conservation of its natural and cultural heritage”. The mid-term goal has been defined as “Secure a viable population of the Balkan lynx living in a matrix of protected and sustainably managed habitat in coexistence with the rural population.”

The most important threats facing the Balkan lynx, as revealed during the problem analysis of the workshop, are poaching of lynx despite its legal protection, the small size and isolation of its population and habitat degradation caused by non-sustainable land use practices. The workshop participants have furthermore assessed the shortcomings in (their) capacity to conserve the lynx (Gaps) and factors restraining lynx conservation and recovery (Constraints) but also came up with a list of strengths and enabling conditions that favour conservation measures for the Balkan lynx.

To achieve the goal of to “Secure a viable population of the Balkan lynx living in a matrix of protected and sustainably managed habitat in coexistence with the rural population”, eleven objectives were identified each with 1-5 targets and 1-9 activities proposed to direct the achievement of each objective.

This Strategy for the Conservation of the Balkan lynx will, once endorsed by relevant governmental institutions of Albania and “the former Yugoslav Republic of Macedonia”, serve as basis for the development of National Actions Plans as implementing tools for the Strategy. The Strategy and the more concrete Action Plans wil provide a road map for the recovery and long-term conservation of the Balkan lynx.

## 1. INTRODUCTION

The Balkan population is the smallest and most threatened autochthonous lynx population of Europe and deserves special attention. Its conservation is in particular relevant because the Balkan lynx has been described as an own subspecies *Lynx lynx martinoi*. Already in 1935-40 it experienced a severe bottleneck with only 15-20 individuals remaining but managed to recover and to increase its size to up to 280 in 1974. Since then, however, the trend reversed again: the last Pan-European survey on the status of the Eurasian lynx in Europe revealed an estimate of approx. 80-100 lynx for the Balkan lynx population (von Arx et al. 2004). This number based on guesses of local experts, systematically collected data were not available for a long time. It was however clear that the Balkan lynx is Critically Endangered according to the IUCN Red List criteria.

Any viable population of the Balkan lynx will stretch across international borders. Therefore, we need to agree on common goals and principles for its conservation. The main range of the Balkan lynx is located along the border areas of “the former Yugoslav Republic of Macedonia” and Albania. The current conservation efforts are therefore confined to this region although lynx probably occurs to a lesser extent in neighbouring areas in Kosovo and Montenegro, as well. It is however clear that the recovery of the species has to start from its core area. In addition, the knowledge about the Balkan lynx, whose ecology is not known, can be better improved where it occurs in reasonable densities. That is why this Conservation Strategy concentrates on Albania and “the former Yugoslav Republic of Macedonia” for the time being.

In “the former Yugoslav Republic of Macedonia”, the Balkan lynx is protected by Law on hunting since 1949. The Law categorizes the lynx as strictly protected game species and its hunting is permanently prohibited. In Albania, the lynx is considered as a strictly protected species in the Law for Hunting and Fauna Protection (1994) and is classified as Critically Endangered in the Albanian Red List of Fauna (2002). It has been recognized as a protected species with prohibited hunting since 1969. The Biodiversity Strategy and Action Plan of the Republic of “the former Yugoslav Republic of Macedonia” envisions special actions for the conservation of species. The activity A.6.4. “Preparation of Action Plans regarding threatened species” is directly related to the activities for the preparation of a lynx action plan in “the former Yugoslav Republic of Macedonia”. In Albania, a National Strategy and Action Plan for the Protection of Biological and Landscape Diversity was approved in 2000. The development of a national lynx action plan is mentioned as one of the priority actions in the National Strategy.

Range-wide conservation strategies that are prepared through inclusive, participatory processes improve prospects for implementation and, ultimately, successful conservation (IUCN/SSC 2008). Responsible authorities from state institutions, scientists, exponents of nature conservation organisations, representatives of hunting, forestry and agricultural associations and national park staff of “the former Yugoslav Republic of Macedonia” and Albania were invited for a two-day workshop on 3-4 June to develop a comprehensive Conservation Strategy for the Balkan lynx. This Strategy is endorsed by the agencies in charge of nature conservation and wildlife management of Albania and “the former Yugoslav Republic of Macedonia” (see endorsement statements on page 3) and will form the common ground for the development of National Action Plans. The Strategy reviews threats to the Balkan lynx, defines common goals and objectives, and targets and actions on the range level, for cross-border issues, or valid for both countries. The management units, however, are the countries, and consequently, National Action Plans need to be developed as tools for the implementation of the conservation activities, based on the principles outlined in this Strategy.

## 2. BACKGROUND INFORMATION

### 2.1 Biology and ecology of the Balkan lynx

Apart from a few anecdotal observations, there is no information available about the biology and ecology of the Balkan lynx. It is assumed that the diet, spatial use and behaviour of Balkan lynx does not differ much from Eurasian lynx elsewhere but so far there is no scientific data to be conclusive.

According to Miric (1981), the Balkan lynx feeds on brown hare (*Lepus europaeus*), roe deer (*Capreolus capreolus*), small rodents, birds (like partridge, *Alectoris graeca*), chamois (*Rupicapra rupicapra*) and wild boar (*Sus scrofa*). Livestock species like sheep and goat are rarely being killed

which was confirmed by interviews of local farmers in eastern Albania and western “the former Yugoslav Republic of Macedonia” (Keçi et al. 2008). Grubac’s (2000) few observations confirm the prey spectrum mentioned above, with the exception of wild boar. On the other hand he states that Balkan lynx also eats fish and carrion (Grubac 2002).

Miric writes in his 1981 paper, pairing of Balkan lynx occurs in January and February which would be 1-2 months earlier than in other European regions. Balkan lynx is said to have a low reproductive potential of usually one kitten, sometimes two and only very seldom three kitten (Miric 1981).

Again Miric (1981) indicates a home range size of 18-38 km<sup>2</sup> (on average 30 km<sup>2</sup>) for Balkan lynx in Kosovo and “the former Yugoslav Republic of Macedonia” but states that in good habitat home range size can even be smaller. First scientific evidence indicate that his figures are probably underestimated. An intensive camera-trap survey in 2008 in the Mavrovo National Park, which is considered a stronghold of the population with good lynx habitat, yield a lynx density of  $0.84 \pm 0.24$  animals per 100 km<sup>2</sup> (Melovski et al. 2008).

All in all, there is not enough scientific evidence to understand the biology and ecology of the Balkan lynx. Research is urgently needed to fill these gaps.

## 2.2 Taxonomy of the Balkan lynx

The Balkan lynx taxonomic status remains unclear. The first one that described it as a separate subspecies was Buresch in 1941. He named it *Lynx lynx balcanicus*. In 1973, Miric followed this idea and gave in his work in 1978 a more detailed description of the morphometric characteristics that separate the Balkan lynx from the other described subspecies. Miric changed the name of the Balkan subspecies to *Lynx lynx martinoi* (Fig. 1). Afterwards, no one worked on this taxonomic subject for a long time. Since 2005 however, DNA analysis from Balkan lynx (museum specimens from Albania and “the former Yugoslav Republic of Macedonia”) are conducted and compared with those of other lynx in a Pan-European study (Breitenmoser-Würsten & Obexer-Ruff 2003). The comparison showed clear differences of Balkan lynx from all other autochthonous Eurasian lynx populations, especially also from the neighbouring Carpathian lynx (*Lynx lynx carpathicus*). It is said that the Balkan lynx is smaller in body size, but according to Miric (1978) the only reliable biometric variables clearly distinguishing the Balkan lynx from the other *Lynx lynx* subspecies are the smaller condylobasal length and zygomatic width (skull measurements). As however condylobasal length is correlated with body weight, Balkan lynx could be smaller than other lynx. Measurements of living lynx rather than stuffed museum specimens are needed to verify this.



**Fig. 1.** Balkan lynx *Lynx lynx martinoi* holotype, the specimen described by Miric in 1978.

## 2.3 History of the Balkan lynx

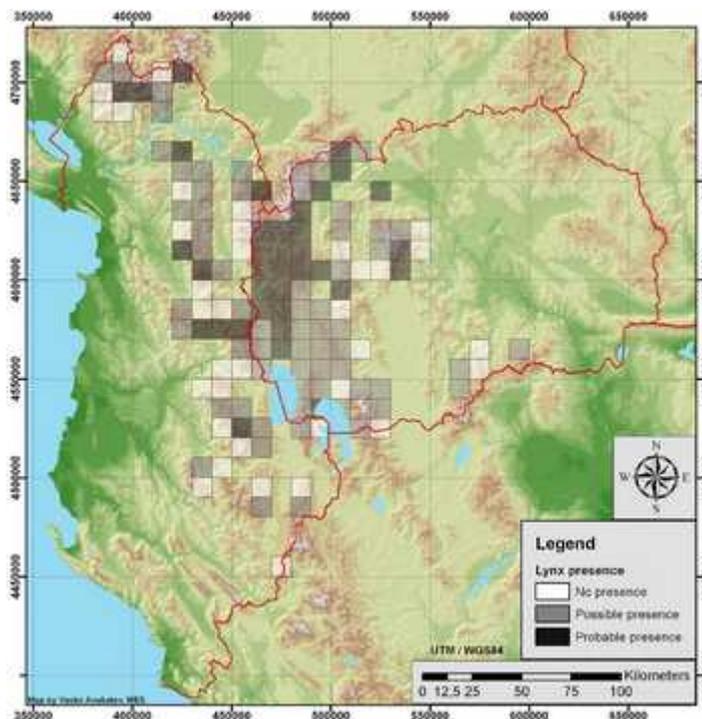
Historically, the Balkan lynx was widely distributed on the Balkan Peninsula and up to the 19th century the population was more or less continuous stretching from Slovenia in the North to Southern Pindos in Greece and as far east as the Bulgarian-Turkish border (Miric, 1974). Due to many factors and disturbances induced by humans, such as direct persecution, deforestation and habitat degradation, the lynx was exterminated from many parts of the Balkan Peninsula in the first half of the 20th century. Nowadays the Balkan lynx distribution area is confined from the southern parts of Kosovo and Montenegro to the northern border of Greece, having its stronghold in the mountainous areas

along the border of Albania and “the former Yugoslav Republic of Macedonia”. The population is estimated to consist of less than 100 mature individuals and it is defined as the most threatened population of Eurasian lynx in its entire Euro-Asiatic range.

In the past, the Balkan lynx was distributed in all parts of “the former Yugoslav Republic of Macedonia” but illegal killing and habitat degradation caused the extermination of lynx in most of the country. The scenario is similar in Albania where lynx at the beginning of the 20th century roamed in all mountainous regions of the country, whereas nowadays the lynx population is scattered in small and fragmented nuclei in North and Central Albania.

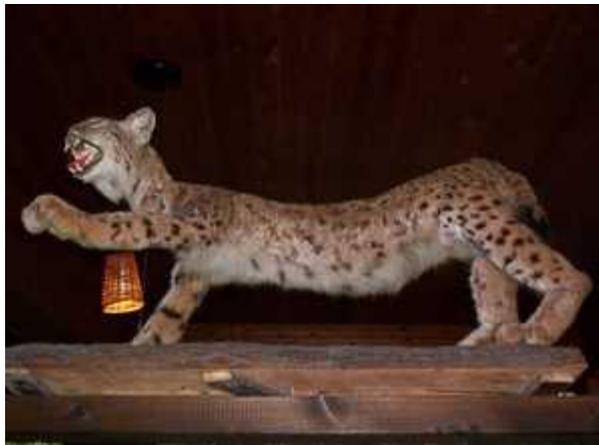
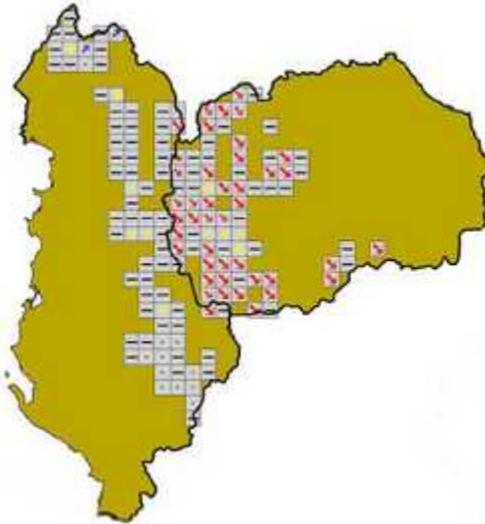
## 2.4 Present distribution, abundance and conservation status

A baseline survey conducted in 2006/07 resulted in 553 interviews of local inhabitants in “the former Yugoslav Republic of Macedonia” and 320 in Albania (Ivanov et al. 2008, Keçi et al. 2008., Melovski et al. 2008, Trajçe et al. 2008). These are the main results: According to the people interviewed, the presence of lynx is confined to western “the former Yugoslav Republic of Macedonia” (Mavrovo-Bистра, Shar Planina and Stogovo-Karaorman), with the highest concentration of observations and signs in and around Mavrovo National Park (Fig. 2). This is the core area of the lynx population, where more than 30 pictures of 7-10 different lynx were taken by means of camera-trapping in February/March 2008 (Melovski et al. 2008, Stojanov et al. 2008). In Albania, lynx is scarcely distributed with only a few nuclei of presence in the eastern part of the Albanian Alps (north-eastern Albania) and in central-east Albania (Shebenik-Jabllanica and Martanesh) (Fig. 2). The lynx population was generally considered to be strongly decreasing by people interviewed in “the former Yugoslav Republic of Macedonia” while in Albania, the trend could not be assessed as people’s opinion differed strongly (Fig. 3). In both countries potential lynx prey like roe deer, hare or chamois were considered to be fairly abundant; however, trends indicated for these species are negative. This might be a constraint for the recovery of the lynx population. Illegal killing of lynx still occurs in both countries. Every now and then the teams discovered stuffed lynx or pelts (Fig. 4 and 5). Lynx is hardly causing any damage on livestock, and depredation seems not to be the reason for shooting lynx. Livestock-large carnivore conflicts are thus not likely to limit lynx recovery.



**Fig. 2.** Distribution of the Balkan lynx in Albania and Macedonia according to the baseline survey. The darker the area, the more probable is the lynx presence.

**Fig. 3.** Trend of the lynx population as assessed by interviewees in Albania and “the former Yugoslav Republic of Macedonia”. ↘ = decrease, → = stable, ↗ = increase, — = could not be assessed as opinions differed strongly.



**Fig 4.** Stuffed lynx exposed in Albania.



**Fig. 5.** Lynx pelt seen in “the former Yugoslav Republic of Macedonia”.

### The Balkan lynx in the IUCN Red List:

The Balkan lynx is listed as Critically Endangered in the IUCN’s European Mammal Assessment

> see [http://ec.europa.eu/environment/nature/conservation/species/ema/species/lynx\\_lynx.htm](http://ec.europa.eu/environment/nature/conservation/species/ema/species/lynx_lynx.htm)

Assessment: CR C2a(i)

Justification: The total size of the population is estimated to be about 100 individuals at best, distributed over different patches, indicating a strong population fragmentation. It is impossible to assess the recent trend in population size or distribution, however local experts indicated a decrease for both 1990-1995 as well as 1996-2001.

The Category is Critically Endangered (CR), the Criteria indicate that the total population size is estimated to number fewer than 250 mature individuals (C) and a continuing decline observed, projected or inferred in numbers of mature individuals (2), and population structure (a), and no subpopulation is estimated to contain more than 50 mature individuals (i). For further information see [www.redlist.org](http://www.redlist.org)

## 2.5 Legal status, conservation and management policy

In “the former Yugoslav Republic of Macedonia”, the Balkan lynx is protected by Law on Hunting since 1949. The Law categorizes the lynx as strictly protected game species and its hunting is permanently prohibited. In Albania, the lynx is considered as a strictly protected species in the Law for Hunting and Fauna Protection (1994) and it is classified as Critically Endangered in the Albanian Red List of Fauna (2002). It has been recognized as a protected species with prohibited hunting since 1969. In addition, the conservation of the Balkan lynx is treated by several international documents ratified by “the former Yugoslav Republic of Macedonia” and Albania, such as the Bern Convention (lynx is in Appendix III), the EU Habitat Directive (Annex II and IV) and CITES (Appendix II). In spite of all the legal documents that protect the Balkan lynx, it is not likely to survive without active measures (as defined in a Conservation Strategy and Action Plans).

## 2.6 Conservation actions and relevant research projects to date

In fall 2006, a pilot programme for the recovery of the Balkan lynx was started in Albania and “the former Yugoslav Republic of Macedonia”. The “Balkan Lynx Recovery Programme” is a partnership project between the Macedonian Ecological Society (MES), the Society for Protection and Preservation of Natural Environment in Albania (PPENA), the Coordinated research projects for the conservation and management of carnivores in Switzerland (KORA), the European Nature Heritage Fund (EuroNatur), and the Norwegian Institute for Nature Research (NINA). The Balkan Lynx Recovery Programme is assisted by the IUCN/SSC Cat Specialist Group and financially supported by the MAVA Foundation, Switzerland and the Norwegian Research Council.

Goals of this programme were (1) to perform a baseline survey across the potential Balkan lynx range by means of interview techniques (presence of lynx, competing carnivores, prey species, livestock, threats, and human attitudes) (results see Ivanov et al. 2008, Keçi et al. 2008., Melovski et al. 2008, Trajçe et al. 2008), (2) to advance the establishment of protected areas on both sides of the border of Albania and “the former Yugoslav Republic of Macedonia” in the frame of the Green Belt Initiative<sup>1</sup> (Schwaderer et al. 2008, Shumka et al. 2008), (3) to launch a conservation partnership with all relevant governmental institutions and to raise public awareness, and (4) to develop capacity in wildlife ecology and conservation through training of graduate students in survey and monitoring techniques. Junior members of MES and PPENA were trained in theoretical and practical aspects of lynx and prey monitoring, data analysis, interpretation and reporting. They form the core of the current project staff.

The scientific outputs of the project so far were reports and publications in conference proceedings (see Chapter 7, References). The strategic approach to the recovery of the Balkan lynx foresees a combination of scientific research and monitoring with site- or management-specific conservation actions, stakeholder involvement and public information and education (Breitenmoser et al. 2008).

The Balkan lynx can only survive if all partners involved make a common effort. The will for collaboration was already expressed at the first joint meeting of the two countries in November 2005 in Mavrovo, “the former Yugoslav Republic of Macedonia” (Breitenmoser et al. 2005). This Conservation Strategy, developed in a participative process, is an important step forward in strengthening this broad partnership for the conservation of the Balkan lynx.

## 3. WORKSHOP PROCESS

### The Aim of the Workshop was:

To prepare a common Strategy for the conservation of the Critically Endangered Balkan lynx population in “the former Yugoslav Republic of Macedonia” and Albania

- *in a participative process involving all partners,*
- *based on an assessment of problems and enabling conditions in the two countries,*
- *to be endorsed by the authorities of the two countries and international partners,*
- *providing a frame for the development of National Action Plans.*

The procedure used to develop the Conservation Strategy for the Balkan lynx was a facilitated **logical framework approach** (LogFrame, Breitenmoser et al. 2007, see Appendix p. 28). The participants first formulated a long-term Vision and a mid-term Goal, setting the landmark at the horizon. The problem analysis (Chapter 4) revealed the obstacles on the way to the destination. Then, a number of Objectives that should allow to overcome the difficulties and to reach the Goal were identified. These Objectives were subsequently broken down into more concrete Targets and Activities. The Strategy provides guidance for the conservation of the Balkan lynx on the range level.

Hence, the Objectives, Targets and Activities refer to tasks, which have to be addressed on a regional level or require international cooperation. In most cases, however, Actions will have to be taken by a range country and should therefore be organised in detail through the National Action Plans. Most of the Targets and Activities listed hereafter lack a timeframe and specification of a responsible actor. These specifications need to be elaborated in the workshops for the development of the National Action Plans.

For a detailed description of the Logical Framework process and the definition of terms see **Appendix** (p. 23)

### **Programme of the Workshop:**

1. Providing the participants with background information on the Balkan lynx. Results from the baseline survey on lynx, prey, habitat and potential conflicts in Albania and “the former Yugoslav Republic of Macedonia” conducted in the frame of the Balkan Lynx Recovery Programme as well as additional information were presented (see Chapter 2);
2. Introduction into the Logical Framework process (see below);
3. Division of the participants into four mixed working groups, each working separately on the definitions of the strategic elements of the documents;
4. Definition of common **Vision** and **Goal** for the Balkan lynx;
5. Problem analysis: Threats, gaps, constraints & enabling conditions (strength) for- Species & population (Working Group 1)- Habitat & prey (Working Group 2)- Lack of capacity & means (resources) (Working Group 3)- Awareness, policy & legislation (Working Group 4)
6. Definition of **Objectives** for Balkan lynx conservation;
7. Definition of **Targets** and **Activities** for Balkan lynx conservation.

After each step, the results of the working groups were merged where needed, and discussed in the plenary until we reached a common consensus.

The follow-up work after workshop included the drafting, reviewing and endorsement of the Balkan Lynx Conservation Strategy.

## **4. PROBLEM ANALYSIS**

For the definition of meaningful conservation measures, a thorough analysis of the threats to the survival of the Balkan lynx is needed. The baseline survey in the two range countries (Melovski et al. 2008, Trajçe et al. 2008) have compiled a wealth of information on the Balkan lynx, on the quality of its environment regarding the situation of the assumed prey species and habitats, and on possible conflicts. After presenting these findings to the workshop, participants have discussed and summarised in a problem analysis the Threats (now existing threats to the survival or recovery and former causes leading to the decline), Gaps (shortcomings in our capacity to conserve the lynx, e.g. lack of knowledge or means), and Constraints (factors not directly threatening the survival of the lynx, but restraining its conservation and recovery).

These negative factors were weighted by each working group regarding their **importance**

1= least important, not urgent

2 = severe, to be addressed as soon as possible

3 = very important and urgent, must be tackled immediately

and the group's **capacity** to mitigate them

1 = low, no possibility to influence

2 = medium, difficult to address, but not impossible;

3 = high, we have capacity and means to improve the situation).

The “importance” and “capacity” values listed below are the mean of the assessment of the four working groups.

<i>Topic</i>	<i>Importance</i>	<i>Capacity</i>
<b>THREATS – former and present threats to the survival of the lynx</b>		
<b>Mortality of lynx and prey</b>		
Small size and isolation of lynx population	3	2
Poaching of lynx despite protection	3	1.9
Low density of some prey populations	2.5	2
Lack of enforcement of hunting legislation for ungulates / poaching	2.5	2
<b>Habitat</b>		
Habitat degradation caused by non-sustainable land-use	2.9	1.8
Forest fires	2.5	1.5
Habitat fragmentation	2.3	1.5
EU accession brings new funding for (traffic) infrastructure development	2	1.8
Disturbance from people in forest	1.5	1.8
<b>Livestock</b>		
Decrease in livestock (?)	1.5	1.3
Loss of traditional husbandry	1.5	1.2
<b>Policy</b>		
Poverty – puts extra pressure on forest resources	2.6	1.8
Inappropriate (for wildlife conservation) economic development	2.4	2
<b>Social unrest</b>		
History of recent conflicts / social unrest in region	1.8	1.2
<b>GAPS – shortcomings regarding conservation of lynx</b>		
<b>Knowledge</b>		
Lack of knowledge about lynx ecology	2.9	2.3
Lack of knowledge about the impact of human migration from village to town	2.3	1.8
Lack of monitoring activity focusing on large carnivores	3	2.3
<b>Capacity and resources</b>		
Lack of capacity and resources in government and research institutions with respect to wildlife	3	2
Lack of capacity and resources to enforce wildlife and forestry legislation	2.7	1.8
Lack of capacity and resources in hunter and environmental NGOs	2.5	2
<b>Awareness and information</b>		
General lack of awareness among the public, including hunters and shepherds	2.8	2.7
General lack of conservation content in education curricula	2.8	2.3
<b>Policy and regulation</b>		
Lack of independent (non-ministerial) government nature protection institutions	3	1.5
Lack of management plans for wildlife species and protected areas	3	2.3
Lack of secondary legislation (regulations / bylaws and guidelines)	2.8	1.8
Lack of coordination between AL and MK regulations	2.7	1.8

**CONSTRAINTS – aspects restraining the conservation of lynx****Policy and law**

Government prioritises economy over ecology	3	1.5
Poor tradition of cooperation between institutions in AL and MK	2.5	2
Park and game wardens lack sufficient police powers	2.5	2
No tradition of cooperation between different ministries and sectors	2.4	1.8

**Economic and human capacity**

Too few resources for enforcement of nature protection and hunting legislation	2.8	2
Low capacity (human and economic) among government and research institutions, protected areas, and NGOs	2.5	1.8

**Awareness**

Low awareness about lynx among local people	2.8	2.6
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**Lynx biology**

The relatively slow reproductive and expansion potential of lynx	2.8	1.5
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**Enabling conditions and strengths**

The working groups listed also the strengths and enabling conditions that favour nowadays the conservation of the Balkan lynx, and came up with the following list:

**International opportunities**

EU accession process will require strengthening of nature protection.

EU accession process should provide new funding opportunities.

National legislation has improved.

International involvement exists.

**Positive developments in protected area system**

Some PA's function well and contain good prey populations as well as lynx.

An expanding PA system exists and can be improved further.

Some training of PA staff have occurred.

**Livestock husbandry tradition**

Traditional livestock husbandry practices (e.g. preventive measures) have persisted.

**Image**

Lynx enjoy a relatively positive image.

Public awareness is increasing.

**Human migration and development**

Human migration away from rural areas creates opportunities for wildlife.

Economic development and improving living standard releases pressure on certain natural resources.

**New capacities**

New generation of researchers and NGO staff is emerging.

**5. CONSERVATION STRATEGY**

After the problem analysis (Chapter 4), the four working groups formulated specific Objectives allowing to counteract the threats and to meet the Vision and the Goal which were also defined by the participants.

The workshop participants retained 11 Objectives, and a total of 33 Targets and 76 Activities. Objectives and Targets which were proposed by more than one group were merged in the plenary discussion.

## **Conservation strategy as developed in the LogFrame workshop:**

### **Vision**

The southwest Balkans will be a region committed to sustainable development and the conservation of its natural and cultural heritage.

### **Goal**

A viable Balkan lynx population living in a matrix of protected and sustainably managed habitat in coexistence with the rural population.

### **Objective 1. To conduct research on the biology, ecology and conservation of Balkan lynx and its prey.**

Target 1.1. Knowledge of the ecology of the Balkan lynx is improved within 5 years.

*Activity 1.1.1.* Publications on the findings of the first phase of the Balkan Lynx Recovery Programme to be published in scientific journals are prepared by the end of 2009.

*Activity 1.1.2.* Draft a proposal for an extended ecological field study using radio telemetry, camera trapping, diet analyses, etc. on the specific ecology of Balkan lynx.

*Activity 1.1.3.* Search for funding for the ecological field study.

Target 1.2. The status of prey populations throughout the present and the potential Balkan lynx range is assessed within 5 years.

*Activity 1.2.1.* Conduct an inventory and assessment of all available data on the prey base (e.g. hunting statistics).

*Activity 1.2.2.* Conduct field surveys (e.g. sign transects, camera trapping) on the abundance of the most important prey species (roe deer, chamois, brown hare) in reference areas in the occupied and potential expansion range of lynx.

Target 1.3. Taxonomic status of the Balkan lynx is defined within 2-5 years.

*Activity 1.3.1.* Conduct a genetic analysis to clarify taxonomic status and publish it in an international scientific journal.

Target 1.4. Appropriate research on human-dimensions and on conflicts with lynx or other large carnivores will be conducted within 2 years.

*Activity 1.4.1.* Continue studies of local attitudes towards wildlife with a view to more carefully targeting information.

*Activity 1.4.2.* Conduct a multi-disciplinary study of the potential impacts of rural-urban migration on wildlife conservation.<sup>1</sup>

### **Objective 2. To establish and enforce appropriate wildlife management practices to reverse the decline of lynx and their prey (see also Objective 9).**

Target 2.1. Established and improved wildlife management practices in forest management planning.

*Activity 2.1.1.* Support development of a law that will allow concessions for hunting grounds to be awarded (AL).

*Activity 2.1.2.* Support the establishing of a wildlife management agency in order to improve the concession system for hunting grounds (MK; see also Target 5.1).

***Activity 2.1.3. Evaluate the need and alternatives for establishment (AL), and for improvement of procedures (MK) of compensation systems for carnivore damage.***

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<sup>1</sup> E.g. Livestock decrease, loss of traditional practices, loss of forest clearings that support roe deer, brown hare etc.

### **Objective 3. To maintain and restore the structure, function and connectivity of the landscape for wildlife.**

Target 3.1. A landscape management plan for existing and potential lynx range is developed.

*Activity 3.1.1.* Produce GIS maps of forest distribution and forest quality based on existing data sets, remote sensing data and ground truthing.<sup>2</sup>

*Activity 3.1.2.* Analyse maps from 3.1.1 with respect to habitat connectivity and identification of bio-corridors.

*Activity 3.1.3.* Develop a proposal for a zoning / land-use / spatial planning / ecological network map considering the needs of lynx and other wildlife and bring it to the attention of relevant decision makers and ministries.

Target 3.2. Traditional livestock breeding and other traditional land-use practices important for the maintenance of landscape diversity are preserved or re-established.

*Activity 3.2.1.* Develop an outreach campaign with the local inhabitants to emphasise the importance and methods of traditional husbandry and other land-use practices.

*Activity 3.2.2.* Improve incentives allowing local livestock herders to maintain their traditional husbandry practices.<sup>3</sup>

*Activity 3.2.3.* Encourage mechanisms to effectively market traditional mountain products, e.g. organise fairs and promotional events to improve market access.

*Activity 3.2.4.* Assess the potential of using the lynx as flagship for ecotourism/sustainable forms of tourism and for traditional food production.

### **Objective 4. To develop the capacity and knowledge and raise awareness on local and individual levels about lynx, wildlife and nature conservation.**

Target 4.1. Local people and land users in the lynx area have improved knowledge on lynx, wildlife, nature conservation and sustainable use (promoting Targets under Objective 3).

*Activity 4.1.1.* Organize two workshops and training programmes per year for the exchange of information between experts, local land users (livestock breeders, farmers, hunters) and landscape managers (foresters, wildlife authorities, park managers).

Target 4.2. Exchange of experience between experts and local people between and within the two countries are established.

*Activity 4.2.1.* Arrange study tours and meetings for the forestry and landscape management sector, local administrators and other stakeholders relevant for lynx conservation (one excursion in each country per year) to exchange ideas and information.

Target 4.3. The public is aware of lynx and nature conservation issues.

*Activity 4.3.1.* Establish cooperation between the lynx monitoring centres of the Balkan Lynx Recovery Programme and the natural history museums in Skopje and Tirana to create lynx information centres closely collaborating with other educational institutions (national park information centres, zoos, schools, etc.).

*Activity 4.3.2.* Prepare and distribute information material on lynx: leaflets, booklets, posters, travelling exhibition, media releases, etc.

Target 4.4. The rural population in the lynx range is involved in nature conservation and rural sustainable development activities.

*Activity 4.4.1.* Select and implement model projects for generating money through alternative sources of income.

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<sup>2</sup> Landuse maps based on satellite images were developed for a few regions (Jablanica-Shebenik, Albanian Alps, Sar Planina, Illinska-Plakenska and Mavrovo) in the frame of the Balkan Lynx Recovery Programme.

<sup>3</sup> Synergy with Balkan Vulture Action Plan

*Activity 4.4.2.* Implement selected model projects for nature conservation.

**Objective 5. To develop the capacity of governmental, non-governmental and scientific institutions.**

Target 5.1. Institutions dealing with wildlife conservation and management are reinforced.

*Activity 5.1.1.* Propose the creation of national wildlife agencies under the auspices of the responsible ministries (environment; see also Activity 2.1.2).

*Activity 5.1.2.* Strengthen the existing structures (or develop if absent) at the regional and local governmental level to be aware of wildlife conservation issues (priority in lynx range).

*Activity 5.1.3.* Establish lynx rescue centres in the national zoos in Skopje and Tirana.

Target 5.2. Wildlife research in scientific communities is promoted.

*Activity 5.2.1.* Elaborate a plan for the establishment of a scientific institution (or department in the existing institutions) for wildlife research and monitoring.

Target 5.3. Scientific cooperation between the countries in the lynx range is secured.

*Activity 5.3.1.* Organise and attend joint conferences, symposiums and workshops.

*Activity 5.3.2.* Initiate cooperation between organisations and institutions involved in wildlife research and sign appropriate Memorandum for Cooperation.

Target 5.4. Improvement of conservation content in the educational system (special module for lynx; see also Target 4.3).

*Activity 5.4.1.* Develop and promote educational lectures for lynx conservation in schools and universities in both countries.

*Activity 5.4.2.* Organise “summer schools” for wildlife research and conservation with students from both countries.

Target 5.5. National and international NGOs support the recovery of the Balkan lynx.

*Activity 5.5.1.* Inform the national and international conservation community regularly on the Balkan Lynx Recovery Programme.

*Activity 5.5.2.* Organise a range-wide and international conference on the conservation of Balkan lynx.

**Objective 6. To improve the coverage and management of the protected area system.**

Target 6.1. New protected areas are established in accordance with the National Biodiversity Strategy and Action Plan, Emerald Network, Natura 2000 and the Green Belt Initiative, with special emphasis on the needs of a viable Balkan lynx metapopulation (see Objective 3).

*Activity 6.1.1.* Establish Jablanica National Park (IUCN II) – “the former Yugoslav Republic of Macedonia”

*Activity 6.1.2.* Establish Nidze-Kozhuf protected area – “the former Yugoslav Republic of Macedonia”

*Activity 6.1.3.* Establish Shar Planina protected area – “the former Yugoslav Republic of Macedonia”

*Activity 6.1.4.* Establish Jakupica National Park (IUCN II) – “the former Yugoslav Republic of Macedonia”

*Activity 6.1.5.* Establish Korabi Protected Landscape (IUCN V) – Albania

*Activity 6.1.6.* Establish Albanian Alps National Park (IUCN II) – Albania

*Activity 6.1.7.* Establish Shpat-Polis-Valamarë Protected Landscape (IUCN V)– Albania

*Activity 6.1.8.* Establish Lura-Balgjaj National Park (IUCN II) (enlargement and merging of existing protected areas into one National Park) – Albania

*Activity 6.1.9.* Establish Vithkuq-Ostrovicë Protected Landscape (IUCN V)– Albania

Target 6.2. Bio-corridors are established through the creation of new protected areas to mitigate the effects of fragmentation (see Objective 3).

*Activity 6.2.1.* Establish Ilinska-Plakenska Planina Protected Landscape or Managed Resource Protected Area (IUCN V or VI) – “the former Yugoslav Republic of Macedonia”

*Activity 6.2.2.* Establish Pashtrik-Morine Managed Resource Protected Area (IUCN VI) – Albania

Target 6.3. Management practices in existing and proposed protected areas (PA) are improved.

*Activity 6.3.1.* Elaborate management plans for all protected areas in lynx range.

*Activity 6.3.2.* Improve capacities in PA administrations (for management of lynx, prey and their habitats).

Target 6.4. Establish a monitoring system for protected areas and corridors in the Balkan lynx range.

*Activity 6.4.1.* Prepare a list of bioindicators for the evaluation of the status of forest habitats in the lynx range.

*Activity 6.4.2.* Elaborate methods for the monitoring of lynx habitats in protected and non-protected areas in the Balkan lynx range.

## **Objective 7. To establish a monitoring system for wildlife.**

Target 7.1. Establish a Balkan lynx monitoring system in the frame of the Balkan Lynx Recovery Programme (to serve as a model project for further monitoring projects; see also Target 4.3).

*Activity 7.1.1.* Establish adequate methods (e.g. collection of observations, snow tracking, camera trapping) for the monitoring of the Balkan lynx across its range.

*Activity 7.1.2.* Establish a network of local informants for the monitoring of the Balkan lynx.

*Activity 7.1.3.* Standardise the data analyses and regular reporting to the governmental agencies, the stakeholders and the public about the monitoring results and the status of the Balkan lynx.

Target 7.2. Promote an institutionalised, long-term monitoring system for wildlife species in the two countries.

*Activity 7.2.1.* Establish cooperation between government, non-governmental and hunter organizations to develop a practical and viable system for wildlife monitoring and reporting.

*Activity 7.2.2.* Fund experts to develop, coordinate and supervise the system.

*Activity 7.2.3.* Provide infrastructure and logistical support for the monitoring team and a central data administration.

## **Objective 8. To secure long-term funds for lynx conservation within a wider nature conservation funding strategy.**

Target 8.1. National funds for the long-term conservation of the Balkan lynx are made available

*Activity 8.1.1.* Explore the possibilities to establish national Funds for Nature Conservation to secure the long-term funding of lynx conservation and other wildlife conservation activities.

*Activity 8.1.2.* Evaluate the possibilities for establishing a voluntary eco-tax for lynx through different mechanisms with the assistance of an economy expert. For example, establish the Balkan lynx as a green brand / marketing tool for eco-tourism and traditional / organic agricultural / forest products from lynx range (see also Activity 3.2.4.).

Target 8.2. Funds from foreign sources and donors for the conservation of Balkan lynx are available.

*Activity 8.2.1.* Increase efficiency at accessing foreign funding sources from donors and foundations.

*Activity 8.2.2.* Organise workshops for national park and NGOs on how to find, obtain and manage foreign funding.

### **Objective 9. To adapt secondary legislation and improve law enforcement.**

Target 9.1. New hunting laws<sup>4</sup> are properly adapted to the needs of Balkan lynx conservation.

*Activity 9.1.1.* Contact and inform the ministry and administration in charge about the specific needs of Balkan lynx conservation in regard to the new hunting law.

*Activity 9.1.2.* Ensure appropriate bylaws and regulations are developed to meet the needs of Balkan lynx conservation.

Target 9.2. Appropriate control powers are delegated to (game) wardens.

*Activity 9.2.1.* Adapt the law / bylaws / regulations to secure the appropriate police power of wardens.

*Activity 9.2.2.* Train the wardens in regard to their police powers and control procedures.

Target 9.3. Examine and tackle wildlife crime including possible corruption in wardens, police and administrations.

*Activity 9.3.1.* Prepare an overview of known cases of poaching and illegal trade with reference to potential corruption.

*Activity 9.3.2.* Draw attention of state corruption investigators to the issue of wildlife crimes.

*Activity 9.3.3.* Change public attitudes towards poaching and illegal wildlife trade through information campaigns.

### **Objective 10. To establish and organise transboundary cooperation.**

Target 10.1. Increase the number and the area of transboundary protected areas between range countries.

Activities already covered under Target 6.1. and 6.2.

Target 10.2. The draft Memorandum of Understanding on lynx conservation between the two countries is ratified.

*Activity 10.2.1.* Lobby activity on responsible ministries for the signature of the MoU and organise an appropriate media event.

Target 10.3. Transboundary local development projects on municipality levels are promoted.

*Activity 10.3.1.* Establish pilot projects in Debar-Peshkopi / Struga-Librazhd / Resen-Korça (see also Activity 3.2.3. and activities under Objective 4).

Target 10.4. Transboundary coordination of lynx conservation is secured (see also Target 5.3.).

*Activity 10.4.1.* Submit a proposal to both ministries for a Balkan Lynx Coordination Committee.

*Activity 10.4.2.* Establish and manage the Coordination Committee and its work and meetings.

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<sup>4</sup> Presently existing in draft form in both MK and AL.

Target 10.5. Bosnia and Herzegovina, Montenegro, Kosovo and Greece are included in future Balkan lynx conservation activities.

*Activity 10.5.1.* Organise a South-western Balkan workshop on large carnivore conservation and management with special emphasis on urgent measures for the survival of the Balkan lynx.

### **Objective 11. To integrate Balkan lynx conservation into Sectorial Coordination and EU Harmonisation.**

Target 11.1. Lynx conservation issues are integrated into strategic development documents (biodiversity strategy, forestry strategy, rural development strategy, etc.).

*Activity 11.1.1.* Create a working group for the evaluation of all existing and proposed legal documents relevant for lynx conservation and coordinate activities among different departments within institutions in both countries.

*Activity 11.1.2.* Develop a National Action Plan for Lynx Conservation (within the frame of this range-wide Conservation Strategy) that explicitly specifies the responsibility of the different sectors.

Target 11.2. National Action Plans of the Biodiversity Strategies and for the Balkan Lynx are implemented.

*Activity 11.2.1.* Promote the implementation of the existing frameworks and action plans.

Target 11.3. Balkan lynx conservation issues are considered in the EU harmonisation process.

*Activity 11.3.1.* Establish a task force (e.g. within the Balkan Lynx Coordination Committee) to write a document that explores the issues associated with EU harmonisation<sup>5</sup> and evaluates the potential ways in which EU harmonisation processes can influence lynx conservation using a scenario process.

## **6. IMPLEMENTATION**

As the work progresses and more and better information on lynx ecology, prey status, human attitudes etc. become available, the strategic instruments will need to be reviewed and revised. The life-span of the present Strategy was defined at the workshop to be five years.

This Strategy serves as basis for the development of National Action Plans in Albania and “the former Yugoslav Republic of Macedonia”. The National Action Plans are the actual implementing tools for the Strategy. Workshops for the development of Action Plans are foreseen in June 2009.

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<sup>5</sup> See WWF. 2006. Conflicting EU Funds: Pitting conservation against unsustainable development. WWF Global Species Programme, Wien, 72 pp.

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## Appendices

### 1. Logical framework process, including definition of terms

The logical framework (LogFrame) is a widely used methodology in participative workshops improving the performance of interventions. A LogFrame approach allows working together in defining visions and goals, analysing the problems, and developing solutions in form of objectives, targets and activities.

The methodology consists of working together on developing a **Vision** and **Goal** of a *Conservation Strategy* or *Action Plan*, and carrying out a **Problem Analysis**. Threats are then transformed into **Objectives** allowing to overcome the problems and reach the goals. More concrete **Targets** are then defined for each Objective, and **Activities** are defined for each Target.

The LogFrame used for the development of the Conservation Strategy for the Balkan lynx can be visualised as following:



#### Elements of the LogFrame:

**Vision:** A guiding vision – describing the world and its biodiversity we are seeking to preserve for the next ~25 years.

**Goal:** The particular goal we want to reach within 10–20 years according to our vision.

**Objective:** Several objectives to fulfil the goal reflecting our expertise and strength (timeframe about 5 years).

**Target:** Specific targets describing the partners' contribution to the objective within the next 3–5 years.

**Activity:** Activities for the next 1–3 years required for achieving a target.

Part of the LogFrame is the problem analysis to identify threats, gaps and enabling conditions to the survival or conservation of the Balkan lynx. The definition of a Vision and a Goal and the identification of the threats allow then to specify Objectives, Targets and Activities to counteract the threats and to meet the goal.

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