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# Strategy for the Conservation of the Balkan Lynx in Macedonia and Albania



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## Results from the Strategic Planning Workshop for the Conservation of the Balkan Lynx Peshtani, MK, 3-4 June 2008

(Logos)

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62 **Endorsement Statements**

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The Strategy for the Conservation of the Lynx in Macedonia and Albania aims conserving the Critically Endangered Balkan lynx across its distribution area in a close cooperation between these two most important range countries and provides a framework for the development of more specific national Action Plans. The Strategy has been developed in a workshop in June 2008 and has then be reviewed by the participants and the institutions listed below, who are herewith endorsing this Strategy:

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72

We hereby declare that we endorse the Conservation Strategy of the Balkan lynx in Macedonia and Albania

73  
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76

77 **Signature.....Date .....**

78 ALBANIA

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82

83 **Signature.....Date .....**

84 MACEDONIA

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94 [Logos of participating/endorsing agencies]

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96

97 **Editors, contributors**

98  
99  
100

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:

101 **Editors: [List of names...]**

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

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106 **Acknowledgements**

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113

114

115 **Reference proposal:**

116 Balkan Lynx Strategy Group. 2008. Strategy for the Conservation of the Balkan Lynx in Macedonia  
117 and Albania. Peshtani, MK, 3-4 June 2008.

118

## 118 **Executive Summary**

119

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

128

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

134

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

140

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

144

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

149

150 Information on lynx distribution and abundance, potential prey quality, and people's attitude  
151 towards lynx were gathered through a baseline survey in 2006/07 based on interviews of local  
152 inhabitants in the presumed and potential lynx range of eastern Albania and western Macedonia.

153

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

162

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

168

169 The most important threats facing the Balkan lynx, as revealed during the problem analysis of the  
170 workshop, are poaching of lynx despite its legal protection, the small size and isolation of its  
171 population and habitat degradation caused by non-sustainable land use practices. The workshop  
172 participants have furthermore assessed the shortcomings in (their) capacity to conserve the lynx  
173 (Gaps) and factors restraining lynx conservation and recovery (Constraints) but also came up with a  
174 list of strengths and enabling conditions that favour conservation measures for the Balkan lynx.  
175

176 To achieve the goal of to “Secure a viable population of the Balkan lynx living in a matrix of protected  
177 and sustainably managed habitat in coexistence with the rural population”, eleven objectives were  
178 identified each with 1-5 targets and 1-9 activities proposed to direct the achievement of each  
179 objective.  
180

181 This Strategy for the Conservation of the Balkan lynx will, once endorsed by relevant governmental  
182 institutions of Albania and Macedonia, serve as basis for the development of National Actions Plans  
183 as implementing tools for the Strategy. The Strategy and the more concrete Action Plans will provide a  
184 road map for the recovery and long-term conservation of the Balkan lynx.  
185  
186

## 186 1. Introduction

187

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

197

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

206

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

217

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

231

## 231 **2. Background Information**

### 232 **Biology and ecology of the Balkan lynx**

233  
234  
235 Apart from a few anecdotal observations, there is no information available about the biology and  
236 ecology of the Balkan lynx. It is assumed that the diet, spatial use and behaviour of Balkan lynx does  
237 not differ much from Eurasian lynx elsewhere but so far there is no scientific data to be conclusive.

238  
239 According to Mirić (1981), the Balkan lynx feeds on brown hare (*Lepus europaeus*), roe deer  
240 (*Capreolus capreolus*), small rodents, birds (like partridge, *Alectoris graeca*), chamois (*Rupicapra*  
241 *rupicapra*) and wild boar (*Sus scrofa*). Livestock species like sheep and goat are rarely being killed  
242 which was confirmed by interviews of local farmers in eastern Albania and western Macedonia (Keçi  
243 et al. 2008). Grubač's (2000) few observations confirm the prey spectrum mentioned above, with the  
244 exception of wild boar. On the other hand he states that Balkan lynx also eats fish and carrion  
245 (Grubač 2002).

246  
247 Mirić writes in his 1981 paper, pairing of Balkan lynx occurs in January and February which would be  
248 1-2 months earlier than in other European regions. Balkan lynx is said to have a low reproductive  
249 potential of usually one kitten, sometimes two and only very seldom three kittens (Mirić 1981).

250  
251 Again Mirić (1981) indicates a home range size of 18-38 km<sup>2</sup> (on average 30 km<sup>2</sup>) for Balkan lynx in  
252 Kosovo and Macedonia but states that in good habitat home range size can even be smaller. First  
253 scientific evidence indicates that his figures are probably underestimated. An intensive camera-trap  
254 survey in 2008 in the Mavrovo National Park, which is considered a stronghold of the population with  
255 good lynx habitat, yielded a lynx density of 0.84 ± 0.24 animals per 100 km<sup>2</sup> (Melovski et al. 2008).

256  
257 All in all, there is not enough scientific evidence to understand the biology and ecology of the Balkan  
258 lynx. Research is urgently needed to fill these gaps.

### 259 260 **Taxonomy of the Balkan lynx**

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262  
263 The Balkan lynx taxonomic status remains unclear. The first one that described it as a separate  
264 subspecies was Buresch in 1941. He named it *Lynx lynx balcanicus*. In 1973, Mirić followed this idea  
265 and gave in his work in 1978 a more detailed description of the morphometric characteristics that  
266 separate the Balkan lynx from the other described subspecies. Mirić changed the name of the Balkan  
267 subspecies to *Lynx lynx martinoi* (Fig. 1). Afterwards, no one worked on this taxonomic subject for a  
268 long time. Since 2005 however, DNA analysis from Balkan lynx (museum specimens from Albania and  
269 Macedonia) are conducted and compared with those of other lynx in a Pan-European study  
270 (Breitenmoser-Würsten & Obexer-Ruff 2003). The comparison showed clear differences of Balkan  
271 lynx from all other autochthonous Eurasian lynx populations, especially also from the neighbouring  
272 Carpathian lynx (*Lynx lynx carpathicus*). It is said that the Balkan lynx is smaller in body size, but  
273 according to Mirić (1978) the only reliable biometric variables clearly distinguishing the Balkan lynx  
274 from the other *Lynx lynx* subspecies are the smaller condylobasal length and zygomatic width (skull  
275 measurements). As however condylobasal length is correlated with body weight, Balkan lynx could be  
276 smaller than other lynx. Measurements of living lynx rather than stuffed museum specimens are  
277 needed to verify this.

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

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### History of the Balkan lynx

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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 (Mirić, 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 Macedonian-Albanian border. 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.

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In the past, the Balkan lynx was distributed in all parts 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.

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### Present distribution, abundance and conservation status

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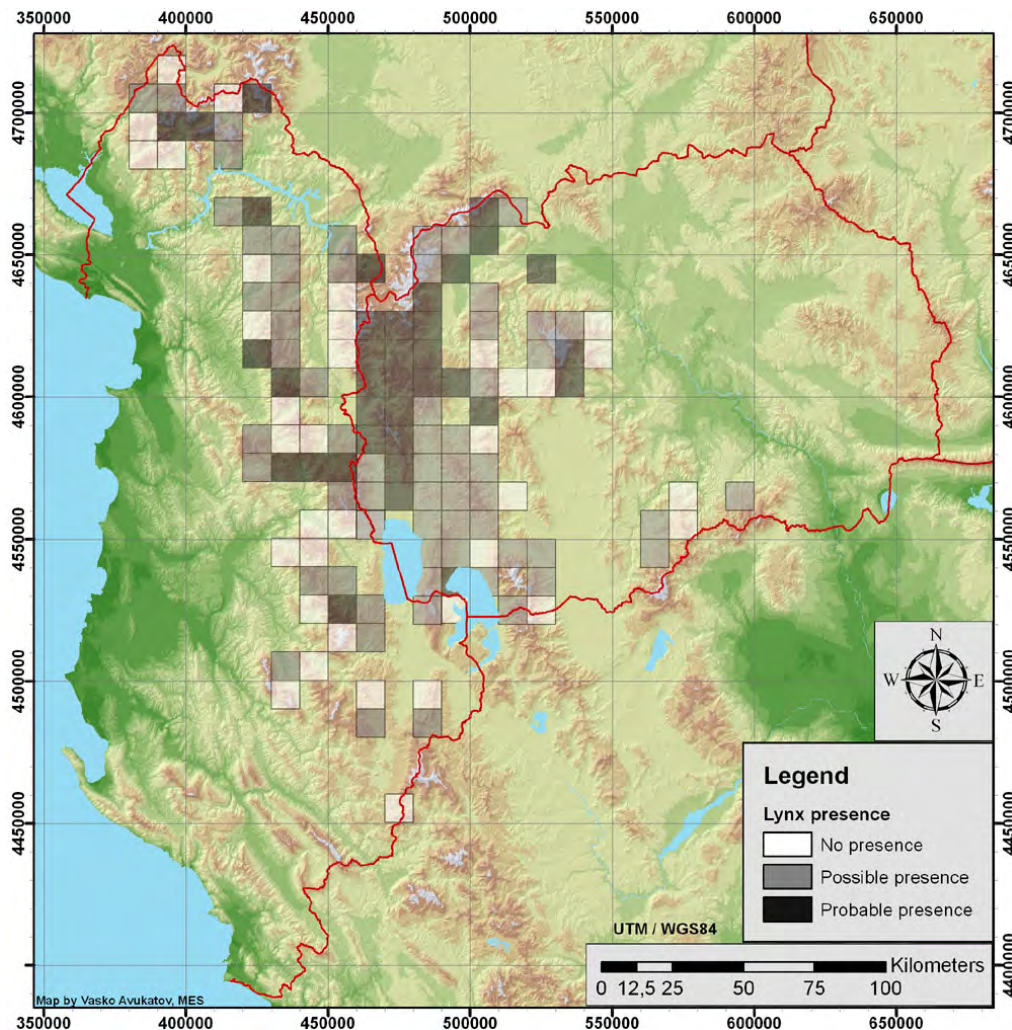
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A baseline survey conducted in 2006/07 resulted in 553 interviews of local inhabitants in Macedonia and 320 in Albania (Ivanov et al. 2008, Keçi et al. 2008., Melovski et al. 2008, Trajçe et al. 2008). These are the main results: According to the people interviewed, the presence of lynx is confined to western 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 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

318 on livestock, and depredation seems not to be the reason for shooting lynx. Livestock-large carnivore  
 319 conflicts are thus not likely to limit lynx recovery.  
 320



**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.

321  
 322

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



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Fig 4. Stuffed lynx exposed in Albania.



Fig 5. Lynx pelt seen in Macedonia.

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#### 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)

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#### Legal status, conservation and management policy

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In 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 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).

**343 Conservation actions and relevant research projects to date**

344

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

353

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

365

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

370

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

376

377

### 377 3. Workshop process

378

#### 379 **The Aim of the Workshop was:**

380 To prepare a common Strategy for the conservation of the Critically Endangered Balkan lynx  
381 population in Macedonia and Albania

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

386

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

394

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

401

402 For a detailed description of the Logical Framework process and the definition of terms see **Appendix**  
403 (p. 28)

404

405

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

407

408 1. Providing the participants with background information on the Balkan lynx. Results from the  
409 baseline survey on lynx, prey, habitat and potential conflicts in Albania and Macedonia  
410 conducted in the frame of the Balkan Lynx Recovery Programme as well as additional  
411 information were presented (see Chapter 2);

412

413 2. Introduction into the Logical Framework process (see below);

414

415 3. Division of the participants into four mixed working groups, each working separately on the  
416 definitions of the strategic elements of the documents;

417

418 4. Definition of common **Vision** and **Goal** for the Balkan lynx;

419

420 5. Problem analysis: Threats, gaps, constraints & enabling conditions (strength) for

421 - Species & population (Working Group 1)

422 - Habitat & prey (Working Group 2)

423 - Lack of capacity & means (resources) (Working Group 3)

424 - Awareness, policy & legislation (Working Group 4)

425

426 6. Definition of **Objectives** for Balkan lynx conservation;

427

428           7. Definition of **Targets** and **Activities** for Balkan lynx conservation.

429

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

432

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

435

436

436 **4. Problem analysis**

437  
438 For the definition of meaningful conservation measures, a sorrow analysis of the threats to the  
439 survival of the Balkan lynx is needed. The baseline survey in the two range countries (Melovski et al.  
440 2008, Trajçe et al. 2008) have compiled a wealth of information on the Balkan lynx, on the quality of  
441 its environment regarding the situation of the assumed prey species and habitats, and on possible  
442 conflicts. After presenting these findings to the workshop, participants have discussed and  
443 summarised in a problem analysis the Threats (now existing threats to the survival or recovery and  
444 former causes leading to the decline), Gaps (shortcomings in our capacity to conserve the lynx, e.g.  
445 lack of knowledge or means), and Constraints (factors not directly threatening the survival of the  
446 lynx, but restraining its conservation and recovery).

447  
448 These negative factors were weighted by each working group regarding their **importance**

449 1= least important, not urgent

450 2 = severe, to be addressed as soon as possible

451 3 = very important and urgent, must be tackled immediately

452  
453 and the group's **capacity** to mitigate them

454 1 = low, no possibility to influence

455 2 = medium, difficult to address, but not impossible;

456 3 = high, we have capacity and means to improve the situation).

457  
458 The "importance" and "capacity" values listed below are the mean of the assessment of the four  
459 working groups.

460  
461

<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

**GAPS – shortcomings regarding conservation of lynx****Knowledge**

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

**Capacity and resources**

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

**Awareness and information**

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

**Policy and regulation**

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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462

463

464

465 **Enabling conditions and strengths**

466 The working groups listed also the strengths and enabling conditions that favour nowadays the  
467 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.

468

469

470

## 470 5. Conservation Strategy

471  
472 After the problem analysis (Chapter 4), the four working groups formulated specific Objectives  
473 allowing to counteract the threats and to meet the Vision and the Goal which were also defined by  
474 the participants.

475  
476 The workshop participants retained 11 Objectives, and a total of 33 Targets and 76 Activities.  
477 Objectives and Targets which were proposed by more than one group were merged in the plenary  
478 discussion.

479  
480  
481 **Conservation strategy as developed in the LogFrame workshop:**

- 482  
483 • Edited version including the discussion and comments at the end of the workshop. Order and  
484 numbering to Objectives, Tasks and Activities changed where needed. Open questions and  
485 editors' comments in red. Activities added/removed by reviewers are in yellow.

486  
487 **Vision**

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

490  
491 **Goal**

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

494  
495 **Objective 1. To conduct research on the biology, ecology and conservation of Balkan lynx**  
496 **and its prey.**

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

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

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

502 *Activity 1.1.3.* Search for funding for the ecological field study. (remove? Proposal MES)

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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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.

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

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

548 *Activity 3.2.4. Assess the potential of using the lynx as flagship for*  
549 *ecotourism/sustainable forms of tourism and for traditional food production. (added by*  
550 *MES)*

551 **Objective 4. To develop the capacity and knowledge and raise awareness on local and**  
552 **individual levels about lynx, wildlife and nature conservation. [Editors' comment: Objective 4**  
553 **includes now former Objective 9 with all Targets and Activities.]**

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

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

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

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

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

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

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

573 **Target 4.4. The rural population in the lynx range is involved in nature conservation**  
574 **and rural sustainable development activities. (added by Euronatur)**

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

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

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

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

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

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

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

588 Target 5.2. Wildlife research in scientific communities is promoted.

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

- 591 Target 5.3. Scientific cooperation between the countries in the lynx range is secured.
- 592 *Activity 5.3.1.* Organise and attend joint conferences, symposiums and workshops.
- 593 *Activity 5.3.2.* Initiate cooperation between organisations and institutions involved in
- 594 wildlife research and sign appropriate Memorandum for Cooperation.
- 595 Target 5.4. Improvement of conservation content in the educational system (special
- 596 module for lynx; see also Target 4.3).
- 597 *Activity 5.4.1.* Develop and promote educational lectures for lynx conservation in
- 598 schools and universities in both countries.
- 599 *Activity 5.4.2.* Organise “summer schools” for wildlife research and conservation with
- 600 students from both countries.
- 601 Target 5.5. National and international NGOs support the recovery of the Balkan lynx.
- 602 *Activity 5.5.1.* Inform the national and international conservation community regularly
- 603 on the Balkan Lynx Recovery Programme.
- 604 *Activity 5.5.2.* Organise a range-wide and international conference on the conservation
- 605 of Balkan lynx.
- 606 **Objective 6. To improve the coverage and management of the protected area system.**
- 607 Target 6.1. New protected areas are established in accordance with the National
- 608 Biodiversity Strategy and Action Plan, Emerald Network, Natura 2000 and the Green
- 609 Belt Initiative, with special emphasis on the needs of a viable Balkan lynx
- 610 metapopulation (see Objective 3).
- 611 *Activity 6.1.1.* Establish Jablanica National Park (IUCN II) – Macedonia
- 612 *Activity 6.1.2.* Establish Nidze-Kozhuf protected area – Macedonia
- 613 *Activity 6.1.3.* Establish Shar Planina protected area – Macedonia
- 614 *Activity 6.1.4.* Establish Jakupica National Park (IUCN II) – Macedonia
- 615 *Activity 6.1.5.* Establish Korabi Protected Landscape (IUCN V) – Albania
- 616 *Activity 6.1.6.* Establish Albanian Alps National Park (IUCN II) – Albania
- 617 *Activity 6.1.7.* Establish Shpat-Polis-Valamarë Protected Landscape (IUCN V)– Albania
- 618 *Activity 6.1.8.* Establish Lura-Balgjaj National Park (IUCN II) (enlargement and merging of
- 619 existing protected areas into one National Park) – Albania
- 620 *Activity 6.1.9.* Establish Vithkuq-Ostrovicë Protected Landscape (IUCN V)– Albania
- 621 Target 6.2. Bio-corridors are established through the creation of new protected areas
- 622 to mitigate the effects of fragmentation (see Objective 3).
- 623 *Activity 6.2.1.* Establish Ilinska-Plakenska Planina Protected Landscape or Managed
- 624 Resource Protected Area (IUCN V or VI) – Macedonia
- 625 *Activity 6.2.2.* Establish Pashtrik-Morine Managed Resource Protected Area (IUCN VI) –
- 626 Albania
- 627 Target 6.3. Management practices in existing and proposed protected areas (PA) are
- 628 improved.
- 629 *Activity 6.3.1.* Elaborate management plans for all protected areas in lynx range.

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

632 **Target 6.4.** Establish a monitoring system for protected areas and corridors in the  
633 **Balkan lynx range. (this Target with Activities was added by MES)**

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

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

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

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

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

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

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

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

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

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

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

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

659 **Target 8.1.** National funds for nature (or environment) conservation are available.  
660 *(Editors' alternative proposal: "National funds for the long-term conservation of the  
661 Balkan lynx are made available.")*

662 *Activity 8.1.1.* Support the initiative for the establishment of national Funds for Nature  
663 and comment on the proposal for its structure *(Editors' alternative proposal: "Explore  
664 the possibilities to establish national Funds for Nature Conservation to secure the long-  
665 term funding of lynx conservation and other wildlife conservation activities.")*

666 *Activity 8.1.2.* Evaluate the possibilities for establishing a voluntary eco-tax for lynx  
667 through different mechanisms with the assistance of an economy expert. For example,  
668 establish the Balkan lynx as a green brand / marketing tool for eco-tourism and  
669 traditional / organic agricultural / forest products from lynx range (see also Activity  
670 3.2.4.).

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

700 Activities already covered under Target 6.1. and 6.2.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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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.



744 **6. Implementation**

745

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

749

750 This Strategy serves as basis for the development of National Action Plans in Albania and Macedonia.  
751 The National Action Plans are the actual implementing tools for the Strategy. Workshops for the  
752 development of Action Plans are foreseen in June 2009.

753

754

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844 **Appendices**

845

846 **Logical framework process, including definition of terms**

847

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

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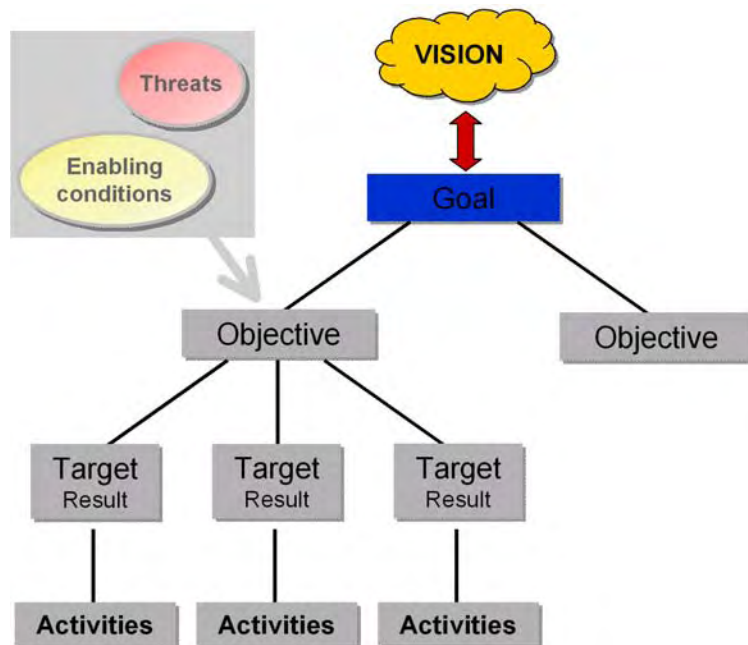
853 The methodology consists of working together on developing a **Vision** and **Goal** of a *Conservation*  
 854 *Strategy* or *Action Plan*, and carrying out a **Problem Analysis**. Threats are then transformed into  
 855 **Objectives** allowing to overcome the problems and reach the goals. More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

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

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**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.

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

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873 **List of workshop participants and additional reviewers**

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881 \*met at Bern Convention meeting in Strasbourg (24.11.08) and declared interest to be involved.

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883 **Further persons who could not participate at the workshop but reviewed and endorsed the**884 **Strategy will be added here.**

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Participants of the workshop in Peshtani, 3-4 June 2008.

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