

Conservation Action Plan for the Brown Bear population of the Trialeti range and Borjomi-Kharagauli National Park



NACRES

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PREAMBLE	4
INTRODUCTION	5
1. GOALS	5
2. CONSERVATION OF THE HABITAT	6
2.1. Campaign against illegal logging	6
2.2. Development of recommendations to minimize the impact of forestry operations	6
2.3. Monitoring of human-induced succession in forest ecosystems	6
3. CONTROL OF ILLEGAL BEAR HUNTING	7
3.1 Encourage cooperation between the public and the local Environmental Inspection unit.....	7
3.2. Conduct public awareness activities	7
4. CONFLICT BETWEEN BEARS AND LOCAL FARMERS	7
4.1 Preventive measures against crops and livestock damage by bears	7
4.2 Establishment of an Intervention Group	8
5. BEAR POPULATION RECOVERY	9
5.1. Brown bear population recovery on the Algeti Nature Reserve.....	9
5.2. Brown bear population recovery on the hunting reserve "Fauna"	9
6. TOURISM AND BEARS	9
7. CURRENT LEGISLATION AND BEAR HUNTING	10
8. MONITORING OF BEAR POPULATION	10
9. RESEARCH	11
10. CAPTIVE BEARS	11
11. PUBLIC INFORMATION AND PARTICIPATION IN DECISION-MAKING	12

PREAMBLE

The Brown bear (*Ursus arctos*) is the most widely distributed of all bears of the world. However due to habitat encroachment and excessive hunting this predator has seen a major decline, whereas in many European countries it has been completely eradicated.

The brown bear is listed in Appendix II of the Convention on the Conservation of European Wildlife and Natural Habitats (the Bern Convention), in which strictly protected fauna species are specified. Despite the fact that Georgia has not yet become a party to the Bern convention, the conservation of the Georgian brown bear population is of great importance in the European (as well as global) context. Recently this species has been included in the Georgian Red List of Threatened species under the category Critically Endangered. This has created a legal basis for brown bear protection at the national level. Nevertheless further steps urgently needed in respect of law enforcement as well as concrete conservation measures. In addition the Georgian Biodiversity Strategy and Action Plan (BSAP), which was ratified by the Government on February 19, 2005 envisages the development of Conservation management Plans for all species of conservation concern (Subchapter 5.2, paragraph B15).

For management purposes the Georgian brown bear population can be divided into three subpopulations or management units: those of the Great Caucasus, Lesser Caucasus, and Arid and Semiarid zone. Such a division is justifiable due to physical and ecological differences (especially in the case of Arid and Semiarid zone) and administrative arrangement of the country. Brown bears of the Trialeti range and Borjomi-Kharagauli National Park are an important core part of the Lesser Caucasus subpopulation and their conservation is essential for the persistence of the whole subpopulation (as well as of the entire Georgian population).

The present conservation action plan has been prepared under the project, NBSAP Implementation - Ecosystems and Species Conservation in Georgia: Brown Bear (Phase 1) using a participatory approach. It is also envisaged that all potential stakeholders as well as general public will be encouraged to participate in the implementation of each phase or component of the plan. A special emphasis was placed on the co-existence of humans and brown bears. The overall vision is such that not only are bears tolerated but the public (especially including local people) is interested in the maintenance of this charismatic wildlife species.

Conservation Action Plan for the Brown Bear population of the Trialeti range and Borjomi-Kharagauli National Park is a public document. It has been approved by the Ministry of Environment as a main stakeholder. The potential executors of the plan and its separate components also include nongovernmental groups, individuals and the private sector.

This conservation action plan is the first systematised step toward brown bear conservation in Georgia and it is expected to serve as an important prerequisite for the development of a national brown bear management plan.

INTRODUCTION

The present Conservation Action Plan is dedicated to the brown bears of the Trialeti range and Borjomi-Kharagauli National Park. The time frame of the activities is 5 years. The plan is derived from the comprehensive Species Status Report that describes most recent findings on the population parameters, status of the habitats, socio-economical issues and people's attitudes toward bears. We also looked at the experience of other countries (especially that of Croatia, Sweden and Norway) in the field of bear conservation and management. For example, many of the activities outlined in the Brown Bear Management Plan for The Republic of Croatia (2005) proved to be very relevant to our situation and therefore have been incorporated in this conservation action plan.

To achieve the overall goal the plan identifies main objectives that correspond to major problems related to brown bear conservation in the study area. An emphasis is placed on habitat degradation, illegal hunting, economical incentives for brown bear conservation, minimization/prevention of human-brown bear conflict, and raising public awareness.

1. GOALS

The general goal of this conservation action plan is to conserve a stable brown bear population¹ on the Trialeti Range and Borjomi-Kharagauli National Park in numbers that will ensure its viability and coexistence with humans.

Concrete objectives for achieving the general goal include (not in order of priority):

1. Conservation of the habitat
2. Eradication of illegal bear hunting
3. Reduction of the conflict between bears and local farmers
4. Encouraging economic profit for local people through tourism and possibly through hunting (outside of National Parks)
5. Increase of public awareness and involvement of the interest groups in bear management
6. Further research and monitoring of the bear population
7. Addressing the problem of captive bears

¹ In this plan "the brown bear population of the Trialeti range and Borjomi-Kharagauli National Park" means all bears found in the study area of the project, *NBSAP Implementation - Ecosystems and Species Conservation in Georgia: Brown Bear (Phase 1)*. The boundaries of this study area are in most part ecologically justifiable while, for example, to the west of the national park the borders are rather artificial (see Species Status Report).

2. CONSERVATION OF THE HABITAT

The quality and status of bear habitats vary throughout the study area. Forests are well preserved in the Borjomi-Kharagauli National park. Forest degradation is most severe in the Bakuriani subarea although this subarea still includes preserved and almost intact forest stands. Recent studies have not shown any evidence of relationship between bear numbers and forest exploitation levels. This supports the idea that the bear population is currently mainly limited by hunting. In the long run however, especially considering the ever increasing trend in logging (both legal and illegal) habitat destruction will inevitably become a more important limiting factor. The present status of most forests in the study area should allow the existence of many more bears than current numbers.

2.1. Campaign against illegal logging

The enforcement of laws against illegal logging falls under the responsibility of the Forestry Department and the Environmental Inspection of the Ministry of Environment. Despite some progress in the combat of illegal forest felling the recently established Environmental Inspection still lacks capacity and resources and needs much support from the local people. The campaign should focus on the establishment of a public monitoring scheme, encourage cooperation between the public and the environmental inspection, and conduct awareness activities among the local people.

2.2. Development of recommendations to minimize the impact of forestry operations

No clear evidence of current serious impact of logging on the brown bears has been found in the recent surveys. However it is clear that there soon can be adverse effects if logging continues at its present rate. Therefore special recommendations need to be developed for the forestry sector so that further operations are conducted in such a manner that ensures a minimum disturbance to bears and other wildlife as well as to their habitats. Special attention needs to be paid to areas with important bear foods and hiding cover. Close cooperation is essential with the forestry sector both at the local and national level to ensure their support and adoption of the recommendations.

Close cooperation with the forestry sector is especially important in the light of expected privatization or long term lease of the Georgian forests. Future "owners" of the forest must be obliged to follow biodiversity principles and operate with minimum disturbance to bears and other wildlife.

2.3. Monitoring of human-induced succession in forest ecosystems

The artificially triggered succession especially in the forests of the Bakuriani subarea results in the alteration of forest ecosystems with consequences for bears. Monitoring of

these succession processes will enable the development of concrete recommendations to the forestry sector to minimize the risk of irreversible changes in the structure, species composition and quality of forest habitats.

3. CONTROL OF ILLEGAL BEAR HUNTING

As a species listed on the Georgian Red List of threatened species the brown bear is protected by law and bear hunting is completely banned. Nevertheless bears are illegally killed throughout the study area. Poaching has been identified as the major limiting factor to the bear population of the study area. Laws against illegal hunting are enforced by the park administration on the Borjomi-Kharagauli National Park and by the Environmental Inspection in all other areas. Poaching is closely linked to the overall low public awareness and ignorance of effective legislation.

3.1 Encourage cooperation between the public and the local Environmental Inspection unit

Through a series of meetings/workshops a close cooperation should be established between the local NGOs and CBOs and the local Environmental Inspection unit to support this unit in the combat against poaching.

3.2. Conduct public awareness activities

Local people need to be adequately informed about the legislation concerning the brown bear protection and about the role of the Environmental Inspection.

4. CONFLICT BETWEEN BEARS AND LOCAL FARMERS

Bears do attack livestock and cause damage to the crops of local farmers in the study area. Such cases are most frequent in Borjomi as well as in Kharagauli Districts. This is at least partially associated with the location of agricultural lands close to the forest. Bears are persecuted by local people. Reducing damage caused by bears to local farmers is a key issue for the effective management of the bear population. This can be achieved by implementing preventive measures as well as by ensuring removal of problem bears (although bears are protected by law the legislation envisages removing of those individuals that pose imminent threat to human life or property).

4.1 Preventive measures against crops and livestock damage by bears

Various preventive measures have been developed and are successfully used in many countries (electric fences, special devices that trigger an alarm system, etc.). Some of

these methods are not very expensive and in certain situations may be applied in the study area. They can be installed and tested in form of a special pilot project.

4.2 Establishment of an Intervention Group

Currently there is no response from the authorities to cases of occurrence of problem bears that attack livestock, bee hives or crops. Affected farmers have to deal with problem bears by themselves. This is often ineffective and also encourages negative attitudes toward and often the unauthorized killing of the animal. Besides local people develop the feeling of being abandoned. Therefore there is a need of a special Intervention Group which will be fully equipped and authorised to deal with problem bears.

In cooperation with the Environmental Inspection and other responsible agencies as well as with local interest groups, an Intervention Group will be established for the Borjomi and Kharagauli districts as a pilot activity. Later on, a similar unit may be set up in other regions where bears cause damage to local agriculture.

The Intervention Group will have 3 to 5 trained and equipped professionals. They will have to visit each location in which there has been: exceptional damage caused by bears, an accident or a death of a bear and, especially, a problem bear occurrence. The intervention group has to be contacted for all procedural issues, especially in cases where a bear is attacking a human. The group must be adequately equipped (i.e. with a dart gun, a rubber-bullet firing gun and noise producing bullets, traps for capturing live bears, etc.).

Members of the Intervention Group must go as rapidly as possible to all sites where a bear is in danger (e.g. in a poacher's snare) or where a bear causes conflicts with the activities of humans.

Having investigated the site/the bear in concern the group will decide on the measures to deal with the situation. Possible solutions may include: adverse conditioning (scaring, shooting with rubber bullets or fireworks, chasing with dogs, etc.), capturing and marking problem bears (for easier tracking of the bear's behavior), translocation, placing in captivity (where possible), and as a final resort – killing of the animal in a humane manner.

The intervention group will operate according to a protocol. It will try to prevent situations that result in the occurrence of problem bears and orphan cubs.

5. BEAR POPULATION RECOVERY

5.1. Brown bear population recovery on the Algeti Nature Reserve

Bears have become extremely rare in the Tetrtskaro subarea despite the presence of good quality habitats. Special measures are needed to encourage the natural recovery of the bear population in those sections of the subarea where this is feasible and both ecologically and socially viable. One such site is the Algeti Nature Reserve. Although quite small (6400 ha) this reserve can still provide excellent habitat to bears and other wildlife. If sufficiently protected the site may serve as a natural wildlife sanctuary where bears and other animals breed and find shelter. In order to achieve this goal the reserve must have a comprehensive management plan and sufficient capacity. Therefore it is important to develop a management plan for the Algeti reserve with the brown bear as a key species. The overall capacity of the reserve administration need to be strengthened. Ideally the protected area should be expanded to an ecologically effective size. To this end relevant assessment and spatial planning need to be conducted.

5.2. Brown bear population recovery on the hunting reserve "Fauna"

The private hunting reserve "Fauna" in the Gori District covers about 21,000 ha of forested land. The brown bear is one of the key species of the area, also from the tourism view point. As it is a red-listed species, there is no bear hunting on the hunting reserve. However in future the hunting reserve may be allowed a limited quota for trophy hunting on bears if (i) special effective measures are taken and (ii) a scientific population estimate on the reserve and adjoining areas confirm stable increase in bear numbers (also see Chapter 7).

The following activities are advisable to the hunting reserve:

- Ensuring effective protection
- Bear monitoring on the site

6. TOURISM AND BEARS

Brown bear is among the animals that can potentially attract ecotourists. From this perspective brown bear should be regarded as one of the key species for the Borjomi-Kharagauli National Park. The use of bears as a tourist attraction involves two key elements: (1) there should be sufficient density of the species and (2) there should be an increased opportunity to see the animals. To this end the following activities are envisaged:

- Monitoring of bears in the national park (this also involves strengthening the capacity of the park administration)
- Encouraging natural growth of bear population through effective protection

7. CURRENT LEGISLATION AND BEAR HUNTING

The brown bear is included in the Georgian Red List and according to current legislation bear hunting is banned. On the other hand there is extensive illegal hunting, which probably severely affects the bear population of the country and specifically that of the study area. Poaching is the most important limiting factor due to which bear numbers are well below the habitats' carrying capacity throughout the Trialeti Range as well as in the national park. Apart from law enforcement measures one way to tackle the problem of poaching is to encourage well-organized and controlled hunting. Experience of other countries (for example Croatia and Sweden) has shown that trophy hunting may significantly increase the value of bears in the eye of hunters and local people and it also creates incentives for bear population management and its maintenance at such levels that can be hunted sustainably. To this end it is appropriate to develop and propose relevant changes to the legislation in order to allow sustainable hunting on certain conditions (for example trophy hunting can only be allowed where hunting reserves are implementing active management to increase bear numbers in addition to censusing and monitoring the local bear population).

In cooperation with relevant legislative and executive bodies, and other interested parties it is intended to prepare relevant amendments to the legislation.

8. MONITORING OF BEAR POPULATION

The monitoring of the bear population will be conducted as part of the overall biodiversity monitoring. It is to be performed through monitoring signs of bear presence in the habitat and after feeding sites have been set up through observation and counting of the bears at the feeding sites. In particular, a record is to be kept of the number of family groups consisting of a mother and cubs in their first or second year of life. Special forms will be used for the record keeping. This sort of monitoring will result in calculating indices that show population trends. A wide range of people should be invited to get involved in bear monitoring including local farmers, forest guards, the pipeline employees, local hunters, and any other people who as part of their routine work spend considerable time in the field.

Special monitoring activities will be conducted on the Borjomi-Kharagauli National Park. Apart from monitoring signs of bear presence in the forest and through observation and counting of the bears at the feeding sites, more rigorous methods should be used to determine absolute numbers of bears. For this purpose genetic identification will be used. Samples of fresh bear scats will serve as the material for DNA extraction used for genetic identification. A large enough sample of scats collected in a specified area and during a limited time period enables an estimation of the total size of the bear population with an error margin of less than 10 %. Using this data, the index showing

population trend acquired through the counting of sighted bears can be calibrated. A genetic estimate of the total population size is planned about every five years. Besides the total numbers, these genetic methods enable insight into the effective population size (part of the population participating in reproduction), number of males participating in reproduction, the extent of genetic diversity of the population, links to other bear populations within the country (for example bear population of the Great Caucasus range) as well as across the state borders.

Since the genetic method for estimation of population size is scientifically based and objective, it is expected to serve as a basis for management decision making and to be accepted by all interest groups, as is the case in other countries where it has been done.

9. RESEARCH

Recent studies revealed many important aspects of the ecology of the bears of the Trialeti Range and Borjomi-Kharagauli National Park upon which this action plan has been based. Nevertheless such aspects as bear movement patterns, size of bear home range, etc. remain unclear. It is important to fill in these gaps especially on the Borjomi-Kharagauli National Park. Therefore further bear research should especially focus on this site. For maximum cost-effectiveness modern techniques such as radio telemetry should be applied. Using this field method, valuable new knowledge can be generated on bear seasonal movement, home range size, their movement outside the national park where they are likely to come into conflict with local farmers and become persecuted. In addition, data on food habits and reproduction should be collected and analyzed. New information will allow better management of the species and improve the overall effectiveness of the park.

In addition, further socio-economical and environmental economics studies are needed to assess costs and benefits and identify grounded economical incentives for bear conservation in Georgia. To this end it is important (1) to assess the rate of attacks to local people's property (crops, livestock) and to estimate economical loss due to bear depredation, and (2) to assess the economic value of bears.

10. CAPTIVE BEARS

Captive bears is one of the major wild animal welfare problem in Georgia. Bears are seen imprisoned at petrol stations or roadside restaurants as a form of amusement to attract paying customers. Sometimes, street photographers drag bear cubs along with them and offer the customers their very own chance to be photographed with one of these wild animals. In most cases, the bears are contained in small and dirty cages and are deprived of adequate diet and even fresh water, to say nothing about medical care. In addition owners do not observe safety rules. Frequently, keeping a bear becomes a heavy burden for the owner, and he opts to kill it instead. Apart from welfare aspects,

the issue has very serious implications on the conservation of the wild bear population. Almost all the captive bears in the country originate from the wild population. Live cubs are captured by poachers obviously after their mothers have been killed. Live cubs are then sold or given out as a present.

Since almost all the captive bears have been illegally captured in the wild they should be subject to confiscation. On the other hand there is no bear shelter in the country and thus nowhere to care for or rehabilitate bears. Zoos cannot accept additional bears because there is not enough space and facility to keep them. In the absence of adequate control and preventive measures confiscation of captive bears anyway would not be sufficient for the long term impact. Hence, there is no simple answer to the question as to how the problem of captive bears can be addressed in Georgia. To date, there is lack of accurate data on the captive bears and other relevant information is also needed to plan effective measures.

As a first step to address the captive bear issue in the country a comprehensive overall assessment of the captive bear problem must be conducted to development a relevant strategy and action plan for further action. This must be followed by immediate implementation of the strategy and action plan.

11. PUBLIC INFORMATION AND PARTICIPATION IN DECISION-MAKING

In order to improve the quality of bear management in the study area and to avoid conflict between different interest groups the following activities have been planned:

1. Education and information campaigns for different target groups.

With the aim of ensuring public support for bear management and to prepare the public for constructive participation in decision-making, the public has to be informed correctly and timely. The methods and volumes of the information need to be adjusted depending on the target group. Target groups include: general public, foresters, farmers, hunters, school children, etc.

Accurate information has to maintain/increase the current level of acceptance of bears. Special emphasis should be placed upon educating the public about measures for the prevention of damage and direct dangers to humans, as well as about avoiding behavior which can lead to the creation of problem bears.

2. Identification and involvement of interest groups as representatives of the public in bear management, through consultations and joined planning.

The Brown Bear Conservation Action Plan is a public document to which interest groups can give comments and proposals. Once a year, a public workshop meeting will be organized in which the results of the previous year's management and plans for the next year will be presented.

3. Development of a protocol of cooperation with the local population.
Local people have to be informed about the status of the bear population on a regular basis. In particular, they have to be informed about any special situations (e.g. problem bears or motherless cubs). Also, local inhabitants have to be aware of the procedures for reporting damage or dangerous situations as well as their general opinion about bears and bear management.

4. Monitoring of public attitudes toward bears and bear management.
Understanding public attitudes towards bears and towards different options in bear management can facilitate fairer decision-making. Therefore public attitudes and possible changes in attitudes should be monitored by suitable sociological survey methods.