

## THE ROLE OF HUNTING TOURISM MANAGEMENT IN THE CONSERVATION OF BIODIVERSITY

### ROLUL MANAGEMENTULUI TURISMULUI CINEGETIC ÎN CONSERVAREA BIODIVERSITĂȚII

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*Although hunting tourism is not a new activity, it appears since the dawn of human evolution, today it must be managed in a professional way in order to protect and keep the environment and the hunted. The development of agriculture and animal breeding has released most of the human communities from the worries of feeding themselves, decreasing considerably the pressure on hunted species as a food resource. In order to practice this type of tourism, some hunted species must be bred in semi wilderness to be used as trophies and food resources and to protect the wildlife. Special emphasis must be put on the productive function of the forest ecosystem, the development and intensification of agriculture, development of the infrastructure, development of mass tourism in protected areas and enlarging the natural habitat of the hunted species, reducing hunting and intensifying observation and study of wildlife behaviour through hunting tourism with an ecological character.*

**Keywords:** tourism, hunting, fauna, habitat, ecosystem, management, biodiversity

#### Introduction

The problem of biological diversity is heavily debated in the media and discussed at various levels in specific communities and is the centre of attention for many research institutes, national and international organisations, NGOs.

Biological diversity or biodiversity defines the variety of the living world, and the Rio de Janeiro convention defines it as „the variability between living organisms from all sources, including *inter alia*, ecosystems and terrestrial, marine and other aquatic ecological complexes these including the diversity within a species, between species and ecosystems”.(Bulgărescu, 2004; Goicea, 2008)

It is estimated that many species remain undiscovered, Kleinschmit, J,1998, quoted by Goicea N. *et al.*, 2008, show that the number of known and unknown species is: (table 1)

Table 1

## The number of known and unknown species

Species	Number (millions)	
	Known	Unknown
Viruses	-	0,40
Bacteria	-	1,00
Fungi	0,07	1,50
Microbes	0,05	0,20
Superior plants	0,25	0,35
Worms	0,02	0,40
Crabs	0,05	0,15
Spiders	0,06	0,75
Insects	0,95	8.00
Molluscs	0,05	1,00
Vertebrates	0,06	0,06
Others	0,10	0,25

Biodiversity is attributed with many organisation levels: genetic diversity, species diversity, taxonomic diversity, community diversity, landscape diversity, structural diversity, functional diversity and temporal diversity.

The intervention of hunters through hunting tourism would not be beneficial for many of the hunted species; therefore it is imperative that through a professional management they become protectors instead of adversary of the hunted species, keeping the ecological balance, acting for the safekeeping and improvement of the species' habitat. This is necessary because from the terrestrial fauna 75 species of birds and 27 species of mammals have disappeared during the nineteenth century and the list grows with 53 species of birds, 68 species of mammals and 83 species of reptiles and batrachians. Still, paradoxically, out of the total disappeared or endangered species relatively few can be attributed to hunting, like the buffalo, many disappearing due to deterioration or irreversible change of their environment due to human activities. (Bulgărescu, 2004; Durantel, 1993)

### Materials and Methods

Throughout this scientific endeavour we wanted to perform an analysis of the hunted species habitat and reduce the negative influences of human activities on natural habitats by reducing the hunting tourism activities during nesting, mating, cub raising through measures meant to improve hunting management in the direction of socio-economic activities directly or indirectly oriented towards the continuous and efficient management of the hunting interest populations in a certain area and habitat.

## Results and Discussion

Under the action of human factors, the forest ecosystem is subjected to intense, unprecedented pressure, an unquantifiable phenomenon, and the intensification of hunting tourism will bring many hunted species to endangerment or even at the brink of extinction.

Out of human activities that disturb the forest ecosystem's equilibrium, the following must be highlighted:

- The exploitation of mature trees and of the wooden mass destroyed by natural calamities is a great inconvenience for the hunted species, partially destroying the grasses and bushes that make out the spontaneous vegetation and food for herbivorous game that is the prey of the carnivorous game.
- Excessive grazing by domesticated animals (sheep, cows) inside the forest habitat damages the flora and the habitat reducing the food for the herbivorous game and disturbing the raising of the cubs;
- Practicing hunting tourism excessively disturbs the game and human activities push the game further away to remote areas which may lack food and shelter.

Alpine and sub alpine ecosystems have been negatively influenced by human activities and by various forms of tourism. Many dense forests have been cut to make way for alpine pastures and therefore some vertebrates adapted to this ecosystem have disappeared due to the lack of optimal conditions for birth and raising the cubs of the black goat, for example. Another negative influence was the building of sheep and cattle farms guarded by dogs that are set free, but also the appearance of mining activities. These human activities have reduced some species habitat and by referring to biodiversity in general, the pollution of creeks and valleys has destroyed any form of life.

The practice of hunting tourism in the sub alpine ecosystem alongside the exaggerated exploitation of forest fruit depleted the resources of food that several species of birds and mammals depend on, such as the grouse and the birch grouse.

Ecosystems such as de veldt, forest veldt and meadow are today much poorer in species compared to forest ecosystems. By human intervention these ecosystems have been transformed through intensive agriculture and uncontrolled hunting tourism, in some areas that have no fauna endemic species of plants, mammals and birds. The best example is the extinction of the great bustard from Bărăgan and Banat, as a result of the transformation of the quiet nesting and feeding in farmland, mechanised intervention, the disturbed peace but also poaching and gathering of their eggs (Durantel, 1993; Goicea, 2008).

Also the delta and meadow ecosystems suffered modifications, through hydro-improvements but also through exaggerated hunting of the birds that nest in these habitats. The specific vegetation of the meadow is extinct, and with it also bird species that used to fill these ecological niches.

Game population gives each ecosystem a specific image with influences on the habitat, for example deer feed on less important species for the forest culture, more valuable species being allowed to develop harmoniously (fir, spruce) under the protection of pioneer species (birch, blueberry).

The role of management in hunting tourism and its influence in the conservation and keeping of biodiversity is observed through the income achieved as depicted in table 2 and figure 1.

Table 2

The results of good management for one ha of forest

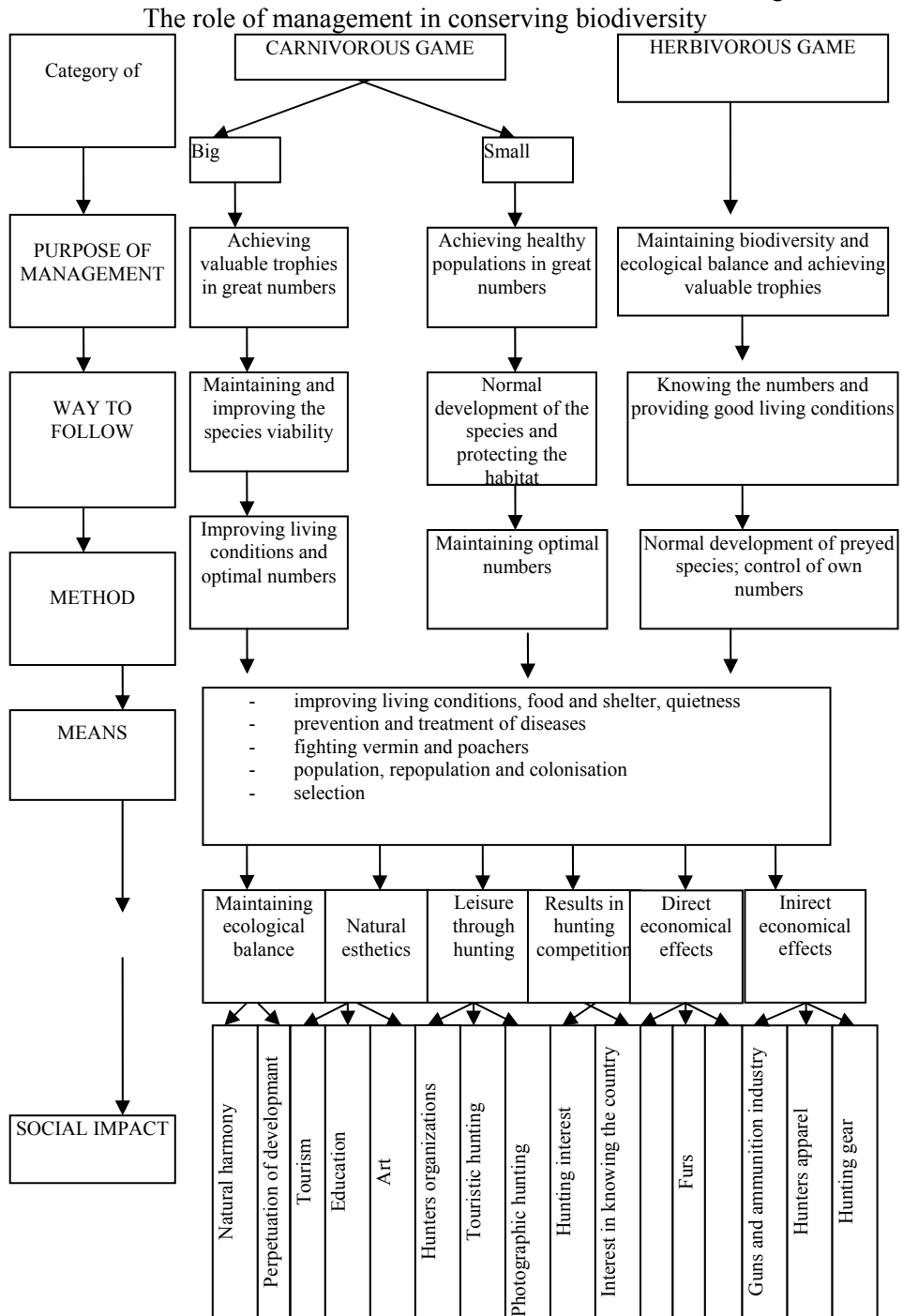
Product for one ha of forest	Value (euro/ha)
Average value of commercial wood	82
Average value of non commercial wood	16
Average value of forest products	13
Average value of leisure services (hunting tourism)	126
Value of biodiversity conservation services	22
Annual value of retained carbon	66

Source: Berger Anabelle, Peyron J. L., 2005.

It is obvious that a judicious management can bring income through hunting activities without destroying the balance of the forest ecosystem. Hunting management must be based on scientific and organisational facts respecting basic principles that contribute to the right management of the species and reduce the risk of modifying habitats through hunting tourism or other human activities. It is necessary to: respect the principles of reduction of game numbers and keeping an optimum for each species: improving living conditions, vermin control and fighting against poaching for all game species (Bulgărescu, 2004; Goicea, 2008).

The implementation of a strategic management system that is specific for each ecosystem depending on the improvement of the fund, annual assessments for the proper management of the species, close monitoring of the tourists and hunting tourism to avoid the elimination from reproduction of valuable animals that can transmit valuable genetic traits.

Figure 1



## **Conclusions**

In order to keep the biodiversity and an optimal ratio between species the implementation of strategic management that acts directly and in a positive way on the environment is a must. This management must be based on scientific and organizational facts that contribute to the protection of the species through the improvement of the natural environment, strict vermin control and stopping illegal hunting or hunting during the mating season.

The reduction of hunting tourism will become an objective for all ecosystems, leading to the expansion of ecologic tourism and less disturbance of game species.

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