



BioREGIO Carpathians
“Integrated Management of Biological and Landscape Diversity for Sustainable Regional Development and Ecological Connectivity in the Carpathians”

Report for Common Integrated Management Measures and Commons Standards for the management of Large Carnivores and Herbivores in the Romanian Carpathians



Prepared by Association for Conserving Biological Diversity for the Environmental Protection Agency Sibiu

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**Report for Common Integrated Management
Measures and Commons Standards for the
management of Large Carnivores and Herbivores
in the Romanian Carpathians**

English version

Prepared by Association for Conserving Biological Diversity for the
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August 2013

INTRODUCTION

COMMON INTEGRATED MANAGEMENT MEASURES FOR

WOLF (*CANIS LUPUS*)

EURASIAN LYNX (*LYNX LYNX*)

BROWN BEAR (*URSUS ARCTOS*)

GOLDEN JACKAL (*CANIS AUREUS*)

EURASIAN BISON (*BISON BONASUS*)

CHAMOIS (*RUPICAPRA RUPICAPRA*)

ROE DEER (*CAPREOLUS CAPREOLUS*)

RED DEER (*CERVUS ELAPHUS*)

COMMON STANDARDS

INTRODUCTION

The present report was prepared by Association for Conserving Biological Diversity for the Environmental Protection Agency from Sibiu County, based on the contract no. 2401/18.02.2013 signed in the framework of the “Integrated Management of Biological and Landscape Diversity for Sustainable Regional Development and Ecological Connectivity in the Carpathians (**BioREGIO Carpathians**)” project.

The main purpose of the report was to integrate in one document the available information about wolf (*Canis lupus*), lynx (*Lynx lynx*), brown bear (*Ursus arctos*), golden jackal (*Canis aureus*), European bison (*Bison bonasus*), chamois (*Rupicapra rupicapra*), roe deer (*Capreolus capreolus*) and roe deer (*Cervus elaphus*) in the Romanian Carpathians and to propose common integrated management measures. The structure of the information was proposed by the partners of the project. The report is just one step in the process of common integrated management measures (CIMM) for the Carpathian region.

Most of the measures proposed are suitable for the Romanian context with no guarantee that they are feasible for other Carpathian country. The measures were presented separately for each species, even if they are presented also to other species, in order to assure the presentation based on problems-objectives-measure simple line.

COMMON INTEGRATED MANAGEMENT MEASURES

WOLF (*CANIS LUPUS*)

Summary of biology/ecology for each species

Adult females weight between 18-55 kg and measuring 1.37 to 1.52 m total length, males weigh 20-70 kg and 1.27 to 1.64 m total length, depending on the subspecies. In Romania Promberger and Ionescu (2000) mentions an average weight of 35-60 kg and a total length of 1.10 to 1.50 m. The muzzle is triangular and about 10 cm long, exposing an extended surface for olfactory organs. This allows the wolf to detect the smell of the prey at a distance of 2.4 km in favourable conditions. The wolf is similar to German Shepherd Dog or Husky Dog at head configuration, distinguished by the fact that they have orbital angle of 45° to 53° compared with 60° in dogs and a large tympanic bubble, convex and almost spherical in comparison to dogs which is smaller, compressed and slightly bent (www.canids.org). The wolf is different by the dog in appearance and morphological features, the following characteristics: the eyes are placed obliquely, more distant than of the dog. The ears are small and sharp peaks, ever upwards, and the tails lightly curved to the left. Another criterion of distinction from the dog is no longer pear on the back of the hind leg between the heel and tail. Compared with the dog, the wolf has short neck, thicker and stronger (www.carnivoremari.ro). Wolves are pack-living animals, with most packs comprising family groups (www.canids.org).

The wolf lives 15 – 16 years but in to the wild, he can reach usually only 10 years. Age of a wolf may be appreciated with a certain approximation based on tooth wear. In terms of ontogeny development, wolves are classified as follows: infants: 0-6 months, juveniles: 6-18 months; under adults: 18-30 months; adults: more than 30 months (www.carnivoremari.ro).

Ranges in all northern habitats where there is suitable food, densities being highest where prey biomass is highest (www.iucnredlist.org). Food is extremely variable, but the main food is based on large ungulates (red deer, roe deer and wild boar). Wolves will also eat smaller prey items, livestock, carrion, and garbage.

Wolves are pack-living animals, with most packs comprising family groups (www.canids.org)

Ecological importance (impact) of species

The wolf is on the top of the trophic pyramid in the Romanian Carpathians being at the same time an umbrella species for the Carpathian Biodiversity (Rozyłowicz et al., 2010). By predation is contributing to the natural selection of the prey species (roe deer, red deer, wild boar, rabbit, etc.). The wolf presence in an area is an important factor for maintaining stray dogs at lower level.

Socio-economic importance (impact) of species

In Romania the wolf has a strong symbolic and historical value and a strong connection with the local rural legends, being simultaneous one of the most blamed animal.

From economic point of view the positive impact of the wolf presence on rural economic aspects is low. The incomes from the wolf hunting (based on the derogation system) are very small comparing with other natural resources utilisation. The negative impact seems to be more important due to the damages to livestock fields in the context on which the protection of the farms, against predators, is very superficial and no measures are taken to prevent the damages.

Actual conservation status (goals of conservation, conservation action plans, planning)

Romania joined the Convention on the Wildlife and Natural Habitat Conservation in Europe, issued in Bern on the 19th of September 1979, by Law no. 13/1993. After 2007 Romania became part of the EU and, regardless of the size of the bear population, wolf became strictly protected. (Kaczensky et al., 2012a). In the Romanian Carpathians the wolf population is estimated at 2300-2700 individuals (annex 1) and is assessed as Least Concern (LC) (Kaczensky et al., 2012). Considering that the estimation are made based on hunters reports (without any scientific control), the estimated population size can be overestimated.

According to the national legislation the conservation goal is to maintain the actual conservation status or to reach the favourable conservation status, as defined in the Habitat Directive, of the wolf population.

Management of the feature and its variants

- Management currently adopted.

A management plan for wolf in Romania was started in 2006, under the Ministry of Environment coordination, but the final document is not accessible to the public and there is no monitoring of the management plan in order to assess the success of conservation measures. The plan is not officially adopted by the public central authorities.

Excepting the fact that the derogation system is keeping the quota under 10% of the hunter estimated population size and under 20% of the population assess by the Ministry of Environment and Climate Changes (<http://www.mmediu.ro/beta/domenii/protectia-naturii-2/biodiversitate/carnivore-mari/>), percentage considered optimum to maintain a viable population, there are no other management measures implemented at national level. The measures applied at protected areas level are not evaluated. There are not local or regional activities, projects or measures running at this moment for the species conservation. There are several finished projects targeting the species.

- What proportion of the range of the feature is being managed in different ways e.g.
 - In Protected Areas: For the protected areas on which the Management plan is adopted according to the national legislation, the management is made according to the plan. At this point few protected areas have an approved plan to work with.

- Under strict protection regimes: There are no area with strict protection regimes. The wolf has a strict protection regimes. The hunting is allowed base on annual derogation from the protection (annex 1). The annual maxim intervention based on derogation is around 400-500 individuals and number of shot individuals is around 200.
- Subject to economic exploitation: the wolf is promoted as a hunted species on the specialized web pages (annex 4). The direct income from hunting activities is related with the trophy price which can vary from 700 € to 1500 €. There are no official centralized data about the income from wolf hunting activities. Also there are no information about other income from tourism activities.
- Public or private or common ownership or management: The ownership of all wildlife is public, according to the actual legislation. The management is private (National Forest Manager – Romsilva and hunting association with an NGO status are managing the game units based on contracts with the public central authority). The objectives and related actions are established by the Ministry of Environment and Climate Changes.
- What sectors are involved in management or use of the feature and how do sectorial policies affect its management and use.

Public sector:

1. Ministry of Environment and Climate Changes and subordinate institutions:

- National Environment Protection Agency with Environmental Protection Agencies at county level – responsible for protected species
- National Environmental Guard – legal control on environment issues

2. Ministry of Waters, Forests and Fishery and subordinate institutions:

- Forest and Hunting Inspectorate – regional level – responsible for game species management and hunting activities control

3. Research institution organization:

- Research Institute for Forest Management – Hunting and Wildlife Department
- Silviculture and Forest Faculties (from Braşov, Suceava, Oradea etc.)

Private sector:

1. Managers of protected areas: Private or public forest managers, NGO`s, public authorities, private persons – responsible for planning and management of the protected areas
2. Hunting associations, game managers – managing the wildlife base on a contract with the government, they are responsible of counting the population and on organizing hunting activities
3. Companies specialized on hunting activities without the right to do hunting activities – mainly involved as intermediate between hunters and game managers

4. Other organizations like NGO's involved in nature conservation which have implemented or are now involved in field studies or other projects related to the species.

At national level there are two groups involved in supporting the public authorities in developing strategies, plans and regulation:

1. National Hunting Council
2. National Working Group for Large Carnivores Conservation

The first group is formed just from people involved in hunting activities and is more active, due to the fact that it has an official role according to the hunting legislation, being able to influence decisions. The second group is formed by people representing different stakeholders, and has just the purpose to advise the public central authority on topics related to large carnivore management.

Main threats of the feature and issues affecting its maintenance.

Conservation problems: biological, ecological

Although the Grey Wolf still faces some threats, its relatively widespread range and stable population trend mean that the species, at global level, does not meet, or nearly meet, any of the criteria for the threatened categories (www.iucnredlist.org).

The last report related to the status of the large carnivores in Europe indicate that the most important threat for conservation of wolves population at the Carpathian Region are the habitat fragmentation, persecution, human disturbance, low acceptance, transport, infrastructure development (Kaczensky et al., 2012a). The pressures exist already in Romanian Carpathians the wolf habitat being under continuous degradation and fragmentation due to human activities.

Conservation problems: socio-economic conflicts and threats

The poaching of wolves has decreased to less than 10 documented cases per year, most poaching acts were using guns and poison (Kaczensky et al., 2012a). There is no information about the real dimension of the poaching activity but seems to be significantly larger than the official information.

Officially, because of the great number of conflicts with the farmers (livestock damages) and the hunter (predator of game species), a certain number of wolves are removed each year using Habitat Directive derogations. In theory the hunting is only allowed for certain wolves under specific conditions, places, and periods, and with the means established by the law. In practice the hunting is done because the wolf is considered a plague for other game species. The applied hunting is non-selective, with no impact on damage mitigation but probably it has a negative impact on the size, area of distribution and structure of the wolf population.

The responsibilities related to the species management are spread between several public institution and private organization, being difficult to integrate all the possible initiative.

Impact of the protected areas (including Natura 2000 network) over the species conservation is not evaluated. There is no communication between the stakeholders.

The Ministry of Environment and Climate Changes is assisted, in the large carnivore topics, by the National Working Group for Large Carnivores Conservation, a group of experts and representative of all stakeholders from Romania, but unfortunately the group is not a strong voice, due to the politic factors, when measures have to be established. In this context the National Working Group has to be consolidated and the technical or legal proposal from this group has to be adopted by the responsible authority.

Main threats to the feature (Natura 2000 categories) and its variants:

Treat	Main causes	Main effect
Trapping, poisoning, poaching	The wolf is considered a very harmful predator of livestock and wild ungulates.	High human cause mortality threatening the structure and the size of the population
Animal breeding	The animal breeding in the wolf habitat is a source of conflict. The shepherd dogs are on most of the cases vectors for diseases transmission to wild fauna	The wolf is using the available food resources, generating conflicts with farmers. The rabies is transmitted from dogs to wolves but also from wolves to dogs.
Urbanized areas, human habitation	The development of the settlements infrastructure and the intensive use of natural resources.	The habitat is losing the capacity to maintain healthy and strong population.
Hunting	The hunting quota is planned according to estimated number. The hunting activities are not planned as management tool, the wolves are just shot without any rules.	Changes in the population distribution and structure.
Routes, auto routes	Development of the transport infrastructure in order to improve the speed of the vehicles also in the wolf habitat.	Fragmentation of the habitat. Affecting the dispersion of juvenile individuals
Motorized Tourism	The tourism infrastructure is now developing and the mountain facilities have to offer different activities to tourists. Using vehicles is a easy way to explore nature.	Habitat degradation which can affect the pups during breeding season. Pray species distribution affected by human presence and noise.

Strategy

Ideal management requirements

The ideal requirements for the maintenance favourable status and values of the feature are related to:

- active wildlife management,
- adopting best practice for maintaining good quality habitats and prey availability
- involving stakeholder in planning and implementation activities

Targets and Management Objectives

Existing targets, obligations and objectives (in national strategy and plans)

According to the document, considered by some of the stakeholders as the management plan for the wolf population in Romania, made in 2005 that was not approved as an official document, propose the following objectives:

- ✓ Conservation of the ecosystem and the quality of the wolf population
- ✓ Application of international regulations
- ✓ Avoiding the danger for humans and their property
- ✓ Achieving the desirable wolf numbers
- ✓ Achieving of economic profit for local inhabitants through tourism and hunting
- ✓ Finding more data about wolf in Romania (more research, better monitoring,).
- ✓ Increasing public awareness and involvement of the interest groups in decision making related to wolf management.

The general goal is to conserve a stable wolf population in Romania in numbers that will ensure its viability and coexistence with humans.

Proposed goal and targets

- ✓ Conservation of the quality of the wolf population
- ✓ Maintain and improve the habitat quality and prey base
- ✓ Avoiding the danger for humans and their property
- ✓ Finding more data about wolf in Romania (more research, better monitoring,).
- ✓ Increasing public awareness and involvement of the interest groups in decision making related to wolf management.

Ideal management objective (long term goal) for the feature in the Carpathians:

To conserve a stable wolf population in Romania in numbers and habitats that will ensure its viability and coexistence with humans.

Recommended conservation targets for the feature in the Carpathians:

- Maintain the prey availability – evaluate the existing resources and the distribution in the Carpathians
- Maintain habitat connectivity – mapping the problem areas and prepare conservation measures in order to maintain or improve connectivity
- Reducing the pressure that influence the population size fluctuation – some pilot areas should be establish in order monitor the impact of the measures for long period

Management and Monitoring

Management measures

Specific conservation management measures

- Protective measures
 - Strengthening the protective status in the protected areas like Natura 2000 and Natural Parks by reducing hunting pressure and planning the forest logging to reduce disturbance.
 - Enforcement of the law implementation in order to reduce poaching and bad game management affecting prey species and wolves.
- Active management
 - Establish coherent common monitoring programs for species population and habitat quality in all the protected areas.
 - Improving the management of the quiet zone inside the game unit in order to maintain refugee areas especially during breeding season.
- Ex situ conservation
 - The Least concern status of the wolves is the main reason why ex situ conservation is not a necessary conservation measure. It can be used for public awareness raising and other biological/ecological/behavioural studies.
- Traditional uses that maintain the features.
 - Long term natural regeneration of the broad-leaves and mixed forest and avoidance of clear cutting.
- Measures for modifying economic exploitation
 - Improving the hunting derogation system to reduce damage to livestock and to maintain a healthy wolf population.

Wider conservation measures

- Ecosystem/landscape scale measures (need data)
 - Maintaining the land use.
 - Habitat quality assessment in order to improve the role of the protected areas as elements of the ecological network.
- Regional (Carpathian Wide) measures
 - Developing a Carpathian management/action plan
 - Develop a connectivity maintaining strategy
- Sectorial measures
 - Planning of the forest cutting in order to reduce the disturbance during breeding period

-Involving the border patrol in collecting data from the field in order to support the trans boundary movements monitoring

Measures related to the enabling environment

- Legal measures (national legislation, EU wide etc.)
 - Improving the actual national legislation in order to harmonize the hunting legislation with the protection of the species legislation.
 - Establish clear priorities in the national law, strategies and management plan regarding the conservation of the species.
- Administrative measures (collaboration, coordination, regional cooperation)
 - Improving collaboration between stakeholders inside different types of working groups (national working group, consultative councils of protected areas etc.) in order to insure a participative planning.
 - Improving coordination and collaboration between Carpathian countries at different levels (political, science, administrative) by creating common working groups and establishing responsibilities.
 - Developing common web platforms in order to encourage the information exchange at national and Carpathian countries level.
 - Identifying organization (public and private) involved in the management/conservation activities and supporting working platform between them.
 - Exchange experience project between Carpathian countries targeting the stakeholders in order to improve the best practice transfer.
- Awareness and capacity development measures (general public, decision makers and administrations, specific sectors, PA staff, etc.)
 - Developing a communication strategy in order to sustain the awareness campaigns from different projects.
- Financing
 - Promoting trans boundary projects financed by Transnational Cooperation Program South East Europe and LIFE+.
 - Developing an financial instrument between Carpathian countries in order to support small grants for mammals conservation/research projects which results will be integrated in a common data base

Good practices from Romania

1. The web portal of the Association for Conserving Biological Diversity and Forest Design SRL for involving volunteers in field data collection. The portal is also

offering the possibility to download data in order to support students, scientist and other study developers. <http://carnivore.biodiversitate.ro>

Essential research priorities

1. Assessing population size and structure
2. Prey species availability
3. Population genetic and dynamic
4. Impact of hunting on wolf population
5. Diseases and natural mortality

Measures required for monitoring the feature and variants

Monitoring

The minimum parameters that should be monitored in order to assess the status of the species are:

- Population size – abundance, number of packs
- Distribution range – sign survey
- Prey species availability – periodic assessment on pilot sites
- Threats and pressures evolution in the habitat
- Human cause and natural mortality

The method used to monitor this parameters should be simple to implement on the field, but well-coordinated and developed on scientific base. Also the methods should be selected considering the financial effort to implement, the economic aspects being important for the stakeholders.

Information management

The results of the monitoring should be available for all stakeholders. The data collected should be available on request for scientific and conservation purposes.

LYNX (*LYNX LYNX*)

Summary of biology/ecology for each species

It is a medium size mammal, well proportioned, stocky, with powerful hind legs adapted for jumping. Males have lengths ranging from 104-174 cm, the tail reaching 12-24 cm, females were on average approx. 20 cm shorter. Height at shoulder is 45-86 cm and the weight 12-40 kg. The coat, except the abdomen is yellowish white, is fawn with rust stains from dark to black which are more or less clear. Ears are completed with tufts of long black hairs, longer hair on the lower jaw hanging as whiskers, and the tail with black tip (www.carnivoremari.ro).

The low degree of lynx cubs survival may have as cause loss of certain types of prey consumed frequently and because winters with temperatures below zero degrees kept for a longer period of time. Without sufficient food, the mother may die or their cubs may be abandoned. Young lynx can also die because of diseases acquired due to lack of favourable conditions of growth, epidemics common in cats or intestinal occlusion (www.carnivoremari.ro).

Lynx, is a predator of the forest, being sensitive to deforestation losing much of its habitat due to removal of the forest in order to create land for agriculture, construction and extraction of the oil, also being hunted as predators that causes damages and for fur (international trade is significant in some countries but it cannot be controlled successfully, there are trade reports with different descriptions). Lifetime is about 18 years. (www.carnivoremari.ro).

It is a solitary animal, forming his pair only for a short period of time, during the breeding season. It is a territorial animal, very quietly, largely nocturnal and can be rarely seen. More actively in early morning and late evening, rarely is seen in the afternoon.. Lynx is a predator of the forest, with preference for areas with old trees, well wooded, including thick shrubs; it is known that it can colonize a wide range of other habitats. The use of the space inside its territory can be influenced by habitat features and social interactions of lynxes. Densities are typically 1-3 adults per 100 km², although higher densities of up to 5/100 km² have been reported from Eastern Europe (www.iucnredlist.org). Also were observed frequent cases of spatial overlap of their areas belonging to lynxes with different sexes, or between related females. No differences were observed in terms of area sizes used by female and male lynxes. Daily movements suggest that females use more intensely the habitat than males during the entire season (www.carnivoremari.ro).

Ecological importance (impact) of species

The lynx is on the top of the trophic pyramid in the Romanian Carpathians being at the same time an umbrella species for the Carpathian Biodiversity (Rozyłowicz et al., 2010). By predation is contributing to the natural selection of the prey species (roe deer, red deer, wild boar, rabbit, etc.).

Socio-economic importance (impact) of species

In Romania the lynx it has no symbolic or historical value being an appreciated animal for his aspect. From economic point of view the positive impact of the lynx presence on rural economic aspects is negligible. The incomes from the lynx hunting (based on the derogation system) were very small comparing with other natural resources utilisation. There are no information about the damages produce by lynx to the livestock.

Actual conservation status (goals of conservation, conservation action plans, planning)

Romania joined the Convention on the Wildlife and Natural Habitat Conservation in Europe, issued in Bern on the 19th of September 1979, by Law no. 13/1993. After 2007 Romania became part of the EU and, regardless of the size of the bear population, the lynx became strictly protected. (Kaczensky et al.,2012a). In the Romanian Carpathians the lynx population is estimated at 1200-1500 individuals and is assessed as Least Concern (LC) (Kaczensky et al., 2012). Considering that the estimation are made based on hunters reports (without any scientific control), the estimated population size can be overestimated.

According to the national legislation the conservation goal is to maintain the actual conservation status or to reach the favourable conservation status, as defined in the Habitat Directive, of the lynx population.

Management of the feature and its variants

- Management currently adopted.

A management plan for lynx population in Romania was prepared in 2007, under the Ministry of Environment coordination, but the final document is not accessible to the public and there is no monitoring of the management plan in order to assess the success of conservation measures. The plan is not officially adopted by the public central authorities. There is no information about the implemented measures from the action plan.

The applied hunting was non-selective, with no impact on damage mitigation but probably with a negative impact on the size, area of distribution and structure of the lynx population and due to all the missing information about the lynx hunting impact and lynx real population, the hunting of the lynx under the derogation system was stopped for the period 2012 – 2016.

There are not local or regional activities, projects or measures running at this moment for the species conservation. There are several finished projects targeting the species.

- What proportion of the range of the feature is being managed in different ways e.g.
 - In Protected Areas: For the protected areas on which the Management plan is adopted according to the national legislation, the management is made according to the plan. At this point few protected areas have an approved plan to work with.

- Under strict protection regimes: There are no area with strict protection regimes. The lynx has a strict protection regimes. The hunting was allowed base on annual derogation from the protection (annex 1). The annual maxim intervention based on derogation was around 100-120 individuals and number of shot individuals is around 30. Since 2012 the hunting is fully restricted.
- Subject to economic exploitation: the lynx is promoted as a hunted species on the specialized web pages (annex 4). The direct income from hunting activities is related with the trophy price which can vary from 1000 € to 3000 €. There are no official centralized data about the income from lynx hunting activities. Also there are no available official information about other income from tourism activities.
- Public or private or common ownership or management: The ownership of all wildlife is public, according to the actual legislation. The management is private (National Forest Manager – Romsilva and hunting association with an NGO status are managing the game units based on contracts with the public central authority). The objectives and related actions are established by the Ministry of Environment and Climate Changes.
- What sectors are involved in management or use of the feature and how do sectorial policies affect its management and use.

Public sector:

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2. Hunting associations, game managers – managing the wildlife base on a contract with the government, they are responsible of counting the population and on organizing hunting activities

3. Companies specialized on hunting activities without the right to do hunting activities – mainly involved as intermediate between hunters and game managers
4. Other organizations like NGO's involved in nature conservation which have implemented or are now involved in field studies or other projects related to the species.

At national level there are two groups involved in supporting the public authorities in developing strategies, plans and regulation:

1. National Hunting Council
2. National Working Group for Large Carnivores Conservation

The first group is formed just from people involved in hunting activities and is more active, due to the fact that it has an official role according to the hunting legislation, being able to influence decisions. The second group is formed by people representing different stakeholders, and has just the purpose to advise the public central authority on topics related to large carnivore management.

Main threats of the feature and issues affecting its maintenance.

Conservation problems: biological, ecological

The last report related to the status of the large carnivores in Europe indicate that the most important threat for conservation of lynx population, including at the Carpathian Region, are low acceptance largely due to conflicts with hunters, persecution (i.e. illegal killings which is probably interlinked with the first) and habitat loss due to infrastructure development, poor management structures and accidental mortality (Kaczensky et al., 2012a). The pressures exist already in Romanian Carpathians the wolf habitat being under continuous degradation and fragmentation due to human activities.

Conservation problems: socio-economic conflicts and threats

The poaching of lynx has decreased to less than 5 documented cases per year (Kaczensky et al., 2012a). There is no information about the real dimension of the poaching activity but seems to be significantly larger than the official information.

The responsibilities related to the species management are spread between several public institution and private organization, being difficult to integrate all the possible initiative. Impact of the protected areas (including Natura 2000 network) over the species conservation is not evaluated. There is no communication between the stakeholders.

The Ministry of Environment and Climate Changes is assisted, in the large carnivore topics, by the National Working Group for Large Carnivores Conservation, a group of experts and representative of all stakeholders from Romania, but unfortunately the group is not a strong voice, due to the politic factors, when measures have to be established. In this context the National Working Group has to be consolidated and the technical or legal proposal from this group has to be adopted by the responsible authority.

Main threats to the feature (Natura 2000 categories) and its variants.

Treat	Main causes	Main effect
Trapping, poisoning, poaching	The lynx is considered a very harmful predator of wild ungulates.	Human cause mortality threatening the structure and the size of the population
Animal breeding	The animal breeding in the lynx habitat is a source of conflict. The shepherd dogs are on most of the cases vectors for diseases transmission to wild fauna	Shepherd dogs are real competition for lynx targeting the same base food resources represented by roe deer.
Urbanized areas, human habitation	The development of the settlements infrastructure and the intensive use of natural resources.	The habitat is losing the capacity to maintain healthy and strong population.
Hunting	The hunting activities are not planned as management tool, taking into consideration prey predator relationship and disturbance of the habitats	Changes in the population dynamic distribution and structure.
Invasive species (native problem species)	The golden jackal is extending his distribution range and is becoming another competitor for the lynx	Prey availability is affected with impacts on lynx distribution and population.
Routes, auto routes	Development of the transport infrastructure in order to improve the speed of the vehicles also in the lynx habitat.	Fragmentation of the habitat. Affecting the dispersion of juvenile individuals
Motorized Tourism	The tourism infrastructure is now developing and the mountain facilities have to offer different activities to tourists. Using vehicles is a easy way to explore nature.	Habitat degradation which can affect the kitten during breeding season. Prey species distribution affected by human presence and noise.

Strategy

Ideal management requirements

The ideal requirements for the maintenance favourable status and values of the feature are related to:

- active wildlife management,
- adopting best practice for maintaining good quality habitats and prey availability
- involving stakeholder in planning and implementation activities

Targets and Management Objectives

Existing targets, obligations and objectives (in national strategy and plans)

According to the document, considered by some of the stakeholders as the management plan for the lynx population in Romania, made in 2007 that was not approved as an official document, propose the following objectives:

- ✓ Conservation of the ecosystem and the quality of the lynx population
- ✓ Damage prevention
- ✓ Maintaining optimum population
- ✓ Achieving of economic profit for local inhabitants
- ✓ Finding more data about the lynx in Romania (more research, better monitoring,).
- ✓ Increasing public awareness and involvement of the interest groups in decision making related to lynx management.

The general goal is to conserve lynx population in Romania in optimum numbers that will ensure its viability and coexistence with humans.

Proposed goal and targets

- ✓ Conservation of the quality of the lynx population
- ✓ Maintain and improve the habitat quality and prey base
- ✓ Avoiding the danger for humans and their property
- ✓ Finding more data about the lynx in Romania (more research, better monitoring,).
- ✓ Increasing public awareness and involvement of the interest groups in decision making related to lynx management.

Ideal management objective (long term goal) for the feature in the Carpathians:

To conserve a stable lynx population in Romania in numbers and habitats that will ensure its viability and coexistence with humans.

Recommended conservation targets for the feature in the Carpathians:

- Maintain the prey availability – evaluate the existing resources and the distribution in the Carpathians
- Maintain habitat connectivity – mapping the problem areas and prepare conservation measures in order to maintain or improve connectivity
- Reducing the pressure that influence the population size fluctuation – some pilot areas should be establish in order monitor the impact of the measures for long period

Management and Monitoring

Management measures

Specific conservation management measures

- Protective measures
 - Strengthening the protective status in the protected areas like Natura 2000 and Natural Parks by reducing hunting pressure and planning the forest logging to reduce disturbance.

- Enforcement of the law implementation in order to reduce poaching and bad game management affecting prey species and lynx.
- Active management
 - Establish coherent common monitoring programs for species population and habitat quality in all the protected areas.
 - Improving the management of the quiet zone inside the game unit in order to maintain refugee areas especially during breeding season.
- Ex situ conservation
 - The Least concern status of the lynx is the main reason why ex situ conservation is not a necessary conservation measure. It can be used for public awareness raising and other biological/ecological/behavioural studies.
- Traditional uses that maintain the features.
 - Long term natural regeneration of the broad-leaves and mixed forest and avoidance of clear cutting.

Wider conservation measures

- Ecosystem/landscape scale measures
 - Maintaining the land use.
 - Habitat quality assessment in order to improve the role of the protected areas as elements of the ecological network.
- Regional (Carpathian Wide) measures
 - Developing a Carpathian management/action plan
 - Develop a connectivity maintaining strategy
- Sectorial measures
 - Planning of the forest cutting in order to reduce the disturbance during breeding period
 - Involving the border patrol in collecting data from the field in order to support the trans boundary movements monitoring

Measures related to the enabling environment

- Legal measures (national legislation, EU wide etc.)
 - Improving the actual national legislation in order to harmonize the hunting legislation with the protection of the species legislation.
 - Establish clear priorities in the national law, strategies and management plan regarding the conservation of the species.
- Administrative measures (collaboration, coordination, regional cooperation)

- Improving collaboration between stakeholders inside different types of working groups (national working group, consultative councils of protected areas etc.) in order to insure a participative planning.
- Improving coordination and collaboration between Carpathian countries at different levels (political, science, administrative) by creating common working groups and establishing responsibilities.
- Developing common web platforms in order to encourage the information exchange at national and Carpathian countries level.
- Identifying organization (public and private) involved in the management/conservation activities and supporting working platform between them.
- Exchange experience project between Carpathian countries targeting the stakeholders in order to improve the best practice transfer.
- Awareness and capacity development measures (general public, decision makers and administrations, specific sectors, PA staff, etc.)
 - Developing a communication strategy in order to sustain the awareness campaigns from different projects.
- Financing
 - Promoting trans boundary projects financed by Transnational Cooperation Program South East Europe and LIFE+.
 - Developing a financial instrument between Carpathian countries in order to support small grants for mammal conservation/research projects which results will be integrated in a common data base

Good practices from Romania

1. The web portal of the Association for Conserving Biological Diversity and Forest Design SRL for involving volunteers in field data collection. The portal is also offering the possibility to download data in order to support students, scientist and other study developers. <http://carnivore.biodiversitate.ro>

Essential research priorities

1. Assessing population size and structure
2. Prey species availability
3. Population genetic and dynamic
4. Impact of hunting on lynx population
5. Diseases and natural mortality

Measures required for monitoring the feature and variants

Monitoring

The minimum parameters that should be monitored in order to assess the status of the species are:

- Population size – abundance
- Distribution range – sign survey
- Prey species availability – periodic assessment on pilot sites
- Threats and pressures evolution in the habitat
- Human cause and natural mortality

The method used to monitor this parameters should be simple to implement on the field, but well-coordinated and developed on scientific base. Also the methods should be selected considering the financial effort to implement, the economic aspects being important for the stakeholders.

Information management

The results of the monitoring should be available for all stakeholders. The data collected should be available on request for scientific and conservation purposes.

BROWN BEAR (*URSUS ARCTOS*)

Summary of biology/ecology for each species

The brown bear is a large animal, usually dark brown in colour, though it can vary from a light creamy shade through to black. The brown bear is characterized by a distinctive hump on the shoulders, a slightly dished profile to the face, and long claws on the front paws (www.bearbiology.com). Biometric data in the literature vary, because the analysed sample is different from study to study. The height at the shoulder, of mature bear, it is measured from foot to the highest point of the shoulder, ranges from 90 to 150 cm. Bears length it is measured from nose to top tail, being appreciated as the 150-165 cm for females and 170-200 cm for males. The average weight for bears from Romania it is 100-200 kg for females and 140-320 kg for males (Mertens and Ionescu, 2000).

The brown bear reaches sexual maturity at high ages, the females giving birth to first their first litter at 4-6 years. The bear is a polygamous species, male being able to breed with several females in the breeding season (mid of May - early June). After fertilization, embryo is developing until the blastocyst stage, and then development is stopped until the end of November, when the implantation occurs and it starts the embryonic development. Actual period of gestation is 6-8 weeks, and the female gives birth to 1-4 cubs, usually 2 and exceptionally 5 cubs (www.carnivoremari.ro). Cubs are born in the den during the winter sleep, in January and February. The cubs leave the den in April-May, and they remain alone in the second year of life. The bear female repeats the reproductive cycle after their cubs will become independent, so after about two years (www.carnivoremari.ro). Males disperse after they become adults, the females set up their territory inside or near the territory of its mother. The territories are overlapped, especially in areas of high concentration of food.

The bear's diet is omnivorous, being reflected by the dentition. Brown bears have strong canines, used for defence, animal carcass break and killing their prey. Post carnassial teethes and small premolars have large areas of contact and are associated with a diet consisting primarily of plant foods and invertebrates. The herbs and sprouts are consumed mainly in spring or early summer. Summer and early autumn the bear eats: mushrooms and fruits (raspberries, blackberries, blueberries, apples, plums and pears). In late autumn, and winter, bears eat acorns and beechnut. The insects, especially Hymenoptera (ants, bees, wasps) can be seasonally an important food source, especially because they contain protein. Due to the high degree of assimilation and high nutritional value, bears prefer meat produced by predation, from carcasses, wild animals or feeding places.

Ecological importance (impact) of species

The brown bear is considered as being one of the most important umbrella species, for the Carpathian Biodiversity (Rozyłowicz et al., 2010). The bear is playing an important role in the plants, trees and bushes seeds dissemination by endozoochory. Also by predation is

contributing to the natural selection of the prey species (roe deer, red deer, wild boar, rabbit, etc.).

Socio-economic importance (impact) of species

In several areas from Romania the brown bear has a strong symbolic value and a strong connection with the local rural legends. From economic point of view the positive impact of the brown bear presence on rural economic aspects is low. The incomes of the local communities from the brown bear hunting (based on the derogation system) are small comparing with other natural resources utilisation. The bear hunting has an added value just for the game unit managers, for them shooting at least one bear per year being an important factor for the survival of the business. The "necessity" is creating conflicts between different groups represented by hunters and NGO's but also is affecting the hunter's community, due to the discussion about how the quota is distributed.

The negative impact seems to be more important due to the damages to livestock, orchards and agricultural fields in the context on which the protection of the farms, against predators, is very superficial and no measures are taken to prevent the damages. A positive tool can be the use of the image of the brown bear to promote traditional products, but unfortunately this approach is not used at large scale, and the positive impact is difficult to be assessed.

Actual conservation status (goals of conservation, conservation action plans, planning)

Romania joined the Convention on the Wildlife and Natural Habitat Conservation in Europe, issued in Bern on the 19th of September 1979, by Law no. 13/1993. After 2007 Romania became part of the EU and, regardless of the size of the bear population, bears became strictly protected. (Kaczensky et al., 2012a). According to the IUCN assessment the Carpathian population is Near Threatened, including and not including Ukraine (Kaczensky et al., 2012).

Considering that official estimation, indicating a brown bear population of approx. 6000 individuals (Kaczensky et al., 2012), are made based on hunters reports (without any scientific control), the estimated population size can be overestimated. According to the national legislation the conservation goal is to maintain the actual conservation status or to reach the favourable conservation status, as defined in the Habitat Directive, of the brown bear population.

Management of the feature and its variants

- Management currently adopted.

The brown bear management plan for Romania was developed in 2006, under the Ministry of Environment coordination, but is not approved by a legal act. Also the action plan is not applicable and should be revised due to the legal changes and new information about the bear population obtained in the projects implemented after 2007. There is no information about the monitoring of the management plan or about the success of it.

According to the management plan and the game unit management, the main concrete measure applied is the artificial feeding of the bears in some area on which bear hunting is a tradition. The measure is applied officially to reduce the conflicts between human and bears and to estimate the population size, but the main reason is to support the hunting especially in the spring season. Also new information from Europe is indicating that the artificial feeding of the bears has a strong negative effect on bear behaviour (Pop, 2011).

There is no other information about other conservation measures applied at national level.

- What proportion of the range of the feature is being managed in different ways e.g.
 - In Protected Areas: For the protected areas on which the Management plan is adopted according to the national legislation, the management is made according to the plan. At this point few protected areas have an approved plans to work with.
 - Under strict protection regimes: There are no area with strict protection regimes. The hunting is allowed base on annual derogation from the protection (annex 1). The annual maxim intervention based on derogation is around 300-350 individuals and number of shot individuals is around 200-250.
 - Subject to economic exploitation: the brown bear is promoted as a hunted species on the specialized web pages (annex 4). The direct income from hunting activities is related with the trophy price which can vary from 4000 € to 15000 €. There are no official centralized data about the income from bears hunting activities. Also there are no available official information about other income from tourism activities.
 - Public or private or common ownership or management: The ownership of all wildlife is public, according to the actual legislation. The management is private (National Forest Manager – Romsilva and hunting association with an NGO status are managing the game units based on contracts with the public central authority). The objectives and related actions are established by the Ministry of Environment and Climate Changes.
- What sectors are involved in management or use of the feature and how do sectorial policies affect its management and use.

Public sector:

1. Ministry of Environment and Climate Changes and subordinate institutions:

- National Environment Protection Agency with Environmental Protection Agencies at county level – responsible for protected species
- National Environmental Guard – legal control on environment issues

2. Ministry of Waters, Forests and Fishery and subordinate institutions:

- Forest and Hunting Inspectorate – regional level – responsible for game species management and hunting activities control

3. Research institution organization:

- Research Institute for Forest Management – Hunting and Wildlife Department
- Silviculture and Forest Faculties (from Braşov, Suceava, Oradea etc.)

Private sector:

1. Managers of protected areas: Private or public forest managers, NGO`s, public authorities, private persons – responsible for planning and management of the protected areas
2. Hunting associations, game managers – managing the wildlife base on a contract with the government, they are responsible of counting the population and on organizing hunting activities
3. Companies specialized on hunting activities without the right to do hunting activities – mainly involved as intermediate between hunters and game managers
4. Other organizations like NGO`s involved in nature conservation which have implemented or are now involved in field studies or other projects related to the species.

At national level there are two groups involved in supporting the public authorities in developing strategies, plans and regulation:

1. National Hunting Council
2. National Working Group for Large Carnivores Conservation

The first group is formed just from people involved in hunting activities and is more active, due to the fact that it has an official role according to the hunting legislation, being able to influence decisions. The second group is formed by people representing different stakeholders, and has just the purpose to advise the public central authority on topics related to large carnivore management.

Main threats of the feature and issues affecting its maintenance.

Conservation problems: biological, ecological

Although, as a whole, this species is secure, with relatively large numbers and an expansive range, several small, isolated populations are threatened due to their low numbers and frequent contact with humans. These small populations tend to be found in remnant wild areas surrounded by more extensive human development (www.iucnredlist.org). In the Romanian Carpathians the brown bear population from Western Carpathians (Apuşeni Mountains), estimated at 250-300 individuals (Kaczensky et al., 2012a) is considered partially isolated from the rest of the Southern and Eastern Carpathians, assuming the presence of small areas that allow the trespassing of individuals (Kaczensky et al., 2012a).

The last report related to the status of the large carnivores in Europe indicate that the most important threat for conservation of the brown bear at European level is the loss of habitat due to infrastructure and disturbance (Kaczensky et al., 2012a). The pressure exist already in

Romanian Carpathians the bear habitat being under continuous degradation and fragmentation due to human activities.

Conservation problems: socio-economic conflicts and threats

As wide-ranging omnivores, brown bears are attracted to areas with available human-related foods; being large and somewhat aggressive, these bears may threaten life and property (often agricultural products) and may be killed as a consequence (www.iucnredlist.org). Sub adults seemed to frequent cultivated land more often, probably in search of food that are easy to access and provide manifold sources (Pop et al., 2012). In this context the human habituation appearance is generating major risks for the species conservations (Pop, 2011) due to human bear conflicts that seem to be increasing in the last 5 years.

The poaching of bears has decreased to less than 20 documented cases per year. Most poaching acts were using snares (Kaczensky et al., 2012a). There is no information about the real dimension of the poaching activity but seems to be significantly larger than the official information.

Officially, because of the great number of conflicts, including humans killed or injured, a certain number of bears are removed each year using Habitat Directive derogations. In theory the hunting is only allowed for certain bears under specific conditions, places, and periods, and with the means established by the law. In practice the hunting is done for economical purposes. The applied hunting is non-selective, orientated towards big adults. In this context the hunting has no impact on damage mitigation but probably it has a negative impact on the structure of the brown bear population (Pop et al., 2012a).

Main threats to the feature (Natura 2000 categories) and its variants.

Treat	Main causes	Main effect
Trapping, poisoning, poaching	The brown bear is usually poached with snares in the vicinity of orchards or other farms for "protection". In few cases is killed for commercial purposes.	Human cause mortality threatening the structure and the size of the population.
Animal breeding	The animal breeding in the bear habitat is a source of conflict due to the opportunistic behaviour of the bear.	The bear is using the available food resources, generating conflicts with farmers.
Urbanized areas, human habitation	The development of the settlements infrastructure and the intensive use of natural resources.	The habitat is losing the capacity to maintain healthy and strong population. Disturbance is changing the bear behaviour.
Hunting	The hunting quota is planned according to estimated number. The hunting activities are not planned as management tool, the bears are shot for the trophy.	Changes in the population distribution and structure. Using attractants in the spring season can contribute to behavioural changes leading to habituation.
Routes, auto routes	Development of the transport infrastructure in order to improve	Fragmentation of the habitat. Affecting the dispersion of juvenile

	the speed of the vehicles also in the wolf habitat.	individuals
Motorized Tourism	The tourism infrastructure is now developing and the mountain facilities have to offer different activities to tourists. Using vehicles is an easy way to explore nature.	Habitat degradation which can affect the cubs survival rate during breeding season. Brown bear distribution affected by human presence and noise.

Strategy

Ideal management requirements

The ideal requirements for the maintenance favourable status and values of the feature are related to:

- active wildlife management,
- maintenance of good quality habitats
- involving stakeholder in planning and implementation activities

Targets and Management Objectives

Existing targets, obligations and objectives (in national strategy and plans)

The management plan for the brown bear population in Romania, made in 2006 propose the following objectives:

- ✓ Conservation of the habitat and the quality of the bear population
- ✓ Application of international regulations
- ✓ Avoiding the danger for humans and their property
- ✓ Achieving the desirable bear numbers
- ✓ Achieving of economic profit for local inhabitants through tourism and hunting
- ✓ Finding more data about bears in Romania (more research, better monitoring,).
- ✓ Increasing public awareness and involvement of the interest groups in decision-making related to bear management

The general goal of this Plan is to conserve a stable brown bear population in Romania in numbers that will ensure its viability and coexistence with humans.

Proposed goal and targets

- ✓ Conservation of the habitat and the quality of the bear population
- ✓ Avoiding the danger for humans and their property
- ✓ Finding more data about bears in Romania (more research, better monitoring,).
- ✓ Increasing public awareness and involvement of the interest groups in decision-making

Ideal management objective (long term goal) for the feature in the Carpathians:

To conserve a stable brown bear population in Romania in numbers and habitats that will ensure its viability and coexistence with humans.

Recommended conservation targets for the feature in the Carpathians:

- Improving the coexistence with humans – promoting an efficient derogation system, promoting new techniques for damage prevention
- Maintain the habitat suitability – evaluate the existing resources and the distribution in the Carpathians
- Maintain habitat connectivity – mapping the problem areas and prepare conservation measures in order to maintain or improve connectivity
- Reducing the pressure that influence the population size fluctuation – some pilot areas should be establish in order monitor the impact of the measures for long period

Management and Monitoring

Management measures

Specific conservation management measures

- Protective measures
 - Strengthening the protective status in the protected areas like Natura 2000 and Natural Parks by reducing hunting pressure and planning the forest logging to reduce disturbance during denning period.
 - Enforcement of the law implementation in order to reduce poaching and bad game management affecting the brown bear population.
 - Accepting the supplementary feeding as a management activity just in those cases that the action is necessary as a conservation tool.
- Active management
 - Establish coherent common monitoring programs for species population and habitat quality in all the protected areas.
 - Improving the management of the quiet zone inside the game unit in order to maintain refugee areas especially during breeding season.
 - Improving the derogation system in order to respect the rules from the Habitat Directive regarding the derogation from protection status.
 - Preparing regional damage preventions plans as tools for human bear coexistence for the areas with high conflict level.
- Ex situ conservation
 - It can be used for public awareness raising and other biological/ecological/behavioral studies.
- Traditional uses that maintain the features.

-Long term natural regeneration of the broad-leaves and mixed forest

- Measures for modifying economic exploitation
 - Conducting hunting activities as management tools for maintaining healthy population and not as trophy hunting.
 - Identifying bear friendly activities or measures in order to obtain added values for services and products from rural space.

Wider conservation measures

- Ecosystem/landscape scale measures
 - Maintaining the land use.
 - Habitat quality assessment in order to improve the role of the protected areas as elements of the ecological network.
- Regional (Carpathian Wide) measures
 - Developing a Carpathian management/action plan
 - Develop a connectivity maintaining strategy
 - Develop an anti-poaching strategy
- Sectorial measures
 - Planning of the forest cutting in order to reduce the disturbance during breeding period
 - Involving the border patrol in collecting data from the field in order to support the trans boundary movements monitoring

Measures related to the enabling environment

- Legal measures (national legislation, EU wide etc.)
 - Improving the actual national legislation in order to harmonize the hunting legislation with the protection of the species legislation.
 - Establish clear priorities in the national law, strategies and management plan regarding the conservation of the species.
- Administrative measures (collaboration, coordination, regional cooperation)
 - Improving collaboration between stakeholders inside different types of working groups (national working group, consultative councils of protected areas etc.) in order to insure a participative planning.
 - Improving coordination and collaboration between Carpathian countries at different levels (political, science, administrative) by creating common working groups and establishing responsibilities.

- Developing common web platforms in order to encourage the information exchange at national and Carpathian countries level.
- Identifying organization (public and private) involved in the management/conservation activities and supporting working platform between them.
- Exchange experience project between Carpathian countries targeting the stakeholders in order to improve the best practice transfer.
- Awareness and capacity development measures (general public, decision makers and administrations, specific sectors, PA staff, etc.)
 - Developing a communication strategy in order to sustain the awareness campaigns from different projects.
- Financing
 - Promoting trans boundary projects financed by Transnational Cooperation Program South East Europe and LIFE+.
 - Developing a financial instrument between Carpathian countries in order to support small grants for mammal conservation/research projects which results will be integrated in a common data base

Good practices from Romania

1. The web portal of the Association for Conserving Biological Diversity and Forest Design SRL for involving volunteers in field data collection. The portal is also offering the possibility to download data in order to support students, scientist and other study developers. <http://carnivore.biodiversitate.ro>
2. <http://www.lifeursus.carnivoremari.ro/gis-database.php> - a GIS information web portal, open for the general public in the LIFE08NAT/RO/000500 project, containing selected informations related to damage occurrence, den areas, accidents etc.
3. The Project "Open borders for brown bears in the Romanian and Ukrainian Carpathians" targeting the brown bear habitat conservation in the border region. http://romania.panda.org/resurse/comunicate_de_presa/?204948/Granite-deschise-pentru-ursi-in-Carpatii-Romaniei-si-ai-Ucrainei
4. Promoting bear friendly products in the LIFE08NAT/RO/000500 project http://issuu.com/carnivoremari/docs/brosura_bear_friendly_final_mic_romana
5. The Orphan bear cubs rehabilitation centre, administrated by Association for Conserving Ntural Values in Harghita County (<http://www.orphanbears.org/>) is supporting bear behaviour studies and research. Also is used as an awareness raising material. It is the first initiative on this sense from the Eastern Europe, started with finance from Vier Pfofen organization. It is not an ex situ conservation system.
6. The Animal Rescue Mobile Team LIFE05NAT/RO/000170 (<http://www.life000170.carnivoremari.ro/pagina-23uk.php>) and the Center for Care and Treatment for Wild Animals (managed by Association for Conserving Biological Diversity, <http://www.biodiversitate.ro/centrul-zonal-de-tratament-si-ingrijire-pentru->

[animalele-salbatice.html](#)) are to initiative targeting individuals and not population developed as a results of snare poaching and other accidents involving bears and other animals.

7. The Liberty Reserve from Zărnești, financed by World Society for the Protection of Animals is a sanctuary for bears that were kept in illegal condition. Since 2013 the reserve is partially opened for public under strict visiting condition (<http://bearsanctuary.com/libearty-bear-sanctuary>). It is a strong tools for general public involvement and awareness raising.

Essential research priorities

1. Assessing population size and structure
2. Habitat suitability and supporting capacity
3. Population genetic and dynamic
4. Impact of hunting on bear population
5. Diseases and natural mortality

Measures required for monitoring the feature and variants

Monitoring

The minimum parameters that should be monitored in order to assess the status of the species are:

- Population size – abundance
- Distribution range – sign survey
- Habitat suitability – periodic assessment on pilot sites
- Threats and pressures evolution in the habitat
- Human cause and natural mortality

The method used to monitor this parameters should be simple to implement on the field, but well-coordinated and developed on scientific base. Also the methods should be selected considering the financial effort to implement, the economic aspects being important for the stakeholders.

Information management

The results of the monitoring should be available for all stakeholders. The data collected should be available on request for scientific and conservation purposes.

GOLDEN JACKAL (*CANIS AUREUS*)

Summary of biology/ecology for each species

The Golden jackal is a medium-sized canid, with the body mass for females around 5.8 kg and for males 6.6 kg (www.canids.org). Basic coat colour is golden but varies from pale creamy yellow to a dark tawny hue on a seasonal basis. The pelage on the back is often a mixture of black, brown and white hairs. The tail is bushy with a tan to black tip. Legs are relatively long and feet slender with small pads (www.canids.org). Golden jackals are omnivorous and opportunistic foragers and their diet varies according to season and habitat. Single jackals typically hunt smaller prey like rodents, hares and birds (www.canids.org).

Due to their tolerance of dry habitats and their omnivorous diet, the golden jackal can leave in a wide variety of habitats (www.canids.org). In Romania has been recorded recently inside Carpathian arch and in Danube Delta Biosphere Reserve (Banea et al., 2012). Besides published information of the golden jackal presence in the Carpathian Region, individuals were spotted between 2010-2012 in the Vrancea, Harghita and Mădăraş Mountains, in different types of forest habitats.

Ecological importance (impact) of species

Due to intermittent presence of the golden jackal in Romania, between 1929 and 2005, the ecological impact of the permanent presence of the species was not assessed.

Socio-economic importance (impact) of species

Due to intermittent presence of the golden jackal in Romania, between 1929 and 2005, the socio-economic importance of the permanent presence of the species is not assessed.

Actual conservation status (goals of conservation, conservation action plans, planning)

According to the national legislation the golden jackal is a game species, included in the Annex 1 of the Hunting Law 407/2006. At global level the status according to IUCN evaluation is Least Concern.

Management of the feature and its variants

- Management currently adopted.

There is no management plan developed for the species. According to the national legislation the golden jackal is a game species, included in the Annex 1 of the Hunting Law 407/2006. For the 2013-2014 season the quota for the golden jackal was establish in the annex 6 of the Ministerial Order no. 1225/2013 at 3961 individuals.

- What proportion of the range of the feature is being managed in different ways e.g.
 - In Protected Areas: No special management
 - Under strict protection regimes: There is not the case
 - Subject to economic exploitation: the golden jackal is a hunted species and is considered a harmful species for the other hunted species as rabbit and roe deer. There are no official centralized data about the income from hunting activities.

- Public or private or common ownership or management: The ownership of all wildlife is public, according to the actual legislation. The management is private (National Forest Manager – Romsilva and hunting association with an NGO status are managing the game units based on contracts with the public central authority).
- What sectors are involved in management or use of the feature and how do sectorial policies affect its management and use.

Public sector:

1. Ministry of Waters, Forests and Fishery and subordinate institutions:

- Forest and Hunting Inspectorate – regional level – responsible for game species management and hunting activities control
- National Hunting Council – non institutional body involved in supporting decision of the responsible authorities on hunting strategies, legislation and management

2. Ministry of Environment and Climate Changes and subordinate institutions:

- National Environment Protection Agency with Environmental Protection Agencies at county level – responsible for protected species and protected areas management
- National Environmental Guard – legal control on environment issues

3. Research institution organization:

- Research Institute for Forest Management – Hunting and Wildlife Department
- Silviculture and Forest Faculties (from Braşov, Suceava, Oradea etc.)

Private sector:

1. Hunting associations, game managers – managing the wildlife base on a contract with the government, they are responsible of counting the population and on organizing hunting activities
2. Companies specialized on hunting activities without the right to do hunting activities – mainly involved as intermediate between hunters and game managers
3. Managers of protected areas: Private or public forest managers, NGO's, public authorities, private persons
4. Other organizations like NGO's involved in nature conservation involved in field studies or other projects related to the species.

Main threats of the feature and issues affecting its maintenance.

Conservation problems: biological, ecological

Being, until a few years ago, a sporadic presence in the low land from South, Eastern and Western part of Romania and in the Danube Delta the golden jackal will definitely change the ecological processes in these areas. Also the presence of some individuals in some mountain areas from Romania indicates high ecological amplitude of the species, amplitude that is

usually characteristic to the invasive and pioneer species. The main problem at this moment is to establish the correct distribution area of the species in Romania.

Conservation problems: socio-economic conflicts and threats

The main problem is the lack of reaction of the public authorities towards the presence of the species. Also there is little information about the golden jackal in Romania. The general public is not aware about the presence of the species. Also the hunters, forest managers and conservationist from other areas than the already occupied one, are not ready to deal with the presence of the animal in their interested zones.

Main threats to the feature (Natura 2000 categories) and its variants:

Treat	Main causes	Main effect
Trapping, poisoning, poaching	The golden jackal is considered a very harmful predator of small mammals and wild ungulates.	High human cause mortality threatening the structure and the size of the population
Animal breeding	The animal breeding in the habitat is a source of conflict. The shepherd dogs are on most of the cases vectors for diseases transmission to wild fauna	The golden jackal is using the available food resources, generating conflicts with farmers. The rabies is transmitted from jackals to dogs.
Urbanized areas, human habitation	The development of the settlements infrastructure and the intensive use of natural resources.	The habitat is losing the capacity to maintain healthy population.

Strategy

Ideal management requirements

The ideal requirements for the maintenance favourable status and values of the feature are related to:

- active wildlife management,
- adopting best practice for maintaining good quality habitats and prey availability
- involving stakeholder in planning and implementation activities

Targets and Management Objectives

Existing targets, obligations and objectives (in national strategy and plans)

There are no objectives established for this species other than the general objective from the National Hunting Strategy targeting the use of game resources and biodiversity conservation maintaining the balance between agriculture, forestry and wildlife.

Proposed goal and targets

- ✓ Maintain the an optimum golden jackal population
- ✓ Maintain and improve the habitat quality and prey base
- ✓ Avoiding the danger for humans and their property

- ✓ Finding more data about the species in Romania (more research, better monitoring).
- ✓ Increasing public awareness and involvement of the interest groups in decision making related to species management.

Ideal management objective (long term goal) for the feature in the Carpathians:

To conserve a stable golden jackal population in Romania in numbers and habitats that will ensure its viability and coexistence with humans and other large carnivore.

Recommended conservation targets for the feature in the Carpathians:

- Maintain the prey availability – evaluate the existing resources and the distribution in the species distribution range
- Maintain habitat connectivity – mapping the problem areas and prepare conservation measures in order to maintain or improve connectivity

Management and Monitoring

Management measures

Specific conservation management measures

- Protective measures
 - Enforcement of the law implementation in order to reduce poaching and bad game management affecting prey species.
- Active management
 - Establish coherent common monitoring programs for species population and habitat quality.
- Ex situ conservation
 - The Least concern status of the wolves is the main reason why ex situ conservation is not a necessary conservation measure.
- Economic aspects

The economic exploitation is not an objective at this point due to the low economic value of the animal, unknown distribution that makes the quota planning very difficult and hunter perception towards the species.

Wider conservation measures

- Ecosystem/landscape scale measures (need data)
 - Maintaining the land use.
- Sectorial measures
 - Planning of the forest cutting in order to reduce the disturbance during breeding period

Measures related to the enabling environment

- Legal measures (national legislation, EU wide etc.)
 - Improving the actual national legislation in order to harmonize the hunting legislation with the protection of the species legislation.
 - Establish clear priorities in the national law, strategies and management plan regarding the management of the species.
- Administrative measures (collaboration, coordination, regional cooperation)
 - Improving collaboration between stakeholders inside different types of working groups (national working group, consultative councils of protected areas etc.) in order to insure a participative planning.
 - Improving coordination and collaboration between Carpathian countries at different levels (political, science, administrative) by creating common working groups and establishing responsibilities.
 - Developing common web platforms in order to encourage the information exchange at national and Carpathian countries level.
 - Exchange experience project between Carpathian countries targeting the stakeholders in order to improve the best practice transfer.
- Awareness and capacity development measures (general public, decision makers and administrations, specific sectors, PA staff, etc.)
 - Developing a communication strategy in order to promote protection measures to reduce damages.

Good practices from Romania

- none available

Essential research priorities

1. Assessing population size and structure
2. Prey species availability
3. Population genetic and dynamic
4. Impact of hunting on golden jackal population
5. Diseases and natural mortality

Measures required for monitoring the feature and variants

Monitoring

The minimum parameters that should be monitored in order to assess the status of the species are:

- Population size – abundance,
- Distribution range – sign survey
- Prey species availability – periodic assessment on pilot sites

- Threats and pressures evolution in the habitat
- Human cause and natural mortality

The method used to monitor this parameters should be simple to implement on the field, but well-coordinated and developed on scientific base. Also the methods should be selected considering the financial effort to implement, the economic aspects being important for the stakeholders.

Information management

The results of the monitoring should be available for all stakeholders. The data collected should be available on request for scientific and conservation purposes.

EUROPEAN BISON (*BISON BONASUS*)

Summary of biology/ecology for each species

The mean body mass of European bison living in a free-ranging population is 634.1kg for bulls and 423.7 kg respectively for cows, and the sexual dimorphism becomes pronounced at the age of three and is maintained until the end of life (Kraśńska and Kraśński 2002).

European bison from free-ranging populations and reserves begin to mature sexually at the third year of life. Young bulls from free-ranging populations, aged 4–6 years, are sexually mature, but do not take part in reproduction for behavioural reasons (Pucek et al., 2004). Cows usually reach sexual maturity in the third year of life, giving birth to their first calf in the fourth year (Pucek et al., 2004). The European bison is a gregarious animal. Mixed groups and bull groups are the basic units observed (Pucek et al., 2004).

Deciduous forest types are the most suitable habitats for European bison they mainly forage in fresh and moist deciduous forests and then in mixed coniferous forests (Pucek et al., 2004). Forest complexes with a mosaic-like forest type arrangement are most favourable. In fresh deciduous forest, European bison find food throughout the vegetative season (Pucek et al., 2004).

From 2012 in the Vânători Neamț Natural Park there is a 5 individuals herd free ranging. The rest of the Romanian wisent population is maintained in captivity.

Ecological importance (impact) of species

Historically it was distributed throughout western, central, and south-eastern Europe. The species undoubtedly had an important role in the formation of the prehistoric European broad-leaf forest and forested steppe ecosystems (Pucek et al., 2004).

Socio-economic importance (impact) of species

The bison is the flag of the effort of the specialist to save one of the most symbolic species of Europe. The bison has a long history and is connected to many communities that use the symbol of the bison to local emblem. The European bison is present on the old Moldavian and Romanian blazon. The bison can be used to attract tourists and to promote traditional products and from this perspective the rural communities can use it for marketing purposes.

Actual conservation status (goals of conservation, conservation action plans, planning)

The objective of the conservation strategy at European Level is to create conditions that are conducive for the long-term survival of viable wild (or naturalised) populations of European bison. At Romanian level the objective is to enrich and create a larger herd in “Dragoș-Voda” Reserve to support the general plan of reintroductions in the eastern Carpathians (Pucek et al., 2004).

Management of the feature and its variants

- Management currently adopted.

According to the national legislation the bison hunting is forbidden, being included in the Annex II of the Hunting Law 407/2006 and Annex IV with the strictly protected species on

the Governmental Order 57/2007 for protected areas, species and habitat. The Strategy for European bison (*Bison bonasus*, L. 1758) species conservation in Romania was developed and presented in 2008 to the Ministry of Environment for approval. Also, under the umbrella of the public authority in 2008 a working group for the bison conservation was established.

Contemporary history of bison in Romania begins in 1958, with the establishment of the bison reserve in Hațeg Sliva (Hunedoara county) by transferring duplicate Polish bison, a male and a female named Podarek and Polanka (Deju et al., 2005). Reserve Hațeg Sliva became a center for restocking other reserves and zoos in the country: Neagra Bușani, Vânători Neamt, Poiana Brasov, Bucharest, Pitesti, Targu Mures, etc.

In Romania, at the moment of this report, there are 93 bison. In captivity the bison exist in three locations, Dragos Voda Zoo Vânători Neamt (6 individuals) and Reserve Hațeg Slivăț (10 individuals), the third is Targoviste Zoo (1 individuals).

Free range bison herds are located in three locations, of these, two are reserves managed by the National Forest Administration - Romsilva:

- Neagra Bușani, Dâmbovița County (43 individuals in an enclosure of 162 ha)
- Natural Park Vânători Neamt, (16 individuals held in an enclosure of 177 ha),
- Vama Buzaului, Brasov (17 individuals held in an enclosure of 10 ha) reserve under the administration of the Association "Bison Valley"

The first release back into the wild was made in 2012 in Vânători Neamt Natural Park. The first five individuals were released from the accommodation enclosure in to a wild area, considered suitable for the species. Proof of animals adapt to the new ecosystem is the fact that they remained in the previously chosen reintroduction after detailed studies, the 2 females released in 2012, bringing into the world viable and vigorous calves.

- What proportion of the range of the feature is being managed in different ways e.g.
 - In Protected Areas: the main core population is managed in specialised protected area.
 - Under strict protection regimes: The bison is under very strict regime. All the free ranging individuals is under monitoring.
 - Subject to economic exploitation: the bison is not a subject of economic exploitation. The main incomes are related to fees paid for visiting the reserves.
 - Public or private or common ownership or management: The ownership of all wildlife is public, according to the actual legislation. The objectives and related actions are established by the Ministry of Environment and Climate Changes.
- What sectors are involved in management or use of the feature and how do sectorial policies affect its management and use.

Public sector:

1. Ministry of Environment and Climate Changes and subordinate institutions:
 - National Environment Protection Agency with Environmental Protection Agencies at county level – responsible for protected species, zoo management
 - National Environmental Guard – legal control on environment issues
2. Managing institution:

- National Forests Administration
 - Association "Bison Valley"
 - Zoo Târgoviște
3. Research institution organization:
- Research Institute for Forest Management – Hunting and Wildlife Department

Main threats of the feature and issues affecting its maintenance.

Conservation problems: biological, ecological

Habitat degradation and fragmentation due to agricultural activity, forest loggings, and unlimited hunting and poaching, were the primary reasons for the decrease and extinction of European bison populations (Pucek et al., 2004).

The conservation problems in Romania are determined by the lack of free-ranging herds. At this moment the species is managed within four reserves in captivity or in big enclosures (more than 100 ha). The main threat is to maintain the habitats in good condition. Another treats are generated by the diseases and inbreeding.

Conservation problems: socio-economic conflicts and threats

The species being extinct from the wild there are no socio-economic conflicts. The main threat for the new released herd could be the poaching of some individuals.

Main threats to the feature (Natura 2000 categories) and its variants.

Treat	Main causes	Main effect
Forestry clearence	The market request for forest resources.	Habitat degradation and fragmentation
Inbreeding	The low genetic variability	Influence the population growth and viability
Animal breeding, Grazing	The animal breeding in the bison habitat is an activity that influence the availability of food resources	Decrease of food resources
Urbanized areas, human habitation	The development of the settlements infrastructure and the intensive use of natural resources.	The habitat is losing the capacity to maintain healthy and strong population.
Routes, auto routes	Development of the transport infrastructure in order to improve the speed of the vehicles	Fragmentation of the habitat. Affecting the size of home range

Strategy

Ideal management requirements

The ideal requirements for the maintenance favourable status and values of the feature are related to:

- maintenance of good quality habitats
- involving stakeholder in planning and implementation activities

Targets and Management Objectives

Existing targets, obligations and objectives (in national strategy and plans)

The objective establish for medium term is to release back into wilderness a sufficient number of bison to allow natural growth and movement of the bison in order to connect the Romanian with the Ukrainian population.

Proposed goal and targets

Conserving for long term wild population of bison in the Romanian Carpathians using the existing genetic resources and preserving the quality and the connectivity of the habitats.

Ideal management objective (long term goal) for the feature in the Carpathians:

To conserve a stable bison population in Romania in numbers that will ensure its long term viability and coexistence with humans.

Recommended conservation targets for the feature in the Carpathians:

- Improving the coexistence with humans – promoting an efficient derogation system, promoting new techniques for damage prevention
- Maintain the habitat suitability – evaluate the existing resources and the distribution in the Carpathians
- Maintain habitat connectivity – mapping the problem areas and prepare conservation measures in order to maintain or improve connectivity
- Reducing the pressure that influence the population size fluctuation – some pilot areas should be establish in order monitor the impact of the measures for long period

Management and Monitoring

Management measures

Specific conservation management measures

- Active management
 - Planning natural resources use in order to improve the food availability for bison.
 - Improving the management of the quiet zone inside the game unit in order to maintain refugee areas especially during breeding season.
 - Preparing regional damage preventions plans as tools for preventing conflicts with humans
- Ex situ conservation
 - It is the base of the reintroduction in Romania. It is a necessary tool for bison population restoration in the Carpathian mountains
- Traditional uses that maintain the features.
 - Long term natural regeneration of the broad-leaves and mixed forest and avoidance of clear cutting.

Wider conservation measures

- Ecosystem/landscape scale measures
 - Maintaining the land use.
 - Habitat quality assessment in order to improve the role of the protected areas as elements of the ecological network.
- Regional (Carpathian Wide) measures
 - Developing a Carpathian management/action plan
 - Develop a connectivity maintaining strategy
- Sectorial measures
 - Planning of the forest cutting in order to reduce the disturbance during breeding period

Measures related to the enabling environment

- Legal measures (national legislation, EU wide etc.)
 - Establish clear priorities in the national law, strategies and management plan regarding the conservation of the species.
- Administrative measures (collaboration, coordination, regional cooperation)
 - Improving collaboration between stakeholders inside different types of working groups (national working group, consultative councils of protected areas etc.) in order to insure a participative planning.
 - Improving coordination and collaboration between Carpathian countries at different levels (political, science, administrative) by creating common working groups and establishing responsibilities.
 - Developing common web platforms in order to encourage the information exchange at national and Carpathian countries level.
 - Exchange experience project between Carpathian countries targeting the stakeholders in order to improve the best practice transfer.
- Awareness and capacity development measures (general public, decision makers and administrations, specific sectors, PA staff, etc.)
 - Developing a communication strategy in order to sustain the awareness campaigns from different projects.
- Financing
 - Promoting trans boundary projects financed by Transnational Cooperation Program South East Europe and LIFE+.
 - Developing a financial instrument between Carpathian countries in order to support small grants for mammal conservation/research projects which results will be integrated in a common data base

Good practices from Romania

Promoting the "Bison land" brand by Vânători Neamț Natural Park Administration in order to support the eco tourism in the region : <http://www.bisonbonasus.ro/>

Measures implemented by Vanatori Neamt Natural Park Administration:

- Supporting local brands
- Involving communities
- Promoting the authorities involvement

Essential research priorities

- ✓ Habitat suitability analysis
- ✓ Human impact on free ranging population
- ✓ Monitoring and improving of the genetic structure
- ✓ Monitoring of the diseases and parasites
- ✓ Assessing the economic impact of the free ranging herds on rural communities

Measures required for monitoring the feature and variants

Monitoring

The minimum parameters that should be monitored in order to assess the status of the species are:

- Habitat suitability – periodic assessment on pilot sites
- Threats and pressures evolution in the habitat
- Human cause and natural mortality

The method used to monitor this parameters should be conducting on science base and using new techniques in order to predict future distribution range of the bison and to plan future conservation measures.

Information management

The results of the monitoring should be available for all stakeholders. The data collected should be available on request for scientific and conservation purposes.

CHAMOIS (*RUPICAPRA RUPICAPRA*)

Summary of biology/ecology for each species

The size of the chamois is characterised by 110-130 cm body length, 70-85 cm shoulder height and 14-62 kg weight (<http://www.lhnet.org/northern-chamois/>). The short, smooth summer coat is overall tawny or reddish-brown, while in winter it becomes a chocolate brown, with guard hairs measuring 10-20 cm long covering a wooly underlayer. The under parts are pale. The legs are usually darker, and there is a slight mane on the throat. The jaw,

cheeks, and nose-bridge are strikingly white, and there is a black stripe running from the eye to the muzzle (<http://www.lhnet.org/northern-chamois/>). The slender, black horns are found in both sexes. Rising vertically from the forehead, they are sharply curved backwards on their top third like hooks, and can reach a length of 32 cm.

Alpine chamois inhabit steep, rocky areas in the mountains, utilizing a variety of habitats including alpine meadows, open rocky areas, mixed broadleaf woodland, and coniferous woodland (Pedrotti and Lovari 1999). Females gestate for 170 days, and usually have 1 offspring per pregnancy. Females are sexually mature at 2.5 years, while males mature 1-1.5 years later. They live 14-22 years. Females and young occur in flocks of 5-30 animals, while adult males remain solitary (www.iucnredlist.org).

The main predators of the chamois are humans, stray dogs, lynx and rarely wolves. The main population of chamois in Romania is located in the Southern Carpathians Mountains mainly in Făgăraș and Bucegi mountains. Small population can be found dispersed in the Eastern Carpathians Mountains.

Ecological importance (impact) of species

The species is one of the most important species for maintaining the large carnivore populations in Romania. The chamois is one of the main prey species for the lynx and wolf during the winter period.

Socio-economic importance (impact) of species

The species is one of the most appreciated species by the general public and is perceived as a fragile species. The chamois is one of the most important objectives for mountain tourism, but the impact of the species on mountain tourism is not evaluated. Small incomes are obtained by the game managers from the trophy hunting of the chamois.

Actual conservation status (goals of conservation, conservation action plans, planning)

According to the national legislation the chamois is a game species, included in the Annex 1 of the Hunting Law 407/2006.

Management of the feature and its variants

- Management currently adopted.

There is no management plan developed for the species. According to the national legislation the chamois is a game species, included in the Annex 1 of the Hunting Law 407/2006. For the 2013-2014 season the quota for the chamois was established in the annex 1 of the Ministerial Order no. 1225/2013 at 388 individuals.

There has been some periodic repopulation in areas on which the size of the population was reduced due to poaching.

- What proportion of the range of the feature is being managed in different ways e.g.

- In Protected Areas: Special regime according to the Management plans but according to the hunting legislation is a commons species. For hunting the permit form the administrator of the protected area is needed.
- Under strict protection regimes: The lack of reliable information on population size and structure may be a strong argument to promote a period of strict protection regime.
- Subject to economic exploitation: the chamois is a hunted species and is considered an important trophy. There are no official centralized data about the income from hunting activities. The trophy price vary from 1500 € to 5000 €.
- Public or private or common ownership or management: The ownership of all wildlife is public, according to the actual legislation. The management is private (National Forest Manager – Romsilva and hunting association with an NGO status are managing the game units based on contracts with the public central authority).
- What sectors are involved in management or use of the feature and how do sectorial policies affect its management and use.

Public sector:

1. Ministry of Waters, Forests and Fishery and subordinate institutions:

- Forest and Hunting Inspectorate – regional level – responsible for game species management and hunting activities control
- National Hunting Council – non institutional body involved in supporting decision of the responsible authorities on hunting strategies, legislation and management

2. Ministry of Environment and Climate Changes and subordinate institutions:

- National Environment Protection Agency with Environmental Protection Agencies at county level – responsible for protected species and protected areas management
- National Environmental Guard – legal control on environment issues

3. Research institution organization:

- Research Institute for Forest Management – Hunting and Wildlife Department
- Silviculture and Forest Faculties (from Braşov, Suceava, Oradea etc.)

Private sector:

1. Hunting associations, game managers – managing the wildlife base on a contract with the government, they are responsible of counting the population and on organizing hunting activities
2. Companies specialized on hunting activities without the right to do hunting activities – mainly involved as intermediate between hunters and game managers

3. Managers of protected areas: Private or public forest managers, NGO`s, public authorities, private persons
4. Other organizations like NGO`s involved in nature conservation involved in field studies or other projects related to the species.

Main threats of the feature and issues affecting its maintenance.

Conservation problems: biological, ecological

The main problem is the habitat fragmentation and low connectivity between small populations.

Conservation problems: socio-economic conflicts and threats

Poaching and over-hunting may be a problem for the species in parts of its range, especially where it occurs outside protected areas and private hunting reserves (Shackleton 1997). Human disturbance, particularly as a result of increased tourism and leisure activities in mountain areas, may also be a problem (Shackleton 1997). Grazing by domestic sheep in summer tends to disturb chamois causing them to be more dispersed. In some areas, high densities of these domestic animals create intense grazing pressure (www.iucnredlist.org, <http://www.lhnet.org/northern-chamois>).

Main threats to the feature (Natura 2000 categories) and its variants:

Treat	Main causes	Main effect
Grazing	The grazing of animals on mountain pasture is a competition for chamois	Decrease of food resources
Trapping, poisoning, poaching	The chamois trophy is an important trophy.	High human cause mortality threatening the structure and the size of the population
Animal breeding	The animal breeding in the habitat is a source of conflict. The shepherd dogs are on most of the cases vectors for diseases transmission to wild fauna	The chamois is using the remaining food resources. Population is decreasing due to lack of food.
Inbreeding	Small populations	Loss of the population viability on long term
Urbanized areas, human habitation	The development of the settlements infrastructure and the intensive use of natural resources.	The habitat is losing the capacity to maintain healthy population.
Mountaineering, rock climbing	Tourism is a growing activity in the mountain area.	Degradation of habitats

Strategy

Ideal management requirements

The ideal requirements for the maintenance favourable status and values of the feature are related to:

- active wildlife management,
- adopting best practice for maintaining good quality habitats and food availability
- involving stakeholder in planning and implementation activities

Targets and Management Objectives

Existing targets, obligations and objectives (in national strategy and plans)

There are no objectives established for this species other than the general objective from the National Hunting Strategy targeting the use of game resources and biodiversity conservation maintaining the balance between agriculture, forestry and wildlife.

Proposed goal and targets

- ✓ Maintain the an healthy and viable population
- ✓ Maintain and improve the habitat quality
- ✓ Reducing the poaching
- ✓ Finding more data about the species in Romania (more research, better monitoring,).
- ✓ Increasing public awareness and involvement of the interest groups in decision making related to species management.

Ideal management objective (long term goal) for the feature in the Carpathians:

To conserve a stable chamois population in Romania in numbers and populations that will ensure its viability for long term in all available habitats.

Recommended conservation targets for the feature in the Carpathians:

- Maintain the food availability – evaluate the existing resources and the distribution in the species distribution range
- Maintain habitat connectivity – mapping the problem areas and prepare conservation measures in order to improve connectivity

Management and Monitoring

Management measures

Specific conservation management measures

- Protective measures
 - Enforcement of the law implementation in order to reduce poaching and bad game management affecting the species.
- Active management
 - Establish coherent common monitoring programs for species population and habitat quality.

- Ex situ conservation
 - The Least concern status of the chamois is the main reason why ex situ conservation is not a necessary conservation measure.
- Economic aspects
 - The economic exploitation is an objective at this point but, unknown distribution that makes the quota planning very difficult and the success of hunting is affected by poachers.

Wider conservation measures

- Ecosystem/landscape scale measures (need data)
 - Maintaining the land use.
- Sectorial measures
 - Planning of the grazing to reduce the disturbance and the degradation of food resources

Measures related to the enabling environment

- Legal measures (national legislation, EU wide etc.)
 - Improving the actual national legislation in order to harmonize the hunting legislation with the protection of the protected areas legislation.
 - Establish clear priorities in the national law, strategies and management plan regarding the management of the species.
- Administrative measures (collaboration, coordination, regional cooperation)
 - Improving collaboration between stakeholders inside different types of working groups (national working group, consultative councils of protected areas etc.) in order to insure a participative planning.
 - Improving coordination and collaboration between Carpathian countries at different levels (political, science, administrative) by creating common working groups and establishing responsibilities.
 - Developing common web platforms in order to encourage the information exchange at national and Carpathian countries level.
 - Exchange experience project between Carpathian countries targeting the stakeholders in order to improve the best practice transfer.
- Awareness and capacity development measures (general public, decision makers and administrations, specific sectors, PA staff, etc.)
 - Developing a communication strategy in order to promote protection.

Good practices from Romania

- none available

Essential research priorities

1. Assessing population size and structure
2. Food availability
3. Population genetic and dynamic
4. Impact of hunting on chamois population
5. Diseases and natural mortality

Measures required for monitoring the feature and variants

Monitoring

The minimum parameters that should be monitored in order to assess the status of the species are:

- Population size – abundance,
- Distribution range – sign survey
- Food availability – periodic assessment on pilot sites
- Threats and pressures evolution in the habitat
- Human cause and natural mortality

The method used to monitor this parameters should be simple to implement on the field, but well-coordinated and developed on scientific base. Also the methods should be selected considering the financial effort to implement, the economic aspects being important for the stakeholders.

Information management

The results of the monitoring should be available for all stakeholders. The data collected should be available on request for scientific and conservation purposes.

ROE DEER (*CAPREOLUS CAPREOLUS*)

Summary of biology/ecology for each species

The Roe Deer is a relatively small deer, with a body length of 95 to 135 cm, a shoulder height of 65 to 75 cm, and a weight of 15 to 30 kg. Roe Deer has a reddish body with a grey face and its hide is golden red in summer, darkening to brown or even black in winter, with lighter undersides and a white rump patch; the tail is very short 2-3 cm, and barely visible (<http://www.lhnet.org/eurasian-roe-deer/>).

Roebucks enter rutting inappetence during the July and August breeding season. Females are monoestrous and after delayed implantation usually give birth the following June, after a ten-month gestation period, typically to two spotted fawns of opposite sexes (<http://www.lhnet.org/eurasian-roe-deer/>). It is present in whole types of Romanian landscapes.

It occupies a wide variety of habitats, including deciduous, mixed or coniferous forests, moorland, pastures, arable land, and suburban areas with large gardens. It prefers landscapes with a mosaic of woodland and farmland. Roe deer are well adapted to modern agricultural landscapes (<http://www.lhnet.org/eurasian-roe-deer/>).

It is present in whole Romanian landscapes.

Ecological importance (impact) of species

The species is one of the most important species for maintaining the large carnivore populations in Romania. The roe deer is the main prey species for the lynx.

Socio-economic importance (impact) of species

The species is one of the most appreciated species by the general public and is perceived as a fragile species. Small incomes are obtained by the game managers from the trophy hunting of the roe deer.

Actual conservation status (goals of conservation, conservation action plans, planning)

According to the national legislation the roe deer is a game species, included in the Annex 1 of the Hunting Law 407/2006.

Management of the feature and its variants

- Management currently adopted.

There is no management plan developed for the species. According to the national legislation the roe deer is a game species, included in the Annex 1 of the Hunting Law 407/2006. For the 2013-2014 season the quota for the roe deer was established in the annex 1 of the Ministerial Order no. 1225/2013 at 16.822 individuals (10%) of the estimated population in Romania (also outside Carpathians Mountains).

- What proportion of the range of the feature is being managed in different ways e.g.
 - In Protected Areas: Special regime according to the Management plans but according to the hunting legislation is a common species. For hunting inside a protected area the permit from the administrator of the protected area is needed.

- Under strict protection regimes: No case
- Subject to economic exploitation: the roe deer is a game species. There are no official centralized data about the income from roe deer hunting activities. The trophy price vary from 500 € to 3000 €.
- Public or private or common ownership or management: The ownership of all wildlife is public, according to the actual legislation. The management is private (National Forest Manager – Romsilva and hunting association with an NGO status are managing the game units based on contracts with the public central authority).
- What sectors are involved in management or use of the feature and how do sectorial policies affect its management and use.

Public sector:

1. Ministry of Waters, Forests and Fishery and subordinate institutions:

- Forest and Hunting Inspectorate – regional level – responsible for game species management and hunting activities control
- National Hunting Council – non institutional body involved in supporting decision of the responsible authorities on hunting strategies, legislation and management

2. Ministry of Environment and Climate Changes and subordinate institutions:

- National Environment Protection Agency with Environmental Protection Agencies at county level – responsible for protected species and protected areas management
- National Environmental Guard – legal control on environment issues

3. Research institution organization:

- Research Institute for Forest Management – Hunting and Wildlife Department
- Silviculture and Forest Faculties (from Braşov, Suceava, Oradea etc.)

Private sector:

1. Hunting associations, game managers – managing the wildlife base on a contract with the government, they are responsible of counting the population and on organizing hunting activities
2. Companies specialized on hunting activities without the right to do hunting activities – mainly involved as intermediate between hunters and game managers
3. Managers of protected areas: Private or public forest managers, NGO`s, public authorities, private persons
4. Other organizations like NGO`s involved in nature conservation involved in field studies or other projects related to the species.

Main threats of the feature and issues affecting its maintenance.

Conservation problems: biological, ecological

The Roe deer is widespread and common, and is expanding in many areas (www.lhnet.org).

Conservation problems: socio-economic conflicts and threats

Poaching may be a problem for the species in parts of its range. Grazing by domestic sheep in summer tends to disturb the species causing them to be more dispersed. Predation by shepherd and feral dogs is an important factor for highest level of mortality in some areas.

Main threats to the feature (Natura 2000 categories) and its variants:

Treat	Main causes	Main effect
Grazing	The grazing of animals on secondary pasture is a competition for roe deer	Decrease of food resources
Trapping, poisoning, poaching	The roe deer represents a quality food resource.	High human cause mortality threatening the structure and the size of the population
Animal breeding	The animal breeding in the habitat is a source of conflict. The shepherd dogs are killing the offspring	The population is decreasing affecting also the wolf and lynx populations
Urbanized areas, human habitation	The development of the settlements infrastructure and the intensive use of natural resources.	The habitat is losing the capacity to maintain healthy population.
Routes, auto routes	Development of the transport infrastructure in order to improve the speed of the vehicles.	Fragmentation of the habitat. Affecting the dispersion of juvenile individuals.
Motorized Tourism	The tourism infrastructure is now developing and the mountain facilities have to offer different activities to tourists.	Roe deer distribution affected by human presence and noise.

Strategy

Ideal management requirements

The ideal requirements for the maintenance favourable status and values of the feature are related to:

- active wildlife management,
- adopting best practice for maintaining good quality habitats and food availability
- involving stakeholder in planning and implementation activities

Targets and Management Objectives

Existing targets, obligations and objectives (in national strategy and plans)

There are no objectives established for this species other than the general objective from the National Hunting Strategy targeting the use of game resources and biodiversity conservation maintaining the balance between agriculture, forestry and wildlife.

Proposed goal and targets

- ✓ Maintain the an healthy and viable population
- ✓ Maintain and improve the habitat quality
- ✓ Reducing the poaching
- ✓ Finding more data about the species in Romania (more research, better monitoring,).
- ✓ Increasing public awareness and involvement of the interest groups in decision making related to species management.

Ideal management objective (long term goal) for the feature in the Carpathians:

To conserve a stable roe deer population in Romania in numbers that will ensure its viability for long term in all available habitats.

Recommended conservation targets for the feature in the Carpathians:

- Maintain the food availability – evaluate the existing resources and the distribution in the species distribution range
- Maintain habitat connectivity – mapping the problem areas and prepare conservation measures in order to improve connectivity

Management and Monitoring

Management measures

Specific conservation management measures

- Protective measures
 - Enforcement of the law implementation in order to reduce poaching and bad game management affecting the species.
- Active management
 - Establish coherent common monitoring programs for species population and habitat quality.
- Ex situ conservation
 - The Least concern status of the roe deer is the main reason why ex situ conservation is not a necessary conservation measure.
- Economic aspects
 - Planning of game management infrastructure, including the feeding system considering the evolution of human activity in the roe deer habitat.

Wider conservation measures

- Ecosystem/landscape scale measures (need data)

-Maintaining the land use.

- Sectorial measures

- Planning of the grazing to reduce the disturbance and the degradation of food resources

Measures related to the enabling environment

- Legal measures (national legislation, EU wide etc.)

- Improving the actual national legislation in order to harmonize the hunting legislation with the protection of the protected areas legislation.

- Administrative measures (collaboration, coordination, regional cooperation)

- Improving collaboration between stakeholders inside different types of working groups (national working group, consultative councils of protected areas etc.) in order to insure a participative planning.

- Developing common web platforms in order to encourage the information exchange at national and Carpathian countries level.

- Exchange experience project between Carpathian countries targeting the stakeholders in order to improve the best practice transfer.

- Awareness and capacity development measures (general public, decision makers and administrations, specific sectors, PA staff, etc.)

- Developing a communication strategy in order to promote sustainable use of the resources.

Good practices from Romania

- none available

Essential research priorities

1. Assessing population size and structure
2. Food availability
3. Population genetic and dynamic
4. Impact of hunting on roe deer population
5. Diseases and natural mortality

Measures required for monitoring the feature and variants

Monitoring

The minimum parameters that should be monitored in order to assess the status of the species are:

- Population size – abundance,
- Distribution range – sign survey
- Food availability – periodic assessment on pilot sites

- Threats and pressures evolution in the habitat
- Human cause and natural mortality

The method used to monitor this parameters should be simple to implement on the field, but well-coordinated and developed on scientific base. Also the methods should be selected considering the financial effort to implement, the economic aspects being important for the stakeholders.

Information management

The results of the monitoring should be available for all stakeholders. The data collected should be available on request for scientific and conservation purposes.

RED DEER (*CERVUS ELAPHUS*)

Summary of biology/ecology for each species

The Red deer is one of the largest deer species, with a body length of 160 to 260 cm, a shoulder height of 105 to 140 cm, and a weight of 120 to 250 kg. It is a ruminant, eating its food in two stages and having an even number of toes on each hoof. European Red Deer tend to be reddish-brown in their summer coats (<http://www.lhnet.org/red-deer/>).

Only the stags have antlers which start growing in the spring and are shed each year, usually at the end of winter. Antlers are made of bone which can grow at a rate of 2,5 cm a day (<http://www.lhnet.org/red-deer/>). It inhabits open deciduous woodland, upland moors and open mountainous areas (sometimes above the tree line), natural grasslands, pastures and meadows. In woodland, its diet consists mainly of shrub and tree shoots, but in other habitats it also consumes grasses, sedges and shrubs (www.iucnredlist.org).

In Romania the red deer main population can be found in the high hill and mountain area in the whole Carpathian region. Also the species is present in lowland areas.

Ecological importance (impact) of species

The species is one of the most important species for maintaining the large carnivore populations in Romania. The red deer is the main prey species for the wolf.

Socio-economic importance (impact) of species

The species is one of the most appreciated species by hunters and also by general public, being considered a symbol of nobility. Important incomes are obtained by the game managers from the trophy hunting of the red deer.

Actual conservation status (goals of conservation, conservation action plans, planning)

According to the national legislation the red deer is a game species, included in the Annex 1 of the Hunting Law 407/2006.

Management of the feature and its variants

- Management currently adopted.

There is no management plan developed for the species. According to the national legislation the red deer is a game species, included in the Annex 1 of the Hunting Law 407/2006. For the 2013-2014 season the quota for the red deer was established in the annex 1 of the Ministerial Order no. 1225/2013 at 2700 individuals (8%) of the estimated population in Romania (also outside Carpathians Mountains).

- What proportion of the range of the feature is being managed in different ways e.g.
 - In Protected Areas: Special regime according to the Management plans but according to the hunting legislation is a common species. For hunting inside a protected area the permit from the administrator of the protected area is needed.
 - Under strict protection regimes: No case

- Subject to economic exploitation: the roe deer is a game species. There are no official centralized data about the income from roe deer hunting activities. The trophy price vary from 1500 € to 10.000 €.
- Public or private or common ownership or management: The ownership of all wildlife is public, according to the actual legislation. The management is private (National Forest Manager – Romsilva and hunting association with an NGO status are managing the game units based on contracts with the public central authority).
- What sectors are involved in management or use of the feature and how do sectorial policies affect its management and use.

Public sector:

1. Ministry of Waters, Forests and Fishery and subordinate institutions:

- Forest and Hunting Inspectorate – regional level – responsible for game species management and hunting activities control
- National Hunting Council – non institutional body involved in supporting decision of the responsible authorities on hunting strategies, legislation and management

2. Ministry of Environment and Climate Changes and subordinate institutions:

- National Environment Protection Agency with Environmental Protection Agencies at county level – responsible for protected species and protected areas management
- National Environmental Guard – legal control on environment issues

3. Research institution organization:

- Research Institute for Forest Management – Hunting and Wildlife Department
- Silviculture and Forest Faculties (from Braşov, Suceava, Oradea etc.)

Private sector:

1. Hunting associations, game managers – managing the wildlife base on a contract with the government, they are responsible of counting the population and on organizing hunting activities
2. Companies specialized on hunting activities without the right to do hunting activities – mainly involved as intermediate between hunters and game managers
3. Managers of protected areas: Private or public forest managers, NGO's, public authorities, private persons
4. Other organizations like NGO's involved in nature conservation involved in field studies or other projects related to the species.

Main threats of the feature and issues affecting its maintenance.

Conservation problems: biological, ecological

The red deer is still widespread and common, but the degradation of the habitat can affect the spatial dynamic of the species.

Conservation problems: socio-economic conflicts and threats

Poaching may be a problem for the species in parts of its range. Grazing by domestic sheep in summer tends to disturb the species causing them to be more dispersed. Predation by shepherd and feral dogs is an important factor for highest level of calf mortality in some areas. Also in some area overhunting could have an impact on the population structure

Main threats to the feature (Natura 2000 categories) and its variants:

Treat	Main causes	Main effect
Grazing	The grazing of animals on secondary pasture is a competition for red deer	Decrease of food resources
Trapping, poisoning, poaching	The red deer represents a quality food resource.	High human cause mortality threatening the structure and the size of the population
Animal breeding	The animal breeding in the habitat is a source of conflict. The shepherd dogs are killing the offspring	The population is decreasing affecting also the wolf and lynx populations
Urbanized areas, human habitation	The development of the settlements infrastructure and the intensive use of natural resources.	The habitat is losing the capacity to maintain healthy population.
Routes, auto routes	Development of the transport infrastructure in order to improve the speed of the vehicles.	Fragmentation of the habitat. Affecting the dispersion of juvenile individuals.
Motorized Tourism	The tourism infrastructure is now developing and the mountain facilities have to offer different activities to tourists.	Roe deer distribution affected by human presence and noise.

Strategy

Ideal management requirements

The ideal requirements for the maintenance favourable status and values of the feature are related to:

- active wildlife management,
- adopting best practice for maintaining good quality habitats and food availability
- involving stakeholder in planning and implementation activities

Targets and Management Objectives

Existing targets, obligations and objectives (in national strategy and plans)

There are no objectives established for this species other than the general objective from the National Hunting Strategy targeting the use of game resources and biodiversity conservation maintaining the balance between agriculture, forestry and wildlife.

Proposed goal and targets

- ✓ Maintain the an healthy and viable population
- ✓ Maintain and improve the habitat quality
- ✓ Reducing the poaching
- ✓ Finding more data about the species in Romania (more research, better monitoring,).
- ✓ Increasing public awareness and involvement of the interest groups in decision making related to species management.

Ideal management objective (long term goal) for the feature in the Carpathians:

To conserve a stable red deer population in Romania in numbers that will ensure its viability for long term in all available habitats.

Recommended conservation targets for the feature in the Carpathians:

- Maintain the food availability – evaluate the existing resources and the distribution in the species distribution range
- Maintain habitat connectivity – mapping the problem areas and prepare conservation measures in order to improve connectivity

Management and Monitoring

Management measures

Specific conservation management measures

- Protective measures
 - Enforcement of the law implementation in order to reduce poaching and bad game management affecting the species.
- Active management
 - Establish coherent common monitoring programs for species population and habitat quality.
- Ex situ conservation
 - The Least concern status of the roe deer is the main reason why ex situ conservation is not a necessary conservation measure.
- Economic aspects
 - Planning of game management infrastructure, including the feeding system considering the evolution of human activity in the roe deer habitat.

Wider conservation measures

- Ecosystem/landscape scale measures (need data)
 - Maintaining the land use.
- Sectorial measures
 - Planning of the grazing to reduce the disturbance and the degradation of food resources

Measures related to the enabling environment

- Legal measures (national legislation, EU wide etc.)
 - Improving the actual national legislation in order to harmonize the hunting legislation with the protection of the protected areas legislation.
- Administrative measures (collaboration, coordination, regional cooperation)
 - Improving collaboration between stakeholders inside different types of working groups (national working group, consultative councils of protected areas etc.) in order to insure a participative planning.
 - Developing common web platforms in order to encourage the information exchange at national and Carpathian countries level.
 - Exchange experience project between Carpathian countries targeting the stakeholders in order to improve the best practice transfer.
- Awareness and capacity development measures (general public, decision makers and administrations, specific sectors, PA staff, etc.)
 - Developing a communication strategy in order to promote sustainable use of the resources.

Good practices from Romania

- none available

Essential research priorities

1. Assessing population size and structure
2. Food availability
3. Population genetic and dynamic
4. Impact of hunting on roe deer population
5. Diseases and natural mortality

Measures required for monitoring the feature and variants

Monitoring

The minimum parameters that should be monitored in order to assess the status of the species are:

- Population size – abundance,
- Distribution range – sign survey

- Food availability – periodic assessment on pilot sites
- Threats and pressures evolution in the habitat
- Human cause and natural mortality

The method used to monitor this parameters should be simple to implement on the field, but well-coordinated and developed on scientific base. Also the methods should be selected considering the financial effort to implement, the economic aspects being important for the stakeholders.

Information management

The results of the monitoring should be available for all stakeholders. The data collected should be available on request for scientific and conservation purposes.

COMMON STANDARDS

Designing common management measures for different stakeholders implies a big effort in adapting the measure for each group involved. For this reason in order to propose and implement integrated management measures a set of standards should be considered in order to improve the management planning and implementation.

The proposed standards aren't new, they all are already existing as principle of nature conservation legislation/strategies/activities or as conservation objectives. To support the common integrated management measures it is important to take into consideration to prepare a set of standard or normative in order to maintain all the stakeholders at the same level of intervention.

Proposed standards for the management of large carnivores and large herbivores in the Carpathian region:

1. Institutional responsibilities have to be clear in order to support an efficient management.

Establishing institutional responsibilities is an important step in order to build an efficient administrative system. Mixing up responsibilities will conduct to the lack of assuming the bad results or to completely implement of a measure. Responsibilities have to be clear and achievable by institutions and organizations.

2. All the species should have the same importance in regard to the law enforcement.

Even if between species there are some with a Least concern status according to IUCN criteria, they have to have the same importance in regard of the law enforcement. All species are important in order to maintain healthy ecosystems. The law should not consider the difference between regions, counties or game units.

3. The decision act should be transparent and agreed by the stakeholders involved.

Transparency of a decision is important to assure the involvement of stakeholders at the base layer of a management system. Agreed decision will ensure a good collaboration during the measures implementation and in the management act.

4. The management measures should be monitored in order to assess success of action.

Any implemented measure that cannot be assess in regard of results can be considered a resources consuming activity, in the context which the nature conservation activity are sub financed. The monitoring system of management or action plan should be concrete and with measurable indicators in order to allow the improvement of the plans and activities.

5. Any management measure should consider the impact on other species or habitat and the relation between them

Human intervention tend to change the equilibrium between the ecosystem elements. Any measure that is proposed should not affect other species.

6. Proposed measures should be feasible.

Any action that cannot be implemented due to lack of knowledge, resources or legal support will not be considered as a priority measure. Other activities can be proposed in order to prepare the implementation of an action that is not feasible at the planning moment.

7. The preventive approach has to be considered prior the reactive approach.

With a continuous habitat degradation and an increasing negative public opinion (especially on protected species like wolf and brown bear) reactive management can be considered as a late response to the problems. The planned or proposed management measures should anticipate the future treats or pressures.

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Annex 1

Questionnaire developed by the leader of the WP4 WG3 mr. Laszlo Szemethy for the Common Integrated Management Measures report – **Population data**

		wolf (<i>Canis lupus</i>)	lynx (<i>Lynx lynx</i>)	bear (<i>Ursus arctos</i>)	golden jackal (<i>Canis aureus</i>)	bison (<i>Bison bonasus</i>)	chamois (<i>Rupicapra rupicapra</i>)	red deer (<i>Cervus elaphus</i>)	roe deer (<i>Capreolus capreolus</i>)
Data on population density (country level). Please score from 0: worst to 5: best!	How detailed data on population density does exist?	2	2	2	0	5	2	2	2
	Data accessibility	3	3	3	0	4	1	1	1
	Data reliability	1	1	1	0	5	0	1	1
	Data applicability to Carpathian Region of your country	2	2	2	0	5	2	2	2
How large was the population in 2012?	Whole country	2.300-2.700*	1.200-1.500*	6.000*		17 in captivity/ 86 in semi-liberty	6.735 **	35.363**	169.149**
	Carpathian Region	3000*	2300-2400*	7200*					
What is the population trend in your country?	Stable	X	X	X			X	X	X
	Increasing					X			
	Decreasing								
What is the population trend in Carpathian region?	Stable	X	X	X			X	X	X
	Increasing					X			
	Decreasing								
Data on harvest (country level). Please score from 0: worst to 5: best!	Data availability	4	4	4	4		4	4	4
	Data accessibility	2	2	2	1		1	1	1
	Data reliability	3	3	3	3		3	3	3
	Data applicability to Carpathian Region of your country	4	4	4	4		4	4	4
How large was the harvested (hunted) amount in 2012?	Whole country	160 (in 2010/2011)****	27 (in 2010/2011)****	250 (in 2010/2011)***					
	Carpathian Region								
Data on the	Data	ND	ND	ND	ND	ND	ND	ND	ND

natural mortality (country level). Please score from 0: worst to 5: best!	availability								
	Data accessibility								
	Data reliability								
	Data applicability to Carpathian Region of your country								
How large was the mortality in 2012?	Whole country	ND	ND	ND	ND	ND	ND	ND	ND
	Carpathian Region								
What is the legal status of the species?	game species				X		X	X	X
	protected	X	X	X		X			
What is the level of protection in percentages?	0 %=it can be hunted all year round, 100 %= strictly protected, even they cannot be disturbed, please explain!	50% Hunted by derogation 6 months per year	50% Hunted by derogation 6 months per year	50% Hunted by derogation 6 months per year		100% No hunting, no disturbance	40% Hunted 4 months per year	20% Males 4 months per year females, 6 months	10% Males 5 months in summer, females 5 months during winter

*KACZENSKY P., CHAPRON G., VON ARX M., HUBER D., ANDRÉN H., LINNELL J., Status, management and distribution of large carnivores – bear, lynx, wolf & wolverine – in Europe, Part II, prepared for European Commission, December 2012a

**Raport final pentru „Studiul privind estimarea populațiilor de carnivore mari și pisică sălbatică din România (Ursus arctos, Canis lupus, Lynx lynx și Felis silvestris) în vederea menținerii într-o stare favorabilă de conservare și pentru stabilirea numărului de exemplare din speciile strict protejate care se pot recolta în cadrul sezonului de vânătoare

*** hunting season from 15 sept-31 dec and 15 march-15 mai. Derogation act is made in september and has power until next year.

****hunting season from 15 to 31 march. Derogation act is made in september and has power until next year.

ND – no data; empty cell – information not available

Annex 2

Questionnaire developed by the leader of the WP4 WG3 mr. Laszlo Szemethy for the Common Integrated Management Measures report – **Details of planning**

		wolf (<i>Canis lupus</i>)	lynx (<i>Lynx lynx</i>)	bear (<i>Ursus arctos</i>)	golden jackal (<i>Canis aureus</i>)	bison (<i>Bison bonasus</i>)	chamois (<i>Rupicapra rupicapra</i>)	red deer (<i>Cervus elaphus</i>)	roe deer (<i>Capreolus capreolus</i>)
Have you a specific management /conservation plan?	No						X	X	X
	Yes	X	X	X		X			
	General concept	X	X	X		X			
	Operative concept								
	Short term	X	X	X		X			
	Long term	X	X	X		X			
Is the plan accessible? Please score from 0: worst to 5: best!		1	1	5		1			
Is the plan reliable? Please score from 0: worst to 5: best!		0*	0*	0*		4			
Stakeholders involved	No	X	X	X					
	Yes					X			
Who are the main stakeholders ?	Farmers	X	X	X					
	Foresters	X	X	X		X			
	Game managers	X	X	X		X			
	Nature conservers	X	X	X		X			
Other									
Are the stakeholders involved In elaboration of plans?		no	no	no					
Are the stakeholders involved In the acceptance of plans?		no	no	no					
On which level are the stakeholders	local level					X			
	regional								

involved?	governmental level	X	X	X		X			
Integration of the species management /conservation into the planning of other sectors	Agriculture								
	Animal husbandry								
	Forest management								
	Game management	X	X	X		X			
	Nature conservation	X	X	X		X			
	Land use planning								
	Water management								
	Other								
Are there real/monitorable goals in the management /conservation plan?	No	X	X	X					
	Yes								
	If yes, what are these goals?								
Is the plan applied in the practice? Please score from 0: worst to 5: best!		0	0	0					
What are the main actions/measures according to the threats?									
Have you got anti-poaching strategy in your country?	No	X	X	X	X	X	X	X	X
	Yes								
	If yes, what are the main elements?								
Please, evaluate the effectiveness of the strategy? Please score from 0: worst to									

5: best!									
Do you monitor the effectiveness of the strategy?	No								
	Yes								
Does your country harmonize conservation /management plans with neighbouring countries?	No	X	X	X					
	Yes					X			
	With which country?					Ukraine			

*The scores was given due to the fact that there is no monitoring of the impact of the plan and there is no assessment of the plan success. The score is not suggesting that the plan is bad.

ND – no data; empty cell – information not available

Annex 3

Questionnaire developed by the leader of the WP4 WG3 mr. Laszlo Szemethy for the Common Integrated Management Measures report – **Monitoring**

		wolf (<i>Canis lupus</i>)	lynx (<i>Lynx lynx</i>)	bear (<i>Ursus arctos</i>)	golden jackal (<i>Canis aureus</i>)	bison (<i>Bison bonasus</i>)	chamois (<i>Rupicapra rupicapra</i>)	red deer (<i>Cervus elaphus</i>)	roe deer (<i>Capreolus capreolus</i>)
Does monitoring system function about the population?	No								
	Yes	X*	X*	X*	X*		X*	X*	X*
If yes, which method do you use to monitor the population?	snow tracking	X	X	X	X		X	X	X
	howling								
	counts on sample plots								
	other, please specify								
Method is	scientificly tested	**	**	**	**		**	**	**
	personal opinion, guess	**	**	**	**		**	**	**
How regular is the monitoring?	yearly	X	X	X	X		X	X	X
	more frequent								
	less frequent								
Timing/season		spring	spring	spring	winter	winter	winter	winter	winter
Scaling	country-wide								
	regional								
	local	X	X	X	X		X	X	X
Do your country harmonizes the monitoring system with the neighbouring countries?	No	X	X	X	X		X	X	X
	Yes								
	With which country?								
Which organization	government	X	X	X	X		X	X	X
	NGO								

is responsible for the monitoring?	NP								
	hunters	X	X	X	X		X	X	X
	other								
How reliable is the monitoring? Please score from 0: worst to 5: best!		0	0	1	0		1	1	1

* Ther is some kind of monitoring

** Methods developed 40-50 years ago in different environemetal condition and different preasure. At this moment is a mixed between science and personal opinion close to second one.

Annex 4

Web information about the hunting of protected species (few examples)



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Cover print screen : <http://carnivore.biodiversitate.ro>

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