



## Editorial

The conflict between large carnivores and humans has ancient roots and it has never been solved without extermination campaigns that have taken most large carnivores to extinction in large parts of their original distribution ranges.

Nevertheless, in human history there are many examples of coexistence with different degrees of success. We never assist to events of peace between the two parties, but we could easily talk of an "armed peace". The secret of these forms of coexistence lays in the ability of both carnivores and humans to adapt to certain restrictive measures.

The populations of large predators are able to sustain a measured reduction thanks to their intrinsic biological characteristics. The killing of a small percentage of the population and the occasional kills caused by humans have never caused the extinction of healthy large carnivore populations. But healthy means having a balanced demographic structure, present in normal density, finding available natural preys in sufficient numbers... These situations are almost unknown to the relict large carnivore populations in most parts of Europe.

From the human side, the ability to adapt to restrictive measures means showing tolerance for occasional losses of livestock units. This tolerance, present in many regions of Southern Europe, is becoming more and more rare in human populations that are becoming more and more used to behave as the only owners of natural resources and the environment.

The COEX project was developed with the will to face new challenges to return to a conflict situation that can be sustainable for both parties. It is a difficult challenge, but certainly not impossible.

The wisdom acquired through time by agricultural and pastoral communities in many regions of Southern Europe is shared in order to find a new path, with the help of new technologies, for maintaining large carnivores and humans in the same environments, without the need of unnatural segregations that aim at separating rigorously the two parties. The background philosophy of the project is not to maintain humans and large carnivores separated in non communicating worlds, but – on the contrary to search for forms of coexistence, of tolerance and acceptance. This is a search for a mature way to live all together on our Earth.

■ **Luigi Boitani, President of the Institute of Applied Ecology,  
Head of Department of Animal and Human Biology  
at Rome University "La Sapienza".**

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# The LIFE COEX project



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**Aiming to improve COEXistence of large carnivores and agriculture in southern Europe, LIFE COEX was launched in October 2004 and will last until September 2008. The project is implemented in five countries concerned by this issue – Portugal, Spain, France, Italy and Croatia – and involves seventeen different organisations. Following the objective to develop the necessary legal and socio-economic conditions for the conservation of large carnivores in the target areas by reducing conflict situations that affect these species as well as farmers, the project is based on a participatory approach.**  
■

## → Socio-economic context

The main characteristics all the project sites share is the fact that they are still dominated by extensive livestock raising systems, which in most of the regions – such as the Central Pyrenees, the Alps, the Abruzzo region in Italy, wide ranges of Croatia and the region of Castilla y León in Spain – are mainly made of ovine production. In the study areas, livestock raising usually occurs at a small scale and is practised for subsistence. However, the pasturing activity in the EU has been in crisis for decades and is suffering from a general decrease in small-scale livestock raising. The Common Agricultural Policy and its derivatives in governmental subsidies have encouraged the turn onto larger flocks, a practice that is

hardly compatible with guarding techniques and the presence or come back of large predators. The general trend that stimulates the intensification of agriculture in lowland areas causes a decrease of the income for small-scale farms in mountain regions. Thus, farmers in all the targeted areas usually suffer significant economic difficulties and the damage caused by carnivores can represent an additional economic loss as well as an overload of work and a strong psychological impact that must not be underestimated. In such conditions, the ethic, aesthetic and ecological value of large carnivores cannot be perceived by the affected target groups, whereas the temptation of poaching of these species increases. The economic and social burden livestock raisers have to suffer generates a negative attitude towards carnivores like bears and wolves and generally increases the amount of illegal killings and the pressure of this target group on the authorities to have the shooting of these species legalised.

## → Background of the project

Damage caused to livestock is one reason why persecution of large carnivores has persisted for centuries, extirpating them in parts of their range, or in the best case, reducing them to small, remnant populations. In many areas of their range, traditional damage prevention methods have disappeared. In some regions, bears and wolves are now coming back naturally or are being reintroduced. Unprotected agricultural facilities in these regions are vulnerable to attacks from wild predators. The consequence is a high incidence of

damage for farmers. This in turn causes a decrease of the public acceptance from rural populations for these species. The incidence of carnivore damage on public acceptance appears to be high because the management of carnivores is often an emotional problem rather than an economic one. Reducing conflicts between carnivores and agriculture is thus a prerequisite for successfully conserving large carnivore species.

## What is LIFE ?

■ **LIFE is the European Commission's financial instrument for the Environment.** Created in 1992, it contributes to the implementation, development and enhancement of the Community environmental policy and legislation as well as to the integration of the environment into other EU policies. It also supports the development of new solutions to environmental problems facing the EU.

LIFE consists of three thematic approaches:

■ **LIFE Environment** aims at implementing the Community policy and legislation on the environment in the European Union and candidate countries.

■ **LIFE-Third countries** concerns technical assistance activities for promoting sustainable development in third countries.

■ **LIFE Nature** works to conserve natural habitats and wild fauna and flora of European Union interest, according to the Birds and Habitats Directives. It supports the implementation of the EU's nature conservation policy and the Natura 2000 Network.

**LIFE COEX is a LIFE Nature Project**

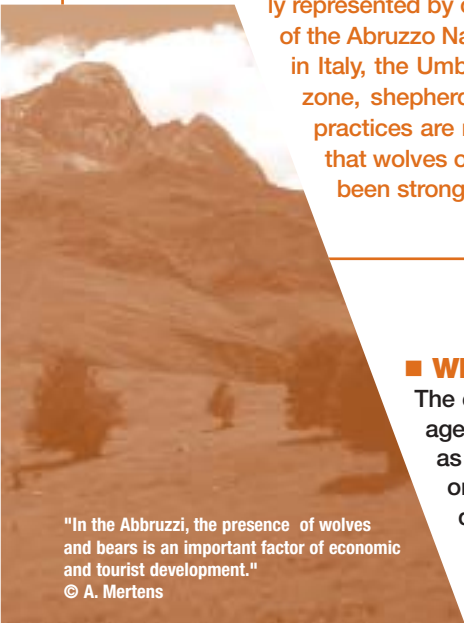


"The protection against predators requires a greater presence of the shepherds in the mountain pastures, where their role is important."  
© WWF / O. Hernandez

# Italy

## WHERE WE WORK →

The project is developed in two major areas, Umbria and Abruzzo regions, in central Italy : three National Parks in Abruzzo (Gran Sasso National Park, Majella National Park and Abruzzo National Park) and the two Provinces of Umbria region, characterized by their position along the Apennine Mountain chain. Although they are not directly physically interconnected, the parks are considered to be a green corridor through central Italy and as such, this area is an important stronghold for large carnivores. Being only partly in the Apennines, the Umbria Region - which borders Abruzzo to the north - is composed of medium-size mountain ranges and their fertile foothills. The project sites are dominated by extensive livestock raising systems, which in most of the areas are mainly represented by ovine production. Furthermore, there is an important fruit and honey production in the plains north of the Abruzzo National Park. Some 30 to 50 brown bears and an expanding population of about 500 wolves evolve in Italy, the Umbria region being one of the areas where the expansion of this species is occurring. While in this zone, shepherds have abandoned guarding techniques after the disappearance of wild carnivores, pasturing practices are more or less adapted to the presence of carnivores in the Abruzzo region. This is due to the fact that wolves or bears have been present there throughout the past centuries although their numbers might have been strongly reduced.



"In the Abruzzi, the presence of wolves and bears is an important factor of economic and tourist development."  
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## ■ WHAT WE DO

The core activities of the COEX project in Italy will be the implementation of the use of effective damage prevention methods, which will be done by donating electric fences and livestock guarding dogs, as well as by supporting livestock raisers in the use of these methods. These actions will be based on the results of a constant monitoring of the damage caused by carnivores on livestock, of the used damage prevention methods and of the main causes for vulnerability of the different holdings. Since the use of damage prevention methods cannot however completely stop the prejudices caused by wild predators, the COEX project foresees to design - in collaboration with the responsible authorities - more effective damage compensation methods and to have them implemented in the study areas. These actions will be accompanied by a monitoring programme of the distribution of large carnivore populations. The resulting data as well as the data on the distribution of damage caused by wolves and bears will flow into a GIS model that will represent the areas with highest conflict potential.

All the actions planned in the frame of the LIFE COEX Project will be relying on a participatory approach, involving all target groups in the decision making processes.

## ■ WHO WE ARE

Seven partners are working on the Italian side of the COEX project, led by the Istituto di Ecologia Applicata (IEA – Institute of Applied Ecology).



### IEA

General coordinator of the project for the five countries involved, the IEA is a non-profit private organization with long lasting experience in the field of research and management of wildlife - especially mammals - all over the world, its objective being to support conservation of the natural heritage through applied scientific research. Founded in 1987 by a group of professors and university fellows, IEA has been working on large carnivores conservation since 1991 and has been a leader in developing analytical procedures which provided a basis for the development of focused conservation actions. Among other examples, IEA has implemented Action Plans for brown bear, wolf and lynx in the Alps, it has produced a management plan for wolf in the Piemonte region and served as the scientific supervisor of activities carried out for the LIFE project "Wolf and brown bear conservation in central-Apennines National Parks".

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### ■ Provincial Administrations of Perugia and Terni

They are the administrative bodies responsible for wildlife conservation and of hunting in the Umbria Region. Their duty is the design and implementation of the Provincial hunting plans, instruments through which the administrations manage the use of natural resources with the aim to conserve and restore the wildlife heritage. The Administrations also implement the regulations of the compensation systems for damages caused by wildlife on agricultural production, thus taking into account the economic constraints of rural communities.

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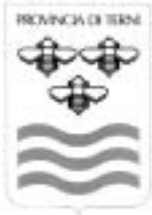
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### ■ Gran Sasso National Park, Majella National Park and Abruzzo National Park

Being the three National Parks of the Abruzzo region, they play a key role in the management of bears and wolves in Italy.

Covering approximately 150,000 ha, the **Gran Sasso National Park** houses about 30 wolves and is one of the few areas in Italy that hosts bears. The duties of the Park Administration include the conservation of the natural status of the habitats and a support to the socio-economic development of the human communities living inside the Park. One of the main characteristics of the Park is the presence of traditional agricultural activities and extensive sheep raising, which its administration aims at maintaining and promoting.



**Majella National Park** extends over an area of 74,095 ha entirely within the Abruzzo region and was founded in 1995. The aim of the park Administration is to preserve the high naturalistic values present and to promote the sustainable development of human activities that are currently present inside the Park boundaries – unless they have a negative impact on the natural environment. Since 1997, it has started a programme for decreasing the conflict between protected carnivores and agricultural activities, developing a procedure in collaboration with the Forestry Service for monitoring and compensation as well as prevention of damage.



Established in 1923 in order to protect a small area of 500 ha in the Apennines, the **Abruzzo National Park**, one of the oldest in Italy, is now extended over an area of 50,000 ha. The park has historically been one of the relict areas where wolves and bears had found refuge during the strong decline of their natural population in the period following the 2nd World War. It now represents a large area of natural habitat for the brown bear and is part of the wolf distribution range in the central Apennines. The park territory has an emblematic importance for the conservation of the protected large carnivores, as it has represented for decades the only area in the Apennines where hunting was banned. Thus, local people never stopped to live with the predators, hence keeping traditional preventive measures alive. The park Administration has a programme for compensation of damage caused by all protected species within the park boundaries, but the resources for managing such conflict are often limited and insufficient for increasing the acceptance of carnivores' presence by local people who are often struggling with pastoral activities.

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"In the regions where there were predators for a long time, coexistence between breeders and large carnivores is less difficult."  
© A. Mertens



### ■ Legambiente

It is the most widespread environmental organisation in Italy, with 20 regional branches, more than 1,000 local groups and more than 110,000 members. Acknowledged as "association of environmental interest" by the Ministry of Environment, it represents the UNEP National committee for Italy and is one of the leading member of the European Environmental Bureau and of UICN, the World Conservation Union. Since many years, Legambiente realises projects of Nature conservation financed by the LIFE funds of European Union.

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# Spain

## WHERE WE WORK →

The study area extends about 30,000 km<sup>2</sup> and is delimited by the river Duero in the north, Portugal in the west and two mountain ranges in the east and south. The central part of the area is made of lowlands, mostly dedicated to agriculture and to extensive livestock raising, mainly sheep. Free ranging cattle, and to a lesser extent horses and pigs, are common in a wide area in the western part of the territory. Human density there is low and most of the area is occupied by rural communities with only few large cities.

The Spanish wolf population counts more than 2,000 animals, located mainly in the north-western part of the country. The region of Castilla y León, in which the study area is included, hosts approximately 1,000 to 1,500 individuals. The territory south of the river Duero, where the project will be developed, was recently recolonised by the species, and currently hosts around 20 packs and 100 to 140 wolves.

Wolves have been absent from the target area for some decades. For this reason, the damage prevention methods traditionally used in every area inhabited by wolves disappeared. When the wolf recolonised the area some 15 years ago the livestock was unprotected, in many areas left unattended and free to roam during the day and even at night. As a result, the livestock became highly vulnerable to attacks by the new neighbour. Since then, the damages have gradually grown, generating increasingly negative attitudes toward the species.



## ■ WHAT WE DO

In an initial phase, Spain will assess the extent of the damage caused by wolves and analyse the damage prevention methods commonly used in the target area. Wolf and stray dog populations will also be carefully surveyed. Different damage prevention methods will be implemented and their effectiveness for reducing the amount of damage will be monitored: conventional fences, electric fences and livestock guarding dogs. The currently used compensation system will be analysed and the results of the analysis will provide a basis for designing and lobbying for the acceptance of more effective programmes. Furthermore, a management strategy for stray dogs will be designed in agreement with the local governments and municipalities. Among other actions planned, a seminar on the compatibility of livestock breeding and wolf conservation will be organised with the collaboration of different administrations, farmers, hunters and wolf biologists.

## ■ WHO WE ARE

### Fundación Oso Pardo (Brown Bear Foundation)

For more than 20 years, this NGO has been actively involved in the study and conservation of large carnivores, of their habitat and cultural environment. Comprising members with a wide experience in the study and management of wolves, it has widened its range of activities since the Iberian wolf population expanded south of the Duero River, participating in the LIFE Starter project "Wildlife and agriculture: minimising the conflicts through damage prevention". This organisation is responsible for the development of all the actions planned for the Spanish side of the COEX project. As such, it has already achieved a survey to determine the local extent of damage caused by wolves and stray dogs, the damage prevention methods commonly used and the causes of livestock vulnerability through interviews with farmers in the three provinces. The first contacts with farmers willing to collaborate and to accept electric or conventional fences and guarding dogs have also been made.

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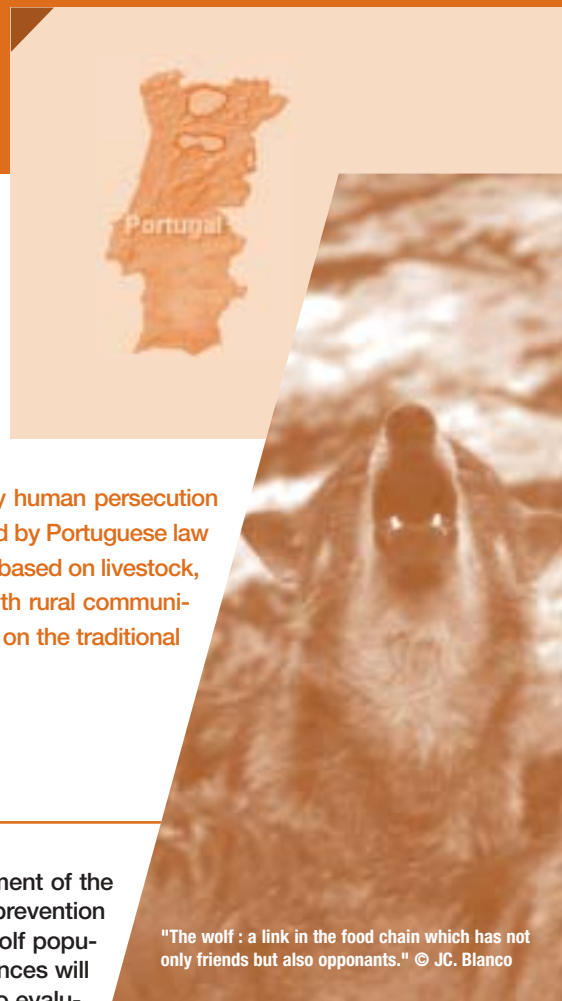
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# Portugal

## WHERE WE WORK →

Covering the wolf distribution area south of Duero River and the central area of the northern wolf range, the study area is mainly covered by shrub lands, in different steps of degradation of the former climax oak forests, due to fire and overgrazing with occasional small oak and pine woods. Human density is low and the population is old. The main activities are related to agriculture, forestry and, particularly, to livestock production - mainly of sheep and goats, an important economic activity in small scale farms. Since 1970s, the Portuguese wolf population has greatly been reduced in number and range and is currently estimated in 300 individuals that occupy 20% of its former distribution that extended to the whole country. Wolf decline has been mainly caused by human persecution due to damages on livestock and superstitions about the species. Wolf is fully protected by Portuguese law since 1988, although illegal hunting still occurs. Due to scarcity of wild prey, wolf diet is based on livestock, mainly sheep and goats, leading to considerable damages and increasing conflicts with rural communities. Furthermore, there was in many regions a progressive loss of use and knowledge on the traditional damage prevention methods, thus increasing flocks' vulnerability to wolf predation.



"The wolf : a link in the food chain which has not only friends but also opponants." © JC. Blanco

## ■ WHAT WE DO

In the frame of the LIFE COEX project, Portugal is conducting a preliminary assessment of the extent of damage caused by wolves, stray dogs and wild boars, of the damage prevention methods used and of the causes of vulnerability of different agricultural holdings. Wolf population will be monitored, and the efficiency of livestock guarding dogs and electric fences will be evaluated. The data gathered will then be integrated into a GIS and will be used to evaluate the factors that influence livestock vulnerability and predation risk as well as to apply adequate measures of damage prevention. Efforts will be initiated to improve the existing compensation system. A management strategy for stray dogs will also be established. A study on the attitudes of the general public towards the wolf will complement the previous actions and results will be used to improve public awareness campaigns on the wolf and the damage prevention methods. Eco-tourism actions focusing on the wolf are also planned.

## ■ WHO WE ARE

### Grupo Lobo (Wolf Group)

Independent and non-profit organization, Grupo Lobo was founded in 1985 to promote the conservation of the Iberian wolf and of its habitat in Portugal. Since then, it has developed awareness activities on wolf ecology and behaviour (through itinerant exhibitions, talks and the edition of booklets) and scientific studies about the wolf, as well as implemented practical measures that actively contribute to this species conservation. Grupo Lobo is responsible for coordinating the Portuguese participation in the LIFE COEX.

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### Escola Superior Agrária de Castelo Branco

#### School of Agrarian Science of Castelo Branco)

Public institution of higher education, the School of Agrarian Science of Castelo Branco was created in 1980. Its main objectives are scientific and technological research in agrarian and forestry sciences, natural resources and environmental sciences, and agro-food sciences, as well as provision of services to the community and the promotion of regional development.

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# France

## WHERE WE WORK →

The project covers the French sides of the Alps and Pyrenees as well as certain Mediterranean valleys and plains that are home to transhumant ovine herds. In the Alps, where ovine meat production predominates, attention is particularly focused on the peripheral areas of the west and north that the wolf is currently colonizing. In the Pyrenees, where ovine dairy production dominates in the west and meat production in the east, the project will accompany a new phase of bear reintroduction that was recently announced by the government.

The project is carried out in areas where large carnivores had for the most part disappeared until the natural return (as for the wolf in the Alps) or reintroduction (as for the bear in the Central Pyrenees) of large carnivores began in the 1990's. According to recent surveys, the wolf population in the French Alps amounts to a minimum of 70-90 individuals in 2005 corresponding to 16 packs among which 5 are transbordering with Italy and about 10 are breeding packs. In the Pyrenees, about 15 bears remain with two main nuclei of population, one in the Central part of the range (males and females) and another one in the Western part with only males.

The changes in pasturing techniques imposed by the presence of large carnivores have been taken with difficulty by the majority of livestock breeders and shepherds, especially in areas where livestock is raised for meat and therefore where there is no tradition of constant guarding. This unhappiness of breeders and shepherds has been exploited to incite them to refuse the means of protection against predation implemented by the Administration, or to question the protected status of the bear and wolf.



## ■ WHAT WE DO

The project on the French side will initially seek to reinforce the capacities of livestock professionals to protect themselves from predators by providing technical support on the use of existing tools, especially for the use of guarding dogs. This will be accomplished with a team of breeders and shepherds working in partnership with the project. Besides, through the production and the commercialization of quality farm products including cheese and lamb, the project aims to demonstrate that the presence of a species representing a valuable piece of cultural heritage like the bear can raise the economic value of the farmer's products. Lastly, eco-volunteer teams in the Alps will offer breeders and shepherds technical and moral support in guarding herds, in particular at night, during repeated predation episodes and during emergencies.



"In France, ecovolunteers give a helping hand to the shepherds who welcome their help in the areas where wolves are present." © Férus

## ■ WHO WE ARE

→ The French part of the LIFE COEX project is carried out by 5 partners:



### WWF-France

Environmental organization founded in 1973, it is the French branch of the World Wide Fund for Nature and carries out six priority programmes: freshwater, forests, oceans, climate changes, toxics and species. Large carnivores conservation has been at the heart of WWF-France's objectives since it was created: WWF has been working on bear conservation for years with other organizations like FIEP, ADET and ARTUS (before this association merged with the French Wolf Group to become FERUS) and it collaborated with the Ministry of Ecology for the reintroduction of the lynx in the Vosges in the 1980s by participating in damage prevention in herds and in facilitating the indemnity process. Since the return of the wolf in the French Alps, WWF-France has also been carrying out actions to promote the social acceptance of this species in partnership with the former French Wolf Group. WWF-France is in charge of national coordination and general institutional communication of the LIFE COEX project.

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### ACP (Association for Pastoral Cohabitation)

Created in June 2001, ACP is a non profit organization which brings together breeders and shepherds from the entire Pyrenean mountain chain. Its goal is to promote the coexistence between livestock and large carnivores by helping those who support this coexistence to receive the full technical and financial benefits possible for cohabitation. It also aims to publicize the implementation of shepherding, night parks, guard dogs, fences and all other means of protection from large carnivores, as well as to train shepherds and breeders in these methods. More generally, it encourages sustainable pasturing techniques compatible with biodiversity maintenance, in particular by valorizing pastoral products such as lamb meat, cheese and honey. In the frame of the COEX project, ACP is responsible for training in herd protection techniques and experience exchanges between breeders and shepherds in the Alps and Pyrenees.

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### Pays de l'Ours-ADET

#### (Association for sustainable development in the Central Pyrenees)

This non-profit organization gathers seven communities of associations, professionals and individuals (elected officials, livestock professionals and stakeholders in the conservation of nature). Its objectives are to ensure a sustainable development in the Pyrenees and the preservation of the natural heritage of the Central Pyrenees (in particular through the restoration of a viable brown bear population). Thus, it has long worked on bear reintroduction projects and on developing means of large carnivores coexistence. Pays de l'Ours-ADET is in charge of pilot sustainable development actions integrating the bear, which include the promotion of farm products in areas with bears in the Central Pyrenees.

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### FIEP (Foundation for Eco-Pastoral Intervention)

Since 1978, FIEP has worked periodically with WWF-France to facilitate coexistence between breeders and the brown bear in the western Pyrenees. FIEP is a non-profit organization, and its slogan – “So that the bear and the shepherd can live together in the Pyrenees” – is represented by multiple activities: education of the public and of schoolchildren on the bear and the Pyrenean environment; installation of an observation of the access to bear areas; direct aid to shepherds (such as disruption bonuses, helicopter transportation and radio connections); participation in the scientific follow up of reintroduced bears. FIEP will ensure the promotion of Western Pyrenean farm products in areas of bear and livestock coexistence.

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### FERUS

Created in 2003 for the conservation of bears, wolves and lynx, FERUS is the result of a merging between ARTUS and the French Wolf Group and works especially in the French mountain chains and border areas. It carries out actions of public awareness and research and education campaigns on the wolf, bear and lynx. In parallel, FERUS ensures the promotion of the natural return of the wolf in the Alps where conditions are favorable, the promotion of the maintenance and reinforcement of bear populations as well as the promotion of the return and maintenance of lynx populations. Coming from all over France, the members of FERUS include scientists, professional naturalists, breeders and shepherds. Among other achievements, FERUS has initiated the implementation of ecovolunteer programmes for shepherd assistance aiming to facilitate the coexistence between large carnivores and agriculture. Its role in the LIFE COEX project is to lead ecovolunteer teams to assist shepherds in the Alps and to carry out public awareness actions on the coexistence of agriculture and large carnivores.

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"Both the "young lamb from the Bear Country" and the cheese "Pé Descaous" bring an added economic value to their producers thanks to the presence of the bear." © A. Reynes/Fiep



# Croatia

## WHERE WE WORK →

The study area includes the entire Croatian bear range, which is of 11,800 km<sup>2</sup>, and is located in the Dinara mountains with altitudes ranging from the sea level to 1,600 meters. About 70% of the area is forested, mostly with beech and spruce. Human population is relatively sparse, and many people work in forestry and related industries whereas farming is practiced only on a small scale for subsistence.

The target species of the COEX project in Croatia is the brown bear. The population holds some 400 to 600 individuals and appears to be stable. However, relatively high numbers of bears do increase the chance of conflict. Croatia has a "Bear management plan" that includes a variety of management actions and aims at involving the relevant interest groups. The implementation of this plan is a challenge as previous management involved only hunters and took into account only their interests. Although the hunting management helped to increase the bear population of over 10 times since World War II, the future for bears can be secured only if all segments of local human population continue to accept the coexistence with the largest terrestrial carnivore.



## ■ WHAT WE DO

Founded in 1919, the Veterinary Faculty of the University of Zagreb - through its Biology Department - carries out research projects on large carnivores. It has been studying bears in Croatia since 1981 and leads research and management projects on bears, wolves and lynxes in the country, with publications of the results on a regular basis. The research on the brown bear includes radio-collaring and tracking of 32 different individuals, as well as data collection on their diet, life history and mortality causes. The bear research team has published 50 scientific papers, 48 popular texts and 105 conference presentations on bear so far. All this expertise has been used to compile the Croatian brown bear management plan and will be used to support the practical management actions in the frame of the LIFE COEX project.

## ■ WHO WE ARE

### Veterinary Faculty of Zagreb

Founded in 1919, the Veterinary Faculty of the University of Zagreb - through its Biology Department - carries out research projects on large carnivores. It has been studying bears in Croatia since 1981 and leads research and management projects on bears, wolves and lynxes in the country, with publications of the results on a regular basis. The research on the brown bear includes radio-collaring and tracking of 32 different individuals, as well as data collection on their diet, life history and mortality causes. The bear research team has published 50 scientific papers, 48 popular texts and 105 conference presentations on bear so far. All this expertise has been used to compile the Croatian brown bear management plan and will be used to support the practical management actions in the frame of the LIFE COEX project.

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### Ministry of Agriculture and Forestry

The Ministry of Agriculture, Forestry and Water Management, through its Directorate for Hunting, is responsible for bear management and will use its authority to help the implementation of the "Bear management plan" in Croatia. Bears are game species in this country and are therefore managed through this body. They do issue hunting permits and will collect the bear mortality data. Some actions will be specifically through the Ministry.

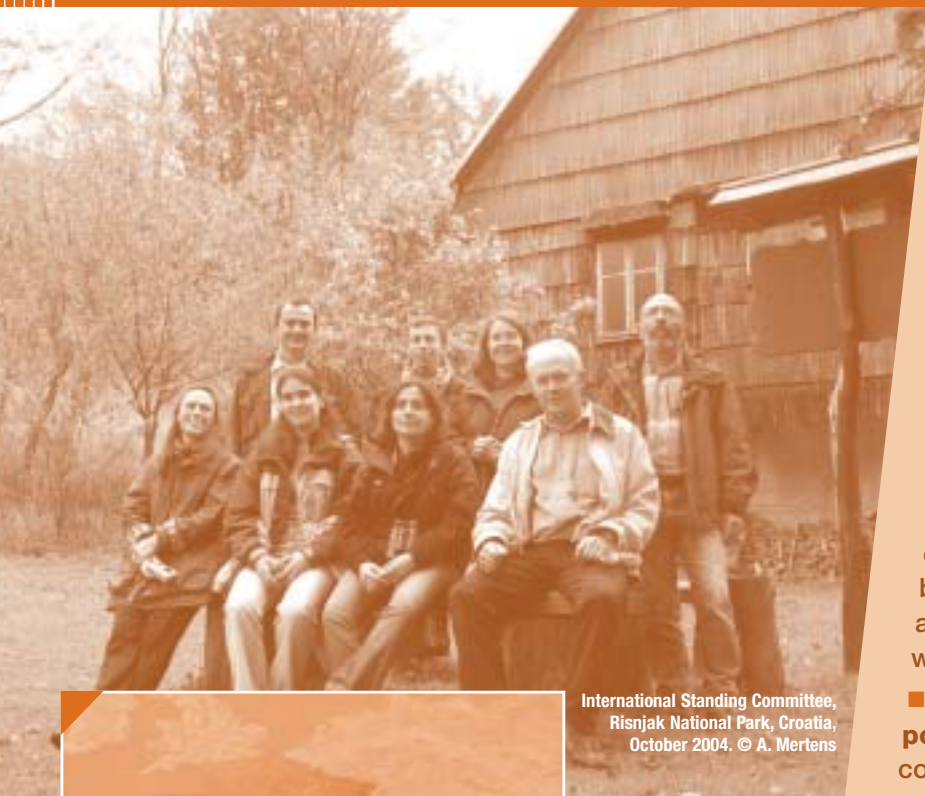
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"The bear might eat sheep but primarily eats plants." © D.Huber

## Actions planned and expected results



International Standing Committee,  
Risnjak National Park, Croatia,  
October 2004. © A. Mertens



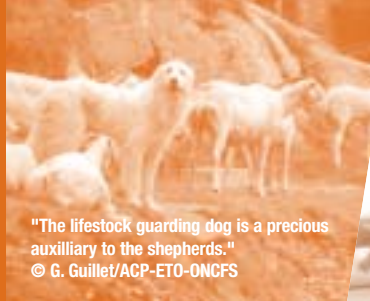
## Main fields of activity of the project:

- **Implementing effective damage prevention methods**, such as electric fences, high-quality and well-trained livestock guarding dogs, optimal use of traditional fences and management of livestock in order to reduce the danger of depredation.
- **Raising the awareness** of the general public and of farmers on the methods of coexistence between large carnivores and human activities.
- **Analysing the effect of mitigation systems** as damage compensation, and lobbying for the modification of the existing regulation, in order to turn the compensation systems into tools that can effectively reduce the economic damage suffered by farmers.
- **Setting up management actions** to prevent conflict situations caused by stray dogs and bears feeding on garbage as well as the accidental killings of wolves and bears during wild boar hunts.
- **Raising awareness of farmers about the potential economic benefit** that non-consumptive use of carnivores can provide.
- **Transferring experiences and best practices** from areas that have developed efficient ways to solve the conflicts onto areas that report similar problematic conflict situations.
- **Monitoring the effectiveness of the implemented measures** in order to identify particular situations where the measures can work best and to find optimal combinations of strategies for different contexts.

## Expected results of the LIFE COEX project:

- The amount of damage on livestock, beehives and crops has decreased.
- The use of effective damage prevention techniques is known to most of the farmers in the involved project areas.
- Effective compensation systems exist in the target areas.
- An action plan for the management of stray dogs is elaborated and efforts will be initiated for its effective implementation by the local authorities in Portugal and Spain.
- The numbers of habituated bears in Croatia has decreased.
- The awareness of farmers and local populations about the potential benefit they can gain from the presence of carnivores has increased, through ecotourism development (Portugal, Croatia) and bear-friendly farm products (Croatia, France).
- The acceptance and knowledge of the farmers and the general public about large carnivores have improved.

# First achievements



"The livestock guarding dog is a precious auxiliary to the shepherds."  
© G. Guillet/ACP-ETO-ONCFS



"The COEX Life program is a good opportunity for having fruitful exchanges at both local and international level." © C. Potier

→ In Croatia, a public awareness campaign has started on February 2005 in Delnice and will be carried out through the entire bear habitat in Croatia. A bear emergency team was established and trained in April to be able to act in any situation of bear related problems. The team under the leadership of Prof. Dr Huber has 9 members and covers the entire range of the bear habitat. All the members have previous knowledge and experience in dealing with brown bears.

→ In Italy, after a process in which specific questionnaires have been designed, preliminary data have been gathered about the damage caused by bears and wolves on agriculture. Based on these data we have chosen the livestock raising holdings to which we donated the first livestock guarding dogs and electric fences. In plus, in the Province of Terni the construction of a 4-km long electric fenced barrier began, which will serve to prevent the access of wild boar on agricultural fields. The material is provided by the LIFE COEX project whereas the construction is done by the farmers and the entertainment by the hunters associations. The damage prevention actions are accompanied by analysis of the distribution of the populations of wolves and bears, which have recently begun with intensive monitoring sessions.

→ In France, several meetings with producers of farm products both in the Central and Western Pyrenees were organized to determine the feasibility to better valorize these products through new commercial strategies using a positive image of the bear. Leaflets explaining mitigation and compensation measures in bear areas in the Western Pyrenees were made and delivered to the local shepherds, with direct encounters in mountain pastures since the Spring 2005. Three training sessions about Livestock Guarding Dogs were implemented in the Alps and the content of these sessions have been presented to the French Association of Pastoralism. A volunteer emergency team was mobilized twice from the beginning of the project to find sheep lost in the mountain after wolf attacks. Still in the Alps, about 30 eco-volunteers have been trained and placed in farms from the beginning of the Summer to help some 15 breeders to watch over their flocks. A qualitative investigation among about 40 breeders and shepherds from the Alps and the Pyrenees was also bought to an opinion poll institute in order to gain a better understanding of the conditions at which the presence of large carnivores would be more acceptable in pastoral areas.

→ In Spain, the partner already finished a survey to determine the local extent of damage caused by wolves and stray dogs, the damage prevention methods commonly used, and the causes of livestock vulnerability through interviews with farmers in the three provinces. Besides, the first contacts have been made with farmers willing to collaborate with the project and accepting electric or conventional fences or guarding dogs. The assessment of wolf and stray dog populations sizes and distribution have begun. The three provinces included in the project have been thoroughly surveyed in search of wolf packs and details of presence of stray dogs. The monitoring of the damage caused by wolves to agricultural holdings has also begun. Whenever a holding is attacked by a wolf or a dog, the farm is visited to determine the cause of the attack, the extent of the damage and the circumstances under which it occurred. The farmer is helped to access to the compensations.

→ In Portugal, assessment of wolf population size and distribution has been initiated and around 75% of the wolf occurrence area has already been prospected. 18 pups from the Portuguese breeds Cão de Castro Laboreiro and Cão da Serra da Estrela have already been integrated into goat and sheep flocks in the North and Centre of the country, with their physical and behaviour development being monitored. Attitudes of the general public toward wolves in the North of the intervention area have also been studied. A total of 400 face-to-face interviews were performed. The results will be integrated with the data obtained from 1,200 interviews conducted in the remainder intervention area during previous projects coordinated by Grupo Lobo. They will be useful to adapt different management measures to knowledge levels, fear and acceptance of wolves in the study area.

## Some actions to come

### ■ Croatia:

public awareness campaign; creation and distribution of promotional folders for bear-friendly farm products; report on assessment of extent of damage, causes and prevention methods used as well as on assessment of brown bear distribution.

### ■ Italy:

installation of 4-km barriers to prevent access of wild boars on agricultural fields; training course for veterinary surgeons about damage assessment; first exchanges of experience.

### ■ France:

meetings with breeders and shepherds of the Pyrenees; publishing of a study on the efficiency of Livestock Guarding Dogs; creation and distribution of promotional leaflets for bear-friendly farm products.

### ■ Spain:

donation of the first guarding dogs and electric and conventional fences; setting-up of a data base to include the results of damage monitoring.

### ■ Portugal:

training of the technicians and rangers of the Natural Protected Areas on damage monitoring and prevention methods; first analysis and evaluation of the current damage compensation system; qualitative investigation on the perception of breeders and shepherds on wolf presence; implementation of the first electric fences.

## National symposia about wildlife-agriculture coexistence

■ A one day symposium on the wolf and the use of Livestock Guarding Dogs (focusing on LGD breeds, their behaviour, education, health, efficiency as well as livestock breeds and wolf ecology) was organized by Grupo Lobo in Vila Real, Portugal, on the 27th of January of 2005. Representatives of partners and participating entities of different interest groups were present as well as local livestock producers. A leaflet was produced that focused on the basis health, maintenance and reproductive aspects of LGDs, as well as licensing and legal aspects. Another symposium is being organized by Grupo Lobo and the School of Agrarian Sciences in collaboration with Spanish organizations to gather interest groups into a productive discussion about wolf and livestock coexistence. It will be integrated in the Second Iberian Wolf Congress, to be held in the city of Castelo Branco, from the 10th to the 13th of November 2005. More information is available on [est disponible sur](http://lobo.fc.ul.pt)

<http://lobo.fc.ul.pt>.

■ In France, Pays de l'Ours-ADET organized in Herran, on the 12th and 13th of May, a meeting gathering about 30 technicians of agriculture bodies, breeders and shepherds as well as students and teachers of agriculture schools, to work on damage prevention methods using guarding dogs. Several issues were studied: placing and monitoring of the pups; genetics and evaluation of the fitness and efficiency of the dogs; information and education of hikers and tourists; setting-up of a national network to collect data on Livestock Guarding Dogs.

A next issue of the COEX Newsletter will summarize the proceedings of these symposia.

## Practical informations

→ A complete description of the LIFE COEX programme is available online in english under the address [www.life-coex.net](http://www.life-coex.net) where all the progress of the activities will be reported.

Free electronic subscription to the newsletter and more information can be obtained directly at:

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## The LIFE COEX programme

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- the French Ministry of Ecology and Sustainable Development,
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