in turn, would possibly increase the human caused mortality of certain animal species, the large carnivores included.

According to my opinion, the European Commission (and, consequently, LIFE) should politically and financially support the application of both compensation systems and prevention methods concerning large predators and other protected species. In this frame, public authorities should be encouraged and supported to envisage assumption of all or part of the cost of the most appropriate preventive measures, especially for the animals belonging to species which are protected. Clear and explicit discrimination and exception of an endangered species of European interest from the general rules that stands for compensation or prevention of damages caused by other reasons (e.g. damages caused by common game species), handle such an animal as "res omnium" (property of all) not as "res nullius" (property of nobody). Namely, it is the state and the whole society that are responsible for it (including damages) and this could be used as a political and educational tool.

In conclusion, LIFE should not follow a strict policy but rather a more flexible and sensible one compatible with the particularities and differences within the European diverse reality: While preventive measures should be supported and encouraged, the conditions for co-financing compensation to certain farmers should not be limited exclusively to the use of preventive measures but, preferably, should be differentiated according to land-use types, the extent of (intensive or extensive) farming systems, the size and structure of holdings, the farmers income, other socio-economic conditions, as well as the general aims and the specific objectives of nature conservation in the respective regions/areas.

In the frame of this policy, LIFE should support application of a combined use of compensation systems with prevention methods and should encourage public authorities to cover all or part of the cost of the most appropriate preventive measures. To implement such a policy and given that LIFE is the only Community financial instrument for the environment, with a tiny budget compared with other European Commission financial instruments, other sources of subsidy for preventive measures should also be envisaged: The CAP accompanying measures, the Cohesion Fund or the Structural Funds could also be used for such purposes.

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The Recovery of Livestock Guarding Dogs' use and the Iberian Wolf Conservation in Portugal - Promising results

Originally distributed throughout the Iberian Peninsula, the Iberian Wolf (*Canis lupus signatus* Cabrera, 1907) is presently restricted to the Northwest regions. In Portugal, where the species is fully protected by law since 1988, its population has been decreasing rapidly, mainly after the 70's. Nowadays the wolf occurs only in less than 25% of its original distribution area, in the most mountainous and less populated areas of the North and Centre of the country, where it can still find refuge and food. The main cause of regression is illegal persecution by man, namely shepherds, motivated by the damages wolves cause to livestock. In fact, the wolf diet is based almost exclusively on domestic animals (mainly sheep and goat), due to the low numbers of natural prey like roe deer and red deer. Thus, by reducing livestock damages caused by wolves, we are effectively contributing to a better acceptance of this predator. The best solution to this problem seems to be the traditional one – the use of Livestock Guarding Dogs (LGD). Although part of the traditional grazing system, the use of LGD is falling out of use, not only in Portugal but all over Eurasia. These dogs, selected by shepherds during hundreds of years, are very effective in livestock protection against predators. Currently, however, the Portuguese LGD breeds are becoming very scarce and most of them are used mainly as pets or show dogs. This situation is of great concern because the selection is based only on morphologic characteristics, disregarding the functional, behavioural and genetic aspects. Being aware of this, Grupo Lobo initiated in 1996 a new line of action which aims to rehabilitate the use of LGD as a measure of wolf conservation. At the same time, Grupo Lobo is also contributing to the recovery of the Portuguese LGD breeds – the Estrela Mountain Dog (Cão da Serra da Estrela), the Castro Laboreiro Watchdog (Cão de Castro Laboreiro) and the Alentejo Shepherd Dog (Rafeiro do Alentejo). The project operates in two different levels: one is concerned with the correct development of the dogs' behaviour and physical condition; the other focuses on the analysis of the inbreeding coefficient for each breed, based on genetic studies. A previous selection of the shepherds was made, according to some criteria as the amount of damages and the interest to participate in the project. The selection of the pups to be

integrated in the flocks was carried out according to the behaviour and morphology of the parents. Whenever possible, descendants of working animals were chosen. The pups were then integrated into flocks at the age of 2 to 3 months, when the establishment of bonds with livestock is possible, and were permanently kept in contact with the flock from then on, with limited contact with people. So far, 15 dogs (8 females and 7 males), ranging from 5 to 25 months of age, have been placed with different flocks of sheep and/or goats. The flocks range in size from 20 to 200 animals, and are managed in different systems and distinct environment conditions - from the high and steppe mountains, with heavy rain and snow in winter, to the lower plains with very hot and dry weather in summer. In the first case the flocks are always shepherded and confined for the night. In the second the animals are sometimes left alone in fenced pastures during the day and kept inside small metal fences, far away from the villages, at night, protected only by the dogs. From the time they were given to the shepherds until they reach maturity, the dogs were continuously monitored (on a monthly basis) in their physical and behaviour development. This has proved essential for the achievement of good working dogs, enabling the immediate correction of behaviour problems that may emerge and the supervision of the conditions where the dogs were raised. For the genetic analysis, the collection of blood samples from dogs of the different breeds was performed. In the laboratory, we have characterised each breed for 7 microsatellites (parts of the nuclear DNA highly polymorphic). Each dog breed shows particular characteristics for the selected molecular markers and so far the breed with higher values for inbreeding is the Castro Laboreiro Watchdog. The analysis of pedigrees has started and soon the most important animals to cross, regarding their inbreeding coefficient and kinship values, will be selected. The results from the genetic analysis will then be crossed with the morphologic and behavioural data.

Although in the beginning shepherds' opinion towards the efficiency of the LGD and of their correct raising may have been of distrust and disbelieve, presently, after most of the dogs have reached maturity and started to prove efficient in flock protection, the attitude is changing. Furthermore, with the reduction of the amount of damages caused by wolves on their livestock shepherds began to show some tolerance towards this predator. One factor that has shown to be very important is the establishment of a permanent contact and of continuous support between the elements of the project and the shepherds. The reduction of the conflict between man and wolf and the evolution towards a bigger tolerance and peaceful coexistence in Portugal seems to be possible, if a correct approach is undertaken.

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Abstract of scientific articles or reports

Linnell, J.D.C, Smith, M.E, Odden, J., Kaczensky, P. and Swenson, J.E. 1996. Carnivores and sheep farming in Norway. 4. Strategies for the reduction of carnivore - livestock conflicts : a review. NINA Oppdragsmelding 443 : 1-118.

This repoert aims to review individual methods by which the depredation can be reduced, and ways in which theses methods can be incorporated into management strategies. An underlying assumption is that joint goals exists of maintaining carnivores, and livestock production.

Data were collected on several related topics including ; (1) Carnivore behaviour and ecology, (2) Animal Husbandry, (3) Depredation studies, (4) Traditional herding practices, (5) Cases studies. A world-wide perspectives was taken where possible, although the main emphasis is for Europe, and Scandinavia in particular. Data were gathered from published and unpublished studies and personal communications. A clear effort was made to identify the biological mechanism behind a depredation reduction methods success or failure.

Fourli, M. 1999. Compensation for damage caused by bears and wolves in the European Union. Experiences from the LIFE-Nature projects. EUROPEAN COMMISSION DG XI, Environment, Nuclear Security and Civil Protection, Bruxelles. 68 pp.

The aim of this study is to present the existing compensation mechanisms within the context of LIFE-Nature projects, focusing particularly on two species of large carnivores that have received significant Community support, namely the wolf and the bear.

The study present and compares the compensation systems in the European Union countries that have had or still have LIFE-Nature projects on the wolf and / or on the bear (Austria, France, Greece,