



LIFE COEX



The LIFE-COEX project

The conflict between large carnivores and livestock raising activities has always represented one of the main causes for persecution of predators by man. In the past, this kind of conflict and the fragmentation of the natural habitat have driven the extinction of wolves from large parts of their former areas of distribution. However, in the course of history there have been several cases of peaceful coexistence between these animals and man thanks to the use of specific damage prevention methods.

The LIFE COEX Project has been set up in order to try to improve the coexistence between human activities and large carnivores, by developing the necessary socio-economic and legal conditions for mitigating the conflict situations in target areas. The Project started in October 2004 and will continue until September 2008, involving 5 countries in Southern Europe (Portugal, Spain, France, Italy and Croatia) and 17 organizations.

The LIFE COEX Project promotes the conservation of priority species under the Natura 2000 network, and the harmonic coexistence of these species with their environment. All the project actions fully comply with the principles of the network and aim at its successful implementation as well as at the achievement of its acceptance by the general public.

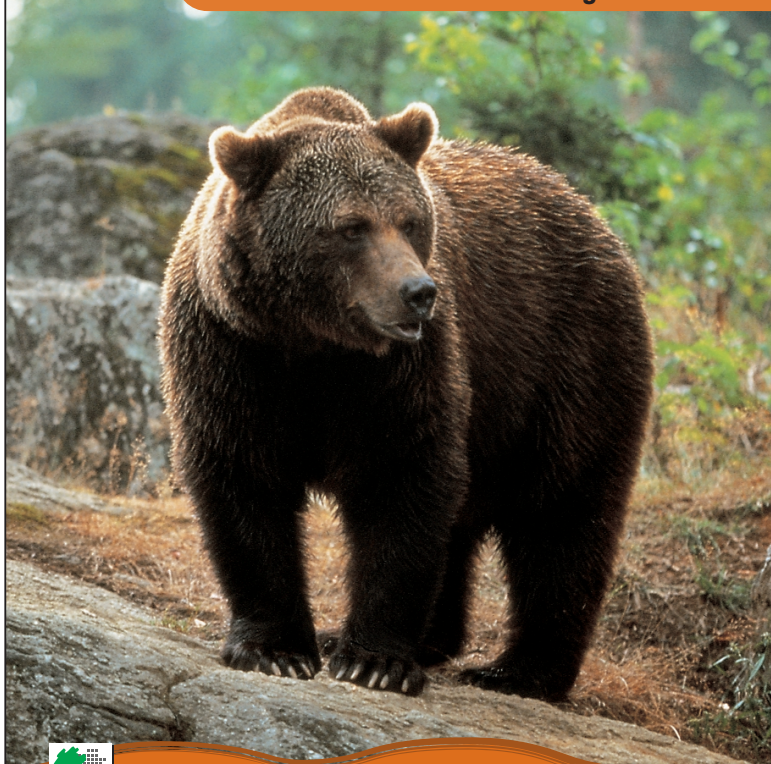
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A project to support the coexistence between man and large carnivores



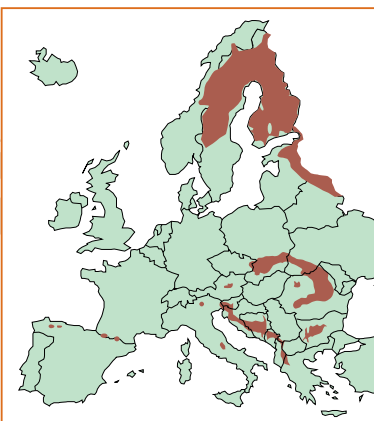
Istituto di Ecologia Applicata

THE BROWN BEAR

Where does it live?

The Brown bear (*Ursus arctos* L., 1758, ord. *Carnivora*, fam. *Ursidae*) is the bear species with the vastest area of distribution of the world, being present in Europe, Asia and North America. It formerly occurred in whole Europe (except for the main islands such as Ireland, Iceland, Corsica and Sardinia) but its distribution has strongly shrunk in the past century, mainly due to habitat destruction for forest exploitation and because of the direct persecution by man. Presently, in Europe there are round 50.000 bears on round 2,5 million km².

The densities of the European Brown bear



In Italia l'orso è presente in 3 nuclei distinti.

La popolazione più numerosa si trova sull'Appennino centrale, compresa quasi interamente nel Parco Nazionale d'Abruzzo, Lazio e Molise da dove si sta espandendo nelle aree circostanti. La popolazione stimata nel 1985 era di 70-80 esemplari, tuttavia, poiché negli ultimi anni si è registrata una certa riduzione, una stima realistica attuale può essere di 40-50 esemplari. Il secondo nucleo si trova nel Trentino occidentale (più precisamente nella zona nord-orientale del Brenta) ed è costituito da circa 20 esemplari, reintrodotti dalla Slovenia negli ultimi 10 anni. Il terzo nucleo, anche se ancora instabile, si sta ricostituendo sulle Alpi orientali (Tarvisiano, Alpi Carniche e Dolomiti Bellunesi) grazie alla colonizzazione spontanea da parte di esemplari provenienti dalla Slovenia.

populations vary greatly and seem to be correlated mainly with the availability of food as well as with the degree of persecution by man. The territory comprised between the Urals and the west coast of Finland is home to the biggest and most continuous bear population, composed by round 37.500 individuals. The population on the Carpathian Mountains, with round 8.100 individuals, is the second largest one in Europe. Another consistent population is the one occupying the territory between the Eastern Alps and the Greek Pindos Mountains, numbering 2.800 individuals. In Western and Southern Europe (Cantabrian Mountains, Western Pyrenees, Appennines and South-western Alps) there are 5 smaller, isolated bear populations.

What does it look like?

The brown bear is characterized by having a large head with small nose and ears. Also the eyes are small and are placed frontally above the muzzle. Brown bears have a strongly developed sense of smell, although the sight is probably also important during the search of food.

The body is heavily built with a prominent shoulder hump and a short tail.

The legs are relatively short and the paws have five fingers, with strong, not retractile claws. All five fingers are used for walking.

The front paw measures round 13x12 cm, the five fingers are disposed in the shape of an arc and the claws are always visible.

The track of the hind paw is easily recognizable since the whole palm touches the ground, forming a complete shape similar to the one of primates. It measures round 13x25 cm.

On average the male bears are bigger and heavier than the females: the weight of a male bear generally ranges between 140 and 320 kg whereas females can weigh 100 to 200 kg.

The height, measured at the shoulder, is of round 1-1,2 m. The length (from the tip of the muzzle to the base of the tail) is 1,6-2,5 m in the case of males and 1,2-2 m for females. The tail has an average length of 8 cm.



What does it eat?

The diet of brown bears is composed by several items of vegetable and animal origin. During the year it alternates three different physiological phases: one of scarce food intake (hypophagia) during spring, one of normal feeding activity in summer and one stage of very intense food intake (hyperphagia) in autumn, during which the bears accumulate fat that is necessary for the hibernation.

In spring bears feed mainly on graminoids and forbs and in summer they alternate this with fruits and berries. In autumn, in order to accumulate fats, food intake concentrates on high amounts of acorns, beech-nuts, chestnuts and hazelnuts.

Meat is appreciated when available, since it is easily digestible and has a high nutritional value. However, in Europe bears can generally not be considered to be regular predators of large vertebrate species (such as wild ungulates), unless they are favored by strong snow melts in spring. Predation rather occurs on domestic animals.

Invertebrates (mainly insects and their larvae, earthworms and mollusks) can represent an important source of protein intake in some periods of the year, especially at the beginning of spring, when large parts of the ground can be covered by snow. In these periods bears often destroy ant-hills to feed on larvae and adult ants. Also bees and its honey can be an important elements for the diet of these animals.



What social structure does it have?

Except for the mating season the brown bear conducts a solitary life. Each individual occupies a large "home range", which dimensions can vary according to the carrying capacity of the environment. Male bears usually use larger areas than females, which rather prefer to occupy areas within or in the nearby of the territories of their mothers.

Brown bears have a rather long life time, reaching sexual maturity at 4 to 6 years age, and they have a prolonged reproductive cycle. During the mating season (which ranges from mid May through June) both males and females mate several times and with different individuals. The pregnancy lasts 7-8 months. However, since the implantation of the ovule is delayed during a part of this period the development of the embryo does not proceed and the actual pregnancy is of only 6-8 weeks. The number of cubs varies between 1 and 4 and when they are born, in January-February, they are very small (round 0,5 kg). They usually get independent from their mother at 2-3 years age, while in the most southern areas of their distribution they can leave their mother already at the age of 1 or 2.



The hibernation

For Brown bears hibernation represents an adaptation to the lack of food during winter. From the end of summer and during the whole autumn bears accumulate an amount of fat sufficient for the period of hibernation, which can last from 3 to 7 months.

During this phase, which is spent in dens dug in the ground, in old ant hills or in natural cavities, the basic metabolism is reduced to the minimum and the consumption of energy decreases by 50-70%. The heart beat is strongly reduced and the body temperature decreases by 5-8°C. The females give birth in this period and feed the cubs with a very fat milk.

In the southern part of the bear range hibernation is usually partial (periods of rest alternated to periods of activity) and some bears can even remain active throughout the whole winter.

In what environment does it live?

The former distribution of brown bears in Europe is a sign of the adaptability of these animals to diverse environmental conditions. As long as the human impact is low this species occupies not only deciduous or coniferous forests but also steppes and the arctic tundra.

The most important characteristics of the habitat are the presence of food, of hiding places and of areas suitable for hibernation. The quality of these parameters actually strongly influences the reproduction and the survival rates of the cubs.

High-quality food can be found in open areas but bears can prefer forested areas because of the bigger available of hiding places in these areas.

In countries in which bears are particularly subject to human persecution areas with tree cover and appear to be extremely important for their survival. Also the sites hibernation are usually chosen in areas with low human impact. Indeed being disturbed during hibernation can push bears to abandon their places, and this can be critical mainly for pregnant bears or their cubs.



How are bears protected?

The brown bear is protected by the Convention for the Conservation of European Wildlife and Natural Habitats (Bern Convention) and by the European Council Directive (92/43/EEC) on the Conservation of natural habitats and of wild fauna and flora. All the Brown bear populations, except for the ones in the former URSS, are included in Appendix II of the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES).

What are the major threats to its survival?

Although this species is protected on the national and international level and although the damage it causes on human activities is usually compensated, the direct persecution by man is still the one of the main causes of mortality of brown bears. The reason for this persisting persecution is the negligence and the difficulties met in the implementation of the existing laws, associated to the existing economic conflicts, which are amplified by the historical and cultural prejudice towards this species.



In Italy, l'orso bruno è protetto dal Decreto della Repubblica n. 357 del 1997, recante attuazione della Direttiva 92/43/CEE. È inoltre tutelato dalla Legge Nazionale sulla Caccia n. 157 del 1992, che comprende norme per la protezione della fauna selvatica omeoterma e per il prelievo venatorio, e dalla Legge n. 874 del 1975, che rappresenta la ratifica ed attuazione della CITES. Questo animale viene, inoltre, citato come specie "in pericolo in modo critico" secondo la Lista Rossa dei Vertebrati Italiani.

Poaching

Although the brown bear is a protected species poaching still represents a serious threat for this predator. This is mainly a consequence of the damage this species causes on some human activities such as livestock raising and honey production.