



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



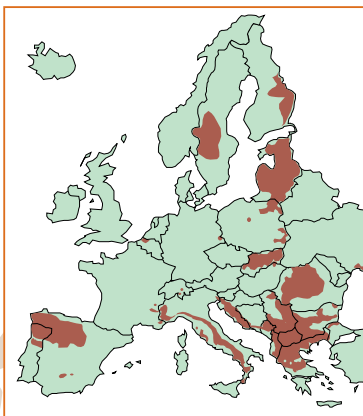
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## THE WOLF

### Where does it live?

The wolf (*Canis lupus* L., 1758, ord. *Carnivora*, fam. *Canidae*), once the carnivore with the largest distribution area, occupies the whole Northern Hemisphere (north of 20° N of latitude), it was still present in all the European countries, with the exception of UK, until the 19th century.

A drastic number reduction of this species started in the '90s, and especially in the years following the Second World War, when wolves were exterminated in several countries, due to the strong



In Italy the wolf was widely distributed until the middle of the 1800, but it was eradicated (exterminated) from the Alps in the '20s and in Sicily in the '40s (in Sardinia the wolf has never been recorded). From the end of the Second World War to the beginning of the '70s, the distribution of the wolf on the Apennine was fragmented and limited to few mountainous areas. Since the 1970s it has been recovering naturally throughout the Apennine ridge. Its presence is not due to reintroduction programs. However, the expansion process is not only because of the biology characteristics of the specie, but also thanks to the stop of the persecution programs on large scale and to several conservation measures and environmental protection (legal protection, reintroduction and restocking of natural preys, protected areas institution, ecc

human pressure through direct persecution and destruction of their habitat.

In the last twenty years, the species has been recovering naturally, on a local level, gradually re-colonising several parts of its original range: France, Germany, Switzerland, Sweden and Norway. Distribution in central-eastern Europe, where the largest populations live, largely corresponds to mountain areas with lower human densities and less intensive agricultural utilisation. The distribution pattern is very irregular and patches are often small and isolated. The overall number of wolves living in European countries is relatively high, however, only 6 countries have a population of more than 1000 wolves, only 11 have more than 500 and 8 countries have very small populations of less than 50 animals.

### What does it look like?

The wolf is the second largest predator in Europe, after the brown bear (*Ursus arctos*). Since the species has a large distribution area and lives in geographically and ecologically different habitats, its phenotype variation (size, colour, and weight) is remarkably high.

The weight can vary from 12 kg in the specimens from the Eurasian Continent to 80 kg in some individuals from higher latitudes. The females are smaller and vary between 15 and 55 kg. Larger animals are found in more northern latitudes. The average weight of Mediterranean wolves is 25-35 kg, rarely as much as 45 kg. The total head and body length of an adult wolf is 110-148 cm; the tail is usually less than a third of body length (30-35 cm). Wolves tracks are similar to those of a large dog, the fifth finger is found only on the front legs and does not touch the ground.

Pelt colour is extremely variable, from pure white in the arctic areas to brown, reddish, grey, pale grey and silverish.

In Italy it is grey-tawny with shades varying to reddish-brown during summer months. Moreover, seasons affect the pelt: the wintering pelage grows in early fall and is thicker, while moulting occurs in spring.



## What does it eat?

The wolf is a true generalist predator that feeds opportunistically on what is most available in its habitat. The wolf diet may include large preys (deer, roe deer, wild boars), or small vertebrates, invertebrates, vegetables and carcasses. The live-stock, in particular sheep, can be object of predation by this species. Its food habits depend on the relative abundance of its potential prey, as well as their accessibility and seasonal variations. A wolf typically needs 3-5 kg of meat per day, although it can fast for several days.



## What social structure does it have?



Wolves co-operate in hunting and in defending their territories. They live in packs varying in size. A pack is fundamentally a family unit that originates when a pair establishes a territory and reproduces. Within each pack, which is generally built on a family unit, there is a clear linear social hierarchy, and changes can occur before and during the breeding season.

At the top of this hierarchy a dominant female and male, named alpha couple, have most of the privileges: they are the first in feeding and the only ones which reproduce within the pack.

A wolf is sexually active when it is two years old. Oestrus lasts 5-7 days once a year, generally in January-March. Parturition occurs after 60-62 days and litter size varies from 1 to 11 pups, and it is directly proportional to prey availability. The pups stay in the pack up to the age of two years, to improve their knowledge of the territory, and to learn hunting and social behaviours.

## How are wolves protected?

On an international level wolf is included in the Red List of the IUCN – World Conservation Union- and classified as “least concern” species. It also appears in the Appendix II (potentially threaten species) of the CITES (Convention on International Trade in Endangered Species of the Wild Fauna and Flora). On an European level, it is included in the Appendix II (strictly protected species) of the Bern Convention



In Italy, the wolf is protected by the Decree of the President of the Republic n. 357 of 1997, implementing the EC Directive 92/43/CEE. It is also protected by the National Hunting Law n. 157 of the 1992, which regulates protection of homoeothermic wildlife and hunted species and Law n. 874 of 1975, which ratifies and enforces the CITES. This predator is also included in the Red List of Italian Vertebrates as “vulnerable” species

(Convention on the Conservation of European Wildlife and Natural Habitats, 19.9.1979) and in the Appendix II and IV of the EC Habitats Directive (92/43 of 21.5.1992), on the conservation of natural and semi-natural habitats, as well as wild flora and fauna, where it receives full protection as a species of community interest.

## What social structure does it have?

Wolves live in the most diverse types of habitat and their broad distribution ranges show the species' adaptability to the most diverse ecological conditions. However, in Europe, this species occupies large forest areas, since these are low-density human habitats. Indeed, the limiting factors of wolf distribution are anthropic pressure, prey availability and natural habitat modification.

### Territoriality

Territoriality limits the number of social units, while dispersal contributes to expanding the population and increasing its genetic exchanges. The dispersal, which is the main way to colonise new areas and to maintain genetic exchange within a population, relates to individuals of one or two years old. Wolves disperse in search of new territory and a new partner with which to create a new pack.

This is a critical phase for wolf survival since they have to stay without the security for long periods of time, the security of which could be found within its original pack. Regarding Italy, in the '80s, there was a case of a wolf dispersion in Abruzzo of up to 85 km radius, between Majella and Gran Sasso.

Each pack actively defends its own territory from wolves of neighbouring packs. Territory size varies greatly (in Europe it is generally from 100 to 500 km<sup>2</sup>) depending on wolf and prey densities, geographical features, human disturbance.

Territories are actively advertised by wolves, through markings with urine and faeces left in strategic sites within the territory and along the boundaries.

Territory boundaries are rarely crossed; when this occurs, it may lead to violent aggressions and intra-specific mortality.



## What are the major threats to its survival?

Although the wolf is strictly protected, on an international and national level, and there are compensation measures for the damage caused by wolf on livestock on a regional level, the direct persecution is still the main mortality factor of the wolf. Negligence of and the difficulty to enforce the protection laws, together with economic conflicts which are amplified by historic and cultural context, are the reasons of the persistent persecution level.

### Poaching

One of the main causes of wolf mortality is represented by poaching done with poisoned food, snares and guns, in particular during the hunting of wild boar. Poaching is caused mainly because of problems with farmers for the killing of livestock, as well as from hunters, due to



the competition between wolves and hunters on ungulates.

### Straying

Feral and stray dogs are a threat for the survival of the wolf, due to hybridisation, competition and, last but not least, amplification of human conflict, following the predation done by dogs on livestock and erroneously considered as wolf damages. Moreover, it has to be pointed out that feral or stray dogs can spread diseases, which potentially can have negative effects on relevant wolf populations.

