



ARCTOS Project (2nd phase)
supported by
DG XI LIFE-NATURE

photo: ARCTOS Project/ M. Mathiopoulos

Conservation of brown bear and its habitats in Greece



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One of the last symbols of wildlife is threatened by extinction

The bear is the continuation of an ancient way of life. It is connected to almost all northern hemisphere civilisations by legends, traditions and stories. An animal with no natural enemies, its only one being Man.



Representation on a red-figure vase of the 4th cent. BC; Callisto watching her hand turning into a bear's paw.

Head of an arktos (bear) with crocus himation; in the left hand op a dove (4th cent. B.C.).



Head of a bear with chiton himation; in the right hand a hare (4th cent. B.C.).

Brown Bear: a strong, yet vulnerable animal



Newly-born bear cubs

Brown bear is the largest terrestrial mammal in Europe, measuring 1.7 - 2 m. in length and weighing 60 - 250 kg., depending on the sex and the season of year. In nature, bears live for approximately 25 years.



Despite the common belief, bears do not attack people. They may exhibit aggressive-defensive behaviour in case they sense danger for themselves or their cubs.

Every two to three years, in the winter, the female bear gives birth to one, two or rarely three



cubs. The new-borns are blind and hairless and weigh merely 200 - 300 gr. If their mother gets killed at this stage, the cubs will die within 15 - 20

minutes. In any case, their chance of survival during their first year of life is only 50%.

Life for the bear means life for forests and humans



*Bear habitat in Rodopi Mts.
(mixed oak-beech forest)*

The survival of the bear is tied to the survival of the forest. That is why the measures undertaken by the ARCTOS Project aim, among others, to the wider protection and the conservation of the forests and mountain ecosystems in Greece.

Apart from sufficient habitats providing the necessary quantity

(and quality) of food sources, bears need tranquillity. The continuation of their livelihood and co-existence with people depends largely on whether we will be able to ensure them the necessary conditions to be able to rest during the day and to reproduce and hibernate during the winter, away from sources of disturbance.

The bear in Greece and in Europe

Europe

Up until the 15th century, the brown bear (*Ursus arctos*) distribution covered most of the European continent. Habitat destruction and hunting - prohibited only two decades ago- are the primary reasons of its rapid extinction in most countries. Today, the brown

bear survives in small, isolated populations with slim chances of survival. In France, less than ten remain, while in Spain and in Italy there are approximately 50 bears in each country.

Greece

During the 17th century, bear distribution reached all the way to Peloponnisos, while a few years ago bears were still present on Mount Olympus. Today, bears are found only in remote areas of the Pindos and Rodopi Mountain Ranges, forming two small population nuclei with no spatial communication between them.



The bear population in Greece is approximately 150 individuals. It is, however, one of the largest in the southern part of the European Union. The geographic connection of the brown bear populations in the Balkans and their conservation in neighbouring countries will increase the probability for the survival of the species in Greece, as well.



Through ARCTOS Project (1st phase: 1994-95, 2nd phase: 1997-99), ARCTUROS is co-ordinating the efforts for the conservation of one of the rarest and most important wildlife species in Greece and Europe:

- Measures to minimise human-caused mortality
- Actions for the conservation of bear habitat
- Awareness raising campaign

ARCTOS Project identified three main categories of threats to the bear and designed specific measures and actions to confront them.

Bears in Greece are being threatened by:

Direct killing, due to: poaching, producers who suffer damages caused by bears, capture and commercialization of the cubs with subsequent elimination of the female

Habitat destruction, due to: overexploitation of the forest, forest fires, extensive forest roading, large scale technical works without appropriate planning and control.

Lack of public awareness to the values of an endangered species.





Measures to minimise human-caused bear mortality

During the last five years the ARCTOS Project scientific team has recorded forty-seven (47) poaching cases of bears caused by humans! Furthermore, there is additional information on other, unconfirmed cases. If the killings continue at the present rate and in addition to the natural mortality of the population, there is high probability that bear population will decline again in Greece.



More than 130 electric fencing units have been disposed by the ARCTOS Project for the protection of apiaries. Their setting up was made possible with the assistance of the Forestry Service.



Breeding of the traditional pure breed of Greek Shepherd Dogs and their consequent offer to livestock raisers, helps in the effective guarding of their livestock.

Compensations - Preventive measures

Occasionally, producers (farmers, livestock raisers, bee-keepers), in order to protect their property, are tempted to kill the animals they consider (rightly or wrongly) responsible for the damages. To eliminate that practice, the ARCTOS Project in co-operation with the National Farmers' Insurance Organisation (EL.G.A.), ensured the complete insurance cover of almost all categories of damages. Furthermore, implementation of preventive measures for the safeguarding of the producers' property, is one of the most important activities of the project.

Dancing bears

In order to capture the cubs, poachers usually have to kill the mother bear. With the establishment of the Bear Protection Centre (today: ARCTUROS' Environmental Centre), where the confiscated bears are being sheltered, the prerequisites to eliminate this practice in Greece were created.

Every dancing bear does not only show humiliation, cruelty and exploitation of an animal, it also means at least two bears less in the wild.



Poaching

The ARCTOS Project is in close co-operation with the Forestry Service and Hunting Associations for the elimination of poaching and the information of hunters on how to react in case of encounters with bears in the wild. In critical for the species areas, special measures are taken in order to avoid disturbance or killing of the animals.



The seasonal closure (with road barriers) of parts of the forest road network helps in the decrease of the uncontrolled vehicle access in critical bear areas.



ARCTOS Project: Bear from the Rodopi sub-population.
Photo taken by thermic-sensor automatic camera used for census purposes

Actions for the conservation of bear habitats

The destruction, degradation and fragmentation of bear habitat entails the loss of the animal's home range and of the linkage areas between different populations, which are vital for the ecological demands of the species.



Radio-telemetry is a modern technique implemented in Greece for the first time in the frame of ARCTOS Project offering valuable data on the ecology of the bear.

Conservation of important areas

The ARCTOS Project, in co-operation with the Ministry of Environment elaborated Special Environmental Studies in three of the most important for the species areas, aiming at their inclusion under special protection and management status. The substantiation of those studies requires systematic data collection on the natural and human environment. Towards that goal, state-of-the-art techniques are being used, such as Geographic Information Systems (GIS) and radio-telemetry.

Improvement of bear habitats

The bear feeds largely (up to 60%) on forest fruits. The project, in co-operation with the Forestry Service contributes in the enrichment of the habitat's trophic value for the species by plantations of wild fruit trees.



Interventions in technical works

The project intervenes in all the cases where bear habitat is being destroyed by large scale infrastructure (highways, dams, mines etc.). It also contributes to the reduction of the negative impact as well as the inclusion of various wildlife species needs in the planning stage of the technical works.

The appeal of ARCTUROS and WWF-Greece to the State Council of Greece resulted in the revision of the alignment of a segment of Via Egnatia highway, in order to preserve vital bear habitat.

Balkan co-operation

In order to conserve the natural areas which act as linkage areas between bear populations in the Balkans, the project has achieved cross-border co-operation with the neighbouring countries.



Project ARCTOS supports the Balkan-Net for conservation of the bear and other large carnivores by organising meetings, seminars, trans-border scientific research and implementing other common conservation actions.

Awareness raising campaign

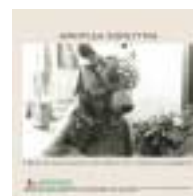
The lack of adequate information of the public regarding the need to support the efforts for the conservation of the species presents an additional threat to the bear and is being dealt with by the ARCTOS Project.

Communication

The project planned and implements an awareness raising campaign addressed to specific target groups, with emphasis in the areas within the bear range. The production of printed information material, the regular presence in local and national mass media and the public events and presentations organised, all aim at the awareness and active participation of the public.



Six Local Assistants of the project are responsible for the direct communication, information and assistance to the farmers (compensation of damages, special problems).



Public awareness printed material.

Environmental education

The ARCTOS Project educational team created the mobile Environmental Education Kit which is being distributed to schools with the assistance of the Directorates of Primary and Secondary Education. Additionally, it has been translated in English, in order to be used as guide material for similar educational programmes in neighbouring Balkan countries. The students visiting the ARCTUROS Environmental Centre are able to participate in the environmental education programme «Forest, home of the bear».



With the «Brown Bear Suitcase» pupils are being aware of the need for protection of the brown bear through a series of creative educational activities.

ARCTUROS Environmental Centre

Apart from contributing to the elimination of the dancing bear practice in Greece, the Environmental Centre is being used for the wider information of its visitors. Operating since 1993, the new installations include the Bear's Sanctuary in Nymfaion, the new Veterinary Station and the Information Centre in Aetos, prefecture of Florina, the latter using interactive exhibits and new technologies in order to raise public awareness.



Bear's Sanctuary



Information Centre for the Brown Bear

More than 30,000 visitors annually and hundreds of volunteers had the opportunity to get informed and participate in various activities at the Centre.

«Endangered species» means that there is still time»

The survival of the bear depends upon the understanding of the simple truth that the co-existence of wildlife and man is a prerequisite for the continuation of life on Earth...

The ARCTOS Project, with its interventions, planned and implemented actions put the foundation stones for the recovery of the bear populations and the conservation of its habitat in Greece.

That by itself is not enough: the active participation of the public and the State is essential for the continuation of that effort in the future



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