

poles were fitted with barbed wire and monitored monthly for two years (2007 – 2009). With funds provided by Alertis, fund for bear and nature conservation and the International Bear Association, genetic monitoring activities were carried out in 2008 – 2009 also in Albania, the Former Yugoslav Republic of Macedonia and Serbia.

As of the end of 2009 the project has identified three different bears in Albania, eight in the F.Y.R. Macedonia, eleven in Serbia and 257 in Greece. More specifically, in Greece and in 2008 alone, 215 different bears were identified.

Considering the general lack of knowledge regarding the status of the brown bear population in the country (the official minimum population estimate for brown bears in Greece in 2006 was 190-260 individuals) and the success of the genetic monitoring efforts of ARCTUROS until now, the newly founded Hellenic Ministry of Environment and Climate Change has recently appointed Arcturos with the task of carrying out the first genetic assessment of the bear population in the country. The 18-month project was initiated in November 2009. During the preparatory phase of the project (November 2009-April 2010) guidelines for streamlining all future genetic research on brown bears in Greece were defined and a dense network of noninvasive sampling stations was established. In order to build upon the already existing knowledge and experience and produce comparable results the six microsatellite loci identified and used within the “Hellenic Bear Register” will be used (Karamanlidis et al. 2010). Due to the increasing number of individual bears identified in the country a soon-to-be-identified seventh marker is going to be added to the ones already used. In addition to the five already existing sampling areas of the “Hellenic Bear Register”, another three were established in the Prefecture of Ioannina, in the National Park of Prespes and along the vertical axis of the “Egnatia”


highway in Kastoria (> 350 sampling stations in total), thus covering the biggest part of the species range in the Pindos Mountains.

Due to lack of suitable power poles, genetic monitoring of brown bears in the eastern part of their distribution, in the mountains of Rodopi, will rely on the collection of scats and hair from rub trees. Sampling efforts started in March 2010 and are expected to commence the same time in 2011, after which a thorough analysis of all the genetic data available to Arcturos will take place. This will lead to recommending concrete conservation and management actions for the effective protection of brown bears in Greece.

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New Highway Monitoring Efforts in Greece: the Egnatia Motorway vertical axis “Siatista – Kastoria – Kristalopigi” project

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Determining and understanding mortality factors and species threats is essential in defining and implementing effective conservation actions. Greece has witnessed in recent years a dramatic increase in bear – vehicle collisions; since 1998 there have been 44 collisions, 28 of which were fatal to bears. Considering the potentially devastating effects that the construction of highways might have on local brown bear populations and their habitat, the Greek State has been funding two highway monitoring projects: the first one, now-completed “Egnatia” highway and the second one at the “E65” highway, which is still under construction.

A close inspection, however, of the locations where fatal bear–vehicle collisions have occurred recently, indicates that a significant percentage of collisions have taken place along one of the vertical axes of “Egnatia”, a 72 km stretch of highway, known as the “Siatista – Kastoria – Kristalopigi” vertical axis. Expanding an already existing stretch of road, this new highway, which is going to connect Greece with neighboring Albania, threatens to become an impermeable barrier to the West –East movements of the Pindos mountains bear population.



Members of the ARCTUROS field team inspecting a power pole, to be used as a sampling station for the genetic monitoring of the brown bear population in the area of the “Siatista – Kastoria – Kristalopigi” highway.

A Review of the Institutional Framework for Bear Management in High Density Areas of Romania

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The Romanian brown bear population is distributed over about 47,000 km² within the Carpathian Mountain range. Government authorities estimate that this population exceeds 6,000 individuals. Such a large bear population is managed by several institutions (game managers, environmental authorities, control institutions, etc.) that work within a complicated framework; this framework may produce outcomes that do not serve the best interest of either the bears or the people affected by bears. Such issues were targeted by the LIFE EX-TRA project (www.lifextra.it), co-financed by the European Union (LIFE+ Program) and implemented in several countries (Romania, Italy, Bulgaria and Greece).

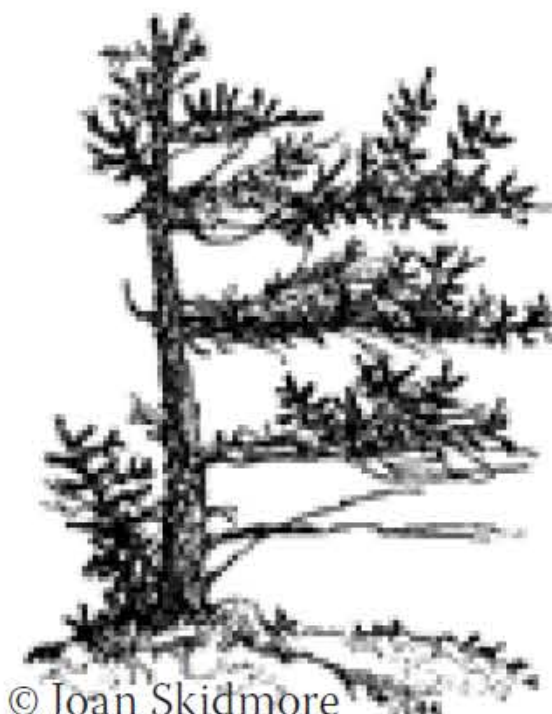
In Romania, this project sought to identify and assess the role and responsibilities of the institutions involved in the management of bears in Brasov and Covasna counties, areas with a high density of brown bears. Specific project sites were chosen to cover the wide variety of players that effect bear

With the generous financial support of the mobile phone company Vodafone Greece, Arcturos has initiated a new highway monitoring project along the “Egnatia” vertical axis “Siatista – Kastoria – Kristalopigi”. The main activities of the project include the radio-tracking of individual bears and an extensive study of the genetic status of the local bear population. Based on data from previous research of ARCTUROS, which include the radio-tracking of a female bear and the genetic identification of 38 bears in the study area (30 on the western and eight on the eastern side of the highway), there is limited movement between the western and eastern side of the highway. The activities of the project are being complemented by the permanent conservation actions of ARCTUROS in the area, which include:

- posting of road signs at bear crossings,
- enrichment of the natural food basis for bears by planting fruit trees in Kristalopigi,
- the support of local shepherds through the donation of Hellenic Shepherd dogs that are bred at the breeding Center of Arcturos,

- the operation of the Bear Emergency Team of Arcturos, which inspects all cases of human-bear conflicts in the area, and
- the operation of the Bear Rescue and Rehabilitation Center of Arcturos, which provides the necessary treatment for injured bears. The operation of the facility has been greatly improved through a strategic partnership with the Veterinary Department of the Aristotle University of Thessaloniki.

The project will run until 2011 and will produce a set of recommendations for mitigating the effects of the operation of the highway on the local bear population. 🐻



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