

Description of species / habitats / Biodiversity issues

targeted BY THE PROJECT

Scientific name: *Ursus arctos* (*)

Annex of the Habitats Directive where the species is listed: Annex II(*) and Annex IV

Population size

Brown bear *Ursus arctos* (*) distributional range in Greece consists of two (2) separate population nuclei, located approximately 200 km apart in the north-western and north-eastern part of the country, respectively in the Peristeri-Pindos range and the Rodopi mountain complex over a total surface of 13,500 km² of permanent occupation range. Over the last decade, overall brown bear population in the country has shown positive trends at a local scale reaching today 190-260 individuals minimum. In the area targeted by the project, minimum population size was estimated in 2002 from 19-54 individuals (the estimation was based on hard data processing and use of Leslie's stage based mathematical models, Defiggou 2002). This population fraction about the 18,5% of the total brown bear population in the country.

Conservation status:

Although total *Ursus arctos** distribution covers a surface of circa 13,500 km² of permanent presence, both *Ursus arctos** population nuclei are affected by bottle-neck phenomena due to habitat disruption related to large infrastructure (mainly highways) and other detrimental human activities such as criminal forest fires and change of land use.

In the area targeted by the project, *Ursus arctos** subpopulation and habitat are suffering from severe pressure, degradation and disruption respectively, related to the construction of a 72km highway branch “Siatista – Ieropigi/Krystallopigi”, which is connected to the Egnatia highway (TENT) network. This large infrastructure has already severe consequences and is expected to have more in the immediate future upon

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* habitat and population integrity and connectivity in the area. Immediate mitigation measures are needed to minimize this negative impact. To this new mortality cause, should be added Known bear human caused mortality related to other major causes such as poaching which still persists in the area targeted by the project. Systematic data records show that poaching continues to affect more than 5% of the total

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population in the country (average losses of 12-15 bears/year), whereas bear human-caused mortality still affects ~ 5% of the average

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population in the targeted area with a pick of losses between 2007 and 2009 reaching 8 individuals and with a total of 19 individuals loss (known cases) within the period 1995-2009. It is worth mentioning that both human caused mortality rates are still above the sustainable threshold (4%) for a viable bear population (Servheen 1994). Bear-human conflicts are among the main reasons and incentives causing this problem. Moreover

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habitat in marginal sectors of the species range within the project area and along the Greek-Albanian border, have undergone further degradation due to criminal and/or accidental forest fires that occurred in 2007. The risk of this threat still persists and these sectors need further survey for restoration.

In the area targeted by the project bears, as food opportunists, show seasonal feeding patterns connected to human related food resources such as small scale cultivations of wheat, corn, trifolium but also on small livestock and beehives. This fact increases the risk of bear-human interference and subsequently the human-caused bear mortality risk and therefore will be tackled by the project. Genetic status of the targeted *Ursus arctos** subpopulation in the project area has to be urgently investigated since in an adjacent sector (area of Grevena) more advanced genetic studies on the indigenous bear subpopulation have shown low polymorphism (low heterozygosity levels) for 2 out of 5 DNA loci examined with the micro-satellite technique – namely loci UarMU09 and G10L (Scouras, Drosopoulou 2005). Hence the genetic examination showed a deviation from the Hardy-Weinberg balance values a fact which is related to a genetically unbalanced and therefore vulnerable bear population a fact that might occur also for the bear subpopulation in the area targeted by the project (Scouras, Drosopoulou 2005).