

**SPACE USE BY BROWN BEAR (*Ursus arctos*) IN RELATION TO NOISE DURING AND AFTER EGNATIA HIGHWAY CONSTRUCTION ACTIVITIES IN PINDOS MOUNTAIN RANGE**

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**ABSTRACT**

Over the last decades, large human infrastructure have been further extending over suburbanized and undisturbed areas, resulting in degradation of forest ecosystems due to noise disturbance.

The present work illustrates the preliminary results of recording and mapping of noise distribution induced by to the 37km Egnatia highway stretch “Panagia\_Grevena” under construction in relation to the spatial behavior feedback of the indigenous brown bear population. In particular, bear habitat use is evidenced through satellite/GSM telemetry and is correlated to the noise levels induced by the highway construction works.

In parallel, the influence of the traffic volume noise over a functional section of the highway upon bear spatial behavior is also examined.

From the first results it appears likely that the increase of bear nocturnal activity levels are not only related to the existing biological and ecological factors but also to the possible negative impact of high construction noise levels during the daylight hours. It comes out that over the total study area, for the 17 sampled bears the highest rate of active radiolocations occurs during the night hours whereas during the daylight hours the active bear radiolocations are at their lowest levels in correlation to the highest construction noise levels.