

Can we use road-kill data set to enhance our knowledge about the spatial distribution of ungulate species?

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Reported road-kills constitute a source of information that is only rarely taken into account, but one that could be useful for the environmental authorities because it is constant, abundant, cheap, and has nearly complete territorial coverage around the world. For this reason, we explore the possibilities and the limitations of road-kill data set. To assess its usefulness, we compared (for three ungulates: wild boar, roe deer and red deer) the spatial distribution in a 10 x 10 UTM grid obtained using road-kill reports with the distribution described in the *Atlas y Libro Rojo de los Mamíferos Terrestres de España*, using the region of Castile and Leon as the study area. The results show that road-kills offer a good complement to the data sources employed in the preparation of that Atlas, contributing new sites in insufficiently sampled areas. However, road-kills cannot be used as the sole source of information. Traffic reports worked better than other sources in areas such as the central Spanish plateau, which is characterised by higher road densities and higher traffic volumes, and lower species populations because of the lack of suitable habitats. In the mountainous periphery, with higher population densities, the road network method was as good as those used in Atlas in grids with medium road density, but was unable to detect species presence in low-road density zones. The repeatability across time in the detection of presence increased with the level of development of the road network and the percentage of area suitable for the species in question.