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Jaguar (*Panthera onca*) Density in the Talamanca Region: estimation and conservation

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The estimation of jaguar populations through camera-trapping is becoming the most spread methodology along its distribution range. Nevertheless there is no uniformity of methods so that these estimations are comparable at regional level. Likewise, these estimations are considered of high liability and are used as foundation for the decision making for the species conservation at different scales. In the present study the populations of mountain jaguar in the region of Talamanca, Costa Rica were estimated. Two samplings were made during 2006 and 2007 with different sampling designs, using different numbers of stations and covered area. The minimum convex polygon covered by the cameras was of 19.08 and 75.66 km^2 respectively; additionally 10 and 30 sites (pairs of cameras) were used for each of the estimations. Different buffer distances were calculated using the data from each sampling and the integrated data of the maximum distance moved (MDM). Different densities were calculated according to the different sampling effective areas. It was determined that according to the method used for the estimation of areas the density estimation changes dramatically varying from 5.42 ± 2.30 to 11.54 ± 3.40 with the same method. Potential, limitations and basic considerations for the use of camera-trapping in jaguar population studies, the problems related to the decisions of conservation based on these data are discussed and the importance of this estimation of density for the region.
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