

Effect of the construction of a high-speed railway on distribution and home range of the stone martens (*Martes foina*) in Cuenca (Spain)

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Habitat fragmentation caused by the transport infrastructures is one of the main problems for the conservation of vertebrates in developed countries. Moreover, when these infrastructures roam adjacent on the same territory, the cumulative barrier effect could have negative effects. This project has been carried out in the mountain range of Sierra de Cabrejas, Cuenca (Spain), where the future high-speed railway (AVE Madrid-Valencia) is being built adjacent to the highway A40 and the road N400. This investigation shows the result of 5 radio tracked stone martens (*Martes foina*) before and during the railway construction in this area. The objective was to examine the disturbance on their distributions and home ranges, to evaluate the initial barrier effect. We capture and radio-tagged 5 stone martens with radio collars (Biotrack TW3) 2 adult male, 1 young male, 1 adult female and 1 young female, representing all possible kinds of age and sex. For trapping we used 9 single-door cage traps baited with sardines and fresh eggs. The monitoring was carried out from December 2006 to June 2007 and was similar by individual. We obtained 865 valid locations as a total monitoring effort. All stone martens showed nocturnal activity and their shelters were located near water streams in pine-oak forest. The average kernel density estimation area (IK90) evidenced home range of 2.38 km² in males and 2.21 km² in adult females. Home ranges did not differ during the monitoring, that is to say, the construction of the high-speed railway not affect to the size of home ranges. Nevertheless, distribution or location of the home ranges of stone martens located to less than 3 Km of distance of the area of construction of the high-speed railway were displaced considerably.