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# WHICH VEGETATION CHARACTERISTICS DETERMINE THE QUALITY OF HABITAT FOR THE HAZEL DORMOUSE (*MUSCARDINUS AVELLANARIUS* LINNAEUS)? A COMPARISON OF FRAGMENTED LANDSCAPES IN CENTRAL ITALY

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Habitat loss and fragmentation are widely considered the main causes of mammal decrease and extintion worldwide and are amongst the most important factors determining landscape change. In addition to increasing deforestation, fragmented landscapes are often intensively managed for timber production which will exacerbate the effect of deforestation and determine the quality of habitat (e.g. availability of resources). The hazel dormouse (*Muscardinus avellanarius* Linnaeus) is an arboreal species strictly associated with understory vegetation, therefore forest management activity (logging and clearing of understory vegetation) may strongly affect its habitat. The quality of habitat may be measured in several ways, including the fitness of females and the abundance of resources. The objective of this study is to assess which vegetation characteristics affect the fitness of hazel dormice populations in a spatially structured population, focusing on various vegetation communities of existing. We placed 706 dormouse nest-boxes in three areas (landscapes) of Latium (Sabina, Rieti Province; Tuscia, Selva del Lamone Natural Reserve, Viterbo Province) in order to capture dormice and to estimate several biological and demographic parameters, such as density, sex-ratio, fecundity, age-structure and growth rate of the population. Nest-boxes were positioned in grids and were checked monthly from April 2010 to April 2012. In order to describe the vegetation structure of each sampled grid, we collected data on several parameters describing the arboreal and shrub layers. Analysis of data gathered shows clear differences in habitat quality among the areas studied. Our results suggest that shrub species richness and density of the shrub layer have an impact on the habitat quality. The management of the shrub layer could enhance the fitness of *Muscardinus avellanarius* at a local scale and facilitate the implementation of conservation strategies of the species.