

## The Effect of Relocating a Red Deer Stag on the Size of Its Home Range and Activity

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**Abstract :** In the course of the examination, we sought to answer the question of how and to what extent the home range and daily activity of a deer stag relocated from its habitual surroundings changes. We conducted the examination in two hunting areas in Hungary, about 50 km from one another. The control area was in the north of Somogy County, while the sample area was an area of similar features in terms of forest cover, tree stock, agricultural structure, altitude above sea level, climate, etc. in the south of Somogy County. Three middle-aged red deer stags were captured with rocket nets, immobilized and marked with GPS-Plus Collars manufactured by Vectronic Aerospace Gesellschaft mit beschränkter Haftung. One captured species was relocated. We monitored deer movements over 24-hour periods at 3 months. In the course of the examination, we analysed the behaviour of the relocated species and those that remained in their original habitat, as well as the temporal evolution of their behaviour. We examined the characteristics of the marked species' daily activities and the hourly distance they covered. We intended to find out the difference between the behaviour of the species remaining in their original habitat and of those relocated to a more distant, but similar habitat. In summary, based on our findings, it can be established that such enforced relocations to a different habitat (e.g., game relocation) significantly increases the home range of the species in the months following relocation. Home ranges were calculated using the full data set and the minimum convex polygon (MCP) method. Relocation did not increase the nocturnal and diurnal movement activity of the animal in question. Our research found that the home range of the relocated species proved to be significantly higher than that of those species that were not relocated. The results have been presented in tabular form and have also been displayed on a map. Based on the results, it can be established that relocation inherently includes the risk of falling victim to poaching, vehicle collision. It was only in the third month following relocation that the home range of the relocated species subsided to the level of those species that were not relocated. It is advisable to take these observations into consideration in relocating red deer for nature conservation or game management purposes.

**Keywords :** Cervus elaphus, home range, relocation, red deer stag

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