Abstract

The purpose of this thesis was to measure and analyse movement, dispersal distance, dispersal rate, and velocity of geographic expansion of wild boar (*Sus scrofa*) populations in Sweden.

The animals in the study were, almost without exception, active during night. An average activity bout lasted for 7.2 hours where the animal moved 7.2 km covering an area of 104.4 ha. Although wild boars can move several kilometres during an activity bout, dispersal distances were relatively short, averaging 16.6 km for males and 4.5 km for females. Both males and females mainly dispersed as juveniles or subadults.

It can be difficult to decide if an individual has left the natal area and dispersed, if data sets exclusively consist of marked animals, where recapture is necessary to identify the animal and calculate the distance between capture sites. In this study radio-tracked female wild boars were used to estimate which distance between capture sites of marked animals that should be used to separate dispersing animals from those not dispersing. An animal was considered to be a disperser if it was recaptured as a subadult or adult more than 3.1 kilometres from the site where it was marked as a juvenile. The average proportion of marked females that left their natal area and settled in a new one amounted to 43% in contrast to 86% of the males. However, dispersal rate was negatively affected by population density in the natal area in both males and females.

The predicted velocity of geographic expansion for breeding populations was estimated at 3.0 km/year by using a reaction diffusion model. The observed velocity was higher and amounted to 4.8 km/year. The difference between the predicted and the observed velocity is probably caused by underestimated influence of long distance dispersers, and an unknown number of released and escaped wild boars. The thesis gives an insight into some of the factors affecting dispersal in wild boar as well as in many other animals. It also shows how dispersal traits can be quantified and used to predict population expansion, and therefore contributes to issues concerning research and management of wild boar and other invasive species.