Population monitoring and management

Comparing methods for measuring the distributions and densities of wild boar for disease management

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Wild boar has negative effects on the environment, economy, and poses health risks to both livestock and humans. In Europe, the increasing spread of African swine fever among populations of wild boar and domestic pigs is currently a significant concern. To effectively model epidemiology and develop appropriate contingency plans, it is essential to gather accurate data regarding the distribution, movement patterns, and population densities of wild mammals. The methods employed for data collection must be practical, timely, and cost-effective. Recent technological advancements have broadened the range of available methods, which need to be evaluated to determine the most suitable option for the species, environment and objectives concerned. Here we present a comparison of results from trials conducted on three distinct wild boar populations in the UK, utilizing techniques such as thermal imaging, distance sampling, thermal drones, the Random Encounter Model with camera traps, and acoustic monitoring. The calculated wild boar densities across the various sites were found to be comparable among the different methods employed; however, each method had unique advantages and disadvantages, which are discussed in relation to their applicability to different species, environments, and study objectives.