Forest Research

Population Survey

Feral wild boar and deer in the Forest of Dean Public Forest Estate

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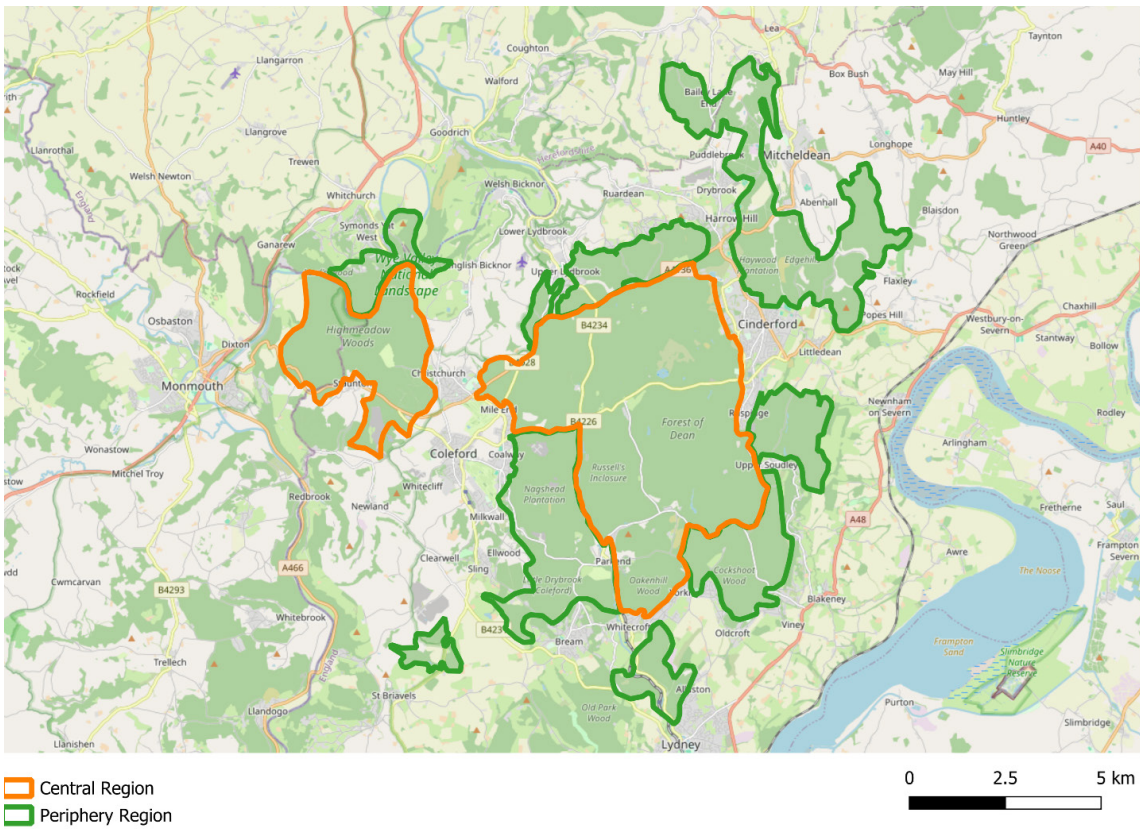
The Forest of Dean maintains the largest population of feral wild boar (*Sus scrofa*) in England, as well as populations of roe deer (*Capreolus capreolus*), fallow deer (*Dama dama*), and muntjac deer (*Muntiacus reevesi*). The deer and wild boar populations in the Forest of Dean have been monitored annually since 2013 to help inform the public and support the management programme. Nationally, the deer population is increasing (Matthews *et al.*, 2018), so monitoring long-term fluctuations in density provides important information to guide woodland and wildlife management. In this report, we provide results up to and including the latest survey, which was carried out in March 2025.

Methods

The 2025 survey was conducted using the same field methods as previous surveys (Gill, 2024). The Public Forest Estate within the Forest of Dean was partitioned into the Central and Periphery regions (Figure 1) to reflect expectations that ungulate population density is likely to differ in the two areas. Within each region, transects following forest roads were driven at night by two observers in a 4x4 vehicle. The observers used thermal imaging scopes to detect and identify ungulates. Once located, information on distance and angle from the observer was recorded to enable distance analysis (Buckland *et al.*, 2015). Distance analysis has proven effective for estimating the abundance of wild ungulates in forested landscapes of limited visibility (Focardi *et al.*, 2020; Franzetti *et al.*, 2012; Gill *et al.*, 1997).

Data collected prior to 2025 was analysed using the Distance for Windows software (Thomas *et al.*, 2010), while data collected in 2025 was analysed using the R package 'Distance' (Miller *et al.*, 2019).

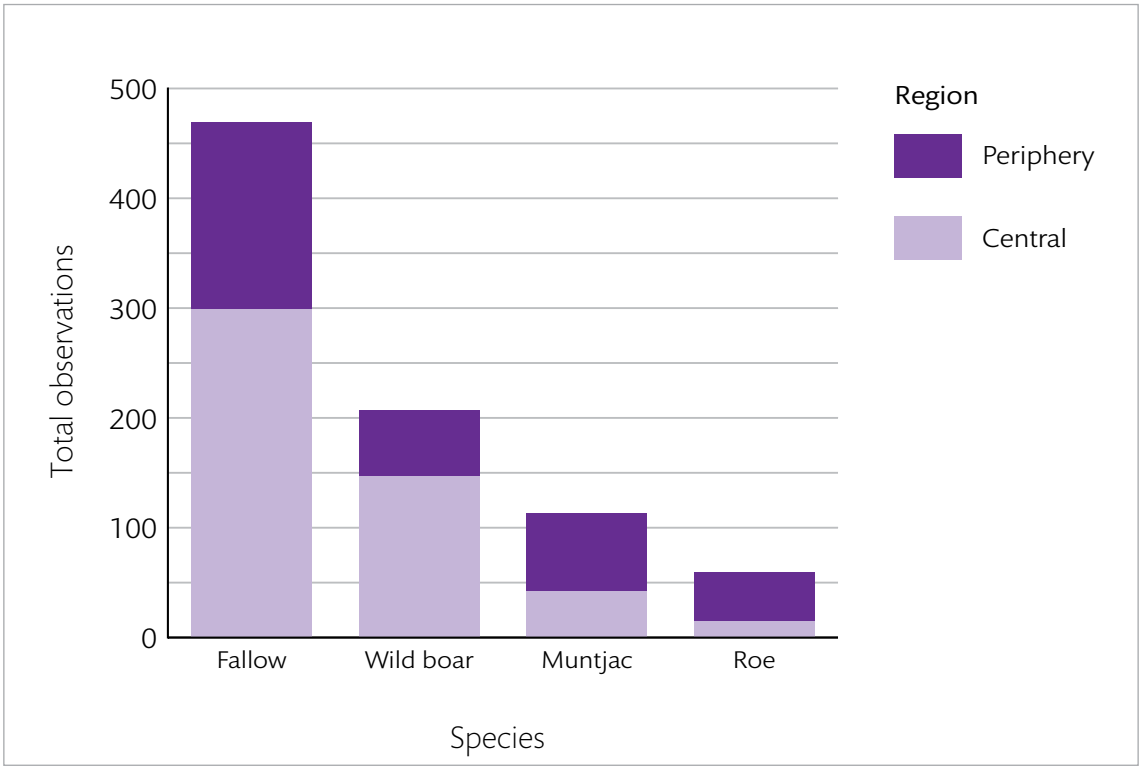
Figure 1 The area of the Forest of Dean managed as part of the Public Forest Estate. The area outlined in Orange is referred to as the Central region, and the areas outlined in Green are referred to collectively as the Periphery region.



Results

Data was collected between 10th and 27th March 2025 across a combined transect length of 235 km. Wild boar, roe deer, fallow deer, and muntjac were observed in both the Central and Periphery regions (Figure 2). We found a slight increase in the estimated density of both boar and deer within the Periphery region, and of deer within the Central region. We found a slight decrease in the estimated density of boar within the Central region. In general, the estimated density of both boar and deer throughout the Forest of Dean is similar to that of previous years (Figure 3).

Figure 2 The total number of each species observed in both the Central and Periphery regions during the 2025 surveys.



Wild boar

A total of 68 sounders were detected with an average of 3.04 individuals per sounder (range: 1–10). We estimated a density of 6.25 (95% confidence interval [95%CI]: 3.56–10.98) individuals per km^2 within the Periphery region and a density of 8.07 (95%CI: 5.0–13.06) individuals per km^2 within the Central region (Figure 4). Using these density estimates, we calculated a total estimated abundance of wild boar in the Forest of Dean Public Forest Estate as 583.41 (95%CI: 348.86–977.24) individuals.

Figure 3 The estimated density of deer and wild boar in each of the survey regions from 2013 to 2025. In all cases, density was estimated using distance sampling; from 2013 to 2024 the software Distance for Windows (Thomas *et al.*, 2010) was used, and in 2025 the R package Distance (Miller *et al.*, 2019) was used.

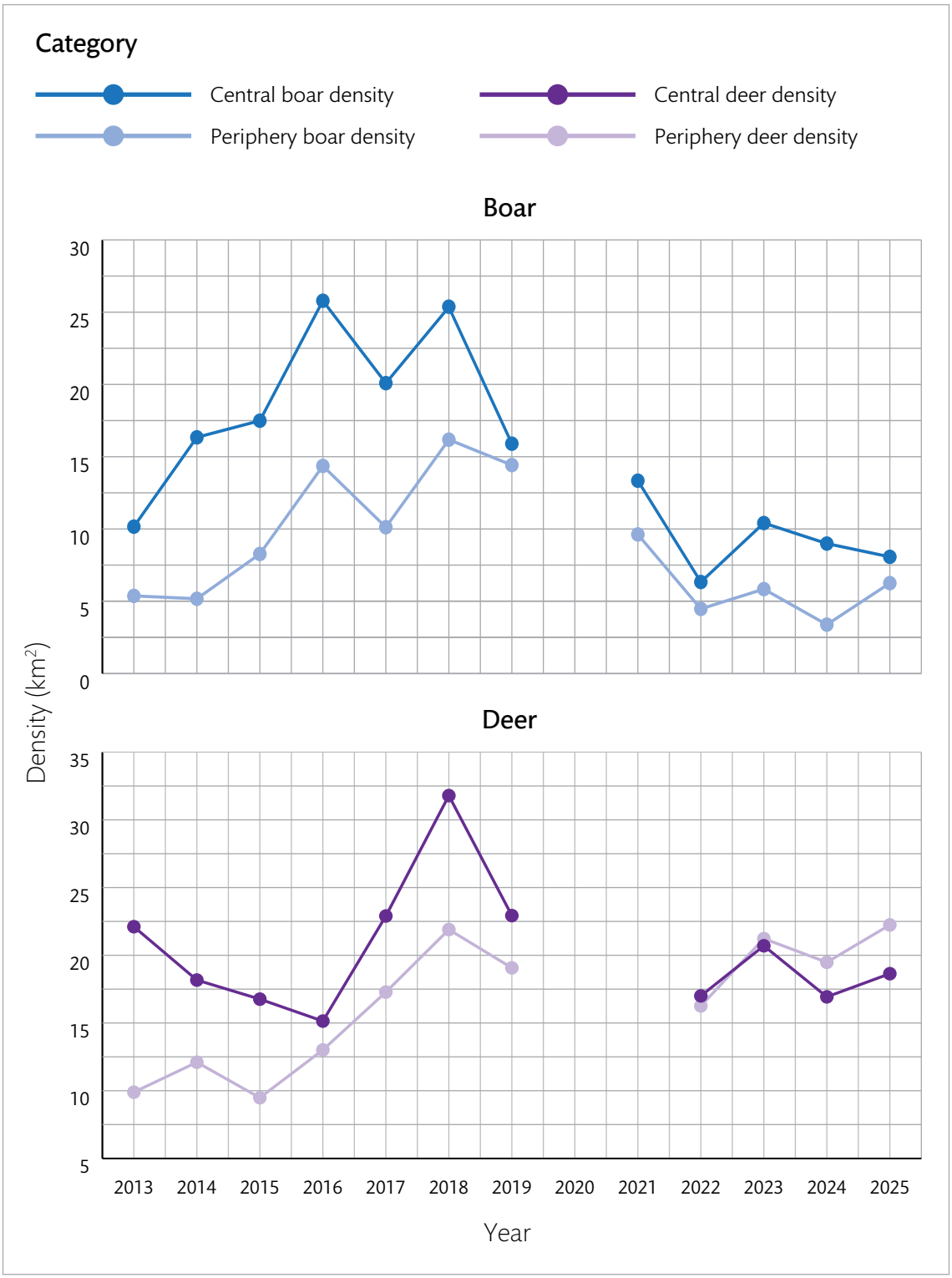
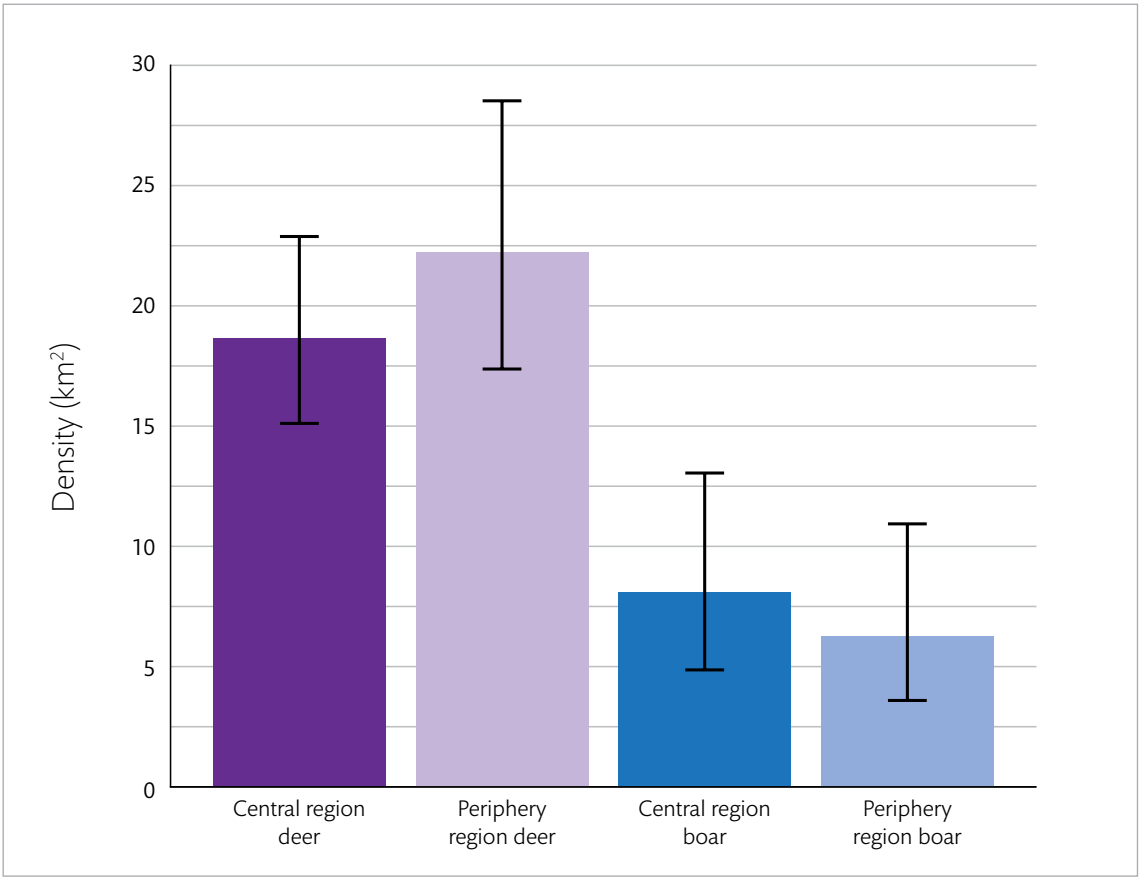


Figure 4 The density, with 95% confidence intervals, of each species within both the Central and Periphery regions, as estimated using the Distance Sampling approach in 2025.



Deer

Roe deer, fallow deer, and muntjac deer were all detected during the surveys (Table 1). We calculated density estimates based on combined counts of all deer species. We estimated a density of 22.24 (95%CI: 17.36–28.50) individuals per km^2 within the Periphery region and a density of 18.64 (95%CI: 15.17–22.92) individuals per km^2 within the Central region (Figure 4). Using these density estimates, we calculated a total estimated abundance of deer in the Forest of Dean Public Forest Estate as 1645.72 (95%CI: 1310.86–2067.02) individuals.

Table 1 The total number of deer observed during the 2025 surveys

Species	Number observed in 2025
Roe deer	59
Fallow deer	469
Muntjac	113

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