

Feral Wild Boar and Deer in the Forest of Dean

Population surveys in the
public Forest Estate 2021

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Introduction and Methods

The population of feral boar in the Forest of Dean has been monitored annually since 2013 to help inform the public as well as to support the management programme.

This report provides results up to and including the latest survey carried out in late February and March 2021. Covid restrictions prevented completion of a survey in 2020.

The current survey adopted the same methods as previous surveys and covered the same parts of the public forest estate as the last survey¹, with the exception that some additional areas outside the main block of the forest were included this year, extending the survey area from 76.9 to 80.9 km². The survey was based on observations made using thermal imaging and population estimates obtained using distance sampling². This approach has proved effective in previous studies for estimating the abundance of wild ungulates in forested landscapes which offer limited visibility³⁻⁶. Observations were made at night between the 22nd of February and the 31st of March 2021.

Results

Wild Boar

In total, 109 sounders were detected during the survey with an average of 4.23 boar per sounder, a decrease from 2019 when 163 sounders were found with an average of 2.98 per sounder.

The estimated number of feral boar was 937 with a 95% confidence interval ranging from 623 to 1409, indicating a continued decline from the highest population levels recorded between 2016-18 (see figure 1).

The number of recorded casualties (RTA's) has also decreased to 71, (down from 81 in 2020 and 98 in 2019). This figure includes both the number of recorded road casualties as well as animals found dead in the forest. The number of RTA's continues to show a close correlation with estimated population size (see figures 2 and 3).

Deer

The estimated population of deer was 1362 (95% conf. interval 1091 -1699). Of the number observed, 74% were Fallow deer; 14% were muntjac and 12% were roe deer (see figure 4).

Figure 1. Trends in numbers of wild boar culled, killed on roads (RTA's) and population density 2008-2021. Figures are numbers per km².

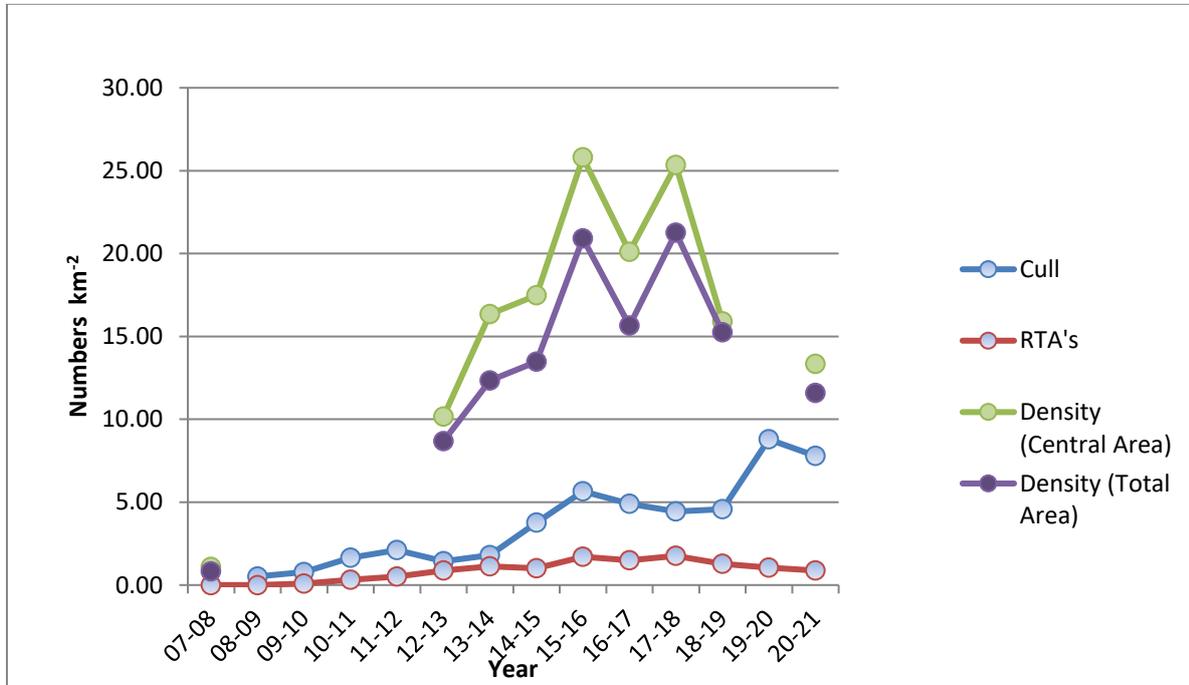


Figure 2. Trends in the number of feral boar culled and the number of recorded traffic casualties and found carcasses (RTA's)

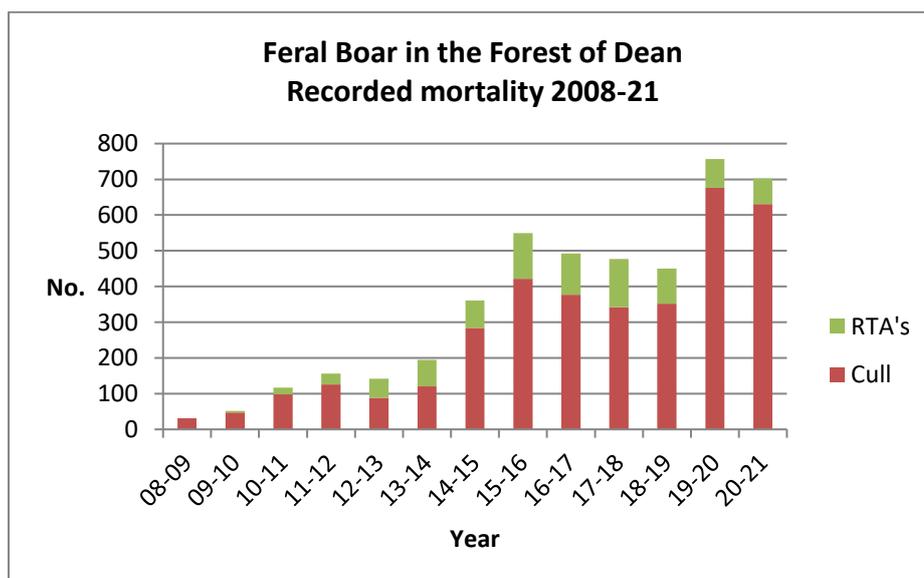


Figure 3. Numbers of feral boar RTAs recorded each year (vertical axis) in relation to estimated population density (Both variables expressed as numbers per km² of forest area; $r = 0.973$; $p < 0.01$)

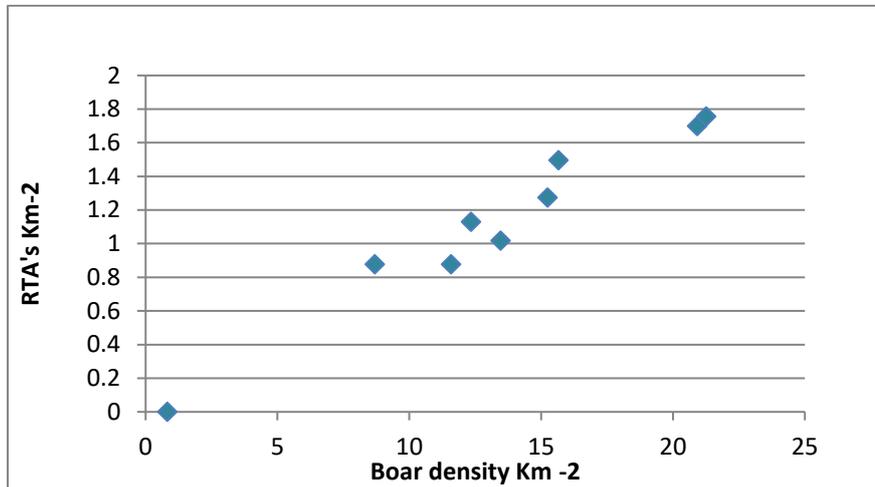
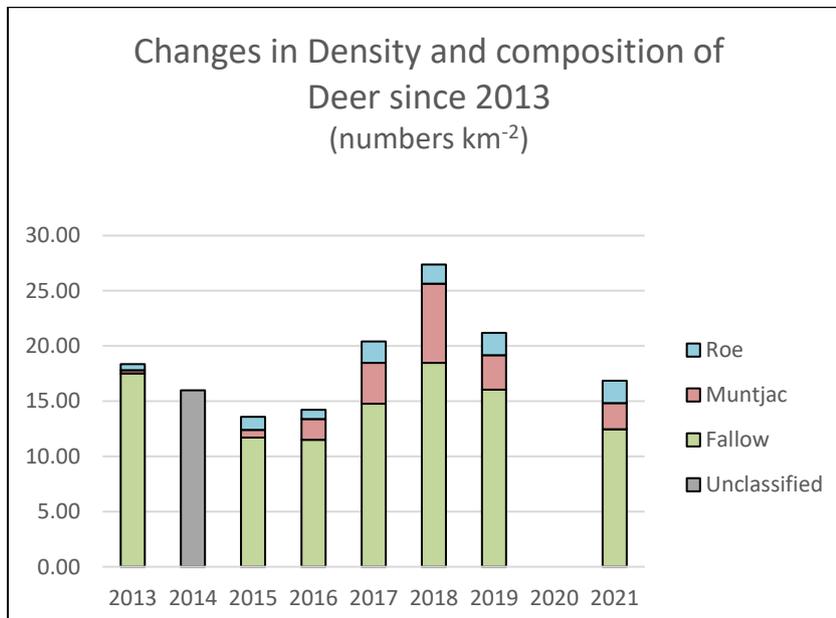


Figure 4. Changes in the density and composition of the deer population in the forest of Dean between 2000 and 2021.



References

- ¹Gill, R.M.A. and Waeber, K. (2019) *Feral Wild Boar and deer in the Forest of Dean. Population survey in the Public Forest Estate 2019*. Forest Research Report.
- ²Buckland, S.T. Anderson D.R. Burnham, K.P., Laake, J.L. Borchers, D.L. Thomas, L. (2001) *Introduction to Distance Sampling*. Oxford University Press, Oxford.
- ³ Focardi, S., Franzetti, B. Ronchi, F. (2013) Nocturnal distance sampling of a Mediterranean population of fallow deer is consistent with population projections Wildlife Research <http://dx.doi.org/10.1071/WR12218>
- ⁴ Franzetti, B., Ronchi, F., Marini, F., Scacco, M., Calmanti,R., Calabrese, A., Aragno,P., Montanaro,P., and Focardi,S.(2012). Nocturnal line-transect sampling of wild boar (*Sus scrofa*) in a Mediterranean forest: long-term comparison with capture–mark–re-sight population estimates. *European Journal of Wildlife Research* **58**, 385–402. doi:10.1007/s10344-0110587-x
- ⁵ Gill R.M.A, Thomas M.L., Stocker D. (1997) The use of portable thermal imaging for estimating deer population density in forest habitats. *Journal of Applied Ecology*, **34**(5), pp 1273-1286
- ⁶ Wäber K, Spencer J, Dolman PM (2013) Achieving landscape-scale deer management for biodiversity conservation: The need to consider sources and sinks. *The Journal of Wildlife Management*, **77**(4), pp 726-736

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