Forest Research

Wild Boar and Deer in the Forest of Dean

2014

The Research Agency of the
Forestry Commission

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Introduction and methods

In view of continuing concerns about the status of feral Wild Boar in the Forest of Dean, a thermal imaging survey was carried out to estimate numbers in the main block as well as some outlying areas. The survey was effectively a repetition of the survey carried out in 2013, with the exception of a few relatively minor changes in the areas surveyed.

The survey was carried out between 17 February-11 March 2014 and included all the main blocks and Highmeadow with the exception of Flaxley, Foundry and Cockshoot woods. A map of the areas surveyed is shown in fig 1.The total length of transects surveyed was 167.4km which covered an area of approximately 66.4 km^2. This represents a slight increase the 2013 survey, which covered an area of 61.6 km^2 from 166.6 km of transect.

The majority of observations were made with a FLIR Recon BF20 thermal imager, although a FLIR AWS thermal imager was also used on occasions. Population densities of Wild Boar and deer were estimated using distance sampling (Buckland *et al* 2001), and distances to each group of animals detected were estimated from apparent body size.

Results

In total 41 groups of wild boar and 178 groups of deer were observed. The distribution of all these observations is shown on in fig 2.

The densities were estimated at 12.3 (95% c.i. 7.6-19.9) boar km^{-2} and 16.0 (95%c.i. 12.6-20.4) deer km^{-2} across the survey area as a whole. These equate to estimated numbers of 819 boar and 1062 deer, which suggest an increase in wild boar and a slight reduction in deer since 2013 (535 boar and 1130 deer)

An analysis of numbers estimated for each block reflects substantial variation (Table 1), with densities ranging from 0 to 54.4 km^{-2}. Several blocks yielded no boar at all. It is clear that numbers in some particular blocks have changed substantially since 2013, which would be due, in part, to changes in local movements and habitat selection in addition to changes in population numbers.

Table 1. Areas sampled and numbers of wild boar estimated in the forest of Dean.

Block name		Area	Effort (m)	Trans	2014		2013	
					Density Boar Km^{-2}	**No.**	Density Boar Km^{-2}	No.
Sallowsvallet	A	4.6	11550	11	**3.9**	**18**	6.9	32
Blaize Bailey	B	2.4					14.7	34
Church Hill	C	1.1	4050	5	**11.1**	**13**	0.0	0
Blake's Wood	D	1.5	1900	1	**0**	**0**	0.0	0
Staple edge	E	1.0	3150	2	**14.3**	**14**	36.3	36
Flaxley	F	2.7					3.1	8
Blakeney Hill	G	1.5	4650	2	**0**	**0**	4.7	7
HighMeadow	H	12.0	25000	13	**25.2**	**303**	6.5	78
Birch Wood	I	0.6	2400	3	**0**	**0**	0.0	0
Haywood	J	3.3	7550	4	**5.9**	**20**	0.0	0
Kensley	K	3.7	10150	11	**54.4**	**201**	5.7	21
Lydbrook-Ruardean	L	3.1	4270	7	**0**	**0**		
Middleridge	M	7.8	25800	19	**5.7**	**44**	15.5	121
Nagshead	N	1.0	11400	9	**6.9**	**7**		
Oakenhill Wood	O	2.0	5800	6	**19.4**	**40**	0.0	0
Cockshoot	Q	3.4					0.0	0
Russell's	R	3.9	13900	12	**13.0**	**51**	11.7	46
Serridge-Crabtree	S	4.3	10900	9	**12.4**	**54**	16.0	69
Huntsham Hill	T	0.9	1900	1	**0**	**0**		
Parkend	U	1.9	5550	4	**2.0**	**4**	1.9	4
Kidnall	V	1.9	4800	3	**0**	**0**		
Lord's Wood	W	0.8	4300	3	**0**	**0**		
Lea Bailey	X	1.3	2262	3	**0**	**0**	29.0	39
Wigpool Common	Z	2.4	5450	4	**8.3**	**20**	0.0	0
Gt. Bourts	9	0.7	1475	2	**0**	**0**		

Figure 1. Distribution of Areas surveyed

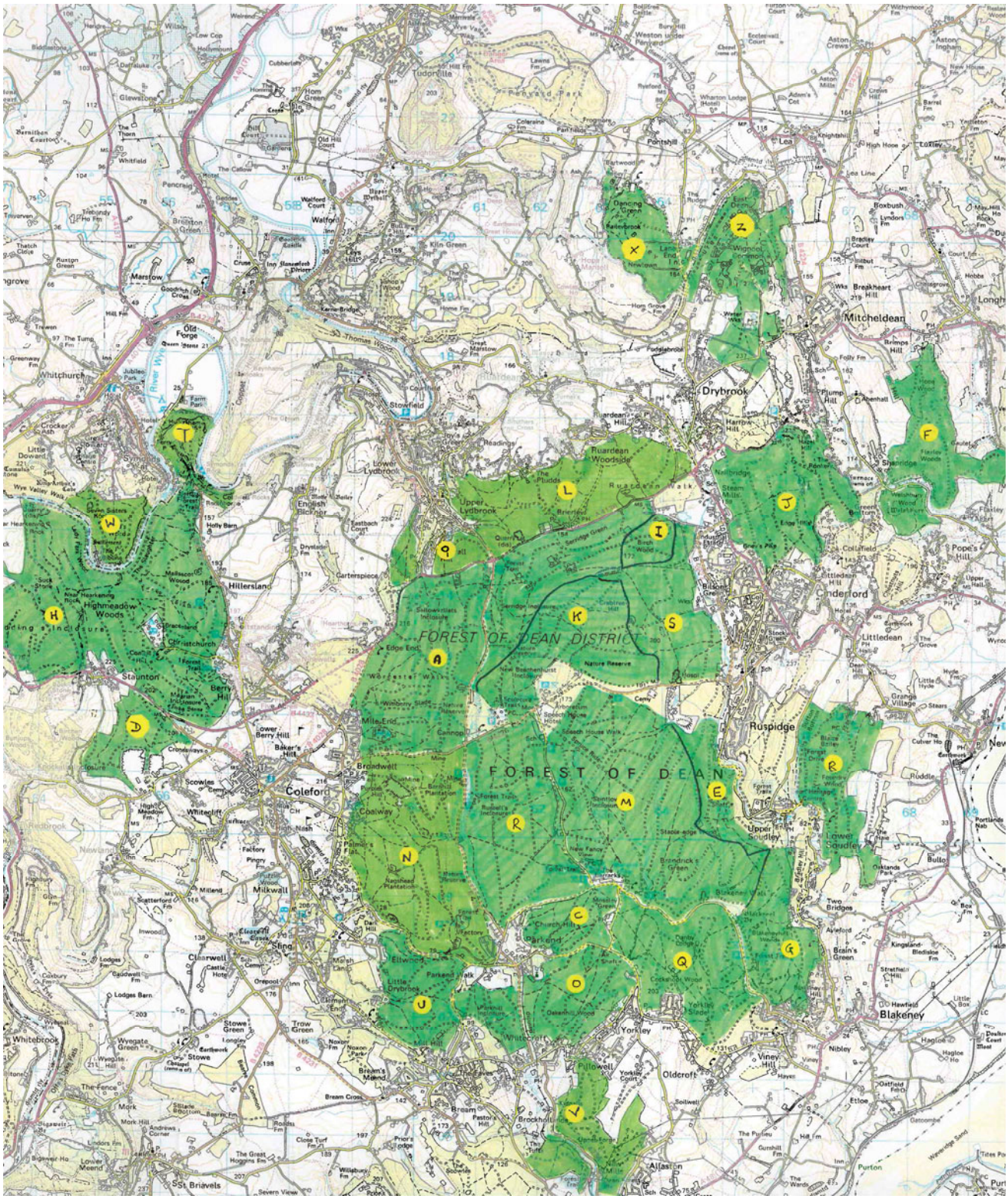


Figure 2. Distribution of groups of wild boar and deer encountered whilst surveying (red = wild boar; Green = Deer)

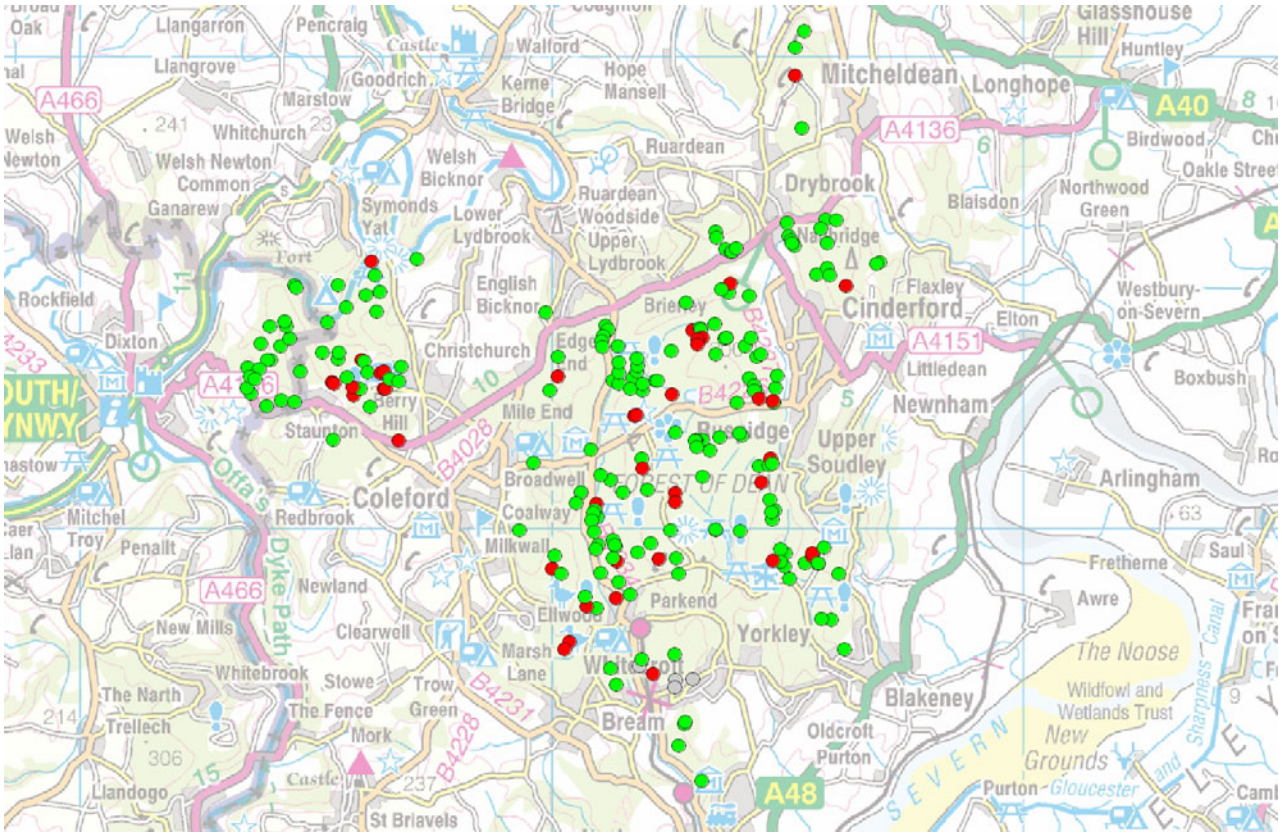
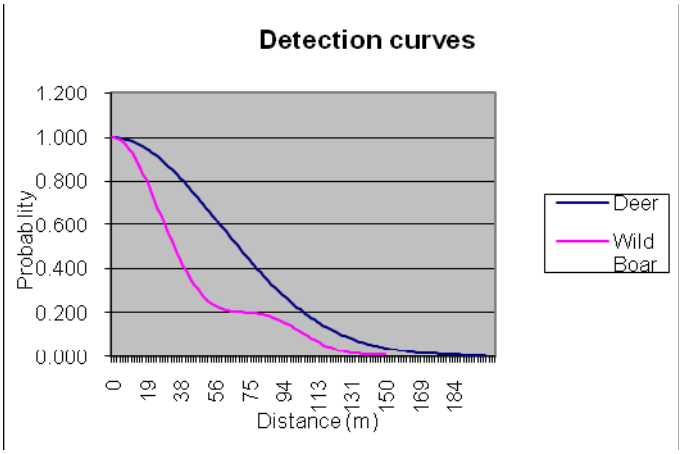


Figure 3.



Comments

The results indicate a further increase in feral wild boar since the previous survey in 2013. However, the numbers encountered in each block of woodland show a large variation, revealing a very clustered distribution of boar across the forest as a whole. This clustering has the effect of reducing the precision on the estimated density in the forest as a whole. The 2013 estimate is within the 95% confidence limits obtained from the 2014 survey, indicating that it is plausible (although still unlikely) there has been no change in numbers at all.

In spite of the increase in numbers, densities substantially higher have been recorded using similar methods in France and Italy. The cull that took place last year would have prevented an even greater increase occurring, and the potential for a much greater densities exists if sufficient culling pressure is not applied.

Reference

Buckland, 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.

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