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CHANGES IN AREAS OF PRIVATE WOODLANDS
IN THE COUNTIES OF LANCASHIRE AND SUFFOLK

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Introduction

Recent studies of losses of deciduous woodland in Suffolk and Essex (Ranson, 1971) have suggested that the area of deciduous woodland in these two counties has reached such a low level that special measures are now necessary to conserve the remaining woodlands. It is also suggested that an increased rate of loss of woodland has coincided with the widespread and extensive loss of hedgerows, scrub, ponds, grassland and marshland throughout the countryside and so has contributed to the rapid decline of many species of wildlife. Similar claims were made in a paper by Rackham, 1970, and the rate of destruction of woodland in Suffolk and north Essex estimated as more than 10 per cent per annum.

There is, however, some doubt about the accuracy of the estimates contained in these papers. One of the papers makes comparisons for a part of central Suffolk between areas of woodland in 1837, 1940, and 1971 and for a small part of Essex in 1838 and 1967. Not only is there the possibility that these samples give biased estimates, but the major losses may have been between the early 1800's and the end of the second World War, so that, while special measures to conserve remaining woodlands may be important, the major damage to wildlife conservation resulted from past rather than present agricultural practices and from the devastation of mature woodlands during the two World Wars. Claims for the urgency of ecological survey of the remaining woodlands in the counties of Essex and Suffolk also need to be balanced against the rates of loss of broadleaved woodland in other parts of Britain.

Detailed surveys of woodlands were carried out by the Forestry Commission in 1947-49 and in 1965-67. The census of woodlands in 1947 was a complete enumeration of all woodlands over five acres in extent, together with sample surveys of woodlands of one to five acres and hedgerows. The later census was based on a sample of kilometre squares, with a sampling intensity of approximately 15 per cent over Great Britain as a whole. The census reports (Forestry Commission, 1952, and Locke, 1970) contain summaries of the information collected in these two surveys, but additional tabulations of areas of private woodlands by counties have also been made available by the Forestry Commission.

The paper presents an analysis of the census data for the counties of Essex and Suffolk, together with a comparison of the areas of woodland in these two counties with the areas in East England and in England as a whole. The purpose of the paper is to examine the claim that losses of broadleaved woodland are more serious in the counties of Essex and Suffolk than elsewhere, and that priority should therefore be given to survey and enumeration of woodlands in these counties.

Private and Forestry Commission woodlands

No tabulations are available for Forestry Commission woodlands by counties, but Table 1 summarises the areas of the coniferous and broadleaved forest, coppice, and scrub, felled or devastated woodland in the East England conservancy of the Forestry Commission, i.e. the administrative unit containing the counties of Suffolk and Essex.

Table 1. Areas of woodland types in East England (acres)

Category	Private		Forestry Commission	
	1947	1965	1947	1965
Coniferous forest	33,400	56,100	47,500	79,300
Broadleaved forest	136,700	122,600	13,000	22,000
Coppice	50,500	4,700	400	0
Scrub, felled or devastated	93,500	103,700	8,200	5,500
Total woodland area	313,900	287,100	69,400	106,800

The total woodland area in East England increased from 383,300 acres in 1947 to 393,900 acres in 1965. Of these totals, the Forestry Commission owned 18.1 and 27.1 per cent of the total woodland respectively.

Table 2. Percentage increases or decreases in areas of main categories

Ownership	Percentage increase or decrease		Total
	Coniferous	Broadleaved, etc	
Private	68.0	-17.7	-8.5
Forestry Commission	66.9	27.3	53.9
Total	67.4	-14.5	2.8

The changes in these areas are probably most easily compared by expressing them as percentage increases or decreases over the areas of the various categories in 1947. Table 2 gives these percentages for coniferous forest, broadleaved forest, coppice, and scrub, felled and devastated woodland combined, and for the total woodland area. The pooling of the broadleaved forest, coppice and scrub areas avoids some of the possible difficulties of comparison due to changes of category between the two censuses - many areas classified as coppice in 1947 have almost certainly been classified as scrub, or even broadleaved forest, in 1965, as a result of the decline in methods of coppice management. The areas of felled and devastated woodland are relatively small, and are not likely to affect the comparisons significantly.

Thus, while the total woodland area in East England has only increased by 2.8 per cent, the area of coniferous woodland has increased by 67.4 per cent and the area of broadleaved woodland, scrub, coppice, etc., has decreased by 14.5 per cent. Rather surprisingly, there is no significant difference between the percentage increases of coniferous forest for private woodlands and Forestry Commission woodlands, but, while Forestry Commission areas of broadleaved categories increased by 27.3 per cent, the areas of the same categories on private woodlands decreased by 17.7 per cent. Overall, Forestry Commission woodlands increased by 53.9 per cent in contrast to the reduction of 8.5 per cent in private woodlands. Detailed figures are not available for individual counties, but these preliminary calculations suggest that further analysis can reasonably be confined to private woodland areas. Not only has the Forestry Commission increased its area of total woodlands, it has increased the area of broadleaved categories of woodland within its ownership. Significant losses of woodland areas are therefore more likely to occur in areas under private ownership.

Areas of private woodlands in main categories

The areas of private woodlands over one acre in the main categories distinguished by the censuses are given for the counties of Essex and Suffolk in Table 3, together with the corresponding areas for East England and for England as a whole. Again, comparison of these areas is facilitated by expressing the increases or decreases in area of the various categories as percentages of the areas in 1947, and these percentage changes are given in Table 4.

The total area of private woodlands in Essex decreased from 34,800 acres to 30,700 acres in 1965, a reduction of 11.8 per cent, while, in Suffolk, the total area increased from 38,000 acres to 40,700 acres, an increase of 7.1 per cent. The percentage loss for the two counties combined, i.e. 1.9 per cent, is significantly less than the percentage loss for East England or for England as a whole. Clearly, however, the loss of woodland in Essex is rather worse than in East England or England as a whole, while the total woodland area actually increased in Suffolk.

The percentage increase in coniferous woodland in Essex and Suffolk combined is smaller than the percentage increases of similar woodland in East England or England as a whole. Essex doubled its area of coniferous woodland from 1,000 acres to 2,000 acres, and Suffolk increased its area of the same category from 6,200 acres to 8,100 acres. There does not appear to have been any dramatic conversion of broadleaved woodland to conifers, in these two counties at any rate, between 1947 and 1965.

The areas of broadleaved woodland, coppice and scrub show some fairly remarkable changes between the two censuses, and the apparent losses of coppice woodland are particularly notable. In both counties, however, the areas of scrub woodland have also increased, and it seems fairly certain that coppice areas have now been classified as scrub as a result of the discontinuation of regular cutting under methods of coppice management. For this reason, and because coppice areas may also have been converted to broadleaved forest by singling and other silvicultural practices, it seems preferable to consider the areas of broadleaved forest, coppice and scrub in a combined category.

In Essex, the area of this combined category dropped from 29,700 acres in 1947 to 28,600 acres in 1965, a reduction of 3.7 per cent. In Suffolk, the area of the same category increased from 26,700 acres to 32,100 acres, an increase of 20.2 per cent. For the two counties combined, there was an increase of 7.6 per cent as compared with a decrease of 1.4 per cent for East England and an increase of 1.7 per cent for England as a whole. Losses for Essex have therefore been slightly worse than for East England or England, while the area of this combined category has actually increased in Suffolk.

Changes in coniferous and broadleaved forest by age classes

Details of the areas of private woodland falling within the categories of coniferous and broadleaved high forest by age classes have been derived from tabulations made available by the Forestry Commission. These areas are summarised for coniferous and broadleaved forest in Tables 5 and 6 respectively.

In Essex, 1,460 acres of conifer plantations have been created since the last census. Set against a loss of 110 acres of crops planted between 1920 and 1941, and a loss of 340 acres of mature or uneven-aged conifer forest, this represents a net gain of approximately 1,000 acres. In Suffolk, 4,000 acres of conifer plantations have been created since 1950, set against the rather higher losses of 570 acres and 1,570 acres for crops planted between 1911 and 1950 and for mature and uneven-aged crops respectively - a net gain of 1,860 acres.

Table 3.**Areas of private woodlands in main categories**

	Area of private woodlands over 1 acre in extent (acres)								Total woodland area	
	Coniferous		Broadleaved		Coppice		Scrub		1947	1965
	1947	1965	1947	1965	1947	1965	1947	1965		
Essex	1,000	2,000	14,400	10,400	4,800	1,900	10,500	16,300	34,800	30,700
Suffolk	6,200	8,100	11,300	16,400	12,900	1,400	2,500	14,300	38,000	40,700
Combined	7,200	10,100	25,700	26,800	17,700	3,300	13,000	30,600	72,800	71,400
East England	33,400	56,100	136,700	122,600	50,500	4,700	42,300	99,100	313,900	287,100
England	209,400	381,100	631,500	596,700	338,400	70,500	206,400	529,400	1,695,500	1,609,600

Table 4.

Percentage increases or decreases in areas of private woodlands over 1 acre

	Percentage increase or decrease (1947 area = 100)					Broadleaved, coppice & scrub	Total woodlands
	Coniferous	Broadleaved	Coppice	Scrub			
Essex	100.0	-27.8	-60.4	55.2	-3.7	-11.8	
Suffolk	30.6	45.1	-89.1	472.0	20.2	7.1	
Combined	40.3	4.3	-81.4	135.4	7.6	-1.9	
East England	68.0	-10.3	-90.7	134.3	-1.4	-8.5	
England	82.0	-5.5	-79.2	156.5	1.7	-5.1	

Table 5. Coniferous forest by age classes (private woodlands only)

Year of planting	Essex		Area in acres		Suffolk		Losses or gains
	1947	1965	Losses or gains	1947	1965	Losses or gains	
1961-1965	-	800	+1460	-	2360	+4000	
1951-1960	-	660		-	1640		
1941-1950	130	130	-110	850	340	-570	
1931-1940	220	120		620	1250		
1921-1930	180	170		700	430		
1911-1920	120	120		800	380		
Before 1911 and uneven-aged	350	10	-340	3230	1660	-1570	
Total	1000	2010	+1010	6200	8060	+1860	

In Essex and Suffolk, 920 acres and 2,810 acres, respectively, of new plantations of broadleaved forest have been created since 1950, and both counties have also shown an increase in the area of broadleaved high forest regenerated since 1911, presumably by reclassification of areas formerly shown as coppice with standards, coppice or scrub. The main contrast between the two counties is in the changes that have taken place in areas of mature and uneven-aged broadleaved forest. In Essex, there has been a loss of 6,440 acres of woodlands in this category, while in Suffolk there has been a gain of 940 acres, again presumably because of reclassification of areas formerly regarded as coppice with standards or scrub.

These changes have resulted in a net loss of 4,000 acres of broadleaved forest in Essex and a net gain of approximately 5,100 acres of broadleaved forest in Suffolk.

Table 6. Broadleaved forest by age classes (private woodland only)

Year of planting	Essex		Area in acres		Suffolk		Losses or gains
	1947	1965	Losses or gains	1947	1965	Losses or gains	
1961-1965	-	380	+920	-	1570	+2810	
1951-1960	-	540		-	1240		
1941-1950	120	140	+1520	120	240	+1350	
1931-1940	100	340		280	450		
1921-1930	270	140		410	340		
1911-1920	410	1800		740	1870		
Before 1911 and uneven-aged	13490	7050	-6440	9750	10690	+940	
Total	14390	10390	-4000	11300	16400	+5100	

Changes in coppice and scrub by major species

No classification by age classes is possible for the areas of coppice and scrub recorded in the two censuses. Tabulations of these categories by species are, however, available, and Tables 7 and 8 give the areas of coppice and scrub for hazel, oak, and other species. In Essex, there was a marked decline in the area of coppice, this system of management being abandoned and the woodlands being reclassified as scrub in the 1965 census. There were losses of 200 acres and 90 acres for the hazel and oak respectively if the categories of coppice and scrub are combined. There was a gain of 3,190 acres of coppice and scrub of other species, presumably from the uneven-aged category of broadleaved forest, or perhaps from regrowth on devastated woodland.

In Suffolk, the decline of the coppice has been even more dramatic, with losses of 1,080 acres and 250 acres of hazel and oak respectively for the categories of coppice and scrub combined. The gain in the combined category for other species was rather smaller than in Essex, i.e. 1,680 acres.

Table 7. Changes in areas of coppice and scrub: Essex (private woodland only)

Species	1947		Area in acres		1965		Losses or gains
	Coppice	Scrub	Total	Coppice	Scrub	Total	
Hazel	1040	2070	3110	120	2790	2910	-200
Oak	0	580	580	0	490	490	-90
Other species	3760	7860	11620	1790	13020	14810	+3190
Total	4800	10510	15310	1910	16300	18210	+2900

Table 8. Changes in areas of coppice and scrub: Suffolk (private woodland only)

Species	1947		Area in acres		1965		Losses or gains
	Coppice	Scrub	Total	Coppice	Scrub	Total	
Hazel	5530	330	5860	1310	3470	4780	-1080
Oak	20	420	440	0	190	190	-250
Other species	7360	1750	9110	100	10690	10790	+1680
Total	12910	2500	15410	1410	14350	15760	+350

Areas of woodland devastated and felled

The areas of woodland classified as devastated or felled at the two censuses are shown in Table 9. In 1947, more than 4,000 acres were recorded as devastated or felled in Essex, 3,250 acres of this area being shown as devastated. In Suffolk, 5,100 acres were shown as felled or devastated in 1947, but, in contrast to Essex, only 1,620 acres of this area were classified as devastated. In the 1965 census, the areas recorded as felled were considerably smaller, i.e. 110 acres and 510 acres in Essex and Suffolk, respectively.

The overall effects of the changes in areas described in this paper were a reduction of approximately 4,000 acres in total woodland area in Essex, and an increase of approximately 2,700 acres in total woodland area in Suffolk.

Conclusions and discussion

In East England as a whole, there has been an increase in the total area of woodland of approximately 10,600 acres, together with an increase in the proportion of this total area held by the Forestry Commission. The rate of increase of coniferous woodland was almost the same for private woodlands and Forestry Commission woodlands between 1947 and 1965. The area of broadleaved woodland, coppice and scrub held by the Forestry Commission is relatively small, but has, if anything, increased between the two censuses. Significant losses of woodland areas are therefore more likely to have occurred under private ownership than under Forestry Commission ownership.

Table 9. Areas of woodland devastated and felled (private woodland only)

Category	Area in acres	
	Essex	Suffolk
Devastated at 1947 census	3250	1620
Felled, before 1939	10	350
Felled, 1939-1947	840	3130
Felled, before 1963	0	170
Felled, 1963-1965	110	340

Considering the area of private woodlands alone, Essex and Suffolk have shown significantly different trends between the two periods for which there are reliable data. In Essex, the total woodland area has decreased significantly more rapidly than in East England or in England as a whole, while the total woodland area in Suffolk has increased by approximately 7 per cent. In both counties, there has been an increase in coniferous woodland, but little evidence of any dramatic conversion of broadleaved woodland, coppice, or scrub to conifers. The most striking change has been the conversion of woodlands formerly managed under coppice systems to broadleaved woodland or scrub. In Essex, this change has been associated with a loss in the total area of broadleaved woodland, coppice, and scrub, but in Suffolk there has been an increase in the area of this combined category.

The data from the detailed surveys of woodlands carried out in 1947 and in 1965 therefore suggest that the major losses in woodland since the early 1800's took place largely as a result of the two major World Wars, and that losses in total woodland have not been particularly great in either Essex or Suffolk since 1947. The losses are certainly greater in Essex than in Suffolk, but there is little evidence that there has been wholesale conversion of broadleaved woodland, coppice, and scrub to conifers, or extensive clearance of woodlands over one acre in extent.

It may be, however, that there have been extensive losses of very small woodlands, less than one acre in extent, or of hedgerows. There is also the possibility that losses recorded between the two censuses have been concentrated in particular parts of the counties, although there is little evidence from the detailed tabulations available of wholesale clearances being compensated by new plantations of either conifers or broadleaved species in other parts of the counties. Certainly, the claims that losses of woodland in Essex and Suffolk have reached the level of 10 per cent per annum are grossly exaggerated, unless

these claims refer to a woodland type of very restricted definition. Some emphasis has been given to "primary" woodland in these claims, referring to woodland which has existed within the time of recorded history, but, again, there is little evidence from the tabulations for individual woods, which, under the agreements made by the Forestry Commission with private woodland owners for the census, must remain confidential, that there have been any significant losses of this category of woodland between 1947 and 1965. It is, of course, possible that changes in land management since 1965 have precipitated the felling of woodland in Essex and Suffolk, and that these changes would not be shown by a comparison of the results from the two censuses of woodlands carried out by the Forestry Commission.

In conclusion, therefore, there must be some reservation about the validity of the claims that the losses of woodlands in Essex and Suffolk are sufficiently serious to give these counties high priority in research and conservation of woodlands and the wildlife associated with woodlands. The losses of broadleaved woodland in Essex since 1947 are slightly, if significantly, worse than in East England or England as a whole, while there have been gains in the areas of this category of woodland in Suffolk. It would be relatively easy to show that there are other areas where the losses of total woodland and the changes in the types of woodland have been very much more rapid.

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