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**Changes in hedgerows in
Wales between 1984 and
1990**

C J Barr and D C Howard

**Merlewood Research Station
Grange-over-Sands
Cumbria LA11 6JU**

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CHANGES IN HEDGEROWS IN WALES BETWEEN 1984 AND 1990

A report to the Countryside Council for Wales

Colin Barr & David Howard
(Institute of Terrestrial Ecology, Merlewood Research Station)

Introduction

1. This report summarises the results of an analysis of change in the lengths and characteristics of hedgerows in Wales, based on data collected during 'Countryside Survey 1990' (Barr, 1990).
2. The primary purpose of the report is to present data on change, and to provide descriptions of the methods used to obtain them. Discussion of results, and especially their relevance to countryside policy matters, is minimal although a short comment section is included to cover research and methodological aspects.

Background

3. In 1977 and 1978, the Institute of Terrestrial Ecology (ITE) carried out an ecological survey of Great Britain (GB) (Bunce, 1979). The primary purpose was to collect information on vegetation and soils, and the survey used a sampling approach based on the ITE Land Classification (Bunce et al., 1983). A secondary activity was the collection of land cover and landscape feature information from each of the 256 1km sample squares (of which 24 were in Wales). This included the mapping of "hedges" as a field boundary type.
4. In 1984, ITE completed a repeat survey of the 256 1km squares and also surveyed a further 128 squares (of which 10 were in Wales), increasing the sample number to 384. The survey was designed to answer questions on land use issues and so concentrated on land cover and landscape feature mapping, rather than data collection at the detailed quadrat level of the previous survey. Records on hedgerows were made using combinations of attributes to describe each boundary length (Annex A). The field methodology was identical to that described below, and is given in Barr et al. (1985).
5. Information collected on hedgerows in the 1977/8 survey was not sufficiently detailed to make conclusions about subsequent changes in the condition or management of hedges. However, by comparison with the 1984 data, it was possible to identify those boundaries which had been classified as hedges and which had been established, or removed, between the two survey dates. Using the results from the sample squares, estimates were derived for GB and for major regions within it. These are described in Barr et al. (1986) and may be summarised as follows:

	Hedgerow gain	Hedgerow loss
England	3,200 km	22,300 km
Scotland	<100 km	3,300 km
Wales	400 km	2,600 km
Great Britain	3,600 km	28,200 km

6. In 1990, DOE and NERC, with support from the Nature Conservancy Council, funded a further field survey of GB, carried out by ITE (Barr, 1990). The sample number was again increased, resulting in 508 rural squares being visited (of which 49 were in Wales), with an additional 25 urban squares being surveyed as part of a separate study. The field survey was part of a larger project, called 'Countryside Survey 1990' which also contributed to work being undertaken at ITE Monks Wood (co-funded by DTI and RSNC) to produce a land cover map of GB from satellite imagery. Surveys of soils and freshwater biota in the ITE squares were also included in the work programme. As part of the field survey, hedgerows were mapped in an identical way to methods used in the 1984 survey.
7. The handling of data recorded during 1990, and subsequent analysis, is planned to be completed during 1992. However, given the political interest in countryside matters, and particularly in hedgerows, analysis of the hedgerow data was brought forward and results were reported to DOE in October 1991 (Barr et al., 1991).
8. The additional work presented here was commissioned by CCW in February 1992 and this report gives details of lengths and changes in hedgerows in the Welsh counties. All statistics have been computed directly from ITE databases and any differences between figures presented here and those featured in earlier reports are due to rounding errors.

Methods

9. A full description of the field survey methods is given in a Field Handbook (available by arrangement through ITE). The methods follow closely those used in the 1984 ITE survey. The following paragraphs summarise only those methods which are relevant to this report.
10. In summary, ITE surveyed the 384 1km squares which had first been visited in 1984, and mapped boundary features. Each length of boundary was mapped using OS 1:10,000 scale maps enlarged to about 1:7,000, and described using a combination of codes as shown in Appendix A. This boundary information was mapped on a separate page from other field data, as shown in Figure 1.
11. Boundaries were mapped and coded as 'single lines' on the map, even though there may have been several different elements associated with each (eg a hedge and a fence on top of a stone bank). For adjacent lines to be mapped individually, then a clear gap between all elements of the two boundaries had to be identified.
12. The length of each boundary, or boundary segment, was determined by the constancy of a combination of codes, along the length; where any one description differed, then a new length was demarcated and a new combination of codes was used. The minimum length of boundary to be described was 20 metres and the ends of each length were marked using 'tic' marks at right angles to the mapped feature. The same coded descriptions were used in both 1984 and 1990 except that additional codes for 'regrowth from stumps' and, on another page of the recording booklet, 'line of shrub', were introduced in 1990.
13. To assist in field mapping, limited aerial photographic interpretation was carried out for each square. Using photographs of various dates, but all taken since the 1984 survey, boundaries that were no longer present, and those that were new to the map, were marked on a 'master map' which was used as a base for field recording.

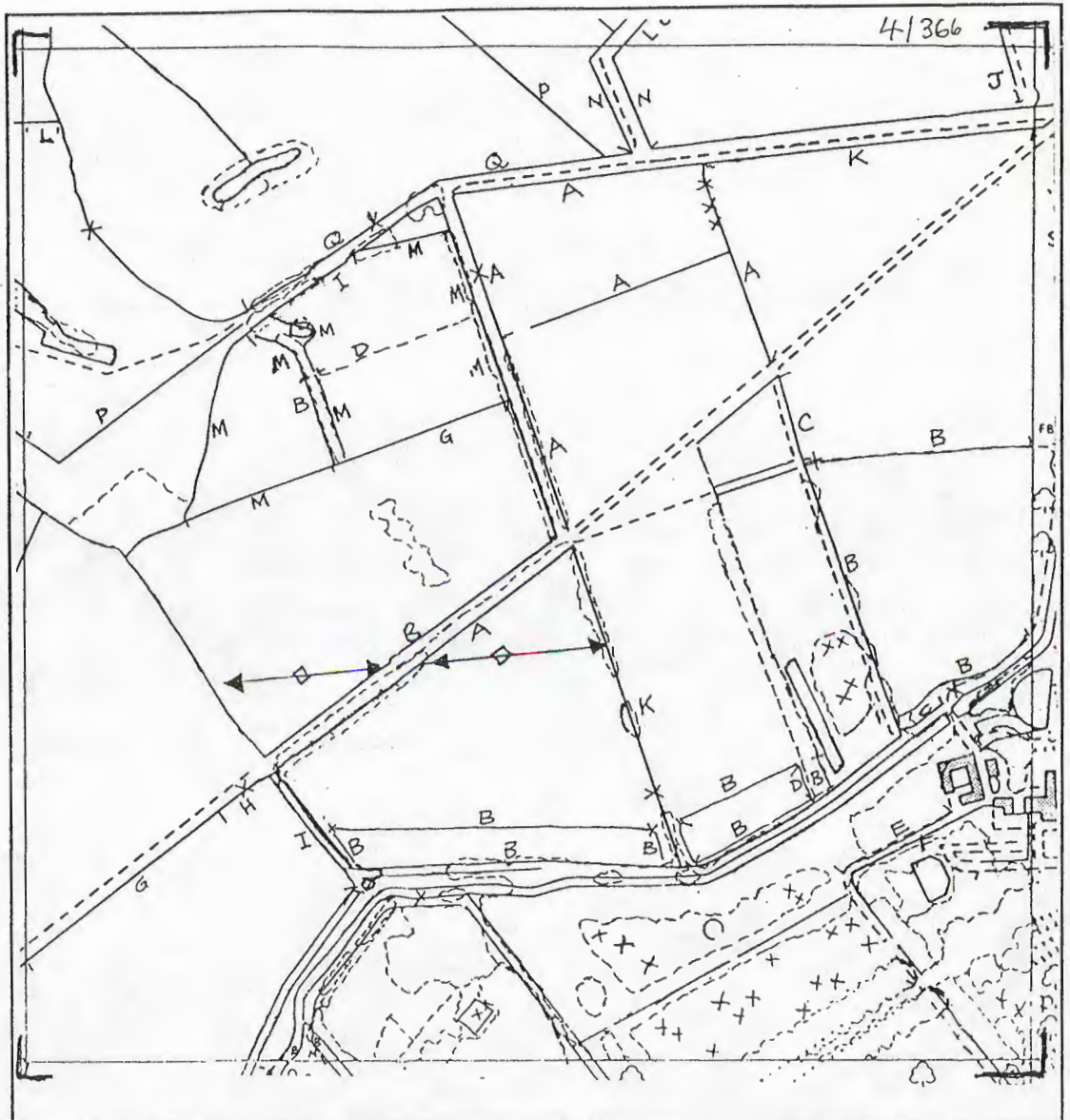
Figure 1. Example of completed 'Boundaries page' from ITE field survey booklet

Boundaries

Square : 4/366

Extra codes :

- 322 PRUN SPIN
- 324 TAXA BACC
- 325 FAGUSYLV
- 326 SAMB NIGR
- 327 ACER CAMP



A	321	341	352	357			B	313	342	351		C	321	342	351	357		
D	999					F	325	341	351	357								
E	322	324	342	351	357													
G	321	341	352	358			H	322	341	351	358							
I	321	341	352	358	359							J	333					
K	323	341	352	357			L	326	341	352	358							
M	311	342	351			N	327	342	352	358	360		P	323	341	352	358	360
Q	323	341	352	358	359				R	321	341	360	352					

Boundaries

14. Boundaries of land associated with buildings (curtilage) were not mapped in detail. Boundaries within woodland were not mapped.

Definitions

15. A **boundary** in this context is defined as a physical barrier, having a height and width, usually intended to prevent farm stock from moving from one area to another. A **hedge** is a boundary, or part of a boundary, which comprises a row of bushes or low trees growing closely together, and which have been managed through cutting to maintain a more or less dense, linear barrier. **Hedgerow** is used synonymously with hedge, although more strictly it should be used as a broader term, encompassing other features associated with hedges, such as trees and gates etc (Hooper, 1968). Only hedgerows occurring in rural situations are considered in this report.
16. It can be difficult to distinguish between unmanaged hedgerows and lines of trees. When hedge management is abandoned, and the natural shape of the tree is regained, then the feature can no longer be described as a hedge and is likely to be coded as a line of trees (on the trees/woodland/forestry page of the recording booklet).
17. The codes used in describing hedgerows are given in Annex A. The following definitions of each feature are based on those given in the field handbook but may have been supplemented with additional information resulting from a consensus agreement of the use, or limitations to use, of the code during the 1990 field survey.
321. **>50% Hawthorn:** used where Hawthorn constitutes more than half of the length of hedge under consideration.
322. **>50% Other:** used where a species other than Hawthorn constitutes more than half of the hedge, the species being recorded.
323. **Mixed hedge:** used for any length of hedge where no single species dominates.
341. **>2m high:** the height codes apply to the height of the hedge at the time of survey. If different heights apply on either side of the boundary, then the code should refer to the side on which stock are kept; otherwise, the lowest height should be coded.
342. **<2m high:**
343. **<1m high:**
351. **Stockproof:** applies to the stock that would normally use the surrounding fields; if type of stock not clear, then assumed to be sheep.
352. **Not stockproof:**
353. **Filled gaps <10%:** used to show that the boundary has had gaps which have been filled in an attempt to make it stockproof (eg by short lengths of wooden fence). The percentage of gaps is of the boundary unit being coded.

354. **Filled gaps >10%:**
355. **Signs of replacement:** used where there is evidence that one boundary type has been replaced by another (eg fence replacing hedge).
356. **Signs of removal:** used where there is clear evidence of boundary removal, eg grubbed-out hedge.
357. **Trimmed:** signs of management within the previous 12-24 months and a neat, cropped appearance.
358. **Uncut:** has had recent management but has been 'let go' over more than two seasons.
359. **Derelict:** still obviously a hedge but all attempts at management have been abandoned.
360. **Line of relict hedge:** usually a line of trees or shrubs showing where a hedge has once been (see definition of hedge; can be used in addition to codes on the forestry page).
361. **Laying (recent):** to be used if it appears likely that the hedge has been laid in the last five years.
362. **Flailing:** to be used if flailed in the last year; recognisable by smashed and shattered ends to cut branches.
363. **Regrowth from stumps:** this applies to hedges that have been cut to ground level but have grown again, often at intervals along the old boundary.

Data entry and analysis

18. All mapped linework was digitised using ARC/Info GIS software. To ensure spatial integrity, the 1990 data were digitised and labelled first, and then each coverage was copied, edited, and re-labelled with 1984 information. This minimised technical differences such as boundary mis-matches and overlaps during overlaying (Howard & Barr, 1991).
19. All data codes were punched twice, cross-checked, edited and a single version entered into an Oracle Database Management System which could be integrated with the digitised data.
20. The 1990 coverages were compared with those from 1984 using modified ARC overlaying procedures. Analysis was carried out on all boundaries to which a hedge code had been ascribed (except for relict hedges which were treated as a separate boundary type) even though other boundary features, such as walls and fences, may have contributed to the boundary (see paragraph 11 above).

Results

21. The results of the comparisons of boundaries which contained a hedge component in 1984 and/or in 1990 are given in Table 1, by county.

Table 1. Estimates of net change in hedgerow lengths in the Welsh counties between 1984 and 1990 (lengths and Standard Errors (\pm) in '000 km)

	Clwyd	Dyfed	Glamorgans	Gwent	Gwynedd	Powys	WALES
Total hedge length in 1984	7.73 [± 1.03]	24.59 [± 2.67]	8.26 [± 0.93]	5.33 [± 0.78]	12.18 [± 0.61]	13.71 [± 3.12]	71.80
Total hedge length in 1990	5.69 [± 0.79]	17.75 [± 2.45]	6.53 [± 0.99]	4.42 [± 0.69]	9.05 [± 1.36]	10.23 [± 2.40]	53.67
Net change between 1984 and 1990	2.04 [± 0.50]	6.84 [± 1.61]	1.73 [± 0.39]	0.91 [± 0.20]	3.13 [± 0.65]	3.48 [± 1.06]	18.13

22. Table 1 shows that the net change between 1984 and 1990 amounts to just over one quarter (25.3%) of the length of 1984 boundaries which contained hedges (a slightly higher figure than for GB as a whole - 22.0%). County estimates of change vary from 17.1% (Gwent) to 27.8% (Dyfed). However, the net change is a balance of gains and losses, and details of these are presented in Table 2. (Estimates for Wales in total are derived separately from estimates for each county).

Table 2. Estimates of hedgerow gains and losses in the Welsh counties between 1984 and 1990 (lengths and Standard Errors (\pm) in '000 km)

	Clwyd	Dyfed	Glamorgans	Gwent	Gwynedd	Powys	WALES
a) 1990 hedges gained							
New Hedges	0.38 [± 0.07]	1.13 [± 0.22]	0.44 [± 0.12]	0.24 [± 0.05]	0.60 [± 0.12]	0.65 [± 0.22]	3.44
Change in boundary type	0.01 [± 0.14]	0.94 [± 0.42]	0.81 [± 0.09]	0.24 [± 0.05]	0.69 [± 0.15]	0.45 [± 0.16]	3.14
Buildings/curtilage	0.03 [± 0.01]	0.09 [± 0.03]	0.05 [± 0.02]	0.03 [± 0.01]	0.05 [± 0.02]	0.04 [± 0.02]	0.29
TOTAL GAIN	0.42	2.16	1.30	0.51	1.34	1.14	6.87
b) 1984 hedges lost							
Hedges removed	0.78 [± 0.12]	2.22 [± 0.37]	0.78 [± 0.19]	0.50 [± 0.08]	1.16 [± 0.21]	1.30 [± 0.38]	6.74
Change in boundary type	1.47 [± 0.30]	6.14 [± 1.30]	2.09 [± 0.42]	0.83 [± 0.12]	3.08 [± 0.54]	3.19 [± 0.77]	16.80
Curtilage	0.21 [± 0.09]	0.64 [± 0.28]	0.16 [± 0.06]	0.09 [± 0.02]	0.23 [± 0.08]	0.13 [± 0.05]	1.46
TOTAL LOSS	2.46	9.00	3.03	1.42	4.47	4.62	25.00

23. Table 2 gives estimates of the lengths of hedges that have been planted as well as those that have been removed. In addition, some boundaries have changed in their nature and appearance leading to increases and decreases in boundaries that can be defined as hedgerows. For example, lines of immature trees that have been thinned out and then laid as hedges, will lead to an increase in the estimate of hedgerow length. Conversely, where a former hedge has been unmanaged over a number of years, it will grow into a line of trees (a relict hedge). Other examples of change in boundary type include where a hedge has become "gappy" and has been recorded as a line of shrubs, and not a hedge, and where vegetation growing on the top of a bank has been cut in such a way that a hedge is formed.
24. Also shown in Table 2 are the lengths of hedgerow that have been lost to the countryside by the development of buildings (both urban and agricultural), including those that have become 'curtilage' boundaries and are no longer defined as hedges for the purpose of this study. In some cases, where there has been a change in land use, some boundaries have been re-defined as part of the countryside and so have led to a hedgerow gain.
25. Boundaries that were recorded as hedges for the first time in 1990 (other than those resulting from change in boundary type) totalled 3,440 km. Complete removal of hedgerows between the two dates amounted to 6,740 km, or 9.4% of the total 1984 hedgerow length (almost identical to the GB figure of 9.5%). This report does not consider in any detail how or why these hedgerows have been removed, or whether the loss is balanced by new planting.
26. Close inspection of the results shows that most change is associated with management of hedgerows. About 16,800 km, or 23% of the 1984 hedgerows in Wales were coded in 1990 as a different type of boundary such as lines of trees or shrubs, or as relict hedgerows (as compared with 20% for GB). Conversely, only some 3,140 km of 'new' hedges in 1990 came from the re-definition of boundary types (see paragraph 23 above). This suggests that hedgerows were subject to less active management in 1990 than in 1984. Details of the physical characteristics of hedgerows are given in Table 3.
27. Data in Table 3 present a confusing picture for Wales as a whole; there appears to have been a proportional increase between 1984 and 1990 in the lengths of hedgerows in the middle height category (from 44% to 54%) and a corresponding reduction in the tallest category (from 53% to 45%). This suggests that although there appears to be a reduction in hedge management leading to an overall loss of hedgerow (see para 26), those hedges that remain have been actively managed. This is supported by the proportional increase in the lengths of trimmed (from 49% to 54%) and uncut (from 32% to 37%) categories at the expense of derelict hedgerows (from 19% to 10%). However, a different story emerges from consideration of the "gappiness" category where there is a considerable increase in the lengths of "not-stockproof" boundary (from 17% to 24%). As will be discussed later, these estimates are based on a relatively small sample number and, at best, can only serve as a guide to what has happened in Wales.
28. No detailed attempt has been made to interpret change statistics in each of the Welsh counties. Some differences are apparent (eg the length of trimmed hedge has increased proportionally in Powys between 1984 and

Table 3. Estimates of hedgerow characteristics in the Welsh counties for 1984 and 1990 (lengths and Standard Errors (\pm) in '000 km)

HEIGHT CATEGORIES	Clwyd	Dyfed	Glamorgans	Gwent	Gwynedd	Powys	WALES	
<1 metre	1984	0.29	0.63	0.10	0.10	0.26	0.29	1.67
		[± 0.11]	[± 0.33]	[± 0.03]	[± 0.03]	[± 0.10]	[± 0.10]	
- 1990		0.15	0.25	0.05	0.03	0.14	0.05	0.67
		[± 0.06]	[± 0.15]	[± 0.02]	[± 0.01]	[± 0.05]	[± 0.03]	
1-2 metres	1984	3.97	9.99	3.43	2.84	5.30	6.42	31.95
		[± 0.57]	[± 1.15]	[± 0.41]	[± 0.57]	[± 0.82]	[± 1.65]	
- 1990		3.62	9.30	3.10	2.55	4.85	5.59	29.01
		[± 0.55]	[± 1.72]	[± 0.61]	[± 0.53]	[± 0.87]	[± 1.40]	
>2 metres	1984	3.47	13.95	4.72	2.39	6.61	7.00	38.14
		[± 0.62]	[± 2.16]	[± 0.71]	[± 0.39]	[± 1.04]	[± 1.80]	
- 1990		1.92	8.20	3.38	1.84	4.06	4.59	23.99
		[± 0.44]	[± 1.35]	[± 0.57]	[± 0.33]	[± 0.80]	[± 1.55]	
MANAGEMENT								
Trimmed	1984	4.18	11.33	3.89	3.10	5.83	6.94	35.27
		[± 0.61]	[± 1.68]	[± 0.62]	[± 0.60]	[± 0.95]	[± 1.72]	
- 1990		3.37	9.12	3.00	2.23	4.85	6.15	28.72
		[± 0.57]	[± 1.79]	[± 0.68]	[± 0.46]	[± 1.00]	[± 1.80]	
Uncut	1984	1.89	8.12	3.29	1.75	3.96	3.66	22.67
		[± 0.32]	[± 1.02]	[± 0.38]	[± 0.26]	[± 0.57]	[± 1.02]	
- 1990		1.75	7.06	2.94	1.82	3.30	2.72	19.59
		[± 0.32]	[± 1.01]	[± 0.48]	[± 0.46]	[± 0.51]	[± 0.77]	
Derelict	1984	1.69	5.12	1.07	0.47	2.38	3.11	13.84
		[± 0.49]	[± 1.55]	[± 0.31]	[± 0.10]	[± 0.59]	[± 0.94]	
- 1990		0.57	1.57	0.60	0.37	0.91	1.35	5.37
		[± 0.18]	[± 0.43]	[± 0.19]	[± 0.11]	[± 0.30]	[± 0.64]	
"GAPPINESS"								
Complete	1984	4.34	16.71	5.54	3.49	7.68	8.16	45.92
		[± 0.69]	[± 2.04]	[± 0.60]	[± 0.66]	[± 1.04]	[± 1.96]	
- 1990		2.64	10.98	4.57	2.65	5.43	5.65	31.92
		[± 0.46]	[± 1.83]	[± 0.75]	[± 0.51]	[± 0.90]	[± 1.50]	
<10% filled gaps	1984	1.55	3.03	0.99	0.61	1.94	2.30	10.42
		[± 0.34]	[± 0.69]	[± 0.25]	[± 0.14]	[± 0.44]	[± 0.80]	
- 1990		0.99	2.46	0.58	0.37	1.21	1.32	6.93
		[± 0.25]	[± 0.74]	[± 0.18]	[± 0.09]	[± 0.33]	[± 0.56]	
>10% filled gaps	1984	0.49	0.70	0.27	0.20	0.53	0.79	2.98
		[± 0.13]	[± 0.20]	[± 0.11]	[± 0.06]	[± 0.15]	[± 0.29]	
- 1990		0.30	0.44	0.13	0.17	0.27	0.54	1.85
		[± 0.08]	[± 0.14]	[± 0.04]	[± 0.06]	[± 0.08]	[± 0.22]	
Not stockproof	1984	1.35	4.13	1.46	1.02	2.02	2.46	12.44
		[± 0.32]	[± 0.86]	[± 0.27]	[± 0.19]	[± 0.43]	[± 0.82]	
- 1990		1.76	3.87	1.25	1.23	2.14	2.72	12.97
		[± 0.45]	[± 0.81]	[± 0.28]	[± 0.29]	[± 0.66]	[± 1.35]	

1990 (from 51% to 60%) but has decreased in Gwent (from 58% to 50%); the percentage of "Complete" hedge lengths has decreased in Clwyd (from 56% to 46%) and most other counties, but has increased in the Glamorgans (from 67% to 70%). The converse is true of "Not stockproof" hedgerow boundaries in these two counties. However, caution must be used in the interpretation of these statistics, given the small sample size.

29. Table 4 gives the results of an analysis of data on 'lines of relict hedges' (defined as "a line of shrubs or trees showing where a hedge has once been") which have been estimated independently from the hedgerow data, for 1984 and 1990.

Table 4. Estimates of lengths of 'Lines of relict hedgerow' in the Welsh counties for 1984 and 1990 (lengths and Standard Errors (\pm) in '000 km

	Clwyd	Dyfed	Glamorgans	Gwent	Gwynedd	Powys	WALES
1984	1.16 [± 0.29]	2.57 [± 0.53]	0.96 [± 0.19]	0.52 [± 0.09]	1.89 [± 0.49]	3.22 [± 1.09]	10.32
1990	1.70 [± 0.40]	4.07 [± 0.91]	1.47 [± 0.34]	0.79 [± 0.14]	2.77 [± 0.69]	4.46 [± 1.49]	15.26

30. As stated in paragraph 23, many former hedgerows were re-defined as lines of trees and shrubs in the 1990 survey. The figures in Table 4 support the contention that a relaxation of hedgerow management has led to an overall decrease in hedgerow length and a corresponding increase in lines of trees and shrubs.
31. To help place hedgerows in Wales in a GB context, the following paragraph is taken from the earlier report to the DOE (note that Table numbers refer to those in the DOE report):

"Examination of Tables 1-3 show that there are differences in hedgerow characteristics between England, Scotland and Wales. For example, hedgerows in Scotland and Wales appear to have undergone more change, proportionally, than those in England (Table 1), but the proportion of hedges that have been removed is less (Table 2). In terms of management, the situation is also complex (Table 3); hedges in Wales, for example, tend to be taller than those in England, but the proportional reduction in the lengths of tall hedgerows is greater in Wales. The lengths of derelict hedges have declined, proportionally, in Scotland and Wales, but not in England".

32. An overall conclusion from the comparison of 1984 and 1990 data is that the rate of hedgerow removal between 1984 and 1990 is greater than that in the period 1978 to 1984. In addition, there has been an overall decline in the intensity of hedgerow management between 1984 and 1990, leading to an increase in the boundary type defined as relict hedgerow.

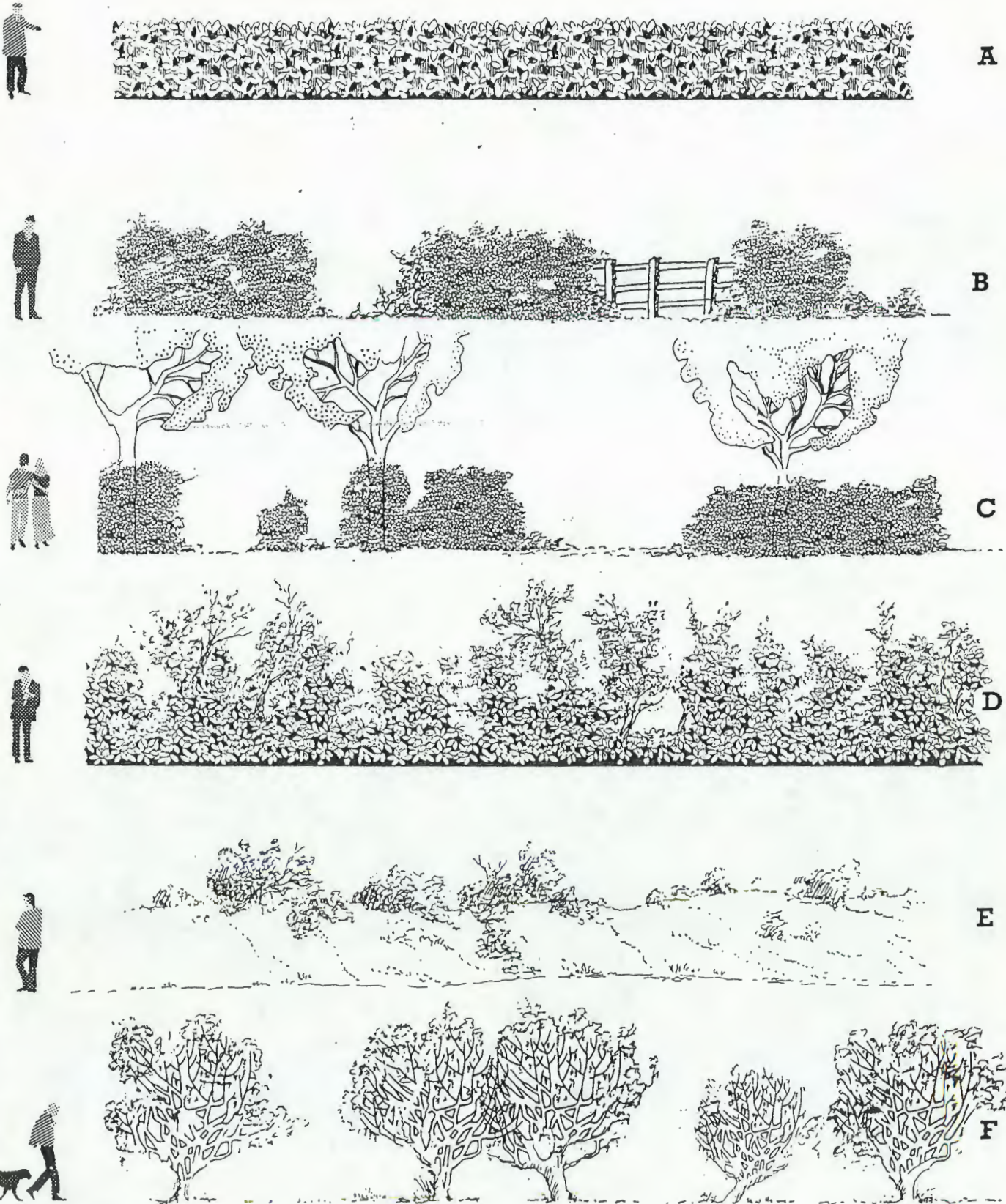
Comment

33. While the results of this analysis provide the most up-to-date figures available on recent hedgerow changes, caution should be used in their interpretation, as follows:

- a) The estimates of change are derived from a sample-based survey. As with any such system, there are statistical errors associated with extrapolation from a sample to national estimates, and these should be considered when drawing conclusions from change data. This is especially true in the present analysis where attempts have been made to estimate hedgerow change at the county level. The ITE land Classification System, on which these estimates are based, was not developed to be used at such a fine geographical resolution.
 - b) Although every effort was made to standardise recording procedures in the field (including: an extensive training course; use of a field handbook; use of aerial photographs; field supervision and checks; mixing of field teams, etc), there are likely to be some differences in the way that the data have been recorded by different observers. There is no reason to expect estimates of hedgerow recording to be biased in any particular direction and it is likely that any differences will 'balance out' over the whole dataset. (See also quality assurance in paragraph 36 below).
34. It has become apparent during the analysis of Countryside Survey 1990 data that while the definitions given in paragraph 17 are quite adequate to describe the features in most cases, there will always be occasions when the individual surveyor has to use an element of personal judgement because the feature is at the very extremes of the given definition. Figure 2 gives examples of the range of features that might be coded as hedges.
 35. When comparing the estimates made from ITE surveys with results from other studies, it is essential that definitions of categories in each survey are thoroughly understood. It is also important to know how and when each code has been applied. For instance, ITE has not included hedges that form part of a boundary between grounds associated with buildings (curtilages) and agricultural land.
 36. ITE is currently undertaking a quality assurance exercise which will help to quantify the degree of confidence that can be placed in the recording of boundary data. In a sub-sample of the same 1km squares, boundaries have been recorded on a second occasion by different observers, and data will be compared with those obtained during the main survey. Estimates of consistency of recording will be made.
 37. There are several opportunities for further work associated with the hedgerow data collected in Countryside Survey 1990. These include:
 - a) Integration and cross-referencing with hedgerow data from other sources, eg results from the 'Monitoring Landscape Change' project, and work being undertaken by Dr Hooper at ITE Monks Wood.
 - b) Correlation with other types of data collected in the ITE sample squares (eg land cover, vegetation, trees etc) to characterise both the hedges and geographical regions in terms of species diversity, environmental quality, and nature conservation and landscape value.
 - c) Correlation with socio-economic data to determine the causes for identified changes in hedgerows.

Figure 2. Diagrammatic representation of different types of boundary feature that a surveyor might be required to code.

A = Hedge trimmed; B = Hedge uncut with filled gaps <10%, not-stockproof; C = Hedge derelict (or lines of shrub?); D = Hedge derelict; E = hedge on bank (or line of shrub on bank?); F = Line of relict hedge (and line of trees?)



- d) The use of pattern analysis to assess the biological importance of hedges in the countryside.

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Annex A - Codes associated with hedges: comparison between 1984 and 1990

<u>1984</u>	<u>1990</u>
310 Hedge >50% hawthorn	321 Hedge >50% hawthorn
311 Hedge >50% beech	-
312 Hedge >50% willow	-
313 Hedge >50% gorse	-
314 Hedge >50% other	322 Hedge >50% other
315 Mixed hedge	323 Mixed hedge
316 Hedge trimmed	357 Hedge trimmed
317 Hedge uncut	358 Hedge uncut
318 Hedge derelict	359 Hedge derelict
319 Line of relict hedge	360 Line of relict hedge
320 Laying	361 Laying
321 Flailing	362 Flailing
343 Burnt	144 Burnt (used from Veg page)
-	363 Regrowth from cut stumps
331 Boundary >2m high	341 Boundary >2m high
332 Boundary <2m high	342 Boundary <2m high
333 Boundary <1m high	343 Boundary <1m high
335 Boundary stockproof	351 Boundary stockproof
336 Boundary not stockproof	352 Boundary not stockproof
337 Boundary with filled gaps <10%	353 Boundary with filled gaps <10%
338 Boundary with filled gaps >10%	354 Boundary with filled gaps >10%
339 Signs of replacement	355 Signs of replacement
340 Signs of removal	356 Signs of removal
341 No longer present	999 No longer on map