



▲ Small development in a rural area • © Natural England • Andrew Baker

9. Developed Land in Rural Areas

Summary

- The area of Built-up and Gardens Broad Habitat associated with the rural environment (i.e. not part of the un-surveyed urban land), was estimated at 1,038,000ha, occupying 7.9% of the land area of England in 2007, with most of this divided between the Easterly and Westerly Lowlands and only 14,000ha in the Uplands Environmental Zone.
- The Built-up and Gardens Broad Habitat was estimated to have increased in total area by 2.9% (29,000ha) in England between the 1998 and 2007. Although this was not statistically significant at a national level, it was significant in the Uplands Environmental Zone.
- The area occupied by buildings in the rural environment was 753,000ha in England in 2007, an increase of 3.9% (28,000ha) since 1998. Although these changes were not statistically significant at national and Environmental Zone level, they may impact local areas.
- There was no detectable change in the estimated area covered by roads and tracks between 1998 and 2007. There was a significant increase from 192,000ha in 1984 to 240,000ha in 1990, but since then there has been little change, so that by 2007 the estimate was 250,000ha.

9.1 Introduction¹

This Chapter examines the changes in the extent of the built environment in the countryside as detected by the Survey. Here developed land refers to residential and farm buildings and their associated infrastructure, such as gardens and service roads. It also includes other man-made structures such as industrial estates, retail parks, waste and derelict ground, mineral workings, airports and urban parkland. All developed land in the countryside, apart from transport features, is included in the Broad Habitat type: Built-up and Gardens. Roads and tracks are included within the Boundary and Linear Features Broad Habitat (*Chapter 5*).

² **Note:** For further information on the Broad Habitat classification, sampling plots and other Countryside Survey terminology see *Chapter 1 (Introduction and Methodology)*

Countryside Survey (CS) was not designed to survey changes in the built environment, in either rural or urban areas. Survey squares containing more than 75% of developed land on the date of first survey (1978) were excluded. The extent of the developed area is measured as is the area occupied by buildings and their curtilage. Developed areas within survey squares are not included in the vegetation survey and therefore do not contain any plots. The evidence which CS can report is therefore limited to the change in total extent of this habitat, but this has underlined some of the changes previously reported elsewhere.

9.2 Area of the Habitat

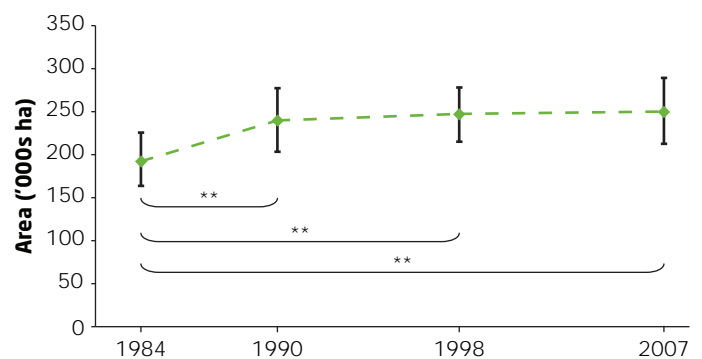
9.2.1 Built-up and Gardens Broad Habitat

The area of Built-up and Gardens Broad Habitat associated with the rural environment (i.e. not part of the un-surveyed urban land, where a 1km square contained more than 75% urban land in 1978) was estimated at 1,038,000ha in 2007 (**Table 9.1**) and occupied 7.9% of the land area of England. This habitat type was estimated to have increased in total area by 29,000ha between the 1998 and 2007. This is not statistically significant in a national context, but the impact of such change at a local level may be. CS detected a significant statistical increase from 13,000ha to 14,000ha in the area of Built-up and Gardens Habitat in the Uplands Environmental Zone in England between 1998 and 2007. In all instances it is the context of the change which is important as well as the amount of habitat which has been converted.

The area occupied by buildings in the rural environment was 753,000ha or 5.7% of the land area of England in 2007, an increase of 3.9% (28,000ha) since 1998, which was not statistically significant. This reversed the trend of decrease of 74,000ha between 1990 and 1998. Although the area of land taken by buildings has decreased since 1990, by an estimated 46,000ha (**Table 9.2**), the sustained increase in area of the Built up and Gardens Broad Habitat across this time indicates that despite a loss of buildings the land cover has remained broadly urban.

There was no detectable change in the estimated area covered by roads and tracks between 1998 and 2007. There was a significant increase from 192,000ha in 1984 to 240,000ha in 1990, but since then there has been little change so that by 2007 the estimate was 250,000ha (**Fig. 9.1**).

▼ **Figure 9.1:** The change in the area of roads and tracks in the rural environment in England between 1984 and 2007. Significant changes (** $p < 0.01$) are shown between the dates bracketed. 95% CI are shown for each data point.



9.3 Changes between Broad Habitats

Developed land is a relatively stable land use, in that it very rarely changes Broad Habitat type. The majority of the Built-up and Garden Broad Habitat in 1998 remained in that category in 2007. There was some transfer to and from Neutral and Improved Grassland. Most of the new development detected by CS was in the Arable and Horticulture Broad Habitat (see www.countrysidesurvey.org.uk).

9.4 Condition of the Built-up and Gardens Broad Habitat

Habitat condition is not recorded for the Built-up and Gardens Broad Habitat. The only plot type which records Broad Habitats in urban settings is the linear Roadside Plot (**Chapter 5**).

9.5 Discussion and Conclusions

CS did not detect any change in the area of Built-up and Gardens Broad Habitat across England between 1998 and 2007 but there was a statistically significant increase in the English Uplands. The survey is unable to detect whether the number of buildings has increased or whether more land around buildings is now taken up by gardens or both. The Survey does not record new buildings in the urban environment within a survey square, nor within the curtilage of existing buildings such as farmsteads or large residential properties. CS does not attempt to assess development of existing buildings, for example it does not make the distinction between a barn and a barn conversion.

▼ **Table 9.1:** Estimated area ('000s ha) and percentage of land area of the Built-up and Gardens Broad Habitat in England from 1990 to 2007. Arrows denote significant change ($p < 0.05$) in the direction shown. **Note:** estimates exclude the area of un-surveyed urban land.

	1990		1998		2007		Direction of significant changes 1998 - 2007
	Area ('000s ha)	%	Area ('000s ha)	%	Area ('000s ha)	%	
England	999	7.6	1009	7.7	1038	7.9	
Easterly Lowlands	521	8	537	8.2	538	8.2	
Westerly Lowlands	465	9.1	459	9	485	9.5	
Uplands	13	0.8	13	0.8	14	0.9	↑

▼ **Table 9.2:** Estimated area ('000s ha) and percentage of land area occupied by buildings in the rural environment in England from 1990 to 2007. Arrows denote significant change ($p < 0.05$) in the direction shown. **Note:** estimates exclude the area of un-surveyed urban land.

Buildings	1990		1998		2007		Direction of significant changes 1998 - 2007
	Area ('000s ha)	%	Area ('000s ha)	%	Area ('000s ha)	%	
England	799	6.1	725	5.5	753	5.7	
Easterly Lowlands	351	5.4	327	5	337	5.2	
Westerly Lowlands	440	8.7	391	7.7	409	8	
Uplands	8	0.5	7	0.4	7	0.4	

The sampling strategy of CS is designed to detect changes which are distributed widely across the countryside, which are classifiable into the Broad Habitat types. The nature of the built environment in the countryside does not fit readily into Survey design. It is not surprising therefore that the results from the 2007 Survey show that the wider countryside has not been altered by development since 1998. However, it is known that significant changes, in terms of the character of the countryside have occurred since 1998. Whilst it is possible to speculate on the drivers for this change a better prospect can be obtained from evidence generated solely for the purpose of understanding the nature of development in the countryside, such as Countryside Quality Counts¹.

The CS estimate of the area occupied by buildings in the rural environment was 753,000ha in England in 2007, an increase of 3.9% (28,000ha) since 1998, is entirely consistent with the estimate of land converted for settlement and dwellings beyond the urban fringe by Countryside Quality Counts, for the period 1998-2003. Countryside Quality Counts reported that the area beyond the urban fringe accommodated far more newly built dwellings and has seen a greater net increase in the overall dwelling stock than the urban fringe. The nature and pattern of this development varied across the country. For instance, a number of areas experienced considerable settlement intensification. This was particularly apparent in hamlets and isolated farmsteads where the increase in stock by conversion and subdivision exceeded that of new buildings.

CS has detected this change in terms of the total area change by Broad Habitat type, though it would seem likely that CS has probably underestimated the total area, as the Countryside Quality Counts data relates to the period 1998 – 2003, whereas CS is measuring change for 1998 - 2007. Although these changes are not significant in statistical terms, they are significant in terms of the context in which the change has occurred. An increase in the number of people living in the countryside, as consequent of the increase in the total dwelling stock has major implications not only for the physical character of the countryside, but also the character of the population which resides there. In social and economic terms, these new country dwellers represent the continuing shift away from a rural population which looks to the land for employment to a population which looks over the horizon to large urban centres for economic and cultural identity.

Our understanding of the character of the built environment found within the countryside i.e. the size, pattern and density is provided by the 2004 ONS Rural and Urban Definition². This classification was developed by The Countryside Agency, ONS and partners and it is embodied within the Government's Rural Strategy. It defines settlements of over 10,000 people as 'urban' and defines smaller 'rural' settlements into three categories: 'town and fringe', 'villages', or 'hamlets and isolated dwellings'. Additionally, the settlement are defined by their location as either being a 'spare' or 'less spare' area. This definition is intended for use with nearly all official Government statistics.

¹ Countryside Quality Counts – Tracking Change in the Character of the English Landscape, 1999-2003, Natural England 2007, NE42. The CQC Project commissioned the following report which is available from the CQC website - *Land Use Change at the Urban : Rural Fringe and in the Wider Countryside, The Countryside Agency 2006. Department of town and Regional Planning, University of Sheffield, P. Bibby.*

² Office of National Statistics (2004) Urban and Rural Definition

Further exploration of the relationship between the 2004 Urban and Rural Definition and the CS square data may cast more light onto the applicability of CS data to policy review and development. The relationship between the ecological data of CS and the built physical structure of the countryside may shed new light on the state and condition of both environments.

CS did not detect any further increase in the area of land occupied by road building or road widening following the large increases recorded from 1984 to 1990 and from 1990 to 1998. This is consistent with the sharp reduction in road building which occurred in the late 1990s and continued, with a few nationally significant exceptions. It should be noted that development of major new roads which are not included in the Survey, in the years 1998-2003 has occurred. The most striking example is probably the M6 Toll to the north-east of the West Midlands conurbation. Others include the A46 between Newark-on-Trent and Lincoln the A417 and A419 between Gloucester/Cheltenham and Swindon; the A30 north-east of Exeter and the M20 between Maidstone and Folkestone.

Conclusions

The area of Built-up and Gardens Broad Habitat associated with the rural environment (i.e. not part of the un-surveyed urban land), was estimated by CS at 1,038,000ha or 7.9% of the area of England in 2007. A significant increase of 1,000ha in the area occupied by this Broad Habitat since 1998 was detected only in the Uplands Environmental Zone, where only 14,000ha was present in 2007.

The area occupied by buildings in the rural environment was 753,000ha or 5.7% of the land area of England in 2007, an increase of 3.9% (28,000ha) since 1998, which was not statistically significant. Although the area of land taken by buildings has decreased since 1990, by an estimated 46,000ha, the sustained increase in area of the Built up and Gardens Broad Habitat across this time indicates that despite a loss of buildings the land cover has remained broadly urban.

The changes detected may not be statistically significant at National or Environmental Zone levels, but they could impact on the character of the landscape at more local levels, particularly in social and economic terms where new developments represent the continuing shift away from a rural population which looks to the land for employment to a population which looks over the horizon to large urban centres for economic and cultural identity.

The estimates of change in area of the Built-up and Gardens Broad Habitat provided by CS are consistent with other evidence from Countryside Quality Counts, which was generated solely for the purpose of understanding the nature of development in the countryside, but unlike Countryside Quality Counts, the CS methodology is not designed to detect changes in character.

Further exploration of the relationship between the 2004 Urban and Rural Definition and the CS square data may cast more light onto the applicability of CS data to policy review and development. The relationship between the ecological data of CS and the built physical structure of the countryside may shed new light on the state and condition of both environments.

Further information

More details of the methodology, analyses and results from Countryside Survey can be found in other companion reports and data resources available for the Countryside Survey website [www.countryside-survey.org.uk] including:

Reports:

- UK Headline Messages – *published November 2008*
- UK Results from 2007 – *published November 2008*
- Scotland Results from 2007 – *published June 2009*
- Wales Results from 2007 – *published July 2009*
- England Results from 2007 – *this report, published September 2009*
- Northern Ireland Countryside Survey results – *published April 2009*
- CS Technical Report No.1/07: Field Mapping Handbook – *November 2008*
- CS Technical Report No.2/07: Vegetation Plots Handbook – *November 2008*
- CS Technical Report No.3/07: Soils Manual – *November 2008*
- CS Technical Report No.4/07: Statistical Report – *November 2008*
- CS Technical Report No.5/07: Freshwater Manual – *November 2008*
- Ponds – *late 2009*
- Headwater Streams – *late 2009*
- Soils – *late 2009*
- Integrated Assessment – *2010*

Data resources:

- Web access to **summary data** - a systematic summary of the results used to inform the UK and country level reports – launched in November 2008 and updated in January 2009
- Web access to data from **individual survey squares** used to generate the results presented in Countryside Survey reports from the 2007 survey – licensed access available from June 2009
- The UK Land Cover Map for 2007 (to be released in 2010)

The data generated by Countryside Survey will continue to be investigated in conjunction with other information such as climate, pollution and agricultural statistics. The data is being used in the UK National Ecosystem Assessment. Phase 1 will report in February 2010 and Phase 2 in February 2011 [see <http://www.unep-wcmc.org/eap/ukNationalEA.aspx>]. It is anticipated that future analysis of Countryside Survey data will lead to scientific journal articles over the coming years. These investigations will improve understanding about the possible causes of the changes detected in the countryside and, for example, provide an opportunity to explore the results for Priority Habitats in more detail.

Contacts

For further information on Countryside Survey see www.countryside-survey.org.uk or contact: Countryside Survey Project Office, Centre for Ecology and Hydrology, Lancaster Environment Centre, Library Avenue, Bailrigg, Lancaster LA1 4AP

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The Countryside Survey partnership has endeavoured to ensure that the results presented in this report are quality assured and accurate. Data has been collected to estimate the stock, change, extent and/or quality of the reported parameters. However, the complex nature of the experimental design means that results can not necessarily be extrapolated and/or interpolated beyond their intended use without reference to the original data.



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