

Preliminary Results of the 1996 Land Use - UK Survey

THE RURAL LANDSCAPE

Table 1. The land cover of Great Britain

<u>Description</u>	<u>Mean %</u>	<u>Total km²</u>
Urban squares	0.0	14867
Industrial	0.3	689
Commercial	0.4	950
Residential	3.5	8079
Public inst	0.7	1705
Transport	2.6	5882
Derelict	0.3	792
Open space	1.1	2511
Transition	0.2	370
Agric build	0.5	1032
Arable	23.1	53380
Horticulture	0.4	856
Grass	33.7	77840
Heath/bog	14.4	33320
Wood/shrub	12.4	28670
Coastal	0.8	1914
Wetland/water	1.7	3997
Quarries	0.1	185
Rock/scree	1.3	3078
Unsurveyed	0.1	104
TOTAL	100.0	240222

The rural land cover of Britain is made up of four main types. Most important is grassland covering 34%. Arable land comes second with 23% of the total. These agricultural uses make up 57% of all Britain.

Heath and bog cover 14% of Britain's landscape with woodland at 12%. Wetland and water make up nearly 2%, rocks and scree cover about 1% and coastal habitats a further 1%, showing that about 30% of Britain is semi-natural in character.

Built up land covers 8% of the rural landscape with recreational open space at about 1%. This built-up total should be added to the 2.5% developed land of urban areas, indicating that about 10% of Britain is under bricks, concrete and tarmac.

These National statistics hide a wide range of variations between the different parts of Great Britain. Because the estimation of the rarer cover types in smaller regions is of lesser reliability, the 19 classes of the survey are simplified to give just eight major cover classes.

Table 2. The land cover of England

<u>Description</u>	<u>%</u>	<u>km²</u>
Built up	10.3	13552
Rock/quarries	0.6	729
Wetland/water	1.4	1833
Arable/horticulture	34.3	44987
Grass	33.3	43650
Heath/bog	3.8	5020
Wood/shrub	11.9	15630
Others	2.8	3611

The rural landscape of England is the most intensively used in Britain. Arable farmland covers one third, and grassland one third. Other studies suggest that most of it is used for intensive grazing, at least in the lowlands. Woodland and scrub make up 12% of the landscape, with just 4% heath and bog. Built up areas are estimated to occupy 10% of rural England and 13% when urban squares are added.

Table 3. The land cover of Scotland

<u>Description</u>	<u>%</u>	<u>km²</u>
Built up	4.1	3214
Rock/quarries	2.8	2229
Wetland/water	2.4	1892
Arable/horticulture	9.5	7484
Grass	29.2	23050
Heath/bog	32.9	26020
Wood/shrub	13.0	10280
Others	2.2	1769

In Scotland arable farming occupies less than 10% of the landscape; even the amount of grassland at 29% is less than that found in England. In contrast to England, heath and bog are the most extensive cover type, representing a third of all Scotland. Woodland cover is no more extensive than in England, although much of it is likely to be coniferous. The rugged nature of the landscape is evident in the greater proportions of bare rock and scree, with the lakes and lochs of Scotland also evident in the cover statistics. Built up areas cover just 4% of the Scottish landscape.

Table 4. The land cover of Wales

<u>Description</u>	<u>%</u>	<u>km²</u>
Built up	7.6	15.7
Rock/quarries	1.5	1572
Wetland/water	1.3	305
Arable/horticulture	8.5	272
Grass	53.5	1760
Heath/bog	11.0	11140
Wood/shrub	13.3	2286
Others	1.5	2758

Wales is remarkable for the extent of grassland at 54%. Arable farming at 9% forms even less a proportion of the land than in Scotland. In other cover types, such as heaths and bogs or the urban category, the character of the landscape is intermediate between that of England

and Scotland.

In the analyses of the data, Britain has been divided into broad environmental regions: Arable Lowland, Pastoral Lowland, Marginal Upland and Upland. It is important to remember that these regions were based upon maps of climate and land form, not on land use: the land cover data are thus independent of the regionalisation scheme. The broad environmental regions have been used to derive land cover statistics in Tables 5-8.

Table 5. The land cover of arable lowland landscapes

<u>Description</u>	<u>%</u>	<u>km²</u>
Built up	11.8	9555
Rock/quarries	0.3	213
Wetland/water	1.4	1126
Arable/horticulture	45.3	36525
Grass	24.7	19890
Heath/bog	0.6	452
Wood/shrub	11.6	9378
Others	3.0	2410

Note that a reasonably large quantity of grass is associated with the arable land, heath and bog are very rare; built up areas are estimated to be the most extensive in this landscape.

Table 6. The land cover of pastoral lowland landscapes

<u>Description</u>	<u>%</u>	<u>km²</u>
Built up	10.1	6794
Rock/quarries	0.1	98
Wetland/water	1.1	742
Arable/horticulture	25.4	17155
Grass	44.2	29790
Heath/bog	1.1	726
Wood/shrub	11.8	7960
Others	3.4	2305

Note that grassland dominates, but that there is also a reasonably high quantity of arable land. Built up areas are reasonably extensive.

Table 7. The land cover of marginal upland landscapes

<u>Description</u>	<u>%</u>	<u>km²</u>
Built up	3.9	1426
Rock/quarries	3.6	1340
Wetland/water	1.9	709
Arable/horticulture	1.5	554
Grass	49.3	18120
Heath/bog	24.3	8942
Wood/shrub	13.0	4762
Others	0.6	208

Note that grasslands and heaths are dominant, but that built up areas are scarce. The extent of rock and quarries is far greater than in arable and pastoral landscapes.

Table 8. The land cover of upland landscapes

<u>Description</u>	<u>%</u>	<u>km²</u>
Built up	1.2	565
Rock/quarries	3.5	1612
Wetland/water	3.1	1421
Arable/horticulture	0.0	0
Grass	21.8	10030
Heath/bog	50.4	23200
Wood/shrub	14.3	6572
Others	1.7	770

Note the dominance of the heath/bog class with grass and woodlands, but very little built up land. Upland landscapes are also characterised by the presence of bare rock and quarries.

Table 9. South East Region

<u>Description</u>	<u>%</u>	<u>km²</u>
Built up	12.9	3506
Rock/quarries	0.3	67
Wetland/water	0.9	254
Arable/horticulture	45.5	12368
Grass	22.5	6111
Heath/bog	0.4	96
Wood/shrub	12.2	3312
Others	3.4	930

Table 10. East Anglia Region

<u>Description</u>	<u>%</u>	<u>km²</u>
Built up	10.5	1328
Rock/quarries	0.1	7
Wetland/water	1.9	244
Arable/horticulture	52.8	6652
Grass	18.5	2327
Heath/bog	0.1	17
Wood/shrub	9.8	1237
Others	3.4	424

Table 11. East Midlands Region

<u>Description</u>	<u>%</u>	<u>km²</u>
Built up	8.1	1262
Rock/quarries	0.4	61
Wetland/water	2.5	387
Arable/horticulture	48.3	7553
Grass	27.0	4231
Heath/bog	1.5	235
Wood/shrub	9.4	1477

Others	1.9	292
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Table 12. West Midlands Region

<u>Description</u>	<u>%</u>	<u>km²</u>
Built up	11.4	1488
Rock/quarries	0.4	58
Wetland/water	0.8	105
Arable/horticulture	32.6	4240
Grass	39.4	5130
Heath/bog	2.4	311
Wood/shrub	10.6	1376
Others	2.3	296

Table 13. South West Region

<u>Description</u>	<u>%</u>	<u>km²</u>
Built up	10.1	2415
Rock/quarries	0.3	77
Wetland/water	1.0	233
Arable/horticulture	24.6	5863
Grass	42.9	10230
Heath/bog	1.9	440
Wood/shrub	14.4	3435
Others	2.9	679

Table 14. North West Region

<u>Description</u>	<u>%</u>	<u>km²</u>
Built up	12.9	947
Rock/quarries	1.2	86
Wetland/water	1.8	132
Arable/horticulture	16.3	1199
Grass	44.2	3247
Heath/bog	6.6	483
Wood/shrub	10.6	777
Others	3.3	243

Table 15. Yorkshire and Humberside Region

<u>Description</u>	<u>%</u>	<u>km²</u>
Built up	10.1	1554
Rock/quarries	1.1	173
Wetland/water	1.5	235
Arable/horticulture	27.7	4268
Grass	39.4	6072
Heath/bog	6.2	948
Wood/shrub	10.9	1675
Others	2.7	409

Table 16. Northern Region

<u>Description</u>	<u>%</u>	<u>km²</u>
Built up	6.6	1020
Rock/quarries	1.2	189
Wetland/water	1.5	231
Arable/horticulture	18.1	2793
Grass	39.0	6024
Heath/bog	15.8	2437
Wood/shrub	14.6	2257
Others	2.0	315

Note a trend from arable farming in the lowland east, towards pastoral land uses in the lowland west, with ever increasing amounts of heath and bog from south-east to north-west. Built up areas are most extensive in lowland Regions. Woodlands are remarkably uniform in distribution, though least extensive in the intensive arable Regions of East Anglia and the East Midlands.

National Issues

Setaside farmland was found in 25% of all squares, although it may have only covered the odd corner of a field in some of the squares. There is more setaside in England, reflecting the much more intensive farming, hence greater potential for setaside.

New housing, the presence of corner shops, large supermarkets and pylons/communication towers were all much more prominent in England, with Wales usually in second place and Scotland third. This not only reflects the higher population densities in England but also the greater extents of semi-natural land in Wales and Scotland.

Table 17. Percentage of one-kilometre squares where setaside farmland, new housing, corner shops, large supermarkets and pylons/communication towers were recorded in rural squares

<u>'Issue'</u>	<u>Britain</u>	<u>England</u>	<u>Scotland</u>	<u>Wales</u>
Setaside farmland	25.3	35.1	12.3	15.7
New housing (<5 years)	10.8	14.5	5.7	7.3
Corner shops	8.1	11.4	3.6	5.4
Large supermarkets	0.9	1.4	0	1.1
Pylons, communications towers	21.3	26.2	15.1	15.6

Conclusions - the rural survey

The sample-based field survey examined just 404 one-kilometre squares to produce the most detailed schools' survey of the land of Great Britain for over 30 years. It used a representative statistical sample to minimise the recording effort, while maximising the information which can be gleaned. Now that the data are installed on the *Countryside Information System*, a user can define any region of interest, generate maps and data for that region, and introduce external data to make extensive enquiries.

THE URBAN LANDSCAPE

500 1 km grid squares were randomly selected for detailed survey from a total of 6,300 initially identified as being mainly urban. 399 of these squares were successfully surveyed (80% response rate).

Overall Summary

80% of land in urban squares was built up but 17% consisted of open space, and a variety of grass, woods, other agricultural land and water.

Residential land was by far the largest category, accounting for practically half of the total. This proportion is virtually identical to previous estimates of residential land in British cities.

Land given over to various forms of transport is now the second largest category, accounting for approximately one eighth of the total.

Industry occupies a very small proportion of the total urban land (3.6% on average), and is far outweighed by land given over to commercial and business uses (6.0%) and public institutions (6.9%). This reflects important recent changes in Britain's urban economy.

The Regional Pattern

The reliability of the sample is affected by the small numbers in some regions, notably East Anglia and Wales.

If the four categories of Transport, Residential, Commerce and Industry are taken together as the most urban of land-uses, it is the towns of the West and East Midlands that appear to be the most built up, with 78% and 77%, respectively, of their land in these categories.

Industrial land uses are above average in only three regions - West Midlands, North West and Scotland.

In every region except the West Midlands, the proportion of land given over to both commerce and public institutions exceeds that in industrial use, usually by a wide margin.

Settlement Types

Every local authority district is grouped into one of six broad settlement types. Knowing the district in which each square is located makes it possible to say that it is in an area described as 'prosperous' or 'industrial and mining', or one of the other types shown in the table. The key findings are:-

From this random sample of urban squares, the largest group (100 out of a total of 399) is local authority districts described as Mining and Industrial.

The settlement type 'Urban' is the one which has a land use profile which most closely mirrors the overall average of land use results in our survey.

The 'Prospering' and 'Maturer' areas have quite similar land-use profiles, with above average proportions of residential land and below average percentages of transport and industrial land.

There are marked, though not huge, differences between the average amounts of

different types of land in urban squares in local authorities described as Rural and those in Inner London. Some differences might be unexpected - eg. squares in towns located in Rural districts possessed more industry on average than those in Inner London.

National Issues

Surveyors were asked to note presence or absence of 1) Blocks of (more than 6) houses built since 1990. 2) Large supermarkets/hypermarkets. 3) Corner shops and general stores. 4) Pylons and communications towers.

Results were returned for 375 urban key squares. Only 26 (7%) squares exhibited none of the named features. On the other hand 20% of the total exhibited three out of the four features and 5% possessed all four.

There was no particular regional bias amongst these latter squares, but there was an over-representation of Settlement Families 1 (Rural) and 2 (Prospering).

Recent housebuilding existed in three out of four squares, with below average activity in only the North of England and Scotland.

Corner shops/general stores were recorded in three quarters of squares, particularly in Wales, the West Midlands and the South West.

Large supermarkets or hypermarkets were listed in one quarter of all squares, but but no store size was specified.

Pylons, communications towers and radio masts were in one quarter of all urban squares, with high incidence in the West Midlands and low incidence in the South West.

Pattern of Urban Land Use (Regions)

Category Land Use (%)	Non Urban (1-10)	Transp 11	Res 12	Comm 13	Ind 14	Pub inst 15	Open space 16	Dere lict 17	Trans itional 18	NS +sea (19-20)
North	5.5	12.6	53.8	2.6	2.4	8.2	13.3	1.3	0.3	0
Yorkshire & Humberside	9.4	12.2	49.1	6.5	2.4	7.0	10.4	2.0	1.1	0
E Midlands	7.7	10.0	61.1	3.2	2.5	6.9	8.1	0.3	0.2	0
E Anglia	18.5	10.3	34.3	10.7	1.6	16.4	5.0	2.0	0.3	1.0
S East	6.1	10.5	53.0	6.2	1.8	6.4	9.6	1.1	0.6	4.8
S West	7.9	9.5	48.3	7.3	3.0	8.1	10.1	1.4	0.5	4.0
W Midlands	7.1	12.6	52.0	4.9	8.6	5.1	7.9	1.3	0.6	0
N West	5.9	13.6	45.5	6.2	6.0	7.3	10.4	2.8	0.5	1.8
Wales	14.5	14.3	41.4	8.3	3.3	5.3	7.4	3.5	1.1	1.0
Scotland	6.0	11.5	38.5	6.1	5.4	7.4	9.9	2.7	0.9	11.5
AVERAGE	7.0	11.5	49.6	6.0	3.6	6.9	9.6	1.6	0.6	3.6

NS = Not surveyed

Pattern of Urban Land Use (Settlement Types*)

Category Land Use (%)	Non Urban (1-10)	Transp 11	Res 12	Comm 13	Ind 14	Pub inst 15	Open space 16	Dere lict 17	Trans itional 18	NS +sea (19-20)
Rural	12.2	9.8	43.5	6.2	4.5	7.2	6.8	2.2	0.6	6.9
Prospering	6.3	9.2	54.8	7.7	3.0	6.7	8.0	1.1	0.3	2.8
Maturer	6.3	10.8	51.6	4.6	2.3	5.8	11.0	1.0	0.4	6.3
UrbanCentres	7.5	12.8	49.1	5.7	5.7	7.3	9.1	1.6	0.6	0.7
Mining & Industrial	6.5	12.9	47.3	5.1	3.3	7.2	10.8	2.5	0.8	3.7
Inner London	5.4	14.3	47.8	10.1	1.6	6.8	10.4	0.8	1.7	1.2
AVERAGE	7.0	11.5	49.6	6.0	3.6	6.9	9.6	1.6	0.6	3.6

NS = Not surveyed

*The settlement types are the 6 Families given in *The ONS classification of local and health authorities of Great Britain*, HMSO, 1996.

SUMMARY OF LAND USE IN THE URBAN SQUARES

Features by Region

Region	Housing	Supermarkets	Corner Shops	Pylons/towers
North	40.0	26.7	73.3	26.7
Yorks/Humberside	84.8	30.3	72.7	21.2
East Midland	77.3	13.6	72.7	21.2
East Anglia	85.6	42.9	42.9	42.9
South East	69.0	26.1	69.0	21.2
South West	81.0	23.8	85.7	9.5
West Midlands	75.7	13.5	86.5	37.8
North West	81.1	30.2	75.5	20.8
Wales	100.0	25.0	91.7	25.0
Scotland	54.5	36.4	66.7	18.2
OVERALL AVERAGE %	72.8	26.1	73.3	22.7