

Southern Magnesian Limestone

Character Area

30



Key Characteristics

- Elevated ridge with smoothly rolling landform dissected by dry valleys.
- Predominantly Magnesian Limestone geology which influences soils and ecological character.
- Long views over surrounding lowland.
- Fertile, intensively-farmed arable land.
- Large fields bounded by low-cut thorn hedges creating a generally large-scale, open landscape.
- Large number of country houses and estates with parkland, estate woodlands, plantations and game coverts.
- Woodlands combining with open arable land to create a wooded farmland landscape in some parts.
- Unifying influence of creamy white Magnesian Limestone as a building material often combined with red clay pantile roofing.
- River valleys and gorges cutting through the ridge exposing the underlying rock.
- Industrial influences, especially in the Aire and Don Valleys and other central valleys and along the Coal Measures fringe, with mines, shale tips, transport routes, power lines and industrial settlements.
- Main transport corridor of the A1 which is often apparent in areas of otherwise undisturbed rural landscape.
- Archaeological remains reflecting the long-standing importance of the area for settlement and transport.

Landscape Character

This landscape is formed by the two escarpments of the Upper and Lower Magnesian Limestone, which stretch from near Bedale, running southwards through South Yorkshire and into Derbyshire where they terminate near Nottingham. The escarpments form quite a narrow ridge feature, nowhere more than a few miles across, which acts

as a distinct barrier between the industrial coalfields and the Yorkshire Dales fringe to the west and the lowland vales to the east. Although covered in many places by drift deposits, the limestones have a unifying effect on the landscape because of their widespread use as a building material and because of their effect on ecological character. Throughout the length of the limestone belt, the well-drained soils, reasonably good climate and low altitude has created a landscape of rolling landform, fertile farmland and well-wooded estates cut by numerous dry valleys. The ridge is generally low with a rounded, rolling profile. The western edge of the thicker Lower Limestone locally forms quite a prominent scarp but, elsewhere, the escarpments are less distinct and in places are barely noticeable. These steeper slopes to the west give way to a gentle, dissected dip slope to the east which eventually disappears below the adjacent drift deposits in the east. There is a feeling of elevation on the ridge with many long views over the surrounding lowlands.



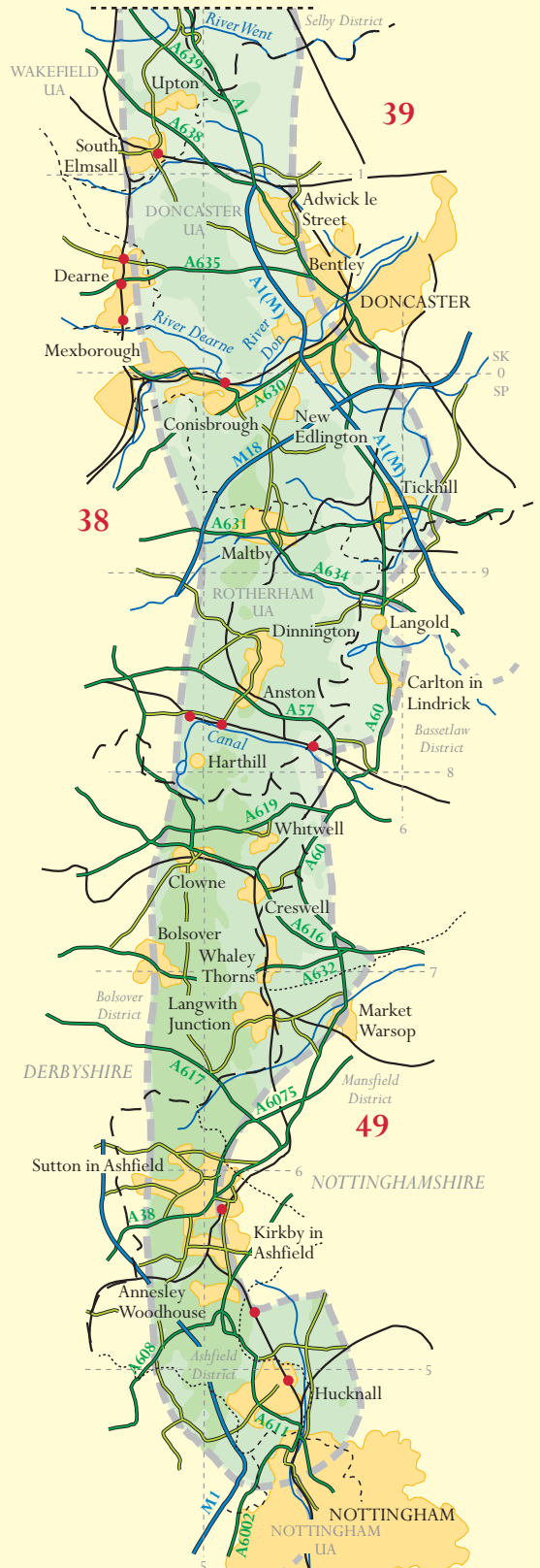
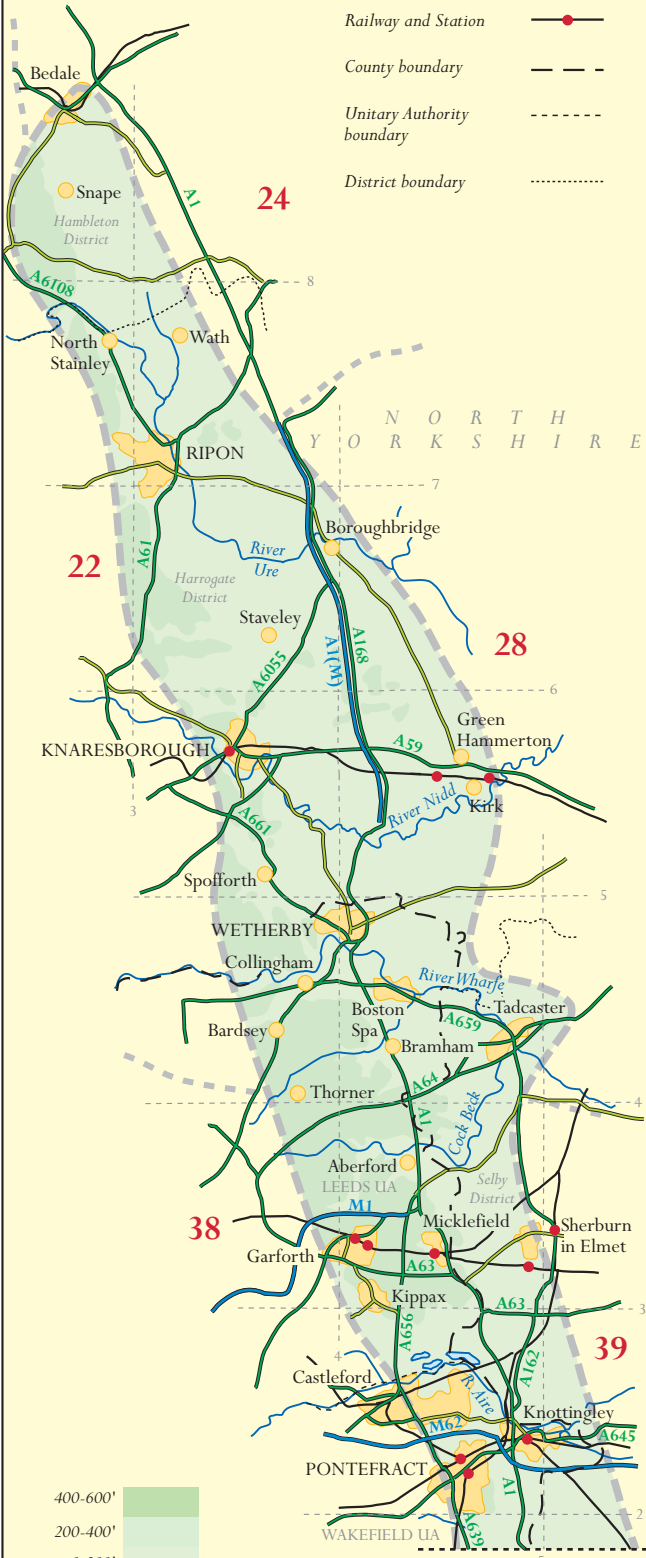
MIKE WILLIAMS/COUNTRYSIDE COMMISSION

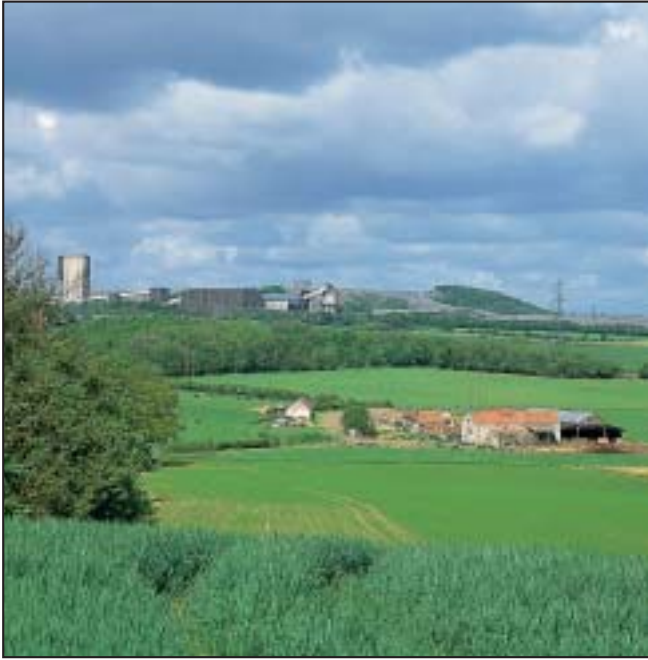
The amount of tree cover, either in woodlands or hedgerows, gives the area a generally wooded character, although land use is predominantly intensive arable cropping. Fields tend to be large and geometric in pattern, with long straight roads dating from relatively late, planned enclosure.



Character Area 30: Southern Magnesian Limestone

- Area 30 boundary
- Adjacent Area
- Motorway
- A Road
- B Road
- Railway and Station
- County boundary
- Unitary Authority boundary
- District boundary





MIKE WILLIAMS/COUNTRYSIDE COMMISSION

Maltby Mine is one of several which have worked the coal seams lying under the Magnesian Limestone. This view also illustrates the typical wooded arable landscape, with some remaining areas of permanent pasture. The farm buildings are built of characteristic magnesian limestone with red pantile roofs.

The soils in this area are very fertile and so farming is intensive and arable crops predominate. Despite the open arable character of the rolling farmland, the landscape also has a well-wooded character. Woodland is more abundant here than in the adjacent vale, mainly because of the presence of a great number of large country houses and their managed estates. These estates incorporate gardens and designed parklands and extensive areas of estate woodlands, plantations and game coverts. Many of the woodlands occur in quite large blocks, which combine with the open arable fields to create a distinctive wooded farmland landscape in many parts of the area. There are also a number of semi-natural and, in parts, ancient woodlands on the ridge. Some of these occur on hill tops or steeper slopes and also along small valleys.

The ridge is cut in several places along its length by a series of rivers. Many of these river valleys are picturesque with some dramatic river gorges overhung by woodland. They include, for example, the Nidd Gorge at Knaresborough and the Don Gorge near Conisborough. Elsewhere, the rivers link the coalfields and industrial cities to the west with the Humber to the east. The valleys of these rivers offer a very different landscape from the rest of the central part of the ridge. In areas like the Aire and the Don valleys there is an air of neglect and there are widespread industrial influences including shale tips, mines, power lines, railways, roads, subsidence depressions and *ings* where sand and gravel have been extracted. The settlements, too, have more in common with the traditional mining towns and villages lying to the west than with the limestone villages found elsewhere. In the central

and southern parts of the ridge, long views from the scarp and hills are over the more industrialised landscapes of South Yorkshire and Derbyshire and the coalfield influences spread into the limestone belt.

As well as the industrial influences of the coalfield, the Magnesian Limestone ridge is also an important transport corridor. The A1 runs along it for much of its length in Yorkshire and it is also crossed by the M1 and the M18 east of Sheffield. These major roads introduce traffic noise and are often highly visible along their length. The A1, in particular, reduces the peace and tranquillity of the more rural northern parts of this landscape. The importance of the limestone as a building material is reflected in the presence of a number of large limestone quarries which also have an impact on the landscape.

Physical Influences

The Magnesian Limestone sequence was deposited in an enclosed evaporitic inland sea during the Permian period approximately 245-255 million years ago. It comprises a lower unit of dolomite and dolomitic limestones, which forms the dominant landscape feature, overlain by red mudstone with gypsum. Then comes the upper dolomite and dolomitic limestone unit followed by more red mudstone and gypsum. The sequence locally has numerous swallow holes caused by the underground dissolution of gypsum and limestone. The Magnesian Limestone sequence is clearly seen where it is cut by rivers, for example in the Nidd Gorge at Knaresborough, the Wharfe valley at Wetherby and the Don Gorge near Doncaster.

North of Wetherby, where the York-Eskrick glacial moraines merge and swing to the north, the Magnesian Limestone is largely mantled with glacial deposits from the last glaciation. These deposits are very extensive in the Bedale area northwards where they almost swamp the limestone topography. The Nidd Gorge is the largest of several valleys (many of them dry) which cut the Magnesian Limestone and mark the glacial diversion of drainage along the edge of the ice-sheet. South of Wetherby, the Magnesian Limestone has only a thin local cover of glacial deposits. The soils here are derived from the limestones and, locally, their associated red clays. They are generally very fertile and often support agricultural land classified as Grade 2 in quality.

Historical and Cultural Influences

The light, fertile, well-drained soils of the limestone ridge made this a favoured area for early settlement and there is much archaeological evidence of early occupation. This includes finds in the caves at the important site of Cresswell Crags in the south which are thought to date from over 13,000 years ago.



The ridge of Southern Magnesian Limestone is cut in several places by a series of west-east flowing rivers. Many of these river valleys, including the Went seen here near Wentbridge, are picturesque. Sometimes dramatic river gorges are overhung by woodland, such as the Nidd Gorge at Knaresborough and the Don Gorge near Conisborough. Elsewhere, especially in the central part of the ridge, valleys such as the Aire and the Don exhibit widespread industrial influences, including shale tips, mines, power lines, railways, roads and subsidence depressions.

There is evidence that, from the Iron Age to well after the end of the Roman occupation, there was increased use of ditches and banks to bound settlements, stock pens, fields and tracks. In this period, the landscape had probably been cleared of much of the woodland and was occupied by single, quite widely-spaced farmsteads with their associated field systems and ditched trackways leading outwards to the open pastures and woodland. An important defensible hillfort remains from this period at Barwick in Elmet in the central section of the ridge.

The Roman occupation had a major influence on the landscape as the ridge was a favoured location for the making of Roman roads. The routes, later to become known as Ermine Street and Dere Street, were the basis for much of the route of the modern A1 which has such an influence on the landscape today.

Wealthy landowners have also had a notable influence on the landscape by means of the fine buildings and landscapes they have created. These range from the remains of the great abbeys, such as Fountains Abbey near Ripon, to the chain of country houses and designed parklands which runs along the ridge from Bedale Hall in

the north to Hardwick Hall in the south. It includes the internationally renowned gardens at Studley Royal and estates like Bramham, Ledston and Lotherton to the east of Leeds as well as Brodsworth, Cusworth and Melton Parks near Doncaster. Some of these houses, parks and estates were created by wealthy families involved in industry in the nearby cities.

Buildings and Settlement

The Magnesian Limestone which creates this landscape is an excellent building material. It has been widely used in local buildings, from small cottages to country mansions, but also in famous buildings further afield notably York Minster. As a result of this, small limestone quarries occur throughout the length of the ridge. The larger modern quarries are mainly in the southern half.

The character of the limestone buildings is perhaps the single most unifying influence in this landscape. Settlement varies from large scattered farmsteads, increasingly dominated by complexes of large modern farm buildings, to the small nucleated villages characteristic of the plateau. It also includes larger towns

like Wetherby, Tadcaster and Ripon. But in all of them the creamy white dolomite and dolomitic limestone is dominant - sometimes in regular courses, often in large blocks and occasionally combined with brick or, more rarely, with stone cobbles. Many of the country houses which are prominent in the area, like Studley Royal, Bramham, Ledston and Lotherton also make use of the stone. In vernacular buildings the combination of limestone with red clay roofing pantiles is particularly striking, although slate and stone slates are used as well. Boundary walls in villages are also made from limestone. Most of the villages are set in open agricultural landscapes but they are often surrounded by a smaller-scale pastoral landscape where the old historic pattern of small strip fields or 'garths' still survives. Some, characteristically, lie at the spring line above the lower lying vale and many are linear villages with broad verges and village greens. There are also examples of estate villages such as Sprotbrough.

The area is more heavily settled where the ridge is more faulted and dissected near Nottingham. Industrial activity is more intense here due to the availability of coal and other materials. The character of the towns and villages reflects this. In many parts, the typical limestone and pantile vernacular style sits cheek by jowl with the bolder brick and slate terraces which housed the growing industrial population.

The limestone and associated gypsum beds also have an effect on the quality of the water which passes through them. It is excellent for brewing and helped the establishment of breweries at Tadcaster. It also led to the rise of the small spa town of Boston Spa and the famous Mother Shipton's spring with its tufa screen at Knaresborough.



MIKE WILLIAMS/COUNTRYSIDE COMMISSION

Field boundaries are usually low, flailed thorn hedges, although stone walls also occur in many places, for example on estate boundaries and in and around villages. Hedges often follow the topography and serve, as here near Grafton, to emphasise the smooth, rolling landform which is so characteristic of the area.

Land Cover

Most of the farming in this area is intensive and arable. The fields are usually large and geometric in pattern with long straight roads dating from relatively late planned enclosure. Elsewhere, around some villages, there are small or medium-sized fields of irregular pattern dating from earlier periods of enclosure of open fields or common grazing. The field boundaries are usually low, flailed thorn hedges although stone walls also occur in many places, for example as estate boundaries and in or around villages. Hedges often follow the topography and serve to emphasise the smooth, rolling landform. Hedgerow trees are relatively sparse which adds to the open character of the farmed landscapes. In some parts the field pattern has almost disappeared as boundaries have been neglected or removed and the arable crops have become dominant.

The amount of woodland is higher than in the vales to the east. Historical evidence suggests that woodland cover is currently higher than its Domesday extent. Ancient, semi-natural woods occur on steep slopes or on parish boundaries. Elsewhere, large blocks of estate woodland remain despite substantial clearance in the 20th century. The designed parklands in estates also contribute to a quite well-wooded appearance in some parts of the landscape.

Small areas of permanent pasture exist especially on steeper slopes or in the narrow valley bottoms. The overall extent of grassland is small but it comprises a characteristic component of the landscape.

The Changing Countryside

- The pattern of intensive arable farming has resulted in lack of management of field boundaries - both hedges and walls - and some fragmentation of the field pattern as well as loss of hedgerow trees. Overall this has caused a loss of structure in the landscape which, in many parts, has become increasingly open.
- The wooded character of some areas owes much to the influence of large estates and there is some evidence that over maturity of estate landscapes, and especially the designed landscapes within them, is arising as a result of lack of management.
- Development pressures arise in a number of ways. The corridor of the A1 is particularly subject to demands for development related to this main trunk route, especially at major road junctions. There are also pressures for development around the fringes of main towns such as Ripon, Wetherby, Knaresborough, Pontefract and Bolsover especially where the industrial influences of the coalfield towns are significant.

- In the limestone villages, demands for small-scale housing development have in places led to an erosion of vernacular building character with an increasing use of brick.
- There are localised impacts of limestone quarrying, especially in the central and southern parts of the ridge, and industrial influences in the main river valleys and where coal mining affects the landscapes.

Shaping the Future

- There is significant scope to conserve and enhance the limestone character of this landscape. This might involve schemes to re-create limestone grassland on cultivated land and to encourage characteristic species in hedgerow and woodland planting.
- Consistent use of stone as a building material both in traditional, vernacular styles and in modern styles of building is important in much of the area. This includes stone features such as walls and gateposts.



SIMON WARNER

Wealthy landowners have had a notable influence on the landscape by means of the fine buildings and landscapes they have created. These range from the remains of great abbeys such as Fountains Abbey near Ripon (shown above and now in the care of the National Trust), to the chain of country houses and designed parklands which runs along the ridge from Bedale Hall in the north to Harwick Hall in the South.

Although much of the farmed landscape is very open, the most attractive areas often occur where open arable land is mixed with woodland to create the impression of woods in farmland. These areas include broadleaved woodlands in valleys and estate plantations. There may be scope to increase the extent of woodland by well-designed new planting although it will be important to retain an appropriate balance between open and wooded land. The re-creation of limestone woods is likely to be of particular interest although safeguarding the interest of limestone grassland remnants will be essential. Parkland forms an important landscape component with opportunities for its conservation and enhancement.

Those parts of the area where there is significant industrial activity offer considerable opportunities for restoration and enhancement. Restoration proposals should be seen in the context of the adjoining coalfield area.

Selected References

Bernard Wood, G (1967), *Yorkshire*, BT Batsford Ltd, London.

DTA Environment and Ashmead Price Landscape Architecture (1994) *Landscape Assessment of Doncaster Borough*. Unpublished report for Doncaster Metropolitan Borough Council.

EAU Woolerton Truscott, (undated) *Hambleton District Countryside Design Summary*, Unpublished Paper for Hambleton District Council.

Land Use Consultants (1994), *Leeds Landscape Assessment*. Unpublished report for Leeds City Council and the Countryside Commission.

North Yorkshire County Council (1991), *North Yorkshire Conservation Strategy*, North Yorkshire County Council.

Pevsner, N (1966), *The Buildings of England: Yorkshire - The North Riding*, Penguin Books.

Pevsner, N (1985), *The Buildings of England: Yorkshire - The West Riding*, Penguin Books.

Speakman, C (1986), *Portrait of North Yorkshire*, Robert Hale, London.

Woolerton Truscott (1993), *Landscape Appraisal of Harrogate District*. Unpublished report to Harrogate Borough Council.

Smith, D B, (1992), Permian. In Duff, P McL D and Smith, A J (Editors). *Geology of England and Wales*. The Geological Society, London.

Glossary

ings: local term for wetland areas, often associated with mining subsidence